Aquaculture Innovation Alliance (AIA) Proposal

A program proposal based on AIA member experiences and cases for implementation in emerging aquaculture countries, supported by the World Bank, FAO, or others.



This is an open proposal of the AIA, to be embraced by international institutions seeking to strengthen the development of sustainable aquaculture.

Members of AIA will collaborate to implement this proposal, based on their diverse capacity and experience, focusing on emerging countries in this crucial sector for feeding the world.

Adolfo Alvial, Chairman of the Board Jeanne McKnight , President



21 December 2024

Overview

- **Goal**: Address global challenges in aquaculture by sharing knowledge, resources, and technology.
- **Purpose**: Support sustainable practices, enhance resilience, and promote food security worldwide.
- **Approach**: Foster collaboration across countries for research, policy, and practical solutions in aquaculture





Sustainable Aquaculture

Environmentally responsible practices that support economic and social goals.

• **Challenges**: Pollution, resource dependency, and biodiversity impacts.

• Alliance Role: Share sustainable methods, establish global guidelines, and promote eco-friendly practices.





2 Human Capital & Skill Development

Building skilled aquaculture professionals.

Challenges: Limited training access and high costs.

Alliance Role: Provide shared educational resources, certification programs, and international skill standards.





3 Renewable Energy & Carbon Reduction

Using renewable energy to reduce carbon emissions in aquaculture.

Challenges: High costs and technical limitations.

Alliance Role: Share renewable solutions and co-invest in research for affordable clean energy options.





4 Climate Change Adaptation

Preparing aquaculture for climate impacts like rising temperatures and acidification.

Challenges: Species vulnerability and infrastructure needs.

Alliance Role: Collaborate on resilient species, data-sharing for early warning, and adaptive infrastructure.





5 Small-Scale Aquaculture Support

Providing resources to smallscale and artisanal farmers.

Challenges: Limited access to markets, funding, and technology.

Alliance Role: Create funds, share technology, and connect small-scale farmers to international markets.





6 Collaborative Innovation and Knowledge Sharing

Partnerships for joint R&D and knowledge-sharing.

Challenges: Coordination and funding issues.

Alliance Role: Establish innovation hubs, co-investment platforms, and an open-access research database.





7 Nature-Positive Aquaculture

Practices that restore ecosystems while producing food.

Challenges: Balancing environmental goals with profitability.

Alliance Role: Set nature-positive guidelines, fund demonstration projects, and promote restorative practices.





8 Technology for Large-Scale Aquaculture

Using technology to expand aquaculture sustainably.

Challenges: High waste, disease risks, and resource demands.

Alliance Role: Facilitate largescale trials, share scalable tech solutions, and promote ecofriendly practices.





9 Circular Economy Practices

Recycling waste within the aquaculture system.

Challenges: High processing costs and technical barriers.

Alliance Role: Support wasteprocessing collaborations and promote circular economy practices worldwide.





10 Digital Technology in Aquaculture

Using AI, robotics, and big data for efficient aquaculture.

Challenges: High costs and data privacy issues.

Alliance Role: Share digital tools, establish data protocols and standards, and build data networks.





11Policy andLegislative Supportfor Innovation

Aligning policies with scientific advancements.

Challenges: Regulatory delays and inconsistent standards.

Alliance Role: Share policy best practices, support adaptive frameworks, and advocate for regulatory reforms.





12 Social License to Operate (SLO)

Gaining public acceptance and community support for aquaculture operations.

Challenges: Public skepticism and community concerns.

Alliance Role: Promote transparent communication, set global SLO standards, and share successful engagement strategies.





13 Environmental Monitoring in Aquaculture

Tracking water quality, biodiversity, and ecological impact.

Challenges: High costs and inconsistent data standards.

Alliance Role: Develop shared monitoring protocols and build a central data repository for ecosystem health.





14 Emerging Species in Aquaculture

Cultivating new species to diversify and strengthen the sector.

Challenges: Research costs, regulatory barriers, and limited market knowledge.

Alliance Role: Share research, establish best practices, and support streamlined regulations for emerging species.





15 Fish and Shellfish Welfare

Ensuring the ethical treatment and well-being of farmed aquatic species.

Challenges: Understanding species-specific needs and costs of welfare practices.

Alliance Role: Set welfare standards, promote humane practices, and provide welfarefocused training programs.







SIGNATORY AIA MEMBERS AS OF DECEMBER 2024

Acuiplus, Spain Aquapacífico, Chile Aquacenter SRL, Perú Asian Institute of Technology AIT, Thailand CASA Center, Universidad de Chile, Chile Charles Darwin University, Australia CENAIM-ESPOL, Ecuador Club Innovación Acuícola, Chile Endeavor, Chile FAVET, Universidad de Chile, Chile

FUNCAP, Brazil

IMAR- Universidad de Los Lagos, Chile IMIPAS, México Indonesian Aquaculture Society INTESAL – SALMONCHILE, Chile NORCE, Norway Northwest Aquaculture Alliance, USA Universidad Austral de Chile, Chile Universidad Católica del Norte, Chile

Organizations in the process of signing are shown in gray.