



Catalyzing Aquaculture Development through World Bank Group's Aquabusiness Advisory Platform

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PROBLUE



Food and Agriculture
Organization of the
United Nations



Background of the aquaculture sector

Aquaculture has **strong economic and social impacts**, globally. Growth in the sector has been significant...

\$ 281.5 bn

Global sales aquaculture in 2020¹

> 50%

Of seafood produced for human consumption

10-12%

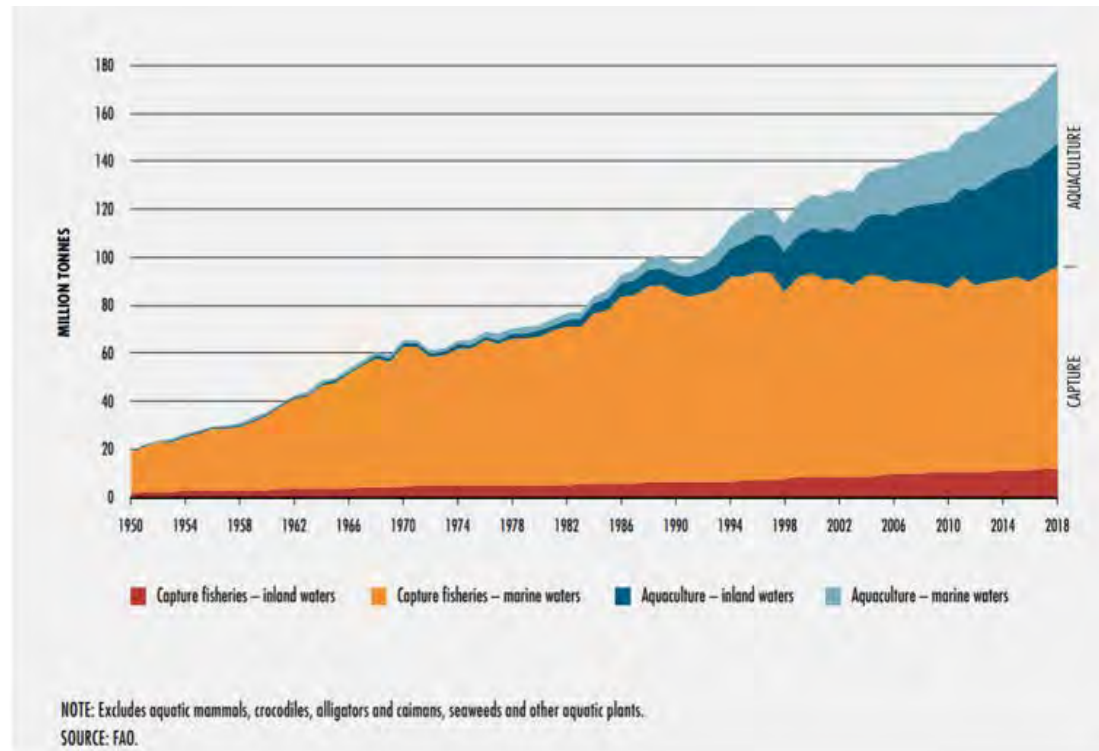
Of global population earn a living from the sector²

~37%

Contribution from coastal aquaculture and mariculture* to total aquaculture

*Great potential for growth

World Capture Fisheries & Aquaculture production



Production and consumption of aquaculture products have risen significantly – twice as fast as population growth³.

...however, this has been **at the risk of sustainability** of natural biological resources and ecosystems.

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Global trends show aquaculture growth

Global consumption of fisheries is projected to continue to grow over the next few decades, and with wild capture production stabilized, all growth is expected to be from aquaculture

Asia



- Asia will continue to dominate the aquaculture sector, responsible for 89% of production in 2030

Europe



- Aquaculture production will reach approximately 1.4 million MT in 2030, a 10% increase

Americas



- Aquaculture in Latin America is projected to increase by 33% by 2030

Africa



- Aquaculture production by volume is projected to increase by 48% by 2030

Addressing development challenges will further growth



Lack of knowledge on sustainable management practices



Post harvest losses and low product quality



Lack of efficient value chains and access to lucrative markets



Weak institutional capacity



Lack of enabling environment for SME investors



Biosecurity and animal diseases



Mitigate threats related to climate change



Lack of coherent guidelines and support for bankable projects



Food Safety/Nutrition

Overall, the project aims to address fundamental questions in aquaculture

What can we farm to be competitive in the global seafood industry?	IFC Upstream, Market Studies
What kind of aquaculture systems generate a sustainable business model with high impact?	World Bank, Business & Technology Models – FAO
How can we support the private sector to better ensure business success and long-term sustainability?	IFC Advisory
How can government enable aquaculture sectors and attract investors?	World Bank
How much aquaculture can we have before we get environmental problems?	Carrying Capacity models – Longline LLC
What policies and regulations do we need to ensure a sustainable industry?	WWF



The Aquabusiness Investment Platform seeks to provide a pathway to sustainable operations through...

- ✓ Policy & Regulatory Framework
- ✓ Ecosystem carrying capacity modelling
- ✓ Sustainable production models
- ✓ Best practices for producers
- ✓ Advise governments on how to encourage private sector investment
- ✓ Market studies
- ✓ Innovative mixed-scale and blended capital businesses
- ✓ Advise companies on how to succeed



WBG Aquabusiness Investment Advisory Platform

A World Bank Group approach to the development of sustainable aquaculture

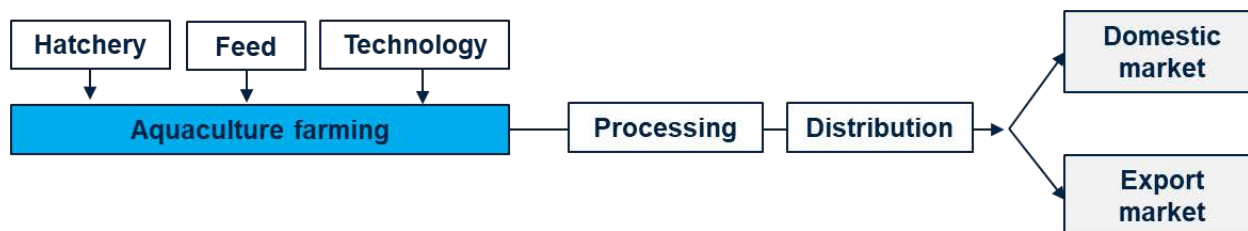
Government and public sector

- Enabling private sector investment



Attracting private sector investment

- Developing competitive and sustainable value chains



WBG Aquabusiness Investment Platform

1

Investment Climate & Opportunities

2

Guidelines for Sustainable Aquabusiness Development

3

Country Cases

4

Advisory Services

5

Study on new markets for seaweed value chain

Objectives and components aimed at distilling best practices

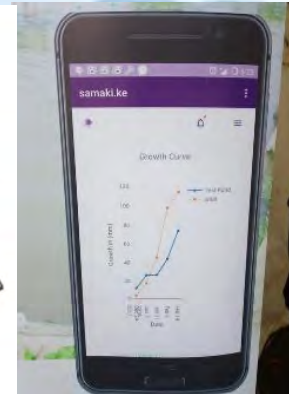
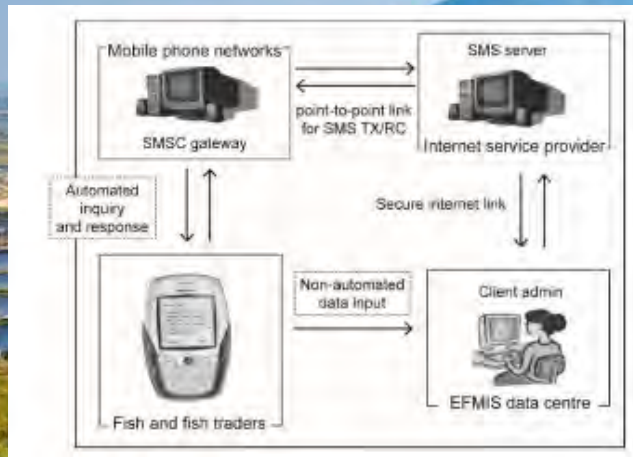
OBJECTIVE

*To distill and improve **best practices in aquabusiness development** for **economic, social and environmental sustainability** to inform WBG, development partners, commercial investors and the public sector interventions.*

COMPONENTS

1	Investment Climate & Opportunities	2	Guidelines for Sustainable Aquabusiness Development	3	Country Cases
National/regional studies to assess readiness for WB/IFC/other IFIs investment related to agribusiness value chains		Develop a comprehensive aquabusiness operations manual – both marine and freshwater aquaculture		The aim of this activity is to take the Aquabusiness Operations Manual (Output 2) and adapt it to selected countries to build bankable aquabusiness investments	
4	Advisory Services	5	Study on new markets for seaweed value chain	<i>The desire to apply lessons learnt from inland aquaculture into mariculture development will inform choice of case study countries.</i>	
Provide advisory to private sector clients to address specific challenges/issues in preparation for potential IFC engagement		The aim of this study is to look across value chains both freshwater and mariculture to identify new markets for a modern and upscaled seaweed industry and identify mechanisms to grow operations			

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- 
- An aerial photograph of a lush green landscape. In the foreground, there are terraced fields with rows of crops. A river flows through the middle ground, surrounded by dense vegetation. The background shows more greenery and a small body of water. The overall scene is vibrant and natural.
- Smart Aquaculture farms using mobile and computer technologies to monitor farms and collect farm data
 - Bank transactions
 - End-users learning through the platform
 - Mobile apps for marketing platforms

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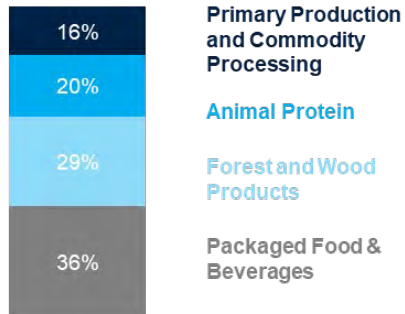
- Mobile apps for marketing platforms

Partnerships

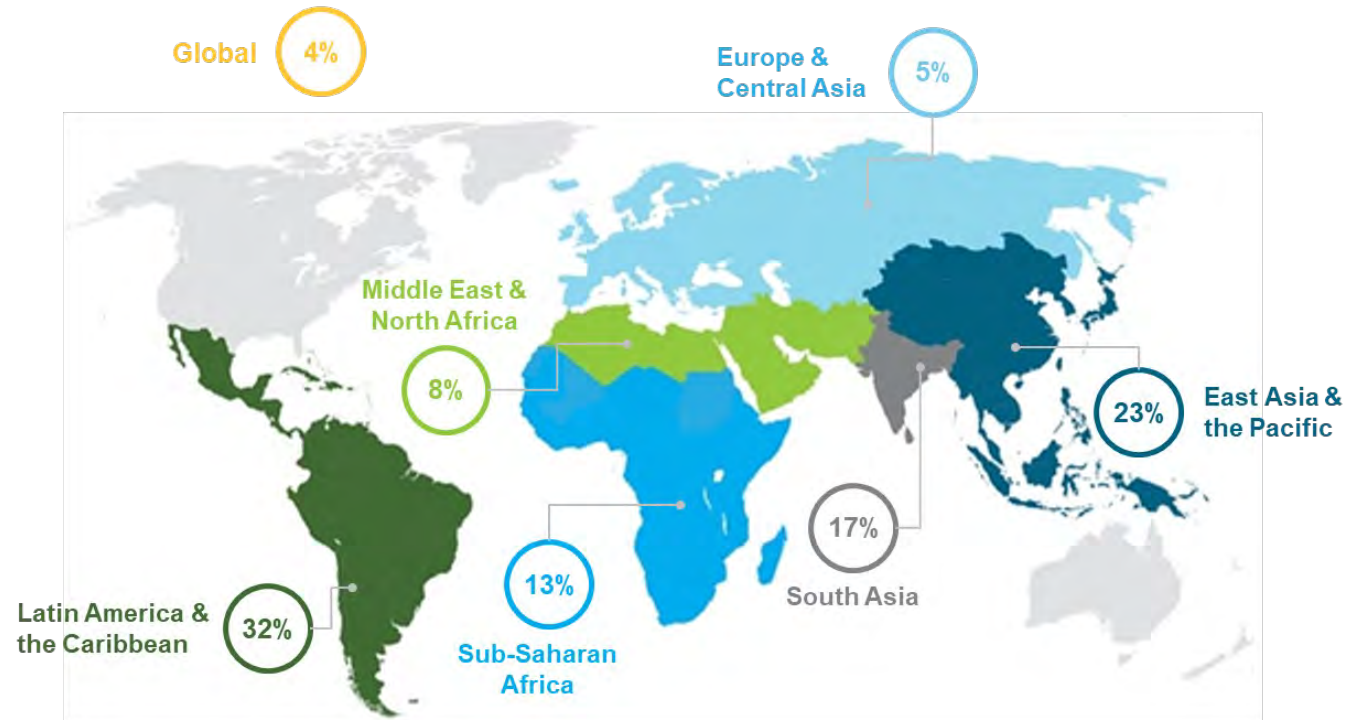
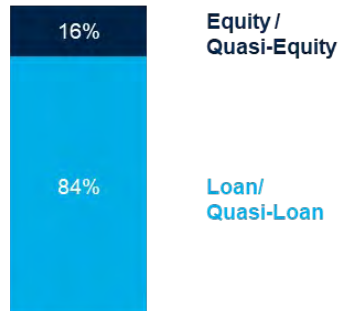
IFC has an extensive global track record in agribusiness

In FY21, committed portfolio reached **US\$4.2bn** and comprised **257 projects**

BY SECTOR



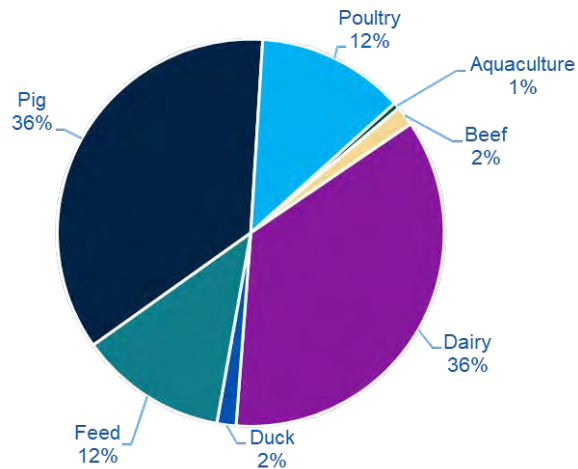
BY PRODUCT



IFC's agribusiness activity falls under 4 broad sectors: (i) **Primary Production and Commodity Processing**; (ii) **Animal Protein**; (iii) **Forest and Wood Products**, and (iv) **Packaged Food & Beverages**

IFC has an extensive global track record in agribusiness

Animal Protein



IFC's sustainable protein advisory scope

IFC supports our clients pre and post investment to help improve areas of their business that they require focus

Advisory Services Scope

Supply chains



- Work with client extension to improve sourcing and out grower access to quality inputs, animal health services and genetics.

Animal husbandry



- Work with client staff or extension services to improve animal husbandry practices.

Productivity



- Benchmark client's productivity and advise on best practice
- Advise clients on resource efficiency

Sustain-ability



- Support environmental traceability
- Strengthen animal welfare practice
- Advise on climate footprint reduction
- Improve food safety

Products and services for Private Sector

Integrated Solutions, Increased Impact

A wide range of products and services

Upstream/IFC 3.0

IFC is committing time and resources to create, and implement investment projects through:

- **Global-Delivery Platforms**, including design and development of scalable products and/or solutions applicable to multiple projects in a sector
- **Sector-Wide Initiatives** such as country-specific interventions to unlock markets in a sector
- **Early-Stage Project Development**, covering project-specific engagements with potential sponsors and co-investors

IFC Advisory Services

Innovative solutions combining IFC's expertise, resources and tools to:

- Strengthen clients' performance and impact
- Reduce operational risks
- Enhance sustainability and competitiveness
- Improve environmental, social, and corporate governance standards

Investment

Loans

- Project and corporate financing

Equity

- Direct equity investments and Private equity funds

Trade and Commodity Finance

- Guarantee of trade-related payment obligations of approved financial institutions

Derivative and Structured Finance

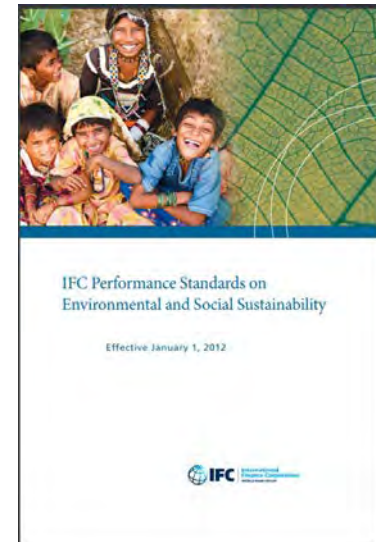
- Derivative products to hedge interest rate, currency, or commodity-price exposures of IFC clients

Blended Finance

- Using donor funds to crowd in private financing

Range of climate and sustainability finance products

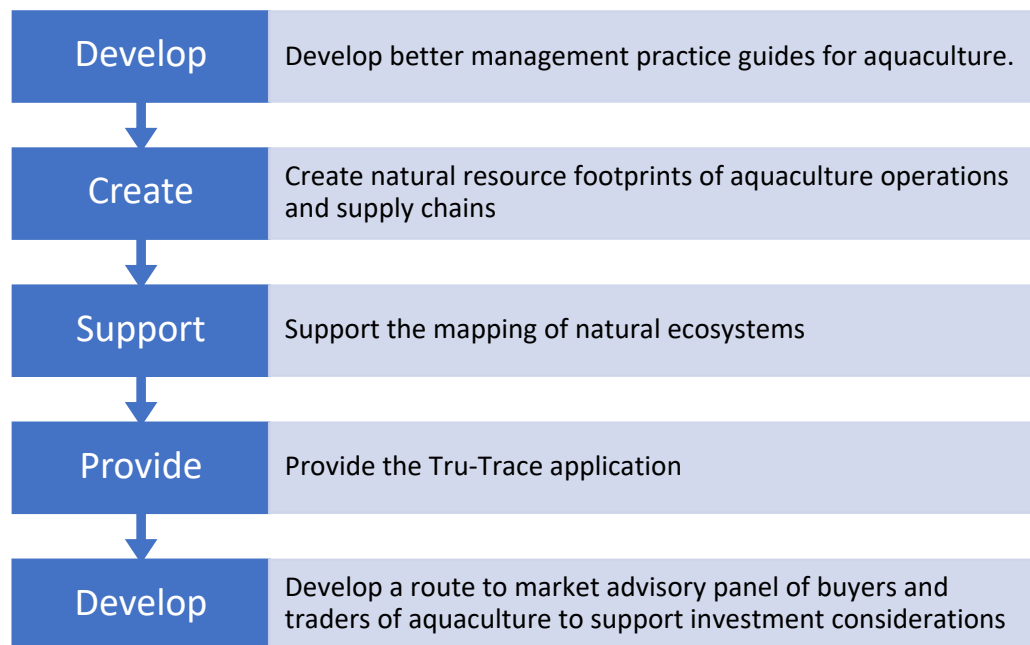
- Includes green bonds/loans, blue bonds/loans and sustainability – linked loans



WWF works with communities to conserve natural resources for sustainability



WWF works to help local communities **conserve the natural resources** they depend upon; transform markets and policies **toward sustainability**; and protect and restore species and their habitats.



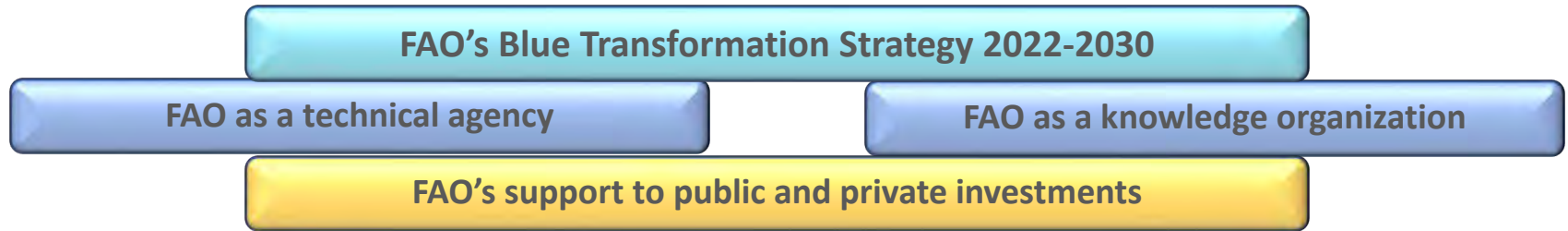
GEF has a wide portfolio of aquaculture engagement under GEF-8

Why Act?

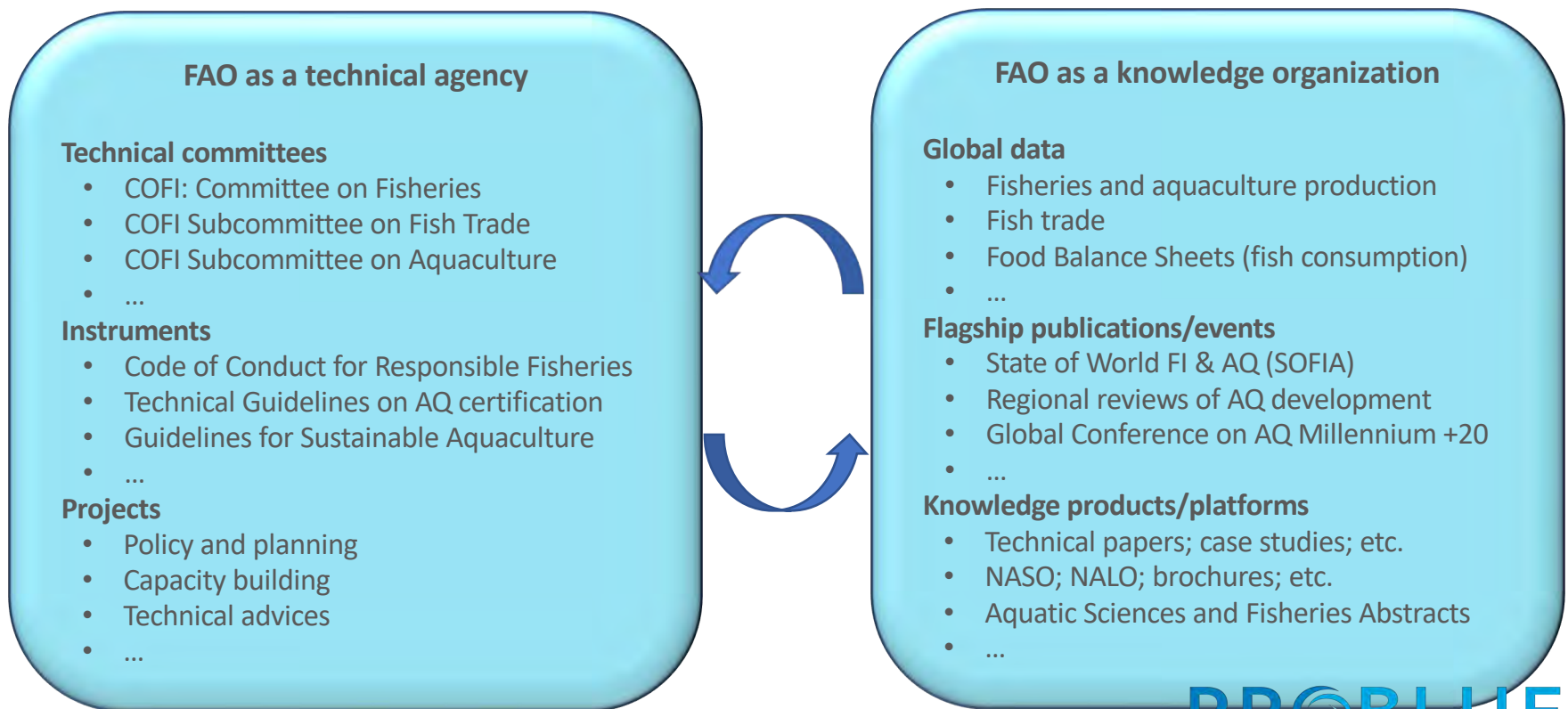
- Capture fisheries outputs stagnant or declining.
- Aquaculture is responsible for growth in the supply of fish for human consumption.
- **The Challenge:** to position nature at the core of the aquaculture sectors delivery of jobs, affordable and low-footprint proteins, and human health improvements, while allowing catch fisheries to recover.
- GEF is currently negotiating a **broader mandate** to strategically engage in the fresh and marine aquaculture sub-sectors.
- The Aqua-business Investment Platform positions the WBG as a potential future partner by providing a holistic **directional approach** to aquaculture development.



Role of FAO



FAO's Blue Transformation Strategy 2022-2030: Blue Transformation is a targeted effort by which agencies, countries and dependent communities, use existing and emerging knowledge, tools and practices to secure and sustainably maximize the contribution of aquatic (both marine and inland) food systems to food security, nutrition and affordable healthy diets for all. It builds on existing successes while providing a framework to overcome sustainability challenges.



World Aquaculture Performance Indicators (WAPI)

A mechanism to compile, generate and disseminate information and knowledge to **facilitate evidence-based policymaking and sector management in aquaculture development.**

Knowledge accumulation

Technical papers on methodologies

- FATP 607: fish demand-supply gaps
- FATP 606: FI & AQ's contribution to GDP
- FATP 605: species diversification in AQ
- FATP ???: seafood liking index
- ...

Country/case studies on key commodities

- Tilapia (5 countries in Africa + 2 in LAC)
- Seaweed (6 countries + a global overview)
- ...

Factsheets; policy briefs

- Factsheets on AQ growth potential
- Top 10 species groups in global AQ
- Country briefs (e.g. Kenya, Nigeria, etc.)
- ...

Evidence-based policy and planning

Tailor-made products to backstop projects

- Policy and planning in Azerbaijan, Kyrgyzstan.
- Market assessments in Pakistan, Albania and Kazakhstan.
- ...

Standardized products to facilitate projects

- Factsheets on AQ growth potential
- ...

Seaweed as an example

- Participation in partners' initiatives: Seaweed Manifesto; Safe Seaweed Coalition
- An agenda on algae at COFI 11th SCA
- An overview of seaweeds and microalgae
- ...

Doing Aquaculture as a Business: Capacity Development and Tools to promote Commercial Aquaculture

Aquaculture as a business

Change of AQ development paradigm in Africa

- Subsistence aquaculture: limited growth
- Business-oriented development needed
- Business training workshops
- Integrated technical-business training

Financial analyses and business planning for AQ development (e.g. Pakistan, Sri Lanka)

- FA of aquaculture production systems and value chain enterprises for informing project design and sector development planning
- Related capacity development for Government staff

Analysis/training tools

User-Friendly Tool For Investment Decision Making in Aquaculture (UTIDA)

- Assisting small- and medium-scale fish farmers in identifying, planning and implementing investments in aquaculture

RuralInvest

- Methodology and toolkit for preparation of sustainable agricultural and rural investment projects and business plans

Others

- Customized Excel applications for FA and business planning of a wide range of aquaculture production systems and value chain enterprises (>30 models)
- Bio-economic modelling of tilapia farming

Carrying capacity assessment services support Aquabusiness investments- Longline



Spatial planning advisory



Aquaculture carrying capacity (FARM, FINS)



Environmental intelligence (AquaSpace)



Aquaculture risk (AquaRisk)



Strategic aquaculture roadmaps



Policy and regulatory frameworks



Disease and bio-security policies



Water quality monitoring programmes

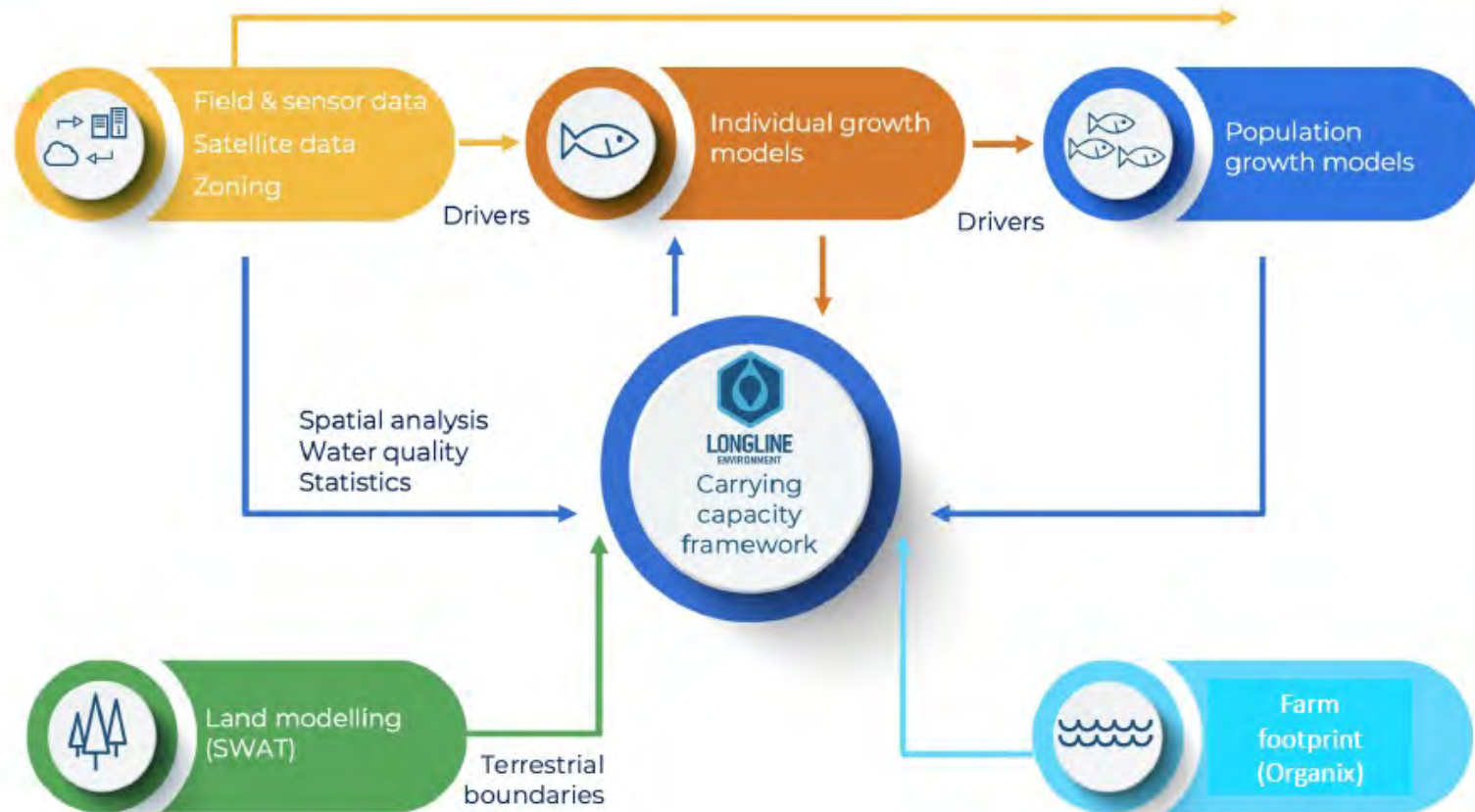
Aquabusiness Investment Advisory Platform support



- Advise clients on how to encourage private sector investment
- Advise companies on how to succeed
- Best practices for producers
- Policy and regulatory framework
- Sustainable production models
- Market studies
- Ecosystem carrying capacity
- Innovative mixed-scale and blended capital business

Solutions

FARM | Modeling carrying capacity





Carrying capacity. FARM models carrying capacity, simulating aquaculture growth and environmental efforts based on physiology using an individual-based population dynamics.

Environmental & production stewardship. Understand the impact farming operations have on the surrounding environment and quantify sustainability factors associated to production scenarios.

Aquaculture mass balance. Get the big picture and know the production and environmental effects of different production targets, associated feed usage, and water quality changes.

Farm | Modelling
Carrying Capacity



Global Seaweed Report



HATCH
Innovation Services



THE WORLD BANK

SUPPLY

Field trip across the major seaweed producing regions globally

In-field survey and footage of at least 50 farms and 10 processing facilities will allow to get first-hand intelligence from seaweed producers in each key geography around the following themes:

- Farmed species and business model
- Farm infrastructure
- Cultivation practices
- Productivity
- Handling and processing of biomass
- Commercialization opportunities
- Value Chain Gap Analysis
- Challenges and expansion plans

Data collection: 6 countries, that together produce ~ 98% of global seaweed production.

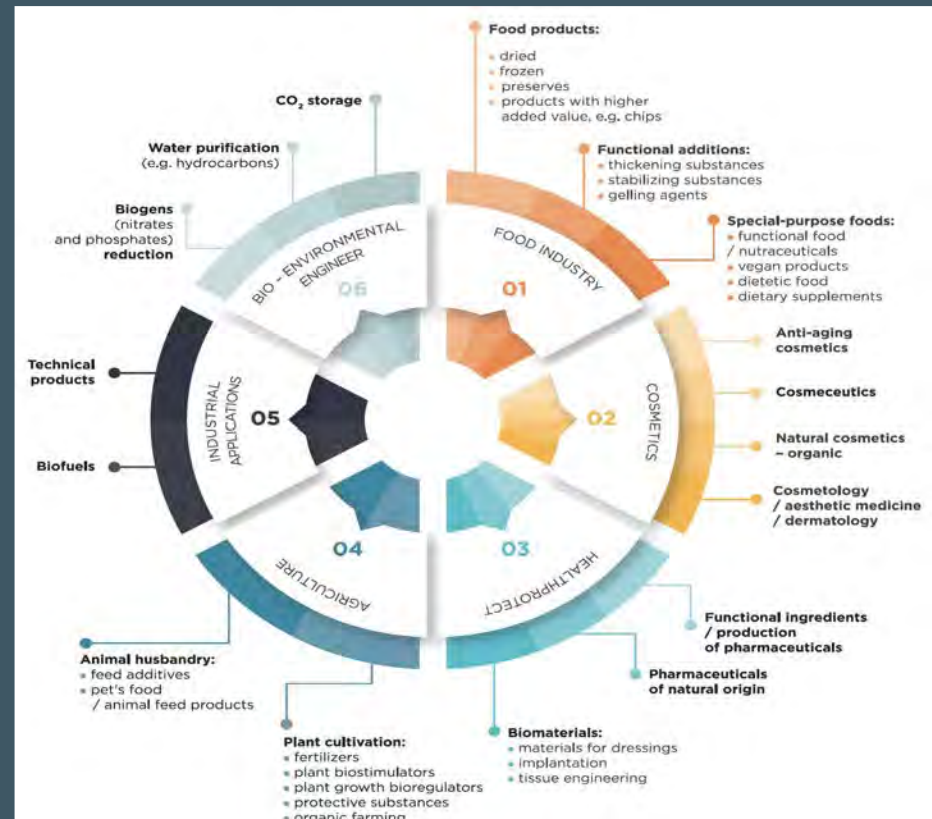
Tropical & only red seaweeds: Indonesia, Philippines, Malaysia
Temperate & mainly brown seaweeds: China, Japan, South Korea



MARKET

Market analysis for novel seaweed products and applications

In-depth literature review and interviews with experts and industry stakeholders to model global markets and market trends for high-likelihood applications across following sectors:



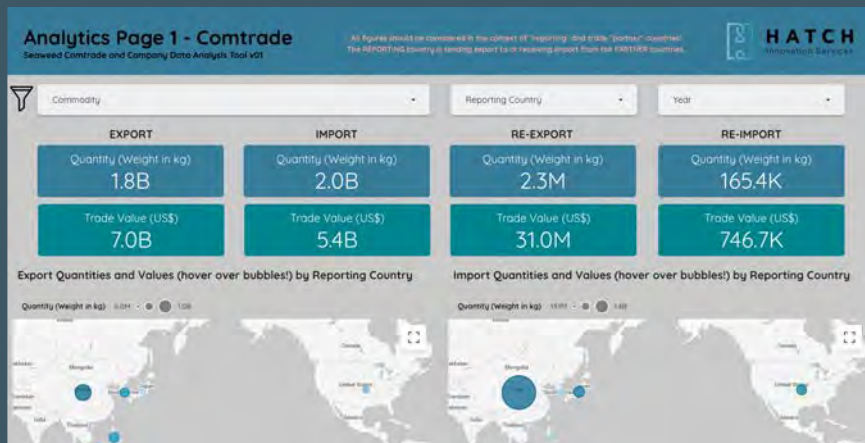
HATCH
Innovation Services



HATCH
Innovation Services

Seaweed Supply and Trade Visualizations

- Link to Data Analytics page is available [here](#)



- The purpose of this interactive report is to give a high level overview of global seaweed trade regarding volumes and market values in the context of trade flows (imports and exports) between countries.
- This will form the basis of our supply side study, with publicly available data combined with our in-field data to provide an overview of the current state of the seaweed industry and provide insight for the demand side report.

Project Team

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Peter Mbanda Umunay, Senior Environmental Specialist, GEF

An underwater photograph of a coral reef. In the foreground, there is a large, textured, greenish-brown coral structure. Behind it, several tall, thin, feathery coral stalks rise vertically. The background is a deep blue ocean with some small fish visible. A semi-transparent grey box is overlaid on the left side of the image.

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