

# Nature-based Solutions



**Nature  
based  
Solutions**

The nature of progress

# Top 10 Risks

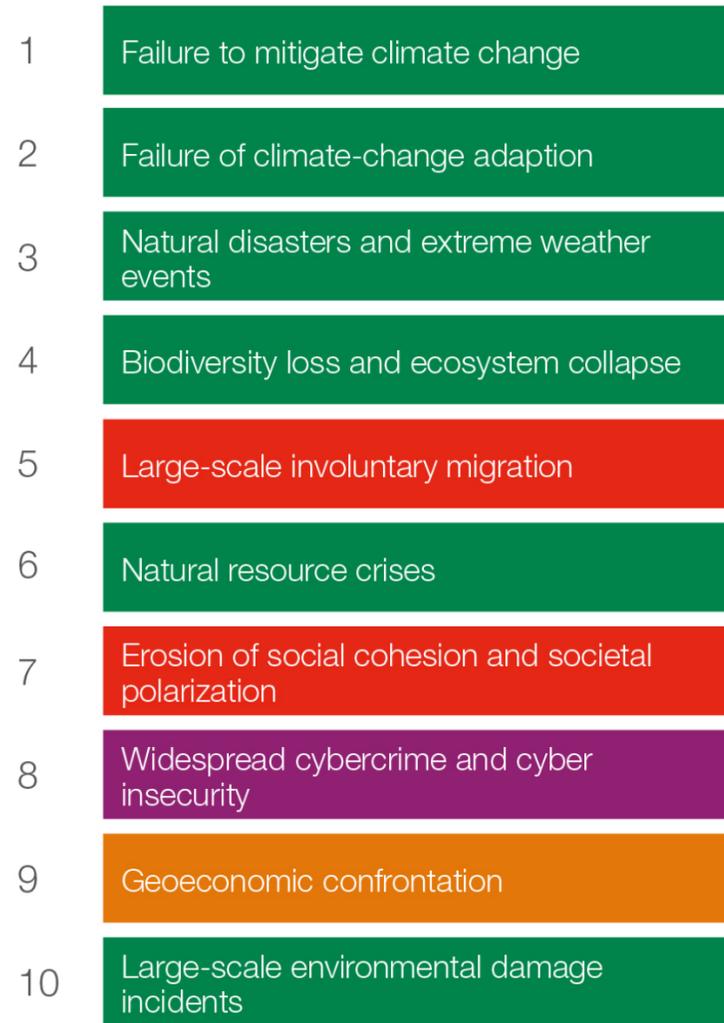
“Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period”



## 2 years



## 10 years

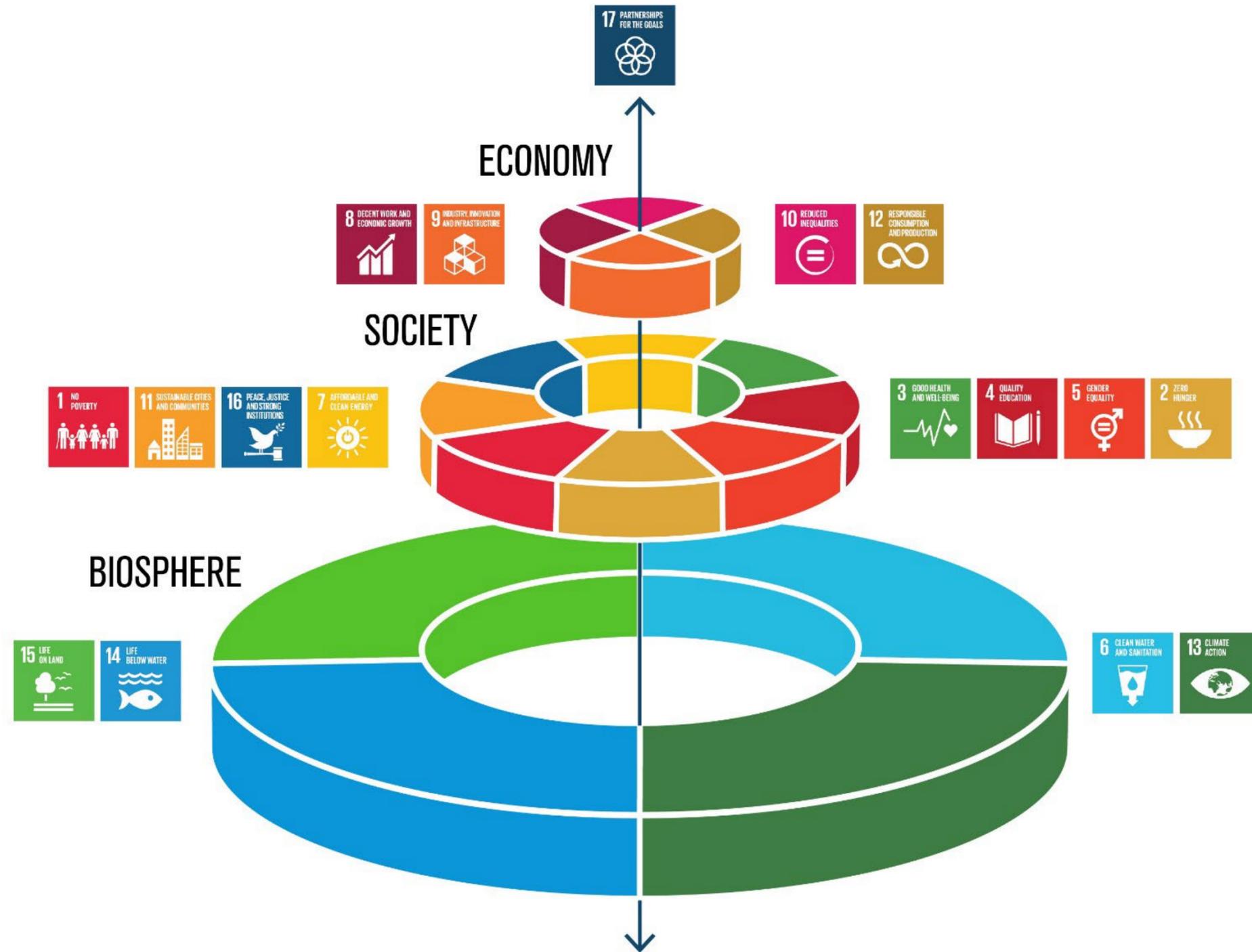


### Risk categories

■ Economic ■ Environmental ■ Geopolitical ■ Societal ■ Technological

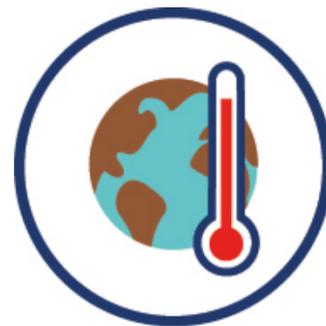


# The biosphere underpins economic and social well-being



# NbS have significant potential to address challenges

**1.4 billion people**  
Estimated # of people NbS for water  
could provide with clean and safe  
drinking water saving US\$ 140  
billion/year.



Climate change  
mitigation and  
adaptation



Disaster risk  
reduction



Economic  
and social  
development



Human health



Food security



Water security



Environmental  
degradation and  
biodiversity loss

**37%**  
Estimates suggest that NbS can provide  
37% of the mitigation needed until 2030 to  
achieve the targets of the Paris  
Agreement

**US\$ 170 billion/year**  
Estimated global benefits in ecosystem  
services from nature-based solutions  
focused on climate

# A differentiated approach



Nature-based  
Solutions



Nature-derived  
Solutions



Nature-inspired  
Solutions

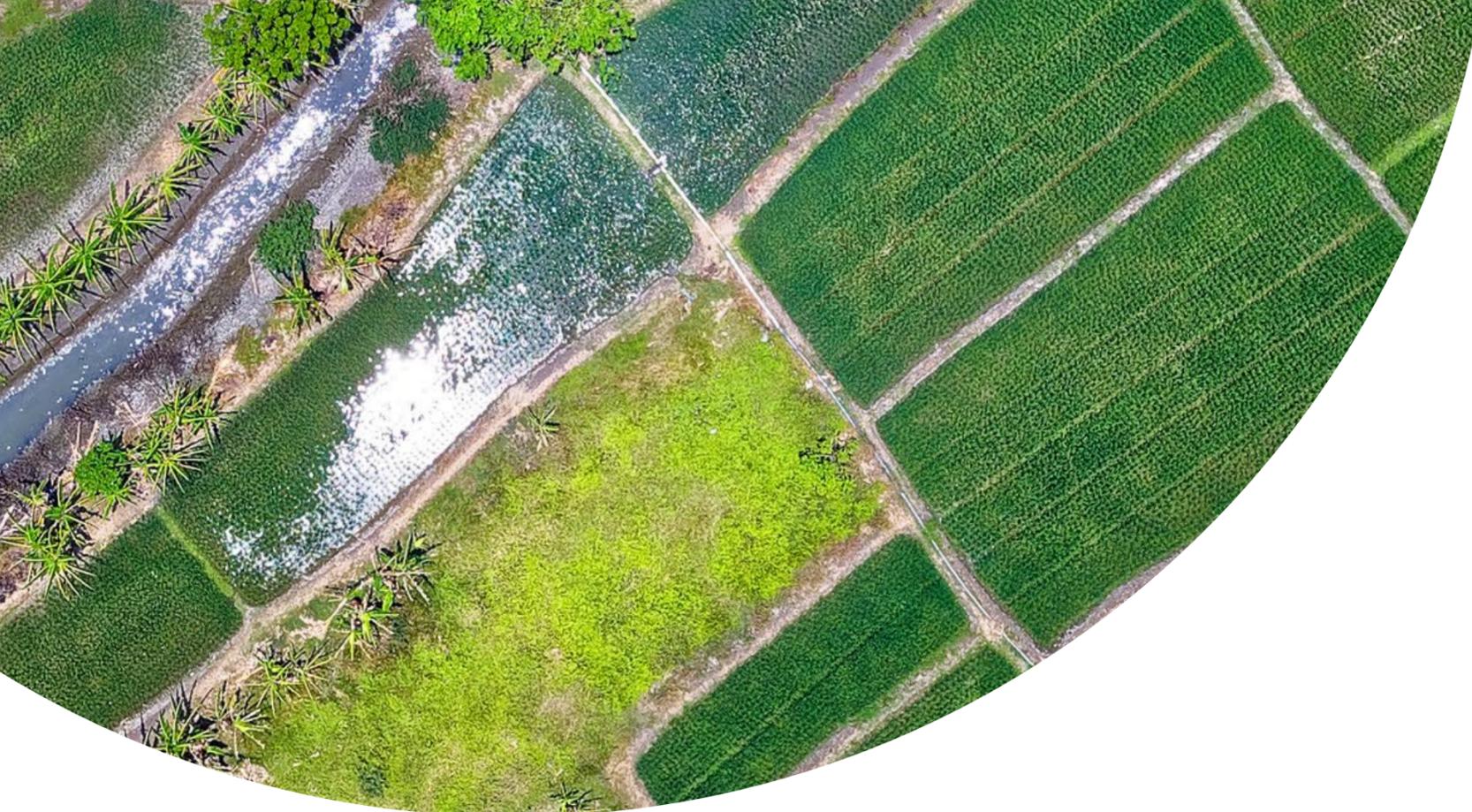
# Defining Nature-based Solutions



IUCN defines nature-based solutions as: “actions to protect, sustainably manage and restore natural or modified ecosystems, that address societal challenges (e.g. climate change, food and water security or natural disasters) effectively and adaptively, simultaneously providing human well-being and biodiversity benefits”



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



# Global Standard for NbS



# A global standard to facilitate NbS (2020)



## IUCN Global Standard for Nature-based Solutions

A user-friendly framework for the verification, design and scaling up of NbS

First edition

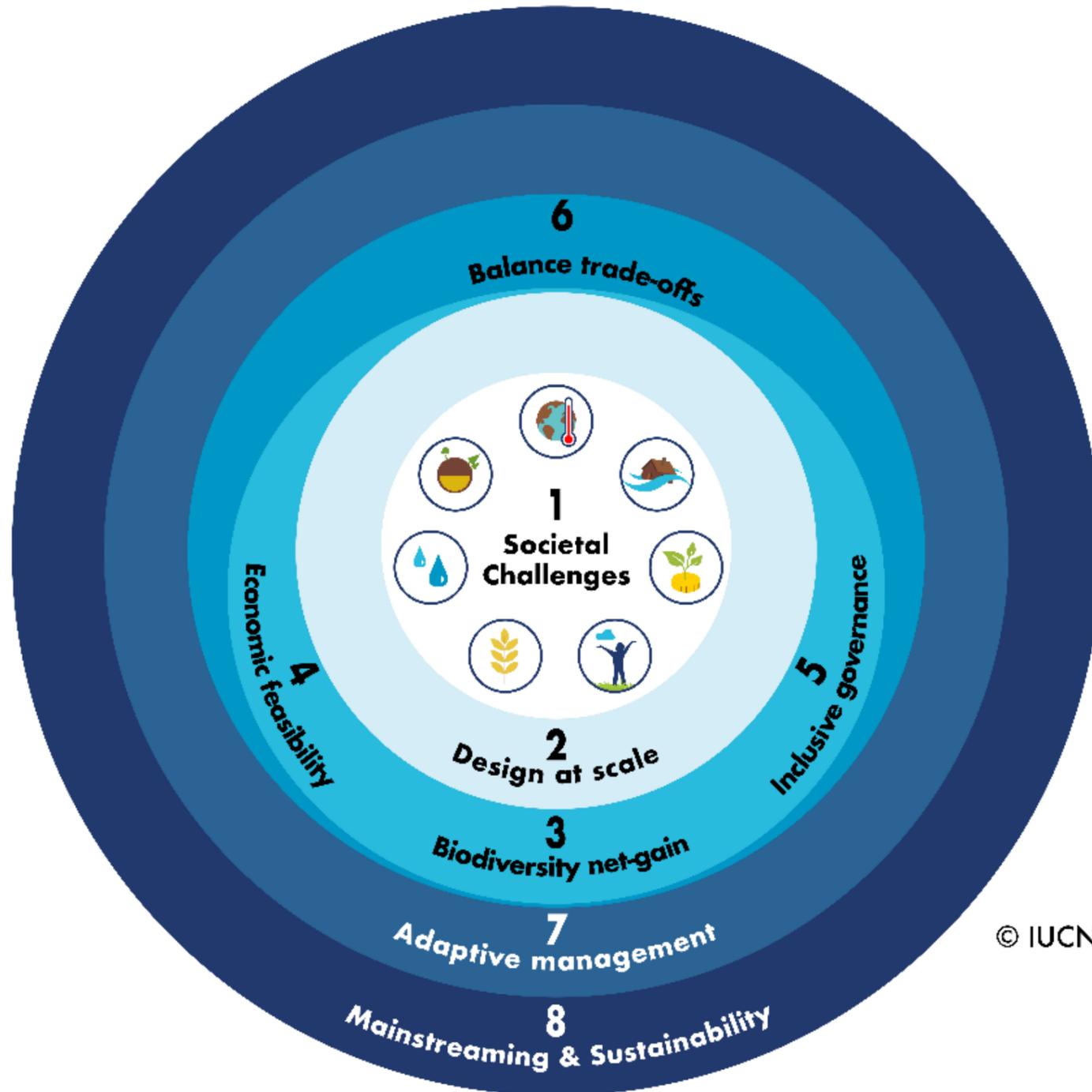


- A facilitative standard for design, verification and scaling up of NbS to realise IUCN's ambitious transition;
- Based on knowledge co-creation: conservation science, social science, traditional knowledge;
- 'Crowd-sourced' drafts through two rounds of open consultation, 800+ people across 100 countries, 1000's of comments, each comment and response tracked;
- Developed to be compatible with the ISEAL Alliance Code of Good Practice - revised every four years.

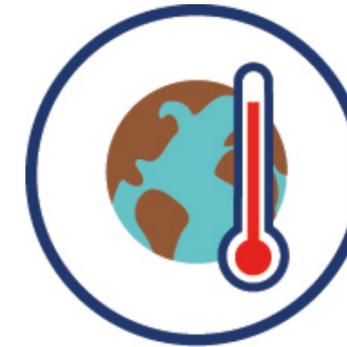
INTERNATIONAL UNION FOR CONSERVATION OF NATURE



# Addressing societal challenges



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Climate change mitigation and adaptation



Disaster risk reduction



Economic and social development



Human health



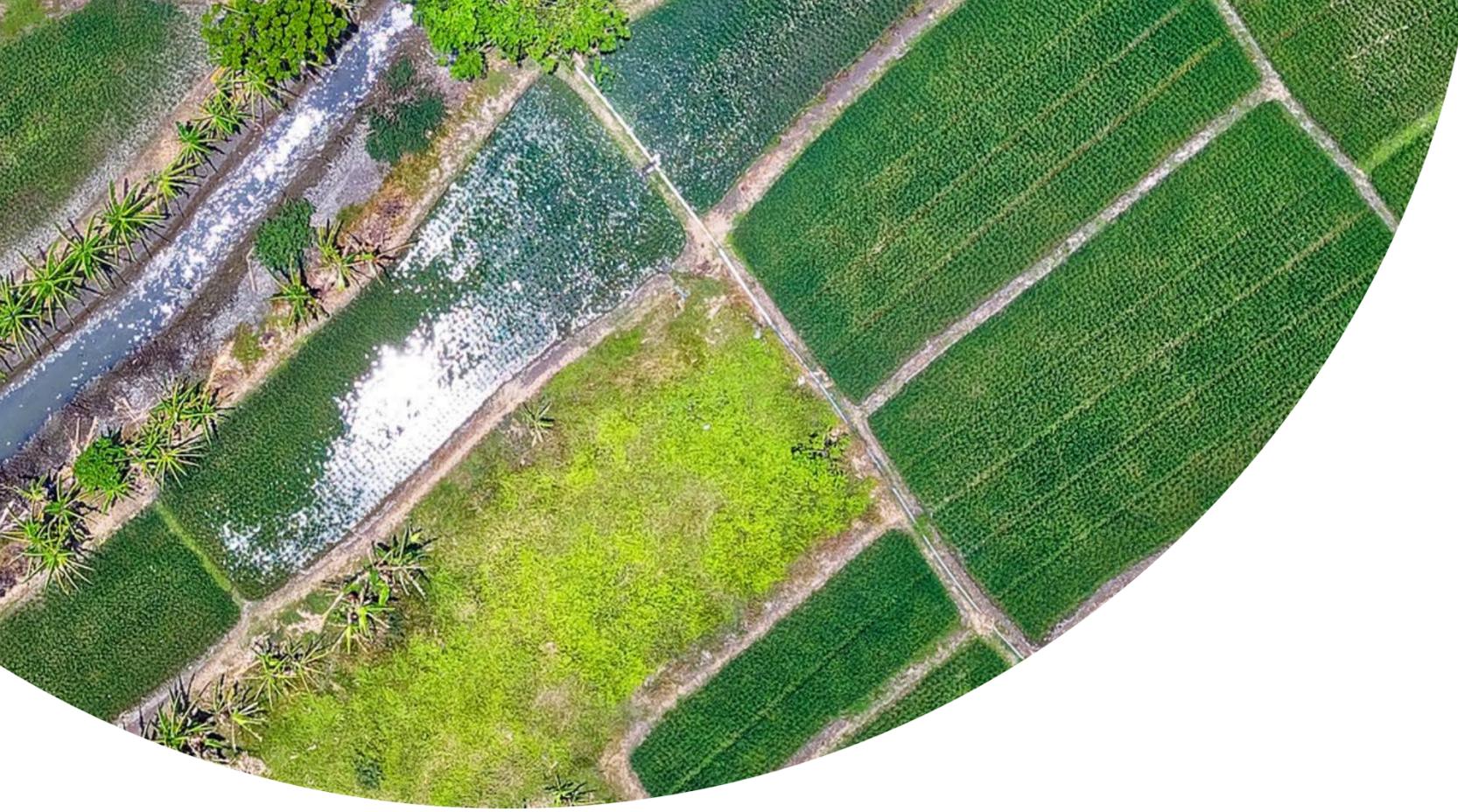
Food security



Water security



Environmental degradation and biodiversity loss



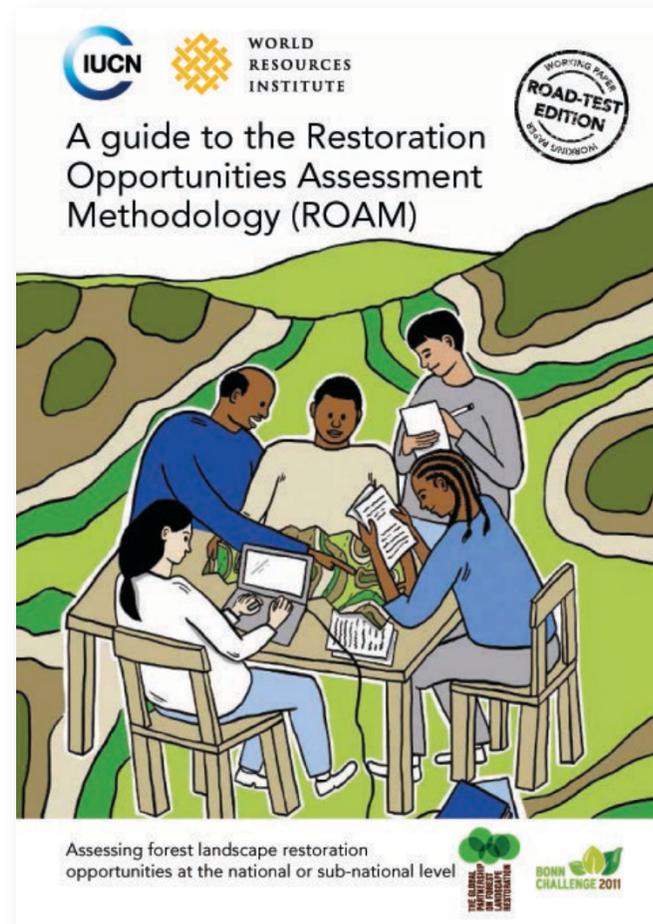
# NbS examples



# Restoration at scale provides socio-economic benefits

Over **76,000 jobs** linked to restoration have been reported by Costa Rica from 2011-2020

Since 2014, nearly 560,000 hectares of land has come under restoration in Colombia, including across agricultural land and forests



## Principles of Forest landscape restoration



# Sustainable management - Vietnam



Mekong delta,  
Vietnam



Train and assist farmers to adopt financially attractive, low risk, flood-based livelihoods as alternatives to unsustainable triple rice cropping

- Implement farmer demonstrations of financially attractive, low risk, flood-based livelihoods across approximately 450 hectares of rice growing land which will retain approximately 6.7 million m<sup>3</sup> of flood water
- Three locations sustained 241 hectares of various flood-based crops. The flood-based models allowed farmers to profit, on average, between 25% and 150%.
- Over 1000 farmers trained and delivered demonstrations at 15 different locations while also offering 16 technical training courses.

# Loess Plateau Watershed Restoration, China

## Societal Challenge

- Poverty and unemployment
- Degraded soils leading to low crop yields, top soil runoff
- Pollution and sedimentation of river
- Dust storms

## Nature based Solution

- Large scale assisted restoration of the Loess Plateau

## Benefits

- In 10 years household incomes up by almost 300%, 2.5 million people out of poverty
- local employment rate up by 24%
- Perennial vegetation cover doubled, the fields retained an additional 100 million tonnes of soil each year
- per capita grain output increased by 61%



# Sustainable Farming Solutions, Nkhatabay, Malawi

<https://www.sfsmw.org>

Farmer managed natural regeneration (FMNR)

Restoration interventions, honey production, mushroom production, tree seedlings production and sales, access to markets

- 300+ women farmers with tailor-made training and financing
- 500 registered farmers
- The earning power of women farmers increased by 30%
- 274 Ha put under restoration



©www.sfswm.org



# NbS for Climate Change Adaptation and Disaster Risk Reduction

- Mangroves provide over **\$65 billion** in flood protection, and **safeguard 15 million people** against flooding per annum<sup>1</sup>
- Of all the world's ecosystems, mangroves are the **most effective per unit area** at trapping and storing carbon<sup>2</sup>



- Green spaces absorb **storm water run-off**, reduce **urban heat-island effect**, and lower **drought impacts** and **remove carbon**
- **Sponge City - Xiamen, China**
- **Green Cities, Clean Waters - Philadelphia, USA**

<sup>1</sup> Menéndez, P., Losada, I.J., Torres-Ortega, S., Narayan, S., & Beck, M.W. 2020. 'The Global Flood Protection Benefits of Mangroves', *Scientific Reports*, 10: 4044).

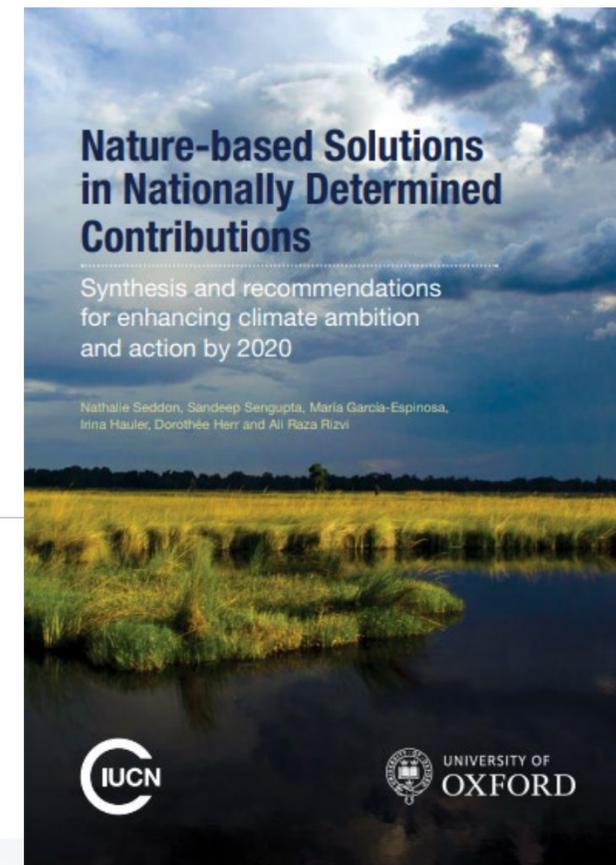
<sup>2</sup> Spalding, Mark D and Leal, Maricé (eds). 2021. [The State of the World's Mangroves 2021](#). Global Mangrove Alliance.

<sup>3</sup> Narayan et al. 2017. 'The Value of Coastal Wetlands for Flood Damage Reduction in the Northeastern USA', *Scientific Reports*, 7(9463)

# A uniting approach

NbS is complex but possible if we are prepared to break down the silos we operate within

- Need for action at scale
- Policy alignment for sustaining action and impact
- Enabling and innovative operational mechanisms that help address multiple challenges with the same one solution



Thank you! Gracias! Merci!

For more information:

<https://www.iucn.org/NbS>

Contact us:

[NbSStandard@iucn.org](mailto:NbSStandard@iucn.org)



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