

**Raising awareness on Mediterranean
Coastal Wetlands and Nexus Nature-
based Solutions in times of climate
change**

Coastal wetlands and Nexus nature based solutions

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#LifeBeginsInWetlands

The WEF Nexus



Facts :

- Agriculture accounts for 70% of global water withdrawal
- Food production and supply chain accounts for about 30% of total global energy consumption
- 75% of all industrial water withdrawals are used for energy production
- 90% of global power generation is water-intensive
- Deterioration of wetlands worldwide, in particular coastal wetlands, is reducing the capacity of ecosystems to purify water

Projections :

- Global water demand will increase by 55% by 2050, mainly because of growing demands from manufacturing (400% increase)
- Global food production would need to increase by 50% by 2050
- Water withdrawals for energy production could increase by 20% by 2035

The WEFE Nexus

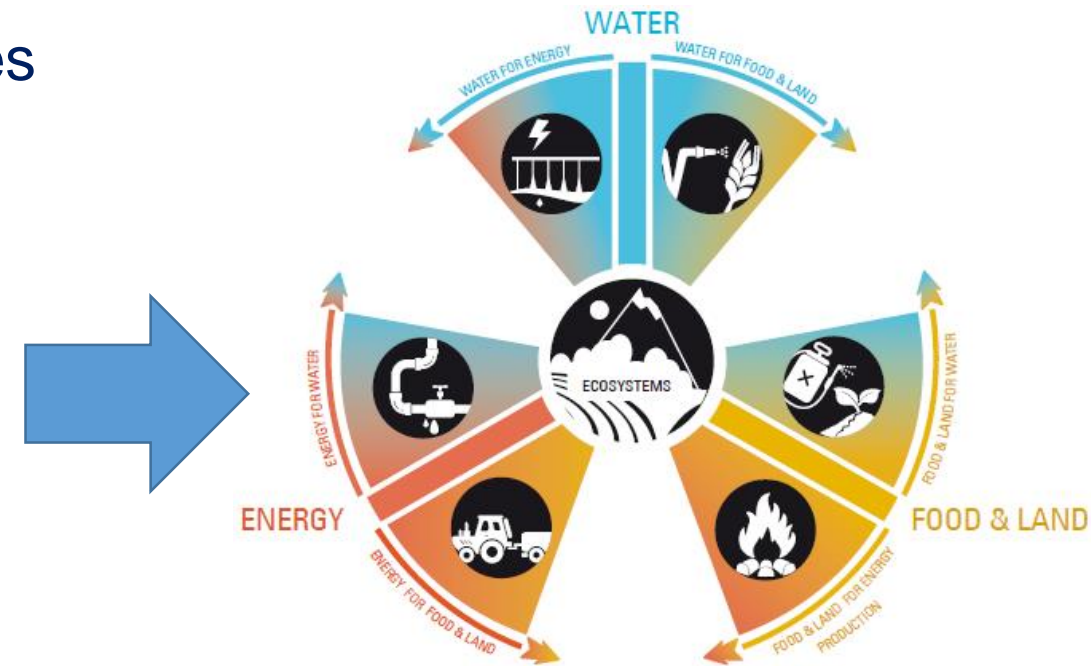


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Obvious interlinkages when it comes to challenges but also to solutions, hence there is need to :

- ⇒ Better understand inter-sector and inter-resources dynamics
- ⇒ Explore synergies /adverse impacts across sectors
- ⇒ Identify solutions allowing balance between different needs based on compromise and trade-offs negotiations
- ⇒ Make policies and actions more coherent across sectors



UNECE, 2015



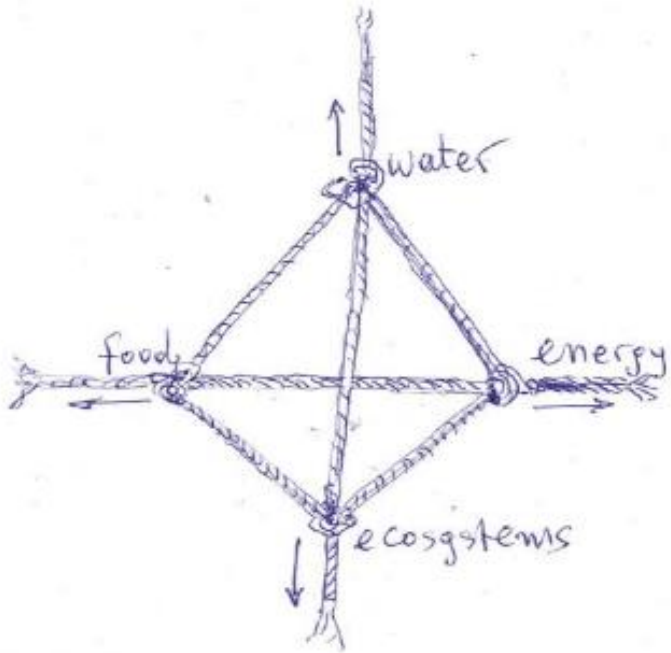
Ecosystems /Nature can't be separated from the other sectors

Since 1972, the first UN Convention on the Environment, it is estimated that 60% of the mammals birds, fishes and reptiles have been lost

- _ This is mainly associated to the deterioration of ecosystems in direct link with sectors development (food production, water reduction, pollutions,...)
- _ This is being exacerbated by the climate change

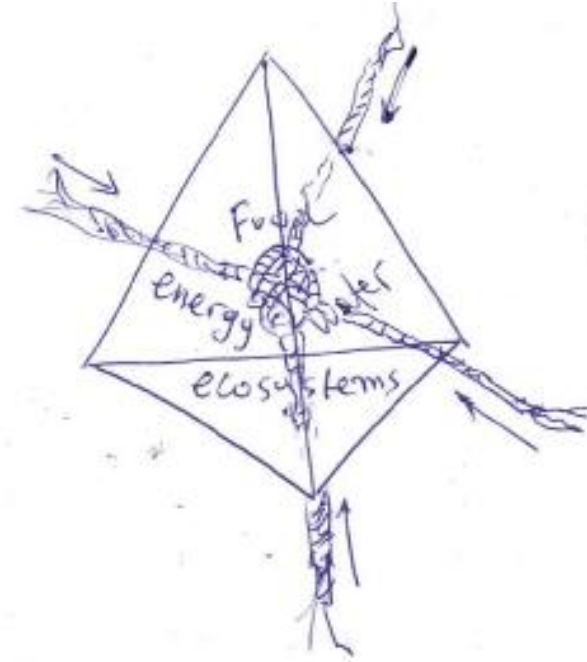
Nexus facilitates building and promoting policies and interventions in a coherent and coordinated way so development is sustainable and biodiversity is protected

Visualization of Nexus (By Prof. Michael Scoullos)



A system of Tension

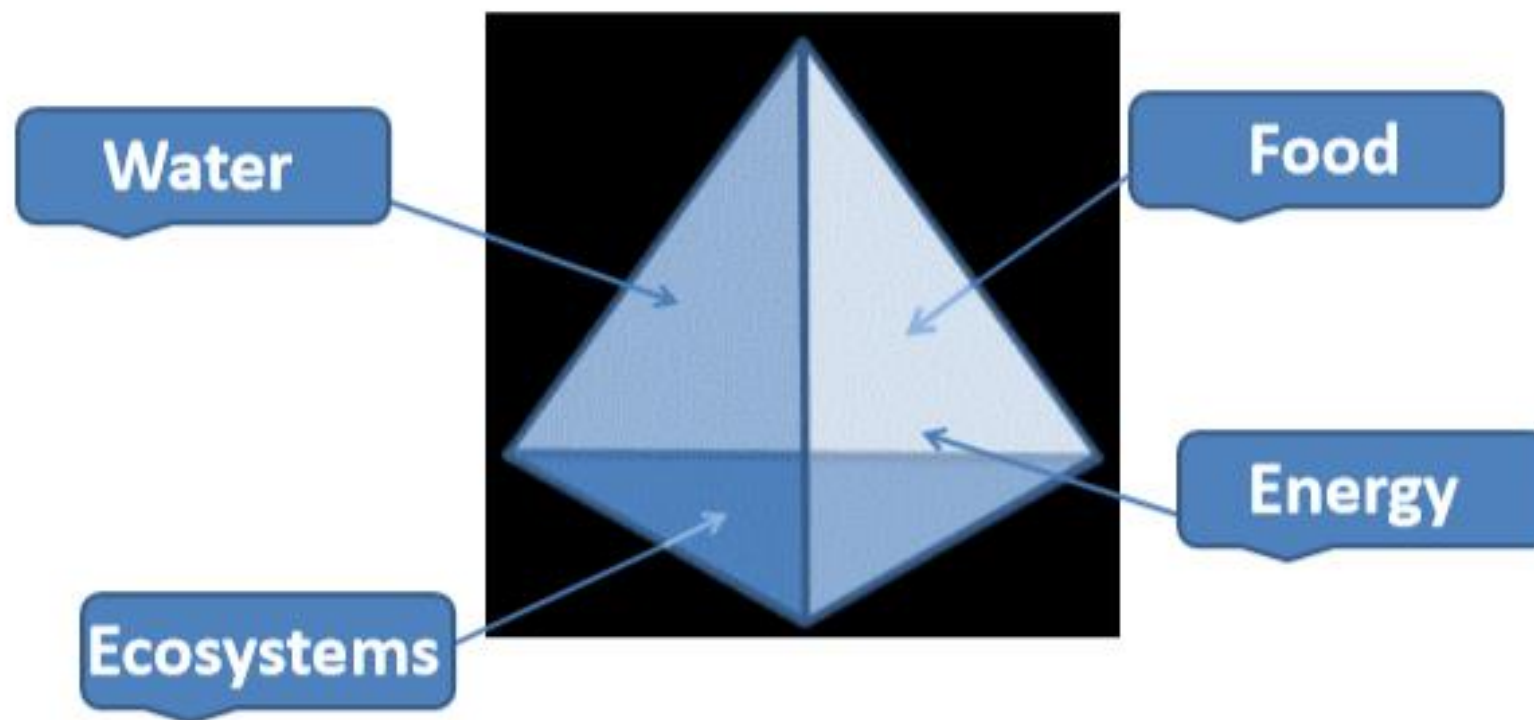
If one pulls too hard, the Nexus will be broken



A system of Convergence

Provides equitable « entry points » for the major sectors/components of development

Visualization of Nexus (By Prof. Michael Scoullos)



- It provides the “**space**” within which policies and interventions should be closely coordinated and optimized in order to approach SD and achieve the SDGs.

Specificities of the four facets/components of the Nexus

- For Sustainable Development, **all four components should be given equal weight** to contribute to shared policies. However, their “character” is different and their “elasticity” too.
 - For instance: water resources, food and traditional energy production from fossil fuel have limited elasticity as their production is linked to a particular place but there is high elasticity in their use. For instance, an area which has low agricultural production may import food (importing simultaneously “virtual” water). Energy may be transferred through networks and water could be stored and transported within some limits.
 - From the four, ecosystems are the least “elastic”. We cannot transfer or store them and the changes/degradation of ecosystems is the least “reversible”.



Nature-based Solutions (NbS) are defined by IUCN as “actions to **protect, sustainably **manage**, and **restore** natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing **human well-being** and **biodiversity benefits**”**



Category of NbS Approaches	Examples
Ecosystem restoration approaches	<ul style="list-style-type: none"> • Ecological restoration • Ecological Engineering • Forest landscape restoration
Issue-specific ecosystem-related approaches	<ul style="list-style-type: none"> • Ecosystem-based adaptation • Ecosystem-based mitigation • Climate adaptation services • Ecosystem-based disaster risk reduction
Infrastructure-related approaches	<ul style="list-style-type: none"> • Natural infrastructure • Green infrastructure
Ecosystem-based management approaches	<ul style="list-style-type: none"> • Integrated coastal zone management • Integrated water resources management
Ecosystem protection approaches	<ul style="list-style-type: none"> • Area-based conservation approaches, including protected area management



NbS are generally **robust, flexible, cost-efficient, inclusive and long-term oriented solutions.**

Stand alone or combined with man-made solutions, they also offer co-benefits related to food security, livelihoods, improved health and well-being, water regulation and disaster risk reduction, while contributing to nature conservation and restoration.

Wetlands : broad variety of water based ecosystems



Natural wetlands :

- Estuarine : deltas, tidal marshes and mudflats, mangrove swamps,
- Lacustrine : wetlands associated with lakes
- Riverine : wetlands along rivers and streams
- Palustrine : marshes, swamps and peat bogs
- Marine : coastal wetlands including lagoons, rocky shores, seagrass beds, coral reefs

Human-made / artificial wetlands : fish and shrimp ponds, farm ponds, irrigated agricultural land including rice paddies, salt pans, dams and reservoirs, waste water treatment ponds

The case of Wetlands

Wetlands :

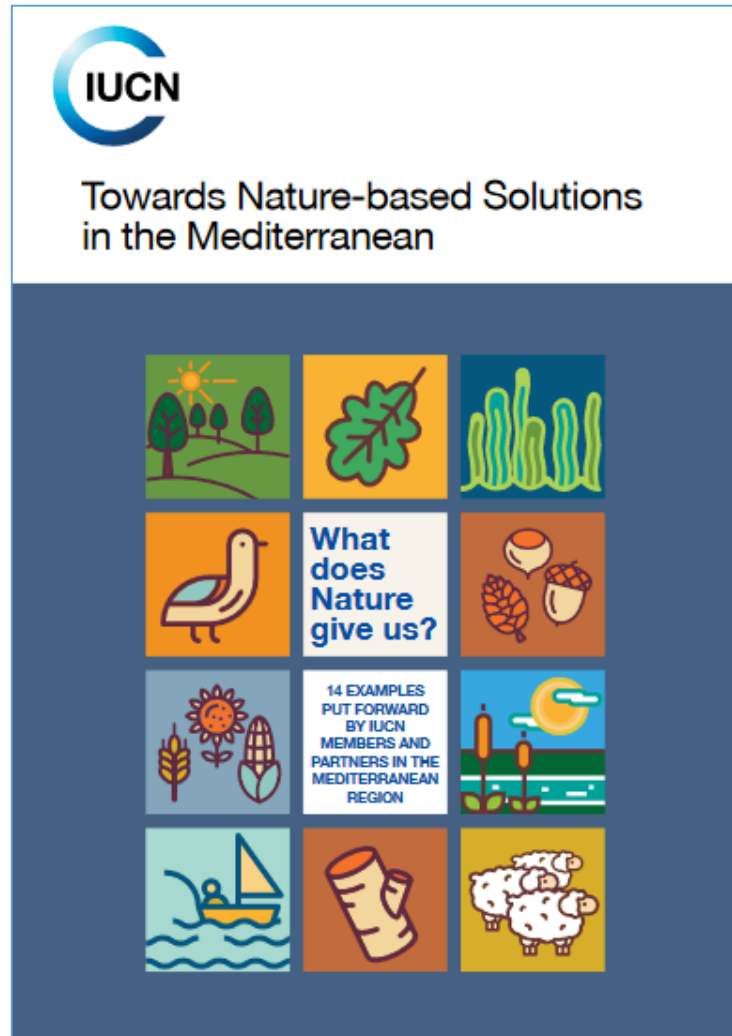
- provide and purify water
- protect from floods, droughts and other disasters
- provide food and livelihoods to millions of people
- offer recreational space
- support rich biodiversity,
- store more carbon than any other ecosystem (restoring 1 ha of saltmarsh would help to sequester 1–2 tCO₂ annually)





By implementing NbS the role and ecosystem services of wetlands are enhanced for our benefit and the benefit of biodiversity

Useful material for NbS examples



Useful Off Your Map Material





Thank You

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