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COMMITTEE ON FISHERIES

SUB-COMMITTEE ON AQUACULTURE

Second Session

Trondheim, Norway, 7-11 August 2003

OTHER MATTERS AND EMERGING ISSUES

SUMMARY

This Agenda item has two components:

- “Other Matters” brings the attention of the Sub-Committee to matters of concern to aquaculture, which are also within the recommendations made by the Sub-Committee and approved by COFI. Initial advice from the Sub-Committee is required, however, prior to embarking on a full thematic review or a comprehensive work programme. In this regard, two issues are brought to the attention of the Sub-Committee in this document. They are: (a) Exotic aquatic species, their introductions, transfers and movements: the risks and benefits; and (b) Shrimp aquaculture sustainability and current developments. The Sub-Committee is invited to advise the FAO Fisheries Department on its role and function in dealing with these matters.
- “Emerging Issues” provides an opportunity for FAO Members to bring the attention of the Sub-Committee to the emerging issues of concern to global aquaculture development.

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OTHER MATTERS

A. Exotic aquatic species, their introductions, transfers and movements: the risks and benefits

1. The use of exotic species for fisheries and aquaculture diversification has been practised for centuries. However, recent advances in transportation efficiency, live animal trade, and intensification/diversification of aquaculture, have precipitated a significant increase in the number of species being moved in large volumes. In addition to fisheries and aquaculture enhancement, many species are introduced for sport fisheries, the ornamental fish trade, research, biological control and as bait or forage. Although many such introductions have been beneficial, others have resulted in highly publicized failure, spreading pathogens and disease, and generating controversy over protection of biodiversity and cost-benefits of related socio-economic impacts.

2. The use of local stocks of native species for aquaculture development and fisheries enhancement significantly reduces many of these risks. Native species are adapted for growth under local environmental conditions and usually have established markets. Many local species, however, have unknown culture potential or have not been domesticated to a level that will support sustained culture production. Others have limited market or trade potential, or are of low commercial value. In such cases there is pressure to import exotic species, or domesticated strains of local species, that are believed to have greater productivity and economic value. Since movement of all live animals inherently entails some risk of pathogen, genetic or ecological impact, some measure of risk assessment and commensurate safeguards are required.

3. Several international codes and protocols provide guiding principles and tools for reducing the various risks associated with the movement of live aquatic animals. The Fish Disease Commission of the Office International des Epizooties (OIE) outlines recommendations and protocols for preventing the spread of aquatic animal diseases in its International Aquatic Animal Health Code. These recommendations focus on diseases deemed to pose significant threats to domestic and international trade. Likewise, recommendations for reducing adverse ecological, genetic and disease impacts associated with live introductions and transfers of aquatic animals were developed by the International Council for the Exploration of the Sea (ICES) in conjunction with the European Inland Fisheries Advisory Commission (EIFAC) of FAO, known as the ICES/EIFAC Code. Other valuable guidance for national, regional and international reduction of disease risks associated with trans-boundary movements of live aquatic animals has been provided by the Asia Regional Technical Guidelines on Health Management of the Responsible Movement of Live Aquatic Animals, and their associated Manual of Compliance, and the Beijing Consensus and Implementation Strategy (BCIS). These were developed by representatives from 19 Asian countries, international experts on aquatic animal health and representatives from national, regional and international agencies and organizations.

4. The FAO Fisheries Department, in collaboration with partners including the Network of Aquaculture Centres in Asia-Pacific (NACA), the World Conservation Union (IUCN), the World Wide Fund for Nature (WWF), the Asian Institute of Technology (AIT), the University of California Sea Grant Program, and several national governments, is currently organizing a Workshop entitled "Use of International Mechanisms for the Control and Responsible Use of Alien Species in Aquatic Ecosystems". The Workshop is partly financed by the FAO/Government of Netherlands Partnership Programme and is scheduled to be held in late 2003. The Workshop will focus on the Mekong River Basin area and is expected to create awareness on the importance of managing alien species in the Mekong region and to develop recommendations for future action.

5. However, despite these efforts, guidelines and protocols, large volumes of live fish and shellfish continue to be moved with little or no consideration of potential environmental or disease consequences. Thus, substantial losses and socio-economic impacts continue to occur, despite well-documented examples of the risks.

6. In the light of ongoing, uncontrolled, movement of live aquatic animals, subsequent incursions of pathogens, recurrent disease outbreaks, and the resulting ecological and socio-economic problems, the question arises: “Why do live aquatic animal transfers continue to occur with negligible concern or control?” Several possible explanations exist:

- Lack of knowledge on the part of the import/export authorities or the authorities responsible for protecting aquatic resource productivity.
- Commercial pressure reducing “unacceptable risk” to near zero.
- Difficulty in the understanding of complex protocols or protocols clearly aimed at production systems or environmental resources that bear little resemblance to local circumstances.
- Difficulties in compliance with standards that require infrastructure and training investment that supersede local production value or value of ecological protection. That is, are international standards set too high to be readily complied with?
- Minimum “generalized” standards are too low to provide effective guidance and protection.
- Lack of liability or legal infrastructure to discourage individuals from causing environmental damage or disease spread.
- Selective or focused administration of codes and protocols, leaving “difficult to administer species” outside surveillance and import controls (e.g. exemption of traditional export/imports or high investment/employment sectors).

Suggested action by the Sub-Committee

7. The Sub-Committee is invited to

- comment on the above items and suggest actions that might be taken to ascertain the reasons why live aquatic animal transfers continue to occur with negligible concern or control;
- offer its advice on the role and function of FAO in addressing the issue;
- consider the establishment of an intersessional technical task force charged to address the issue of risk assessment and management involved in the movement and transfer of live aquatic animals, with the view to develop a comprehensive framework for action and activities involving relevant stakeholders.

8. The Sub-Committee may wish to consider recommending specific action by FAO's Fisheries Department, FAO Members and regional and international organizations concerned with sustainable aquaculture development and safe trans-boundary movement of live aquatic animals.

B. Shrimp aquaculture sustainability and current developments

9. Shrimp culture is an important economic activity in the coastal area of many countries and offers a number of opportunities to contribute to poverty alleviation, employment, community development, reduction of pressure on coastal fisheries resources, and food security in tropical and sub-tropical regions. However, the development of coastal aquaculture, and shrimp farming in particular, has generated debate in recent years over the social and environmental costs and benefits. The rapid expansion of shrimp farming in some countries in Latin America and Asia has focused attention on the need for effective management strategies. Such strategies are needed to enhance the positive contributions that shrimp farming and other forms of coastal aquaculture can make to economic growth and poverty alleviation in coastal areas, while controlling negative environmental and social impacts that may accompany poorly planned and regulated developments.

10. FAO convened a Technical Consultation on Policies for Sustainable Shrimp Culture (Bangkok, Thailand, December 1997) which brought together government delegates and observers from 12 countries of Asia and the Americas, that together account for approximately 90 percent of the global production of cultured shrimp, and including major shrimp consuming countries. Observers from five inter-governmental organizations and four international non-governmental organizations (INGOs) also attended. The Consultation noted that the achievement of sustainable shrimp culture is dependent on effective government policy and regulatory actions, as well as the cooperation of industry in utilizing sound technology in its planning, development and operations. In this regard, the Consultation recommended that FAO convene expert meetings to elaborate best practices for shrimp culture and desirable elements of the legal and other regulatory instruments for coastal aquaculture¹.

11. As a follow-up to the recommendations of the Technical Consultation on Policies for Sustainable Shrimp Culture, a survey was conducted among the governments of shrimp producing countries, using a questionnaire developed by an Ad hoc Expert Meeting on Indicators and Criteria of Sustainable Shrimp Culture, (Rome, Italy, April 1998²). The objective of the survey was to obtain comments and suggestions on the desirability and format of regular reporting by such countries to the FAO Committee on Fisheries (COFI) on progress made in the implementation of the Code of Conduct for Responsible Fisheries with respect to shrimp culture activities. The results of the survey were made available to COFI in 1999.

12. The Network of Aquaculture Centres in Asia-Pacific (NACA), in partnership with the World Bank (WB), the World Wide Fund for Nature (WWF) and FAO are implementing a Consortium Programme on Shrimp Farming and the Environment (CPSFE). The main objective of the CPSFE, which was initiated in 1999, is to identify good management practices under various environmental, economic and social conditions and assess the cost-benefits for farmers to adopt them individually and in coordination with other farmers. The establishment and work of the CPSFE is also based on the recommendations made at the Technical Consultation on Policies for Sustainable Shrimp Culture.

13. The CPSFE conducted several case studies on an array of aspects of shrimp culture, with a wide geographical coverage, including major shrimp producing countries in Asia and Latin America, as well as Africa and the Near East. The CPSFE also conducted several reviews of a global nature. The subject matter covers a broad spectrum of issues, including farm level management practice, poverty issues, integration of shrimp aquaculture into coastal area management, shrimp health management and policy and legal issues. The case studies bring together unique and important insights into the global status of shrimp aquaculture and management practices³. At its First Session the COFI Sub-Committee on Aquaculture recognized the work of the CPSFE and underscored the need for its continuation and promotion (see COFI:AQ/I/2003/Inf.5 – para 38).

14. FAO has been active in providing assistance to several member countries on health management in shrimp aquaculture and took the lead in conducting the review on management strategies for major diseases in shrimp aquaculture, one of the thematic reviews under the CPSFE. A number of programmes are currently being conducted by FAO in both Asia and the Americas in cooperation with several agencies and organizations, with a view to developing good management practices (GMPs) on shrimp health management.

¹ FAO. Report of the Bangkok FAO Technical Consultation on Policies for Sustainable Shrimp Culture. Bangkok, Thailand. 8-11 December 1997. FAO Fisheries Report. No 572. Rome, FAO.
<http://www.fao.org/fi/faocons/shrimp/bangk.asp>

² FAO, 1998. Report of the Ad hoc Expert Meeting on Indicators and Criteria of Sustainable Shrimp Culture. Rome, Italy, 28-30 April 1998. *FAO Fish. Rep.* (582).

³ CPSFE information and documentation on case studies are available at
<http://www.enaca.org/Shrimp/index.htm>

15. The Legal Office of FAO has conducted a comparative survey of national laws and regulations governing shrimp culture. The purpose of the study was to examine and compare relevant national legislation, particularly legal requirements concerning the environmental impacts of shrimp culture activities and measures applicable in relation to the development of shrimp farming installations, continuing operational controls, and legal requirements which apply on the cessation of activities and aspects related to enforcement of relevant legislation. This information is expected to help in the identification of good legal and institutional arrangements (GLIAs) and assess current constraints for their adoption.

16. In December 2000, an Expert Consultation on Good Management Practices and Good Legal and Institutional Arrangements for Sustainable Shrimp Culture, was held in Brisbane, Australia, with the support of the Government of Australia. The main objectives of the Expert Consultation were to provide a recognized international forum to discuss major aspects relating to the promotion of sustainable shrimp culture practices as well as related institutional and legal instruments and to identify/determine avenues, and specific benefits and limitations, for the development and implementation of good management practices and good legal and institutional arrangements⁴ leading to improvements in shrimp culture management practices at farm and institutional levels.

17. The Expert Consultation was attended by 71 participants from 19 countries, including major shrimp producing and consuming nations. The participants included representatives from governments and non-governmental organizations, shrimp producers and associations and intergovernmental agencies. During the Expert Consultation, working papers prepared by FAO were discussed and further developed by participants.

18. The Expert Consultation developed and adopted a set of "Operating Principles" for sustainable shrimp culture and a set of recommendations including a follow-up process⁵. Among others, the Expert Consultation recommended that a document on the objectives and operating principles, and the legal and institutional arrangements to support implementation, be prepared for presentation to an intergovernmental forum for formal agreement, and requested FAO to facilitate this process.

19. Industry guidelines and codes of good management practices for shrimp culture have also been developed, or are under development, in a number of countries. Industry guidelines have also been developed for the production of organically grown shrimp. Much attention has focused on shrimp, but it appears that there is a need for harmonized principles, guidelines and non-discriminatory standards adopted for aquaculture products in general, not only for shrimp.

20. There are several shrimp culture certification schemes being implemented, or being developed, many with limited stakeholder input. Aquaculture product certification will be a feature of future international trade, but there is a risk of a confusing and potentially conflicting range of systems, based on variable principles. The approaches and procedures are yet to be harmonized and the implications for developing countries to be assessed. It is timely to define the role of government, industry, and INGOs in development and implementation of aquaculture and aquaculture product certification systems. It is important to examine how relative strengths of the

⁴ The Report of the Bangkok FAO Technical Consultation refers to "best practices". The term "Good Management Practice" (GMP) was adopted by FAO for the Brisbane FAO/Government of Australia Expert Consultation.

⁵ FAO/Department of Agriculture, Fisheries and Forestry Australia. Report of the FAO/Government of Australia Expert Consultation on Good Management Practices and Good Legal and Institutional Arrangements for Sustainable Shrimp Culture. Brisbane, Australia, 4-7 December 2000. *FAO Fisheries Report*. No. 659. Rome, FAO. 2001. 77p.

different groups be used to maximize development opportunities and support better market access for sustainably produced aquaculture products.

21. The international trade in aquaculture products is expanding, but the participation in this trade is becoming more complex. Market chain development, traceability, food safety and health standards, and certification, all have important implications for producers, and perhaps more so for small-scale farmers, many of whom may be significantly constrained by the costs of entry to international trade. This will undoubtedly affect small-scale farmers but to what extent small-scale farmer issues are being considered in development of certification, traceability and market chain development is still to be seen. It is questionable if any mechanisms and guidance are in place to ensure that small-scale farmers (that make up the bulk of production in many developing countries) benefit by shifting international trading patterns for aquaculture products.

22. Social development, poverty alleviation and pro-poor growth of the aquaculture sector are receiving increasing attention. Trade should help facilitate rural development and contribute to pro-poor growth in the sector. There is little known about the implications of certification, traceability and shifting requirements of market chains and consumers for poverty reduction through aquaculture. We should endeavour to encourage the development of harmonized principles, guidelines and standards of certification.

Suggested action by the Sub-Committee

23. The Sub-Committee is invited to consider carefully the above information and advise FAO on its role and function in addressing the above issues. The Sub-Committee may wish to establish an intersessional technical task force to work in this important area.

EMERGING ISSUES

24. This part of the Agenda provides an opportunity for FAO Members to raise any emerging issues of importance to global aquaculture development.