

Integrated Sustainable Blue Economy

Focus: Sustainable aquaculture
Coastal economy



Geospatial World Forum 2026, Amsterdam
Hydrospatial Infrastructure & Blue Economy Seminar

Pratap Sinha | Advisor
Support of Agroecological Transformation Processes in India (SuATI)

April 2026

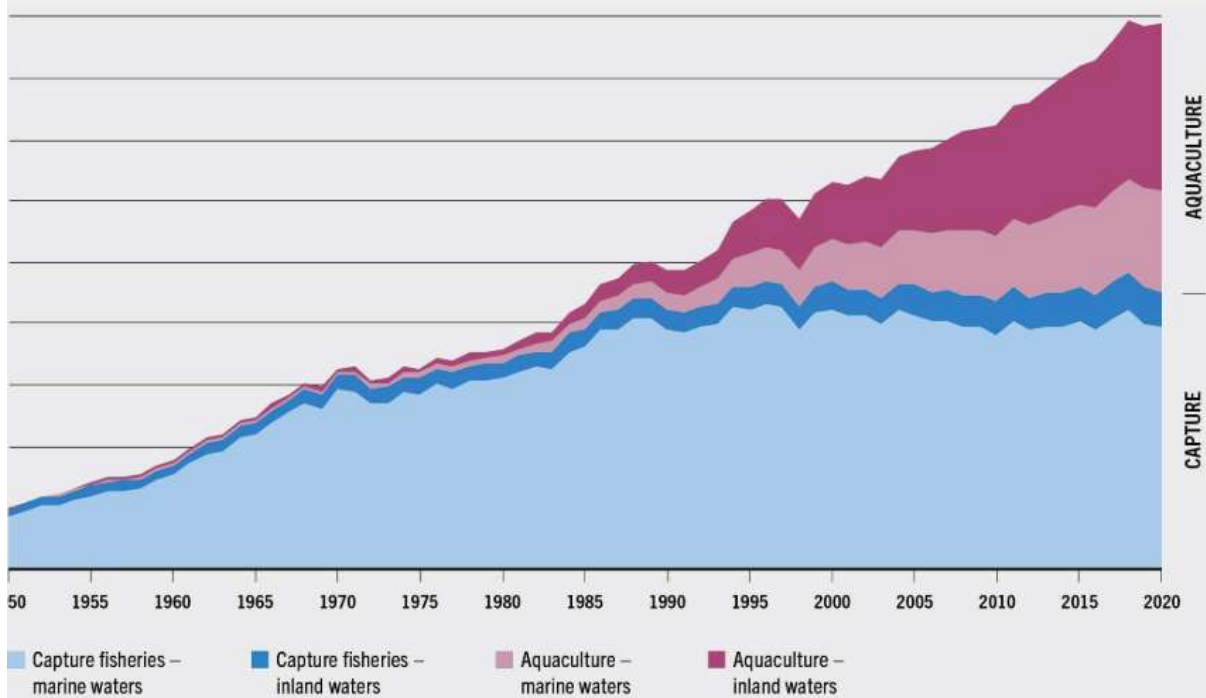
External

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Why focus on sustainable aquaculture - globally?

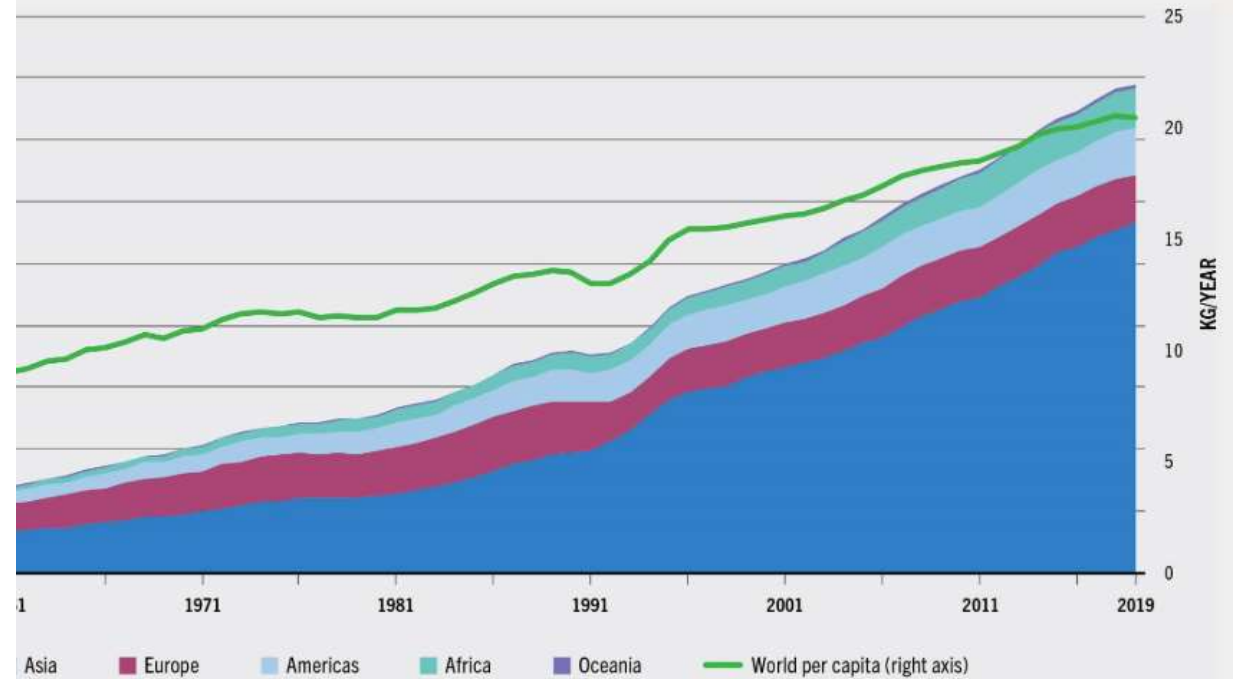
Connecting the dots...

1 WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION



excluding aquatic mammals, crocodiles, alligators, caimans and algae. Data expressed in live weight equivalent. FAO.

39 AQUATIC FOOD CONSUMPTION BY CONTINENT, 1961–2019



Data in million tonnes expressed in live weight equivalent. FAO.

Aquaculture and resources intensity



Diversity of Aquaculture



Stocking density

Organic trout
Denmark

Intensive trout
Denmark

Organic shrimp
Bangladesh

Intensive shrimp
Netherlands

Traditional carp
Germany

Intensive carp
India

- Different species**
- Different stocking density**
- Different environment**
- Different technique**
- Different feeding**
- Different... !**

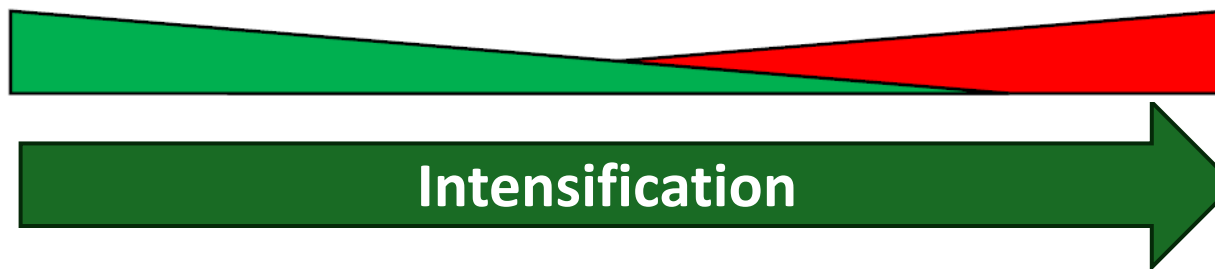


The debate

Extensive



Intensive



Increasing demand for external inputs and ecosystem services
Decreasing reliance on natural productivity

Decreasing profits per kg fish but
Increasing potential for higher overall profits

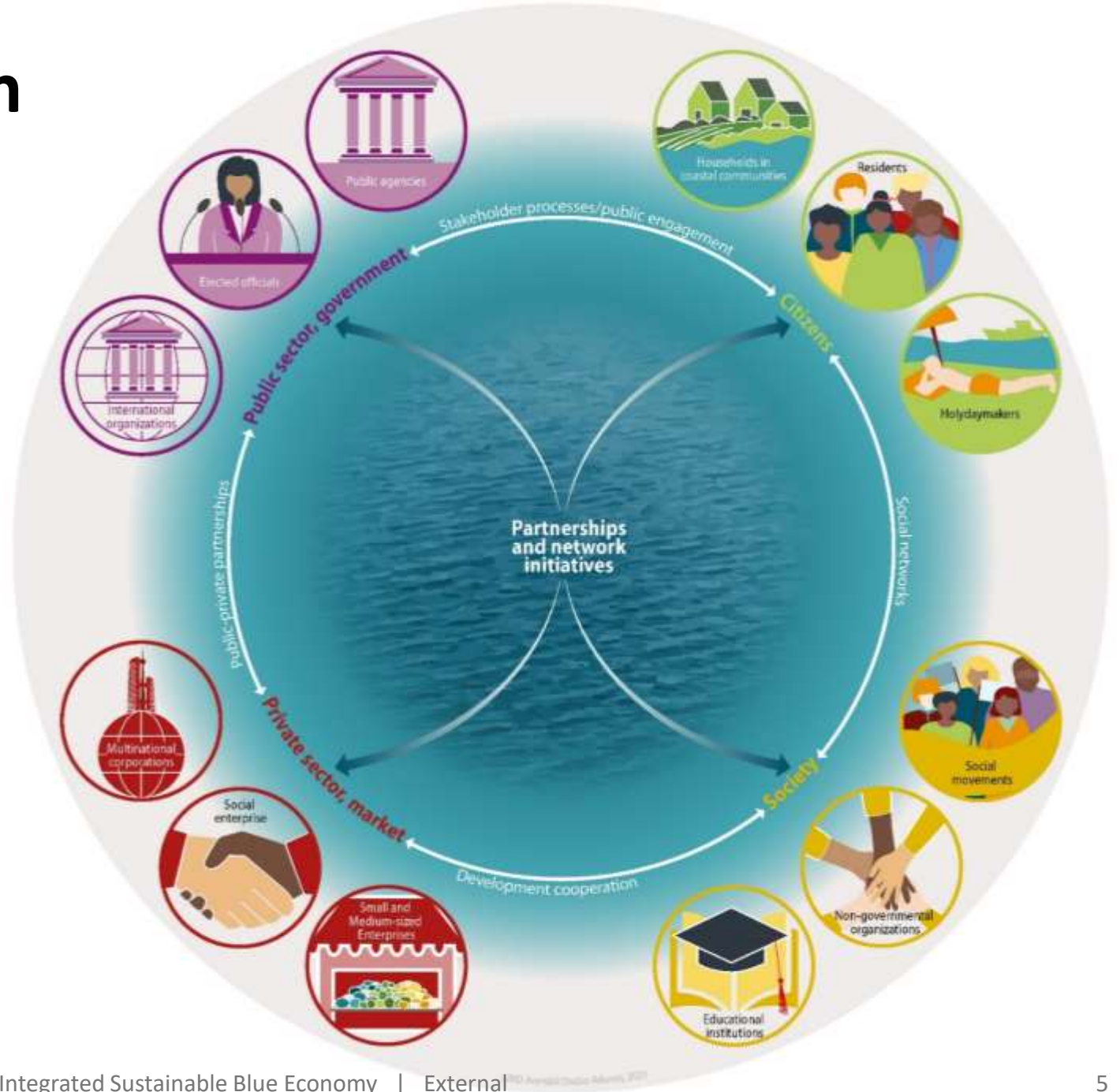
Decreasing diversity and resilience
Increasing risk of failure (oxygen, diseases, predator, theft)

Increasing investment for feed, fingerlings and energy
Decreasing applicability for poor households

Decreasing social acceptance

Approach to strengthen 'Sustainability' in Blue Economy

- Successful change of systems requires long-term thinking in large contexts – thinking in terms of **missions**
- Working in a cooperative **partnership**
- **Action** at local, regional and global level



Global Programme (GP) Sustainable Fisheries and Aquaculture

 Federal Ministry for Economic Cooperation and Development (BMZ)

 10/2016 until 10/2025

 Approx. €84 million incl. EU co-financing

 Food-insecure population has access to more fish products & higher incomes from sustainable fisheries & aquaculture

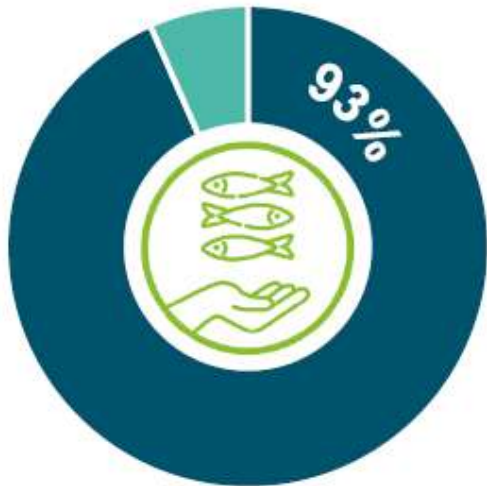
 Cambodia, Ghana*, India, Madagascar*, Malawi, Mauritania, Mozambique*, Uganda, Zambia



Impact on Aquaculture

+890

tonnes of total yearly fish production from sustainable aquaculture



■ Share available for food insecure population

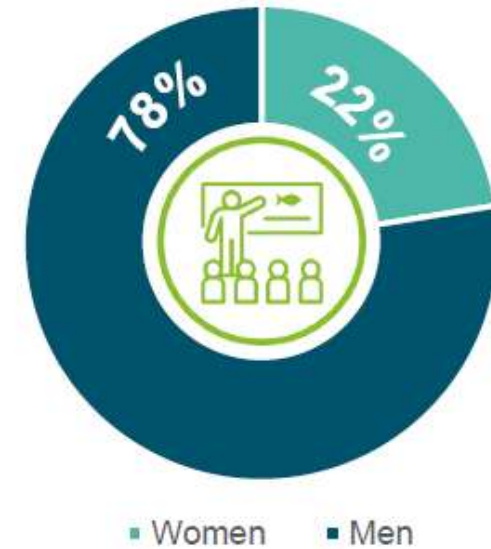
+2.9 mio.

Euros additional income per year generated



+17,610

trainees apply good aquaculture practices



Approaches/Concepts in Fishery

+340,000

tonnes of wild catch
are regulated and reported
per year

Fishery components aim for a sustainable use of fishery resources. Fishery resources are public resources and the public sector is responsible for its management.

Marine fishery

- National approach
- Government manages the fishery for small pelagic species
- Fishmeal industry, local market



Mauritania

Inland fishery, large water body

- Multinational approach
- Government manages the fishery for Nile Perch
- Export and local market



Uganda (Kenia, Tanzania)

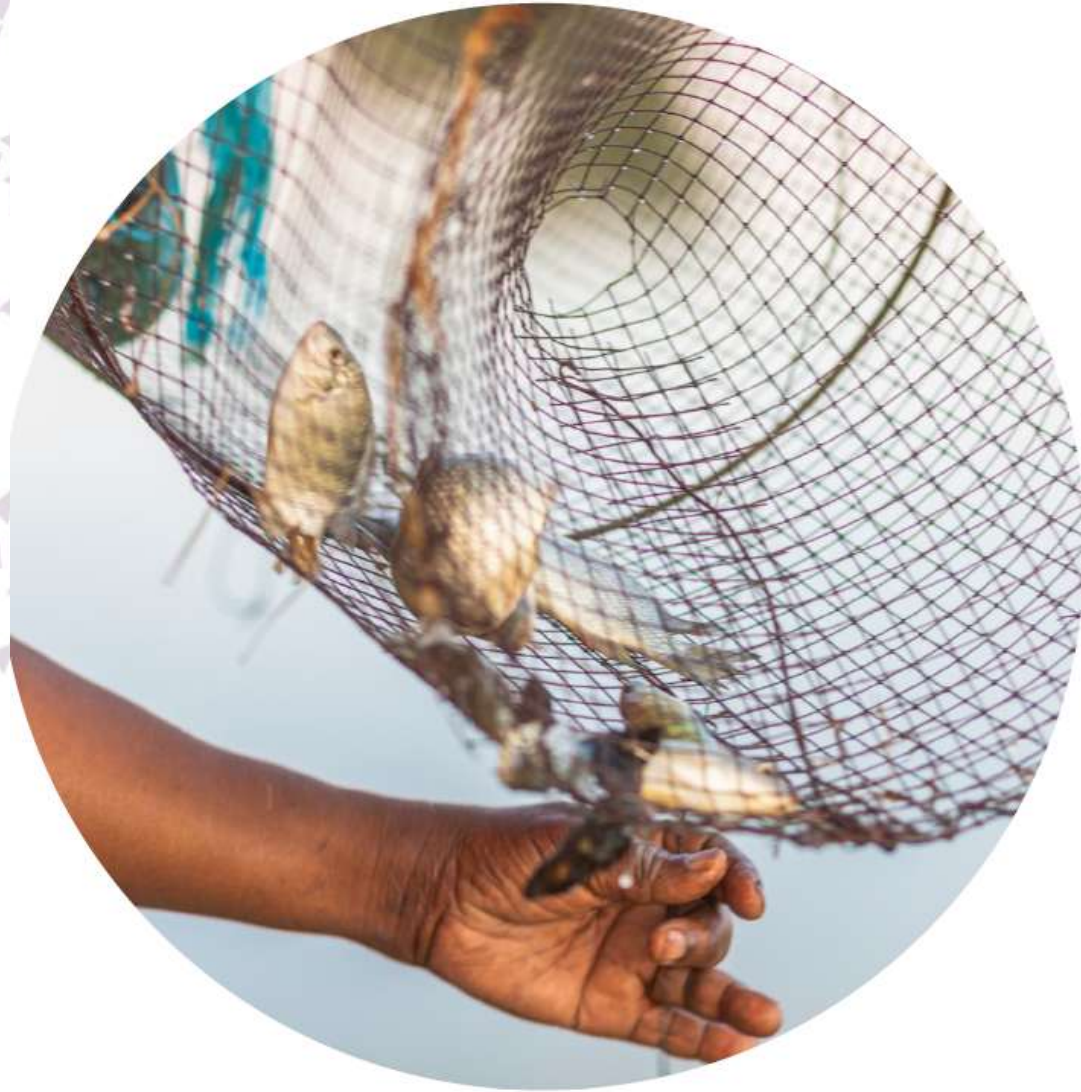
Inland fishery, small water body

- Community approach
- Committees manage the fishery supported by the community
- Local market



Zambia, Cambodia

Intermittent Harvest method



- **Result of a scientific study** (at NAC, Malawi) on the development of new forms of utilisation of existing aquacultures
- **Local development and production of a fish trap** to regularly catch small fish
- **Training and demonstrations** on the construction and use of fish traps
- **More regular fish consumption** in rural households
- **Reduced production risk** due to total loss of harvest

Multi-Stakeholder-Platforms (MSPs)



- **Consultancy** on setting up an MSP
- **Organisation of MSP meetings and technical working groups**
- **Platform for the exchange of information and experience**
- **Joint development of policy positions** on laws, strategies and action plans
- **Joint development of solutions** for challenges in the sector



MAURITANIA

Hygiene and quality trainings increase incomes and protect consumers



Malmouna Niang, a fish seller in Kaédi, is one of the many value chain actors who participated in trainings on hygiene and quality. She describes the benefits of the trainings as follows: *“The training helped me, because we were shown how to preserve our fish by putting it on ice, avoid mixing rotten and fresh fish, and prevent contamination with bacteria by wearing gloves, to ensure the health of the people who buy from us”*.

Implemented on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), the project *Sustainable Artisanal Fisheries in Mauritania (Pêche Artisanale Durable en Mauritanie, PADeM)* provides training in hygiene and quality for small pelagic fish, as this is the main catch in the Mauritanian artisanal fisheries sector. Additionally, the project developed guidelines, detailing best practices at various stages of the fish value chain, all accessible on the App *“dely seyd”*. Local fishing associations and the *Center for Qualification and Training in Fishing Professions* will act as continuous knowledge brokers for training on hygiene and quality in their respective working environment and above all in the small pelagic fish value chain. Proper handling of fish reduces post-harvest losses and leads to higher quality fish, which in turn means more income for value chain actors. Moreover, it means more food safety for consumers.



Testimonial: Ms. Sonmani Devi

Borbeel Farmer Producer Company Limited

Location: Nagaon district, Assam state, India

Water area: 1.75 acres (present)

Species: Indian Major Carp

Before training	After GIZ and DoF support
Annual Income: 200 EUR	Annual Income- 1,200 EUR <i>Percentage Increase: above 100%</i>

What changed?

- Scientific pond preparation and management
- Application of lime and organic manure
- Regular water quality test
- Adoption of Effective Microorganism application

Knowledge material , new courses and tools:-

PANORAMA [Sustainable Aquaculture for Food and Livelihood | PANORAMA](#)

Integrated Sustainable Blue Economy | External



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Connecting the dots...



Eat Healthy

nutrition security
 healthy consumption
 nutrition education
 local traceability
 traditional food
 food group
 diversification



Safe production

certified food
 soil health biodiversity
 local animal health
 water fish health
 quality
 natural farming
 chemical control
 pesticide control
 innovative technologies



Sustained income

bioresource centres
 income diversification
 gain farmer business
 ecotourism recycling
 private investment
 scheme convergence
 women entrepreneur
 crop diversification
 supply chain digital

Integrated Sustainable Aquaculture in Practice



Governance • Compliance • Impact across Sectors

BANGKOK | 3 DAYS TRAINING + 1 DAY FIELD VISIT | **CERTIFIED MULTISECTORAL TRAINING**
November 2026, tbc

Integrate sustainable aquaculture as a driver for climate, food, water, energy and rural development as a scalable solution that powers your goal – across sectors.

WHO IS THIS FOR?

Development practitioners (GIZ & partners)	Policy maker or government agencies
NGO, civil society organisations	Private sector, consultants and others

WHAT YOU WILL LEARN

- Translate global standards into local solutions
- Apply practical tools to design aquaculture interventions
- Build climate-resilient and low-input production models
- Understand water, energy, and food system integration
- Learn decision-making using data, GIS & AI tools
- Develop basic feasibility & business cases

Where Climate Change, Water, Energy, Agriculture, Food Security, Skill Development, Biodiversity and Rural Development **ALL MEET** → **SUSTAINABEL AQUACULTURE**

INTERESTED? REGISTER YOUR INTERES NOW at below email

Reach out to: pratap.sinha@giz.de | jeherul.islam@giz.de
 In your email, please mention: Your area of work | Choose 3 interests from learning outcomes

OR Register via QR Code!

More details will follow!



Integrated Sustainable Aquaculture in Practice

Governance, Compliance and Impact across Sectors

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Register here



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