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**Speakers' corner event, 36th session
of the FAO Committee on Fisheries****An ocean of opportunities:
The potential of seaweed to address food
security, environmental sustainability, and
gender empowerment**

Good morning, distinguished delegates, ladies, and gentlemen. It is a pleasure for UN Trade and Development, the UN Global Compact, and the Global Seaweed Collation to participate at this speakers' corner event at the 36th session of the FAO Committee on Fisheries. I am Chantal Line Carpentier, head of the Trade, Environment, Climate Change and Sustainable Development Branch at UNCTAD. I'll be speaking to you on the wonders of seaweed based on our latest report: "An ocean of opportunities: The potential of seaweed to address food security, environmental sustainability, and gender empowerment". I am accompanied by Vincent Doumeizel, Senior Adviser on Oceans at the United Nations Global Compact, who is an advocate and wrote a book about the seaweeds wonder.

First, a bit about UNCTAD. We study the trade and environment nexus with a development angle and assist developing countries in taking advantage of trade in areas such as oceans and fisheries, circular economy, sustainable use of biodiversity, and climate change, through a mix of analysis and technical assistance activities, which feeds into our inter-governmental process.

Seaweed is a wonder of nature. It is a versatile marine macroalgae, rapidly gaining recognition for its multifaceted contributions to food security, sustainability, and gender empowerment. We have consumed it as food since pre-historic times, particularly in Asia, eating it in soups, snacks, and fish preparations, such as in sushi. But today, the uses of seaweed go much beyond this. It is used as a human food complement (e.g. agar) and used to meet the increase in demand for plant-based material and inputs, including for vegetarian meals due to its nutritional value in terms of iodine, polyphenols, carotenoids, and omega-3 fatty acids among others. But also, seaweed can be used as a natural industrial ingredient, as animal feed, as a fertilizer, for cosmetics, as a non-plastic substitute for paper and textiles, and even for biofuel production. This is reflected by the startups' growth in the seaweed sector reaching





almost 40 per cent per year.

Seaweed, categorized into brown, red, and green algae, thus offers new business opportunities for income diversification and local employment, and trade potential that can significantly improve sustainable livelihoods for small-scale farmers and harvesters often for women, youth, and indigenous peoples in coastal communities of developing countries. Seaweed farming can also provide ecosystem services, such as carbon sequestration to mitigate climate change, nitrogen cycling, and ecosystem restoration.

In volume, seaweed production for both food and non-food purposes, reached a record of 36.5 million tonnes in 2022, mostly from Asia, with the United Republic of Tanzania, Chile, and the Russian Federation leading in other continents. In value, the global market for seaweed has more than tripled over the last two decades, growing from \$5 to \$17 billion, with global imports representing about \$1.2 billion. International trade in seaweed and its by-products only represents 14 per cent of this value, indicating significant potential for sunrise industries. The main barriers for further market development are the absence of internationally harmonized standards for cultivation, processing, and food security, including operational, environmental, and consumer safety standards—as clearly stated in our recent report on seaweed “An ocean of opportunities” and the FAO “State of Fisheries and Aquaculture” report.

Environmentally, seaweed is the sea farming activity with the lowest environmental impacts, as it does not need fresh water, fertilizers, or land, while providing environmental services such as absorbing carbon and filtering water system. Seaweed cultivation can be expanded in developing countries by making use of marine spatial planning (to sustainably manage the resource) and Integrated Multi-Trophic Aquaculture.¹ The beauty of this approach is that it is basically done in close production system with zero waste and lower costs.

Socially, in many developing countries, women cultivate and process seaweed as a complementary economic activity in fishing communities to add to family income and food security. Indeed, women represent 40 per cent of starts up in the sector where the sector is still informal.

Given these great opportunities, what can we do to increase seaweed production and use in ways that keep benefitting people and planet? I’ll give you some seaweed for thought, and Vincent will complement based on his book and experience. We can:

- Encourage governments to incorporate seaweed into national development, biodiversity, and climate mitigation plans, including next round of Nationally Determined Contributions (NDCs).
- Support countries in delimiting ocean space, providing permits, and facilitating access to finance and technology for harvesting and post-harvesting treatment of specific target species and uses.
- Further research on various seaweeds’ carbon sequestration potential, biosecurity risks, nutritional benefits.
- Advocate for global definition and harmonization of seaweed standards and related food and non-food products safety and security regulations.
- Advance research and support development of promising seaweed-based

¹ The first means to rationally and sustainably plan and define the ocean space to avoid unnecessary conflict, competition, and over-exploitation. It also means to integrate cultivation of feed species (e.g. finfish or shrimp) with that of extractive species, such as mollusks, seaweeds, and invertebrates (e.g. sea cucumbers and sea urchins), such that the wastes of one resource user become a resource (fertilizer or food) for the others, thereby providing circular benefits.



foods, nutraceuticals, cosmetics, pharmaceuticals, and non-plastics substitutes product development in developing countries, especially among women and vulnerable coastal communities.

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