



Food and Agriculture
Organization of the
United Nations

2022

The cover image shows a fisherman in silhouette, standing on a small boat and pulling a large, circular fishing net. The net is filled with fish, and the scene is set against a bright, golden sunset or sunrise over the water. The overall tone is warm and evocative of traditional fishing.

THE STATE OF
**WORLD FISHERIES
AND AQUACULTURE**

TOWARDS
BLUE TRANSFORMATION

2022

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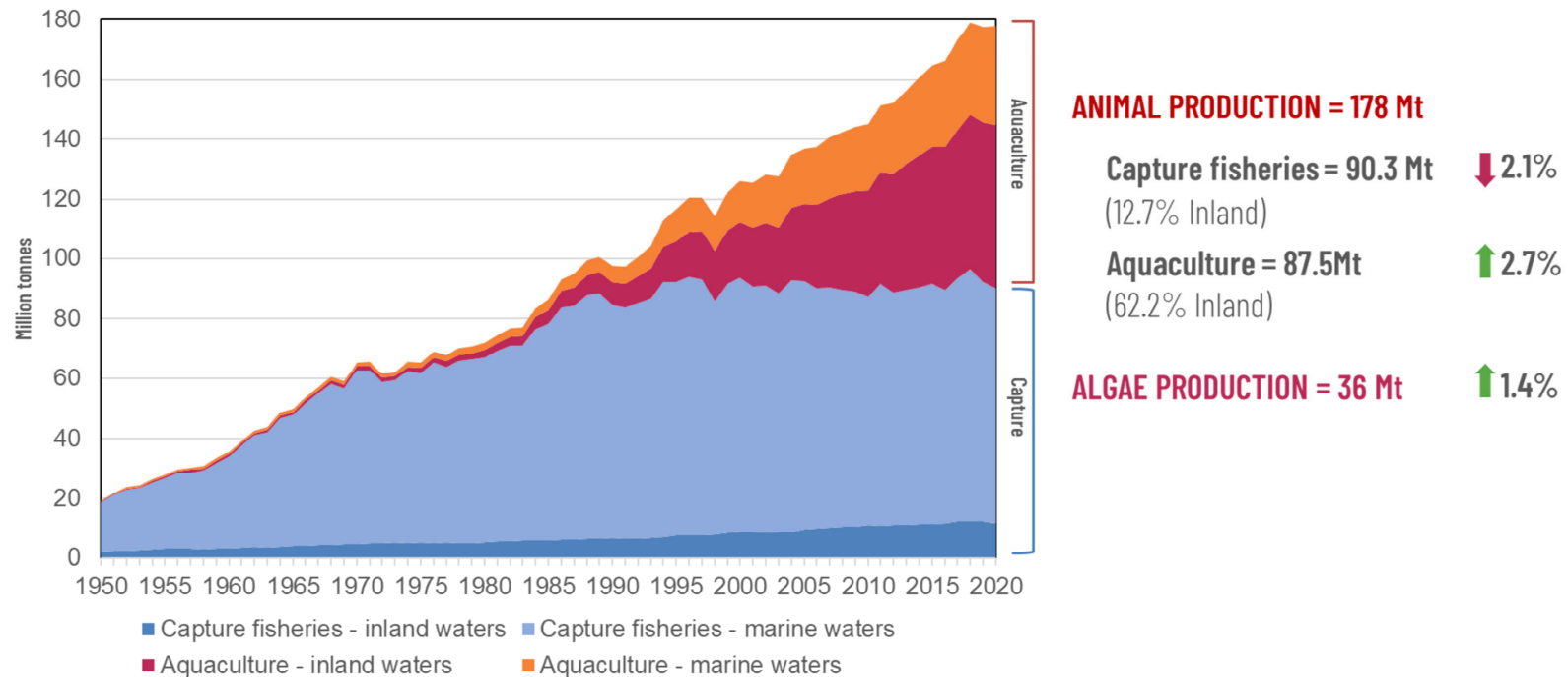
29 June, 2022

**GLOBAL FISHERIES AND
AQUACULTURE PRODUCTION
IS AT A RECORD HIGH.**



The first message of SOFIA 2022 is that global fisheries and aquaculture production reached a record 214 Mt in 2020, although it has suffered from COVID-19-related impacts.

TOTAL FISHERIES AND AQUACULTURE PRODUCTION 2020 = 214 Mt, A NEW RECORD

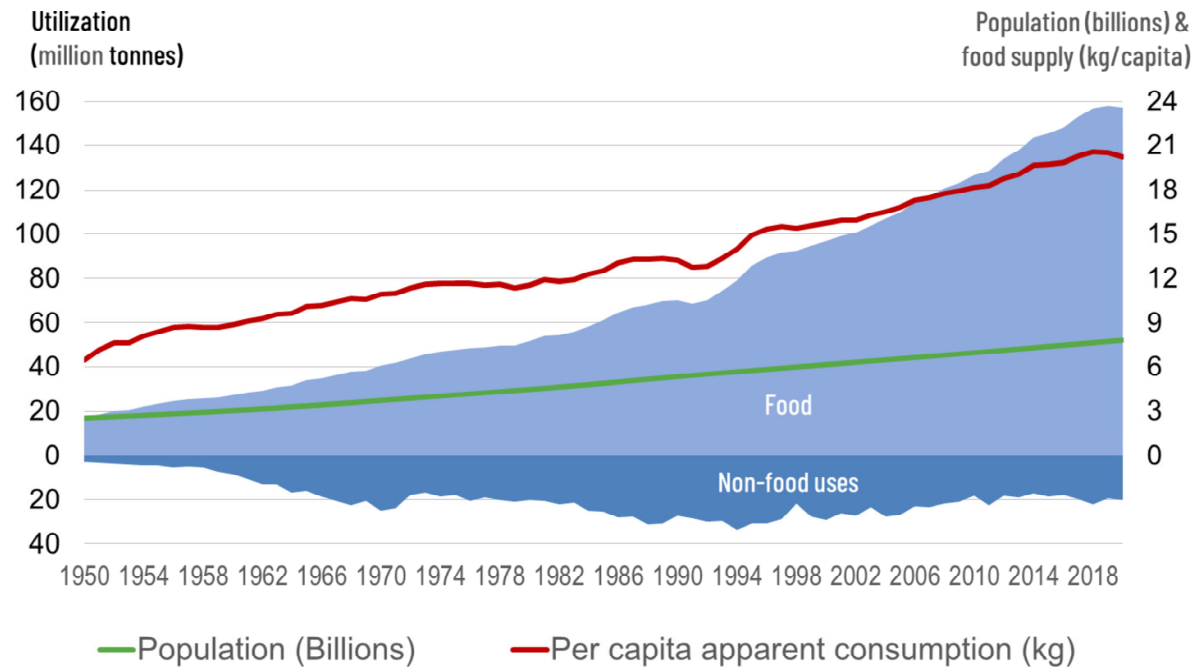


This total comprises 178 Mt of aquatic animals (1 Mt lower than the previous all-time record), and 36 Mt of algae.

90 Mt of this production come from capture fisheries: a 2% drop from last year, mainly as a result of the Covid pandemic, both in marine and in inland fisheries.

87 Mt of aquatic animal production comes from aquaculture, and this represents a 2.7% growth from the previous year, but lower than the 4.5% annual average growth attained in the previous decade, again as a result of the Covid pandemic.

UTILIZATION AND APPARENT CONSUMPTION = 157 Mt, 20.2kg/person



Of this production a total of 157Mt were used for direct human consumption, a new record.

From 1961 to 2019 the per capita consumption of aquatic foods (excluding algae) increased at an average annual rate of 3%, twice the rate of world's population growth.

In 2020 this consumption dropped slightly to 20.2 kg per person, a direct result of the contraction of demand caused by the COVID 19 pandemic. While estimates suggest an increase in consumption in 2021, the high price of fish products, already 25% higher in the first quarter of 2022, could compromise future growth.

A DIVERSE FOOD SECTOR UNDER CONTINUED TRANSFORMATION



Biodiversity of Aquatic Production

3 175 spp

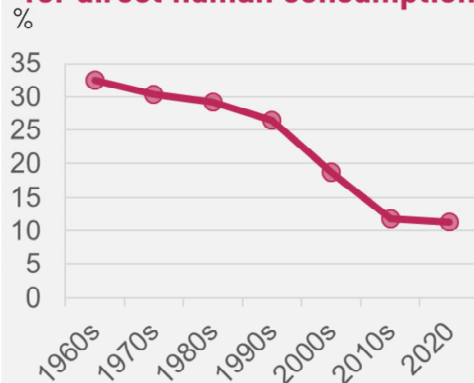
- **2 981** capture fisheries
- **652** aquaculture

Aquaculture Development

Growth 2020-2000 (%)

Africa	463 %
Americas	207 %
Asia	88 %
Europe	59 %
Oceania	88 %

Production not used for direct human consumption

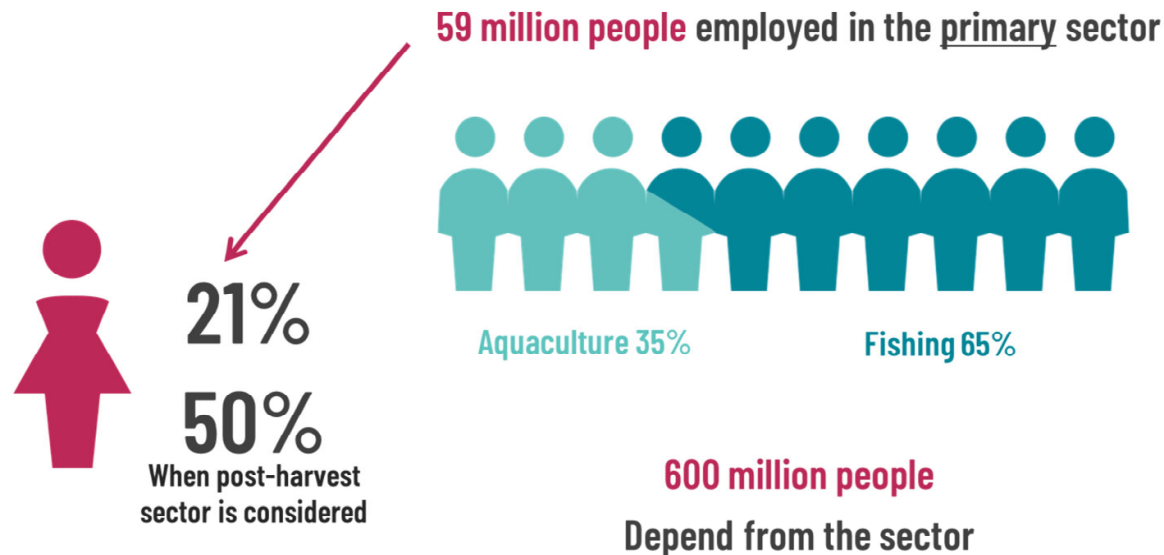


These global figures highlight the very significant transformation that has taken place in the sector in recent times. Three facts to show this:

- First, according to our records we currently exploit almost 3 000 species in capture fisheries, and we culture over 650 of these, a unique diversity compared to other food systems, and part of the sector's capacity to adapt and evolve.
- Second, aquaculture continues to grow in all continents in leaps and bounds, albeit from different baselines, and remains the fastest growing food production system in the world.
- And finally, the proportion of aquatic animal products NOT used for direct human consumption continues to drop, thus improving its outcomes.

In summary, we have expanded what we produce, diversified how we produced it, and become more effective in what we used this production for.

SECTOR INCREASINGLY IMPORTANT IN PROVIDING EMPLOYMENT

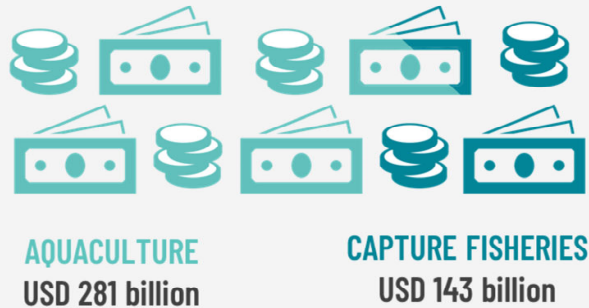


The Fisheries and Aquaculture sector not only produces food, it provides livelihoods. The sector employs directly 59 million people, over 90 percent of these in small scale fisheries. This highlights the necessity to consider their specific needs and ensure their full involvement in the design and implementation of policies and management measures.

If we add those involved in the full value chain, plus subsistence fisheries, it is estimated that about 600 million people depend on the sector for their livelihoods, the large majority in the Global South. While only 21% of those employed in the primary sector are women, when considering the full value chain there is gender parity in the sector. Gender-based constraints prevent women from fully realizing and benefitting from their roles. Applying a gender lens not only changes how fisheries and aquaculture are understood, it will also change how we shape our institutions, policies and actions, to achieve equality and equity.

SECTOR INCREASINGLY IMPORTANT IN CONTRIBUTING TO LOCAL ECONOMIES

**TOTAL FIRST SALE VALUE =
USD 424 BILLION**



**STATES AND TERRITORIES THAT TRADE IN THE
SECTOR = 225**

TRADE VOLUME AND VALUE (Aquatic Animals)

59.8 Mt

Live weight equivalent

USD 151 Billion

In value



7% decline

Fisheries and aquaculture continue to have a significant contribution to local economies, proportionally more significant in developing countries. The total first sale value of the sector was estimated at 424 billion USD in 2020.

225 States and territories entered the international trade of aquatic products, worth 151 billion USD. This reflects an 7% decline in 2020 compared to the previous year, as a result of the Covid pandemic. Indications are that this decline was fully reversed in 2021.

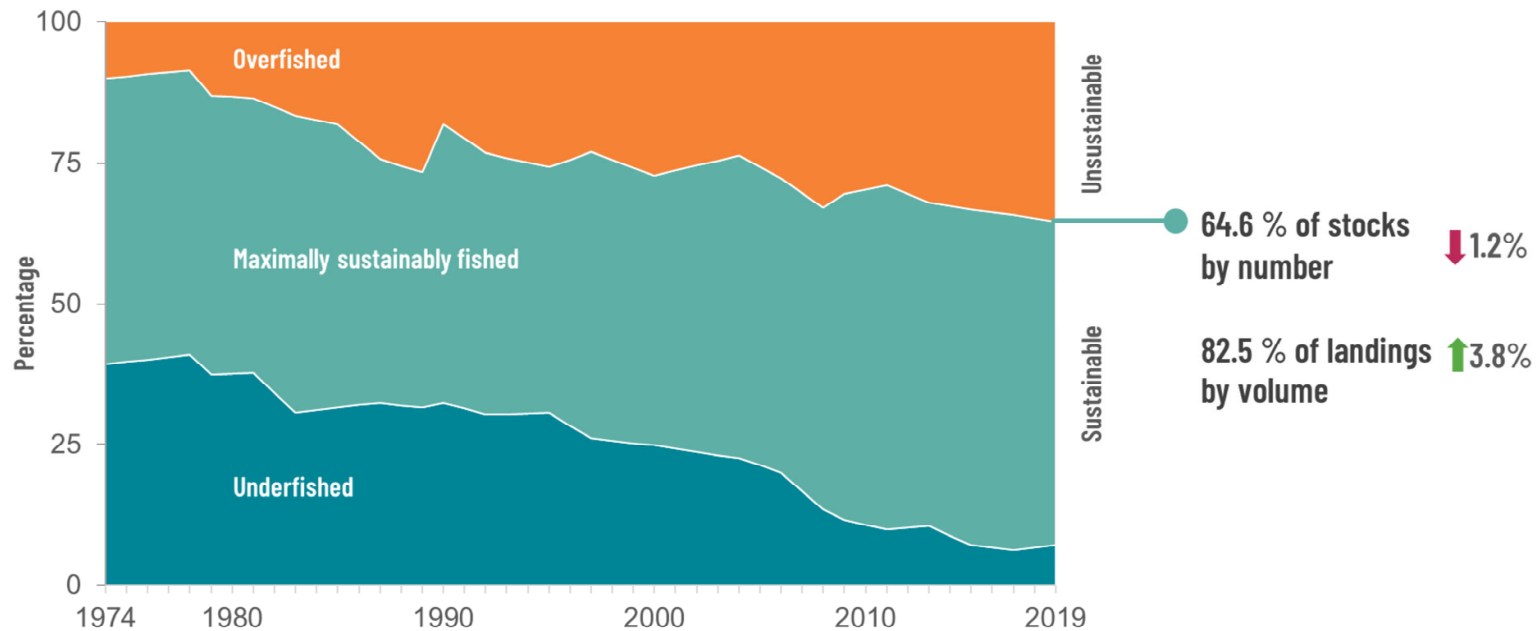
**FISHERY RESOURCES REMAIN
UNDER PRESSURE BUT THERE
ARE ENCOURAGING SIGNS.**



The second important message of SOFIA 2022 is that from an ecological sustainability perspective, fishery resources continue to be under significant pressure, which demands all our attention, but there are some encouraging signs to report.

Note that the FAO fishery sustainability index lags a year behind the rest of information in SOFIA, due to data complexities.

GLOBAL TRENDS IN THE STATE OF THE WORLD'S MARINE FISH STOCKS, 1974-2019



The fraction of marine fishery stocks within biologically sustainable levels suffered a 1.2% deterioration from the last SOFIA assessment two years ago, and is estimated at 64.6% in 2019. But this percentage treats all stocks equally regardless of their abundance and the volume of their catch. When weighted accordingly FAO estimates that 82.5% of the 2019 fishery landings were from biologically sustainable stocks, and this is a 3.8% improvement from the previous assessment.

This is consistent with our view, and with academic analyses, that the larger fishery stocks with higher market value are better managed, and that this management is producing positive results. However, more work is needed to understand, address and reverse the sustainability trends in many fish stocks. FAO's view is clear: fisheries management is the most effective tool to conserve and sustainably utilize fishery resources.

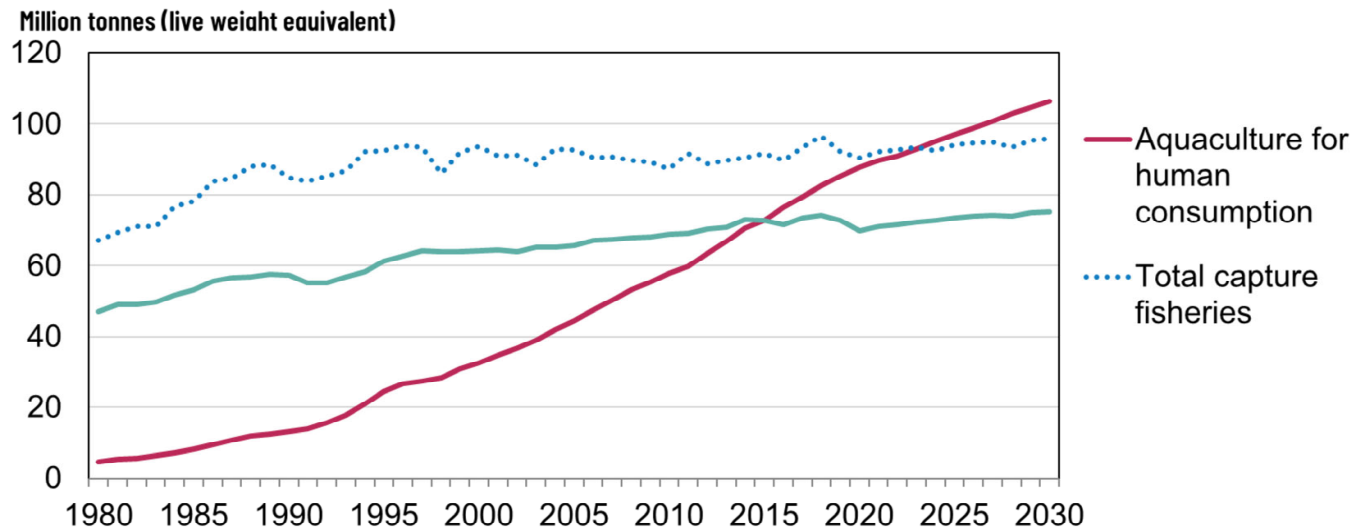
**MORE IS EXPECTED FROM AQUATIC FOOD
SYSTEMS. WE MUST ENSURE FURTHER
GROWTH IS SUSTAINABLE AND
EQUITABLE.**



The third message today is that economic development and population growth will increase the expectations on aquatic food systems, we must ensure further growth is sustainable, equitable and targets food security and nutrition needs.

PRODUCTION OF AQUATIC ANIMALS EXPECTED TO GROW BY 14% BY 2030, TO REACH 202 Mt

Global capture fisheries and aquaculture production, 1990–2030



FAO conducts annual, model-based, medium-term projections of the sector, as well as longer term scenario analyses.

Based on our medium-term model assumptions the fisheries and aquaculture production in 2030, excluding algae, will reach 202 Mt, a 14% increase compared to today. While capture fisheries is projected to increase slightly as a result of management improvements, most of the growth in the sector will come from aquaculture, which is expected to grow by 22% by 2030. This constitutes our baseline scenario.

BLUE TRANSFORMATION

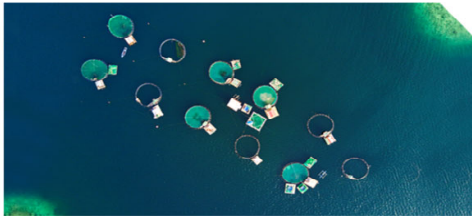
**A VISION FOR A MORE
SUSTAINABLE, PRODUCTIVE,
EQUITABLE AND IMPACTFUL
SECTOR.**



While recent transformations in the fisheries and aquaculture sector have been primarily driven by economic opportunity, FAO considers that MORE can be achieved if we are collectively MORE targeted in guiding future transformations, for the sector to be MORE productive, sustainable, equitable and contribute further to food security, nutritional outcomes and livelihood support.

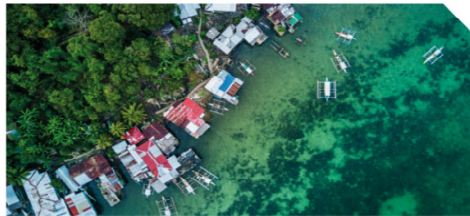
We call this vision BLUE TRANSFORMATION, which is why SOFIA 2022 has the subtitle of “Towards Blue Transformation”.

AQUATIC SYSTEMS ARE A POWERFUL SOLUTION: THE NEED FOR A BLUE TRANSFORMATION



OBJECTIVE 1

Sustainable aquaculture intensification and expansion satisfies global demand for aquatic foods and distributes benefits equitably.



OBJECTIVE 2

Effective management of all fisheries delivers healthy stocks and secures equitable livelihoods.



OBJECTIVE 3

Upgraded value chains ensure the social, economic and environmental viability of aquatic food systems.

Blue Transformation starts with an objective-driven vision. Its first objective is to ensure that sustainable aquaculture intensification and expansion continues to satisfy the global demand for aquatic foods, especially in food deficit regions.

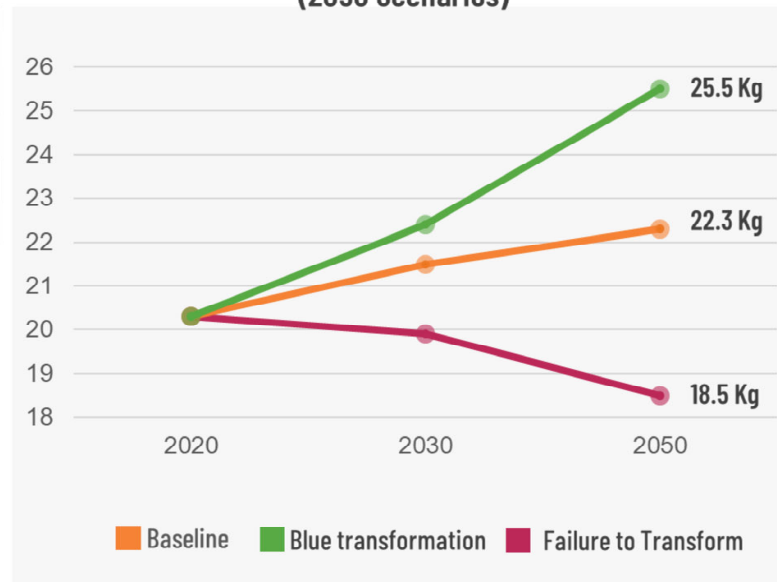
The second objective is to ensure the effective management of all marine and inland fisheries, following ecosystem based approaches, because management works. We also aim to eliminate IUU fishing, in all its complexities.

The third objective of Blue Transformation is to upgrade and develop aquatic food value chains, reducing loss and waste, promoting transparency and traceability, and ensuring inclusive and equitable returns to those dependent on the sector.

BLUE TRANSFORMATION: MEETING EXPECTATIONS



Per capita consumption (kg/yr)
(2050 Scenarios)



This vision will not be easy to achieve, it includes complex technical and policy decisions, as well as climate- and environment-friendly actions. It will require strong and well-aligned partnerships to succeed.

However, we estimate a significant potential growth in per capita consumption of aquatic products if we succeed, with obvious benefits. But failing to transform will also have significant negative implications for the sector, and for the planet, which SOFIA briefly discusses.



In conclusion, we hope SOFIA 2022 fulfils the expectations of the series, as a key source of carefully collated, curated and analysed data and information. We hope that its messages will assist members in their identification of challenges, as well as in their exploration of solutions and strategies to better the sector and its outcomes.