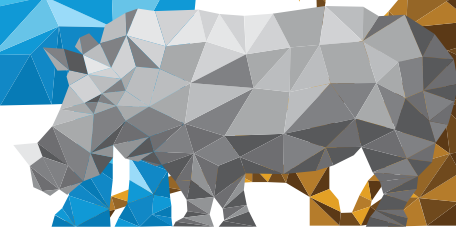
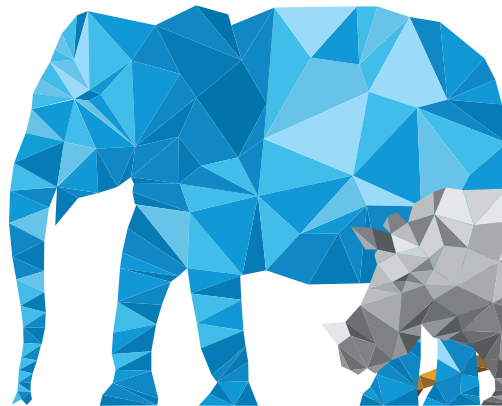
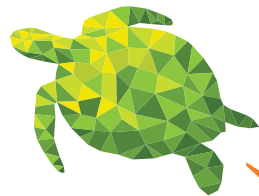


Conserving and restoring nature and ecosystem services: ADB initiative

Isao Endo

Climate Change, Resilience, and Environment Cluster
Climate Change and Sustainable Development Department
Asian Development Bank

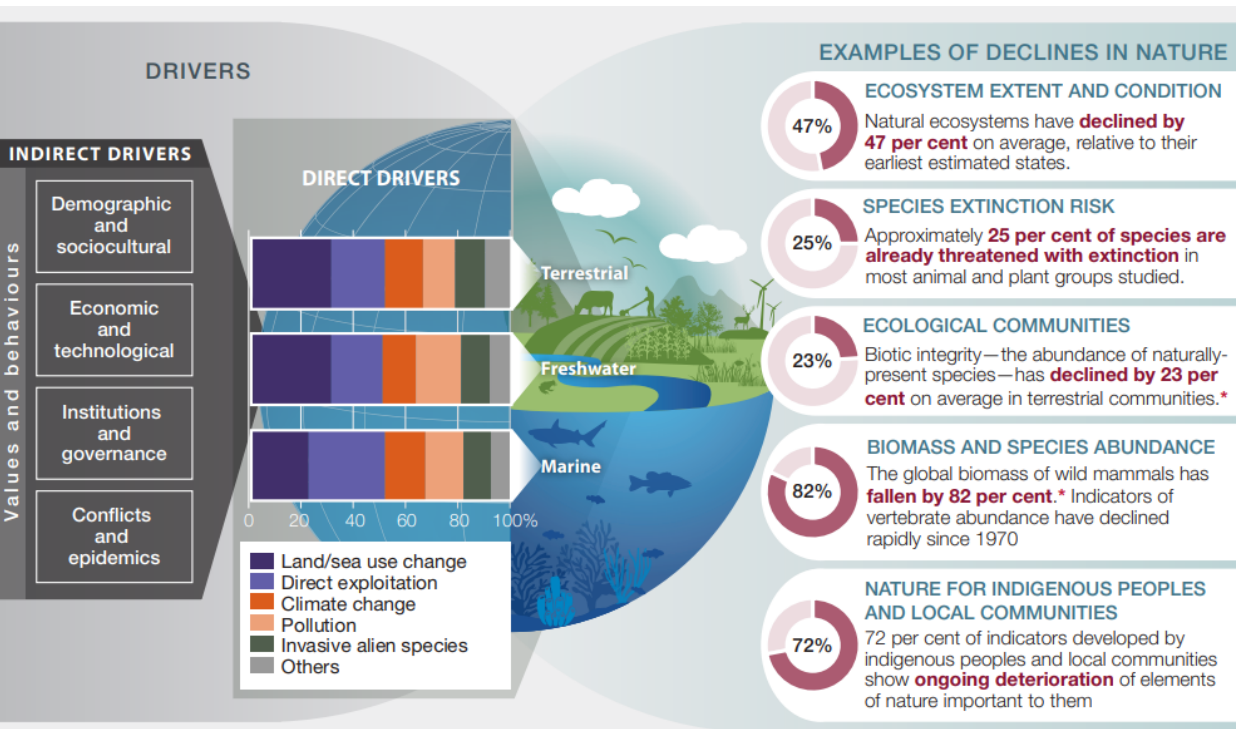


ADB

Nature declining faster than at any other time in human history

- 75% of land-based and 66% of marine environment altered by human activities
- Value of natural capital declined by nearly 40% in 1992-2014
- Hundreds of species have been lost due to the increases in the magnitude of heat extremes

Examples of global declines in nature



Observed impacts attributed to climate change

Key

Observed increase in climate impacts to human systems and ecosystems assessed at global level

- Adverse impacts
- Adverse and positive impacts
- Climate-driven changes observed, no global assessment of impact direction

Confidence in attribution to climate change

- High or very high confidence
- Medium confidence
- Low confidence

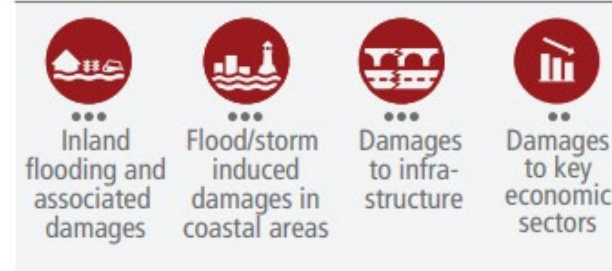
Water availability and food production



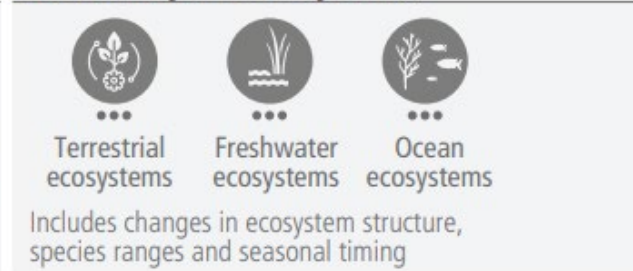
Health and well-being



Cities, settlements and infrastructure



Biodiversity and ecosystems



Source: IPBES (2019)

2 Source: IPCC (2023)

Strategic Priorities

- **ADB Strategy 2030** setting out the commitment to ensure environmental sustainability in Asia and the Pacific
- **MDB Joint Statement on Nature** affirming mainstreaming nature into policies and investments

Vision

To halt and reverse nature and biodiversity loss and use ecosystem services to address development challenges (e.g., environmental degradation, weather-related disasters, climate change, food insecurity) through pollution control, natural capital investment, and environmental governance

Core Environmental Programs



Asia Clean Blue Skies Program scaling investment in air quality management with enhanced institutional capacity



Healthy Oceans Action Plan committing \$5B investment by 2024 in coastal resilience, plastic-free oceans, sustainable seafood, and ocean finance



Regional Flyway Initiative aiming to invest \$3B in 10 years to scale sustainable wetland management and protection



Nature-based solutions program mainstreaming green infra and non-structural measures

Key ADB sectors



Agriculture



Transport



Urban



Water

- **Holistic approach** providing best possible solutions based on assessment of root causes at landscape level (e.g., watershed, lake, coast)
- Making interventions **location-specific** and effective
- Developing **shared vision** among different stakeholders with competing interests.
- Identifying potential investment opportunities in **multiple sectors**, and mediating trade-offs between interventions

Landscape approach with examples of flood-risk management methods

Sponge Cities

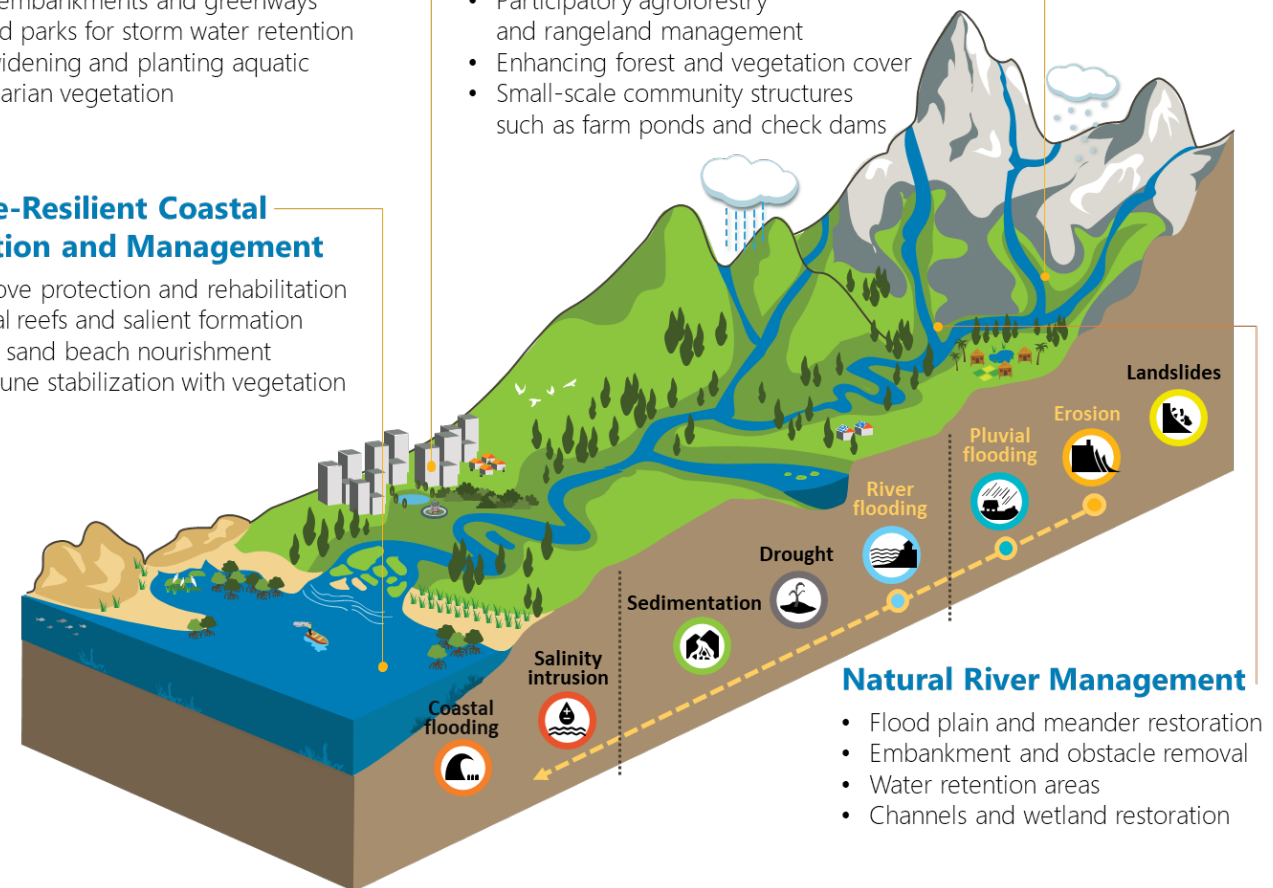
- Green embankments and greenways
- Wetland parks for storm water retention
- River widening and planting aquatic and riparian vegetation

Climate-Resilient Coastal Protection and Management

- Mangrove protection and rehabilitation
- Artificial reefs and salient formation
- Coarse sand beach nourishment
- Sand dune stabilization with vegetation

Integrated Watershed Management

- Participatory agroforestry and rangeland management
- Enhancing forest and vegetation cover
- Small-scale community structures such as farm ponds and check dams



Natural River Management

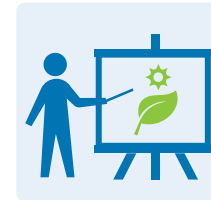
- Flood plain and meander restoration
- Embankment and obstacle removal
- Water retention areas
- Channels and wetland restoration

Providing operational support at both policy and project levels

- **Upstream policy support** creating enabling environment through policy dialogue and national policy and strategy update
- **Project design clinic** providing advisory service to improve project design with nature component, serving as venue for knowledge exchange
- **Nature finance hub** providing financial advisory service, including advice on specific financial instruments (e.g., green and blue bonds)
- **Knowledge brokering** making match between project officers and experts/fund managers



Upstream support
creating enabling conditions



Design clinic
providing advisory service

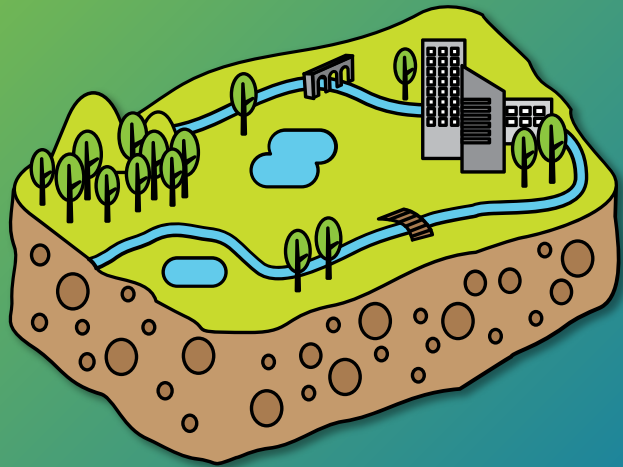


Knowledge brokering
connecting project officers with knowledge and resources



Finance hub
providing financial service

Building resilience through nature-based solutions



In Pingxiang, People's Republic of China – “Sponge Cities” Project – wetlands are flooded during heavy rainfall events and used as a park during normal water levels.

The slope and embankment protection combining bioengineering and traditional infrastructure has increased the resilience of local communities in Viet Nam to natural extreme events such as flooding.

Slope failures



Fill slope: Vetiver grass lines



GRASS

- ✓ COMBIBIOLIPIDPROPERTIES FOR COOKING
- ✓ USED AS FIBER FOR ROPE/ ROPING
- ✓ ESSENTIAL OIL AND CRAFT PRODUCTION FOR MARKET
- ✓ LIVESTOCK FEED, GROUND NUTRITION AND SOIL RECONSTRUCTION

ROOTS

- ✓ SOIL STABILIZATION, EROSION CONTROL, AND SLOPE PROTECTION
- ✓ REDUCE NITRATES, PHOSPHATES AND HEAVY METALS CONTAMINANTS
- ✓ TOLERANT TO SOILS WITH HIGH ANIONIC PHS, SALINITY, AND HEAVY METALS
- ✓ DROUGHT AND FIRE RESISTANT
- ✓ CARBON SEQUESTERING

Sustainable coastal protection and management

Hybrid approach –

- (i) artificial geotextile submerged reefs to address sea level rise and intensive storm surges and
- (ii) beach nourishment, dune construction, and plantations to enlarge and stabilize beaches

Before



After

GEOTEXTILE SUBMIREG REEF



BEACH NOURISHMENT



Coasts are sensitive to sea level rise, changes in the frequency and intensity of storms. Addressing the additional stress of climate change require new and innovative approaches to minimize losses and mitigate damages due to climate change.

Financing nature



Strategic use of concessional loans and grants to finance ecosystem conservation and restoration

Increase funding for nature with innovative financial instruments (e.g., green and blue bonds, PES/eco-compensation, carbon credits)

Redirecting financial flow from “gray” to “green” solutions by incentivizing natural capital investment through grants and technical assistance

Partnership for nature



- **Working with development partners** to mobilize technical and financial resources to ensure the highest-quality service
- **Collaborating with Japan's Ministry of Environment** since late 80s in biodiversity conservation, sustainable natural resource use, climate change through nature positive investments, air quality management, ocean health, regional flyway initiative
- **Partnership with Satoyama Initiative** bringing opportunities and innovations for enhancing environmental sustainability in Asia and the Pacific

The logo for the Asian Development Bank (ADB), consisting of the letters 'ADB' in white serif font on a dark blue square background.

ADB

THANK YOU!