



Resilient Aquatic Food
Systems for Healthy
People and Planet

AQUADATA in brief

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Definition

Aquatic foods derive from over 3000 species of animals, plants and microorganisms grown in or harvested from water.



Why an initiative in aquatic foods?



Provide micronutrient-rich foods for **3.3 billion people**.



800 million people depend on small scale fisheries and aquaculture for their livelihoods



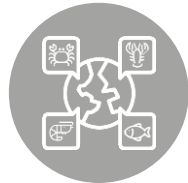
1 in every 2 workers in the primary and secondary sector of fisheries and aquaculture are women. They are crucial to aquatic food systems, providing labour, innovative ideas and entrepreneurship.



Aquaculture is the fastest-growing food production sector in the world. Its production is set to increase by **32% to 109 million tons**



Aquatic foods can supply essential micronutrients with **lower carbon footprint and far fewer biodiversity impacts** than many land-based crops and livestock.



Global demand for aquatic foods has doubled since 2000.



Aquatic foods are deeply interconnected with the rest of the food system – in **human and livestock diets, supply chains, and water systems**.



AqFS identifying as one of seven priority investments in agricultural research by **Experts and Scientific Group of the 2021 UN Food Systems Summit**.

Challenges to resilience



Overharvesting of wild aquatic food stocks



Inequities in supply-chains



Inequitable aquaculture productivity growth



Vulnerabilities to climate change



Pollution, land use change, and competition for water, space and resources in the 'blue economy'



Aquatic animal diseases and antimicrobial resistance



Supply chain disruptions from COVID-19, natural hazards and political and economic instabilities

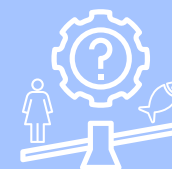
All these challenges exacerbate existing gender and other inequalities

Why these challenges persist

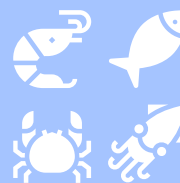
An order-of-magnitude **underinvestment** in aquatic food systems R&D, resulting in:



Lack of data to inform policy and investment decision making leads to them being under-valued



Power asymmetries that marginalize AqFS actors - particularly women - in food systems transformations and the 'blue economy'



Aquatic foods and associated livelihoods being overlooked in large-scale water resource management planning



Underinvestment in genetic improvement for farmed fish limits productivity, profitability & resource use efficiency gains



Innovations and potential solutions to AqFS challenges remain unscaled because national agricultural innovation systems don't extend to aquatic foods

Work packages



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Outcomes

Scaling partners and stakeholders in 11 countries use improved knowledge systems and data to inform at least five evidence-based investments supporting aquatic food systems transformation.

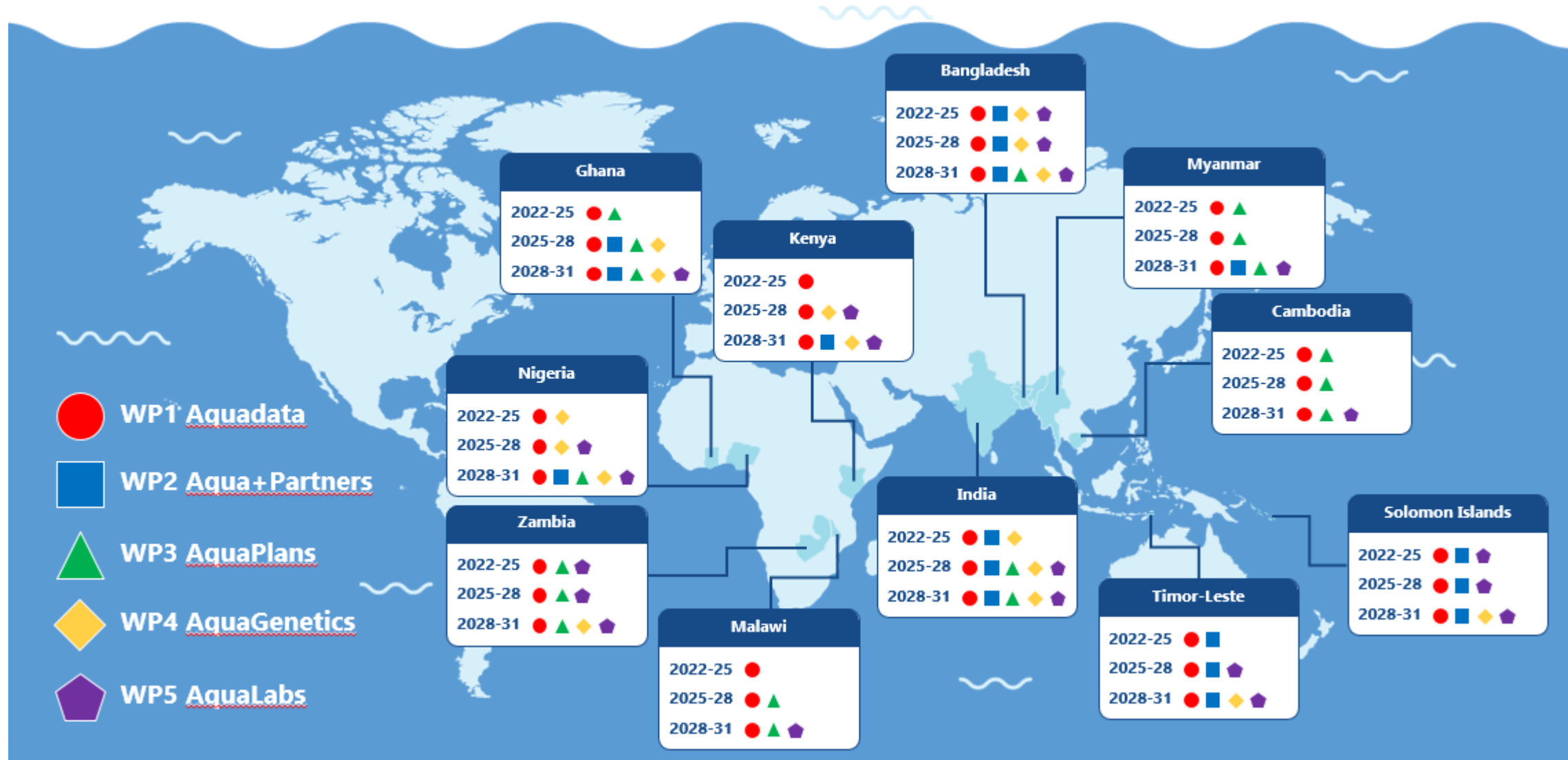
Aquatic food system labs in Solomons, Bangladesh and Zambia increase national innovation systems' ability to identify, evaluate and scale socio-technical innovations.

Improved management and co-production of sustainable development pathways secure rights and livelihood benefits for 100,000 small-scale actors in aquatic food systems in Asia-Pacific and bring more nutritious diets to 700,000.

Gender-transformative strategies to enhance integrated food, livelihood, and water use outcomes in multifunctional land- and waterscapes adopted by national stakeholders in Myanmar, Cambodia, Ghana and Zambia

At least 2 tilapia, carp and catfish strains demonstrate increased productivity (+30%) and environmental performance (-25% GHG emission reduction) in Bangladesh, India and Nigeria.

Focus countries and phases



Why AquaData?

The lack of robust and coherent data on Aquatic Food Systems (AqFS) performance is a fundamental barrier to realizing AqFS transformation.



What AquaData intends to do



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- (a) synthesize existing data and produce new data to support equitable, evidence-based decisions and investments;
- (b) produce benchmarking data and structure AqFS monitoring and evaluation in real time;
- (c) Improve evidence informing decisions and actions by farmers and fishers, private sector, and policymakers.

Research will also: (i) increase availability of Findable, Accessible, Interoperable, and Reusable data; (ii) demonstrate the use value of integrated AqFS datasets; (iii) structure basic indicators of competitiveness, inclusivity, and sustainability for aquatic foods.

Geographic scope: Bangladesh, Cambodia, Ghana, India, Myanmar, Nigeria, Solomon Islands, Timor-Leste, Zambia (WPI-4 countries) + Global

Pathway 1 – Identifying data gaps in aquatic food systems

Key methods:

Gap analysis of the availability, quality, and usability of public data according to the various actors in AqFS

Mixed, participatory action methods, choice experiments, quantitative socioeconomic and environmental analysis (i.e., on-farm trial and on-farm-performance studies) used to characterize AqFS in different geographies



Pathway 2 – New and derived data for aquatic food systems

Key methods:

Assembling and unifying existing datasets from available sources, and establishing new longitudinal gender sensitive data collection using innovative, low-cost digital monitoring protocols to develop and deploy a set of integrated, publicly available, continuously updated aquatic food systems databases



Pathway 3 – Informing decisions and policies on aquatic food systems through data



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Key methods:

Action research in focus different geographies, to design and test how digital systems, remote sensing, analytics and artificial intelligence (such as cybernetics) can support stakeholders to identify actions and policies in AqFS.

Analyses of existing policy frameworks and benefit projection through foresight analysis.



From Data to Interventions, Policies and Impacts – FishBase and AquaData



Address Data
Management: What,
Whom For, and How?



**Meeting
Data
Needs**



**Sustainable Data
Ecosystems**



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Thank you



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