FAO's work on Climate Change *Fisheries & Aquaculture*

Food and Agriculture Organization of the United Nations

FISHERIES, AQUACULTURE AND CLIMATE CHANGE

The role of fisheries and aquaculture in the implementation of the Paris agreement

Major challenges to fishing communities posed by climate change

Relocation of resources and replacement with less commercially valuable species requires diversification of fishing operations and markets.

In areas where production is already limited by temperature (e.g. tropics) traditional productive areas may be reduced. Dependent communities will need to diversify their livelihoods.

Changes in the timing of fish spawning and recruitment will need adjustments to management interventions.

The impact of ocean acidification may be locally significant, for example in activities dependent on coral reefs.

Increases in the frequency and severity of storms may affect infrastructure, both at sea and on shore.

Adaptation experiences from FAO and partners

Flexible and adaptable management and institutions, diverse and flexible livelihood strategies and risk reduction initiatives are at the core of adaptation. Example of issues and adaptation measures:

Reduced yields:

- secure access to higher value markets;
- selective breeding for faster growing strains or for disease resilient strains;
- improve water-use efficiency and sharing (e.g. with users of irrigated rice paddy);
- invest in aquaculture infrastructure improvement (e.g. net cages and raised dykes in flood prone pond systems).

Increased yield variability:

- diversify livelihoods (e.g. ecotourism);
- shift to culture based fisheries or shift to hatchery seed for previously wild caught seed stocks.

Increased risks:

- insurance;
- early warning, monitoring and communication;
- improved safety at sea.

Increased vulnerability :

- soft defences (e.g. wetland rehabilitation);
- disaster risk reduction and response.

Mitigation

Although a relatively small global contributor, capture fisheries and aquaculture have a responsibility to limit GHG emissions as much as possible. A significant reduction of GHG emissions can be achieved by:

- Reducing energy consumption ☑
- Better feeds and feed management ☑
- Reduced transportation of fisheries and aquaculture products ☑
- Fuel efficiency of fisheries and aquaculture operations ☑
- Better engines ☑
- Low impact fishing methods and gears as ways to sequester carbon in aquatic ecosystems ☑

Resilience

Adopting a multihazard and cross-sectoral approach, increasing the climate resilience of fisheries and aquaculture livelihoods to threats require action across these four mutually reinforcing areas

Enable the environment
Institutional strengthening and governance of risk and crisis

Prepare and respond
Preparedness for and response to crises in fisheries and aquaculture

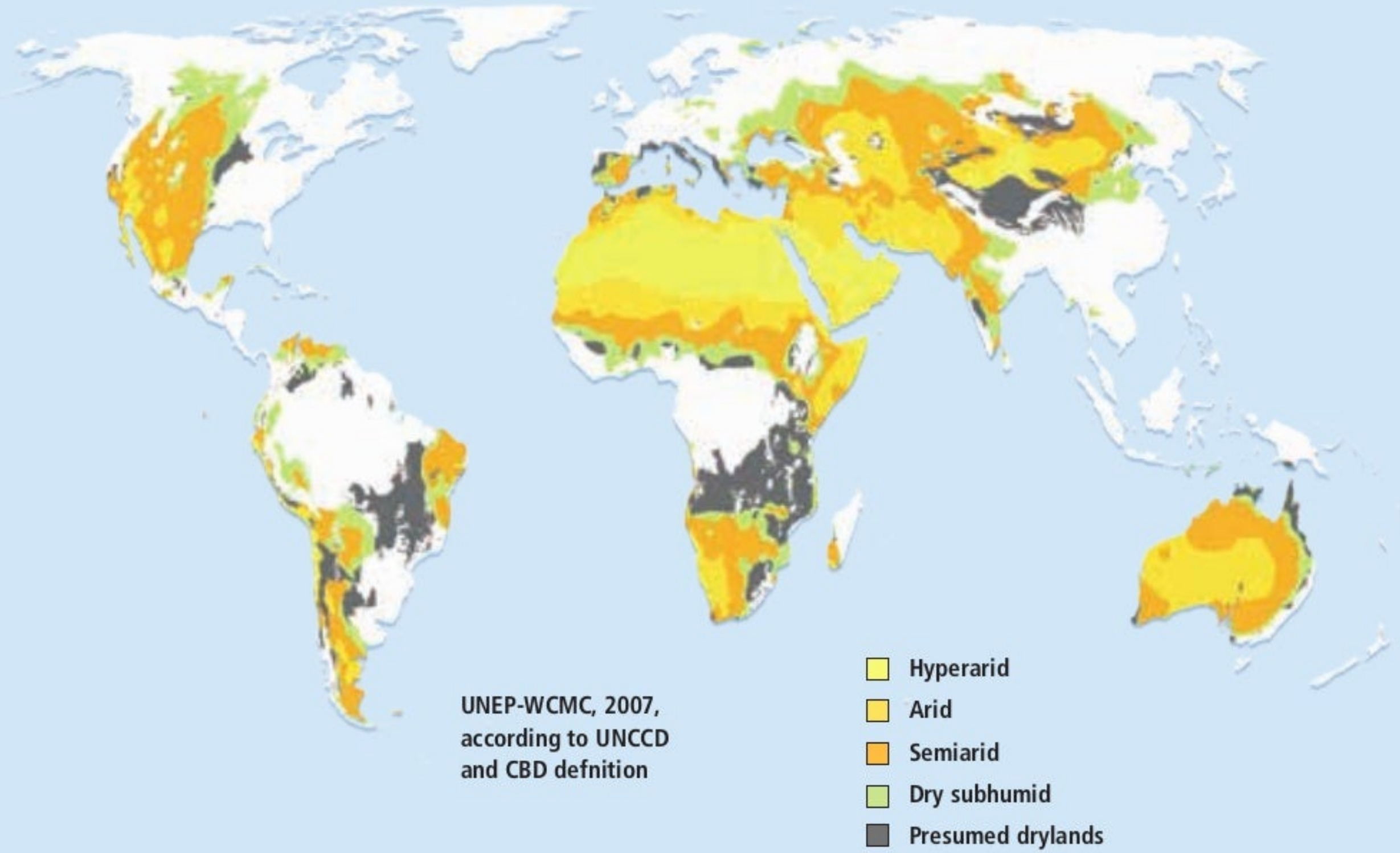
Increasing the climate resilience of fisheries and aquaculture livelihoods

Watch to safeguard
Information and early warning systems

Apply risk and vulnerability reduction measures
Protection, prevention, mitigation and building livelihoods with technologies, approaches and practices

Drylands

Small, fast growing wild fish can be crucial allies in the race to end hunger in the drylands where food and nutritional needs are unlikely to be satisfied by agricultural development alone.



UNEP-WCMC, 2007,
according to UNCCD
and CBD defnition

Fisheries and aquaculture in international instruments

COP21 for the first time featured the role of oceans, inland waters and aquatic ecosystems for temperature regulation and carbon sequestration.

Disaster risks and losses in fisheries and aquaculture can be prevented and minimized by implementing the Sendai Framework.

Blue growth

Oceans and inland waters can sequester up to five times the amounts of carbon absorbed by tropical forests and function as important nursery, feeding and reproduction areas for many species. Supporting sustainable fisheries and healthy ecosystems will help mitigate and reduce impacts from climate change and variability and unlock the Blue Growth potential of aquatic systems in line with the principles of the Code of conduct for responsible fisheries and related instruments.

www.fao.org/climate-change

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