Current market dynamics and consumer demand trends in the seaweed industry

FAO headquarter, Roma, ITALY,
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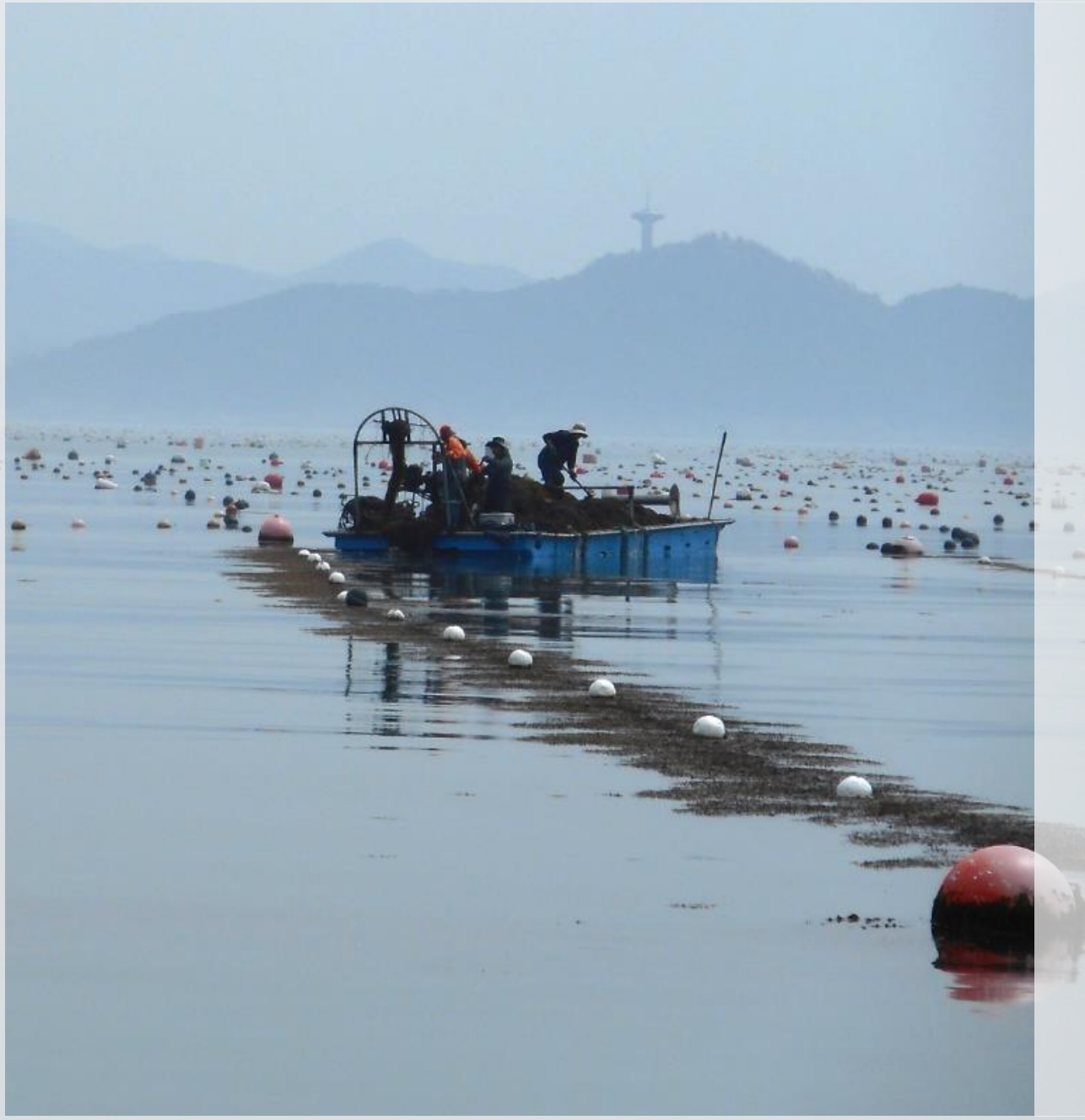
global seaweed coalition



Our organization & objectives

global seaweed coalition

A global partnership established to support the safe and sustainable scale up of the seaweed sector, grounded in science

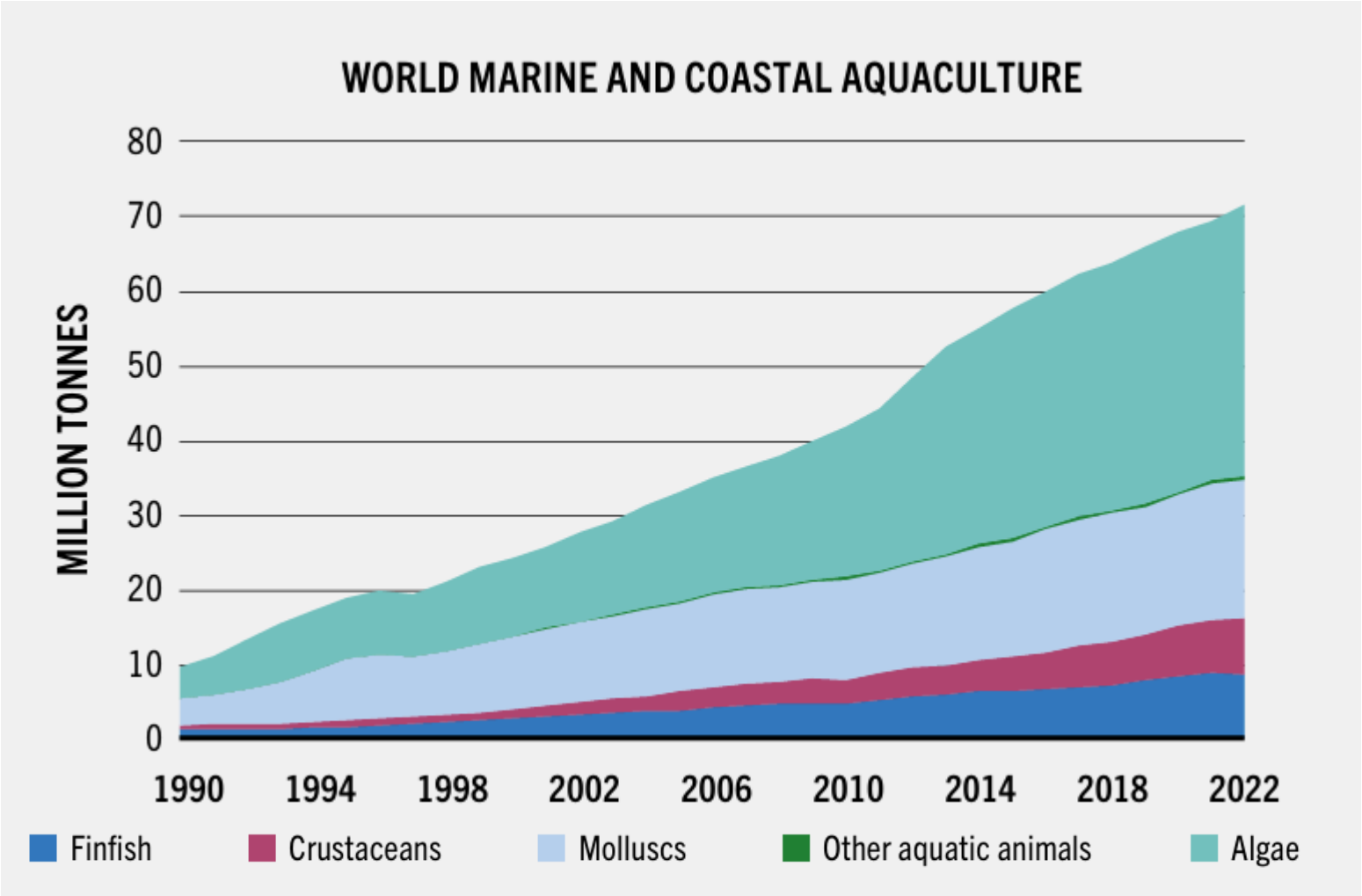
The Global Seaweed Coalition is hosted by the UN Global Compact, with initial financial support from Lloyd's Register Foundation and scientific direction from CNRS

Accelerate cooperation through the entire seaweed value chain

Help the seaweed sector make a significant contribution to the SDGs

Algae production tripled over the past 20 years, accounting for 50% of marine aquaculture volumes,

yet algae are not included in the FAO Food Balance Sheets*



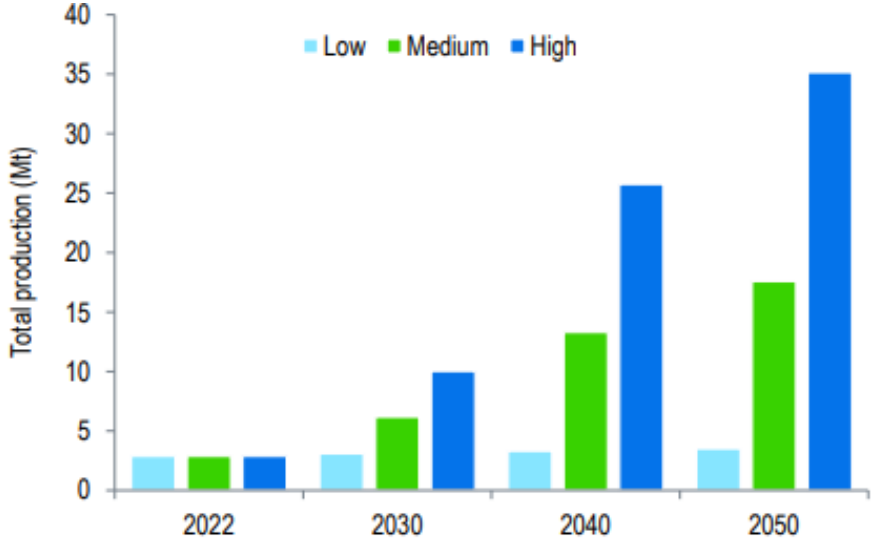
World aquaculture production 1990-2022
FAO, The State of World Fisheries and Aquaculture

*Food balance sheets quote : “Excluding aquatic mammals, crocodiles, alligators, caimans and algae”

Consumer trends shows seaweed are expected to be key pillars of sustainable food & agriculture

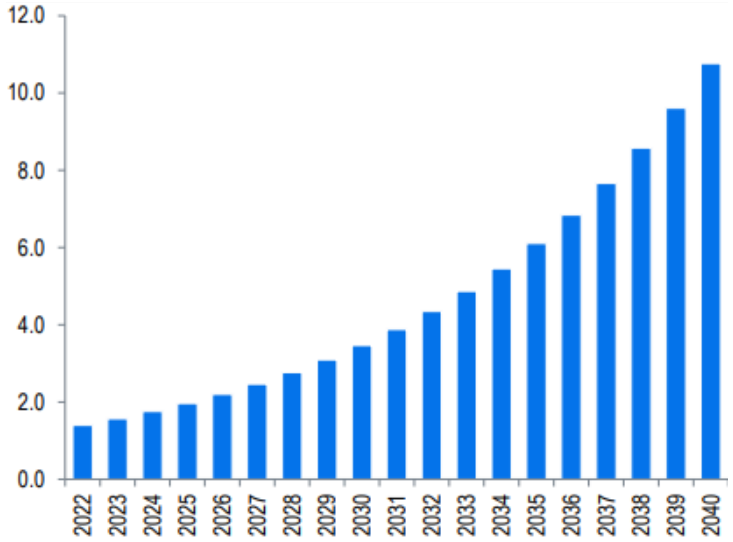
- **Food-related seaweed demand**

Based on low-, medium- and high-growth scenarios



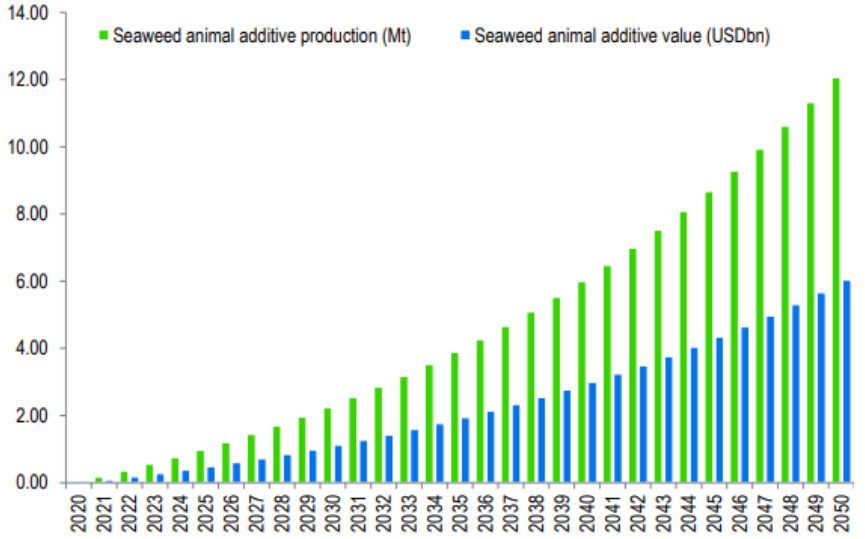
Source: Murai et al, 2020, Chen et al (2018), Vellinga (2022) CBI, Island Institute, United Nations, FAO, Standard Chartered Research

- **Potential value of the seaweed biostimulant market** - USD bn



Source: Standard Chartered Research

- **Market potential for seaweed as animal feed additive***



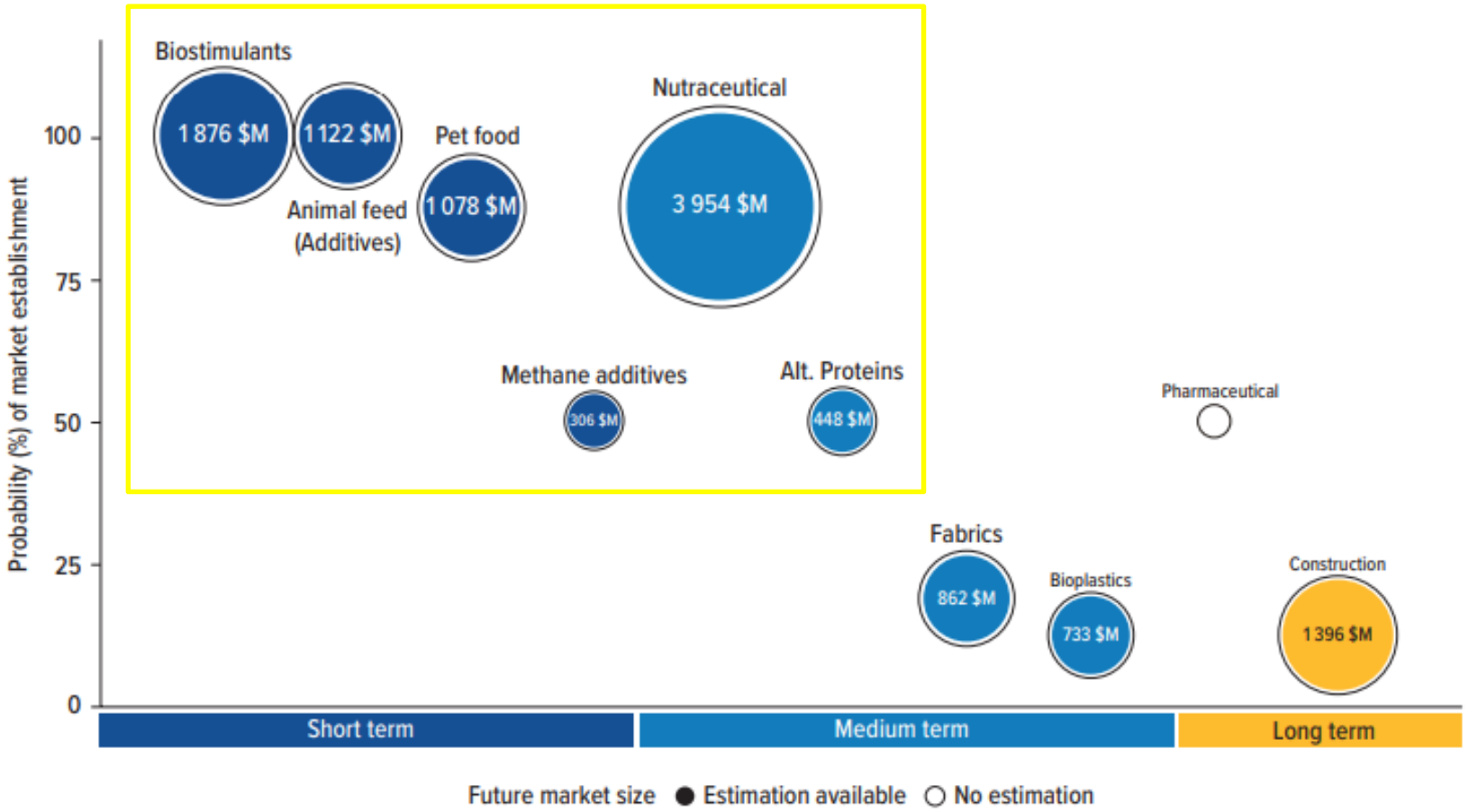
Source: IFIF, World Bank, FAO, Standard Chartered Research

*Assuming that seaweed additives comprise 3-5% of animal feed

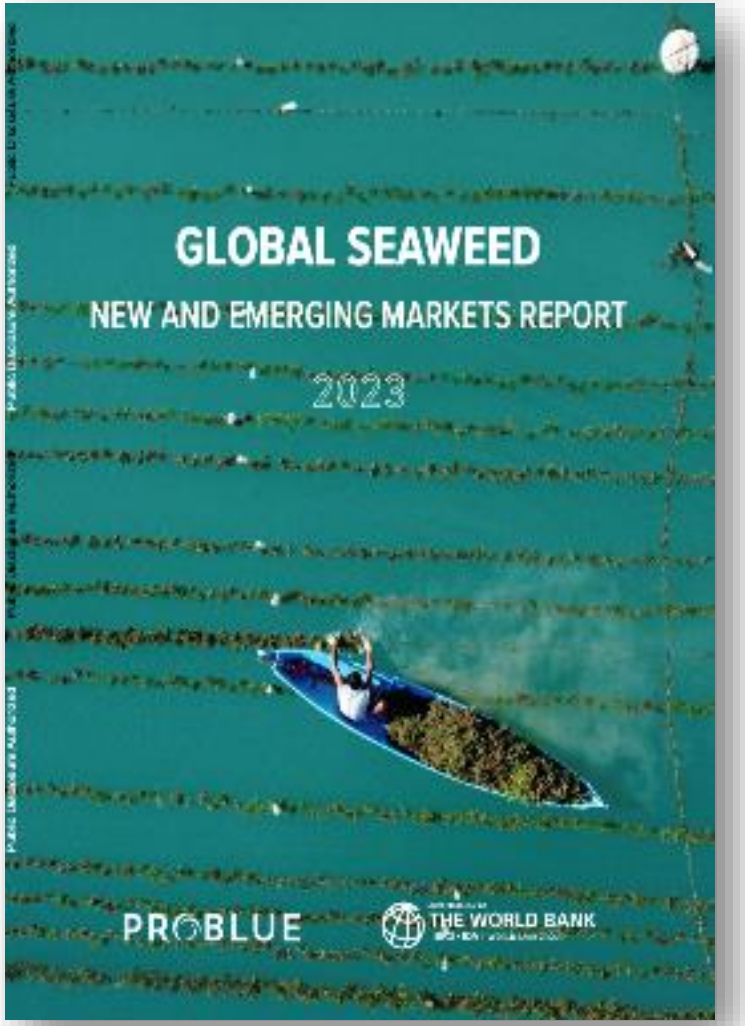
- Food-related seaweed demand could increase 12-fold by 2050
- The value of the seaweed-related biostimulant market could increase from $1.4bn in 2022 to $10.8bn by 2040
- The market for seaweed as an animal feed additive could be worth $1.2bn by 2030 and $6.4bn by 2050

World bank forecast report confirms this trend

- **Predicted seaweed market size by 2030 ($ millions)**



Note: this market analysis does not consider conventional and established market applications like agar, alginate, carrageenan, food and aquaculture feed sectors



Seaweed are healthy, nutritive and low-calorie food

Nori

Wakamé

Laitue de mer, Dulse

Table 2: Selected edible seaweed nutritional composition (2018)

Composition (dw)	Wakame	Kombu	Nori
Fat	1-5	1-2	2
Total carbohydrate	45-51	52	44
Protein	12-23	7-8	31-44
Minerals	26-40	27-33	8

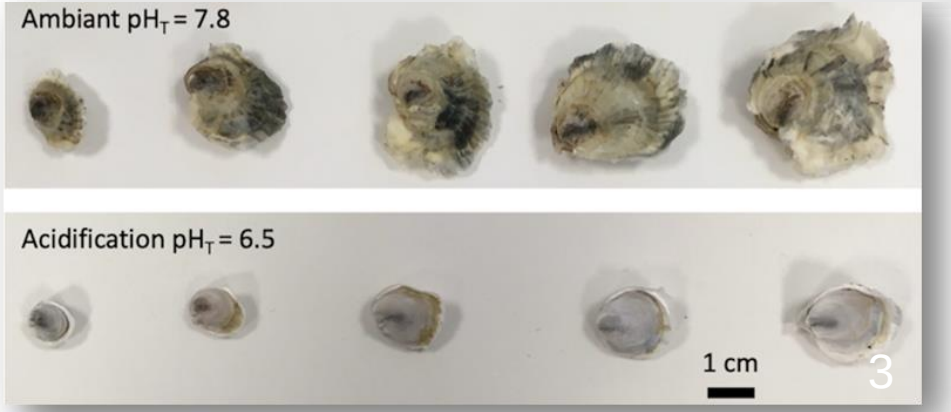
Source: Elaborated by UNCTAD from (World Bank, 2023a, 2023b).

- Vitamins (A, C, E and B12), proteins, dietary fiber
- Bioactive compounds: polyphenols, MAAs, phlorotannins, etc.
- Health benefits: anti-oxydant, anti-inflammatory, etc.

Seaweed have a role to play in gender equality

- **In Samoa**, the cultivation of sea grapes generate employment for women and youth
- **In Thailand**, women make side revenue by cultivating Caulerpa sp. in their backyards
- **In Tanzania**, ~30,000 seaweed farmers, **>80% women**

Seaweed are beneficial to the environment



1 - Biodiversity shelter : habitat & food

2 - Bioremediation : pollution capture

3 - Mitigation of ocean acidification

4 - Low carbon footprint alternative

Key challenges & solutions in unlocking the potential of seaweed for food security

Lack of harmonized standards
No Codex standard nor guidelines specifically addressing seaweed food safety

Lack of data on seaweed production and trade in global and regional value chains (disaggregated by gender)

Secure **seaweed genetic resources** and identify climate-resilient strains

Provide **technical support** and livelihood security to **small holders**, especially women

Expand **scientific knowledge** on seaweed food safety and environmental benefits


Thank you!
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