

Enabling Ecosystem- based adaptation

Cross-sectoral and interdisciplinary
cooperation is vital

WFCD Workshop Ecosystem-based
adaptation

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Definitions

Ecosystem-based Adaptation (EbA)-UNEP

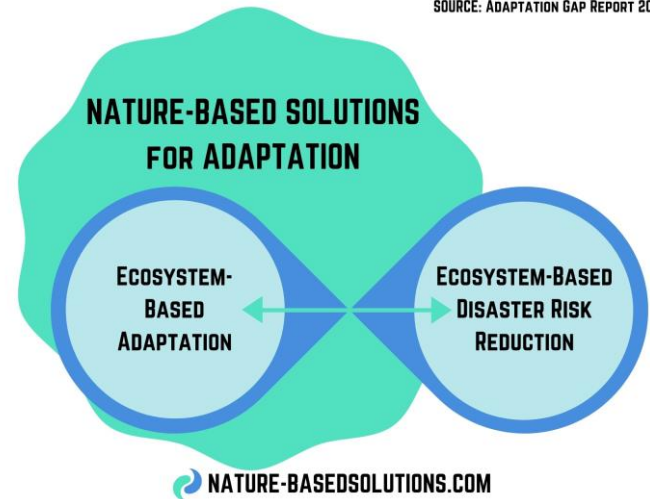
Ecosystem-based Adaptation is the use of biodiversity and ecosystem services as part of an overall strategy to help people adapt to the adverse effects of climate change.

Building with Nature:

is the approach to creating, implementing and upscaling Nature-based solutions for water-related infrastructure

“The Building with Nature approach starts with understanding how the natural and societal systems function, using natural materials, forces and interactions while creating opportunities for nature to develop” (De Vriend 2015).

SOURCE: ADAPTATION GAP REPORT 2020 UNEP



Building with Nature: the concept

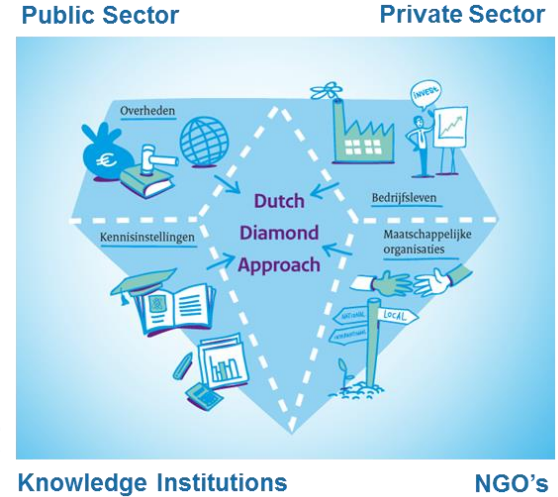
To develop infrastructure in deltas and estuaries, along coasts and rivers:

- In harmony with the behaviour of the natural system
- By letting nature do part of the work
- In close collaboration with stakeholders and local communities
- With added value for nature, (local) economy and society



EcoShape | Building with Nature

- Sectors *collaborating* with a shared ambition
- Test and implement NbS concepts in practice
- Supported with fundamental knowledge development
- Translated to practical design guidelines
- Aimed at upscaling and mainstreaming



Pilot Project Overview

Nature Based Flood Defences



Houtrib Dike Pilot Project



Sand Motor Delfland Coast



Hondsbossche Dunes



Sand engine lake IJssel



Interreg VB North Sea Region project Building with Nature



NatureCoast

Resilient Delta Cities



Werven Park Dordrecht



Tidal park Rotterdam



CityDeal Klimaatadaptatie

Sustainable Port Development



Living Lab for Mud



Clay Ripening Pilot Project



Building with Nature in Indonesia



Salt marsh development Marconi Delfzijl



Mud Motor Koehoal salt marsh development



Marker Wadden KIMA

Ecosystem Restoration

The Sand Engine, Netherlands



situation July 2011



situation July 2016

Restoring eroding coastlines: Demak Indonesia

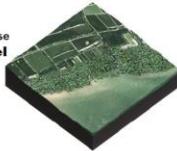


Landscape propositions



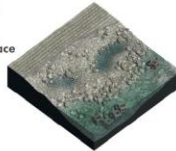
Enhancing tidal flats and mangrove development

- withstand **storm, winds and waves**
- trap sediments thus raise land to resist **sea level rise and erosion**
- create habitat
- support local fisheries



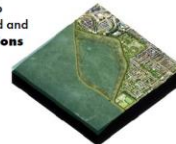
Enhancing breakwaters

- attenuate **storm, winds and waves**
- varied and textured surface can **create habitats** for species



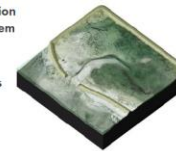
Inland buffer zone

- increase **flood capacity**
- buffer zone to help manage both **flood and drought conditions**
- create space for aquaculture
- create habitat

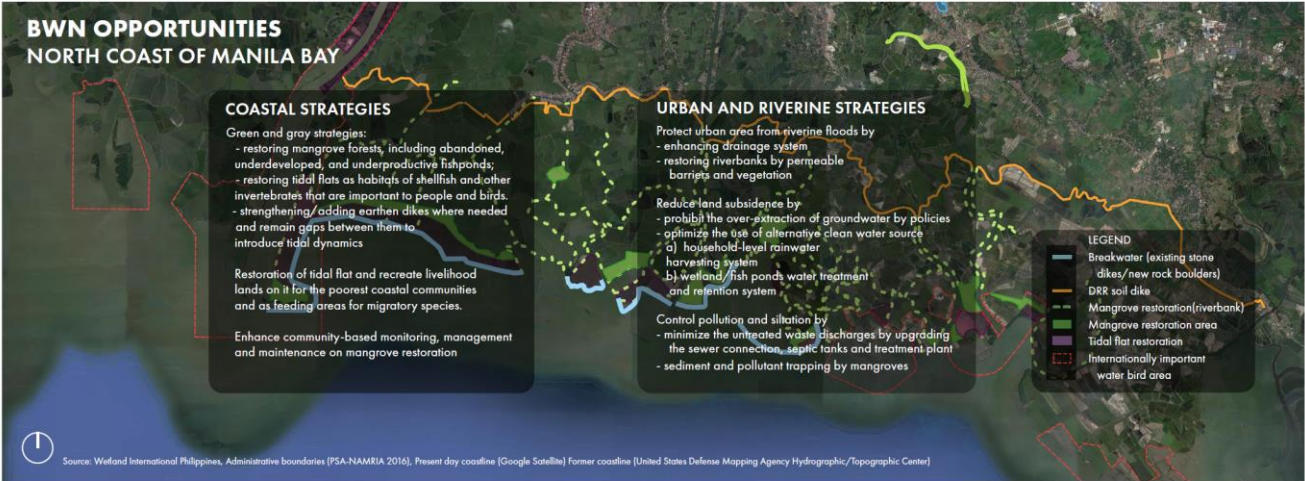


Introducing tidal dynamics

- retore connections between waterbodies
- enhance the function of the overall system
- bring oxygen-rich water into stagnant locations
- enhance nutrient circulation

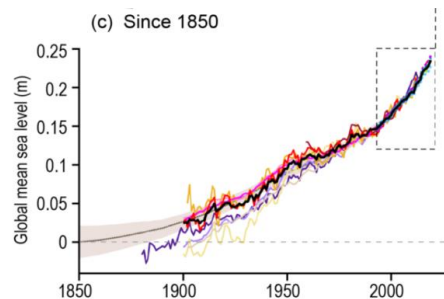


Landscape propositions



Cross-sectoral and inter-disciplinary cooperation

- Results in better solutions (effective and fit for purpose)
- Improves identification of knowledge gaps and research needs
- Makes knowledge cycle shorter (from development to application)
- Increases societal relevance of knowledge
- Improves mutual understanding and respect
- Unlocks private co-finance of research
- Is more fun !



Credits for photos:

Pictures by:

- Rijkswaterstaat
- EcoShape
- Yus Rusila Noor
- Wetlands Int.
- Boskalis
- Van Oord
- Deltares

An underwater photograph showing a variety of marine life. In the foreground, several large, green and brown sea sponges with circular openings are prominent. To the right, there are smaller, pinkish coral structures. The background is filled with a dense, textured coral reef. The lighting is natural, highlighting the vibrant colors of the marine organisms.

Thank you for your attention

For more info visit www.ecoshape.nl
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building with nature