



# **Nature Based Solutions: A concept with many different approaches**

*James Dalton – Director, Global Water Programme*

*International Union for Conservation of Nature (IUCN)*



# Ecosystems perform multiple roles and functions



*Coastal defence*



*Water provision  
Water storage*

*Flood regulation  
Water purification*



*Fisheries, livelihood provision*



*Water conveyance and navigation/Cultural Services*



*Carbon sequestration  
Coastal defence*



# What are nature-based solutions?

IUCN defines nature-based solutions 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”* (e.g. climate change, food and water security or natural disasters)



“

NbS are often described as ‘no-regret’ options, providing benefits to people in a range of scenarios

”



# Nature-based Solutions in Nationally Determined Contributions

Synthesis and recommendations for enhancing climate ambition and action by 2020

Nathalie Seddon, Sandeep Sengupta, María García-Espínosa, Irina Hauer, Dorothee Heir and Ali Raza Rizvi



## Nature-based Solutions to address global societal challenges

Editors: E Cohen-Shacham, G Walters, C Janzen, S Maginnis



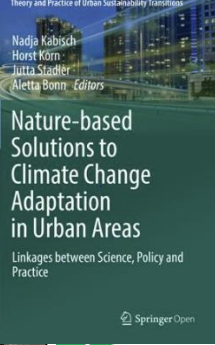
## Nature-based Solutions to Climate Change Adaptation in Urban Areas

Links between Science, Policy and Practice

SpringerOpen

### NATURE-BASED SOLUTIONS IN EUROPEAN AND NATIONAL POLICY FRAMEWORKS

Madeline Davis, Kathrin Hilbert, Udo Holzknecht, Sara Krollmann, May 2019



**POLICY PAPER**

## Pour défier le réchauffement climatique, coopérons avec la nature !

Renforcer la résilience climatique de la Méditerranée au moyen de solutions fondées sur la nature

AFD / MedWet

## UNLOCKING NATURE'S SOLUTIONS

The Nature Conservancy, WWF, Wetlands International, IUCN, CONSERVATION INTERNATIONAL

## Championing the Forest-Water Nexus

Report on the meeting of key forest and water stakeholders

Food and Agriculture Organization of the United Nations, IUCN, SIWI

## NATURE-BASED SOLUTIONS FOR WATER

WWDR 2018

## NATURE-BASED SOLUTIONS FOR WATER MANAGEMENT

A PRIMER

UNEP, IUCN, UN Environment

Environmental Science and Policy 98 (2019) 20–29

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### Environmental Science and Policy

journal homepage: [www.elsevier.com/locate/envsci](http://www.elsevier.com/locate/envsci)

ELSEVIER

### Core principles for successfully implementing and upscaling Nature-based Solutions

Emmanuelle Cohen-Shacham<sup>a,b,c,d</sup>, Angela Andrade<sup>a,b,c</sup>, James Dalton<sup>d</sup>, Nigel Dudley<sup>e,f</sup>, Mike Jones<sup>g</sup>, Chetan Kumar<sup>h</sup>, Stewart Maginnis<sup>a</sup>, Simone Maynard<sup>h,i</sup>, Cara R. Nelson<sup>h,i</sup>, Fabrice G. Renaud<sup>h,i</sup>, Rebecca Welling<sup>j</sup>, Gretchen Walters<sup>k,l,m</sup>

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UN WATER informe

Informe Mundial de las Naciones Unidas sobre el Desarrollo de los Recursos Hídricos 2008

## SOLUCIONES BASADAS EN LA NATURALEZA PARA LA GESTIÓN DEL AGUA

Resumen ejecutivo

WORLD BANK GROUP, WORLD RESOURCES INSTITUTE

## NATURE-BASED APPROACHES FOR CLIMATE CHANGE MITIGATION AND ADAPTATION

The challenge of climate change – partnering with nature

eco logic

## The EU – Brazil Sector Dialogue on nature-based solutions

Contribution to a Brazilian roadmap on nature-based solutions for resilient cities

Written by Cecilia P Herzog and Carmen Antônia Rozado, September – 2019

European Commission

## GREEN INFRASTRUCTURE

Creating Next Generation Infrastructure

WORLD BANK GROUP, WORLD RESOURCES INSTITUTE

GREG BROWDER, SUZANNE ÖZMENT, IRENE REHBERGER BESOS, TODD GARTNER, AND GLENN-MARIE LANGE

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## INTEGRATING GREEN AND GRAY

Creating Next Generation Infrastructure

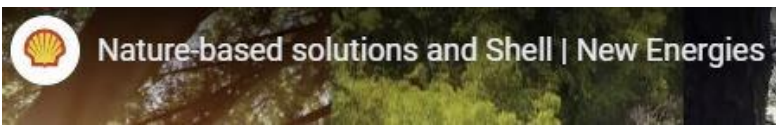
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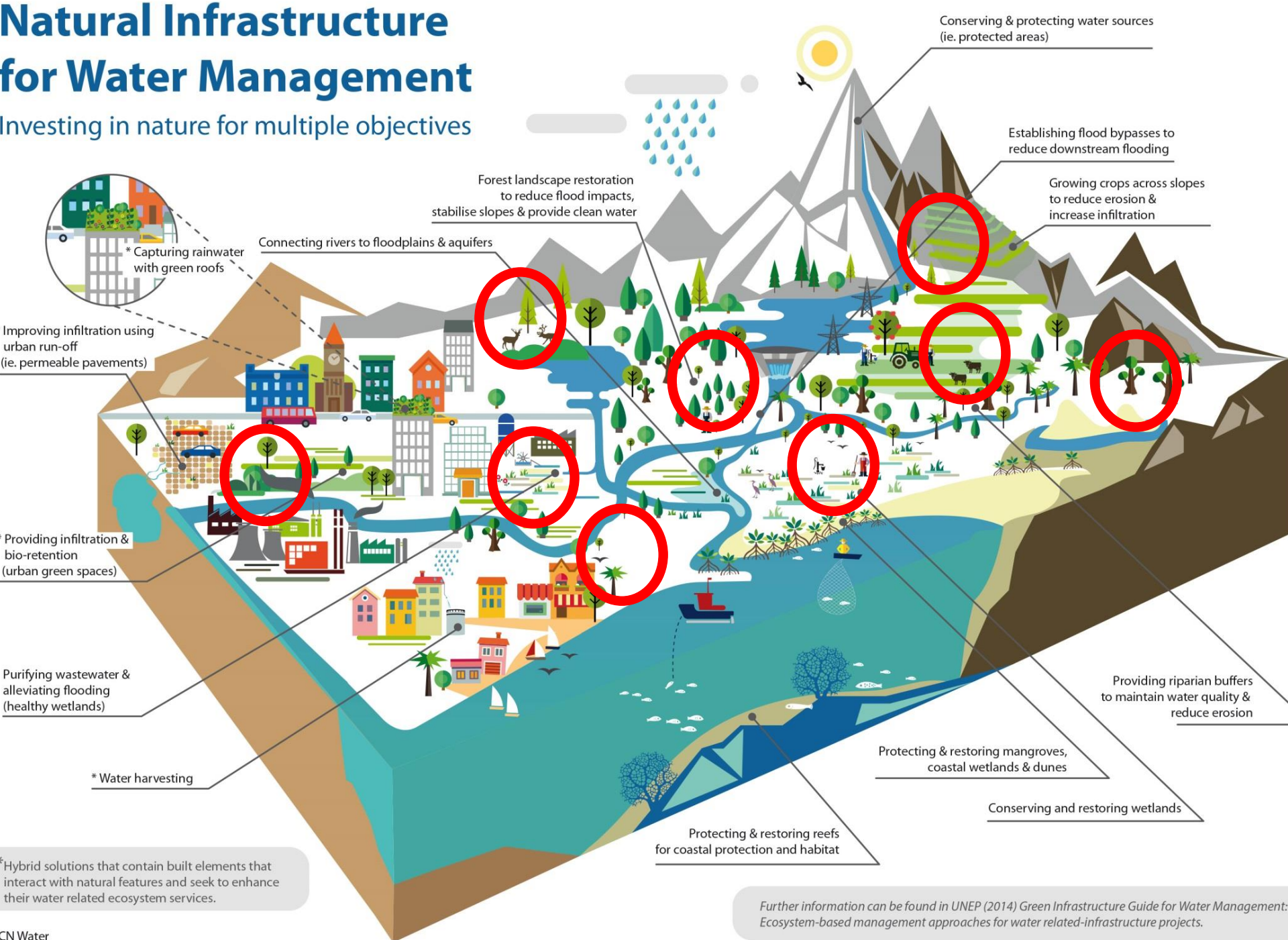


# Growing business interest in NBS



# Natural Infrastructure for Water Management

Investing in nature for multiple objectives



Hybrid solutions that contain built elements that interact with natural features and seek to enhance their water related ecosystem services.

Further information can be found in UNEP (2014) *Green Infrastructure Guide for Water Management: Ecosystem-based management approaches for water related-infrastructure projects.*



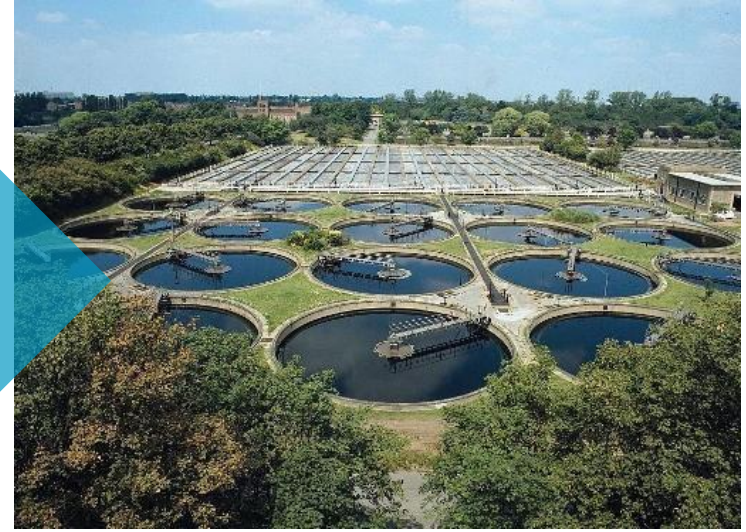
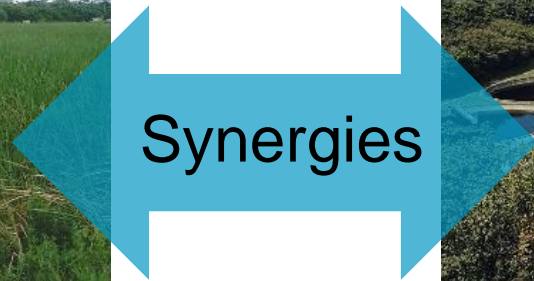


# NBS are Connected Solutions: naturally networked

Hybrid approaches, utilizing a combination of natural  
and grey solutions



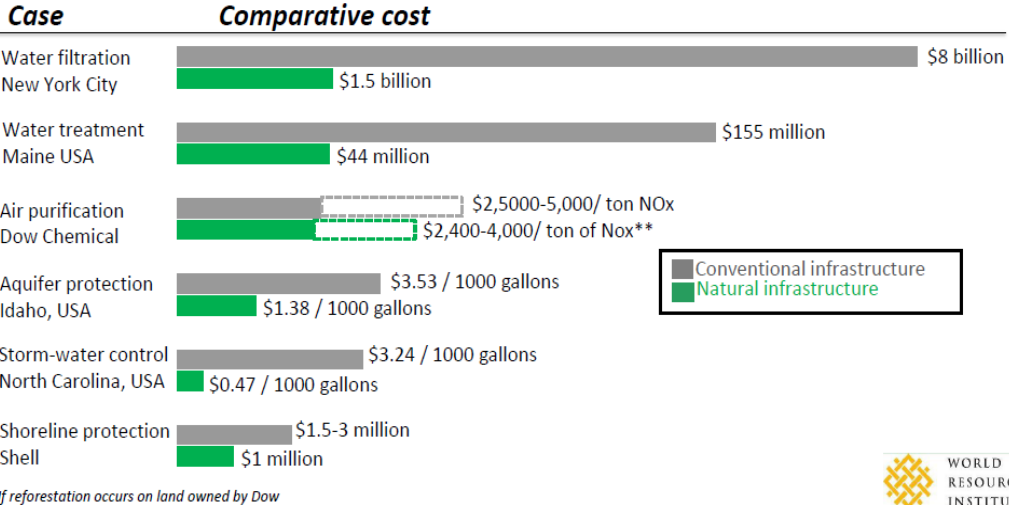
Natural infrastructure



Grey infrastructure

# Achieving Scale – demonstrating ‘no regret’ investment

- Clear development relevance through integrated approaches which optimise natural system efficiencies
- Using trade-offs to blend /combine portfolios of NBS & grey/built approaches for a range of solutions across scales
- ‘Offer’ investment options & cost effectiveness
- Leveraging multiple benefits & co-benefits
- Social acceptance of NBS in contexts where conventional engineered approaches prevail





# Restoring Land Health

INFOFLR  
by IUCN

Case studies News & media Resources  
What is FLR? Bonn Challenge The Barometer Countries Search

Geography

Mexico - Quintana Ro

170,944 ha  
under restoration

170,944  
Hectares under restoration

9,382,214  
tonnes of CO<sub>2</sub>

\$29 million  
invested

27,599  
jobs created

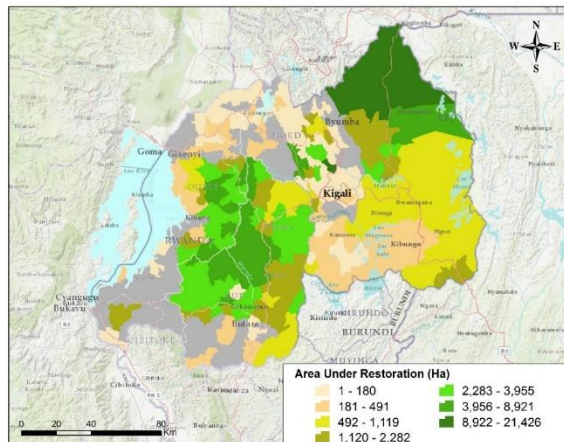
700,000 ha  
total committed

Policies and institutions Financial flows to FLR Technical planning Restoration monitoring Capacity assessment Hectares under restoration Climate mitigation Biodiversity impacts Socioeconomic impacts

24% of Bonn Challenge target has been brought into restoration in Quintana Roo, Mexico.

To date, restoration pledges of 170 million hectares have been successfully secured

In Rwanda, 0.7m ha of a 2m ha pledge is currently under restoration with est. CO<sub>2</sub> removal of 11,359 tonnes & creation of >22,000 jobs (incl. 48% women) since 2011



# Land Degradation Neutrality



75 countries established LDN targets and response plans under UNCCD

- 17million km<sup>2</sup> identified for restoration & sustainable land management
- 600 million direct beneficiaries
- US\$ 550m leveraged for response measures to date



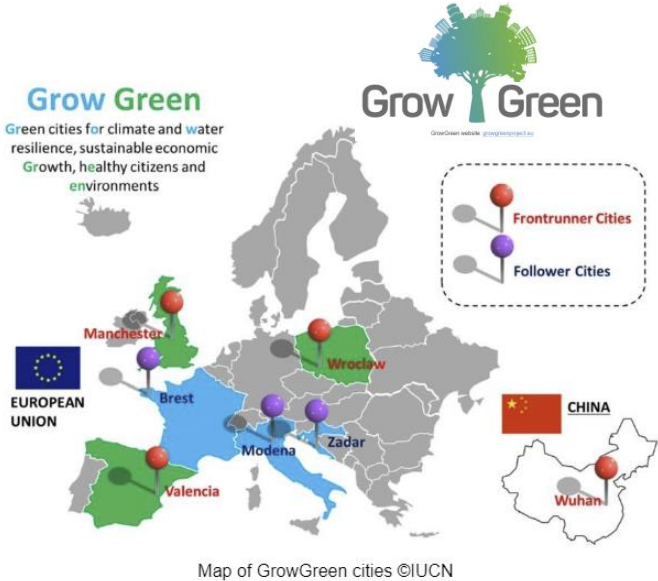


Today, more than half of the world's people live in cities use nearly 80% of the world's resources.

“The link between social well-being, mental health and green cities is very strong, we need to use this data more effectively in our efforts on promoting nature-based solutions”



Infographic 'what can green space do' © Scottish Green Infrastructure Forum



Map of GrowGreen cities ©IUCN

- In Manchester, it has been estimated £150million/year is saved in healthcare costs related to mental health and physical benefits thanks to access to green spaces
- In Wuhan: the city is using a variety of interventions applying nature-based solutions to deal with water management for flood protection and management





## Blue Natural Capital Financing Facility

*To deliver a material increase in private, return-seeking investment in conservation, thereby generating a substantial increase in natural capital*

*Businesses and projects combining profits with benefits for nature come in many shapes and sizes. Each has different hurdles to overcome.*

Standardise, replicate and aggregate

### CPIC

Create investment blueprints

Connect pipeline providers

Convene projects with investors

Share information

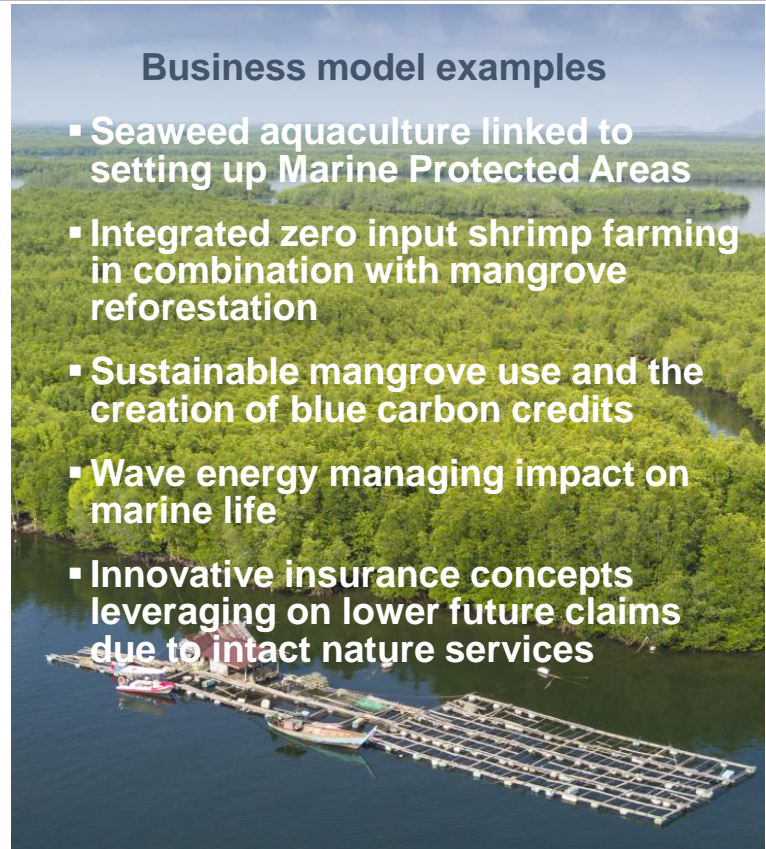
About 15 blueprints for deals across 5 sectors

About 50 deals in pipeline

- **First blended finance facility for conservation projects**
- **Focused on CPIC deals**
- **2 M USD from Rockefeller Foundation**  
*grant support to project developers*
- **8M USD from GEF**  
*Concessional finance (loans/ equity)*
- **Three years deal development**  
*De-risking for private finance investment (30-60 M USD)*

### Business model examples

- Seaweed aquaculture linked to setting up Marine Protected Areas
- Integrated zero input shrimp farming in combination with mangrove reforestation
- Sustainable mangrove use and the creation of blue carbon credits
- Wave energy managing impact on marine life
- Innovative insurance concepts leveraging on lower future claims due to intact nature services







# Global Standard on NBS

1: Address societal challenges

2: Scale NBS design and intervention

3: Focus on net benefits to biodiversity and ecosystem integrity

4: Ensure solutions economically and financially viable

5: Empower inclusive and transparent governance

6: Balance trade-offs to achieve primary goal and provide multiple benefits

7: Management is adaptive and evidence based

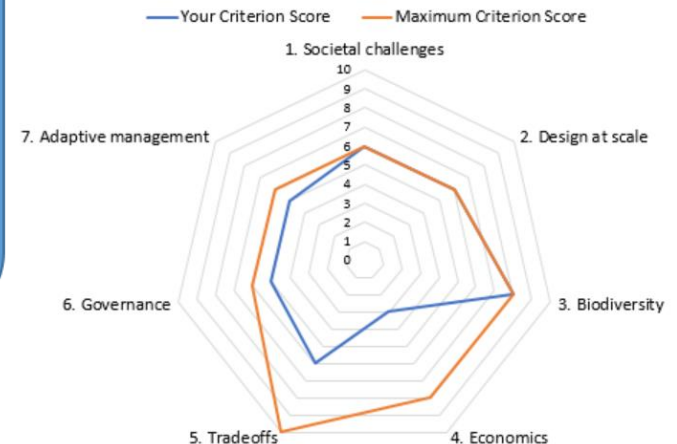
8: Mainstreamed focus beyond time bound interventions



Indicator No.	Indicator	Indicator met?	Evidence	Comment
6.1	Are synergies with other types of solutions assessed during the design phase of the NBS?	Yes		
6.2	Where synergies exist, are the short and long-term costs, benefits and risks assessed to ensure that the combined solutions do not have negative impacts on ecosystems or people?	Partly		
6.3	Are other types of solutions implemented as part of the NBS, are these integrated into the NBS monitoring programme?	No		



## NBS self-assessment overview



# Challenges and Opportunities

- **Systemic change needs scale-ability over time**

*To maximise impact needs time, continued mgmt., budget, and better alignment between agencies. Many blocks need removing.*

- **Complementarity - is Key**

*There are transaction costs, hence complementary and collaborative approaches are needed – restoration working with agriculture, and insurance schemes and hydrological monitoring.*

- **Weak Policy to Practice Arena**

*Commitment – yet policy reform and connections are far behind. Practical skills are behind - but growing. Education and training needs are high, standard approaches needed.*

- **Investment**





Thank You for listening today

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