



Global Conference on Aquaculture 2010

Farming the waters for People and Food

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Thematic Session III

Maintaining environmental integrity through responsible aquaculture

- I. Improving biosecurity: a necessity for aquaculture sustainability (Dr Mike Hine, New Zealand)
- II. Addressing aquaculture- fisheries interactions through the implementation of the ecosystem approach to aquaculture (Dr Doris Soto, FAO)
- III. Promoting responsible use and conservation of aquatic biodiversity for sustainable aquaculture development (Dr John Benzie, Ireland)

Thematic Session III

General observations

All presentations effectively addressed the emergent challenges with respect to Environmental Integrity

Commonalities also involves a focus on larger spatial scales

Challenges for both disease/pest management as well as genetic resource management fits nicely under the EAA framework.

I. Improving biosecurity: a necessity for aquaculture sustainability

EXPERT PANEL MEMBERS

Mike Hine, Alexandra Adams, J. Richard Arthur, Cristina Chávez, Tim Flegel, Roar Gudding, Eric Hallerman, Chad L. Hewitt, JesperHedegaard Clausen, C. V. Mohan, RameshPerera, Peter Smith, Robin Wardle

Conclusions

- Aquaculture development (intensification, diversification and trade) brings new challenges to sustainable development of the sector; biosecurity issues become a major concern
- Disease intelligence, research, technologies and information have greatly improved – need to involve especially farmers/producers into the equation for effective implementation
- Need to keep pace with species, systems, technologies and environments in order to understand/determine appropriate biosecurity measures that can be put in place at every step of the culture cycle/value chain at all levels.

Conclusions

- Efforts should be focused on prevention, and maintaining healthy and safe aquatic production
- Risk analysis is an important decision-making tool but should be supported with infrastructure, human capacity and information

The way forward from the expert Panel Presentation

- Surveillance programmes and diagnostic services to detect and identify the arrival and spread of pests and diseases;
- Timely assessment of the threats from new or expanding species;
- Rapid response to eradicate new pests and diseases before they establish and spread;
- Standardization of science-based identification of all risk pathways and high-risk organisms, and implementation of pre-border, border and post-border measures to prevent pests and diseases from entering the country;

The way forward from the expert Panel Presentation

- National frameworks to regulate, manage and control biosecurity.
- Infrastructure, human capacity, research and information to implement the above
- Capacity building, capacity building, capacity building at all levels

Messages to take to the FAO Sub- Committee on Aquaculture Fifth Session

1. International and national efforts to promote biosecurity need to better reach the grassroots levels of the industry and the community stakeholders (e.g. the farmer, extension services, the importer, the processor, the boat owner, the fisherman etc.).
2. Biosecurity frameworks need to keep pace with the unprecedented level of aquaculture development in terms of species, systems and technology.

Messages to take to the FAO Sub-Committee on Aquaculture Fifth Session

3. Standards on aquatic animal health for known pathogens, aquatic pests and food safety are already available but greater commitment by governments is needed to implement these standards.
4. International standards need to be developed to address the high incidence of emerging diseases of aquatic animals and aquatic pests compared to the terrestrial scenario – there is a need to complement the pathogen/pest specific approach to biosecurity with standards that deter high risk practices.

II. Addressing aquaculture- fisheries interactions through the implementation of the ecosystem approach to aquaculture (EAA)

EXPERT PANEL MEMBERS

Doris Soto, Patrick White, Tim Dempster, Sena De Silva, Alejandro Flores, YannisKarakassis, Gunnar Knapp, Javier Martinez, Weimin Miao, Yvonne Sadovy de Mitcheson, Eva Thorstad, Ronald Wiefels

Conclusions

Three main Principles

1. Aquaculture development and management should take into account of the full range of ecosystem functions and services, and should not threaten the sustained delivery of these to society
2. Aquaculture should improve human well-being and equity for all relevant stakeholders
3. Aquaculture should be developed in the context of other sectors, policies and goals.

Salient Points from the Session Discussion

- Need to be clear when communicating EAA that its scope is much broader than interactions with fisheries - including also terrestrial systems.
- The main aim not maximization of fish production but to overcome the sectoral and intergovernmental fragmentation of resources management efforts and to develop institutional mechanisms for effective coordination among various sectors activity in the ecosystems in which aquaculture operates between the various levels of government.
- EAA is being base on principles of sustainable development, where sustainable is not restricted to ecological considerations, but includes economic and social considerations and their interaction with ecological ones.

Recommendations

- The fisheries sector should be invited to the next meeting to forge closer links and develop consensus.
- To use risk assessment tools in planning, especially for culture based fisheries development.

Recommendations

- To encourage closer co-operation between aquaculture and fisheries institutions to coordinate fish production using the Ecosystem Approach to Aquaculture (EAA) and Ecosystem Approach to Fisheries (EAF)

Promoting responsible use and conservation of aquatic biodiversity for sustainable aquaculture development

EXPERT PANEL MEMBERS

John Benzi, Devlin Bartley, Radall Brummet, Brian Davy, Mattias Halwart, Gideon Hulata, Zhu Jian, Graham Mair, Uthairat Na-Nakorn, Thuy T.T. Nguen, Roger Pillin, Igor Solar

Recommendations

1. Improve information on the state of aquatic genetic resources, including wild populations, cultured strains, the state of application, and benefits of, genetic technologies; and the status of, and impacts on, wild populations including the effectiveness of technologies designed to mitigate such effects.
2. Better focus investment in genetic R&D on establishing sound genetic resource management programs with clear objectives, and which provide the necessary foundation for application of a variety of other technologies and encourage their application to a) production and b) wild aquatic genetic resource protection.

Recommendations

3. Encourage exchange among the diverse groups needed for better understanding of aquaculture and conservation activities and improved technology transfer by, e.g., continued dissemination of sound resource material and advice already available.
4. Strengthen the foundation for science based risk analysis and control (through increased understanding, knowledge, technology development and regulatory capability) of interactions between wild and cultured stocks. This can be achieved by increasing the breadth and depth of case studies and encouraging the application of the precautionary approach.

Recommendations

5. Access to and exchange of aquaculture genetic resources (AgR) has played a major role in the rapid growth of aquaculture. Unlike terrestrial plant and animal gR that were domesticated thousands of years ago and maintained by traditional knowledge, aquatic organisms have only been domesticated recently. A significant portion of that process has been accomplished using high levels of technological and financial input by private and public/private partnerships in areas far away from the native range of the species concerned. Access/exchange must be continued with adequate risk analysis. In formulating policies and laws the unique character of AgR must be incorporated.