

NATURE-BASED SOLUTIONS

How to use fact sheets "Evidence-based research findings from Tour du Valat"

The **Tour du Valat**, a research institute for the conservation of Mediterranean wetlands, conducts many research projects and activities to **better understand and preserve the environment**.



These projects are based on a sustainable development approach and attempt to respond to **the challenges facing society** by implementing **Nature-base Solutions**.



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FACT SHEET PURPOSE

This collection of "Evidence-based research findings from Tour du Valat" aims to capitalise on and share in a concise document the results of our research on the effectiveness and the environmental and/or socio-economic benefits of using Nature-based Solutions at the Tour du Valat. In this initial explanatory fact sheet, we will define the concept of Nature-based Solutions, the ecosystem-based approaches used to achieve them, the challenges facing society, and the sustainable development goals targeted. All of these points will be evaluated for each project presented in these fact sheets.



WHAT ARE NATURE-BASED SOLUTIONS?

Nature-based Solutions (NbS) are "actions to **protect, sustainably manage, and restore natural and modified ecosystems** that address **societal challenges** effectively and adaptively, simultaneously providing **human well-being and biodiversity benefits**". They also **provide ecosystem services** and contribute to **achieving sustainable development goals** by enhancing biodiversity. NbS are effective, flexible, technologically diverse, and economically viable. They provide an opportunity to increase the resilience of societies to climate change and will facilitate our transition toward a more sustainable and inclusive economy.



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ECOSYSTEM SERVICES PROVIDED

- » **Supporting services:** services that are necessary for the production of other services i.e. that create the basic conditions for the development of life on Earth (soil formation, primary production, air, etc.). Their effects are indirect or appear in the long term.
- » **Regulating services:** services enabling natural phenomena to be moderated or regulated (climate, erosion, parasite regulation, etc.).
- » **Provisioning services:** services corresponding to the products, potentially marketable, obtained from ecosystems (food, drinking water, fires, fuel, biochemicals and pharmaceuticals, etc.).
- » **Cultural services:** non-material benefits that humanity can derive from ecosystems, through spiritual enrichment or the cognitive development of people (heritage, aesthetics, education, religion, etc.).

- ECOSYSTEM-BASED APPROACHES -

RESTORATION

An intentional action that initiates, accompanies, and enhances the reestablishment of an ecosystem that has been degraded, damaged, or destroyed, while respecting its health, integrity, and sustainable management.

ECOLOGICAL ENGINEERING

Involves working with natural materials, living organisms, and the physical and chemical environment to satisfy the needs identified and resolve technical problems. Such processes may include the maintenance, restoration, rehabilitation, and/or reallocation of ecosystems.

GREEN INFRASTRUCTURE

A network of natural and semi-natural zones that includes green or aquatic areas and other physical elements of terrestrial, coastal, and marine areas.

ECOSYSTEM-BASED MANAGEMENT

A long-term approach to environmental management that stresses the multitude of interactions within an ecosystem, including human activities. It aims to maintain ecosystems in good health and guarantee they remain resilient.

ECOSYSTEM-BASED ADAPTATION AND MITIGATION

The recourse to biodiversity and ecosystem services within a comprehensive adaptation strategy to help people adapt to the effects of climate change. It aims to maintain and increase resilience and to decrease the vulnerability of ecosystems and individuals in an attempt to counter the negative effects of climate change.

ECOSYSTEM-BASED NATURAL DISASTER RISK REDUCTION

The protection, sustainable management, and restoration of ecosystems to decrease risks linked to natural catastrophes. The plant roots found in ecosystems can stabilise the soil in them and thereby limit landslides. They can also absorb the excess water resulting from floods.

- CHALLENGES FACING SOCIETY -

*Nature-based Solutions are responses to one or more of the issues facing society today. **The challenges that we face** include climate change, food security, water supply security, decrease natural disaster risks, human health, socio-economic development, and environmental degradation and biodiversity loss.*



RESTORATION CLIMATE CHANGE



RESTORATION HUMAN HEALTH



RESTORATION FOOD SECURITY



RESTORATION SOCIO-ECONOMIC DEVELOPMENT



RESTORATION WATER SUPPLY SECURITY



RESTORATION ENVIRONMENTAL DEGRADATION AND BIODIVERSITY LOSS

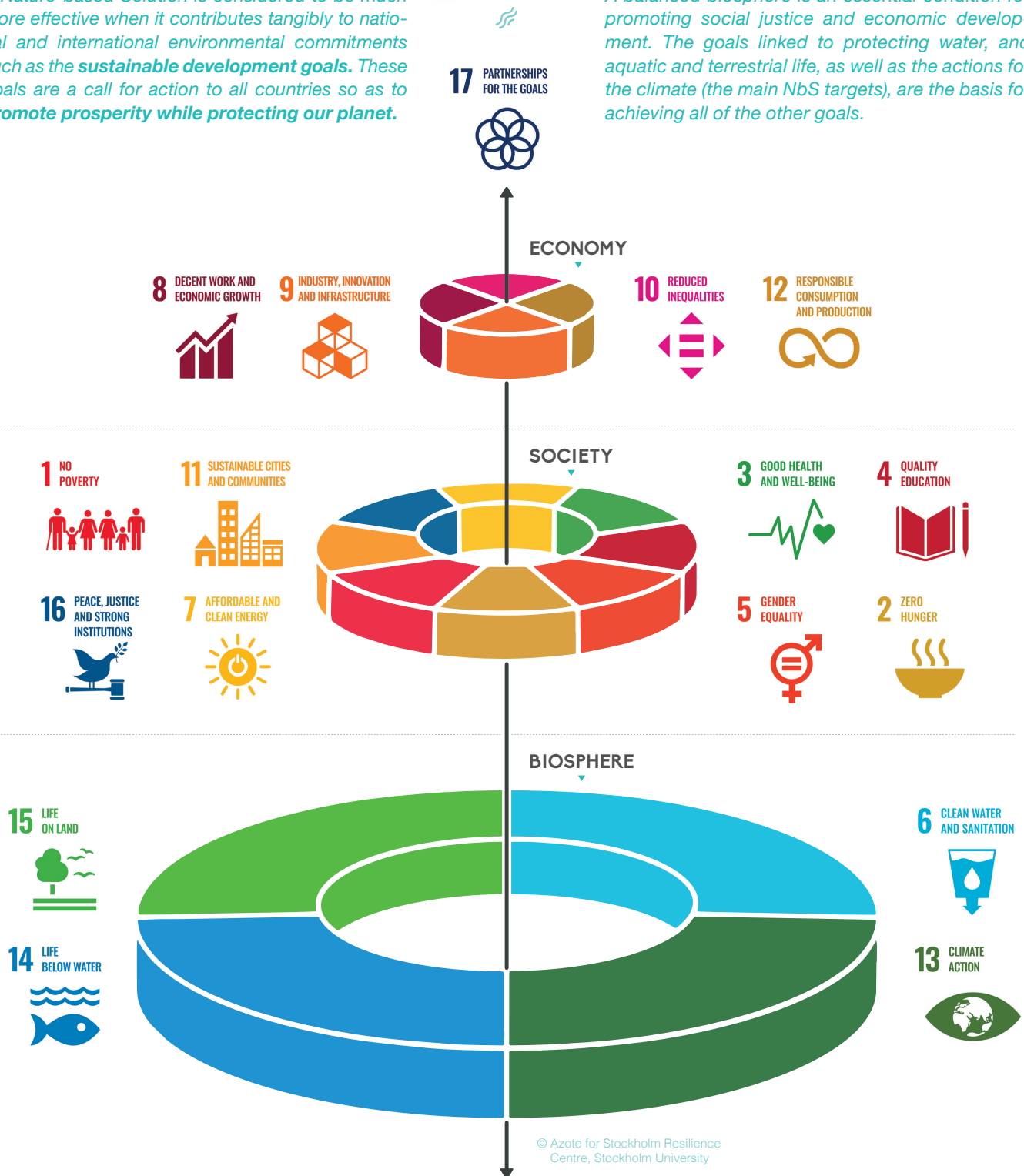


RESTORATION DECREASE NATURAL DISASTER RISKS

- SUSTAINABLE DEVELOPMENT GOALS -

A Nature-based Solution is considered to be much more effective when it contributes tangibly to national and international environmental commitments such as the **sustainable development goals**. These goals are a call for action to all countries so as to **promote prosperity while protecting our planet**.

A balanced biosphere is an essential condition for promoting social justice and economic development. The goals linked to protecting water, and aquatic and terrestrial life, as well as the actions for the climate (the main NbS targets), are the basis for achieving all of the other goals.



CONTACT

Tour du Valat
 Le Sambuc
 13200 Arles - France
 Phone +33(0)4 90 97 20 13
segura-champagnon@tourduvalat.org
www.tourduvalat.org

FIND OUT MORE

www.iucn.org/theme/nature-based-solutions

MAIN AUTHORS

Lorena Segura, Lucie Pichot
 and Coralie Hermeloup