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Water and Environment Support - Biodiversity and Climate Action
in the Neighbourhood South region

WES-BCA Regional Training & Study Tour

Adaptation Measures for flood and storm water management

Activity Number: C1_REG/ST-6

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Nice, France

Linkages between flood and stormwater management and the WEFE Nexus approach

Presented by:

Prof. Michael SCOULLOS, Team Leader, WES-BCA

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Flood and stormwater management are integral components of the WEFE Nexus, with significant potential in addressing Water and Food security, Ecosystem/Biodiversity protection and adaptation to Climate Change.

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Critical Issues of our days in the Mediterranean

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- Water scarcity
- Non-homogeneous distribution of water
- Increasing population followed by Energy and Water demand, including for Food production (e.g. agriculture 80%)
- Climate change increasing the frequency of extreme events (droughts, storms and floods)
- Consumption of WEF per capita in some parts of the region is increasing
- Biodiversity is eroded and Ecosystems are decreasing
- The only increasing water resources are the Non-Conventional ones, among which flood and stormwater are included

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Need for appropriate new generation policy-making based on integrative approaches

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In the last two decades, a series of integrated management options were developed, including:

- Integrated Coastal Zone Management (ICZM),
- Integrated Water Resources Management (IWRM),
- Ecosystems-Based Approach (EBA),
- Combination of the above in the Integrative Methodological Framework (IMF)

Integrated Energy Planning (IEP), and Marine Spatial Planning added critical sectoral and spatial components, trying to address more essential productive sectors and the relationship between land-based activities and the Marine Environment/Ocean.

Floods and storms are to some extent considered under most of the aforementioned management schemes and combinations frequently called Integrated Flood Management (IFM).

A look into the WEFE Nexus

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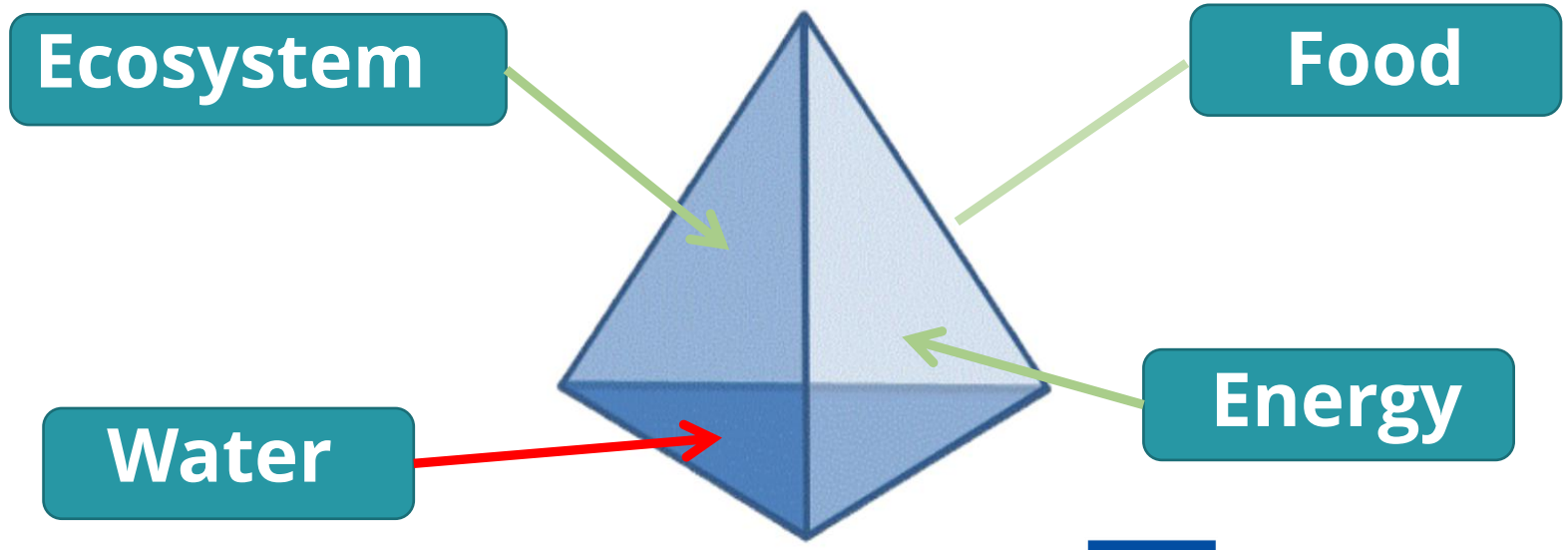
There was an apparent need for a combined, effective and widely understandable integrated approach to address the most critical for security and human wellbeing sectors

The Water-Energy-Food-Ecosystem Nexus Approach linking the four critical sectors, to the essential for the Mediterranean Source-to-Sea Approach

The "W" in the WEFE Nexus is justified not only because of the initiative of the Water sector towards this approach, but also because of the WEFE connection to the Source-to-Sea (S2S) approach.

Energy, Food, or Ecosystems may also be entry points/drivers on equal footing

WEFE Nexus with Water as main entry point/driver



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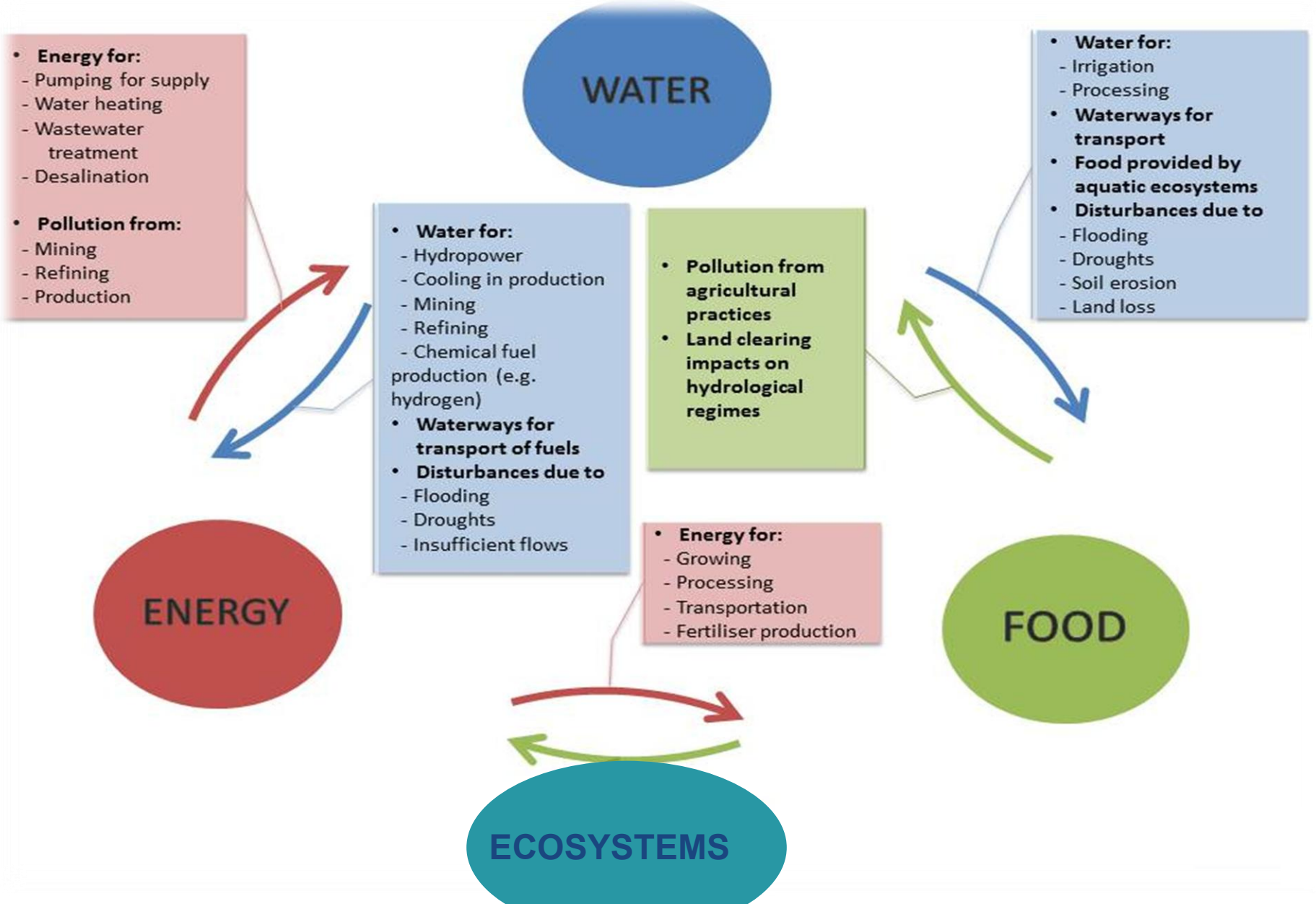
The WEFE Nexus Potential

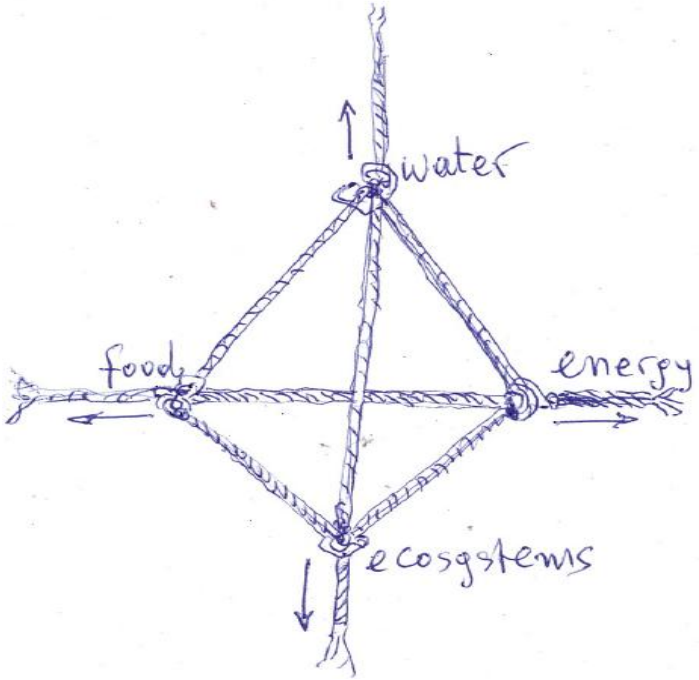
The Nexus approach has the potential to provide multiple benefits to society, by supporting the achievement of:

a) water, energy, food, and ecosystems security through an integrated management of natural resources,
b) global policy goals, such as Sustainable Development Goals (SDGs), and other goals related to water, energy transition, biodiversity, circular economy, as well as climate change mitigation and adaptation,
c) enhanced in scope and impact regional cooperation, social cohesion, conflict prevention and peace building, and
d) economic development, job creation, attracting investments, enhancing innovation and fostering regional economic integration.

The Nexus: A world of inter-dependencies

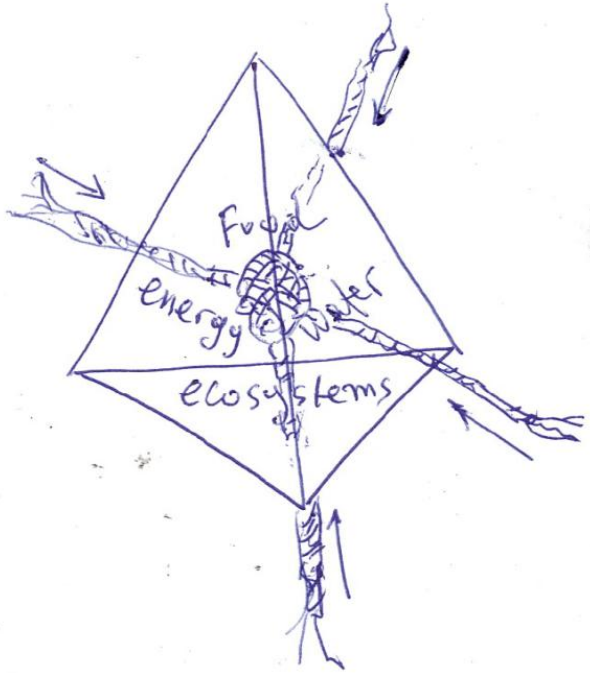


A major aim of the WEFE Nexus approach



from a system of “tensions”

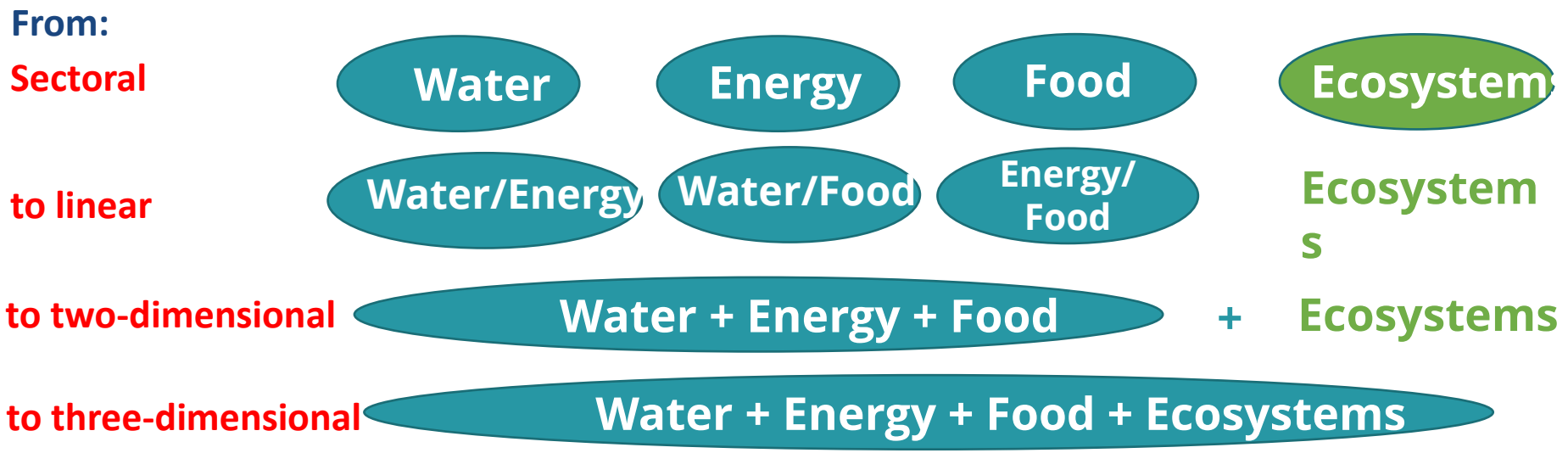
to move



to a system of “convergence”

Evolution of WEFE Nexus approach: planning, policies, operations & investment

The need of moving from individual sectoral policies to integrated ones has been acknowledged early enough on bilateral and, later on, on trilateral level. The whole WEFE Nexus approach is, however, very recent.

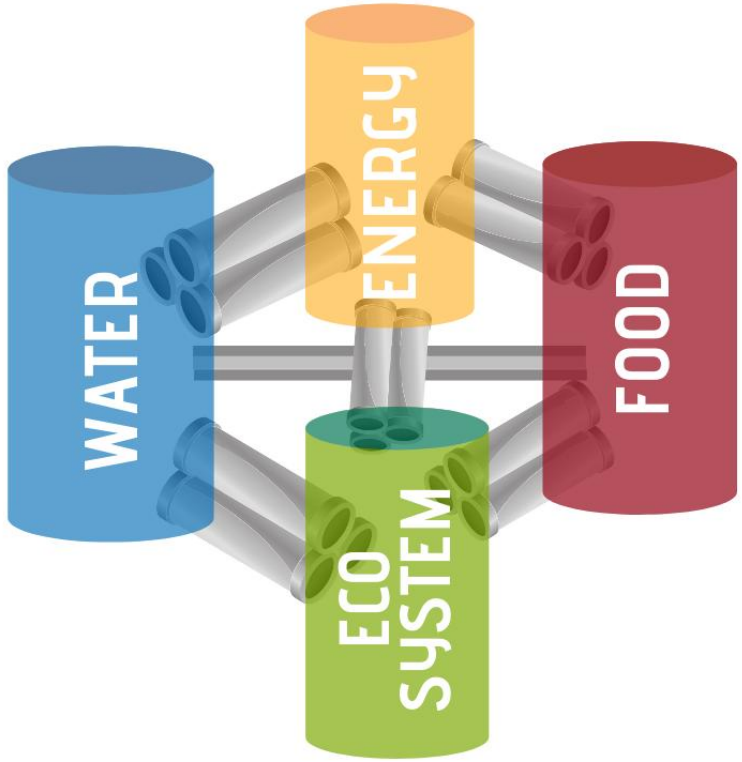


The WEFE Nexus Principles

Focusing on the **effectiveness, efficiency of the function** of the system, rather than on the productivity of each one of the components.

Mutually recognizing among sectors the **interdependencies** of all components, allowing the implementation of the "**no-harm**" principle.

Encourage and maintain **coordination across sectors and stakeholders**, avoiding the **"silo approach"** and optimize **sustainability of synergies,** by opening channels among the four key sectors silos.



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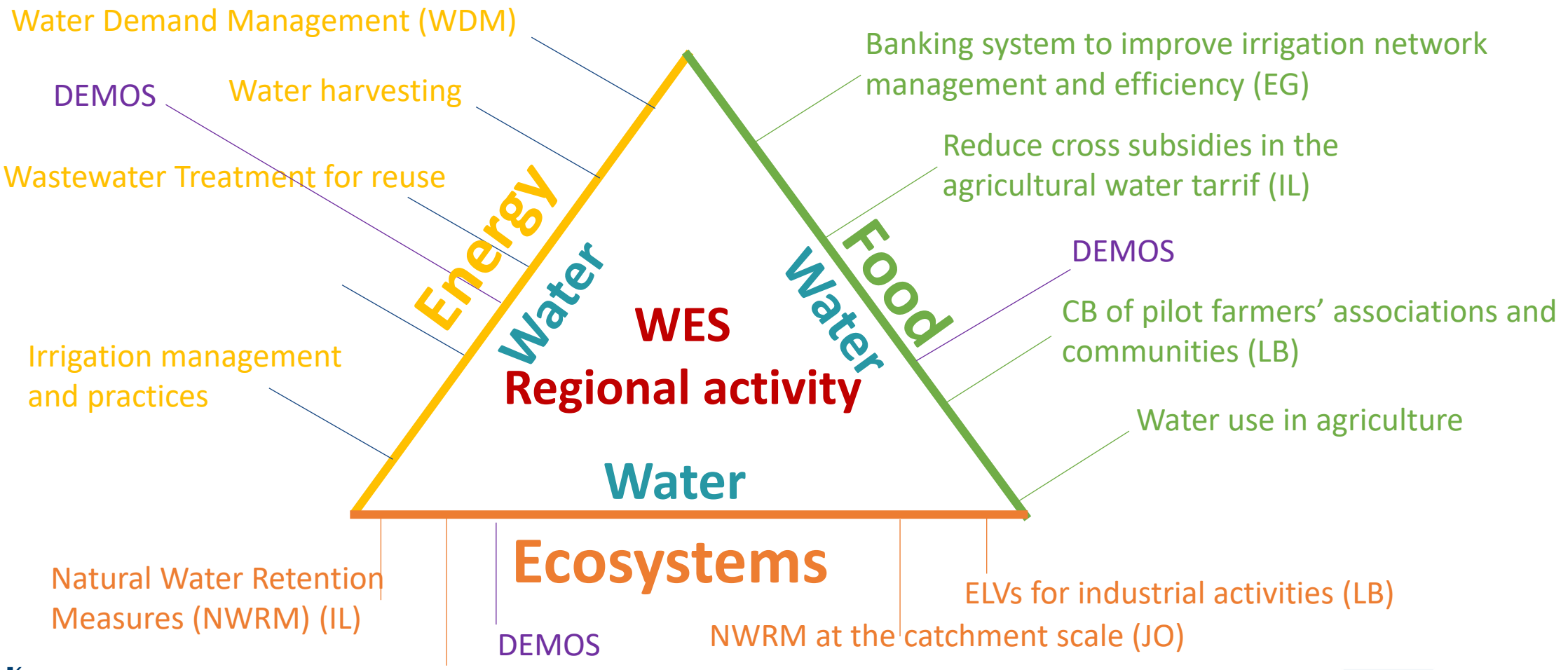
Demystifying the WEFE Nexus approach

The WES and WES-BCA Regional and National attempts to work on WEFE related interfaces



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Union for the Mediterranean
Union pour la Méditerranée
الاتحاد من أجل المتوسط

gef

UN environment programme

Mediterranean Action Plan
Barcelona Convention

Global Water Partnership Mediterranean

The Evolution of the WEFE Nexus Strategy in the Mediterranean Source to Sea (S2S) Continuum

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The Evolution of the WEFE Nexus Strategy (1)

- **Political frameworks:**
  - Anchored to appropriate regional political frameworks: UfM and Barcelona Convention
  - Aligned with the EU acquis
- The **technical drafting was led** by GWP-Med, EU WES Project, PRIMA
- **The Strategy aims to** enable the mainstreaming of system-thinking and the application of the WEFE Nexus approach in the Mediterranean Source to Sea continuum within improved and integrated governance structures at different levels
- The process was started at the **1st Regional WEFE Nexus Roundtable in the Mediterranean (6-7 June 2023, Rabat, Morocco),** where participants recommended the development of a WEFE Nexus Strategy in the Mediterranean Source to Sea Continuum
- **1st draft** of the WEFE Nexus Strategy was discussed at the **2nd Regional WEFE Nexus Roundtable in the Mediterranean (February 2024, Tunis, in the margins of the 5th Med Water Forum)**

The Evolution of the WEFE Nexus Strategy (2)

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- **Updated draft discussed at UfM's Regional Platform on Water (Lisbon, June 2024 / Malta, February 2025 / Barcelona, November 2025)**
  - Feedback received from countries
  - Updated version disseminated following the Malta Ad-Hoc Meeting of the Drafting Group of the Ministerial Declaration on Water in the Mediterranean
  - The Strategy was approved by UfM Regional Platform on Water (5-6 Nov 2025, Barcelona) and would be endorsed at the UfM Ministerial Conference (24-25 March 2026, Rome)
- **Updated draft discussed under the Barcelona Convention system's MSSD 2026-2035 process**
  - The WEFE Nexus Strategy to be a Flagship Initiative of the MSSD
  - Discussed at the ad-hoc MCSD Meeting (February 2025, Istanbul), adopted at the MCSD Meeting (June 2025, Corinth)
  - The Strategy was approved by the COP of the Barcelona Convention (2-5 Dec 2025, Cairo) as part of the MSSD 2026-2035, and is mentioned in the COP Declaration
- **For the implementation of the Strategy an Action Framework is under preparation**

The Evolution of the WEFE Nexus Strategy (3)

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The Framework for Action is structured around the Goals, Objectives & Directions for Action described within the Strategy

The 3 Goals:

- Appropriate institutional arrangements, policies, and cooperation frameworks
- Efficient and effective planning, financing and implementation of management and technical solutions
- Informed decision-making based on enhanced science-based knowledge, engagement of capacitated stakeholders, and increased public awareness

The Goals unfold in **8 Objectives and 27 Directions for Action.**

We hope that the Framework for Action will be completed within 2026.

The WEFE Nexus Strategy:

First Mediterranean Strategy adopted by both the Barcelona Convention and the UfM

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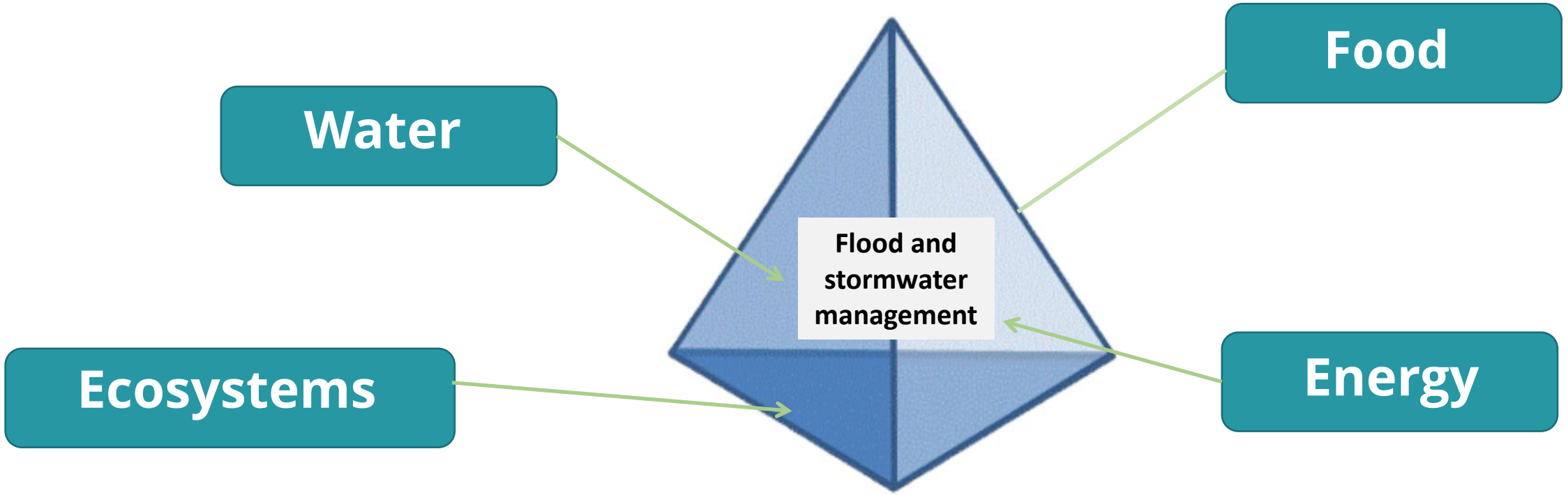
The flood and stormwater management within the three-dimensional WEFE Nexus visualization



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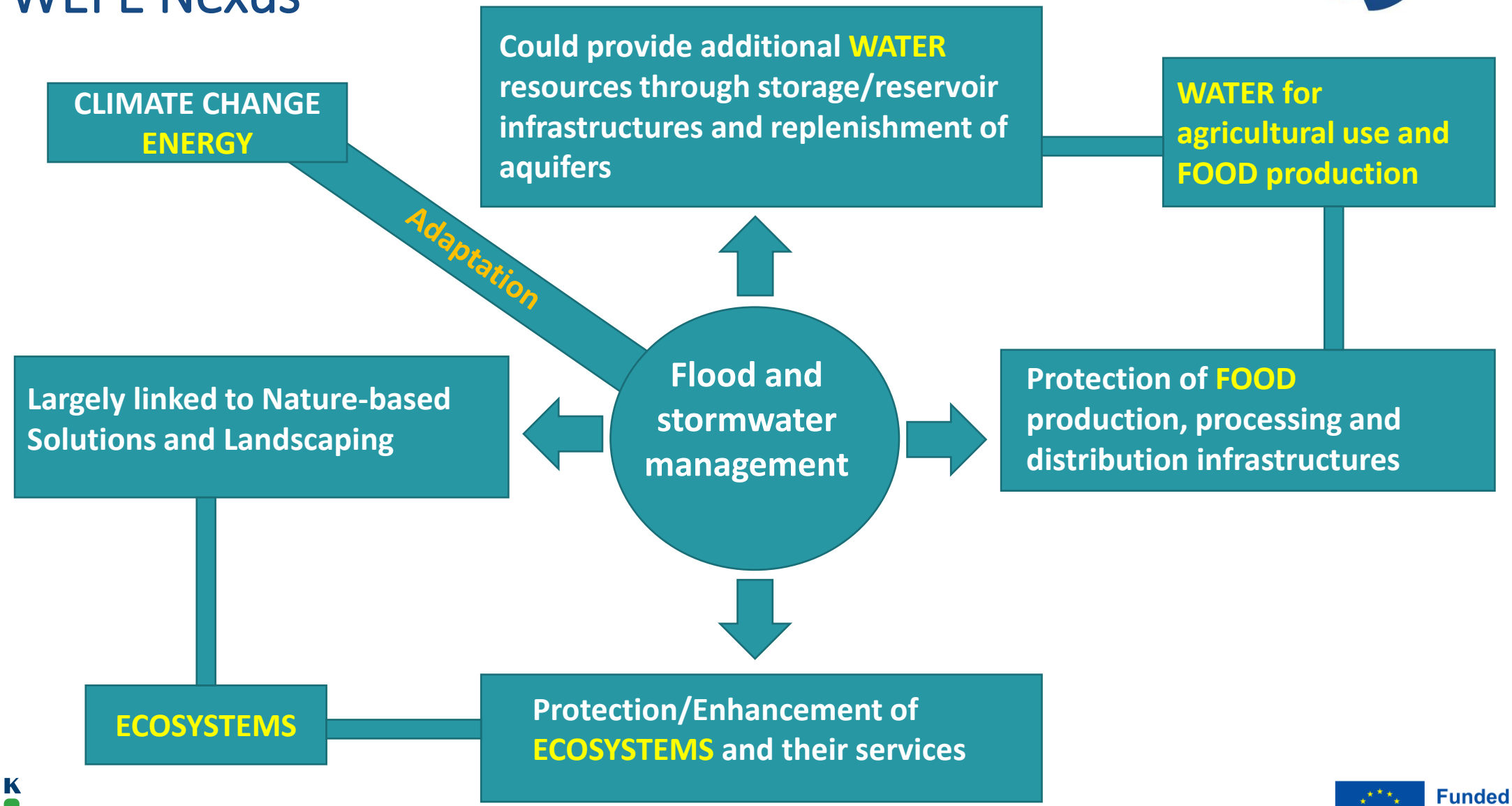
Flood and stormwater management within the WEFE Nexus



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An innovative intervention introduced by GWP-Med to address Floods in Alexandroupoli, Greece

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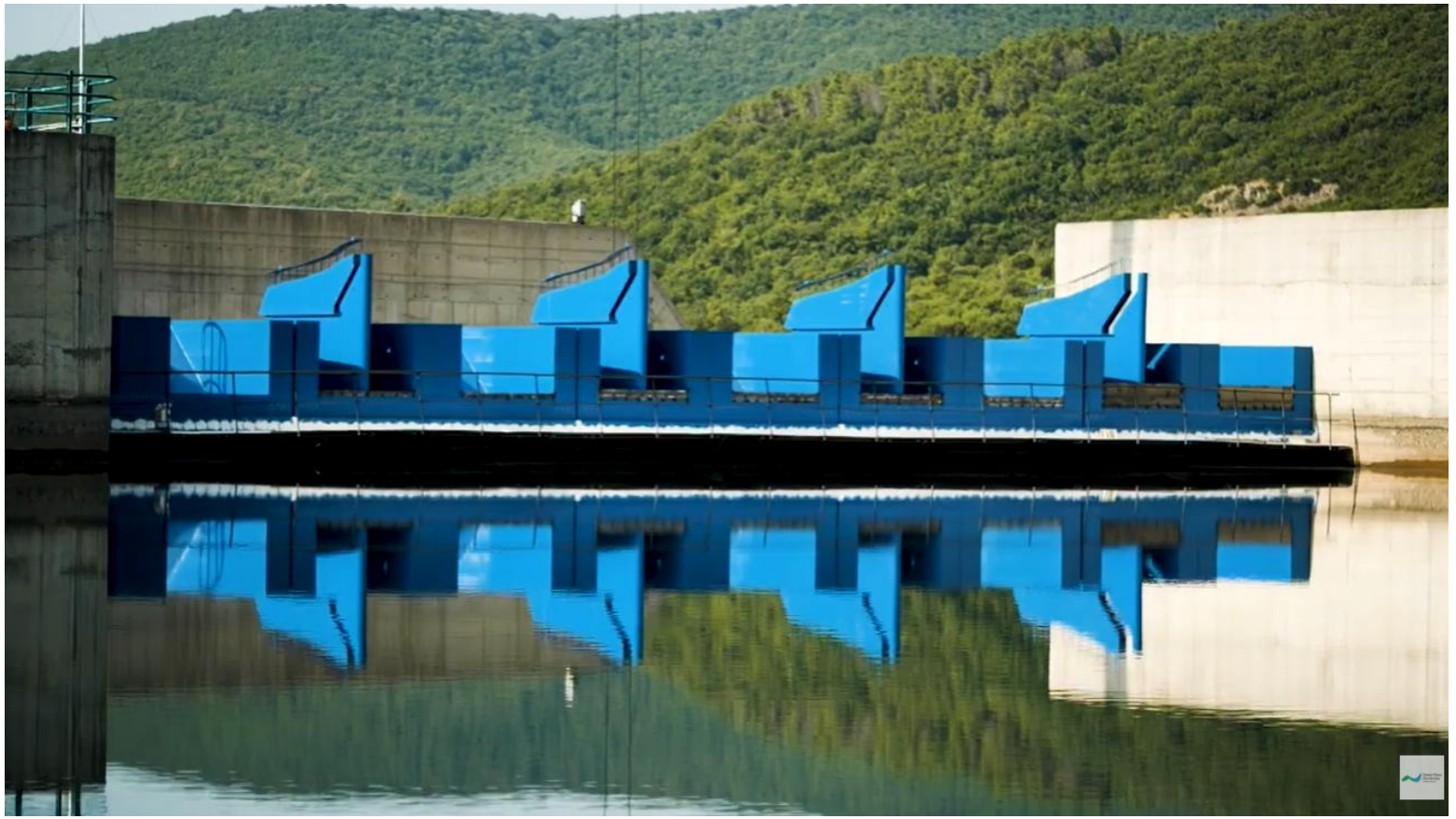
Following extensive studies on environmental footprint, hydrological data and modelling of the catchment area, **custom-made free-standing gates (flood gates)** were installed on the dam's spillway. With the gates installed, the reservoir can now rise further, increasing storage capacity of additional rainwater by 1.7 billion litres, raising the dam's capacity by 14%, increasing water supply for 85,000 residents and water users of the wider area.



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