



Food and Agriculture Organization
of the United Nations

Current Actions, Identified Solutions and Opportunities in Addressing the Effects of Climate Change on Fisheries and Aquaculture

Hassan Moustahfid

Senior Fishery Resources Officer

Fisheries and Aquaculture Policy and Resources Division

Food and Agriculture Organization of UN, Rome, Italy.

[E](#)

Hassan.Moustahfid@fao.org

**[+ FAO FIA/Departmental WG
on Climate Change]**

What is at risk...



Fisheries and Aquaculture

sustain **10 to 12 %** of the world's
Population



±3 billion Rely of Fish as a Major
Source of Animal Protein



800 million depend on
Fisheries & Aquaculture for Livelihoods.

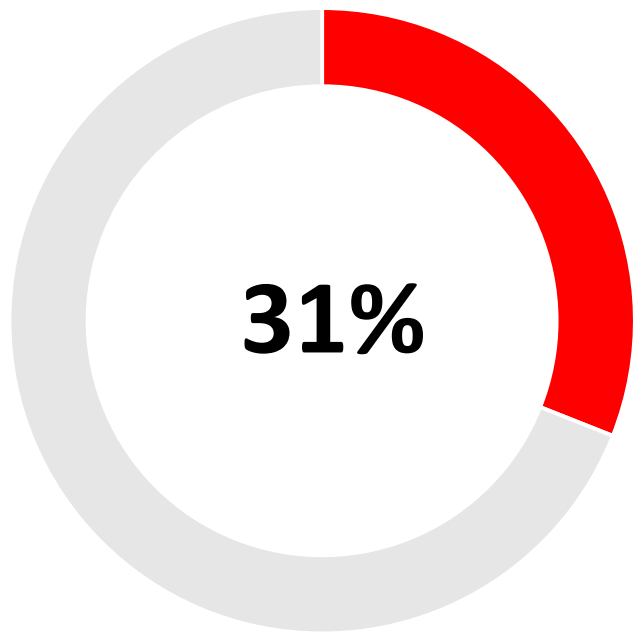


37 % of Fish products

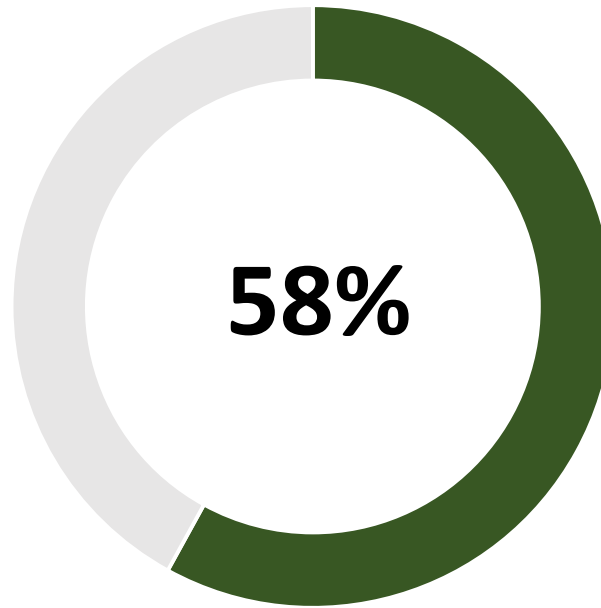
are Traded Internationally. Developing countries earn
more revenue from fish exports than meat, tobacco, rice
and sugar combined

Where are we with Sustainability?

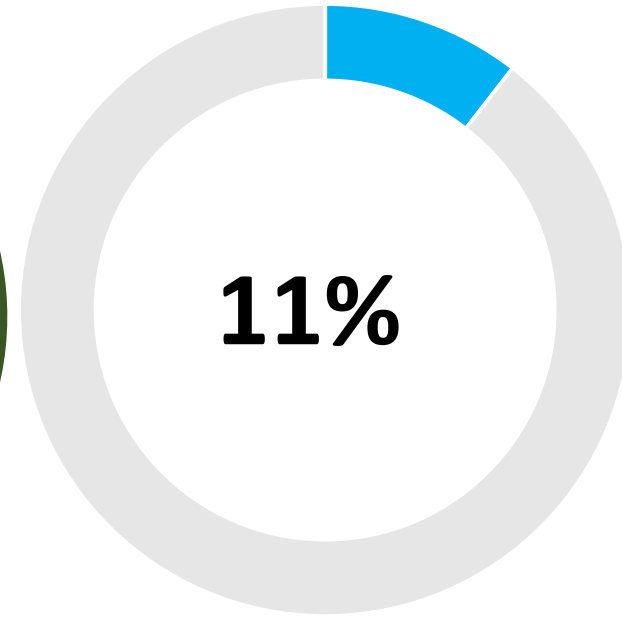
The State of World Fisheries and Aquaculture (SOFIA 2016)



OF THE WORLD'S FISH STOCKS ARE
OVERFISHED



OF THE WORLD'S FISH STOCKS ARE
FULLY FISHED



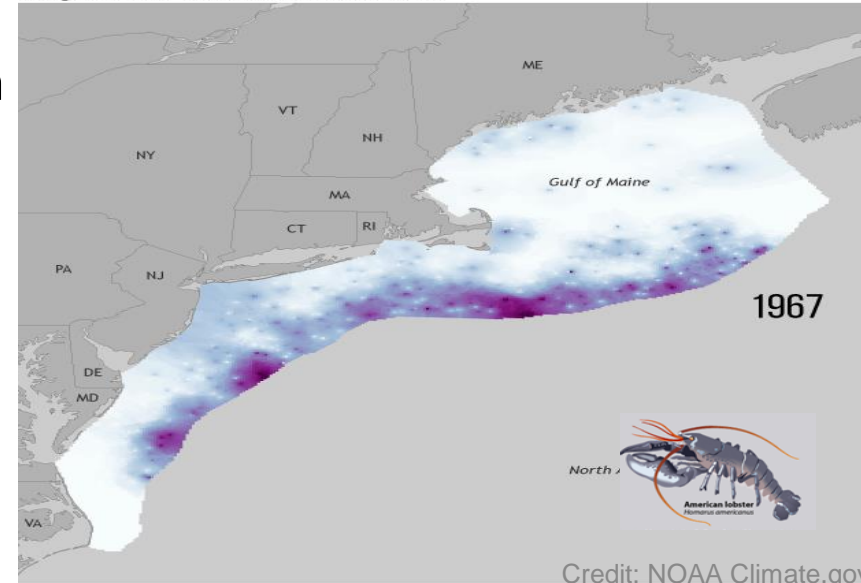
OF THE WORLD'S FISH STOCKS ARE
UNDERFISHED

1/3 of assessed marine stocks are overfished –
Sustainability is a **REAL ISSUE**

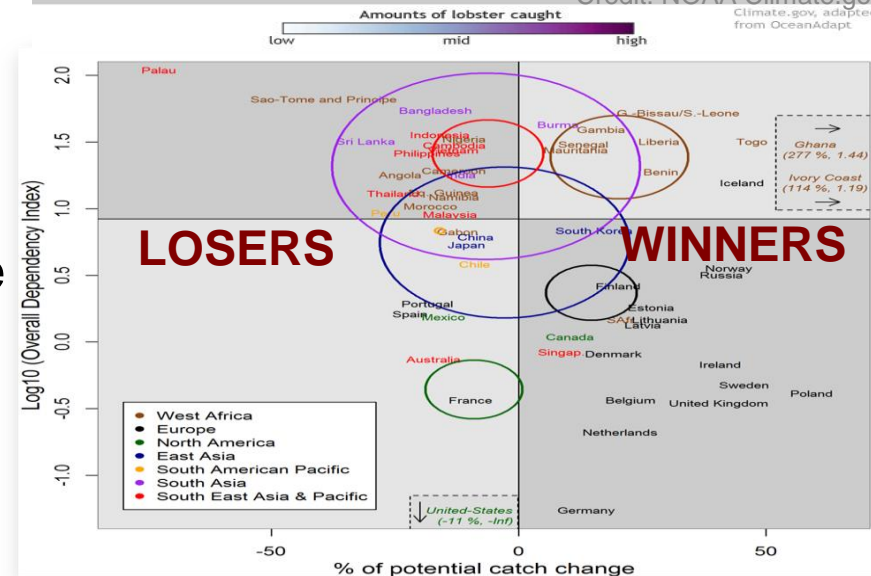
Adding Climate Change to the Mix

- Species are changing their distribution in response to changing ocean conditions, and the fishermen are seeing it.
- As temperatures change, some species move out while others move in. some are moving fast and other are moving more slowly.
- Impacts will **differ significantly regionally**.
- In any given location you're shuffling the community of species in the ecosystem, and that creates a number of **challenges both for fishermen and for managers**.

Changes in lobster distribution from 1967 to 2014

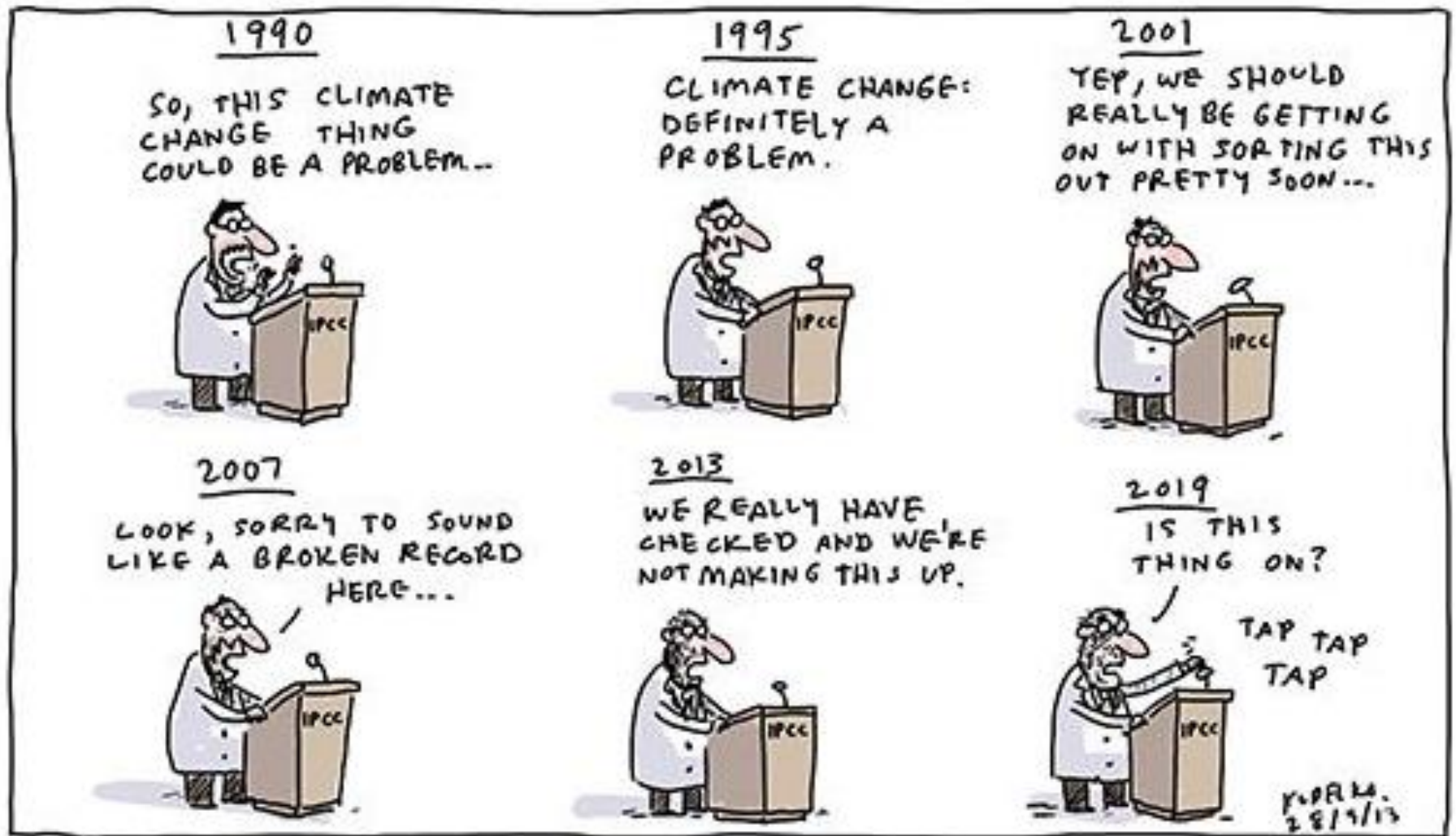


Credit: NOAA Climate.gov
Climate.gov, adapted from OceanAdapt



Barange et al. 2014. Nature Climate Change

Focus on Solutions and Actions



This is one of Jon Kudelka's cartoon that sums up the frustrations from communicating climate change. Focus on Solutions and Actions.

Copyright: Jon Kudelka.

Post-COP22

AWARENESS

Translating Science to Policy



SOLUTIONS
AND ACTIONS

PLEDGES
NDCs

INTENTIONS
INDCs

- **190** parties (Aug '16) have submitted their INDCs.
All of them refer to **mitigation commitments**;
70% include **adaptation** commitment.
- **60** countries include **Fisheries and Aquaculture** in their adaptation strategies.

Adaptation Experiences from FAO

IN COORDINATED MANNER



Institutional Adaptations

- Incorporating uncertainty in management frameworks
- Flexible seasonal rights
- Mechanisms for redistribution of rights among neighboring municipalities
- Temporal and spatial planning
- Transboundary stock management



Livelihood Adaptations

- Diversify patterns of fishing
- Diversify livelihoods
- Improve quality: ecolabelling, post-harvest losses.
- Investing in aquaculture
- Sharing of property and risks among members of communities



Resilience/ Risk reduction

- Reinforcing natural barriers
- Improving safety at sea
- Integrating fisheries in disaster risk management frameworks
- Designing coast zones that permit movement of fish along with SLR
- Enhance insurance provision

Assisting Countries in Addressing Climate Change Adaptation

- ✓ **2009-2012- Series of workshops in different regions**
- ✓ **2013- Expert Workshop on vulnerability Methodologies**
- ✓ **2014-2016. Mobilization of funds for field projects**
- ✓ **Aug 2016- Bangkok. Global CCA in FI&AQ**
- ✓ **All these efforts are contributing to the Development of Guidance**
- ✓ **Current GEF projects:** (Chile, Eastern Caribbean, Benguela current, Malawi, Timor Leste, Myanmar, Pacific SIDS etc.)
- ✓ **In 2018- FAO is sponsoring a workshop to update the current knowledge on Climate Change implications for fisheries and aquaculture (Including risks, adaptations and responses)**



Supporting Application of EAF considering Climate Change- Norwegian Gov)

PARTNERSHIP FOR CLIMATE-RESILIENT OCEAN ECONOMIES : “AFRICA PACKAGE”

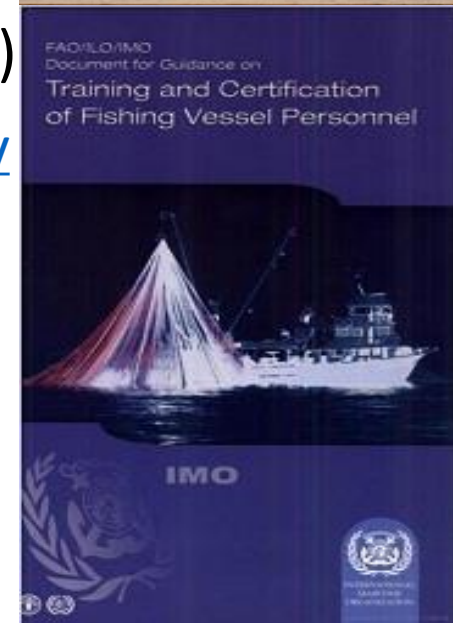
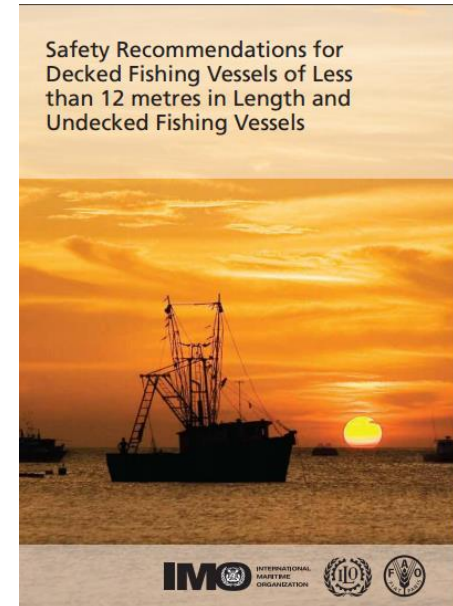
- ❑ Develop (multi-) sectorial **vulnerability** assessments
- ❑ Build ecological, economic and social **resilience**
- ❑ Support **mitigation** efforts
- ❑ Optimize carbon **sequestration** potential
- ❑ Develop **early warning** systems



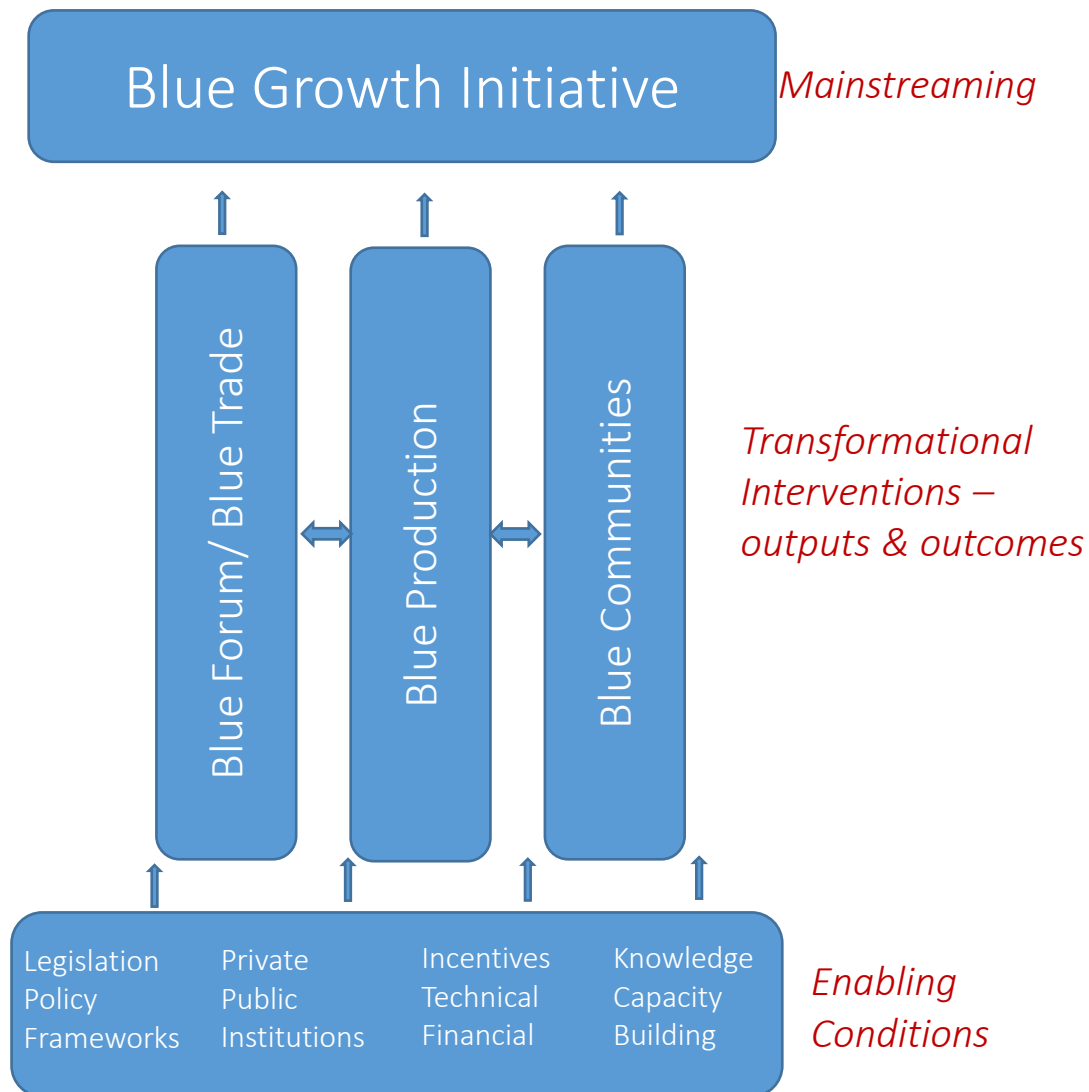
Improving Safety at Sea a Partnership FAO, IMO, ILO



- ❑ Facts: Fishing operations are 4 times more deadly than road traffic (source: WHO)
- ❑ Excellent cooperation (FAO/IMO/ILO) to assist Member States to improve safety at sea in the fisheries sector (development of Instruments on safety and health).
- ❑ Safety at sea is a high priority for many countries. 18/36 African States identified safety at sea as their priority to cope with climate change (“Africa Package”)
- ❑ More details: URL: <http://www.fao.org/fishery/safety-for-fishermen/>



Blue Growth Initiatives for Resilient Fisheries



Source:FAO

e.g. Madagascar

Platform to support Blue Growth with artisanal fishing and aquaculture communities

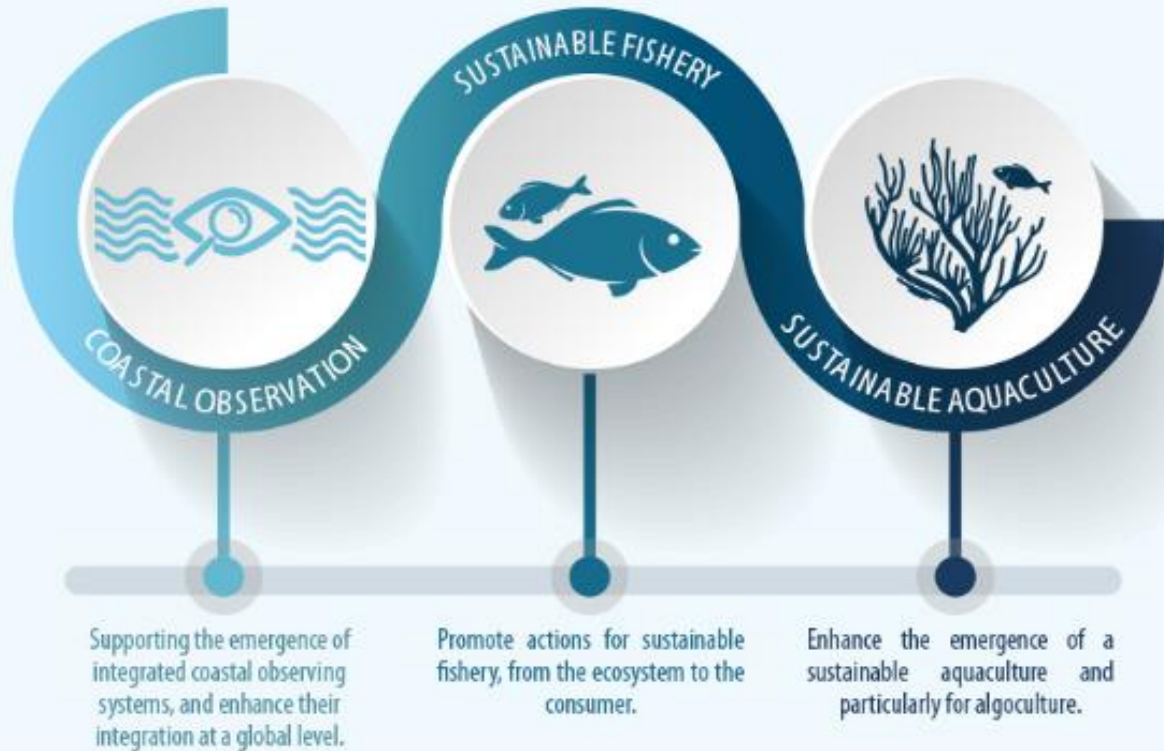


Source:FAO

BGI support responsible and sustainable approaches reconciling economic growth and food security together with the conservation of aquatic resources.

BLUE BELT INITIATIVE built of BGI

AREAS OF INTERVENTION

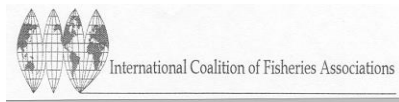


- Observer User Concept
- Oceanographic Monitoring
- Surveillance Alert and Risk management System

- Protect more
- Valorization and certification
- Fishing smart

- Microalgae
- Microalgae
- Multi-trophic Aquaculture

Building and Strengthening Partnership (PaCFA)



United Nations
International Strategy for Disaster Reduction



Enabling poor rural people
to overcome poverty



Global Partnership Climate,
Fisheries and Aquaculture



Secretariat
of the Pacific
Community



Opportunities and Actions

- **Strengthen** coordination mechanisms and cross-cutting Communication (intra, inter ...)
- **Increase** knowledge on CC impacts on FI/AQ sector to inform sustainable management
- **Continue** building and strengthening partnerships
- **Assist** Member States in mobilizing funds to implement CCA plans (incl. capacity building)
- **Continue** raising awareness of the importance of incorporating FI/AQ into NDCs, Adaptation plans and Strategies.
- The upcoming **Ocean Conference** in few weeks will be another opportunity to build and strengthen partnership



Food and Agriculture Organization
of the United Nations

THANK YOU

Hassan.Moustahfid@fao.org