



INFOFISH Technical Webinar on “Challenges and Opportunities in Sustainable Seaweed Trade, Investment and Development”

Provisional Prospectus

In collaboration with:

Food and Agriculture
Organization of the United
Nations (FAO)



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION





Background

Between 2002 and 2022, global seaweed production tripled from 11.9 million tonnes to 36.3 million tonnes (live weight), reflecting the rapidly increasing global demand for seaweed and seaweed-derived products for food, industrial and environmental applications (FAO, 2024; UNCTAD, 2024). Current projections indicate that global seaweed production could exceed 500 million tonnes by 2050, highlighting the sector's significant long-term growth potential within the global blue economy.

Seaweed trade has also expanded considerably, increasing nearly fourfold from approximately USD 1 billion to USD 3.9 billion during the same period. Of this value, approximately 68 percent originated from processed seaweed derivatives such as carrageenan, alginic acid and agar-agar (UN Comtrade, 2025). Despite this positive growth trajectory, much of the sector's value addition potential remains underdeveloped, particularly in developing countries where opportunities exist for investment, processing, innovation and market diversification.

Seaweed is a highly versatile marine biomass with multiple commercial, environmental and industrial applications. It can be utilised raw or processed for human consumption, including functional foods and alternative protein products, while also serving as a source for:

- Hydrocolloids;
- Aquatic animal feed and livestock feed;
- Biofertilisers and biostimulants;
- Cosmetics, nutraceuticals and pharmaceuticals;
- Textiles and biomaterials;
- Bio-packaging and plastic alternatives;
- Waste treatment and bioremediation;
- Biofuels, including sustainable aviation fuel;
- Decarbonisation initiatives within the ocean economy; and
- Climate-resilient green construction materials.

Geographically, the global seaweed industry remains heavily concentrated in Asia, particularly East and Southeast Asia, which accounted for approximately 99.5 percent of total global production in 2021 (FAO, 2023). China remained the world's leading producer, contributing approximately 61 percent of global production, followed by Indonesia with 26 percent. Other major producing countries include the Republic of Korea, the Philippines, the Democratic People's Republic of Korea, Japan and Malaysia.

Beyond its commercial importance, the seaweed sector also presents important opportunities for coastal livelihoods, women's economic participation, MSME development, food security and climate-resilient blue economy growth, particularly within Asia and the Pacific, where production and trade remain heavily concentrated.

Top 10 exporters and importers of seaweed in 2021

Exporter	Export value (in million USD)	Importer	Import value (in million USD)
Republic of Korea	255	China	443
Indonesia	225	Japan	193
Chile	106	United States of America	104
China	53	Russian Federation	51
Ireland	41	France	30
Peru	39	Australia	29
United States of America	25	Indonesia	Very little, lack of data
Japan	21	Philippines	Very little, lack of data
Canada	19		
Philippines	14		
Total	798	Total	850

Source: UNCTAD (2024), based on UNCTADStat.

Potential of seaweed trade and development

Approximately 70 percent of global seaweed production is utilised for food consumption, while the remaining 30 percent is processed into hydrocolloids, animal feed, fertilisers and industrial chemicals (Poblete-Castro et al., 2020). Seaweed-derived extracts, including carrageenan, agar and alginates, account for nearly 40 percent of the global hydrocolloid market (FAO, 2018).

Key commercial seaweed species include:

- *Saccharina*
- *Kappaphycus/Eucheuma*
- *Gracilaria*
- *Porphyra*

High-value species such as *Porphyra* (Nori) and *Saccharina* (Kombu) are primarily marketed for direct food consumption, with estimated market values of approximately USD 16 000 and USD 8 000 per dry tonne respectively (Poblete-Castro et al., 2020). Warm-water tropical species such as *Kappaphycus* and *Eucheuma* are mainly cultivated for carrageenan extraction and generally valued at approximately USD 1 000 per dry tonne.

However, selected tropical species including *Kappaphycus striatum* and *Eucheuma denticulatum* also demonstrate strong potential for food product development, including salads, jellies and confectionery products (INFOFISH, 2023). Emerging market opportunities further exist in sustainable packaging, bio-based materials, nutraceuticals and carbon reduction applications.

Objectives of the webinar

The webinar aims to:

- provide an update on the status and outlook of global and regional seaweed production, trade and market trends;
- discuss key trade barriers, regulatory challenges and constraints affecting inclusive seaweed sector growth in developing countries;
- explore opportunities for investment, value addition, innovation and strategic partnerships in sustainable seaweed development;
- highlight emerging applications of seaweed products in food systems, bioeconomy industries and climate-resilient development; and
- facilitate dialogue among governments, industry, development agencies, academia and investors on pathways for sustainable seaweed trade and industrial development.

Collaboration and partnerships for a shared vision

The INFOFISH Technical Webinar on “Challenges and Opportunities in Sustainable Seaweed Trade, Investment and Development” will bring together international experts, industry leaders and academia to explore the latest developments shaping the global seaweed sector and discuss strategies for unlocking its full potential locally.

This virtual webinar will be convened in collaboration with the Food and Agriculture Organization of the United Nations (FAO), Rome, Italy, UN Trade and Development (UNCTAD), Geneva, Switzerland, United Nations Industrial Development Organization (UNIDO), Vienna, Austria, Global Seaweed Coalition (GSC), Roscoff, France and INFOFISH Malaysia.

The technical webinar disseminates updated seaweed information among INFOFISH Member States (IMS), industry, development agencies, academia and investors aligning with the United Nations Global Seaweed Initiative's (UNGSI) objectives for achieving a shared vision of the collaborating partners that might transform the seaweed industries among the countries from Asia and the Pacific.

Contact information of the collaborating partners:

- 1. Food and Agriculture Organization of the United Nations (FAO)**
Fisheries and Aquaculture Division (NFI)
Rome, Italy
<https://www.fao.org/fishery/en>
- 2. UN Trade and Development (UNCTAD)**
Ocean and Circular Economy Unit
Trade, Environment, Climate Change and Sustainable Development Branch
Geneva, Switzerland
<https://unctad.org/>
- 3. United Nations Industrial Development Organization (UNIDO)**
Division of SME Competitiveness, Quality and Job Creation Directorate of Technical Cooperation and Sustainable Industrial Development
Vienna, Austria
www.unido.org
- 4. Global Seaweed Coalition (GSC)**
Roscoff, France
E-mail: secretariat@globalseaweedcoalition.org
<https://www.globalseaweedcoalition.org>
- 5. INFOFISH**
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Webinar details:

Title :	INFOFISH Technical Webinar on <i>“Challenges and Opportunities in Sustainable Seaweed Trade, Investment and Development”</i>
Proposed Date and Venue:	29 July 2026, 16:00 Hours (GMT+8; Virtual Platform (Zoom/Webinar)
Duration:	2 hours
Number of Participants:	Approximately 50–60 participants
Target Participants:	Academia, researchers, technical and trade professionals from international development agencies, investors, government agencies, private sector stakeholders involved in seaweed trade, processing and development, as well as prospective seaweed entrepreneurs from INFOFISH Member States.
Partners:	FAO, UNCTAD, UNIDO, Global Seaweed Coalition and INFOFISH

Webinar Schedule (Tentative):

Time	Presentation Details	Resource Person/s
16:00	Opening Remarks	Director, INFOFISH
<i>Session I: Global Trade, Markets and Policy Challenges</i>		
16:10-16:30	Status of global production and trade of seaweed and seaweed products	• Stefania Vannuccini Senior Fishery Officer and Leader of Statistics Team, FAO Fisheries and Aquaculture Division, Rome, Italy
16:30-16:50	Key trade barriers for inclusive seaweed growth in developing countries	• David Vivas Eugui Chief (a.i.) of the Ocean and Circular Economy Unit, Trade, Environment, Climate Change and Sustainable Development Branch at UNCTAD, Geneva, Switzerland
16:50-17:00	Discussion and Q&A	Speakers & Participants
<i>Session II: Investment, Partnerships and Sustainable Development Pathways</i>		
17:00-17:20	Capital investment and value chain development for land-based seaweed cultivation	• Sven Rusticus CEO & Founder, Seaweedland, the Netherlands
17:20-17:40	Collaboration and strategic partnerships for sustainable seaweed development	• Nichola Dyer Founder and CEO, NJDyer Global Advisory & Senior Advisor, Global Seaweed Coalition Washington DC, USA
17:40-17:55	Panel discussion and Q&A: “Scaling sustainable and inclusive seaweed industries in developing economies”	• Dr. Lim Phaik Eem Professor and Executive Director, Institute of Ocean and Earth Sciences (IOES), University of Malaya, Malaysia • Nima Bahramalian Industrial Development Expert, UNIDO • Representatives from INFOFISH Member States (Papua New Guinea & the Philippines)
17:55-18:00	Closing Remarks	INFOFISH

Moderator: Sujit Krishna Das, Technical Officer, INFOFISH

Conclusion

Through this webinar, INFOFISH aims to foster knowledge exchange, strengthen strategic partnerships and facilitate dialogue among stakeholders across the seaweed value chain. By bringing together experts from industry, government, academia and development organisations, the webinar seeks to support sustainable trade, investment and inclusive growth of the seaweed sector in Asia, the Pacific and beyond.

References

- FAO, 2018. The global status of seaweed production, trade and utilization. Globefish Research Programme Volume 124. Rome. pp. 1-120.
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- FAO, 2023. Global fisheries and aquaculture at a glance. Available at <https://www.fao.org/3/cc0461en/online/sofia/2022/world-fisheries-aquaculture.html>.
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- UNCTAD, 2024. An ocean of opportunities: The potential of seaweed to advance food, environmental and gender dimensions of the SDGs. UNCTAD/DITC/TED/2024/1. Geneva. United Nations Cooperation on Trade and Development.
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