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A scenic landscape photograph of a coastal town in Albania. A prominent white minaret with a dark conical roof stands on a hillside overlooking a blue lake. In the background, there are large, rugged mountains under a clear sky. The foreground shows the calm surface of the lake.

Assessment of the Water-Energy-Food-Ecosystems Nexus in Albania

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Acknowledgements

The Report “Assessment of the Water-Energy-Food-Ecosystems Nexus in Albania” was prepared within the framework of the project “*Promoting the Sustainable Management of Natural Resources in Southeastern Europe, through the use of the Nexus approach*” financed by the Austrian Development Agency (ADA) the operational unit of Austrian Development Cooperation, and implemented by the Global Water Partnership-Mediterranean (GWP-Med) in partnership with the United Nations Economic Commission for Europe (UNECE).

The project team would like to thank all the authorities and stakeholders, too numerous to list, who contributed to the consultation processes and the development of the assessment.

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TABLE OF CONTENTS

1	8	INTRODUCTION	
	9	1.1 Project Background	
	9	1.2 Scope of the Assessment	
	10	1.3 Structure of the Report	
2	12	OVERVIEW OF THE CURRENT STATUS IN NEXUS SECTORS IN ALBANIA	
	13	2.1 Water Resources Management	
	16	2.2 Energy	
	17	2.2.1 Renewable Energy Sources	
	18	2.2.2 Electricity Generation	
	20	2.3 Water Supply and Sanitation	
	21	2.4 Food / Agriculture	
	22	2.5 Environment	
	22	2.5.1 Climate Change	
	22	2.5.2 Biodiversity	
	23	2.5.3 Protected Areas	
	23	2.5.4 Forests	
3	24	INSTITUTIONAL SETTINGS IN THE NEXUS SECTORS	
	25	3.1 institutional settings per sector	
	25	3.1.1 Water Resources Management	
	26	3.1.2 Water Supply and Sanitation	
	27	3.1.3 Food/Agriculture	
	27	3.1.4 Energy	
	28	3.1.5 Environment	
	29	3.2 Key Institutional Challenges	
4	30	POLICIES AND STRATEGIES IN THE NEXUS SECTORS	
	31	4.1 Water Resources Management	
	32	4.2 Water Supply and Sanitation	
	33	4.3 Food / Agriculture	
	33	4.4 Energy	
	33	4.4.1 National Energy Strategy	
	34	4.4.2 The Consolidated National Renewable Energy Action Plan	
	34	4.4.3 National Energy Efficiency Action Plan	
	34	4.4.4 National Energy and Climate Plan	
	35	4.5 Environment	
	35	4.5.1 Policy Documents on Climate Change	
	36	4.5.2 Strategic Policy Paper for Biodiversity Protection	
	37	4.5.3 Policy Paper for Forests	
	38	4.6 Summary of Sectoral Policy Objectives and Instruments	
5	42	NEXUS RELATED INTERLINKAGES	
	43	5.1 Mapping of Trade-offs and Synergies among Sectors	
	47	5.1.1 Trade-offs and Synergies between Water and Energy Sectors	
	48	5.1.2 Trade-offs and Synergies between Water and Food Sectors	
	48	5.1.3 Trade-offs and Synergies between Energy and Food Sectors	
	48	5.1.4 Trade-offs and Synergies between Energy and Ecosystems Sectors	
	49	5.1.5 Trade-offs and Synergies between Food and Ecosystems Sectors	
	49	5.1.6 Trade-offs and Synergies between Water and Ecosystems Sectors	



6

50 IDENTIFICATION OF PRIORITY INTERLINKAGES

- 51 6.1 The Interface of Hydropower Operations and Flood Management
- 51 6.1.1 Importance of the Interlinkage
- 52 6.1.2 Benefits and Increased Efficiency through the Adoption of an Integrated Approach
- 52 6.1.3 Key Barriers
- 53 6.1.4 Relation with the National Sectoral Programme on Water
- 53 6.1.5 Mitigation Measures
- 54 6.2 Increasing Water and energy Efficiency in Irrigation and Drainage
- 54 6.2.1 Importance of the Interlinkage
- 54 6.2.2 Benefits and Increased Efficiency through the Adoption of an Integrated Approach
- 55 6.2.3 Key Barriers
- 55 6.2.4 Relation with the National Sectoral Programme on Water
- 56 6.2.5 Mitigation Measures
- 57 6.2.6 Options for Coordinated Financing of Actions
- 57 6.3 Opportunity for Nature-based Solutions to Address Erosion Affecting Agriculture and Dams
- 57 6.3.1 Importance of the Interlinkage
- 58 6.3.2 Benefits and Increased Efficiency through the Adoption of an Integrated Approach
- 59 6.3.3 Key Barriers
- 59 6.3.4 Relation with the NSPW
- 59 6.3.5 Mitigation Measures
- 60 6.3.6 Options for Coordinated Financing of Actions



7

62 OVERVIEW OF RELATED FINANCING FRAMEWORKS

- 64 7.1 Financing Framework for Water Resources
- 65 7.2 Financing Framework for Agriculture
- 66 7.3 Financing Framework for Energy
- 66 7.3.1 The Electricity Market and Related Investments
- 67 7.3.2 Energy Efficiency Investment
- 67 7.4 Financing Framework for the Environment



8

71 SHORTLIST OF PROPOSED NEXUS INTERVENTIONS



9

74 ANNEX – GENDER ASSESSMENT ON THE WATER-ENERGY-FOOD-ECOSYSTEMS NEXUS IN ALBANIA

- 75 9.1 Introduction
- 75 9.1.1 Gender and Sustainable Development in Natural Resources
- 75 9.1.2 Project Background and Nexus Approach
- 75 9.1.3 Why a NEXUS Gender Assessment?
- 76 9.1.4 Methodology
- 76 9.2 Overview of Gender Equality in Albania
- 76 9.2.1 National and International Framework
- 78 9.2.2 Albania's Legal and Political Commitments
- 79 9.2.3 The Gender Equality Mechanism and its Challenges
- 79 9.2.4 National Strategies
- 81 9.3 Gender Has Not Yet Been Mainstreamed in Nexus Sectors and Policies
- 81 9.3.1 Integrated Water Resource Management (IWRM)
- 82 9.3.2 Energy, Environment and Climate Change
- 83 9.3.3 Agriculture and Land Use
- 84 9.4 Covid-19 impact on Gender Equality and Women's Empowerment
- 84 9.5 Conclusion



LIST OF TABLES

15	TABLE 2 1: Overview of River Basin Parameters
16	TABLE 2 2: Water Balance for Average Annual Flow for Six River Basins
17	TABLE 2 3: Total Electricity Demand Forecast
18	TABLE 2 4: Electricity Prices for RES Power Plants
18	TABLE 2 5: Total Annual Electricity Generation
19	TABLE 2 6: Data on HPPs in Drin River
20	TABLE 2 7: Key Performance Indicators of Water Supply and Sewerage Sector
38	TABLE 4 1: Policy Objectives and Instruments
41	TABLE 4 2: Degree of cross-sectoral integration
41	TABLE 5 1: Legend for scoring system
66	TABLE 7 1: Estimated Investments for Power Generation for 2018-2030

LIST OF FIGURES

13	FIGURE 1: Map of River Basins in Albania
16	FIGURE 2: Total Electricity Consumption 2003-2019
17	FIGURE 3: Electricity Import – Export Balance
25	FIGURE 4: Institutional Water Use and Decision-Making Structure



ACRONYMS AND ABBREVIATIONS

ABBREVIATION	MEANING
ADA	Austrian Development Agency
ADF	Albanian Development Found
AKBN	National Agency of Natural Resources
AKUM	National Agency for Water Supply & Sewerage and Waste Infrastructure
ALPEX	Albanian Power Exchange
AMBU	Agency of Water Resources Management
ATR	Administrative-Territorial Reform
CCP	Central Counter Party
CfD	Contract for Difference
CWB	Council of Water Basins
DCM	Decisions of Council of Ministers
EIA	Environmental Impact Assessment
EIB	European investment Bank
ERE	Energy Regulatory Entity
ERU	Water Regulatory Entity
ESCO	Energy Service Companies
EU	European Union
EUISWM	EU Support to Integrated Water Management
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environmental Fund
GHG	Greenhouse Gases
GMIP	Integrated Policy Management Group
GWP	Global Water Partnership
GWP-Med	Global Water Partnership Mediterranean
HPP	Hydropower Plant
IGJEUM	Institute of Geoscience, Energy, Water and Environment
INDC	Intended Nationally Determined Contributions
IPMG	Integrated Management Policy Group
IWRM	Integrated Water Resources Management
JSC	Join Stock Companies
KESH	Albanian Power Corporation
LGU	Local Government Units
MARD	Ministry of Agriculture Rural Development
MIE	Ministry of Infrastructure and Energy
MTE	Ministry of Tourism and Environment
NAF	National Agency of Forests
NAPA	National Agency of Protected Areas
NCCS&P	National Climate Change Strategy and Plan
NDC	Nationally Determined Contribution
NEA	National Environmental Agency
NECP	National Energy and Climate Plan
NEEAP	National Energy Efficiency Action Plan
NREAP	National Renewable Energy Action Plan
NSGE	National Strategy and Action Plan on Gender Equality

ABBREVIATION	MEANING
NSIWRM	National Strategy for Integrated Water Resources Management
NWC	National Water Council
OSHEE	Electricity Distribution System Operator
PKS	National Sectorial Programme
PPA	Power Purchase Agreement
PPP	Public Private Partnership
PV	Photovoltaic
RB	River Basin
RBC	River Basin Council
RBMP	River Basin Management Plan
RCC	Regional Cooperation Council
RES	Renewable Energy Sources
SEA	Strategic Environmental Assessment
SEE	South-Eastern Europe
SOW	Scope of Work
SHUK	Water Supply and Sewerage Association
TAR	Territorial Administrative Reform
TBNA	Transboundary Basin Nexus Assessment
TPP	Thermal Power Plant
TSO	Transmission System Operator
UNFCCC	United Nations Framework Convention on Climate Change
UNECE	UN Economic Commission for Europe
WFD	Water Framework Directive
ZABU	River Basin Management Office
WBAO	Water Basins Administration Office
WRA	Water Regulatory Authority
WRMA	Water Resources Management Agency
WSS	Water Supply and Sewerage
WUO	Water User Organisations
SWICCA	Service for Water Indicators in Climate Change Adaptation
SWMI	Significant Water Management Issue
TEIA	Transboundary Effects of Industrial Accidents
ToR	Terms of Reference
TPP	Thermal Power Plant
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UWWT	Urban Waste Water Treatment
WB	World Bank
WFD	Water Framework Directive of the European Union
WRM	Water Resources Management
WWF	World Wildlife Fund



INTRODUCTION

1.1 PROJECT BACKGROUND

This document has been developed within the framework of the SEE Nexus Project (*"Promoting the Sustainable Management of Natural Resources in Southeastern Europe, through the use of Nexus approach"*), funded by the Austrian Development Agency (ADA) and implemented by the Global Water Partnership Mediterranean (GWP-Med) in partnership with the United Nations Economic Commission for Europe (UNECE).

The purpose of the Project is to introduce the Water-Energy-Food-Ecosystems Nexus ('Nexus') approach and catalyse action for its adoption and implementation in South-Eastern Europe (SEE).

Under Component 2 of the Project, Nexus Dialogue Processes were implemented in three focus areas: the transboundary basins of the Drin and Drina rivers, and in Albania. Each of these Dialogue Processes was structured around Consultation Meetings involving a broad range of stakeholders, and the development of analytical Nexus Assessments, as per the methodology developed within the framework of the UNECE Water Convention. The findings of the Dialogue Processes and the Assessments will feed and guide the development of respective consolidated policy recommendations in the form of "Nexus Roadmaps". Additional activities under the Project in each of the focus areas include:

- ▶ Capacity-building workshops on technical Nexus-related issues, engaging targeted stakeholders and staff of institutions
- ▶ Workshops on the gender dimensions of sustainable development and the Nexus sectors in particular
- ▶ The preparation of 6 Project Documents in total, for selected Nexus interventions, also exploring financing options

In the case of Albania, the Thematic Group on Water Resources (TGWR) under the government's Integrated Policy Management Group for Water, served as the Advisory Body for the Project's activities in the country. It comprises of representatives of the Nexus-related ministries, agencies, and key institutions.

1.2 SCOPE OF THE ASSESSMENT

The Water-Energy-Food-Ecosystems Nexus ("Nexus") approach has been introduced into the natural resources management agenda to facilitate the enhancement of water, energy, and food security, while preserving ecosystems and their functions. The Nexus approach provides for an integrated and coordinated strategy across sectors, with a view to reconciling potentially conflicting interests as they compete for the same scarce resources, while harnessing existing opportunities and exploring emerging ones.

The Nexus approach is especially relevant to South-Eastern Europe (SEE), and Albania in particular, given its rich water resources, the significant share of hydropower in the energy mix, the key socio-economic role of agriculture, and the large areas of high ecological value.

Albania still faces significant challenges towards sustainable development. Achieving climate resilience while ensuring water- energy- and food-security are key preconditions for achieving economic growth, human prosperity, and healthy ecosystems of the country.

Under a traditional, fragmented approach, attempting to achieve resource security independently, would not only be sub-optimal, but could also endanger sustainability and security in one or more of the other sectors. The Nexus approach is essentially about moving beyond traditional sectoral thinking towards achieving overall security and sustainability of all resources.

Despite significant recent advancements, especially regarding institutional settings, non-integrated and non-coordinated policies, and practices in the management of natural resources remain a substantial challenge in Albania. An integrated and coherent approach in the design and prioritisation of policy options and management practices, would ensure the maximisation of overall benefits across sectors.

Given Albania's significant water resources and the critical role that water plays in the country's food, energy, and biodiversity security, having the water sector as an entry point for applying a Nexus approach is a quite straight forward

choice. Albania's Integrated Water Resources Management (IWRM) Strategy acknowledges the need to reconcile various sectoral uses for water, and the National Sectoral Programme on Water aligns its objectives to responsibilities and budgets of different sectors. However, the two documents do not necessarily fully capture synergies with the perspectives of each sector and a need exists to bridging this gap through enhanced understanding of the complex and dynamic relationship between water, energy, food/land use and ecosystems, and improved coordination on policy and management aspects.

The Assessment therefore aims to assist in addressing this need by applying a Nexus approach to identify trade-offs and synergies across the Nexus-related sectors, including among others, those in relation to gaps in terms of institutional settings, policy integration and data management, to achieve a higher degree of inter-sectoral coherence in the implementation of the National Sectoral Programme on Water.

1.3 STRUCTURE OF THE REPORT

This Report is organised as follows:

- ▶ **Section 1** – Introduction – includes the project background and scope of work.
- ▶ **Section 2** presents a consolidated overview of the status and trends in the Nexus sectors.
- ▶ **Section 3** outlines the institutional settings in the Nexus sectors.
- ▶ **Section 4** provides a brief overview of strategic and decision-making frameworks in priority policy areas, and a rapid assessment of how cross-sectoral interlinkages are addressed.
- ▶ **Section 5** lists the key interlinkages in the priority policy areas, identifying key barriers or gaps for coordinated cross-sectoral action.
- ▶ **Section 6** analyses the top three identified priority interlinkages in-depth and assesses how each one is addressed in the National Sectoral Programme on Water, its objectives and its governance and infrastructure actions.
- ▶ **Section 7** includes an overview of national and international financing frameworks related to the Nexus sectors in Albania; and
- ▶ **Section 8** presents a shortlist of suggested Nexus recommendations.
- ▶ An **Annex** provides a gender assessment for Albania, also in relation to the Nexus sectors.







OVERVIEW OF THE CURRENT STATUS IN NEXUS SECTORS IN ALBANIA

This section contains a short overview of the status and trends in Albania's Nexus-related sectors:

- Water Resources Management.
- Water Supply and Sanitation.
- Food / Agriculture.
- Energy.
- Environment.

Albania is a country in South-Eastern Europe with a total area of 28,748 square kilometres. It borders Montenegro to the northwest, Kosovo*¹ to the Northeast, North Macedonia to the East, and Greece to the South and Southeast. It has a coast on the Adriatic Sea to the West and on the Ionian Sea to the Southwest. The total coastline is about 476 km long, of which 326 km is on the Adriatic Sea and 150 km is on the Ionian Sea.

According to the 2011 Census, the total population of Albania was 2,821,977 with a low fertility rate of 1.49 children born per woman. The country's capital, Tirana, represents its financial and industrial centre, with a metropolitan population of almost 800,000 people.²

Albania is considered as an upper-middle income economy, with a GDP of US \$15.70 billion in 2019, representing the 0.01% of the world economy. The GDP per capita in Albania was US \$5075.40 in 2018, 40% of the world's average. Recent economic reforms have opened the country to foreign investment, especially in the development of energy and transportation infrastructure, with the service sector dominating the country's economy (68.5%), followed by the agriculture (19.5%) and industrial sector (12%).³

2.1 WATER RESOURCES MANAGEMENT

The national average perennial volume of water discharged within a year is 39.22 billion m³ / year, of which 95% is discharged into the Adriatic Sea and only 5% into the Ionian Sea⁴. The whole territory is crossed by eight⁵ main rivers: Drin, Buna, Mat, Ishëm, Erzen, Shkumbin, Seman and Vjosë. The basins of the Buna and Drin rivers are considered as a single river basin.

Lakes occupy 4% of the territory, including three large lakes: Lake Shkodra, Lake Ohrid and Lake Prespa, as well as 247 small lakes.

Brief information on Albania's seven river basins is presented below⁶:



Figure 1. Map of River Basins in Albania⁷

¹ This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

² Data obtained from: <http://www.instat.gov.al/en/themes/censuses/census-of-population-and-housing/publikimet/2011/publications-of-population-and-housing-census-2011/>

³ Data obtained from: <http://www.instat.gov.al/en/themes/economy-and-finance/national-a>

⁴ Source: IGJEUM <http://www.geo.edu.al>

⁵ Data obtained from: https://www.erru.al/doc/Strategjia_Kombetare_e_Menaxhimit_te_Burimeve_Ujore.pdf

⁶ Drawing from: General Overview of the Transboundary Waters of Rivers, Lakes, Groundwater and Trend of them, in Albania (Lushaj et al., 2016).

⁷ Source: <https://planifikimi.gov.al/index.php?eID=dumpFile&t=f&f=4765&token=4849e7ea96b9affdd5dd6da2fab93ce8368ff176>

- ▶ The Drin-Buna River Basin is the largest Albanian river basin, stretching over the Shkodra, Kukës and Dibra Districts (Albanian part). The main water bodies of this transboundary hydrological system are Lake Prespa, Lake Ohrid, Lake Shkodra, the Drin and Buna Rivers (which discharge an average volume of 680 m³/s) and three artificial reservoirs that were created in the late '60s and early '70s for hydropower generation. The Drin shares an outlet to the sea with the Buna River, which flows into Lake Shkodra before joining the Drin. Parts of the Drin-Buna Basin lie within the territories of North Macedonia, Kosovo* and Montenegro. Most drinking water in the Drin Basin is abstracted from springs, and 73% of the population has piped water supply systems in or outside the dwelling. The Drin-Buna River Basin's Management Plan was approved with DCM no.849, date 04.11.2020.⁸
- ▶ The Mat River Basin covers an area of about 2,993 km² over the Lezha District and is formed by two tributaries: The Fan River, originating from the north-east, and the Mat River flowing from Martansh in the Bulqize District to the artificial lake of Ulza; the main cities in this Basin include Rrëshen, Laç, Lezhë, and Burrel. 95% of households in the district are provided with water supply systems, with 77% having piped water supply systems in or outside their dwellings. The Mat River Basin's Management Plan is in its preparation phase.
- ▶ The Ishëm River passes through the central part of the country. Its catchment area is 673 km² covering the Tirana and Durrës municipalities. The total length of the mainstream is 74 km. The average discharge rate at the mouth is 22.8 m³/sec, whereas the maximum flow is 1980 m³/sec. The RBMP for the Ishëm River is under preparation by AMBU with the support of the "EU Support to Integrated Water Management-EUSIWM" project.
- ▶ The Erzen is a river in central Albania. The length of Erzen is 109 km, while the catchment area is 760 km² including the southern Tirana municipality and eastern Durrës Municipality. The river passes through the city of Tirana, only a few kilometres from its southern end. Only a small range of hills separates the valley of the Erzen River with the Lana, Tirana, Zeza and Tërkuza rivers that form the Ishëm River. The average discharge rate at the mouth is 18.1 m³ / s. The RBMP for the Erzen River is under preparation by AMBU with the support of the EUSIWM' project.
- ▶ The Shkumbin River Basin only contains the Shkumbin River, some minor tributaries and small irrigation reservoirs used for agricultural purposes. It stretches over the Elbasan District, where 75% of the population has piped water supply systems in or outside their dwelling. The Shkumbin River has significant environmental problems owing to the former Elbasan Metallurgical Plant, which discharged pollutants directly into the river, while the riverbeds accumulated solid waste from the plant's activities. The preparation of the RBMP for Shkumbin has not started yet.
- ▶ The Seman River Basin contains four rivers (Seman, Osum, Devoll and Gjanica) and stretches over the Districts of Berat, Fier, Elbasan and Korça, where 88% of the population has piped water supplies in or outside the dwelling. A key source of pollution in the Seman River is related to oil extraction in the area. The Seman River has its RBMP, approved by DCM no.453, dated 10.06.2020.
- ▶ The Vjosë River Basin is the second largest river system in the country, flowing through Vlorë and Gjirokastër Districts. The main water bodies contained are the Vjosë, Drino and Shushicë Rivers, Lake Butrint, and the Nartë and Orikumi Lagoons. The Vjosë River has one hydropower dam currently underpinning it and some small HPPs on its tributaries. The river basin is transboundary, having about one third of its area in Greece. The preparation of the Management Plan for the Vjosë River Basin has not started yet, but a Gap Analysis is being prepared under the EUSIWM Project.
- ▶ The Seman River Basin contains four rivers (Seman, Osum, Devoll and Gjanica) and stretches over the Districts of Berat, Fier, Elbasan and Korça, where 88% of the population has piped water supplies in or outside the dwelling. A key source of pollution in the Seman River is related to oil extraction in the area. The Seman River has its RBMP, approved by DCM no.453, dated 10.06.2020.
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8 Plan available at: <https://planifikimi.gov.al/index.php?eID=dumpFile&t=f&f=5690&to-ken=cbffb15d7392f28d93f0aa955e779f9266eb5e1f>



The main parameters of each river basin are shown in the Table below.

Table 1. Overview of River Basin Parameters

Parameter	Drin-Buna	Mat	Ishëm	Erzen	Shkumbin	Seman	Vjosë
Surface (km ²) (Total)	19,582	2,993	673	766	2,444	5,649	6,784
Number of inhabitants	437,686	134,027	737,163	274,987	295,827	968,960	267,816
Length of main river (km)	285	144	74	108	181	281	192
Mean annual flow (m ³ /s)	680	103	20.9	55.5	63.6	83.2	176
Number of agricultural reservoirs	80	40	42	95	85	115	95
Number of main aquifers used	3	1	2	2	3	2	5
Coastal waters	1 lagoon	4 lagoons	1 lagoon	-	1 lagoon	-	2 lagoons+ Ionian zone
Water used for drinking water (109 m ³ /year)	0.28	0.02	0.01	0.01	0.14	0.03	0.04
Agricultural reservoirs	High use	Medium use	High use	High use	Medium use	High use	High use
Number of large HPPs	4	2	0	0	0	2	0
Number of protected areas	10	6	5	2	6	11	18
Drought risk	Low	Low	Moderate	Moderate	Moderate	Moderate	Moderate
Flood risk	High	Moderate	Low	Low	Low	High	High

In the Table below, more information related to the water balance in each river basin is provided.

Table 2 2: Water Balance for Average Annual Flow for Six River Basins

National		River Basin						
Water flow (109 m ³ /year)		Drin	Mat	Ishëm	Erzen	Shkumbin	Seman	Vjosë
Total removable water resource	36.05	21.44⁹	3.25	0.66	0.66	2.45	2.70	5.55
Water used in agriculture	0.64	0.12	0.05	0.66	0.06	0.05	0.26	0.1
Water used for drinking water	0.28	0.02	0.01	0.14	0.14	0.03	0.04	0.05
Water balance	35.13	21.30	3.19	1.33	0.46	2.37	2.40	5.30

In Albania, flooding is a frequent problem, typically occurring between November and March, when about 80% of the annual precipitation falls. Most floods take place along the Buna, Drin, Vjosë, and Seman river basins, potentially affecting thousands of buildings and people.

- How to manage the transition to the new electricity market model, which requires full liberalisation of the wholesale and retail markets, including the protection of vulnerable customers.

The electricity consumption during the period 2003-2019 is provided in the Figure below.

2.2 ENERGY

In this Report, the energy-related sections focus on Albania's Electricity System.

The key challenges the energy sector of Albania faces, include:

- How to increase the low per capita energy consumption while at the same time reducing the high level of energy intensity in order to have an efficient economy.
- How to ensure energy security. The total primary energy demand cannot currently be met with domestic energy sources, especially given the decline in domestic oil production. Self-sufficiency of primary energy sources declined from 97% in 1990 to approximately 41.2% in 2016.¹⁰
- How to meet the international and national commitments related to the promotion of Renewable Energy Sources (RES), Energy Efficiency and GHG emission reductions, as noted in the Nationally Determined Contribution (NDC).

Total Electricity Consumption in Albania 2003-2019 (MWh)

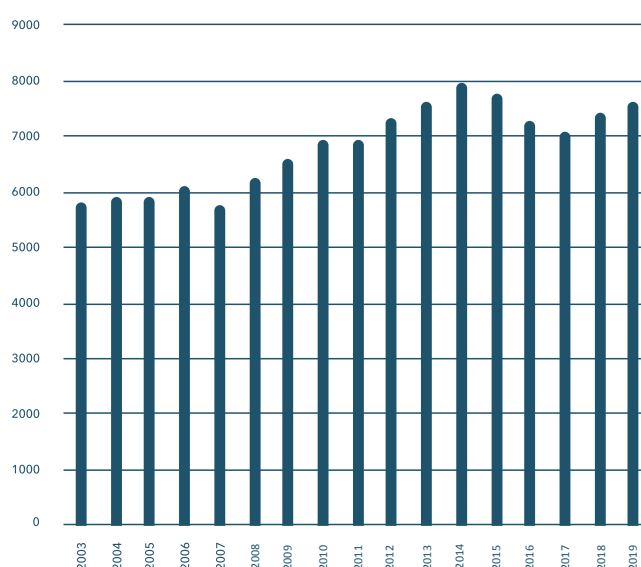


Figure 2. Total Electricity Consumption 2003-2019 (Source: ERE)

⁹ Including transboundary water flow.

¹⁰ Energy Balance, 1990-2020, Institute of Statistics (IN-STAT), available at: <http://www.instat.gov.al/en/themes/environment-and-energy/energy/>



Albania must also tackle the power sector's long-lasting dependency on hydro resources, which in some dry years, obliges the country to rely on costly imports of electricity.

While this heavy dependence on hydro energy could be addressed through the diversification of the domestic power generation portfolio, greater flexibility in KESH (the Albanian Power Corporation that operates around 80% of the generation capacity in the country) to better plan and manage its hydro resources may require a further liberalisation of the wholesale market.

Albania continues to remain a net importer of electricity. The Figure below displays the balance of imports and exports of electricity from 2007 to 2019. There are only two years (2010 and 2018) in which Albania has been a net exporter of electricity thanks to favourable weather conditions (wet years).

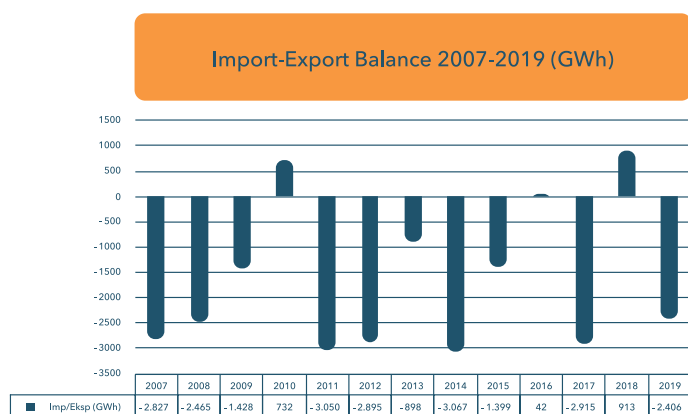


Figure 3: Electricity Import – Export Balance (Source: ERE)

As a developing nation, Albania's electricity consumption is expected to grow. The forecast of electricity demand for the country is anticipated in the table below.

Table 2.3 Total Electricity Demand Forecast			
Year	2020	2025	2030
Electricity Demand (GWh)	7854	8178	8616

Source: National Energy Strategy 2018-2030

In order to meet the increased electricity demand to 2030, new investments in the power system, including expansion of new power generation capacity, and the upgrading of transmission and distribution systems will be required.

2.2.1 RENEWABLE energy sources

The Albanian Government has undertaken actions for the promotion of Renewable Energy Sources (RES). In 2017, the Albanian Parliament approved a new RES law (Law no.7/2017), which replaced the former RES law of 2013. This law established an overall RES target of 38% to be reached by Albania in 2020. Based on this law, the Albanian Government approved – with decision no.179, dated 28.03.2018 – the National Renewable Energy Action Plan for 2018-2020, which was revised with the decision no.580, dated 28.08.2019. It established targets for construction of new RES plants, of 57 MW HPPs, 490 MW photovoltaics, 150 MW wind, and 57 MW biomass, respectively.¹¹

The RES law provides two types of financial supporting mechanisms for production of electricity from RES:

- ▶ Feed-in tariff for small RES power producers.
- ▶ Contract for Difference (CfD) for other RES power producers.

The purchase price of electricity (feed-in tariffs) for small RES power producers shall be determined by the Energy Regulatory Entity (ERE), in accordance with the methodology approved by the Council of Ministers, upon the proposal of the Minister. The support given under a Contract for Difference (CfD) mechanism assumes that the organised day-ahead market is established and functional. This mechanism provides a variable premium calculated as the difference payment between an administratively pre-fixed price (the strike price) and the clearing market price (the reference price).

- ▶ Up until 2017, the electricity price generated by KESH Public Generation and allocated for tariff customers (OSHEE) was approved by the ERE. Following amendments and changes to the decision of the Council of Ministers on the Public Service Obligations, this price has been set by the Ministry of Infrastructure and Energy, who is also the only shareholder of KESH. The prices for existing HPPs (commissioned before the date on which the RES law became effective) with installed capacity of up to 15 MW, for new HPPs with capacity of up to 15 MW, for photovoltaic (PV) plants with capacity of up to 2 MW and for wind power plants with capacity of up to 3 MW were approved by the ERE based on the specific price methodologies approved by the Council of Ministers.¹²

11 National Renewable Energy Action Plan (NREAP) 2015-2020, available at: <https://www.infrastruktura.gov.al/energjitike/>

12 Tariffs approved by the Energy Regulator Authority: <https://ere.gov.al/en/tariffs/actual-tariffs>

The following table lists the prices for each RES technologies from 2008 to 2019.

Table 2 4: Electricity Prices for RES Power Plants

Year Lek/kWh	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
KESH Generation	0.78	0.78	0.4	0.63	1	1	1	1.45	1.45	1.45	1.45	1.45
Existing HPPs (<15 MW)	6.5	6.5	7.4	7.57	7.77	7.53	7.53	7.636	7.448	7.448	8.5652	8.4582
New HPPs (<15 MW)	9.37	9.37	6	6.89	9.3	9.73	7.95	7.636	7.448	7.448	8.5652	8.4582
Solar PV plants (<2 MW)										13.42		
Wind power plants (<3 MW)										10.201		

Source: ERE

As demonstrated, the price of electricity produced by the KESH Public Generation Company is still below the market price to avoid an increase in electricity tariffs for household customers.

Other RES power plants with installed capacities higher than those indicated in the table above, do not benefit from a price approved by the ERE. They either sell their electricity production in the free market or set their price as proposed in the bid organised by the Government for construction of new RES generation capacities according to the National Renewable Energy Action Plan and the overall national RES target.

2.2.2 ELECTRICITY Generation

The wholesale power market continues to be dominated by the State-owned generation company KESH, which contributes with more than 2/3 of domestic power generation. In the past decade, the contribution of the private HPPs to total domestic generation has steadily increased due

to considerable investment made in the sector. The increase of generation capacity owned by private operators has led to greater liquidity in the wholesale market, creating conditions for more competition.

Electricity generation has been historically met almost exclusively by hydropower plants, with a total installed power capacity of 2,395 MW at the end of 2019, including the commissioning of a new HPPs on the Devoll River cascade in January 2020:

- ▶ 2,158 MW of installed generation capacity connected to transmission network: and
- ▶ 237 MW of installed generation capacity connected to distribution grid.
- ▶ The country has still unexploited hydropower potential, and a future expansion of hydropower capacity would be possible mainly along the Drin, Mat, Vjosë and Devoll rivers. The table below shows the total electricity generation in Albania from 2010 to 2020.

Table 2 5: Total Annual Electricity Generation

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Power Generation (in GWh)	7702.5	4158.1	4722.1	6956.5	4724.4	5865.7	7136.4	4525.0	8552.2	5206.0	5313.0

Source: ERE



2.2.2.1 Large Hydropower Plants

The following description covers all large HPPs for each river:

- ▶ The Drin riverbed in northern Albania has a cascade of three large and one small hydropower plants (Fierzë, Koman, Vau-i-Dejës and Ashta), with an installed capacity of about 1400MW, of which, the Albanian Power Corporation administers and operates the first three, while Ashta is operated by Energji Ashta Shpk. Specific information on HPPs of the Drin River cascade is provided in the Table below. In addition, the government has announced the construction of a new HPP in Skavica with an installed capacity of around 200 MW, to be developed and operated by the Public General Company KESH.

Table 2 6: Data on HPPs in Drin River

Hydropower Plant	Year of operation	Type	Installed power
Fierza	1978	Storage	500 MW (4X125 MW)
Komani	1985	Storage	600 MW (4X150 MW)
Vau-i-Dejës	1971	Storage	250 MW 5X50 MW)
Ashta (Ashta 1 & Ashta 2)	2012	Run of river	53 MW (matrix turbine)

Source: OST 2019

- ▶ On the Mat River, there are two operational hydropower plants, HPP Ulëza (25 MW) and HPP Shkopet (29 MW), with a total installed capacity of 49 MW. Both HPPs that were previously owned by KESH were privatised in 2012 by a private Turkish company (KURUM Energji).
- ▶ On the Devoll River, construction of the Banja HPP was initiated prior to 1990, with a designated capacity of 60 MW. However, its construction was never completed. The cascade was given through concession to the Norwegian company Statkraft and Banja HPP was completed with a capacity of 71.6 MW. A second HPP in Moglica with an installed capacity of 171.2 MW started generating electricity in January 2020.

- ▶ On the Vjosë River, construction of the Kalivaç hydropower plant with an installed capacity up to 100 MW was initially envisaged but the Albanian government decided not to advance due to environmental concerns.
- ▶ On the Bistrica River, there are two operational hydropower plants: Bistrica I and Bistrica II" with a total installed capacity of 27,5 MW. Both HPPs that were owned by KESH were privatised in 2012 and taken over by a Turkish company (KURUM Energji).

2.2.2.2 Small and medium Hydropower Plants

With the approval of a new law on concession no. 125./2013 (amended, no.18.07.2019 for Concessions and Public-Private Partnership", the Albanian government issued a large number of concession rights to private companies for construction of new hydro-generation capacities.

It has granted more than 200 concession and authorisation rights for the construction of the small and medium-size HPPs with an installed capacity of more than 2200 MW. According to the National Renewable Energy Action Plan 2019-2020, up to December 2018, 251 contracts for construction of 527 HPPs with total installed capacity of 2203 MW were signed with private investors.

Currently, there are several new small and medium size HPPs in operation with a total installed capacity of 684 MW and are privately owned. Most small and medium HPPs are designed as run-of-river plants and in some cases, include a small dam and reservoir.

2.2.2.3 Thermal Power Plants

The Albanian government has developed a Gas Master Plan, which was approved with the Decision of the Council of Ministers no.87, dated 14.02.2018. According to it, the Albanian Government plans to build four gas-fired TPPs of Combined Cycle Gas Turbine technology with a total installed capacity of 1000 MW, during the period 2020-2024, including the transformation of the existing diesel-fired Vlora TPP to natural gas.

The government considered the possible construction of 500 MW gas-fired TPP in the city of Korca that would use the gas coming from the Trans Adriatic Pipeline (TAP). However, the project was suspended due to environmental concerns.

2.2.2.4 Wind Power Plants

Although Albania has considerable wind energy potential, no wind power capacity has been built in the country to date. According to the NREAP 2019-

2020, up until the end of 2014, 15 private companies were licensed by the ERE for construction and operation of several wind parks with a total installed capacity of 1600 MW. The identified wind sites are located along the seacoast from Lezha in the north to Saranda in the south. The licensing terms have been extended several times, but to date none of the projects has started construction. In addition to these sites, the Ministry of Infrastructure and Energy had approved by the end of 2018 the preliminary authorisation for construction of 23 wind parks, while only four projects have obtained final government authorisation for construction. The total wind capacity proposed by private investors is about 4030 MW, which is ambitious.

2.2.2.5 Solar Power Plants

Solar energy is an important primary energy source for Albania that has not yet been fully exploited. However, in recent years, it appears that there is a strong interest from private investors to invest in the construction of PV plants for electricity generation. According to the Minister of Infrastructure and Energy (MIE), during 2017, some 58 applications for construction of PV plants with installed capacity up to 2 MW were filed by private investors. In 2018, the MIE authorised the construction of PV plants for 11 subjects with a total installed capacity of 24 MW. In December 2018, the MIE issued an order suspending all procedures for granting construction permits for PV plants with a capacity of up to 2 MW, and since then, all applications for authorisation of the construction of PV plants have been suspended.

2.3 WATER SUPPLY AND SANITATION

In Albania, there are currently 57 water utilities, 49 of which are fully licensed. Despite the ambitious objectives set out in the WSS National Strategy, 2011-2017, water supply coverage remains broadly the same, with higher coverage of water supply in urban areas, while sewerage coverage has increased slightly, and only in urban areas. As a result, access to WSS services in rural areas of the country is still low. Furthermore, wastewater collection and treatment are at a low level and will need significant improvements in the future.

The Key Performance Indicators for 2019 and 2020 shown in the Table below.

Table 2 7: Key Performance Indicators of Water Supply and Sewerage Sector

Key Performance Indicators	2019	2020
Water Supply Coverage (%)	76.82	76.1
Wastewater Sewerage Coverage (%)	51	51.5
OPEX Cost Coverage (%)	107.1	103.2
Current Collection Rate (%)	79.8	76.6
Metering Ratio (%)	77.5	79.6
Non-Revenue Water (%)	63.7	65.4
Staff Efficiency (staff/1000 connection)	5.33	5.32
Continuity of Water Supply (hours/day)	13.3	13.8

Source: Albanian Regulatory Authority of the Water Supply and Wastewater Disposal and Treatment Sector (ERRU)

In reference to the Key Performance Indicators above, it is noteworthy that the situation in the sector compared to 2018 showed a negative trend regarding the financial indicator of Direct O&M Costs Coverage, while the other indicators generally improved. Non-Revenue Water (63.7% in 2019) remains at unacceptably high levels. During the last years the government had identified as critical the high degree of illegal connections to the utility networks in the sector, which also affected the financial viability of the water companies. Determined to change the situation, in 2016-2017, the government of Albania launched an ambitious Water Sector Reform Agenda, in which local governments were required to further restructure and improve their water supply and sewerage operations in response to the new realities of the Territorial Administrative Reform (TAR) and the growing demand for services.

The Decision of The Council of Ministers (DCM) no. 63, dated 01.27.2016 *“On the reorganization of operators that provide drinking water supply, collection, removal and treatment of wastewater services”* defines all the necessary legal steps that the new municipalities must follow to reorganise the WSS operators, and transfer the



WSS systems that are new to each municipal administrative area.

During 2020, the Non-Revenue Water indicator was at 65.4%, having deteriorated compared to 2019. This indicator continues to be at unacceptably high levels. In absolute value, the amount of water produced in 2019 in the sector was about 295.6 Mio m³, while 60% was produced by pumping stations and about 40% by gravity.

Another important aspect of performance and financial sustainability of the water supply and sewerage services is related to the high consumption of the electrical energy, including production and water supply, and wastewater treatment services. Over the years, the water utilities have created an accumulated debt of over €89 million. The central government has continuously provided subsidies to water utilities to cover the energy bills, however, this has been insufficient, and in a way, has further “encouraged” the inefficiencies by the water utilities.

2.4 FOOD / AGRICULTURE

In Albania, agriculture provides 43%¹³ of employment and 19% of GDP. Of the total agricultural area of 695,000 ha (24% of the area of the country), 80% is under private ownership and 20% is under State ownership. The average farm size is 1.26 ha but is divided in average into 4.7 parcels, which means that the average family farm size is only 0.27 ha. The main crops are vegetables, fruit trees and vineyards, grains, and olive groves.¹⁴

Albania is a net importer of agricultural and food products. The future of food consumption patterns in the country and any related environmental and health problems will be tied to a series of drivers. One such driver will be the evolution of cultural patterns, such as preferences for locally grown food and traditional products.

Agriculture is the largest contributor of nitrogen pollution to groundwater and many surface water

bodies, as nitrogen fertilisers and manure are used on arable crops to increase yields and productivity.

The complexity of irrigation and drainage infrastructure is one of the main factors that directly impacts the sustainable growth of agricultural production in the country. Albania is considered a rich country in water resources, with abundant average annual rainfall, but due to their distribution, it is necessary to ensure an optimal balance of water regime, through irrigation during the summer season and drainage, especially during the winter period. Irrigation uses approximately only 1 billion m³ of water per year. Since only about 20% of annual average rainfall occurs during the summer months, irrigation is indispensable. Drainage and flood protection become indispensable during the winter months.¹⁵

The irrigation and drainage infrastructure were designed and built before 1990 to irrigate an area of about 420,000 ha (of which about 100,000 ha require mechanical lifting) and drainage of about 280,000 ha (of which 75,000 ha require mechanical-hydraulic lifting). In this irrigation system, about 180,000 ha are designed to be irrigated by 626 reservoirs with a designed water collection capacity of about 560 million m³, while for about 240,000 ha, the irrigation schemes have rivers and streams as their water source.

As a result of damage to the irrigation infrastructure of about 60,000 ha, mainly due to the expansion of urban areas, the existing infrastructure can potentially cover with irrigation about 360,000 ha, of which about 75,000 ha have pumping stations as their water source, which are currently almost all out of order, while about 285,000 ha are supplied with water from reservoirs, rivers and streams.

The irrigated area from 120,000 ha in 2013, reached about 260,000 ha in 2021 (or about 70% of the potentially irrigated area, where farmers have access to water for irrigation). This is due to the full/partial rehabilitation of: 282 irrigation schemes (mainly irrigation infrastructure under the administration of municipalities), as well as 44 reservoir dams for irrigation to increase the safety and guarantee of water for irrigation.

The flood protection infrastructure (mainly from rivers) was built mainly after the heavy floods of the winter of 1962-63 and consists of about 700 km of embankments, built along the low-lying areas of the rivers Drin, Buna, Kir, Mat, Drojë, Ishëm, Erzen, Shkumbin, Seman, Vjosë, Bistrica, etc., calculated for maximum flow with different return periods from 10 to 35 years.

13 National Strategy for Irrigation and Drainage 2019 – 2031 and Action Plan, available at: https://www.bujqesia.gov.al/wp-content/uploads/2019/10/Strategy-for-irrigation-drainage-and-flood-protection-in-Albania_Final-version_May-2019.doc

14 National Strategy for Irrigation and Drainage 2019 – 2031 and Action Plan, available at: https://www.bujqesia.gov.al/wp-content/uploads/2019/10/Strategy-for-irrigation-drainage-and-flood-protection-in-Albania_Final-version_May-2019.doc

15 National Strategy for Irrigation and Drainage

2.5 ENVIRONMENT

2.5.1 CLIMATE Change

Albania is one of the Contracting Parties of the UN Framework Convention on Climate Change (UNFCCC). In line with the requirements of the UNFCCC and in the framework of the Paris Agreement process, the Albanian Government approved the Intended Nationally Determined Contributions (INDC) (decision no.762, date 16.09.2015), which represent a self-commitment by Albania to reduce CO₂ emissions, compared to the baseline scenario until 2030 by 11.5%. This reduction implies a decrease of carbon dioxide emissions by 708 kilo tons by 2030. The Albanian government has recently submitted the revised version of INDC.¹⁶

As a non-Annex 1 country of the UNFCCC, Albania has prepared and submitted three national communications reports. These aim to inform the UNFCCC parties, decision-makers and the Albanian public on current climate change trends and their consequences, provide an inventory of GHG emissions and flows, and describe Albania's capacity to contribute to mitigation and adaptation.

Albania's third GHG inventory (2000-2009) covers all sources and sinks as well as all gases, as mandated by the Climate Change Convention. It investigates five main sectors, including energy, industrial processes, agriculture, waste, and land use change & forestry (LUCF), and direct GHGs such as: CO₂, CH₄ and N₂O, and indirect GHGs such as: CO, NO_x, SO₂ and NMVOC.

Total direct GHG emissions (CO₂, CH₄, N₂O) for Albania for the base year 2005 amounted to 8,863.3 Gg of CO₂ equivalent, with the main contributor – the energy/transport sectors – accounting for 52,28% of overall emissions in 2005, followed by agriculture (15.83%), industrial processes (12.61%), LUCF (11.91%) and waste (7.37%). The report reveals that emissions from the LUCF sector diminished sharply towards 2008-2009, while the Industrial Processes sector increased its emissions.

In December 2020, the Albanian Parliament approved a new law on climate change (Law no.155/2020, dated 17.12.2020), which requires that long-term development of energy and climate

be integrated. This law defines the general framework for national climate change policies and actions. The law also stipulates that the long-term energy and climate strategies, and plans include objectives and measures for periods until 2030 and 2050, related to energy security, internal energy market, energy efficiency, renewable energy sources, decarbonisation, research, innovation, and competitiveness, as well as reporting on their progress.

2.5.2 BIODIVERSITY

Almost 3/4 of Albania's territory extends between 200m and 2000m above sea level, with a mean value of 708m. It is a mountainous and a coastal country at the same time, which implies the conditions for a spectacular biodiversity and landscape values. High diversity of habitats and landscape with enormous natural and biological values that extend over more than 2/3 of the territory is characteristic of the country.

In Albania, there are around 3,200 species of vascular plants and about 800 vertebrate species. Of the vascular plants, 27 are endemic and 180 subendemic, more than 300 are aromatic and medicinal plants, which comprise an important natural economic resource that has not been totally exploited yet. According to the Strategic Policy Paper for Biodiversity Protection in Albania, there are some 91 globally threatened species, among which are: Dalmatian Pelican (*Pelecanus crispus*), Pygmy Cormorant (*Phalacrocorax pygmeus*), and the Sturgeon (*Acipenser sturio*).¹⁷

Protection of biodiversity and nature is one of the priorities of environmental policies of the Albanian government in line with the commitments and obligations under the Convention on Biological Diversity signed in June 1992 in Rio de Janeiro and the Law on Protection of Biodiversity. Albania has also signed and ratified two protocols of the Conventions of Biological Diversity respectively, the Nagoya Protocol on access to genetic resources and benefit sharing (ratified by Law no. 113/2012, dated 22.11.2012); and Nagoya-Kuala Lumpur supplementary Protocol to the Cartagena Protocol on Biosafety (ratified by Law No.112/2013 dated 22.11.2012).

The Law on Protection of Biodiversity was developed and adopted in 2006 in line with Albania's commitments under the Conventions of Biological Diversity.

16 Available at: <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Albania%20First/Albania%20Revised%20NDC.pdf>

17 Available at: <https://chm.cbd.int/api/v2013/documents/4D8EFE4E-0976-DC1F-D7A2-E61097DE69BA/attachments/213771/Strategic%20Document%20of%20Biodiversity%20Policy%20Albania-english.pdf>



2.5.3 PROTECTED areas

Increasing the surface size of the protected areas is one of the strategic objectives of the Albanian government's policies. The protected areas in the country currently account for about 18% of the territory of Albania.

In 2017 the Albanian parliament approved a new Law on Protected Areas. The purpose of the law was to declare, preserve, administer, and manage sustainable use of environmental protected areas and their natural and biological resources, based on the principle of sustainable development.

According to this law, the environmentally protected areas, according to the type of interest for which they have received protection status, are classified as follows:

- ▶ Protected areas of national interest.
- ▶ Protected areas of international interest, which include:
 - The Ramsar areas.
 - Areas of interest to the European Community (SACs), including specific habitat and poultry conservation areas (SCIs and SPAs).
 - Areas of special conservation interest (Emerald network areas).
 - Biosphere reserve areas.
 - Natural heritage areas.

2.5.4 FORESTS

The total forest area in Albania is about 1 million ha, occupying about 36% of the country, with an average of 0.36 ha/inhabitant. 97% of the total forest fund is publicly owned while only 3% of it is privately owned.

The estimated wood timber volume is about 55 million m³, with a decrease of 20 million m³ since 2005, thus reducing the quality of Albania's forests. In recent years, forests have occupied an ever-increasing place in the political agenda and priorities of the government, recognising the importance of forests for quality of life, economic and social development of the country and natural equilibriums.

In 2016, the government made an important change in the management of forests and pastures, by transferring the property and administration rights to the forest fund from the Central Government (Ministry of Environment) to the local authorities

(Municipalities). The specific Decision of the Council of Ministers (no.433, dated 8.06.2016) includes the provision that, along with the inventory of forests and pastures, the entire supporting infrastructure, offices, archives, human resources etc. will be transferred to the local authorities. This decision gave local authorities much greater responsibilities in the forestry sector.

Wood has been a traditional source of fuel used primarily in the household sector for heating purposes. The usage of fuelwood and cutting of trees has negatively impacted the forestry sector of Albania. Illegal cutting has been one of the main problems in this sector, and it has not only reduced the volume of wood timber in the Albanian forests but has damaged the wellbeing of forests, preventing their normal growth and development. It is estimated that wood logging, often unauthorised, has led to a widespread problem of forest degradation, with an estimated 20% of forest areas having been lost in the past 25 years, which drove the government to impose – through a specific law – a 10-year moratorium on logging in 2016 (with exceptions for firewood for local populations, to avoid jeopardising the energy security of rural and/or low-income households).¹⁸ Given the problems and concerns with the management of forests, the Albanian government has not foreseen any increase of the usage of wood fuel for the purpose of reaching the overall national renewable energy objective for 2020. In fact, the National Renewable Energy Action Plan 2019-2020 approved by the government (decision no.580, date 28.08.2019) does not predict any increase in the use of fuelwood in relation to current usage, which is about 160 ktoe per year.

18 Available at: <http://extwprlegs1.fao.org/docs/pdf/alb163381.pdf>



INSTITUTIONAL SETTINGS IN THE NEXUS SECTORS

3.1 INSTITUTIONAL SETTINGS PER SECTOR

3.1.1 WATER RESOURCES management

The national institutional organisation scheme related to water management is depicted below.

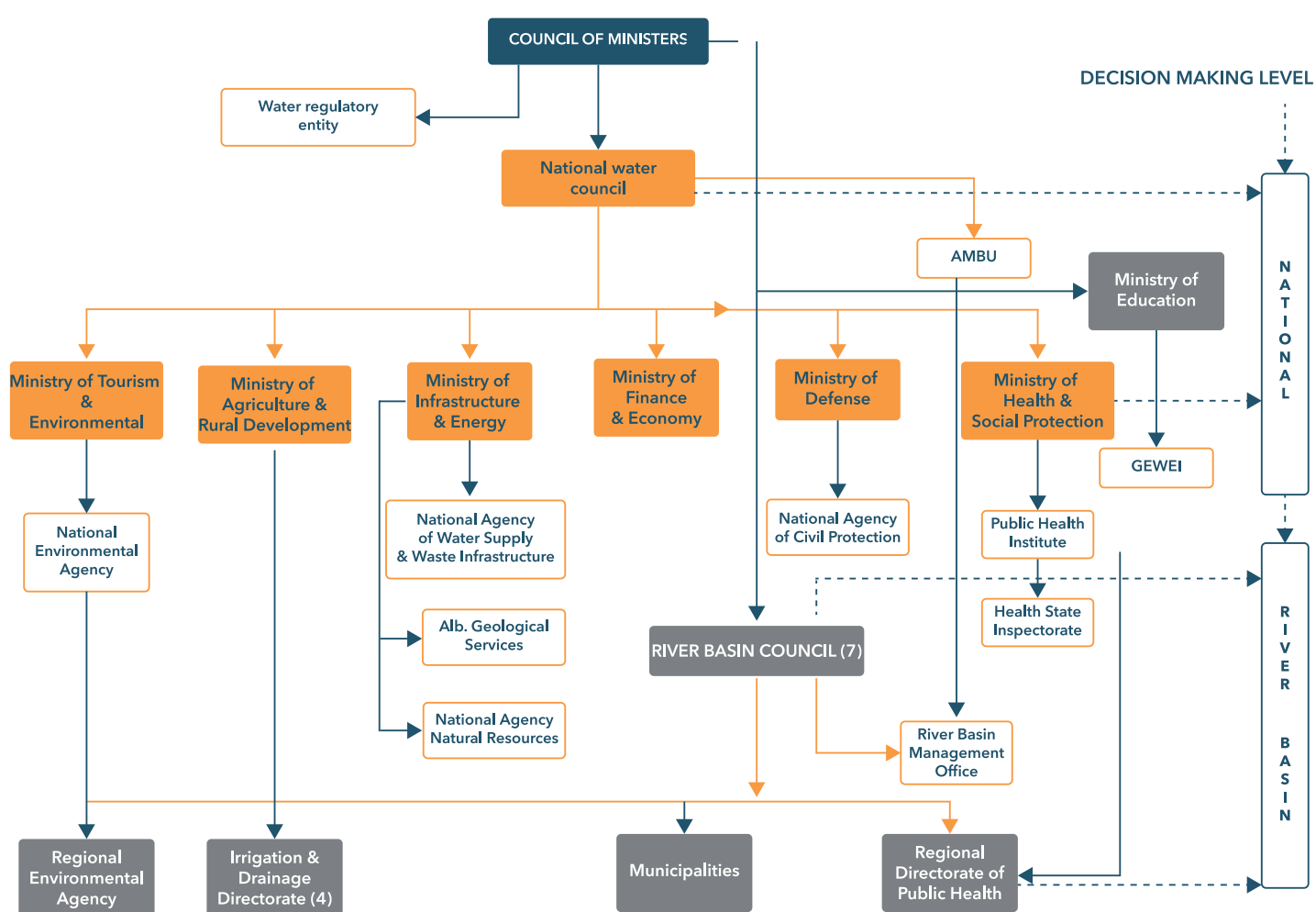


Figure 4: Institutional Water Use and Decision-Making Structure

The Council of Ministers has the overall responsibility, among others, for the adoption of the legal framework related to the integrated water

management, for the definition of the territorial and hydrographic borders of water basins and for the adoption of the management plans of water basins.

The main institutions for the administration and management of the water resources in Albania are the following:

- ▶ The National Water Council (NWC) is the central executive inter-ministerial body responsible for integrated water resources planning and management. It is chaired by the Prime Minister and consists of the Ministers of the line Ministries relevant to the administration of water resources (Ministry of Environment and Tourism, Ministry of Energy and Infrastructure, Ministry of Agriculture and Rural Development, Ministry of Finance and Economy, Ministry of Defence, and Ministry of Health and Social Protection).
- ▶ The Water Resources Management Agency (AMBU), is the executive body of the National Water Council, responsible also for the preparation of RBMPs and the monitoring of their implementation. AMBU is also responsible for monitoring the implementation of the National Strategy for Integrated Water Resources Management.
- ▶ The National Environmental Agency (NEA) is responsible for the monitoring and assessment of water quality and the preparation of the annual national report on environmental status.

At cross-sectoral level, within the framework of the Integrated Planning System (IPS), the Integrated Policy Management Group (IPMG) "Integrated Water Management" has been set up. Its functions are performed by the NWC with AMBU being its technical secretariat. Two Thematic Groups exist under this IPMG: "Water Resources Management" headed by AMBU, and "Reforms in the water supply and sewerage sector" headed by the Ministry of Infrastructure and Energy.

At local administration level, the responsible water resources management bodies, are as follows:

- ▶ River Basin Councils (RBCs), one for each river basin, are responsible for the integrated management of water resources at the local level to ensure the most rational conservation, development, equitable distribution and protection of water resources, within the boundaries of the water basin.
- ▶ River Basin Administration Offices (RBAOs) are subordinate to AMBU and cover the functions of technical secretariat of the respective RBCs. there are 4 RBAOs, one for the Drin-Buna rivers, one for the Erzen, Ishëm and Mat rivers, one for the Seman and Shkumbin rivers, and one for the Vjosë river.

3.1.2 WATER supply and SANITATION

Water Supply and Sanitation (WSS) companies in Albania are public companies organised as Joint Stock Companies (JSCs). The Administrative-Territorial Reform (ATR) that started in 2014, restructured Local Government Units (LGUs) into 61 municipalities, making them responsible for providing WSS services in their area of jurisdiction.¹⁹ The government has launched the process of aggregation²⁰ of Utilities, as an advantage of economies of scale "on a voluntary basis and with incentives from the central government", aiming initially to achieve 2-3 successful aggregations. The recent decision dated 11.5.2002 on the "National policies for reorganization of water supply and removal and wastewater treatment plants" defines the reorganisation of water supply utilities and the creation of "Subjects with Common Competences" (SCCs) having as members municipalities and the Ministry of Infrastructure and Energy. Prior to the creation of SCC, the municipalities shall establish a memorandum of collaboration with the MIE leading to the transfer of administration from the municipalities to the respective SCC.

At institutional level, the WSS sector is currently organised into two levels, with the central government responsible for sectoral strategies and policy development through the Ministry of Infrastructure and Energy (MIE), while local governments oversee service delivery. The central government plays the primary role of financing, providing treasury funds for capital investments, based on a needs assessment in accordance with the National Master Plans and the needs of local governments/municipalities.

Local Government Units, as owners of existing water supply and sewerage companies within their administrative jurisdictions, as well as of all public water supply and sewerage infrastructure in the former municipalities that have joined the new LGUs, are today challenged to provide the service of water supply and sewerage in their expanded territories after the entry into force of the Administrative Territorial Reform. Since 2016, municipalities have been obliged to reorganise their water supply and sewerage services in accordance with the ATR and the growing demand for WSS services.

19 Administrative-Territorial Reform: <https://portavendore.al/wp-content/uploads/2018/03/Raport-Studimor-Ministria-per-Ceshtjet-Vendore-Analiza-e-Situates-se-Qeverisjes-Vendore-2014.pdf>

20. Report on the Performance on the Water Supply and Sewerage Utilities (2020) - Water Regulatory Entity. Available at: <https://www.erru.al/mat.php?idr=46&idm=113&lang=2>



The key national institution in the WSS sector is the National Agency for Water Supply & Sewerage and Waste Infrastructure (AKUM), which acts as budgetary unit under the MIE. This National Agency represents the only specialised technical institution of the government in the sector of water supply and sewerage. Its main tasks and responsibilities include analysing, identifying, and drafting policies, strategies and action plans for water supply and sewerage services, and waste management. AKUM is also the agency in charge for investment planning and implementation, following the National Master Plan for the water sector.

Under the Integrated Water Management IPMG, the Thematic Group “Reforms in the water supply and sanitation sector” is chaired by the Ministry of Infrastructure and Energy and evaluates progress of related national sectoral strategies and plans and reports on the progress in meeting the objectives, in terms of qualitative and quantitative aspects.

3.1.3 FOOD/AGRICULTURE

The Ministry of Agriculture and Rural Development (MARD) is responsible for the operation and maintenance of the main infrastructure, which includes several large irrigation reservoirs, main irrigation and drainage canals, high water canals, drainage pumping stations, and river and marine embankments for flood protection.

With the reorganisation of 13 Drainage Boards into 4 Regional Drainage Boards, according to DCM no. 1107, dated 30.12.2015 *“On the establishment of Regional Drainage Boards of Lezha, Durrës, Fier and Korça”*, their main functions and tasks have been reduced and are currently mainly related to the use and maintenance of the main drainage canals, hydropower plants, main canals of around 22 large irrigation schemes, including seven large reservoirs and flood protection works, while the remaining irrigation and drainage infrastructure has been transferred to the ownership of 61 municipalities, with DCM no. 1108, dated 30.12.2015 *“On the transfer, from the Ministry of Agriculture, Rural Development and Water Administration to the municipalities of the irrigation and drainage infrastructure, personnel and movable and immovable assets of the Regional Drainage Boards”*.

Such a decentralised approach also implies the involvement of Water User Organisations (WUOs), as the lowest level of administration, when they are established and function effectively. In any case, WUOs can be created and function in cooperation and supervision of municipalities. WUOs can play an important role in the use and maintenance of irrigation schemes, within their irrigation service area, and the provision of irrigation water to their

members. However, the extent of this role will be determined by the degree of readiness and interest of farmers in effective participation in these structures. Based on past experience and assessments made, it is expected that the process of increasing the role of WUOs will require a long-term approach. Therefore, in conditions in which, in each village or area, WUOs have not been set up yet, or are ineffective, their role will be performed by the respective municipality itself.

Law no. 24/2017, *“On the administration of irrigation and drainage”*, reflects changes in decentralisation and governance reforms, specifically municipal functions for irrigation and drainage and are in the study process from the MARD that presents criteria and rules made for the administration of irrigation and drainage infrastructures, and flood protection.

3.1.4 ENERGY

The institutional responsibilities in the energy sector are defined by a primary and secondary legislation, including the Power Sector Law, the Law on RES, the Law on Concession and PPP, the Petroleum Law (Exploration and Production), the Energy Efficiency Law, the Law on Energy Performance of Buildings, etc.

It should be noted that Albania is in the process of developing and implementing several key laws and regulations in view of its commitments and obligations under the Energy Community Treaty and the EU accession process that will have an impact on the role of the main stakeholders in the energy sector.

The Council of Ministers sets the overall direction for policies in the energy sector. It approves related legislation, the National Energy Strategy and all other related sectoral development plans and authorises the construction of new infrastructure.

Below is a short description of the responsibilities and duties of key institutions and actors in the energy sector.

The Ministry of Infrastructure and Energy (MIE) is responsible for developing energy policy and the mid- and long-term strategies for the energy sector. The MIE plays a key role in developing the legislation governing the energy sector and leads the policy and legislative reforms to align Albanian policy and regulation with the EU's energy acquis. MIE is also responsible for the preparation of energy policy documents including the National Energy Strategy, the National Renewable Energy Action Plan, the National Energy Efficiency Action Plan, and Sectoral Development Plans in the power, oil and gas sectors. MIE also plays an important role in permitting or authorising private companies to

engage in the energy sector according to the legal requirements in force.

The Energy Regulatory Authority (ERE) is an independent public body responsible for the regulation of activities in the electricity and natural gas sectors. ERE is the competent body for issuing licenses for carrying out electricity generation, transmission, distribution, supply and trade of electricity. It is responsible for reviewing and approving development plans of electricity and gas transmission and distribution networks. ERE also takes responsibility for approving tariffs in the electricity and gas sectors, including feed-in tariffs for RES producers. ERE approves standard Power Purchase Agreements (PPAs) to be used by priority RES producers.

The National Agency of Natural Resources (AKBN) is a public agency subordinate to the MIE. AKBN's mission includes the development, supervision of rational use of natural resources, according to the government policy, and monitoring of their post-exploitation in mining, petroleum, and energy. AKBN encompasses three different departments engaged in energy resource activities: The Department of Hydrocarbons, The Department of Hydro-Energy and The Department of Renewables.

The Agency for Energy Efficiency (AEE) is established as a public budgetary institution subordinated to MIE. Its duties and responsibilities include the development of secondary legislation and programmes to promote energy efficiency, the development and monitoring of the National Energy Efficiency Action Plan (NEEAP), the monitoring of progress in improving energy efficiency, attesting to and certifying the energy auditors and managers.

The Albanian Power Corporation (KESH) remains the dominant electricity generator in Albania, generating ~2/3 of domestic power. KESH is still largely regulated under public service obligations because a major part of the production is allocated to the Universal Service Provider (OSHEE) for the supply of retail customers.

The Transmission System Operator (OST) owns and operates the transmission network at 110 kV and above and is responsible for the balancing of the system through the procurement of balancing and ancillary services.

The Distribution System Operator (OSHEE) owns the electricity power distribution system below 110 kV. OSHEE is a legal entity that includes both the Distribution System Operator carrying out the distribution service and the Universal Service Provider carrying out the activity of supply of

tariff customers. Today, OSHEE is also designated by the Government as a temporary Renewable Energy Operator with the obligation of purchasing the electricity produced by RES power producers benefiting from a long-term PPA and a feed-in tariff.

The Albanian Power Exchange (ALPEX) is a new company established according to the provisions of the Albanian Power Sector Law and Albanian Electricity Market Model. It is responsible to perform the organised day-ahead and intra-day electricity market in Albania and Kosovo*.

3.1.5 ENVIRONMENT

Environmental issues are administered by several central and local institutions, which are established and function according to different primary and secondary legislation.

The Ministry of Tourism and Environment (MTE) has overall responsibility for the development and implementation of environmental protection policies, specifically for air, waste, chemicals, climate change, and forests, protected areas, and biodiversity. MTE is the responsible authority representing Albania for several international conventions, treaties, and protocols in the area of environment. Based on the Law on Strategic Environmental Assessment, the MTE has competencies for approving the strategic environmental assessments for any territorial or sectoral plan or strategy developed by the central and local authorities. The MTE, with the support of the National Environmental Agency, is responsible for issuing environmental permits (in A and B Categories), monitoring environmental legislation enforcement and compliance, and controlling permitted activities.

The National Environmental Agency (NEA) is a key public entity subordinate to the Ministry of Tourism and Environment with important responsibilities in the environment. It is a central public institution under the authority of the Minister, who exercises its jurisdiction throughout the territory of Albania. For carrying out its duties and responsibilities, the NEA has 12 Regional Environmental Agencies, which are subordinate to it.

The National Agency of Protected Areas (NAPA) is a public entity subordinate to the Ministry of Tourism and Environment with responsibilities for the administration and control of protected areas in the whole territory of the country. The NAPA is responsible for preparation of the management plans for each area, which are approved by the Ministry, in consultation with the line ministries, municipalities, the interested public, civil society



and private owners, whose properties lie within the territory of the protected area.

The National Agency of Forests (NAF) is a new public agency established according to DCM.570, date 17.07.2019 and subordinate to the Ministry of Tourism and Environment. The Agency is responsible for monitoring and assessing the condition of forests and organising activities on inventory and research, and drafting of documents for forest management. The Agency has a central headquarters and four regional agencies.

Local Authorities (Municipalities) are responsible for ownership and management of forest areas under their administrative jurisdiction. Municipalities are also responsible for issuing authorisations for utilisation of the forest area under their ownership and management.

3.2 KEY INSTITUTIONAL CHALLENGES

Significant steps towards enhanced cross-sectoral coordination have taken place in the past decade, especially through the government's Integrated Planning System (IPS) and the related Integrated Policy Management Groups (IPMGs) on water resource management, climate policies, and the EU accession process, though significant room for improvement remains.

Broadly, some Nexus-related institutional weaknesses have been identified, which prevent the coherent functioning of the system with efficient vertical and horizontal coordination at both national and local levels:

- ▶ The institutional capacity of and cooperation between monitoring institutions is weak and therefore, does not ensure effective responses to emergency situations.
- ▶ Improved coordination among HPP operators and Hydromet emergency forecasting systems can lead to improved flood management and control.
- ▶ The separation of mandates across Ministries and Agencies (e.g., in the management of water quantity and quality) may lead to inefficient administration.
- ▶ Sectoral strategies are not sufficiently accompanied by Strategic Environmental Assessments.

- ▶ The capacity of local government units to prepare local development plans remains limited, and their adoption is slow, while state funds are not sufficient in this regard.
- ▶ The contribution of local authorities in the preparation phase of sectoral policies and strategies has been limited
- ▶ The capacities or management authorities are limited, in terms of human resources as well as of data and information availability, processing and sharing.
- ▶ Problems encountered in reporting to some Multilateral Environmental Agreements (MEAs) also reveal weaknesses in the administration's ability to meet the requirements, in terms of technical know-how and the availability of equipment for the purpose, to monitor the environment.²¹



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21 Third Environmental Performance Review of Albania. Available at: <https://unece.org/environment-policy/publications/3rd-environmental-performance-review-albania>



POLICIES AND STRATEGIES IN THE NEXUS SECTORS

This section contains an overview of the sectoral policies and strategies developed and adopted by the Albanian government for all the assessed Nexus-related sectors.

4.1 WATER RESOURCES MANAGEMENT

The strategic policy framework in the water sector in Albania, is fully oriented towards transposition of EU legislation, with concrete steps already taken in this direction.

The National Strategy for Development and Integration (NSDI-II) and the set of sectoral strategic documents developed as part of the NSDI-II process consider Albania's aspirations of becoming a Member of the EU and take as a reference the documents produced by the EU institutions within the framework of the desired accession process. The legislative alignment with the *acquis* on water quality and administrative capacity for water management remains incomplete.²²

Main aspects regarding Albania's water resources have been regulated since 2012 by Law No. 111/2012 on Integrated Water Resources Management, amended in 2018. The Albanian government, with approval of DCM no. 1015, dated 16.12.2020 *"For the content, development and implementation of the National Strategy of Management of Water Resources, River Basin Management Plans and Flood Risk Management Plans"*²³, has laid the foundations for preparation and implementation of River Basin Management Plans and Flood Risk Management Plans. Moreover, the transition towards transposition of Water Framework Directive with a national water framework is still in progress. The law and subsequent by-laws have largely focused on institutional design but haven't yet provided the necessary technical specifications related to water management at the river basin level as foreseen in the Water Framework Directive. As a result, there is insufficient guidance to set Environmental Objectives or establish a Programme of Measures to achieve these objectives. Through several Decisions of the Council of Ministers (DCM), the transposition of EU Drinking Water and Bathing Waters Directives is considered to have been accomplished, as well as some of the provisions of the Urban Wastewater Treatment Directive.²⁴

With the support of the Austrian Development Agency (ADA), and the EU, the Albanian government is in preparation of a new Law related to the Integrated Water Resources

22 UNECE Environmental Performance Reviews - ALBANIA Third Review.

23 This decision is partially aligned with: Directive 2000/60 / EC of the European Parliament and of European Council, dated 23 October "Establishment of a legal framework for community actions in the policy area of waters"; Directive 2009/90 / EC, dated 31 July 2009, in continuation of Directive 2000/60 / EC of the European Parliament and Council "Technical specifications for chemical analysis and monitoring of water status"; Directive 2006/118 / EC of the European Parliament and Council, dated 12 December 2006, "On groundwater protection against pollution and deterioration"; Directive 2007/60 / EC of the European Parliament and Council, dated 23 October 2007, "On the assessment and flood risk management "

Transposition of the Water Framework Directive in Albania: Gaps and path forward-Low Journal. Al. Pillar IV European Union and Integration.

24 Transposition of the Water Framework Directive in Albania: Gaps and path forward-Low Journal. Al. Pillar IV European Union and Integration.

Management, expected to be approved in 2022 and to be completely aligned with the EU Water Framework Directive. It will be accompanied by the required by-laws to make its provisions fully applicable for transposition of EU Water-Related Directives.

The main strategic document for the management of water resources in Albania is the Integrated Water Resources Management Strategy (IWRMS), which serves as the umbrella document on integrated management of water resources at national scale.

The IWRMS defines Five Strategic Objectives:

- ▶ Water quantity.
- ▶ Water quality.
- ▶ Water risk.
- ▶ Water information/data.
- ▶ Water governance.

The achievement of the IWRMS objectives is strongly dependent on data availability/reliability and management/governance of processes.

The Integrated Water Resource Management Strategy notes: *“The importance of database & Information and governance leads to the conclusion that the water resources management functions that are currently scattered among different institutions should be centralized and placed under the umbrella of one single national institution – a National Water Resources Authority/Agency – with administrative branch offices at river basin level, acting independently from other institutions. The different institutions now acting as part of different Ministries with water-related responsibilities in all four water pillars should be part of these water pillars within the National Water Resources Authority / Agency.”*²⁵

The Draft National Sectoral Programme on Water (NSPW) was prepared in 2017 but hasn't been officially adopted. It defines the vision, objectives and goals of the water sector for a period of 13 years (2018-2030). This is the main framework that regulates and orients the water sector for the planned period and includes the main governance

measures, identified studies and categorisation of infrastructure projects. The main goals of the National Sectoral Programme are:

- ▶ Orientation of investments towards national objectives.
- ▶ Improvement of the planning process.
- ▶ Increase of investments in the sector.
- ▶ Increase of the revenues generated by the sectors.
- ▶ Continuous and effective monitoring, as well as the protection of environmental balances.

4.2 WATER SUPPLY AND SANITATION

The main laws governing the water sector in the past decade that have significantly influenced the development of the water supply and sanitation sector include:

Law no. 139/2015 “On Local Self-Government”, which is the main pillar for the implementation of decentralisation reforms of local government. This law regulates the organisation and functioning of local self-government units in the Republic of Albania and defines their functions, competencies, rights, and duties, and those of their respective bodies.

Law no. 9115, dated 24.7.2003, “On Environmental Treatment of Wastewater”, which aims to protect the environment and human health from the negative impacts of polluted water, and defines the rules of environmental treatment and obligations for polluters.

The key strategic document concerning the WSS sector for the next decade is the National Strategy of the Water Supply and Sewerage Sector 2020-2030, currently in draft form (pending approval). It has been prepared in order to present the sector's Vision, Mission, Policy Goal and Action Plans in Albania in a clear, specific, quantitative and timely manner.

25 Preparation and Implementation of an IWRM Strategy



4.3 FOOD / AGRICULTURE

The key strategic documents related to the Food and Agriculture sector are:

The **new Strategy for Agriculture, Rural Development and Fisheries (SARDF) 2021-2027** which is expected to be approved. It is guided by the objectives of the EU's Common Agricultural Policy (CAP) and aligned with European Green Deal. Its vision is to "Enable an efficient, innovative and viable agri-food and fisheries sector in Albania that in a position to better withstand national and international market pressures and respond to challenges of climate change and sustainable natural resource management, while improving the quality of life of rural residents and increasing the attractiveness of rural areas". One of the four general objectives entails: "Strengthening sustainable management of natural resources and climate actions: contribute to environmental care, climate adaptation and mitigation, biodiversity and landscape protection".

The **National Strategy for Irrigation and Drainage** presents the action plan and financing scheme for the period 2019-2031 (MARD, 2019). The strategy identifies the main strengths, weaknesses, opportunities and threats to irrigation, drainage, dams and reservoirs, and flood protection. The urgent priorities for irrigation, drainage and flood protection are:

- ▶ Feasibility studies / project designs for irrigation infrastructure, drainage and flood protection, cleaning of main and secondary drainage canals.
- ▶ Rehabilitation of 14 drainage pumping stations (hydrovoirs), in the Western region.

Priorities for rehabilitation of drainage pumping stations (hydrovoirs) should be determined primarily according to the degree of risk of flooding and the size of the area to be drained.

4.4 ENERGY

With the signing and ratification of the Energy Community Treaty (ECT) in 2006, the energy sector policies were developed with the goal of meeting the commitments taken under this treaty, including the transposition of several key EU energy acquis into the national legislation.

The key strategic documents on Energy are presented below.

4.4.1 National ENERGY STRATEGY

The National Energy Strategy for Albania 2018-2030 is the core strategic document for the country's energy sector and was approved by the Council of Ministers (decision no. 480, dated 31.07.2018).

Under this strategy, the Albanian government has established and committed to meeting the following long-term strategic objectives:

- ▶ Improving the reliability and security of energy supply.
- ▶ Developing the domestic primary energy sources in a sustainable and competitive manner.
- ▶ Improving the cost-effectiveness of energy supply systems.
- ▶ Achieving the targets for renewable energy sources and energy efficiency established in the second National Energy Efficiency Action Plans and the National Renewable Energy Action Plan.
- ▶ Developing a least-cost and sustainable policy for residential heating and cooling.
- ▶ Integrating the Albanian power and natural gas markets with regional Energy Community and European markets.
- ▶ Achieving the Nationally Determined Contribution (NDC) targets for greenhouse gas (GHG) emission reductions.

In the strategy, a number of potential energy development scenarios for the period 2018-2030 have been developed and assessed with the goal of selecting the best scenario. The recommended development scenario – if properly implemented – would achieve the following results:

- ▶ Reduce energy imports by 32% compared to the baseline scenario.
- ▶ Increase the RES share in 2030 by 42% of total final energy consumption.
- ▶ Reduce final energy demand by 15.5% compared to the baseline scenario.
- ▶ Reduce GHG emissions by 11.5% compared to the baseline scenario.
- ▶ Reduce energy intensity by 18%.
- ▶ Increase penetration of natural gas in the Albanian primary energy supply from 0.36% in 2015 to the 19.81% in 2030.

Although the Law on Environmental Strategic Assessment requires that the energy strategy and plans are accompanied with a report endorsed by the Ministry of Tourism and Environment, no such assessment was made for the National Strategy for Energy.

4.4.2 The Consolidated National RENEWABLE ENERGY ACTION PLAN

The first National Renewable Energy Action Plan (NREAP) for 2015-2020 was approved by the government in January 2016. It was updated and replaced with the second NREAP for 2018-2020 approved in March 2018. In August 2019, the government updated the Consolidated Renewable Energy Action Plan 2019 – 2020.

For the years 2019-2020, the Consolidated Renewable Energy Action Plan²⁶ foresees the expansion of installed electricity generators based on renewable sources by 738 MW, as follows: 57 MW of hydropower energy; 490 MW of photovoltaic energy; 150 MW of wind energy; 41 MW of waste to energy. The related additional potential for renewable generation in Albania is estimated at 1761 GWh.

The NREAP does not contain any information regarding the potential impacts of construction of new HPPs on the water resources and floods and/or the impacts of construction of PV solar and wind power plants on the agricultural land.

26 The Consolidated Renewable Energy Action Plan 2019 – 2020: <https://planifikimi.gov.al/index.php?elD=dump-File&t=f&f=5113&token=5d8ec18d76dea8f5bfa8d-0935cc41fca22cddee>

4.4.3 NATIONAL ENERGY EFFICIENCY action plan

In line with the requirements of the former Law on Energy Efficiency (law no.9379, dated 28.04.2005) the Albanian government developed and approved the first National Energy Efficiency Action Plan (NEEAP) covering the period 2011-2018. The first NEEAP was approved in September 2011. Based on this Plan, the national target of improving the energy efficiency by 2018 was set at 9%. The Plan also contained various measures and actions to be undertaken to ensure that the national energy efficiency target could be achieved.

In 2017, the Council of Ministers approved the Second and Third National Energy Efficiency Action Plans for 2017-2020 (DCM no.709, dated 1.12.2017), which established a new national energy efficiency target for 2020 – set at 6.8%. The second and third NEEAPs established energy efficiency targets for each sector and provided a number of measures to be implemented to reach those targets by 2020. The energy savings expected to be reached by 2020 compared to the base year, according to the NEEAP, were estimated to be 123.7 ktoe – or about 1438.6 GWh.

The improvement of energy efficiency according to the NEEAP would improve the energy intensity of the Albanian economy from 0.338 kgoe/€1000 in 2014 to 0.301 kgoe/€1000 in 2020.

Given that the latest NEEAP covers the period 2018-2020, the Albanian government is required to prepare the new NEEAP for next three years (2021-2023) as required by the Energy Efficiency Law, which shall be coordinated with the National Energy and Climate Plan.

4.4.4 National ENERGY AND CLIMATE plan

The National Energy and Climate Plan of the Republic of Albania²⁷ was approved in December 2021. The National Energy Strategy and the NDC are the main documents used for the formulation of NECP. It sets specific targets regarding greenhouse gases

27 Approved National Energy and Climate Action Plan for Albania: <https://qgbz.gov.al/share/33aj81QPRAaS891wB-M51uQ>



emission reduction and outlines measures for how to reduce the level of GHG up to 2030 per sector.

The main dimensions addressed by the NECP are i) Decarbonisation and renewable energy. Under such dimensions, it sets targets to i) Reduce CO₂ emissions by 11.5% by 2030 (with reference with 2015), ii) The use of Renewable Energy: The expansion of use of renewable energy is foreseen – from 33.5% to 54.4 % by 2030, iii) Energy Efficiency: The final energy consumption considering the proposed measurements will be reduced by 110,5 ktoe for forestry and agriculture, 56 ktoe for fishery, 542 ktoe for the industry and 348.9 ktoe for the residential sector and iv) Energy Security.

In the NECP, several measures are outlined:

1. **Reduction of Greenhouse Gas Emissions**
 - ▶ Enhancement of technologies about the incineration of agricultural waste
 - ▶ Expansion of wastewater treatment plants
 - ▶ Ecological management of forestry
 - ▶ Promotion of organic agriculture
2. **Renewable Energy**
 - ▶ Expansion of use of biofuel
 - ▶ Initiating the feed-in tariff for small-medium PV solar power plants up to 500 Kwh
 - ▶ Shifting towards electricity mobility
3. **Energy Efficiency**
 - ▶ Increasing the energy efficiency in building, mobility sectors
 - ▶ Refurbishment of public building stock
4. **Energy Security**
 - ▶ Expansion of supply with natural gas

4.5 ENVIRONMENT

The following sub-sections provide an overview of the key strategic policy documents related to the environment.

4.5.1 Policy documents on CLIMATE CHANGE

Albania is one of the Contracting Parties of the UN Framework Convention on Climate Change (UNFCCC) and ratified the Paris Agreement on July 14th, 2016, entering the new era of the international climate policy process.

As a non-Annex I country to the UNFCCC, Albania has no defined obligations to reduce its greenhouse gas emissions. However, it does have an obligation to communicate to the Conference of Parties, relevant information on the implementation of the Convention, regarding discharges and absorption. The 4th national communication to the UNFCCC is under preparation.

In line with the requirements of the UNCCFC and in the framework of the Paris Agreement process, in September 2015, the Albanian Government approved the Intended Nationally Determined Contributions (INDC) (decision no.762, dated 16.09.2015), which represent a self-commitment by Albania to reduce CO₂ emissions, compared to the baseline scenario until 2030, by 11.5%.

In line with its international commitments on climate change and the requirements of the Law on Environment, in July 2019, the Albanian government approved the National Climate Change Strategy and Plan (NCCS&P) for Mitigation of GHG Effects and Adaptation to Climate Change. It is designed to support the implementation of EU environment and climate change legislation, aiming to strengthen cross-sectoral coordination in Albania on measures on climate, environmental protection, and sustainable development.

With respect to the mitigation of GHG emissions, the NCCS&P takes into account long-term targets by 2050, which require long-term emission reductions and the addition of absorbers in the relevant sectors, in line with EU objectives, to reduce cost-effective emissions from 80% to 95% by 2050, compared to 1990 levels.

The document contains several measures for mitigation of CO₂ in different sectors including energy, agriculture and forestry, transport, households and services. These include energy efficiency measures, increase of RES use for electricity production and space heating, introduction of cogeneration and central heating

systems, and reforestation of 500-1000 ha each year to 2030.

Regarding adaptation to climate change, the NCCS&P defines the goals and specific indicators of the six main areas of interest for the overall strategic importance of the adaptation process in Albania as: the results of the adaptation; directing the implementation of the National Adaptation Plan (NAP) ; the integration of NAP²⁸ in various fields; funding for Climate Change Adaptation, capacity building, information and involvement, institutional building, and capacity development.

According to the NAP, the three main objectives for the adaptation are:

- ▶ Reducing flood damage.
- ▶ Increasing the resilience of agriculture against drought.
- ▶ Ensuring the quality of drinking water for the regions of Shkodra, Fier and Vlora, despite the impacts of climate change.

The process of the National Adaptation Plan will be oriented towards reducing Albania's vulnerability, by improving the management of climate risks in the respective sectors.

As stated in the Energy Sector Overview section of this document, in December 2020, the Albanian Parliament approved a new law on Climate Change (Law no.155/2020, dated 17.12.2020), which requires that long-term development of energy and climate be integrated. This law defines the general framework for national climate change policies and actions. The law also stipulates that the long-term energy and climate strategies and plans must include objectives and measures for periods until 2030 and 2050, related to energy security, internal energy market, energy efficiency, renewable energy sources, decarbonisation, research, innovation, and competitiveness, as well as reporting on their progress.

4.5.2 Strategic policy paper for BIODIVERSITY PROTECTION

In order to comply with the commitments and obligations under the Convention on Biological

Diversity and in line with the provisions of the Law on Protection of Biodiversity, in January 2016 the Albanian government approved the Strategic Policy Paper for Biodiversity Protection (decision no.31, date 20.01.2016).

The Strategic Policy Paper for Biodiversity Protection clearly identifies the main areas of work, specifically: increasing the surface of protected areas, drafting management plans and their implementation; completing the legal framework in accordance with EU acquis on nature and environment; elimination of illegal logging and hunting, implementation of the legal framework, as well as the activities of capacity building and implementation of action plans for the endangered species and habitats.

According to the Strategic Policy Paper for Biodiversity Protection the main threats to biodiversity are: industrial development, urbanisation, illegal hunting, fisheries, land erosion, energy and mining, transport and tourism, other sectors that have an impact on biodiversity. The main factors of biodiversity loss are anthropogenic activities where deforestation and desertification of arable land, as well as the destruction of meadows and pastures, have had a major impact on habitat changes in the recent past. Road construction and changes in water flow or the construction of dams, construction of pipelines, pollution coming from various origins, fires, diseases, and climate change are and will be the reasons for the degradation and fragmentation of habitats in Albania.

The paper also contains several actions to be taken for the protection of biodiversity. Below are some of the actions and measures outlined:

- ▶ Completion of national legal framework on nature and biodiversity.
- ▶ Expansion of the system of protected areas through increase of surface of protected areas up to 17% of land territory and 6% of coastal and sea areas.
- ▶ Protection and preservation of habitats.
- ▶ Inventory and monitoring of natural and semi-natural pastures.
- ▶ Identification of forests for in-situ preservation of genetic diversity.

28 Available at: https://unfccc.int/sites/default/files/resource/National_Adaptation_Plan_Albania.pdf



- ▶ Evaluation of endangered rocky grass.
- ▶ Monitoring of areas with importance of preservation.
- ▶ Creation of an electronic data base for fauna.
- ▶ Monitoring of natural zones affected by HPPs.
- ▶ Increase of education and public awareness on the importance of biodiversity protection.

The paper also underlines the importance of making biodiversity protection part of all sectoral policy and strategy documents to ensure that biodiversity issues are properly addressed and taken into consideration.

4.5.3 Policy paper for FORESTS

In December 2018, the Albanian government, upon the recommendation of the Ministry of Tourism and Environment, approved the Policy Paper for Forests in Albania 2019-2030. This paper represents the main policy document for the development of the forestry sector in the country.

The paper underlines the importance of forests in four aspects:

- ▶ Forests for people considering the importance of forests as source for release of O₂ and absorption of CO₂.

- ▶ Forests for development considering the contribution of forests in the country development through securing the wood for construction, space heating and resin production.
- ▶ Forests for food considering the forest as an important source of alimental products such as forest fruits, medical herbs and controlled hunting.
- ▶ Forests for nature considering several positive effects that forests have on the air temperature at global and local level, and preservation of biodiversity and protection of land.

While the paper highlights several concerns and problems encountered with the administration of the forestry sector, it also identifies the main actions and measures to be taken in the next decade, focusing on:

- ▶ Functional and structural reorganisation of the forestry sector at central and local levels.
- ▶ Clear definition of rights and responsibilities of all sector stakeholders to avoid any gaps or overlapping.
- ▶ Protection of forests including protection from fires, illegal logging, and natural damages.
- ▶ Establishment of a balance of demand and supply in the use of forests for energy and industry.



4.6 SUMMARY OF SECTORAL POLICY OBJECTIVES AND INSTRUMENTS

The Table below summarises the main policy objectives in each Nexus sector and related instruments.

Table 4 1: Policy Objectives and Instruments

SECTOR	POLICY OBJECTIVES	INSTRUMENTS
WATER RESOURCES	<p>WR1 - Improving data gathering and data reliability.</p> <p>WR2 - Improving Institutional cooperation.</p> <p>WR3 - Improving water quantity and quality.</p> <p>WR4 - Improving water quality.</p>	<p>1.- Proper implementation of Integrated Water Resource Management Strategy.</p> <p>2.- Completion of River Basin Management Plans.</p> <p>3.- Proper implementation of existing River Basin Plans.</p> <p>4.- Diversification of water permits based on water quality, as required by different water use sectors.</p> <p>5.- Coordination of water monitoring Institutions.</p>
WATER SUPPLY & SANITATION	<p>WP1 - Expanding and improving access to safe water and sanitation services for the population.</p> <p>WP2 - Increasing performance of services and utilities.</p> <p>WP3 - Implementation of a programme for the aggregation/ regional WSS utilities.</p>	<p>1.- Transposition and implementation of the Urban Wastewater Treatment Directive requirements.</p> <p>2.- Approval and implementation of National Strategy of Water Supply and Sewerage 2020-2030.</p> <p>3.- Providing sufficient funds from central and local authorities (national & international), for supporting water for people sector.</p> <p>4.- Improving coordination of water supply infrastructure investment between MIE and Albania Development Fund.</p>
FOOD / AGRICULTURE	<p>WF1 - Increasing the productivity, profitability and sustainability of irrigated agriculture.</p> <p>WF2 - Improving the quality of irrigation and drainage services, fishing, aquaculture and reducing the consequences of floods and drought.</p> <p>WF3 - Agricultural land and farm consolidation.</p> <p>WF4 - Increasing water for agriculture purposes.</p>	<p>1.- Proper implementation of National Strategy for Drainage and Irrigation 2019-2030.</p> <p>2.- Providing sufficient funds for feasibility studies and designs of drainage and irrigation network.</p> <p>3.- Providing sufficient funds for technical assistance to the local authorities and WUOs.</p> <p>4.- Providing sufficient funds for technical assistance and equipment to the Drainage Boards for river protection and drainage infrastructure.</p>



SECTOR	POLICY OBJECTIVES	INSTRUMENTS
FOOD / AGRICULTURE	<p>WF5 - Strengthening / proper operation of Water User Organisations and Irrigation and Drainage Units in Municipalities.</p> <p>WF6 - Implementation of Order of MARD, No. 131, dated 28.03.2018, "Approval of the list of products and substances used in biological production".</p>	
ENERGY / INDUSTRY	<p>WI/E 1 – Ensuring availability of water resources for industrial purposes, in the function of sustainable economic development, respecting the standards and protection of the aquatic environment.</p> <p>WI/E 2 - Diversification of power production.</p>	<p>1.- Considering existing RBMPs on hydropower permitting.</p> <p>2.- Preparation of the National Renewable Energy Action Plan.</p> <p>3.- Setting a national RES objective and specific objectives for different RES power generation technologies.</p> <p>4.- Establishing a supporting mechanism for promotion of RES use.</p>
ENVIRONMENT	<p>WE 1- Protection of ecosystem and biodiversity area.</p> <p>WE 2 - Consideration of climatic change impact.</p> <p>WE 3 - Improving data gathering and data reliability.</p>	<p>1.- Preparation of flood management plans for each river basin.</p> <p>2. - Improving institutional cooperation in relation to the early warning system.</p> <p>3. - Proper implementation of hydropower operation rules, considering mitigation of climatic change impacts, especially in cascade hydropower plants.</p> <p>4. - Providing sufficient funds for technical assistance and equipment to the central and local authorities responsible for emergencies and civil protection.</p>
ENERGY & CLIMATE	<p>E 1 - Improving the reliability and security of the energy supply.</p> <p>E 2 – Developing the domestic primary energy sources in a sustainable and competitive manner.</p> <p>E3 - Developing least-cost and sustainable policies for residential heating and cooling.</p> <p>E 4 - Increasing the RES share in 2020 by 38% and in 2030 by 42% of total final energy consumption.</p>	<p>1.- Increasing the usage of domestic primary energy resources and improve the management of public energy utilities.</p> <p>2. - Increased use of primary renewable energy resources and granting of the authorisations for construction of new RES power capacities through competitive auctions.</p> <p>3. - Implementing actions for promotion of installation of thermal solar panels in the residential sector.</p> <p>4. - Monitoring the implementation of the NREAP.</p>

SECTOR	POLICY OBJECTIVES	INSTRUMENTS
ENERGY & CLIMATE	<p>E 5 - Increasing small hydro generation to a total capacity of 57 MW by 2020.</p> <p>E 6 - Installing new wind power generators with a total capacity of 150 MW by 2020.</p> <p>E 7 - Increasing solar PV power generation to a total of 490 MW by 2020.</p> <p>E 8 - Installing new power generation from biodegradable urban waste with a capacity of 41 MW by 2020.</p> <p>E 9 - Improving the cost-effectiveness of energy supply systems.</p> <p>E 10 - Reducing total final energy demand by 15.5% by 2030.</p> <p>E 11 - Integrating the Albanian power and natural gas markets with the regional Energy Community and European markets.</p> <p>E 12 - Achieving the Nationally Determined Contribution (NDC) targets for greenhouse gas (GHG) emission reductions.</p>	<p>5. - Streamlining the procedures for authorisation procedures for construction of small HPPs.</p> <p>6. - Identifying the most suitable sites and organise bidding procedures for authorisation of new wind power generators.</p> <p>7. - Identifying the most suitable sites and organising bidding procedures for authorisation of new PV generators.</p> <p>8. - Preparing the necessary regulatory framework governing the construction and operation of installation using biodegradable urban waste for power generation.</p> <p>9.- Improving the management of public energy utilities.</p> <p>10. - Monitoring the implementation of the National Energy Efficiency Action Plan.</p> <p>11. - Carrying out the long-term investment plan for power transmission systems and Master Plan for the gas sector.</p> <p>12. - Implementing the actions contained in the NREAP and NEEAP.</p>
ENVIRONMENT & BIODIVERSITY	<p>EN 1 – Achieving the NDC target for GHG emission established at 11.5% by 2030.</p> <p>EN 2 – Ensuring that sectoral strategies and plans developed for any economic sector are subject to strategic environmental assessment.</p> <p>EN 3 - Reducing flood damage caused by climate change.</p> <p>EN 4 - Increasing the resilience of agriculture against drought caused by climate change.</p> <p>EN 5 - Increasing the surface of protected areas.</p>	<p>1. - Implementing the actions for reduction of GHG emissions in all sectors.</p> <p>2. – SEA required for sectoral strategies and plans;</p> <p>3. - Management Plans for each river basin to be prepared and implemented.</p> <p>4. - Assessment of the impact of climate change on agriculture to be carried out.</p> <p>5. - Expansion of system of protected areas through increase of surface of protected areas up to 17% of land territory and 6% of coastal and sea areas.</p>



SECTOR	POLICY OBJECTIVES	INSTRUMENTS
ENVIRONMENT & BIODIVERSITY	<p>EN 6 - Observation of minimum environmental water flow for projects of construction of run-of-river HPPs.</p> <p>EN 7 - Establishing a balance of demand and supply in the use of forests for energy and industry.</p> <p>EN 8 - Protection of forests including protection from fires, illegal logging and natural damages.</p> <p>EN 9 – Completion of the legal framework in accordance with EU acquis on nature and environment.</p>	<p>6. - The environmental and water authorities should make sure the EIA carried out for run-of-river HPP projects require the observation of minimum environmental water flow.</p> <p>7. - The NREAP to establish national objective for use of fuel wood, which take in consideration the preservation of a balance of demand and supply.</p> <p>8. - Monitoring of the moratorium for forest cutting and other actions to be taken by the forest authorities.</p> <p>9. - The new legislation on nature and environment to transpose the respective EU acquis.</p>

A simplified assessment of the degree of cross-sectoral integration of policy objectives and management practices is provided in the Table below.

Table 4 2: Degree of cross-sectoral integration

Integration Between Water Sectors	Degree
Water integrates Energy	Medium
Water integrates Food/Agriculture	Low
Water integrates Ecosystems	Medium
Energy integrates Water	Low
Energy integrates Food/Agriculture	Low
Energy integrates Ecosystems	Low
Food/Agriculture integrates Water	High
Food/Agriculture integrates Energy	No
Food/Agriculture integrates Ecosystems	High
Ecosystems integrates Water	Low
Ecosystems integrates Energy	No
Ecosystems integrates Food/Agriculture	Low



NEXUS RELATED INTERLINKAGES

5.1 MAPPING OF TRADE-OFFS AND SYNERGIES AMONG SECTORS

After looking in-depth at the policy and strategic documents of different sectors such as water, energy, agriculture, and environment, in terms of objectives addressed, this report investigates the existence of important interlinkages and identifies trade-offs and synergies across sectors.

In the following Tables, for each of the above sectors, the main policy objectives are presented together with the respective key interlinkages vis-à-vis each of the other sectors.

Each interlinkage is also assessed using a colour rating system. Positive values/colours indicate opportunities/synergies, while negative ones indicate trade-offs or potential conflicts. The quantification of values is assessed based on the effect/importance that the interlinkage has on the respective sector.



Table 5 1: Legend for Scoring System

OVERVIEW OF KEY INTERLINKAGES BETWEEN WATER RESOURCES MANAGEMENT OBJECTIVES AND OTHER NEXUS SECTORS

Policy Objectives – Water Resources Management		Key interlinkages with each respective sector			
		Water supply and sanitation	Food / Agriculture	Energy	Environment / Ecosystems
WR1	Completion and Implementation of River Basin Management Plans.	More and better-quality water for people, at different times and locations.	More and better-quality water for agriculture and food production, at different times and locations.	Water availability for hydropower and other industrial uses.	Improved availability and environmental quality of water for water ecosystems.
		Potential for cost reductions in underground water extraction and use.	Potential for cost reduction in underground/ surface water use.	Assessment of necessity and/or type of hydropower development.	Improved resilience of ecosystems and reduced risk for biodiversity, especially during extreme weather events.
WR2	Proper implementation of The National Sectoral Programme on Water (2018-2030).	Sustainable services for potable water.	Sustainable services for food/agriculture.	Sustainable services for industry/energy.	Sustainable ecology/ biodiversity and wellbeing.
WR3	Improved water administration and management.	More and better-quality water for people, at different times and locations.	More and better-quality water for agriculture and food production, at different times and locations.	Water availability for hydropower and other industrial uses.	Improved availability and environmental quality of water for water ecosystems.

OVERVIEW OF MAIN INTERLINKAGES BETWEEN WATER SUPPLY AND SANITATION OBJECTIVES AND OTHER NEXUS SECTORS

Policy Objectives – Water Supply and Sanitation		Key interlinkages with each respective sector			
		Water Resources Management	Food / Agriculture	Energy	Environment / Ecosystems
WS1	Expanding and improving access to water and sanitation services.	Requirement for sufficient water availability.		Increased energy demand for pumping.	
WS2	Construction of Wastewater Treatment Plants.	Potential for more available (treated) water.	Potential for more (treated) water available for irrigation. Potential for use of treated sludge.	Potential for energy recovery (biogas) and/ or on-site renewable energy installations.	Reduced pollution – improved water quality.
WS3	Implementation programme for WS&S aggregation.			Increased energy demand from WWT plants.	
WS4	Full recovery of operating and maintenance costs.	Improved performance, governance and overall operations of water utilities will result in increased efficiencies and reduced water losses – more available water.		Improved energy efficiency in water utilities is a pre-requisite for their financial sustainability and improved performance.	Improved performance, governance and overall operations of water utilities will result in reduced pollution – improving water quality.
WS5	Improving the workforce capacity of the WSS sector.				
WS6	Improving Corporate Governance by increasing accountability and transparency at central and local levels.				



OVERVIEW OF MAIN INTERLINKAGES BETWEEN FOOD / AGRICULTURE OBJECTIVES AND OTHER NEXUS SECTORS

Policy Objectives – Food / Agriculture		Key interlinkages with each respective sector			
		Water Resources Management	Water Supply and Sanitation	Energy	Environment / Ecosystems
A1	Increased productivity and sustainability of irrigation through land and farm consolidation as an opportunity for contemporary agriculture.	Water availability is increased.	Water availability for water supply is increased.	Potential for reduction in energy demand for irrigation. Potential for on-site renewable energy installations (e.g. agro-photovoltaics).	By using sustainable practices in agriculture and irrigation, the volume of pesticides used is reduced, and water quality and biodiversity is preserved.
A2	Improving types of irrigation and drainage services, fishing and aquaculture reducing consequences of flooding and droughts.	Impacts of floods/droughts are mitigated.	Water availability for water supply is increased.	Increased energy demand for additional drainage services.	Reduced impact of flooding and droughts.
A3	Strengthening of irrigation/drainage administration, including Water Users Organisations.	Improved efficiencies in water resources management and operations.			Improved governance could lead to improved water quality.
A4	Feasibility studies for irrigation infrastructure, drainage and flood protection / Cleaning of main and secondary drainage canals / Forestation and prevention of soil erosion.	Improved efficiencies in water resources management and operations.	Forestation may lead to improved water quality.	Improved energy efficiency in irrigation and drainage. Addressing soil erosion reduces sedimentation in reservoirs.	Reduced impacts of flooding and droughts. Land restoration.
A5	Rehabilitation of 14 drainage pumping stations (hydrofoils) in the Western region.	Impacts of floods mitigated. Protection of groundwater.		Increased energy demand.	

OVERVIEW OF MAIN INTERLINKAGES BETWEEN ENERGY OBJECTIVES AND OTHER NEXUS SECTORS

Policy Objectives – Energy		Key interlinkages with each respective sector			
		Water Resources	Water Supply and Sanitation	Food/ Agriculture	Environment / Ecosystems
E1	Sustainable hydropower development.	Potential for co-benefits in flood management from coordinated HPP operations.	Improved energy supply security.	Improved energy supply security. Increased water storage capacities.	Potential for highly negative impacts on ecosystems without proper location and full Environmental Impact Assessment.
		Potential for installing floating solar panels on reservoirs.		Potential conflicts from land and water captured in the reservoirs.	Hydropower development should take into account the expected impacts of climate change.
E2	Increase the security and affordability of energy supply.		Improved energy supply security. Reduced energy costs for water utilities.	Improved energy supply security. Reduced energy costs for farmers.	
E3	Achieve the targets for renewable energy sources and energy efficiency.	Increasing non-hydro RES will reduce the need for additional HPPs and related stress on the water resources.	Increased energy efficiency in water utilities improves their financial sustainability and reduces bills for customers.	Solar installations on farmlands and/or switching to biofuels will reduce the available agricultural land for food production. Potential additional stress on available water in case of biofuel cultivation.	Potential for highly negative impacts on ecosystems from harmful siting of wind farms in natural areas and/or unsustainable biomass use.
				Increased energy efficiency in agriculture reduces costs for farmers.	
E4	Development of least-cost and sustainable policy for residential heating and cooling.				Sustainable heating reduces the need for wood fuel and unsustainable logging.



OVERVIEW OF MAIN INTERLINKAGES BETWEEN ENVIRONMENTAL OBJECTIVES AND OTHER NEXUS SECTORS

Policy Objectives -Environment		Key interlinkages with each respective sector			
		Water Resources Management	Water Supply and Sanitation	Food / Agriculture	Energy
EN1	Sufficient water for ecosystem services.	Changes in water allocation and permitting may be required.	Improved water quality.	Potential conflicts in case of scarce resources.	Need to ensure appropriate regulations on environmental flows for HPP operations.
EN2	Establishment of environmental standards in line with EU and WHO requirements.	Alignment with international targets and obligations.	The quality of water supply and services to end users is improved.	Improved water sustainability in the agricultural sector. Potential for increased costs in agricultural production.	Potential for increased costs in energy production.
EN4	Protection of forests.		Potential for improvement in water quality.	Land restoration and reduced risk of erosion.	Sustainable supply of wood fuel. Potential for reduced sedimentation in reservoirs.
EN5	Expansion of system of protected areas.			Potential conflicts in land use.	Potential impact on location of RES installations.
EN6	Improve SEA/ EIA processes.		Reduced potential impact from WSS installations.	Improved sustainability of agricultural production.	Potential impact on location of RES installations.

5.1.1 Trade-offs and synergies between WATER AND ENERGY SECTORS

The following main related conflicts or trade-offs between the Water and Energy Sectors have been identified:

- ▶ Water (over) allocation to the hydropower reservoirs, in particular during drought events when there are other water demands, which may lead to severe stress by 2027.
- ▶ Operation of HPPs not fully taking into account flood management considerations.
- ▶ High energy consumption of water utilities affecting their financial sustainability. The expansion of WSS service will further increase the utilities' energy consumption.

The following synergies have been identified:

- ▶ Good water administration/management through proper implementation of RBMPs will positively influence the availability of water resources for hydro-energy production.
- ▶ Improving energy efficiency in water utilities would reduce their operational costs and consequently the tariffs for customers.
- ▶ Potential exists for energy recovery in large wastewater treatment plants (biogas) as well as for on-site renewable energy installations.
- ▶ The falling costs and increasing installations of non-hydro RES (wind, solar) will reduce the need for additional HPPs and ease related stress on the water resources.
- ▶ There is significant potential for co-locating photovoltaics on reservoirs (floating PVs), which would, among other benefits, reduce the evaporation of water during summertime.

5.1.2 Trade-offs and synergies between **WATER AND AGRICULTURE / LAND USE SECTORS**

Only 2/3 of arable land is currently cultivated, while only around 1/3 of it is irrigated. At present, the main irrigation infrastructure is based on open channels, which have been built in the past when agriculture plots were bigger. Now, farmers' plots are about 1-2 ha, and the irrigation system is oversized with respect to current water demand. This means more water is required/consumed for irrigation, resulting in lower irrigation efficiency.

The key trade-offs identified are as follows:

- ▶ Water (over) allocation to the different uses, in particular during drought events; This is the case when, in the summer season, there is not enough water in the irrigation reservoirs, and water is not distributed equally to all farmers due to a malfunctioning of the infrastructure or inappropriate operation of the WUO, or when the limited water resources are misused by some of the farmers.
- ▶ Extensive use of pesticides in irrigation with open canals increase pollution and contamination of surface water and groundwater, and consequently reduce water availability for other uses.

The following synergies have been identified:

- ▶ Proper implementation of RBMPs will result in more and better-quality water for agriculture.
- ▶ The use of modern irrigation methods and agricultural practices will lead to lower water use, less pesticides and better water quality in drainage canals and groundwater.
- ▶ The expansion of wastewater treatment facilities will improve water quality and potentially provide additional (treated) water available for irrigation as well as treated sludge.

5.1.3 Trade-offs and synergies between **ENERGY AND AGRICULTURE / LAND USE SECTORS**

The following main conflicts and trade-offs have been identified:

- ▶ Biofuel production as a renewable energy source may negatively affect agricultural production and food because it could compete with land availability for food production. The incentives under the law on biofuels do not sufficiently address this risk.
- ▶ The expansion of irrigation and drainage infrastructure and services will lead to increased energy consumption.
- ▶ The construction of new photovoltaic plants (and to a lesser degree of wind power plants) may reduce the available agricultural land. The National Renewable Energy Action Plan does not address this risk. The MIE has not developed a Master Plan identifying the main areas in which the PV plants are to be constructed.
- ▶ Construction of large HPPs with reservoirs reduces available agricultural land.

The identified synergies are as follows:

- ▶ The installation of modern high-efficiency infrastructure for irrigation and drainage will reduce related energy consumption per output.
- ▶ The irrigation dams have considerable potential for co-locating photovoltaics on reservoirs (floating PVs), also reducing the evapotranspiration of water during summertime.
- ▶ Regarding the use of water from HPP reservoirs for irrigation purposes, representatives from both the energy and agricultural institutions should be more engaged in local decision-making (e.g., RBCs) and in the preparation of RBMPs or monitoring of the requirements of existing ones.

5.1.4 Trade-offs and synergies between **ENERGY AND ENVIRONMENTAL PROTECTION SECTORS**

Identified conflicts can be summarised as follows:

- ▶ Improper location of small HPPs and wind farms without full Environmental Impact Assessments could have significant negative effects on biodiversity and nature conservation objectives.
- ▶ The planning for new HPPs and operation of existing ones do not take into account the expected impacts of climate change on water availability and flows.



- ▶ HPP operations cause hydro-peaking and subsequent ecosystem deterioration.
- ▶ Ensuring sufficient water for environmental purposes (environmental flows) may reduce the availability of water for energy purposes. Existing criteria for environmental flows are not fully in line with EU guidance.
- ▶ Uncontrolled logging for fuel wood affects the forests and biodiversity.
- ▶ More stringent environmental standards in line with the EU and WHO guidelines may increase the cost of energy for customers.
- ▶ Expanding protected areas may reduce available land for RES installations.

Other identified synergies include the following:

- ▶ Installation of non-hydro RES (in appropriate locations) reduces the need for new HPPs and related stresses on the environment.
- ▶ Reforestation and addressing soil erosion will reduce sedimentation in HPP reservoirs while also contributing to achieving climate objectives.
- ▶ Sustainable policies and measures for efficient residential heating reduce the need for wood fuel and unsustainable logging.

5.1.5 Trade-offs and synergies between AGRICULTURE AND ENVIRONMENTAL PROTECTION SECTORS

Identified conflicts can be summarised as follows:

- ▶ The costs of agriculture and food production may increase following the establishment of the environmental standards in line with the EU and WHO requirements (EN2).
- ▶ Agricultural intensification and expansion could lead to deterioration of ecosystems and biodiversity loss.
- ▶ Deforestation, overgrazing, cultivation of sloping soils, poor water and irrigation management, and unsustainable agricultural practices contribute to soil erosion.
- ▶ Unsustainable agricultural practices and excessive use of pesticides and fertilisers have a severe impact on the quality of freshwater resources.

The identified key synergies are as follows:

- ▶ Sustainable agricultural and irrigation practices with reduced use of pesticides will improve the environmental quality of water resources.
- ▶ Proper operation of drainage systems (including the drainage network and drainage pumping station) will protect groundwater quality.
- ▶ Prevention of soil erosion including through forestation will protect agricultural land.
- ▶ Protection of river ecosystems through river banking will directly protect the agricultural land on riverbanks.

5.1.6 Trade-offs and synergies between WATER AND ECOSYSTEMS SECTORS

Identified conflicts can be summarised as follows:

- ▶ Water (over) allocation to the different users, in particular during drought events.
- ▶ The absence of wastewater treatment facilities for settlements and industry has significant impacts on water quality.
- ▶ Sedimentation in different water ponds has, moreover, reduced the quality of water in terms of oxygen and nutrients in downstream sections of the river (W1).

The following synergies have been identified:

- ▶ Completion and implementation of RBMPs will ensure proper water for environmental services and protect ecosystems especially during floods/drought events.
- ▶ Construction of wastewater treatment plants will preserve water quality and ecosystems of water bodies.
- ▶ Improvements in the administration and management of water utilities will reduce water losses and improve the water environment.

A large, light blue number 6 is positioned on the left side of the image, partially overlapping the sky and the distant mountains. The background is a scenic landscape featuring a clear blue sky with scattered white clouds, a range of distant mountains, and a foreground of dense green trees and a small body of water.

IDENTIFICATION OF PRIORITY INTERLINKAGES

This section focuses on 3 priority interlinkages that emerged from the analysis conducted in the previous sections and assesses how each one is addressed in the National Sectoral Programme on Water (NSPW) and other pertinent strategic documents, including its objectives and its governance and infrastructure actions.

6.1 THE INTERFACE OF HYDROPOWER OPERATIONS AND FLOOD MANAGEMENT

6.1.1 Importance of the INTERLINKAGE

Albania's river systems pose great flooding risks to the country. Due to low land elevation from the sea, floods occur suddenly, coming across the hydrographic network of major rivers for several hours. Along with natural courses, intensive drainage and irrigation have modified the area and the system created plays an important role in water flow.

Over the past 40 years between 1980 and 2020, twelve major floods have been recorded almost all over the country, due to the intensified load of atmospheric phenomena, and communities in these areas have had to simultaneously withstand exposures to two or more natural disasters.

The operational rules and flow regulation practices of hydropower plants (HPPs) can aggravate the flood risk: The intensity of floods depends on, among other factors, the quantity of water released by the most downstream dam, which in turn depends on supply-demand dynamics in the electricity sector (i.e., electricity demand and operation of the dams upstream).

The absence of proper regulation of HPPs can potentially aggravate the problem of floods, as occurred in 2010-2011 when about 12,500 ha of land were flooded for more than 25 days. The flood affected the cities of Shkodra, Nënshkodra, and the northern area of the Lezha district. The most critical points in the duration of the floods continue to be Ana Malit, Velipoja, Dajç, Bërdicë, the city of Shkodra, the villages Obot, Shirq, Bardhaj, and Daragjat, etc.

6.1.2 BENEFITS AND INCREASED EFFICIENCY through the Adoption of an Integrated Approach

As mentioned, proper management of HPP dam operations is of paramount importance in order to reduce the risk of floods in Albania, taking into consideration not only the energy production but also weather forecast and climatic change issues.

The Institute of Geoscience (IGEO) is responsible for collecting regular data on precipitations and water flows in river basins in Albania. In cases of flooding situations, IGEO regularly provides data to the government on precipitation and the water flow, which are used by for a better management of the situations. IGEO is also part of the Technical Advisory Committee for minimisation of hazardous risks established under the National Agency of Civil Protection, according to the Decision of the Council of Ministers no.1020, dated 16.12.2020. Reportedly, a Memorandum for collaboration between KESH (owner of the Drin River Cascade HPPs) and IGEO was signed some years ago, however, it seems that the collaboration between KESH and IGEO is not very efficient.

In the case of the dam HPPs built in the Drin River cascade, the operation of three existing HPPs and the regulation of water plots during different seasons throughout the year is governed and regulated by a specific regulation (Regulation on discharge of water plots in Drin River HPPs). The purpose of this regulation is to guarantee the safety of the dams, while ensuring an efficient use of water resources for power generation and minimisation of floods in the areas affected by the forced water spills from the reservoirs.

The Regulation establishes different volumes of water to be discharged from the reservoirs of three HPPs in three different seasons throughout the year, taking into consideration the level of water in the respective reservoirs and of the water flow, as a preventive measure for the safety of dams.

The regulation assumes that KESH personnel responsible for operation of the three HPPs do not have any data on short-term weather forecasts. As a matter of fact, KESH makes its own assessment of the weather forecast, which can support the operation of the HPPs.

The regulation stipulates that should the level of the Fierza reservoir rise above 285m, a special Commission convenes to decide on the response. This Commission is composed of representatives of Ministry of Infrastructure and Energy, Ministry of Agriculture and Rural Development, Ministry of Defence, IGEO, Committee of Large Dams and the representatives of the local authorities in Shkodra. The Commission can decide on issues that are under its competences, can interpret the regulation in specific situations, which are not foreseen in the regulation, and can decide on derogations from the provisions of the regulation in different cases when the weather forecast data give the necessary guarantees that such derogations do not cause any risk.

Since the regulation is relatively old (1988) it may require a review, not only in order to reflect climate change, but also to ensure better institutional coordination. Besides, a revision of the regulation will be necessary given the plans of the Albanian government and KESH to construct the new HPP (Skavica) in the Drin River's upstream section, which will considerably affect the operation of the entire cascade and the management of water plots.

Under the Nexus Assessment for the Drin Basin (also developed in the framework of the SEE Nexus Project) an integrated water-energy model was also used to analyse scenarios regarding the operation of HPPs on the Drin in relation to flood management. A key insight from the analysis is that changing the operational rules of the HPPs to accommodate floods (increasing the buffer volume of reservoirs by 20% in the wet season) has a minor impact on the security of electricity supply but a potentially significant impact on flood control and the reduction of related damages downstream, especially in the cases of small to medium flood events.

6.1.3 KEY CHALLENGES and BARRIERS

The following key barriers for addressing trade-offs have been identified:

- Frequent changes in the institutional framework and organisational structure of the central government authorities responsible for the water and energy sectors have occurred during the past two decades. This may be considered



normal for a country in transition, like Albania, however frequent changes do not always ensure effective and coordinated policymaking and management practices.

- ▶ The management of the Drin River cascade (related only to energy production) is based on a relatively old regulation and it does not reflect the institutional changes in water sector²⁹ and in the civil emergencies, which means that it does not ensure adequate coordination between the HPP operators and the newly created institutions.
- ▶ While a Flood Forecast Early Warning System is in place in the Drin River Basin, there is a lack of coordination between HPP operators and the responsible institution(s) for the Flood Early Warning System. As the regulation of water plots in the Drin River cascade does not take into consideration the short-term weather forecasts, better coordination between KESH and IGEO could improve the operation of Drin River HPPs with lower impact on the adjacent areas affected by the floods.
- ▶ Budget limitations in investing in local alternative energy sources (photovoltaics or wind energy), which would create more flexibility for KESH in managing and operating the Drin River HPPs and prevent or minimise the flood hazards for the nearby areas, is also an important barrier.
- ▶ A clear link between policies and objectives, and funding under Medium-Term Budget Programmes, is missing. The lack of a well-defined structure has created many difficulties, not only in distributing funds fairly to the real needs of the sector, but also in collecting revenues and returning them back to the budget.³⁰

6.1.4 Relation with the NATIONAL SECTORAL PROGRAMME on WATER

With specific reference to the subject interlinkage, the following three objectives are provided in the NSPW document:

- ▶ **Objective 6** is: Utilisation of hydropower potentials, with the aim of increasing the utilisation of water resource capacities for hydropower, taking into account the obligations

arising from international agreements while respecting environmental conditions. Under this objective, the generation potential of HPPs is expected to increase by 2030.

- ▶ **Objective 11** is: Flood risk reduction for the loss of life of endangered residents, damage to economic assets, public works, cultural assets and environmental values of persons, businesses and communities. Under this objective, a number of actions are expected to be implemented with the goal to progressively reduce flood-related losses by 2030.
- ▶ **Objective 12** is: Rehabilitation and maintenance of dams in accordance with the technical conditions, according to the recommendations of ICOLD, in order to increase their safety and reduce the potential effects caused by their damage, which are used for: i) irrigation agriculture land; ii) hydro-energy; iii) water supply. Under this objective, rehabilitation and maintenance actions shall be undertaken by the responsible authorities with the goal to increase the safety of dams and avoid any potential risks deriving from poorly maintained dams.

The NSPW shows the total financing needs for each objective. What's more, the document provides annual indicators for monitoring each sector and the respective objectives, facilitating the responsible institution in gaining a clear picture of the NSPW implementation.

On the other hand, although the strategic document appears to be consistent and comprehensive in illustrating the ambitious objectives, it represents a high-level document, and does not enter into detail about the potential impacts and interlinkages of water resource strategy with the other sectors, including energy.

Finally, monitoring responsibilities for implementation of the sectoral strategies are also defined. However, it appears that in various cases, no regular monitoring reports for implementation of the strategic document have been produced and delivered by the responsible authorities.

6.1.5 MITIGATION Measures

The following measures are proposed in order to maximise efficiencies and synergies in the implementation of the programme and address related key barriers, conflicts or gaps identified above:

²⁹ "Regulation for Drin Cascade Operation" 1989

³⁰ National Sectoral Programme on Water Sector (NSPW) 2018-2030 CHAPTER IV. BUDGET AND FUNDING SOURCES OF NATIONAL SECTORAL PROGRAMME

- KESH, as the owner of the existing Drin cascade HPPs, should coordinate with other relevant institutions (IGE, Ministry of Defence, Ministry of Agriculture and Rural Development, Local Board of Irrigation and Drainage) especially in terms of integrating the Flood Forecast Early Warning System in its operations, as well as for the improvement of irrigation and drainage systems to properly manage potential impacts (especially those related to the embankment of the downstream riverbed) on water resources from HPP operation.
- Transboundary cooperation between Albania, North Macedonia and other riparian countries will facilitate the development of transboundary RBMPs, recognition of problems and implementation of plans. Of special importance is the enhanced coordination between the power utilities of Albania and North Macedonia, including information and data exchange regarding the coordinated operation of the 5 HPPs on the Drin cascade.

6.2 INCREASING WATER AND ENERGY EFFICIENCY IN IRRIGATION AND DRAINAGE

6.2.1 Importance of the INTERLINKAGE

The water facilities for the agriculture sector comprise an extensive infrastructure, such as irrigation dams or irrigation pumping stations, irrigation networks, drainage networks, and drainage pumping stations.

In the last decade, irrigation infrastructures have been developed in Albania, from open irrigation canals to spring-and -drip irrigation, seeking to pass from small agricultural plots to more consolidated ones. This has been one of the requirements for development in the sector, one which is expected to bring positive results and improvements in the agriculture sector and food production.

The main source of water in the food production sector is irrigation dams, built more than 40 years ago, and open concrete canals, which are in real need of rehabilitation, for security reasons and to increase capacity. Another weak element of agricultural water infrastructure is represented by the water drainage pumps, which are outdated and generate high energy consumption.

According to the IWRM, over the next 10 years the demand for irrigation water is expected to increase by about 50%. Although Albania is considered a rich country in terms of water resources, with abundant average annual rainfall, due to resource distribution, it is necessary to ensure an optimal balance of the water regime, in order to guarantee sufficient water capacity in the irrigation dams which, as said, represent the main component of irrigation infrastructure. According to the main sectorial policy documents, the increased availability of water for irrigation will be achieved mainly through rehabilitation of existing irrigation dams and construction of new ones.

6.2.2 BENEFITS and Increased EFFICIENCY through the ADOPTION of an INTEGRATED APPROACH

From a cross-cutting water perspective, putting in place a consistent land consolidation process by minimising the fragmentation of agricultural lands through organisation and operation of different agricultural associations, such as WUAs, accompanied by the rehabilitation of the main agriculture infrastructures, will create opportunities for the modernisation of agriculture infrastructure and services.

In this context, investing in irrigation infrastructure including small dam rehabilitation and the use of their reservoirs for small photovoltaic panels will help to improve the energy supply for the agriculture sector, which is strongly required, especially for drainage operations.

The successful implementation of this process should be coupled with efficient approaches and techniques such as spring- and -drip irrigation, precision agriculture practices, orientation of crop cultivations that are more suitable to local climatic and soil conditions, increase of plot size, etc.



6.2.3 Key BARRIERS

The identified key barriers for addressing trade-offs are summarised below, taking into consideration that the main actors in planning, operation and maintenance of agriculture infrastructure are MARD, Drainage Boards, Municipalities and WUOs:

- ▶ MARD and ex-Drainage Boards don't have the ability to supervise and build the capacity of Water User Organisations.
- ▶ As per the National Strategy for Irrigation and Drainage 2019 – 2031 and Action Plan, lack of trust among farmers, and between farmers and the government is widespread. This is related to a weak sense of cooperative integrity within communities.
- ▶ A lack of involvement by the local government in the governance, management and financing of irrigation systems constitutes a lack of intermediary guidance, support, and checks and balances between the government and WUOs.
- ▶ The priority given in the last two decades by the Albanian government to the construction of HPPs for generation of electricity against the usage of water from the same river basin for irrigation, represents an obstacle for the development of the agriculture sector. This obstacle is mainly generated from the fact that the concession rights for HPPs are granted by the government before the water utilisation authorisations are issued by the water authorities, and in many cases the interest of the agriculture sector and future water demand for irrigation have not been taken into consideration when the concession rights were granted.
- ▶ Local authorities are the responsible bodies for operating the irrigation and drainage infrastructures; however, they have limited financial possibilities, professional skills, and equipment, and this has created difficulties for carrying out the necessary investment in this sector.
- ▶ The three National Renewable Energy Action Plans developed and approved by the Albanian government, set specific targets for different RES technologies including hydro-energy, wind and solar. However, the action plans do not define the specific areas or sites where the new RES power capacities will be developed and built, and proper coordination with the water sector policies is lacking.

6.2.4 Relation with THE NATIONAL SECTORAL PROGRAMME on WATER

In accordance with the Integrated Water Resource Management Strategy related to the agriculture sector, government investments in the sector are mainly focused on increasing water accumulation into the irrigation dam reservoirs, construction or rehabilitation of irrigation dams, rehabilitation of the main irrigation and drainage networks and high-water canals, and rehabilitation of drainage pumping stations.

On the other hand, Objective No. 3 of the NSPW in agriculture (Improvement of irrigation systems for irrigated agricultural lands in order to meet the needs of farmers with water, to provide optimal conditions for growing crops) does not take in consideration the water demand from other sectors. This may create problems deriving from inefficient investments in the irrigation systems.

Moreover, with the rehabilitation of existing irrigation and drainage infrastructures at the design stage, there is limited room for the application of an integrated approach which also takes into consideration the energy production by HPPs for agriculture purposes.

In this context, other opportunities could be considered to increase the energy production for the agriculture sector, such as the installation of photovoltaic plants in the irrigation reservoir, etc. To make this possible, it would be necessary to establish an inter-institutional system for information management in the fields of water-energy, where all actors that have direct or indirect connections with these fields, contribute with the information they have and receive information from other actors, based on the field of activity within which they operate.

Besides difficulty on central level coordination between different institutions (Ministries), the main issue of concern is weak coordination between central and local authorities when the decisions for priority planning of measures are taken.

6.2.5 MITIGATION Measures

The following measures are proposed to maximise efficiencies and synergies in the implementation of the programme and address the related key barriers, conflicts or gaps identified above:

- ▶ Implementation of strategic objectives in the field of Irrigation, Drainage and Flood Protection, in addition to the financial support, also requires proper coordination between government and regional institutions, including WUOs.
- ▶ An intermediate organisation that sits between the national government and the WUOs is necessary to assume responsibility for managing the secondary canals of large systems, and the intake and main and secondary canals of medium-scale irrigation systems.
- ▶ To make irrigation systems more productive and sustainable, the responsible structures in MARD and new municipal governments should begin to work in partnership with the WUOs and build their capacity.
- ▶ To overcome the weak sense of cooperative integrity within communities, consistent participatory management and joint planning and decision-making as well as assistance from the government based on conditional actions by farmers must be put in place.
- ▶ For successful implementation of the programme objectives, overall coordination between relevant stakeholders will be necessary throughout its entire duration.
- ▶ The main goals for agriculture are to increase production per unit of land and, gradually, per unit of water diverted for irrigation, as well as to increase rural employment and farming incomes. Irrigation and drainage are key factors to enable achievement of these goals. Under this premise, the central water and agriculture authorities should coordinate among themselves in order to implement agriculture and water strategies, which would enable a reliable water supply for irrigation purposes and a more effective agriculture sector, based on respective local conditions.
- ▶ As there are several investment actors, better coordination is essential, taking into consideration the need for not only improving water issues in the sector but also other related issues such as energy and the environment; Better use of water availability for agriculture means less chemicals and pesticides, and more fresh surface and groundwater for other sectors, lower energy demand, and may even solve the energy issues within the sector itself;
- ▶ Improve the irrigation network functionality through strengthening the WUOs, which are voluntary organisations created by farmers for implementation of irrigation.
- ▶ The involvement and consultation of local authorities in the development of agriculture and water strategies would ensure a more accurate estimation of the needs for water in the agriculture sector and a more effective implementation of such strategies and plans will be achieved.
- ▶ Introducing the concept of new irrigation methods, water use in agricultural dams for energy production and installation of small photovoltaics panels on irrigation reservoir could ease the difficulties the sector is facing in covering energy demand for irrigation and drainage purposes.
- ▶ Consideration of creating energy from other renewable sources would result in more water available to expand irrigation and increase agricultural productivity.
- ▶ One opportunity that should be considered is the use of dam reservoirs, as appropriate, for diversification of energy source using photovoltaic energy production, or using reservoirs as an opportunity for hydro-energy production, especially outside of irrigation season.
- ▶ The National Renewable Energy Action Plans should define the specific areas or sites where the new RES power capacities will be developed and built. The definition of these sites in full consultation with the responsible authorities for water, agricultural land and the environment would enable the government to select the best sites with the least adverse impact on water, biodiversity, environment, and agricultural land.
- ▶ The government should consider the possibility of finding funding sources, which would enable the financing of more costly projects such as the rehabilitation of dams and water pumping stations.
- ▶ Local authorities should better coordinate with the central government to plan the financing of investment in the irrigation and drainage networks under their management within their local budgets.



6.2.6 Options for COORDINATED FINANCING of Actions

There are two main levels of investment in agriculture sector. The first one is at national level and is represented by government investment through the MARD (together with donors), and the second level is represented by investments by the Municipalities (accompanied by donors or private investment).

Currently, the main irrigation and drainage infrastructures are still under government administration while the rest comes under the relevant local authority.

The administration of irrigation and drainage systems is carried out through the division of roles between three actors: Regional Drainage Boards, Municipalities, and Water User Organisations (WUOs).

- Regional Drainage Boards are technical structures under the Ministry of Agriculture, Rural Development and Water Administration, and are funded by the State budget.

The organisation of the irrigation and drainage service by the municipality itself, is conducted in accordance with the size of the irrigation scheme, its conditions, traditions, the degree of cooperation of WUOs/ farmers, etc. Municipalities are supported by the State budget with investments for the rehabilitation of irrigation schemes, means for cleaning irrigation and drainage canals, personnel, etc.

Local authorities have limited available funds for rehabilitation and improvement of secondary irrigation and drainage networks, because their income from the sector is very limited. As in other sectors, in the agriculture sector, better coordination of investment between central, local and donors is essential.

Development of agriculture is closely related to agricultural land consolidation. This would create conditions for improving agriculture services, including agriculture water infrastructure (irrigation and drainage). At the same time, it would generate many more opportunities for farmers to grow and take responsibility for use of the water infrastructure – in this case irrigation infrastructure – and consequently generate more income from agriculture.

6.3 OPPORTUNITY FOR NATURE-BASED SOLUTIONS TO ADDRESS EROSION AFFECTING AGRICULTURE AND DAMS

6.3.1 Importance of the INTERLINKAGE

In Albania (especially in the mountainous area), large and indiscriminate interventions have been made in recent decades, without background studies, which has disturbed the balance between different natural elements as a result of deforestation and exposure of the territory to the action of erosion, and lack of new afforestation.

There are around 625 dams used in the agriculture sector for irrigation purposes. All of them have been designed and built some decades ago and some of them have been functioning for more than 45 years. This means that the volume of water availability in the reservoirs is reduced, due to sedimentation. The situation has deteriorated rapidly over the past decades, due to a lack of land protection measures and extensive erosion in each respective river basin.

According to the IWRM Strategy, the storage capacity of the reservoirs is estimated to be reduced by more than 45% of the projected capacity, due to the erosion, deforestation in basins and a lack of maintenance, causing an increasing deposition of alluvium on the reservoir.

The nominal water capacity for the 626 reservoirs is 560 million m³ of water, while the current actual capacity runs to about 300 million m³ per irrigation season.

The main types of erosion are those related to unprotected slope landscapes and erosion of the riverbed.

The first type is mainly due to deforestation, as well as to diminishing embankments of mountain streams. The second type is mainly

caused by human interventions on riverbeds, such as uncontrolled removal of inert materials. In both cases, the consequences are related to soil rinsing in upstream parts of the Basin with loss of ecosystems and losses of agricultural land in low areas, given that these phenomena are much stronger in the downstream parts of a river, where most agricultural land is located. In other words, the increase of erosion impacts sedimentation in the dams, reducing the capacity of agriculture reservoirs (according to various studies, sedimentation in irrigation dams, is estimated to be 45-55% of reservoir volume), which reduces the amount of water available for irrigation, energy/industry or even drinking purposes and negatively impacts on the overall ecosystem.

Meanwhile, the scale of extreme events associated with climate change could be exacerbated by a failure to protect land structure and hydrological flows. Actions exerting pressure upon soil and land include emissions of pollutants to air, water and land, land abandonment, agricultural intensification and management practices, deforestation, forest fires, waste disposal, inappropriate water management and extraction of natural resources.

It is estimated that in Albania, in just one year, erosion washes away 1.2 million tons of organic carbon, 100,000 tons of nitrate salts, 60,000 tons of phosphates, and 16,000 tons of potassium salts, while the total quantity of fertilisers imported or produced by local industry is far less.³¹

6.3.2 BENEFITS and Increased EFFICIENCY through the ADOPTION of an INTEGRATED APPROACH

Cleaning of the main and secondary drainage canals and reduction of soil erosion, which are currently heavily affecting agriculture production, could be achieved by using nature as a basis, thereby simultaneously guaranteeing the recovery and conservation of biodiversity and sustainable use of natural resources. Nature-based Solutions (NbS) could be used as innovative measures to develop sustainable tourism, sustainable use of the forests, pastures, agricultural land and waters,

providing an economic opportunity for the local populations, increasing resilience to extreme weather events and supporting climate change mitigation.

The European Commission defines NbS as "Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes, and seascapes, through locally adapted, resource-efficient and systemic interventions."³² NbS must therefore benefit biodiversity and support the delivery of a range of ecosystem services. These solutions work with nature rather than against it to provide sustainable, cost-effective ways to achieve a greener economy (creating new jobs) that are competitive and resource-efficient through the manufacture and delivery of new products and services that enhance natural capital rather than deplete it.

NbS are multifunctional solutions, and they will not only help sequester CO² but also improve the resilience of an area, increase biodiversity, ensure sustainable food supplies, and generate healthier, greener living environments for people. For example, a reforestation project is one of the most effective and cheapest ways to reduce greenhouse gas emissions, and the trees will also have a positive impact on soil quality, erosion processes, biodiversity, generation and transport of sediment, floodwaters, and storm waters.

Using the NbS will enable cost-effectiveness in the management of the pollution, and sustainability in future investments for protection of the overall habitats and water quality: it will contribute to water quality, improve the status of water habitats, and improve the hydraulic capacity of the dams.

NbS are diverse, but the following typologies could be evaluated:

- Reforestation, consisting of the replacement of cut trees with a new generation, for various purposes, including restoration after harvesting timber; compensation after land expansion due to human activities, maintaining the ecosystem balance, and protecting biodiversity. Common reforestation techniques include both natural

³¹ Data obtained from: https://www.academia.edu/33938903/Soil_Survey_in_Albania

³² See: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en



and artificial methods: natural regeneration methods include root suckering, stump sprouting or natural seeding, while artificial regeneration methods include aerial and ground seeding, machine planting and hand planting.

- ▶ Sediment barriers/tanks are engineered ponds placed in the riverbed to slow the velocity of water and cause the deposition of suspended materials. They are most useful to capture eroded or disturbed soil that is washed off during rainstorms, and protect the water quality of a nearby stream, river, lake, or bay. Tanks can be easily maintained by removal and re-use of accumulated sediments.
- ▶ Submerged barriers, usually built of stones, wood or other suitable material set on the stream bed to reduce flow velocities. Submerged dams reduce eroding of soil and capture suspended solids.

It is expected that Implementation of the NbS will generate a wide range of jobs – from low-skill entry level to high-skill positions – in sustainable professions such as landscape architecture, ground maintenance, construction, horticulture, wildlife officers, agroforestry, outdoor education, etc.

Giving local people (from the affected municipalities) leadership roles and supporting them to govern their own resources could strengthen their ability to address future environmental challenges. Moreover, providing natural resource management training could increase their future participation in creating adaptation strategies.

Local farmers will adapt and ensure food production to become more resilient to future weather extremes like droughts and flooding by enhancing soil fertility and water retention, and by reducing soil erosion. Improved water quality and improved soil condition will lead to increased agricultural production and yield quality produce. All improvements will generate more financial income for households, which will directly affect and improve the socio-economic situation and decrease local poverty.

6.3.3 Key BARRIERS

The identified key barriers for addressing trade-offs are summarised below:

- ▶ Weak institutional forestry management, protection, and investment.
- ▶ A lack of proper coordination of investment in forest areas, between central and local authorities.
- ▶ Issues in permeation and control of riverbed material/inert usage.
- ▶ Weak coordination between technical and administrative institutions on possible use of riverbed material.
- ▶ Even though NbS are considered as novel sustainable solutions to climate adaptation, their actual capacity to address environmental challenges must be proven in operational environments.
- ▶ Stakeholder participation during the early stage of an NbS process is neither formally required nor institutionalised as a standard procedure, meaning that the planning for implementation of green solutions may occur without any participatory community engagement. Under such circumstances, not all voices, interests, values, and requirements can be properly weighted to ensure trade-offs between benefits and co-benefits.

6.3.4 Relation with THE NATIONAL SECTORAL PROGRAMME on WATER

The NSPW has an Objective directly related to the issue of erosion:

- ▶ **Objective 13:** *Preservation and reduction of erosion rate in order to protect soils with high erosion risk by strengthening the relevant infrastructure in response to this phenomenon. With clear benchmark for progressive reduction of i) low risk areas (20% of territory) from 5 t/ha/year to 2.5 t/ha/year; and ii) High- risk areas (70% of the territory) from 20 t/ha/year to 13 t/ha/year.*

Further, the implementation of NbS for cleaning the main and secondary drainage canals and reducing the soil erosion, is also expected to partially contribute to the achievement of additional NSPW objectives related to the improvement of irrigation and drainage systems.

6.3.5 MITIGATION Measures

The following measures are proposed to maximise efficiencies and synergies in the implementation of any NbS programme and address the related key barriers, conflicts or gaps identified above:

- ▶ Drafting of flood management plans, carrying out feasibility studies on protection measures, etc.
- ▶ Strengthening institutions and improving the legal framework.
- ▶ Establishment of protective infrastructure starting from the priority areas with highest risk and ending in the maintenance of infrastructure until the end of the programme.
- ▶ Preservation and reduction of the erosion rate by strengthening the relevant infrastructure in response to this phenomenon, with clear benchmark for progressive reduction:
 - Low-risk areas (20% of territory) from 5 t/ha/year to 2.5 t/ha/year.
 - High-risk areas (70% of the territory) from 20 t/ha/year to 13 t/ha/year.
- ▶ Carry out infrastructure investments focused on the rehabilitation of dams prioritised according to the relevant categories, in function of associated risk.
- ▶ Protection of riverbanks with transverse and longitudinal structures, protection with shoreline scoliosis, taking measures to reduce erosion with mountain barriers, etc.
- ▶ Due to the complexity of NbS (as a holistic, cross-sectoral approach), learning, monitoring and evaluation should not be completed ex-post and external from the planning process but should be a core element of the process, allowing for adjustments and adaptations to the local context.
- ▶ Organising the governance around NbS to guarantee a fair and equal participation of all stakeholders (including citizens), in order to foster an early detection of diverse benefits and negative effects of NbS projects.
- ▶ Planning timely participatory trajectories, especially in the early planning and implementation of NbS. One reason is that considering the ideas, perspectives and (tacit) knowledge of local residents can contribute to a better project design and improve the outcomes. In addition, tailoring the project to the needs and requirements of the local community may lead to socially-just outcomes that are supported and accepted.
- ▶ Ensuring adequate stakeholder involvement, which may require the use of a step-by-step guide, a useful tool to support planning practitioners in the co-creation and co-production of NbS projects.

- ▶ Setting up a Project Management Unit to lead and manage the entire NbS process, from its planning phase through to the implementation and maintenance stage, through periodical meetings of the joint technical committee, steering committee, joint meetings with the CSOs responsible for citizen monitoring and raising public awareness, as well as meetings with relevant institutions and the local population.

6.3.6 Options for COORDINATED FINANCING of Actions

Bearing in mind the inertia of the responsible institutions, lack of capacities for prevention of soil erosion, and the shortage of adequate financial resources, it is clear that NbS are the most adequate measure to be implemented, since they offer the best value for money, are practically self-sustaining, and will contribute to the protection of the natural values of the region as well as helping to mitigate climate change.

The costs associated with the NbS are more related to maintenance than to construction. It is therefore expected that the authorities and the regional committee will have no relevant costs associated with NbS construction and operation, except for monitoring of their status and potential replication of the NbS in other significant sites.

By establishing a joint network among the local municipalities, with joint effort, they will be responsible for maintenance and monitoring, which does not demand large funds, and these costs can be covered by each municipality, within their annual budget.

In general, the biggest benefit of implementation of NbS will be the following cost savings:

- ▶ The cost of prevented climate changes.
- ▶ The cost of prevented floods damage.
- ▶ The cost of preserved rural and agriculture infrastructure.
- ▶ The cost of restored environmental habitats.
- ▶ The cost of restored fisheries.







OVERVIEW OF RELATED FINANCING FRAMEWORKS

The main recent and on-going projects in Albania relevant to the Nexus sectors are outlined below:

▶ **European Union:**

- PRONEWS, Programme for Improving the National Early Warning System and Flood Prevention in Albania (finished).
- EU support for integrated water management in Albania EUSIWM (on-going).
- IPA III Rural Development programme (IPARD III) of the Republic of Albania for the years 2021-2027.

▶ **World Bank:**

- Water Resources and Irrigation Project in Albania (finished).

▶ **GIZ:**

- Adaptation to Climate Change through Transboundary Flood Risk Management in the Western Balkans (on-going).

▶ **ADA:**

- Enhancing a Science-Policy Interface Development for the Vjosa (ESPID 4 Vjosa) (on-going).
- Environmental assessment of the Vjosa riverscape as the basis for an integrated water management and sustainable catchment development (VjoSusDev) (on-going).
- "Afforestation, training and education for sustainable community-based forest management in Albania" (finished).
- EU support for integrated water management in Albania EUSIWM (on-going).

▶ **SIDA:**

- ADAPT: Nature based Solutions for resilient societies in the Western Balkans (including pilot on implementing NbS in Elbasan) (on-going).

▶ **GEF:**

- Strengthening cross-border cooperation and integrated management of water resources in the extended Drin River Basin (finished).

▶ **Adaptation Fund:**

- Integrated climate-resilient transboundary flood risk management in the Drin River basin in the Western Balkans (on-going).

▶ **WBIF:**

- Mati River Flood Protection Infrastructure (on-going).
- Flood Risk Management Plans for Erzen, Ishëm, Shkumbin, Seman and Vjosë Rivers (on-going).

The following paragraphs introduce an overview of national and international financing frameworks for each Nexus sector.

7.1 FINANCING FRAMEWORK FOR WATER RESOURCES

The National Sectoral Programme of Water NSPW 2018-2030, accompanied by the programme of measures, is the set of actions concerning governance and infrastructure, which must be undertaken within a period of 12 years and integrated with each other, to achieve each of the objectives set out in the programme.

From a financing point of view, the main investment actors in water sectors in the country are:

- ▶ The State (budget, financial institutions, and donors).
- ▶ Local authorities.
- ▶ Private investors.

Due to their limited financial capacity, investments by the Ministries are mainly focused on the improvement and rehabilitation of services. Regarding specifically Water Supply and Sanitation, the sector receives investments in two main levels/directions: from the government, meant as the State institution, and from the Municipality as the local one mainly focusing on improving services and increasing the performance of utilities. These investments are often accompanied by investments by foreign donors, especially those related to the State investment.

Another source of financing in the drinking water sector is the Albanian Development Fund (ADF)³³, established at the beginning of 1993, based on an agreement between the Albanian government and the World Bank. ADF investments are mainly focused on infrastructure (water supply is one of them). ADF is also currently implementing a programme of investment on drinking water and sewerage network for rural areas.

During the past decade, the development of this sector has been based on the WS&S National Strategy 2011-2017, and its update for 2020-2030.³⁴

Despite ambitious targets set out in this document, the access to water supply and sewerage systems and the WS&S service coverage have been improved only in urban areas. Service coverage in rural parts of the country is still sub-par.

WS&S service efficiency, also remains generally behind due to limited investment capacity, inadequate planning of implementation in comparison with other services, insufficient maintenance of the infrastructure network, a lack of skills, poor operational and management practices, etc.

Insufficient funding to achieve the government's strategic objectives, insufficient water utility performance and the lack of economies of scale, make it difficult for water supply and sewerage joint stock companies (WS&S/SHUK) to finance and implement major capital investment programmes. From the sectorial assessment documents, the challenges of this sector can be summarised as follows:

- ▶ Achieving full recovery of operation and maintenance costs, payment of debts and capital expenditures for repairs and replacements.
- ▶ Initiating a programme to encourage WS&S aggregation.
- ▶ Improving the workforce capacity of the WS&S sector through training and certification.
- ▶ Improving Corporate Governance by increasing accountability and transparency at the central and local level.
- ▶ Improving the efficiency of collecting issued tariffs to cover the current expenditures and ensure higher revenues for WS&S.

Although still pending final approval, the National Strategy of the Water Supply and Sewerage Sector 2020-2030-draft represents the main pillar for the WS&S sector in Albania, providing in a clear, specific, quantitative, and timely manner, the vision, mission, policy goal and action plans for the next decade, in accordance with Albania's commitments towards achieving the United Nations Sustainable Development Goals.

The lion's share of the water supply budget goes to the infrastructure investments, which, according to the financing strategy of the water supply and sewerage field, was constant until 2020 and will increase by 30% up to the end of the decade.

33 For more info: <https://www.albaniandf.org/en/>

34 Available at: <https://www.infrastruktura.gov.al/wp-content/uploads/2020/01/Strategjia-UK-2020-2030.pdf>



7.2 FINANCING FRAMEWORK FOR AGRICULTURE

The complexity of irrigation and drainage infrastructure is one of the main factors that directly impacts the sustainable growth of agricultural production in the country.

Although average annual rainfall is abundant in Albania, considering (i) that during the summer only about 20% of this amount falls, and (ii) due to non-homogenous distribution in the territory, to ensure optimal water balance, and to fulfil water demand in agriculture (during the summertime), it is necessary to store water in irrigation dams. At the same time, ensuring a properly working drainage infrastructure is of paramount importance to remove excess water during the winter period and therefore avoid flood risk and all related consequences.

There are two main levels of investment:

- ▶ The national level is represented by government investment through MARD (together with donors)
- ▶ The regional level is represented by investment by the Municipality (accompanied by donors or private investment).

As indicated in the National Strategy for Irrigation and Drainage, government investments are mainly focused on increasing water accumulation capacity through irrigation dams (newly built, or via rehabilitation of existing ones) and rehabilitation of the main irrigation and drainage network and facilities (high-water canals, rehabilitation of drainage pumping stations, etc.).

Municipalities invest mainly in secondary or tertiary irrigation or drainage networks. This process is effective when it is coordinated with Water User Organisations (WUOs), where they exist. WUOs with limited budgets can intervene in the maintenance of a tertiary irrigation or drainage network when it is part of their area of activity.

Based on the agriculture irrigation and drainage network administrative reform and government sectoral policy, the government's main challenge

regarding agriculture includes the need for land consolidation of farm operations or ownership to improve:

- ▶ Access to capital and productivity.
- ▶ Opportunities to improve crop choices.
- ▶ Varieties and cultivation standards commensurate with ISO standards used by European countries.
- ▶ The ability to meet the needs of domestic markets and increasing exports.

The Ministry of Agriculture and Rural Development is responsible for the operation and maintenance of the main agriculture infrastructure, which includes several large irrigation reservoirs, main irrigation and drainage canals, high- water canals, drainage pumping stations and river, marine embankments for flood protection.

As part of the government's priorities for the improvement of the irrigation and drainage operation system, a greater role is given to the local government units, for the good management of water resources, irrigation, and drainage networks.

Currently, the administration of irrigation and drainage systems is carried out through the division of roles between three actors:

- ▶ The Regional Drainage Boards.
- ▶ Municipalities.
- ▶ WUOs.

Regional Drainage Boards are technical structures under the Ministry of Agriculture, Rural Development and Water Administration and are funded by the State budget. They are responsible for the main irrigation dams and primary and secondary irrigation and drainage network.

The organisation of the irrigation and drainage service by the municipality itself, is conducted in accordance with the size of the irrigation scheme, its condition, tradition, degree of cooperation of WUOs/ farmers, etc. Municipalities are supported by the State budget with investments for the rehabilitation of irrigation schemes, means for cleaning irrigation and drainage canals, personnel, etc.

7.3 FINANCING FRAMEWORK FOR ENERGY

7.3.1 The Electricity Market and RELATED INVESTMENTS

Financial support remains the key requirement for the promotion of investments in non-hydro RES power generation, especially for small-scale plants. The financial support schemes for new RES power generators are provided in the new RES Law approved by the Albanian Parliament in 2017.

Based on the provisions of the RES Law, the government has approved four feed-in tariff calculation methodologies for the existing SHPPs with installed capacity up to 15 MW, for the new PV plants with installed capacity up to 2 MW, for new wind power plants with installed capacity up to 3 MW, and for power plants using biodegradable urban waste with installed capacity up to 2 MW. Based on the methodologies the ERE has approved the feed-in tariffs for different technologies are as follows:

- ▶ For new HPPs with installed capacity up to 15 MW the feed-in tariff approved in 2020 was 8.0532 Lek/kWh or about 66 Euro/MWh.
- ▶ For Photovoltaic Plants with installed capacity up to 2 MW, the feed-in tariff approved in 2019 was 71.2 Euro/MWh while for floating PV plants was 100.025 Euro/MWh.
- ▶ For wind power plants with installed capacity up to 3 MW the feed-in tariff approved in 2019 was 75.64 Euro/MWh.

The new RES Law specifies that the support for other RES power plants will be given under a Contract for Differences (CfD) that provides a variable premium calculated as the difference payment between an administratively prefixed price (the strike price) and a measure of the market price for electricity (the reference price).

In August 2018, the Albanian government approved the National Energy Strategy 2018-

2030 in compliance with the National Strategy for Integration and Development 2015-2020. The strategy provides full liberalisation of the power generation sector creating important investment opportunities for private investors. On the other hand, any new investment made by transmission and distribution of public companies for upgrading of their respective networks shall be made either through their own capital or through borrowed capital. In either case, the return of investments shall be secured through the transmission and distribution tariffs approved by the Energy Regulator.

According to the National Strategy of Energy, the estimated investments for development of RES for power generation for period 2018-2030 are provided in the Table below.

Table 7 1: Estimated Investments for Power Generation for 2018-2030

RES Power Generation	Million Euro
RES benefiting from Feed-in Tariffs	280
RES benefiting from CfD	332
Demonstration of Projects and Awareness Campaigns	38
Total	650

As most of the investments in the power sector will be made by the private sector and through financing from international financing institutions, it is expected that the National Energy Strategy will have minimal influence on the distribution of public expenditures, and that the required investments are mostly likely to come from private sources, development banks, foreign technical assistance and finally from the State budget. To that end, it is intended that proposed financial instruments do not have or have minimal influence on the competitive market conditions in the context of free market access and development of sustainable market prices, with no cross-subsidisation and compliance with EU rules on State aid if such is applied.



7.3.2 Energy Efficiency INVESTMENT

An important area for investing in the energy sector is energy efficiency. As the energy efficiency investment market is not yet mature, support from the government and public funds may still be needed.

It must be noted that the investments carried out up to date for the improvement of energy efficiency in the water and sanitation field have not been very substantial.

The newly established Agency for Energy Efficiency has successfully carried out two pilot projects in the water supply and wastewater field with very promising results:

- ▶ One project has been carried out in Tepelena aimed at improving the water supply network energy efficiency. The electricity consumption was finally reduced by 50%.
- ▶ Another has been carried out with the aim to improve the energy efficiency in the WWTP of Durres where energy consumption was finally improved by 30%.

Both cases show that investment in improving the energy efficiency in water supply and sewerage sector could bring significant benefits for companies and customers.

Aside from the investments in the power sector, the International Financial Institutions and the EU are very interested in financing different projects through grants and programmes for the improvement of energy efficiency, which may represent a good opportunity for the central government and local authorities of Albania to attract such funds.

Currently, several International Financial Institutions and donors are financing projects in energy efficiency including the EU IPA Programme for improvement of energy efficiency in public buildings.

7.4 FINANCING FRAMEWORK FOR THE ENVIRONMENT

Financing of investment in the environmental sector appears to be much more complex than in other sectors. As a sector that intersects with all other economic sectors, the financing of investments in environment is, in most cases, somehow connected to specific investments made in specific sectors, therefore the investment plans and programmes in the environmental sector should be aligned with the investments in other Nexus-related sectors.

As a tool for financing environmental projects and investments, the establishment of the Environmental Fund was envisaged in the 2007 Environmental Cross-cutting Strategy of Albania and is also stipulated by Article 67 of the Environmental Protection Law (Law no.10431, dated 9.06.2011, as amended).

As a candidate country for accession to the EU, Albania is expected to have access to EU pre-accession funds through the Instrument for Pre-Accession (IPA), which will be used for the implementation of the strategy. Upon entry, it is expected that a large amount of grant funding will be provided through EU support structures such as the Cohesion Fund and the Structural Fund.

The Document of Strategic Policies of Biodiversity³⁵ approved by the government in January 2016, predicts that Albania needs to provide adequate funding from all sources for biodiversity. Therefore, it is important to explore funding opportunities at the national level, such as the creation of special funds for biodiversity and the integration of biodiversity into sectoral budgets and programmes. Other new financial mechanisms, such as partnerships with the private sector, need to be mobilised as well.

35 Available at: <https://chm.cbd.int/api/v2013/documents/4D8EFE4E-0976-DC1F-D7A2-E61097DE69BA/attachments/213771/Strategic%20Document%20of%20Biodiversity%20Policy%20Albania-english.pdf>

For the implementation of the strategy itself, the funds will be secured by:

- ▶ The public budget of the Ministry of Tourism and Environment.
- ▶ Funds from projects for the protection of nature under IPA projects.
- ▶ Application of calls for different projects that will be launched during the implementation of the strategy.
- ▶ Different funds that may be generated and allocated for Albanian biodiversity under the Global Environmental Fund (GEF).

However, the strategy does not contain any specific figures on the necessary financial funds required for its implementation.

The Policy Document of Forests in Albania for the period 2019-2030 works along roughly the same lines. The Document contains several actions to be taken for the improvement of the situation with the forests in Albania, but it does not specify the respective budget and financing sources required for the implementation of measures and actions.

Regarding the sources of funds to be used for the forest sector, the document describes:

- ▶ Increased funding from the budget based on the contribution that forests make to the budget and the economy, including the impact of the environmental services they provide as well as preserving the destination of collected revenues exclusively for the forest sector. Increasing revenues from product collection, formalising the forest economy (logging, secondary forest products, certificates of origin, environmental services, etc.).
- ▶ Raising the afforestation fund through fines applied for abusers as well as other revenues coming from the users of forest resources (including revenues from renting land for antennas, mines, businesses, etc.).
- ▶ Financing from donor funds and contributions to climate change, including the establishment of a Balkan-wide mechanism / instrument for maximising funding, increasing the potential for attracting these funds.

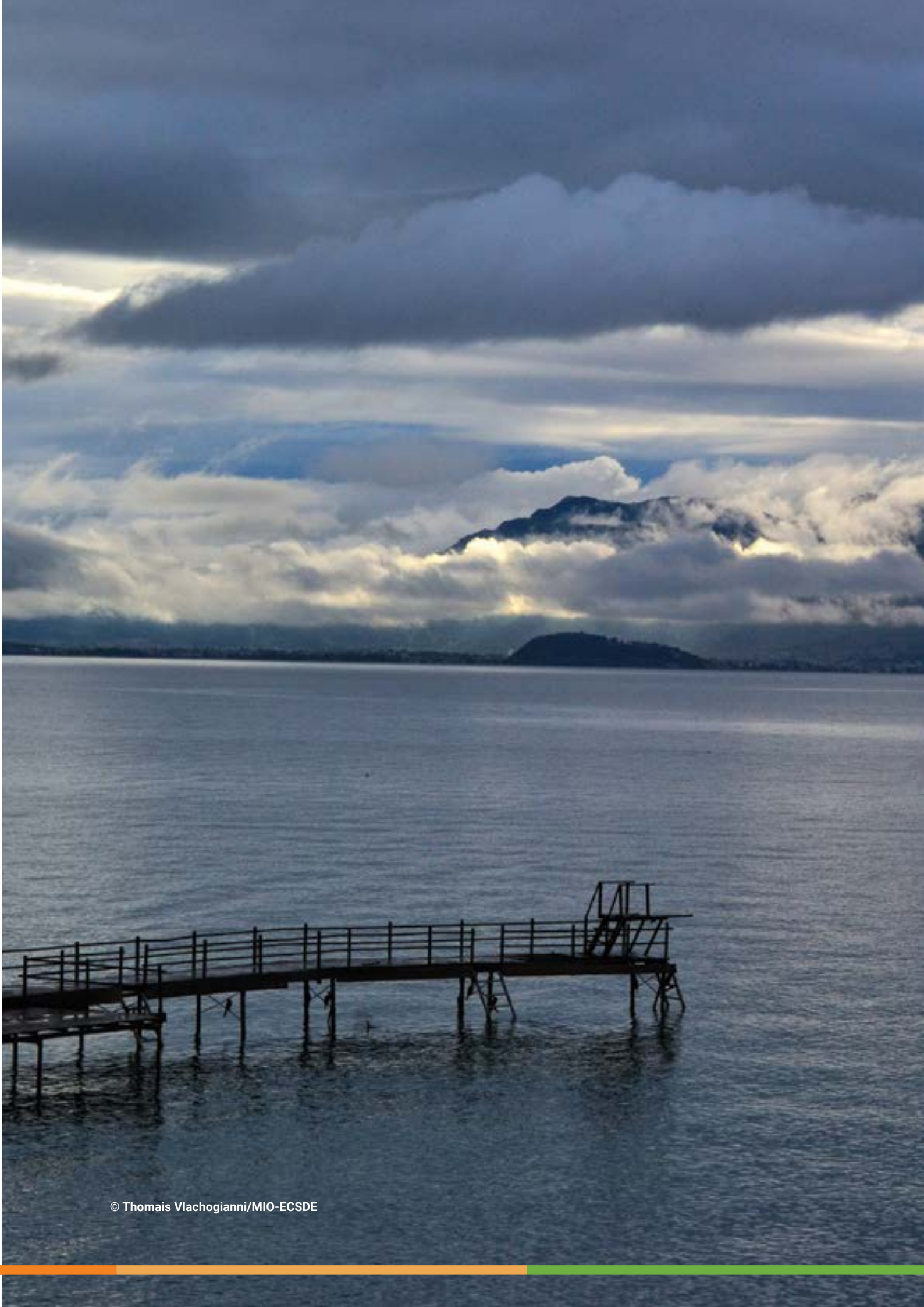
The structural changes made with the transfer of the ownership rights over forests from the government to municipalities requires better coordination between MTE and the local authorities.

The Strategic Document and National Plans for Mitigation of GHG and for Adaptation to Climate Change approved by the government in 2019 (decision no.466, dated 3.07.2019) contains a detailed assessment of all investments required for meeting the national objective for reduction of GHG levels and the respective financial needs for implementation of the strategy in all sectors that have an impact on GHGs.

The document also contains a detailed section on the potential financial sources including mobilisation of funds from medium and long-term State budget allocations, funds coming from the environment services, mobilisation of funds from IFIs and donors through loans, grants, financial guarantees, climate bonds, other financial instruments used for climate change adaptation etc., and mobilisation of funds from private sources.

It is expected that the Ministry of Tourism and Environment; will play an important role in coordinating all actions and measures in different sectors, including the monitoring of the implementation.







SHORTLIST OF PROPOSED NEXUS INTERVENTIONS

The main challenge for achieving the goals of each sector programme lies in achieving the orientation of investments towards several national objectives, the improvement of the planning process, the increase of investments in the sector, the increase of the revenues generated by the sector, continuous and effective monitoring, and the protection of environmental balances.

To ensure achievement of the objectives and obtaining the desired results for each of the Nexus sectors, providing funding for additional needs is a key challenge. Financial gaps may be filled through the following means:

- ▶ Providing assistance from development partners in the form of grants or loans.
- ▶ Ensuring a sustainable financial system in the sector through mechanisms such as tariff increases for all users, with the aim of increasing revenues to meet investment needs in each sector.

Investment projects should be prioritised, considering the following criteria:

- ▶ Financing of on-going projects.
- ▶ Possibility of maximum use of grants.
- ▶ Financing of strategic projects for the country.
- ▶ Promoting and stimulating Public Private Partnerships (PPP) as an appropriate form of providing quality services in the specific sector.

Furthermore, it is advisable that transfer of funds to local government will be conducted based on the performance of municipalities, according to well-defined and measurable criteria. This will directly affect the increase of the efficiency of the local units by making them very competitive with each other, with the result of providing higher quality services to the citizen.

Appropriate coordination among the several decision-making actors and involved parties will increase the effectiveness of water resources governance. This may be achieved through the implementation of the following actions:

- ▶ Clear distribution and segregation of roles and responsibilities for all levels of government.
- ▶ Management of water resources at basin level, enabling comprehensive decision-making regarding national policies, local government, water users, stakeholders, and civil society.
- ▶ Clear definition of responsibilities at vertical and horizontal levels, as well as monitoring of this programme, which would guarantee its successful implementation.
- ▶ Follow-up actions are demanding and require sufficient financial resources. Solutions must be discussed in relation to other processes, and decision-makers must be convinced to implement those solutions. To facilitate this process, it is necessary to translate the findings and recommendations into local languages, to broadly communicate and share findings, and to explore further possibilities.
- ▶ It is necessary that the governing measures and the infrastructural measures are implemented in parallel with each other, given that in the absence of attention to each of them, the objectives become unattainable.

Planning of investment in water sectors at national level should be made taking into consideration the respective river basin condition from the perspectives of:

- ▶ Water balance.
- ▶ Different water sectoral demand.
- ▶ Environmental circumstances.

In this context:

- ▶ Having and implementing RBMPs supports better decision-making. These documents, along with others, define actions to be taken, considering actual water quality and quantity, for better planning of existing and future water demand from all water sectors.
- ▶ The RBMP decides location of water demand for industry/energy use and location of water discharge, considering other circumstances such as flood risk in particular, and environmental protection in general, while factoring in water sector demands based on the availability of water quantity and water quality.
- ▶ The existence of RBMPs combined with the urban development plans, would facilitate better planning of investment in water sectors based on RBMPs, not only regarding the amount of water they may use, but also for the discharge of wastewater.

Related to the interlinkage between energy production and water resources, the following actions are recommended:

- ▶ Investing in local alternative energy sources (photovoltaics or wind energy), would create greater flexibility for managing and operating the HPPs and avoid or minimise the flood hazards for the nearby areas.
- ▶ Selection of the HPP type should take into consideration the energy production target, local social-environmental conditions, and other demands of the water sectors.

Related to the interlinkage between food/agriculture (irrigation & drainage) and energy, the following actions are recommended:

- ▶ Introducing new irrigation methods use of water in agriculture dams for energy production and installation of small photovoltaics panels on irrigation reservoir can facilitate difficulties of sector on covering energy demand for irrigation and drainage purposes.

- ▶ Considering the generation of energy from other renewable sources. This will result in more water available to expand irrigation and increase agricultural productivity,
- ▶ Implementation of strategic objectives in the field of Irrigation, Drainage and Flood Protection require not only financial support but also appropriate coordination between government and municipalities.

Related to the interlinkage between food/agriculture (irrigation & drainage) and environmental protection, the following actions are recommended:

- ▶ Preservation and a reduction of the erosion rate by strengthening the relevant infrastructure in response to this phenomenon.
- ▶ To overcome the weak sense of cooperative integrity within communities, consistent participatory management and joint planning and decision-making, as well as assistance from government based on conditional actions by farmers, must be put in place.







ANNEX
GENDER ASSESSMENT ON
THE WATER-ENERGY-FOOD-
ECOSYSTEMS NEXUS IN
ALBANIA

9.1 INTRODUCTION

9.1.1 Gender and Sustainable DEVELOPMENT in NATURAL RESOURCES

At its core, sustainable development encourages us to think about how to improve economies and societies without compromising the natural environment or the wellbeing of future generations. But for any development effort to be sustainable and effective, it must consider the needs of all people, including those who do not typically have a voice in decision-making. Therefore, gender equality is a critical ingredient in achieving sustainable development.

Gender equality and sustainable development are inseparable. Gender equality can enable and even accelerate the achievement of all the Sustainable Development Goals (SDGs). While gender equality is captured as a stand-alone goal (SDG 5), its benefits are multiplied when gender is integrated across all the SDGs, and gender considerations are included in all sustainable development work.

Addressing gender inequalities—including access to and control over natural resources—accelerates the impact of sustainable development policies connected to the 2030 Agenda for Sustainable Development. Many of the barriers to effective sustainability policies are found in outdated discriminatory social norms and legal systems. Investment in women and girls requires no radical inventions but can break systemic barriers of power and privilege that continue to leave millions behind.

9.1.2 Project BACKGROUND and NEXUS APPROACH

Sustainable socio-economic development requires, among other components, growing levels of food-energy- and water-services. The overall security of resources can be improved by co-optimising different sectors' objectives through an integrated Water-Energy-Food-Ecosystems "Nexus" approach that aims at reconciling the interests of different sectors, while respecting environmental needs

and human rights. This is done by adopting an integrated and coordinated approach across sectors as they compete for the same scarce resources, all while capturing existing opportunities and exploring emerging ones. Under such an approach, interlinkages, synergies, and trade-offs among the relevant sectors are assessed, with the aim of identifying solutions that foster water-food-energy security and efficiency and reduce impacts and risks on water-dependent ecosystems.

The Project "Promoting the Sustainable Management of Natural Resources in Southeastern Europe (SEE), through the use of Nexus approach" is supported by the Austrian Development Agency (ADA) and implemented by Global Water Partnership – Mediterranean in partnership with the UN Economic Commission for Europe (UNECE). Its overall aim is to introduce the Nexus approach and catalyse action for its adoption and implementation in SEE at the national and transboundary basin levels. Serving this purpose, Nexus Dialogue Processes are being implemented in the transboundary basins of the Drin and Drina rivers, and in Albania, including the development of analytical technical Nexus Assessments.

9.1.3 Why a NEXUS GENDER ASSESSMENT?

Albania has made significant improvements in advancing the normative framework for gender equality in recent years. However, inequalities still exist, and the institutional set-up for gender equality remains under-resourced (both in terms of finances and staff) and requires additional human and technical capacity especially in the Nexus-related sectors. Challenges in effectively implementing the legal and policy framework on gender equality negatively affect equality between women and men, and ultimately, the country's development outcomes.

While it can be noted that commitment to international and national gender policies and strategies are present at national level, Nexus sectors policies and strategies, in general, do not have adequate references to gender including in relation to the Nexus sectors, water-energy-environment-food and to climate change, whose impacts are very cumbersome especially on women and poor rural areas. In rural development plans/

strategies and partly in disaster management related to extreme climate events, such as floods, gender dimensions and especially women's needs/challenges are more evident. Due to their close link with Nexus sectors such as agriculture, water services/management and environmental management, rural development interventions and adaptation to climate change efforts could contribute to bringing forward the importance of mainstreaming gender in the Nexus sectors.

Based on this, a rapid gender Assessment for Albania, in relevance to its Nexus sectors, aims to first provide a quick panorama on Albania's progress in gender and then assess how gender is reflected and considered in Nexus-related sectors and examine some specific challenges for a more gender-mainstreaming approach in these sectors.

9.1.4 METHODOLOGY

This chapter is prepared through a literature desk review and uses official national and international data of key gender equality legal framework, strategies and studies and research conducted for Albania. A key source of information was the workshops organised within the Project implementation, as well as interviews conducted during these events with key participants. The events were focused specifically on gender in Nexus sectors and its status in Albania.

9.2 OVERVIEW OF GENDER EQUALITY IN ALBANIA

9.2.1 NATIONAL and INTERNATIONAL FRAMEWORK

Albania has made significant improvements in advancing the normative framework for gender equality in recent years and in some areas, progress is evident. Several international commitments are presented in the national policies and strategies and some of them have been well implemented.

However, along the water-energy-food-ecosystems Nexus and with respect to climate change impacts, which disproportionately affect women and the rural poor, references to gender are lacking. Due to focus and selected investments and attention from both national institutions as well and international support, Albania has progressed in some areas more than others.

Albania has shown progress in the Global Gender Gap Index of the World Economic Forum (WEF) by being ranked 25th among 156 countries, as per the 2021 report.³⁶ Similarly, it scores relatively high in the first and only reference report so far on EU's Gender Equality Index (GEI)³⁷ published in 2020 with 60.4 out of 100 points, which is seven points below the EU-28 average.

This is a significant improvement compared to previous years, especially if we refer to the first year when the World Economic Forum (WEF) started to measure the gender gap (see Table 1 below). As per these data, while there is some progress or even regress in the measured categories, the main area that has particularly contributed to Albania's distinct progress in gender equality is primarily women's increased formal representation in political decision-making.

As of today, women hold 12 ministerial posts out of 17 (including Ministers of State and PM) with 71% female ministers, thus ranking Albania at the top of the countries with female representation in ministerial positions. Women in parliament hold 34% of seats with 47 out of 140 Members of the Parliament, and at the local level women are also represented at the rates of 13,1% women as Mayors and 43,6% women as Councillors. This is a significant improvement considering that just 8 years ago, the percentage of women mayors didn't surpass 2% and that of women Councillors, 12%.

However, the above impressive figures are not matched by equality scores in all other GAP sub-indices such as Economic Empowerment and Opportunity, Educational Attainment and Health and Survival gaps as shown in the table below. As per the Global Gender Gap Index (GGGI) of the World

36 Source: <https://www.weforum.org/reports/global-gender-gap-report-2021>

37 Source: <https://eige.europa.eu/gender-equality-index/2021>



Economic Forum (WEF), the most distinct gap between women and men equality is in the Area of Health and Survival where actually there has been regression over the years. The other two categories such as economic participation and opportunity and educational attainment have marked progress. The same goes for the EU's GEI, where there is significant variability within the index categories: women's formal representation in politics and the high number of women in tertiary education are in striking contrast with women's lack of essential productive resources, as evidenced by the scores in the domains of money, care provision, time use, and social power.

The following comparison from the WEF shows Albania's progress in key areas:

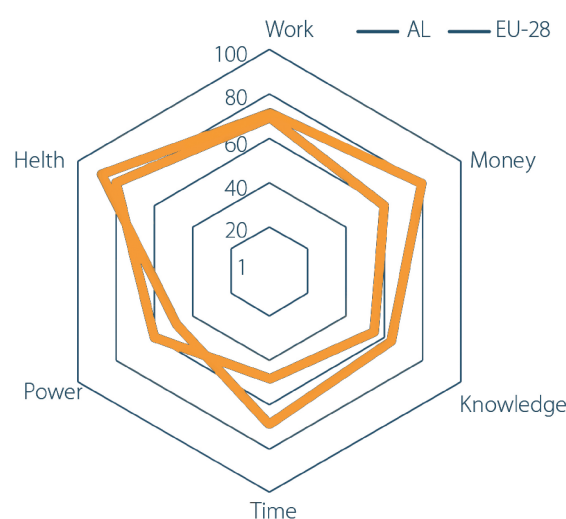
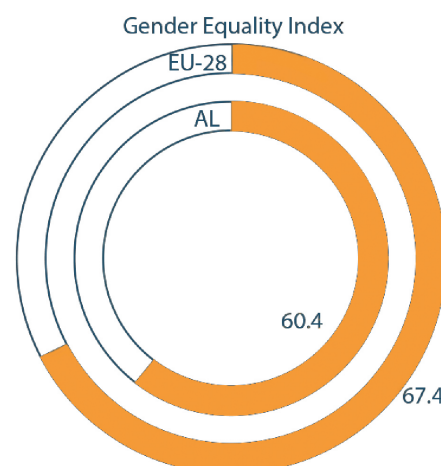
Table 1. Women's progress in gender equality since the 1st World Economic Forum index on Global Gender Gap

Albania	Score	Global Rank	Score	Global Rank
Years	2006		2021	
Global Index	0.661	61	0.770	25
Economic participation & opportunity	0.661	38	0.748	35
Educational attainment	0.989	58	0.999	42
Health and survival	0.955	110	0.956	147
Political participation	0.038	105	0.377	30

Source: WEF, 2006, 2021.

Scores: Parity = 1.00; Imparity = 0.00; Ranks are among a total of 144 countries and 156 countries

The two Tables below show The Gender Equality Index for Albania as per the EU's GEI and Gender Equality Index by the domains Albania and EU-28, 2017.³⁸



The same progress tendencies are also illustrated by the 2019 Women, Peace & Security (WPS) Index, in which Albania ranks 57th among 167 countries. Progress is evident in the women's share of ministerial, parliament and local council seats, financial inclusion, anti-discrimination legislation, and community safety, with no improvement in categories such as women's employment, discriminatory norms, son preference/bias, and intimate partner violence. In UNDP's Human Development Report 2019, Albania ranks 69th among 189 countries, reflecting an overall and gradual upward tendency over the past decade. However, Albania scores in the respectively lowest tercile under the "Women's Empowerment" and "Life-course Gender Gap" categories in the following areas: women's employment in senior and middle management; the number of girls in science, technology, engineering, and mathematics (STEM); the sex-ratio at birth; the share of female employment in non-agriculture; and domestic chores and care work.

38 Source: "Gender Equality Index for the Republic of Albania 2020": https://eurogender.eige.europa.eu/system/files/events-files/gender_equality_index_albania.pdf

9.2.2 ALBANIA'S LEGAL and POLITICAL COMMITMENTS

Albania has made considerable progress in establishing a relevant institutional framework and policies, as well as partaking in various international commitments to ensure gender equality. As per the UN Women Global SDG Database, Albania has a very high scoring of 90.9% for overall legislative frameworks on Gender Equality and Empowerment of Women (GEEW); 91.7% for overall legislative frameworks on Gender-Based Violence (GBV) and 70% for overall legislative frameworks on Employment and Economic empowerment, and very recently on 3rd February 2022 has ratified the ILO Convention 190 on Violence and Harassment in the World of Work.³⁹

Albania ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1993 and its Optional Protocol in 2003, and the Council of Europe Convention on preventing and combating violence against women and domestic violence (Istanbul Convention) in 2012.⁴⁰ Albania is a member state of the Beijing Platform for Action (1995) and the United Nations Security Council Resolution 1325 on Women, Peace and Security and regularly prepares reports on its commitments and the implementation of recommendations by the international instruments.

The Albanian Parliament passed a resolution on the Sustainable Development Goals of the 2030 Agenda of United Nations Member States on 14.12.2017, committing the Government of Albania to the implementation of the 2030 Agenda. Albania's government has also prepared a Voluntary National Review on Sustainable Development Goals.⁴¹ This report outlines the country's progress in achieving Agenda 2030 and the SDGs. One of the targets that show the government's progress towards the achievement of SDG no. 5 is to ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic, and public life.

Albania is an official candidate for accession to the EU since June 2014 and working towards fulfilment of several directives is key for this membership. The Recast Directive (2006/54/EC) on equal opportunities and equal treatment of women and men in employment and occupation requires the implementation of the prohibition of direct and indirect sex discrimination, harassment, and sexual harassment in pay, (access to) employment and in occupational social security schemes.

National legislation on equality and non-discrimination stems from the fundamental rights and freedoms recognised by the Constitution of the Republic of Albania approved in 1998. The Constitution of the Republic of Albania⁴² in Article 18 recognises that all are equal before the law and that no one may be unjustly discriminated against for reasons such as gender, race, religion, ethnicity, language, political, religious, or philosophical beliefs, economic condition, education, social status, or ancestry. The Law on Gender Equality in Society,⁴³ 2008 specifically aims to guarantee protection from gender discrimination and regulates fundamental issues of gender equality in public life, the protection and equal treatment of women and men with regards to equal opportunities for the exercise of their rights, as well as their participation and contribution in the advancement of all social spheres. The Law on Gender Equality stipulates that gender mainstreaming shall be the approach to ensure gender equality in society, by reflecting the perspectives of all genders into law-making, policymaking, planning, implementing, and monitoring processes. Furthermore, it provides for special temporary measures for guaranteeing at least 30% representation of the under-represented gender in political and public decision-making position and administration. It also makes the generation of gender-disaggregated statistics by State bodies compulsory. The Law on Gender Equality in Society served its purpose when initially drafted in 2008, however, no longer fits the current situation and challenges of gender equality in Albania, and therefore requires thorough revision.

39 https://www.ilo.org/budapest/whats-new/WCMS_837866/lang-en/index.htm

40 Grevio's Baseline Evaluation Report Albania, 24 November 2017, pg 10.

41 Voluntary National Review on Sustainable Development Goals

42 The Constitution of the Republic of Albania, Article 18. <http://unpan1.un.org/intradoc/groups/public/documents/untc/unpan013810.pdf>

43 Source: <http://www.osce.org/albania/36682?download=true>



Furthermore, the Law on Protection from Discrimination,⁴⁴ 2010 further extends from gender discrimination to include many grounds of discrimination. The 2006 Law “On Measures against Violence in Family Relations”, amended by Law No. 47/2018 aims to prevent and reduce all forms of domestic violence through the appropriate legal and necessary measures. Domestic violence and other forms of violence against women are considered crimes in Albania, as per Law “Criminal Code of the Republic of Albania”⁴⁵ 1995, amended in 2017.

9.2.3 The GENDER EQUALITY MECHANISM and its CHALLENGES

The institutional framework regarding gender equality and gender-based violence and domestic violence extends at the national and local levels. The main national authority in charge of these issues is the Minister of Health and Social Protection (MHSP) assigned to this role by the government in 2017. Furthermore, the Minister of Health and Social Protection is also the head of the National Council of Gender Equality (NCGE).⁴⁶ The NCGE is the highest advisory body in terms of gender equality and gender mainstreaming in policies regarding representation in politics, economic empowerment, social and cultural domains, etc. It includes nine representatives of line ministries represented by deputy ministers or other high authorities, and three representatives of civil society. In addition, the Deputy Prime Minister is assigned as the coordinating national authority on gender equality with the purpose of strengthening the gender machinery. According to the 2008 Law “On Gender Equality in Society” each line ministry has a gender focal point. At the local government level, there are also gender employees in each municipality who in many municipalities also play the role of the local coordinators against domestic violence.

The Albanian parliament also includes structures supporting gender equality. The Sub-Commission on Gender Equality and Prevention of Violence against Women, which was established in 2017, is part of the permanent parliamentary Commission on Labour, Social Issues and Health.⁴⁷ It also includes the Subcommittee on Human Rights under the Committee on Legal Matters, Public Administration and Human Rights. There is also the Alliance of Women Members of the Parliament,⁴⁸ which was formed in 2013 and recomposed in 2017 to promote gender equality in Parliament and include a gender perspective in the legislation, the National Alliance of Women Councillors and the Alliances in every municipality at the local level.

Furthermore, the Commissioner for Protection Against Discrimination⁴⁹ is an independent body established in 2010 that protects individuals from discrimination including gender-based discrimination. The Commissioner is appointed by Parliament and examines complaints against discrimination of individuals or groups, and it acts on their behalf or to protect their interests. In its jurisdiction, it may launch administrative investigations, issue decisions, make recommendations, impose sanctions, and represent plaintiffs in court under their consent.

9.2.4 NATIONAL strategies

The National Strategy for Development and Integration (NSDI) of Albania (2014-2020) is the core strategic document that combines the EU integration agenda with the country’s sustainable economic and social development goals including its correlation with the sustainable development goals.⁵⁰ While the strategy itself might not refer to water and environment in relation to gender, most of the sector strategies under the NSDI

44 http://www.ilo.org/wcmsp5/groups/public/ed_protect/protrav/ilo_aids/documents/legaldocument/wcms_178702.pdf

45 Law No. 7895 “Criminal Code of the Republic of Albania”, dated 27.01.1995 and amended by Law No.36/2017 and Law No.89/2017. <https://euralius.eu/index.php/en/library/albanian-legislation/send/10-criminal-code/11-criminal-code-en>.

46 Data obtained from: Gender Equality Index for the Republic of Albania 2020, INSTAT

47 Data obtained from: <https://www.parlament.al/Strukture?kategori=6&strukture=1021>

48 Data obtained from: <https://www.parlament.al/Kuvendi/AleancaGraDeputete>

49 Data obtained from: UNWOMEN and UNDP. (2016). “Gender Brief Albania.” <https://eca.unwomen.org/en/digital-library/publications/2016/10/albania-gender-brief>

50 Data obtained from: <http://www.ips.gov.al/en/the-national-strategy-for-development-and-integration-nsdi/>

acknowledge the impacts of climate change and have some reference to gender. The Environmental Cross-cutting Strategy under the NSDI, fully integrates climate change and highlights the lack of institutional and individual capacities to evaluate climate change impacts and the need for adaptation action particularly in coastal zones and river basins, where tourism is a large economic driver, and urban and transportation infrastructure, and agricultural land especially, is at risk from climate impacts.

Albania has prepared the new Economic Reform Programme covering the period 2021-2023 and contrary to previous programmes, has aimed to consider gender equality. In its 18 Reform measures, it has a special section on “Expected impact on social outcomes, such as employment, poverty reduction, gender equality and access to health care”. While this is a step forward compared to the previous programme it still needs a more elaborate analysis on the real impact – which is very general and not gender sensitive. As referenced by this Programme, there are no legal requirements that specifically target the participation of women on boards of companies.

Other key national strategies such as the National Strategy for Employment and Skills 2019-2022, make little reference to gender, highlighting that “gender inequality remains problematic with the employment rate for men being about 14% higher than that of women. This might be a reflection of the cultural norms regarding family structure and limited alternatives for childcare and care for the elderly.” The Sectoral Strategy for Social Protection 2015-2020, the Policy Document of Social Inclusion, etc. still make little reference to gender.

The main strategy guiding actions to achieve gender equality in Albania is the Fourth National Strategy on Gender Equality (NSGE) and its Action Plan 2021-2030. While the previous strategies didn't reference gender in the Nexus sectors, the Ministry of Health and Social Protection (MHSP) has, for the first time, given some emphasis to gender issues in environment, climate change, digitalisation and green economy, which before were considered neutral or gender blind. While gender mainstreaming in the Nexus sectors is of particular importance, it is still at very preliminary stages and as a result, the efforts to mainstream gender in these sectors remain complex and challenging.

The NSGE 2021-2030 has been prepared for a 10-year period, also reflecting the direct link to the achievement of the SDGs and their Agenda 2030.⁵¹ The NSGE has foreseen actions and measures in line with the EU Gender Equality Strategy 2020-2025 further specified in its Action Plan for Gender Equality (GAP II). The new strategy reflects the steps towards fulfilment of standards or obligations deriving from other international documents, among which the most important are the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the Beijing Declaration and Platform for Action, and the Council of Europe Convention Preventing and Combating Violence Against Women and Domestic Violence (Istanbul Convention).

Specific objectives, actions and measures taken by the new NSGE related to the EU GAP III and the Nexus sectors are: “Promotion of economic and social rights and empowerment of girls and women”, as well as “Addressing challenges and utilising opportunities emerging because of transition to a green economy, digital transformation, climate change and the environment”.

While there is a gender machinery in place it is important to note that the institutional structure and specifically Gender Equality Focal Point posts in line ministries or at the local are not full-time positions. The responsible staff typically performs other duties and GE is one of them. Meanwhile, in their job description they have been assigned tasks and responsibilities to a full-time gender equality officer in accordance with Gender Equality Law. In addition to the 11 gender focal points in the line ministries, the State Police and INSTAT have also assigned focal points for Gender Equality. At the local level, gender focal points have been appointed in 61 municipalities, but again their position is part time and combined with other responsibilities such as coordinator against domestic violence, as well as for other vulnerable groups such as children. This means that human resources are not sufficient to ensure the implementation and the monitoring of the national legislation in its full spirit.

51 Data obtained from: <https://shendetesia.gov.al/mbrojta-sociale-5/>



The main challenges towards implementing the strategies and progressing towards gender equality are (i) the strengthening of structures working for gender equality, especially at the local level, (ii) the integration of gender equality issues of Nexus sectors in sector strategies and (iii) budgets to be able to achieve the intended results towards the SDGs.

9.3 GENDER HAS NOT YET BEEN MAINSTREAMED IN NEXUS SECTORS AND POLICIES

While Nexus sectors cover very critical development areas, some of them still have little-to-no focus on gender equality. Many of the strategies in the sectors of water, energy, agriculture, and environment have been prepared already for more than five years with the majority of them finishing by 2030. This year will also mark the deadline of the Agenda 2030 to combat inequalities and promote gender equality and the empowerment of women and girls; and to ensure the lasting protection of the planet and its natural resources amongst other objectives.

Few of these national strategies have made efforts to include a gender perspective and address gender issues and are still far from having a mainstreaming or transformative approach integrated and budgeted, as described above.

Similarly, female participation in these sectors is extremely low. While women and girls have the highest participation in tertiary education,⁵² they have lower employment rates compared to men⁵³ and low participation in Nexus sectors. As per the

World Economic Forum, under education and skills for Agriculture, Forestry, Fisheries & Veterinary, the highest grade completed within the most advanced level attended, is 2.91% for women compared to men with 5.90%. While there are no data specific to the Nexus sectors because the levels are quite low, and there is no systemic collection of data that can showcase these sectors, data from INSTAT show that women have very low work participation in some of these sectors. The only exception is agriculture, as the primary sector for women's employment – with 41.4% compared to 31.8% men.

9.3.1 INTEGRATED WATER RESOURCE MANAGEMENT (IWRM)

Albania's 1996 Law on Water Resources (No. 8093) (Water Law) is the primary legislation governing the country's inland, maritime, surface, and groundwater and is intended to ensure the protection, development, and sustainable use of the country's water and provide for its proper distribution. The law on integrated management of water resources (Law No. 111/2012) was adopted in 2012 and has been amended by Law No. 6/2018 that detailed the institutional framework of the water resources management as well as the tasks and responsibilities of the institutions in charge. This law has no gender references.

The National Strategy for IWRM does refer to gender by emphasising the difference in engagement. The strategy refers to main Conventions related to gender equality such as CEDAW and the national strategy on gender equality. They recognise the difference in power and areas of involvement for both genders and that the strategy will consider vulnerable groups. What particularly needs to be highlighted is that the strategy is emphasising the equal distribution of benefits and the need to conduct a social and gender analysis on social differences in reference to access to control, and use of water resources. This is quite important as it is the right approach to initiate the work to identify and understand the context before interventions.

The strategy also raises the issue of gender disaggregated data in some actions such as the project's financing for equal distribution of benefits

⁵² For 2020, women aged 25-39 have a higher participation rate in tertiary education with 38.7% compared to 26.4% men. [Source: http://www.instat.gov.al/en/publications/books/2020/women-and-men-in-albania-2020/lbid](http://www.instat.gov.al/en/publications/books/2020/women-and-men-in-albania-2020/lbid)

⁵³ Ibid

etc. Furthermore, it aims to provide some data on women's representation in the administration of water basin. With 40% representation of women, it makes the claim that men and women have an equal representation. This needs to be evaluated further because the positions and the roles women have in decision-making is also a key indicator for equal representation. Moreover, it recognises the importance of women's participation in decision-making but does not provide any concrete actions to address this.

The document also includes some principles of equality, both in its vision and mission – which shows a commitment to support the achievement of the gender equality agenda, but more specific budgeted actions are needed to ensure that this vision can become a reality. The national IWRM strategy (2018-2027) has some gender analysis, and the results framework takes gender into account, which shows commitment by the government to disaggregate all information according to sex, increase access to decision-making for women in the water sector, and ensure their access to training within the sector.

With reference to the National Sectoral Programme of Water there was also some mention of gender, and it was emphasised to compile and coordinate an integrating agenda on gender equality in the sector. However, no detailed discussion on how this would be implemented was included.

The programme tried to request a budget for supporting a gender specialist in making sure gender issues are addressed.

The 1999 Law on Irrigation and Drainage (No. 8518) established the structure for Water User Organisations (WUOs), which are private groups that manage water irrigation infrastructure at and below the secondary canal level. Federations of WUOs manage the primary canal networks. The government maintains ownership of the infrastructure. A 2007 WB document on Water Users Associations and participative water management mentions that the set-up of WUOs in Albania has led to the reduction in water related conflicts among farmers and strengthened women role and participation in irrigation management (10% of executive and administrative counsels of WUOs are now women).

The Law on Organisation and Functioning of Local Government (No. 8652) (2000) transferred responsibility of water supply and management of water utilities to local government (communes and municipalities). Pursuant to the Law on Gender Equality, all municipalities have involved women in the decision-making process and the latter seem to have a good engagement in decision making by being a member of the Municipal Council, as well as representation as employees in the structure of total municipal employees.

9.3.2 ENERGY, ENVIRONMENT and CLIMATE CHANGE

There is no mention of gender and issues pertaining to it in energy strategies and action plans. Although the National Strategy on Energy has referred to the overall social development and improvement of welfare of the energy consumers, it does not provide any further elaboration. The strategy also referred to the international obligations Albania is adhering to, in line with the Paris Agreement of 22 April 2016, and the UNFCCC Convention on Climate change and Kyoto Protocol, but it doesn't provide specific details or reference to gender issues.

There is no information on the extent to which gender equality goals have been mainstreamed into the national legal and policy framework on environment and climate change. Law No.10 431, dated 9.6.2011 "On Environmental Protection" does not include gender related provisions.

Many studies from developing countries show that natural disasters affect mostly economies dependent on agricultural production. Agriculture in Albania represents the sector of the economy in which 40% of the workforce is active, and it is a sector in which women have traditionally performed a substantial amount of unpaid work.

A Gender Assessment on the impact of floods – conducted by UN Women in 2015 – showed that women faced increased domestic violence and disadvantaged treatment compared to men in the distribution of aid by municipalities. Previous floods and the recent earthquake show that Albania is ill-prepared to adequately respond to natural disasters and to support the most vulnerable citizens, including rural women who lost their subsistence



agriculture production, single mothers who went homeless, and women who face domestic violence. In Albania, the Nexus between gender inequality, energy, the environment, and climate change has remained relatively unexplored.

Yet, it is widely acknowledged that current modes of energy governance do have a gendered impact in the countries of the Western Balkans. This impact is primarily felt within households as an increase of expenditures and concomitantly poverty, and a drop in the quality of life for those who are traditionally responsible for household chores: women. Dynamics are further exacerbated by limited economic opportunities for women, and their lack of active voice in decision-making. However, since these aspects are considered common (or 'traditional') characteristics in all economies in the Western Balkans, the gender component that is specifically related to energy has not been appropriately studied.

The awareness that energy supply, use, and consumption have a social dimension as well as a differentiated impact on the female and male population is just emerging. Even less considered is the fact that this impact on end users/consumers is different for various groups of users: female/male, employed/unemployed, affluent/less-affluent, urban/rural, young/elderly, those living in rural or urban areas, or those belonging to an ethnic minority group.

The new National Energy Strategy 2018-2030 was approved in July 2018. It aims to align Albania's energy market with EU rules and directives in a bid to advance the country's EU integration prospects and to improve Albania's energy independence. There is no clear information on how gender dimensions are/will be taken into account. Also, no information was found on the integration of gender issues in other policies related to environment and climate change. However, it seems very important to take this dimension into consideration, particularly for disaster management due to severe climatic phenomena. Following severe flooding in the country in 2015, a rapid gender assessment of their impacts was carried out. The results underlined the disastrous effects on women's lives and livelihoods and recommended a series of actions for the recovery and reconstruction phase.

Damages to crops and land were a major concern to women, as they clearly suffered significant losses of products for both personal consumption and sale, including loss of livestock and animal feed, as well as damage to barns, which further exacerbated the situation. According to 64% of respondents, domestic violence increased after the floods, and unexpectedly, women heads of household reported a higher incidence of violence (73.1%) than women spouses. Women were found to be affected not only by domestic violence, but also by violence outside the home. Women reported having been treated differently than men as concerns the distribution of aid by municipality officials, where men had easier access to municipality staff and benefited more from state support. Data from the State Social Service on flood-prone rural areas show very low coverage of inhabitants by social protection. Only 3.5% of affected households were classified as eligible to receive Economic Aid assistance (cash transfers), out of which just 0.4% were women heads of household. Apart from the cash transfers, no other social services were provided in these areas.

9.3.3 AGRICULTURE and LAND Use

The Intersectional Strategy for Agriculture and Rural Development (ISARD) 2014 – 2020 has relatively good reference to gender equality and has aimed at identifying some main issues related to the situation as well as progress towards gender equality in the sector. It also strives to identify the challenges related in how women and men attend education including the one related to the sector. It has provided a specific chapter on legal framework specifications towards which the strategy is committed to, such as Gender Equality law, anti-discrimination law, etc. Importantly, it pledges to monitor the support towards entrepreneurship and farms that are managed by women. It has also dedicated special monitoring and evaluation sessions to covering the impact on gender equality by emphasising equal participation of women and men. It also gives importance to the gender focal points' role and the collaboration with the relevant ministries. Furthermore, it refers to employment in the sector and the trend of women's engagement in the sector which has increased over the years and raises the opportunity to evaluate policies and schemes that could support equal participation.

9.4 COVID-19 IMPACT ON GENDER EQUALITY AND WOMEN'S EMPOWERMENT

The COVID-19 pandemic enhanced the trends and traditional gender roles within the Albanian household. Since home-schooling and care for the elderly tend to demand more of women's time, women's care-providing burden was enhanced during COVID-19 lockdown and the ensuing months. Also, the likelihood of women to reduce paid working time has increased, too. The proportion of individuals who reported increased cooking time during lockdown is 29.8%, and 53.8% of respondents declared to have increased cleaning time at household level, as well. This increment is higher among women. Among other chores reported to take more time than before the COVID-19-induced crisis, are spending time with kids (increased by 30.6%), helping or caring about old/sick or disabled people (increased by 54.8%), and time to teach kids (increased by 27%). Shopping time was found to have decreased, which reflects the lockdown restrictions in opening times and people's mobility.

way, then it is a challenge for these sectors to address inequalities and discrimination. That is why future interventions need to carefully provide the relevant attention to gender equality and female empowerment to address the critical gap in Nexus sectors. Lack of equality and uneven progress between women and men in the different areas of a political economy, will most certainly impact the country's development outcomes, sustainability, and prosperity.

9.5 CONCLUSION

Albania has a solid legal framework on gender equality and has progressed substantively in women's participation in decision making. Having women ministers leading all Nexus sectors in Albania is a great achievement; this does not necessarily guarantee that gender equality in these sector or other areas is achieved. As shown by this analysis, while some sectors have a progressed legal framework, strategies and actions in place, Nexus sectors are still far from being gender mainstreamed or having a gender transformative approach. If strategies and policies are not gender mainstreamed, if action plans do not address the different needs of women and men, and if they are not properly budgeted in a gender responsive





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The “**Assessment of the Water-Energy-Food-Ecosystems Nexus in Albania**” was prepared within the framework of the project “Promoting the Sustainable Management of Natural Resources in Southeastern Europe, through the use of the Nexus approach” financed by the Austrian Development Agency (ADA), the operational unit of Austrian Development Cooperation, and implemented by Global Water Partnership-Mediterranean (GWP-Med) in partnership with the United Nations Economic Commission for Europe (UNECE).



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