

The UVPP: User-Validated Policy Package

Developed by



Tested in

5 case studies

Thematic Area

WEFE Nexus, Policy & Governance,
Informed decision making



Challenges

The Water-Energy-Food-Ecosystems (WEFE) domains are a tightly **interlinked nexus**, where changes in one domain impact the others. However, current policy frameworks often operate in silos and do not consider all stakeholder perspectives, needs and knowledge; incoherent strategies and a **lack of coordination** across fragmented institutions fail to reflect the nexus interdependencies. This shortcoming undermines the efficient and equitable management of WEFE resources, which is necessary to **de-escalate vulnerabilities** to systematic risks associated with intensifying resource demands coupled to ecological degradation, water scarcity, large-scale pollution and climate change induced disasters, amongst other challenges. Poorly integrated governance of the WEFE nexus has direct consequences across all spheres of society:

- **Society** – Heightened water scarcity and pollution leads to public health risks around food security and drinking water supplies. In such contexts, tensions among stakeholders may exacerbate, eroding social cohesion, with disputes over access and priorities becoming entrenched, making collaborative solutions harder to reach during crises.
- **Ecosystems** – Unsustainable water withdrawals degrade ecosystems and biodiversity, which underpin essential services and benefits such as clean water and climate regulation.
- **Economy** – Sub-optimal water allocation among WEFE sectors lead to economic losses in industries reliant on stable water access and conflicts when there is uncertainty if there may disruptions in critical supply chains.

The Nexus Governance Guidebook



How it works

A User-Validated Policy Package (UVPP) serves as a structured framework for integrated management of the Water-Energy-Food-Ecosystem (WEFE) Nexus. Each UVPP is tailored to a specific case study and consists of three key components:

- **Stakeholder Validated Policies:** These are a suite of policies which have been evaluated by stakeholders to best optimise benefits and reduce trade-offs across sectors, users, and countries (in transboundary cases). Stakeholders used various considerations in their deliberations, such as water security, water-use efficiency, pollution, food production, biodiversity conservation, energy production and water diplomacy (i.e., the potential to reduce conflicts between resource users or upstream-downstream nations), amongst others, across different coupled climate change and socio-economic scenarios. Therefore, the 'policy package' represents opportunities for integrated solutions.
- **Governance roadmaps:** Roadmaps illustrate the pathways of governance system reforms which support the adoption and implementation of the stakeholder validated policies. They identify necessary interventions (mechanisms, tools, actions) and enabling conditions to reduce water-related institutional fragmentation, improve inter-sectoral cooperation and integrated management. Some of these options are consistent with existing modus operandi, while others propose transformational changes.
- **Stakeholder agreements:** These are voluntary stakeholder co-created and negotiated commitments to continue to work together to implement agreed measures within the governance roadmaps.

By consolidating these elements, the UVPP enhances policy coherence and this plays a central role in addressing resource management (e.g., trade), transboundary challenges (e.g., diplomacy), and stakeholder concerns (e.g., water and food security).





Methodologies

To establish the UVPP, the following methodologies were used:

- **Participatory co-creation approaches:** A structured stakeholder engagement process, with accompanying activities (workshops, focus groups, bi-lateral interviews) in which diverse stakeholders collaboratively designed and validated policies and governance roadmaps using their local and expert knowledge. The approach was supplemented with literature reviews and expert knowledge of the researchers (project partners). This facilitated deliberation, negotiation and consensus-building process ensured that proposed solutions were relevant to local needs and priorities and were considered credible and legitimate to policy-makers and decision-makers.
- **Adaptive Policy Design Frameworks:** Policy design and analysis methodologies which helped stakeholders understand formal (legislative, regulatory) and informal (bottom-up, negotiated) governance pathways. The approach recognises that each case study has unique political, socio-economic, cultural, and environmental nuances, therefore, it allows for flexibility in levels of analysis and application to achieve the intended outcomes. For example, the roadmaps may be 'high-level', focussing on newly evolving policy design opportunities at the national level (e.g., Jiu River Basin), while others may be 'detailed', focussing on fine-grained implementation issues at the municipal scale (e.g., Inkomati).
- **Advanced Decision-Support Tool:** The UVPP integrates the results of stakeholder deliberations and decisions based on policy analyses results obtained from the NEPAT (Nexus Policy Assessment Tool). NEPAT is an innovative artificial intelligence engine, developed in NEXOGENESIS, which assesses the trade-offs and synergies in achieving multiple policy goals and the associated impacts on the WEFE resource nexus.



Users

The target users of the UVPP are governments and public authorities at all scales within the WEFE nexus sectors (and in other domains with influence in WEFE issues, e.g., spatial planning agencies), with particular focus on water management organisations such as river basin organisations, including transboundary ones. However, any local stakeholder who has stakes and interests in WEFE governance initiatives (e.g., civil society organisations, private sector, research and academia, etc.) can use the stakeholder validated policies and governance roadmaps to understand what actions are needed to move towards improved WEFE governance, either through their own efforts or in partnership with others.



Key benefits



Environmental impact:

Improved conservation of biodiversity and ecosystem services by reducing overexploitation and pollution of water resources. This supports long-term ecological resilience which can buffer against negative impacts of climate change. It also preserves nature for future generations to enjoy.



Economic benefits:

Improving the allocation and multiple use of scarce natural resources and reducing interconnected nexus risks (e.g., water-related risks to food or energy production), supports sustainable economic development.



Social benefits:

The UVPP fosters inclusive and resilient communities by ensuring equitable access to water resources, reducing social conflicts, and empowering stakeholders to manage evolving nexus resource challenges (e.g., providing knowledge and tools to develop and participate in decision-making processes).





Scalability & replication potential

The UVPP has significant scalability potential, as its modular, flexible, coherent approach and tools can be tailored to various governance levels, constellation of nexus sectors, and socio-political contexts.



🔗 Access the Nexus Governance Guidebook directly here:

<https://nexogenesis.eu/the-nexogenesis-solutions/>

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