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5th Symposium | Accra, Ghana | 24 – 28 October 2022



5th GEO Blue Planet Symposium, 24th – 28th Oct 2022 | Accra, Ghana



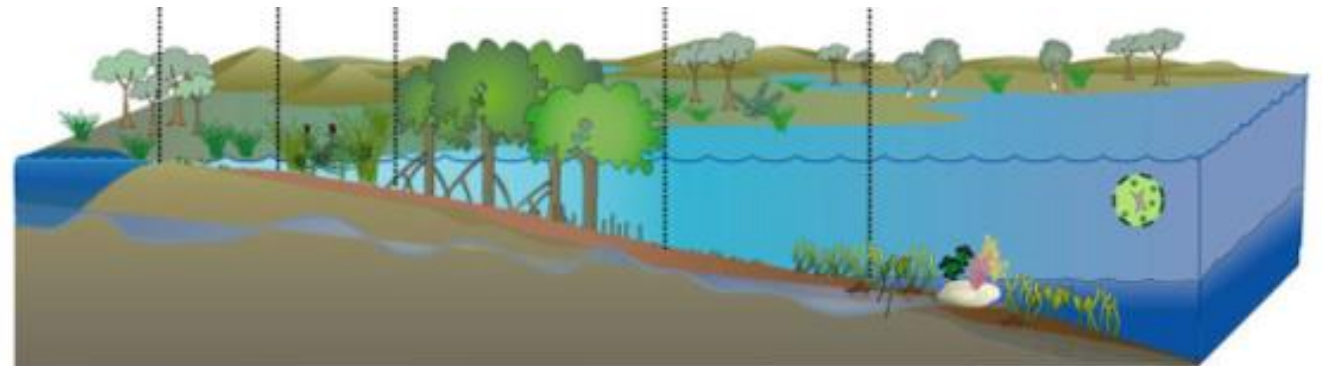
Ecosystem conservation as a foundation for sustainable Blue Economies

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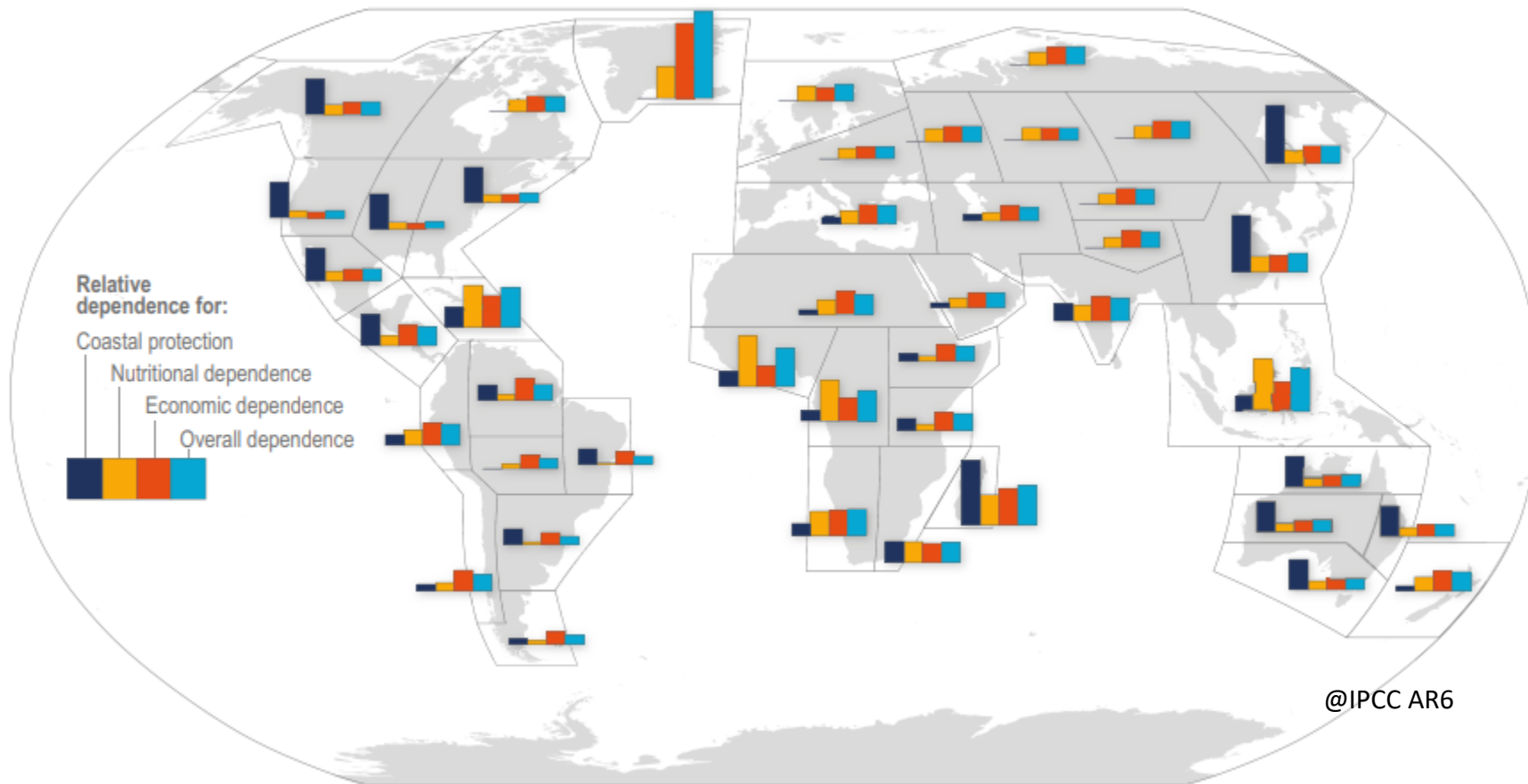
Ecosystem conservation

Comprehensive plan that seeks to maintain all species in a geographic area through management of natural resources.

- Mangroves
- Seagrass
- Corals
- Benthic ecosystems
- Salt marshes
- Tundra and polar ecosystems



Estimated relative human dependence on marine ecosystems



Ecosystem Services

Ecosystem services: benefits provided by the natural environment and from healthy ecosystems.

- Supporting**
- Soil formation
 - Biodiversity
 - Primary production
 - Habitat

Provisioning

- Food and fibre
- Wood
- Clean Water
- Medicinals



Regulating

- Climate Regulation
- Pollination of crops
- Carbon Storage
- Control of flooding

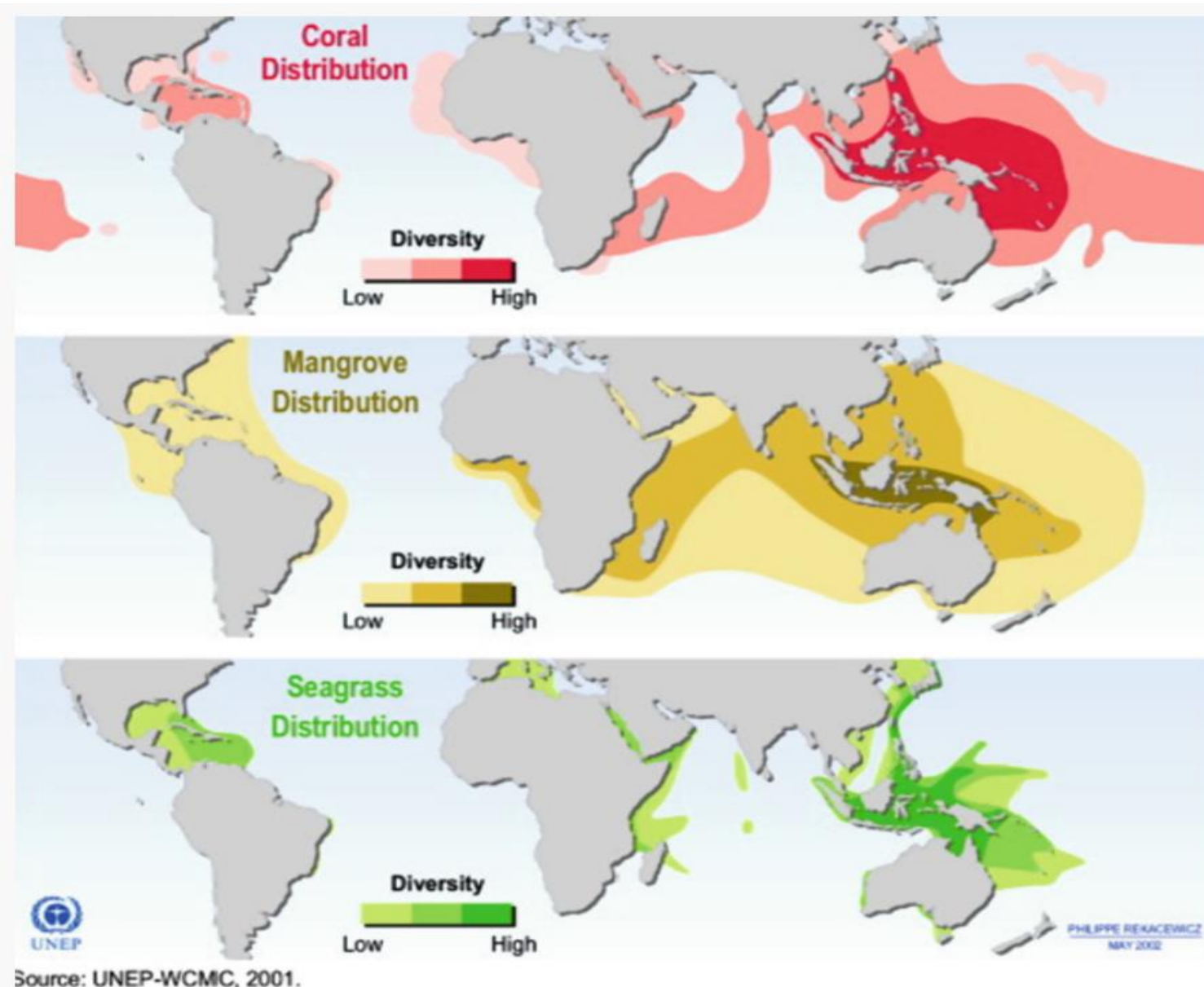


Cultural

- Inspiration
- Recreation
- Education
- Aesthetic



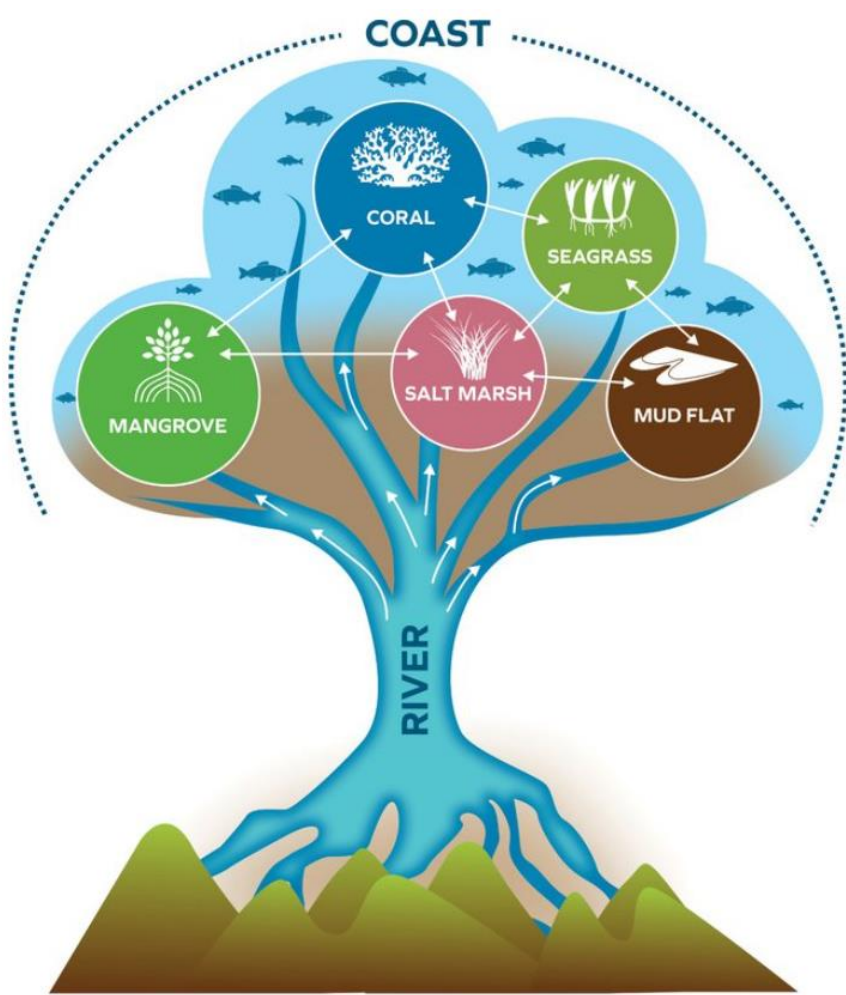
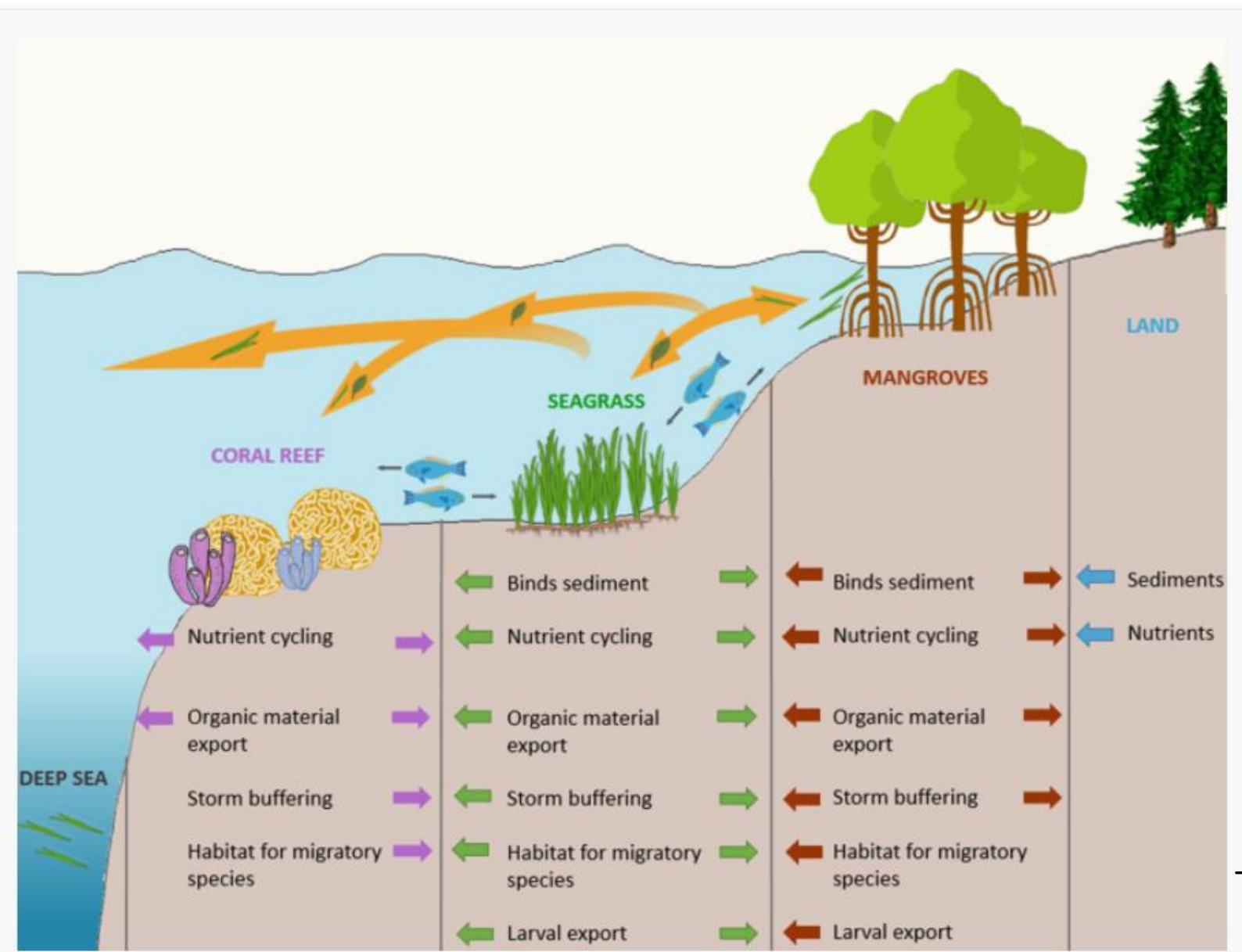
Coastal critical ecosystems' distribution



- 147,000km² of mangroves globally as on 22nd Sept 2022
(World Mangrove Alliance Report)
- Global seagrass cover ranges from 177 000 to 600 000 km²
(McKenzie et al., 2020)
- Corals cover only 0.2% of the seafloor



Coastal ecosystem connectivity



Pandisamy et al., 2021

The different coastal ecosystems are connected

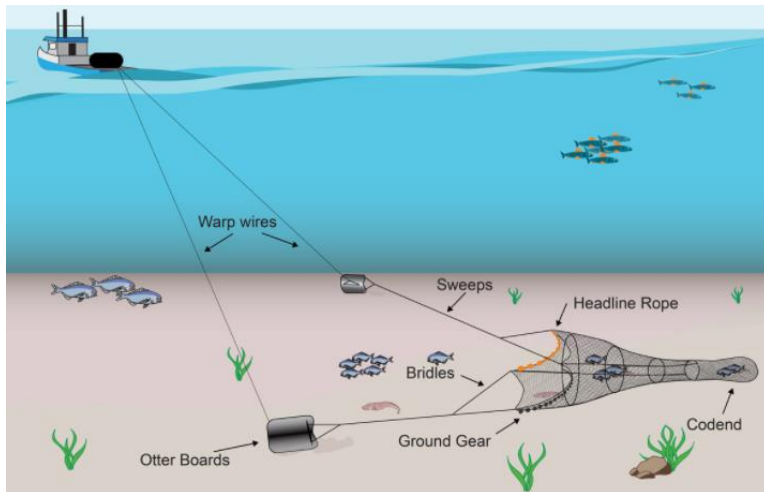
Threats to coastal and marine ecosystems

Human threats

- Unsustainable fishing methods
- Shore line development
- Sand dredging
- Deforestation

Natural threats

- Sedimentation
- Heat waves
- Sea urchin herbivory
- Strong waves



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Coral reef ecosystems

(a) Historical coral reef



High coral cover and diversity; high physical complexity and reef growth; high fish biomass and diversity

(b) Low diversity reef



Moderate cover composed of few, heat-tolerant taxa; lower complexity and growth rate; lower fish diversity

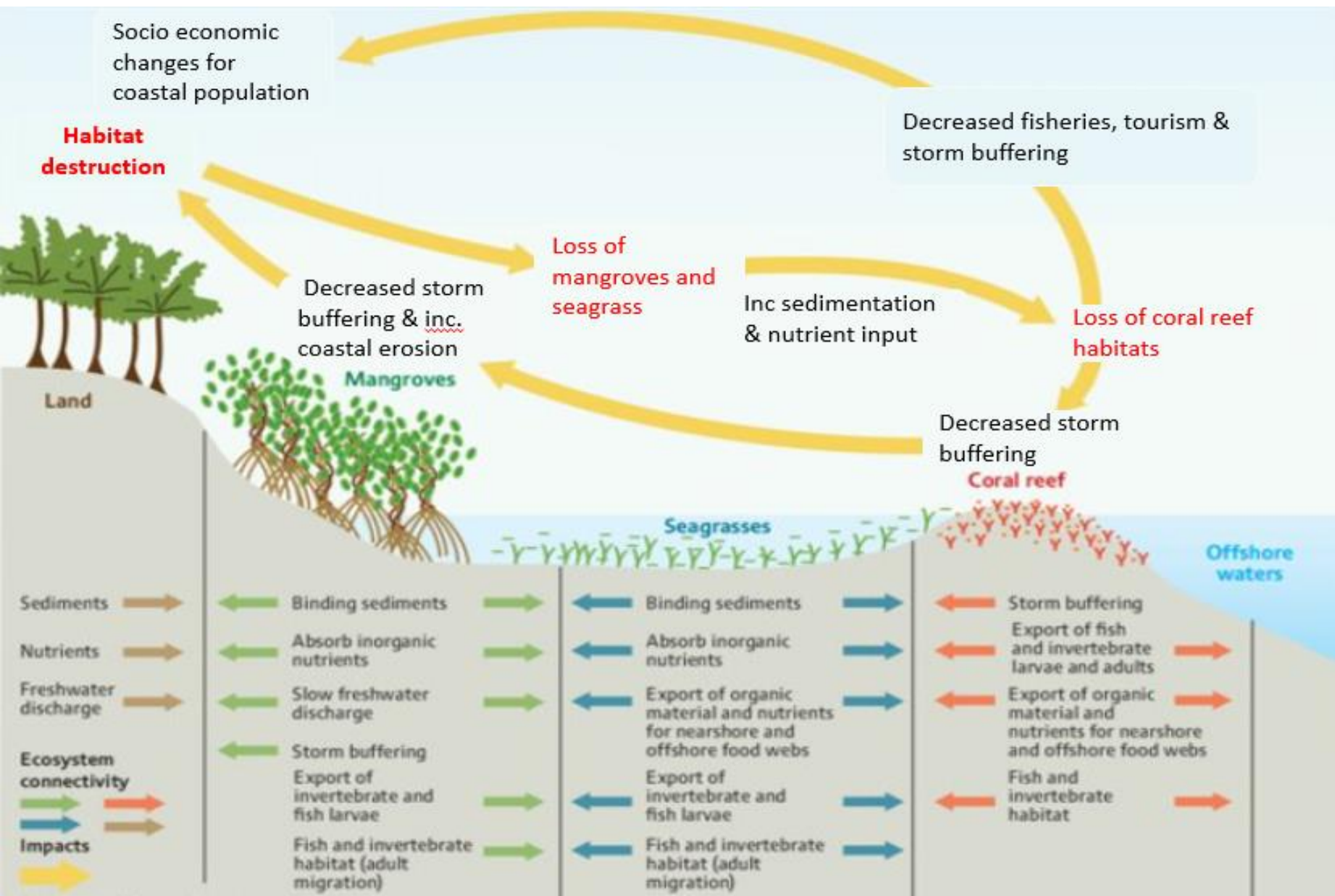
(c) Degraded coral reef



Limited cover with few species; low complexity with limited growth; low fish biomass and diversity



When these ecosystems are degraded...



The effects are felt on

- climatic patterns,
- biodiversity
- livelihoods



Vulnerability & impacts of ecosystem degradation



Most vulnerable groups

- Small scale fishers
shellfish gatherers
- Small island developing
states
- Indigenous Peoples

A sustainable blue economy is an aquatic based economy that:

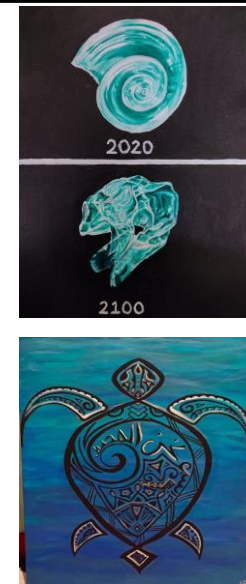
- ❖ Provides social & economic benefits for current and future generations
- ❖ Restores protect & maintains diversity, productivity, resilience, core functions and intrinsic value of marine ecosystems
- ❖ Is Based on clean technologies, renewable energy, and circular material flows

Addresses biodiversity conservation, livelihood improvement and climate change mitigation/adaptation



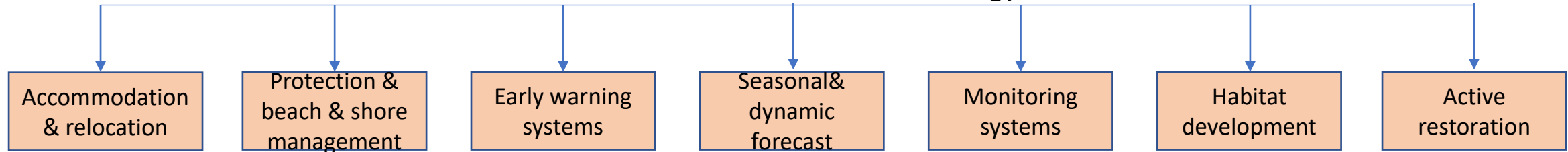
A sustainable blue economy is governed by public and private processes that are:

- Inclusive
- Well-informed, precautionary and adaptive
- Accountable and transparent
- Holistic, cross-sectoral and long term
- Innovative and proactive

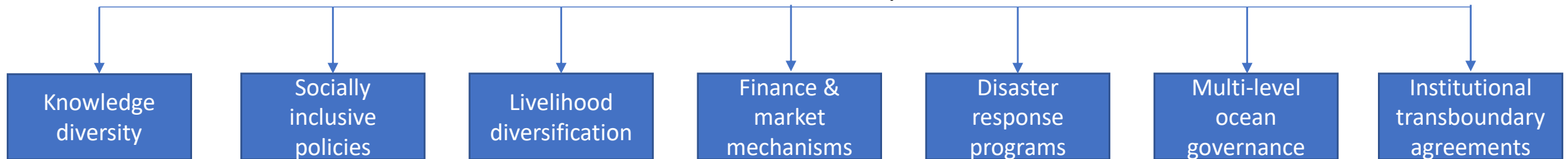


Adaptation solutions for ocean and coastal ecosystems

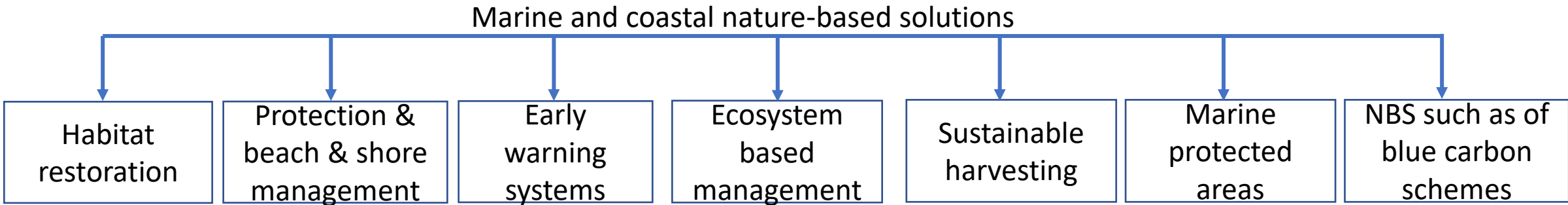
Built infrastructure and technology



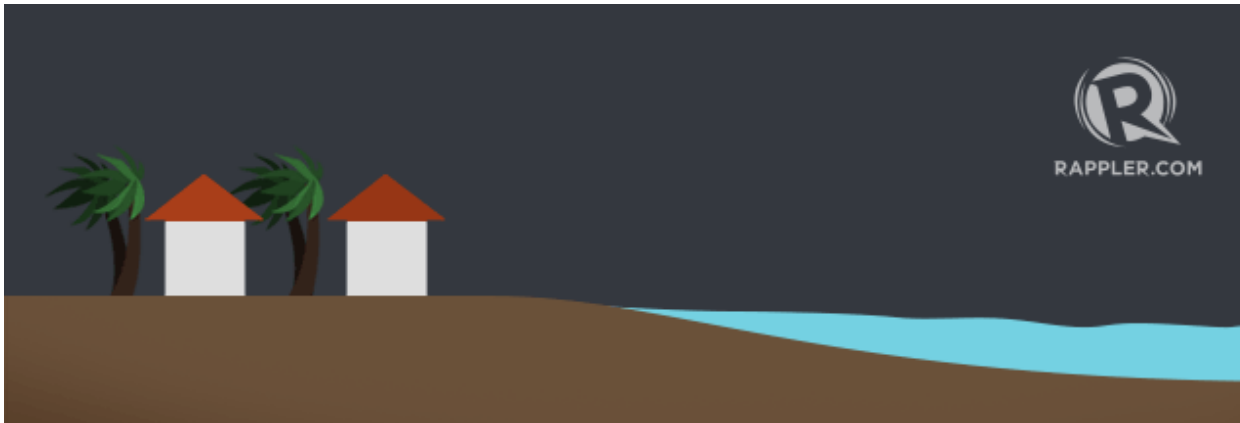
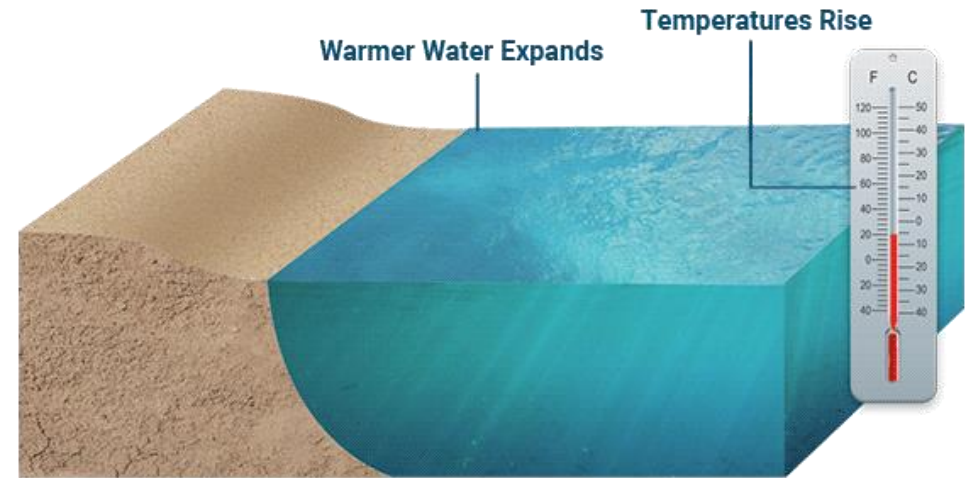
Socio-Institutional Adaptation



Marine and coastal nature-based solutions



We have to act



now!



A photograph of a mangrove forest on the left, with its dense green foliage and complex root system extending into a body of water. The water is calm, reflecting the sky and the trees. In the distance, a range of low mountains is visible under a clear blue sky. The text "Thank You" is overlaid in the center of the image.

Thank You



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