National Workshop on the Code of Conduct for Responsible Fisheries: Practical application to coastal aquaculture development in Viet Nam

Food and Agriculture Organization of the United Nations
Rome, 2004

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Foreword

This document contains the report of the National Workshop on the Code of Conduct for Responsible Fisheries and its practical application to coastal aquaculture development in Viet Nam, which was held in Hue, Viet Nam on 3–4 October 2003. The workshop was organized by the Ministry of Fisheries of the Socialist Republic of Viet Nam in close collaboration with the United Nations Development Programme (UNDP) Project VIE/97/030/NEX, "Environmental Management of Coastal Aquaculture", and the Research Institute for Aquaculture No. 1. The FAO FishCode Programme provided financial support to the workshop and facilitated technical backstopping through the FAO Fisheries Department. Workshop planning and initial preparations were undertaken by Dr Le Thanh Luu (Director) and his colleagues of the Research Institute for Aquaculture No. 1. Mr Raymon Van Anrooy, FAO Fisheries Department, Mr Tran Van Nhuong (UNDP Project VIE/97/030/NEX) and Mr Mike Phillips (Network for Aquaculture Centres in Asia-Pacific (NACA)) were responsible for the workshop programme, the methodology applied and the compilation of this report.

The preparatory work of the Thua Thien Hue Department of Fisheries in arranging for the workshop venue in Hue and related logistics is gratefully acknowledged. The active participation of the National Fisheries Extension Centre, the Institute of Fisheries Economics and Planning, the FAO Office in Hanoi and the DANIDA Fisheries Sector Programme Support is also acknowledged with thanks. General thanks are due to all participants for their contributions to the working groups and the overall success of the workshop.

The FAO/*FishCode Review* series publishes results of studies, missions, consultations, workshops, meetings and other project activities undertaken through the Programme, in furtherance of the objective of facilitating implementation of the 1995 FAO Code of Conduct for Responsible Fisheries and related international fisheries instruments and plans of action. Individual issues in the series are distributed to appropriate governments, regional bodies, meeting participants and Programme partners. For further information on Programme background, publications and activities, please consult **www.fao.org/fi/fishcode**.

J. Eric Reynolds
Programme Coordinator, FishCode
Fisheries Department
FAO/UN
Rome, Italy

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ABSTRACT

This document contains the report of the National Workshop on the Code of Conduct for Responsible Fisheries (CCRF) and its practical application to coastal aquaculture development in Viet Nam, held in Hue, Viet Nam on 3–4 October 2003. Coastal aquaculture in Viet Nam, particularly shrimp culture, has developed rapidly in recent years. Although shrimp farming has brought many benefits to the coastal population in Viet Nam, concerns are being raised about the high risks associated with this development and in particular the social and environmental effects.

The workshop aimed to raise awareness for the CCRF among national and provincial stakeholders, with particular attention to aquaculture development. Relevant CCRF articles and principles were reviewed and the extent to which they apply to shrimp farming in Viet Nam examined. Recommendations for follow-up actions to support practical application of relevant articles of the CCRF to shrimp farming in Viet Nam were prepared. Participants agreed that a national Code of Conduct and implementation plan should be prepared for responsible coastal aquaculture in Viet Nam and that it should cover all coastal farming systems and be developed by an advisory group established specifically for this purpose involving all stakeholders. Participants further recommended that MOFI and its constituent departments and research institutes should formulate projects/programmes in support of the implementation and dissemination of the CCRF, taking into consideration stakeholders' needs as well as local conditions.

Other recommendations were that MOFI should continue its recent work to develop practical Codes of Practice and/or guidelines for specific species, localities and farming systems, and increase the awareness among stakeholders generally, including from fisheries and aquaculture as well as adjacent sectors (e.g. agriculture, tourism) on the CCRF issues and their responsibilities with respect to its implementation in coastal areas in Viet Nam.

Keywords: coastal aquaculture; Code of Conduct for Responsible Fisheries; Codes of Practice; aquaculture development; Viet Nam; Southeast Asia.

Contents

ABBREVIATIONS

ADP	Asian Development Bank
BMP	best management practices
CCRF	Code of Conduct for Responsible Fisheries
CIDA	Canadian International Development Agency
COFI	Committee on Fisheries [FAO]
CSO	civil society organization
DANIDA	Danish International Development Agency
DOFI	Department of Fisheries
EIA	environmental impact assessment
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FSPS	Fisheries Sector Programme Support
GAP	good agriculture practices
GoVN	Government of Viet Nam
MOFI	Ministry of Fisheries (of Viet Nam)
MOSTE	Ministry of Science, Technology and Environment
NACA	Network of Aquaculture Centres in Asia Pacific
NGO	non-governmental organization
NORAD	Norwegian Agency for Development Cooperation
PL	post-larvae [of shrimp]
RIA1	Research Institute for Aquaculture No. 1
SAPA	Sustainable Aquaculture for Poverty Alleviation
SEAFDEC	Southeast Asian Fisheries Development Center
SIDA	Swedish International Development Cooperation Agency
SUMA	Support to Marine and Brackish Water Aquaculture
UNDP	United Nations Development Programme
USAID	US Agency for International Development
VASEP	Vietnamese Association of Sea Food Exporters and Producers
WB	World Bank
WWF	World Wide Fund for Nature [ex World Wildlife Fund]

INTRODUCTION

Background

1. The Code of Conduct for Responsible Fisheries (CCRF), adopted by FAO Members as a voluntary instrument in 1995, is global in scope. The application of the CCRF in the aquaculture sector encourages environmentally friendly management practices, production of quality aquaculture products and protection of biodiversity. These benefits contribute to a positive image of aquaculture products for importers and consumers and promote the sustainable development of the sector.

2. To apply the CCRF, countries must use its principles to develop their own specific activities such as practical guidelines, policies and local codes of conduct or practice adapted to local circumstances. Steps have already been taken in this direction within several Asian countries. Thailand, Australia, and Malaysia, for example, have all prepared their own codes of practice for specific aquaculture subsectors, including shrimp farming. Organizations such as the Global Aquaculture Alliance and various NGOs have also been involved in the development of specific guidelines based on CCRF principles. FAO also organized a meeting in Brisbane (Australia) in 2000 that developed some operational principles for shrimp farming based on the CCRF and related work by the World Bank/NACA/WWF/FAO consortium programme on shrimp farming and the environment.[1]

3. Coastal aquaculture in Viet Nam, particularly shrimp culture, has developed rapidly in recent years. Although shrimp farming in Viet Nam has brought many benefits, concerns have been raised about the high risks associated with such development, and in particular the social and environmental effects. The project "Environmental Management of Coastal Aquaculture" (VIE/97/030/NEX), after three years of work linked to environmental management and coastal aquaculture in the north central area of Viet Nam, has recognized the strategic importance of CCRF application for sustainable development and management in intensive shrimp farming areas. The project has already encouraged community groups to apply aspects of the CCRF with positive results. However, much further work remains to be done to achieve a comprehensive application of CCRF-based approaches by local stakeholders.

4. Against this background, and with the support of the FAO FishCode Programme, the United Nations Development Programme (UNDP) and the Vietnamese Ministry of Fisheries and Research Institute for Aquaculture No. 1, a National Workshop on the Code of Conduct for Responsible Fisheries and its practical application to coastal aquaculture development in Viet Nam was organized in Hue, Viet Nam, 3–4 October 2003.

Objectives

5. Specific workshop objectives were to:

[1] 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 (see **http://www.fao.org/DOCREP/005/Y3213E/y3213e00.htm#Contents**).

- raise awareness for the CCRF among National and Provincial stakeholders, with particular attention to aquaculture development;
- review relevant CCRF articles and principles and evaluate the extent to which they are applicable to shrimp farming in Viet Nam; and
- prepare recommendations for follow-up actions to support practical application of relevant CCRF articles to shrimp farming in Viet Nam.

ATTENDANCE

6. The workshop was attended by more than 60 participants representing:

- the Ministry of Fisheries (MOFI) of Viet Nam;
- the provincial Departments of Fisheries (DOFIs) of the three project provinces (Thanh Hoa, Nghe An and Thua Thien Hue);
- the DOFIs of five other selected provinces of Quang Ninh, Da Nang, Khanh Hoa, Phu Yen and Ca Mau;
- provincial-, district- and commune-level People's Committees;
- Research Institutes for Aquaculture No. 1 and No. 3;
- the private sector (shrimp farmers, shrimp processing companies, fish wholesalers, input suppliers);
- civil society organizations (CSOs);
- national and provincial media;
- international consultancy firms;
- donor-funded fisheries-sector projects in Viet Nam;[2]
- the Network of Aquaculture Centres in Asia Pacific (NACA); and
- the Fisheries Department of the Food and Agriculture Organization of the United Nations (FAO) and the FAO Representative Office in Hanoi, Viet Nam.

The list of participants is attached as Appendix A of this report.

[2] These projects include: UNDP funded VIE/97/030/NEX Environmental Management of Coastal Aquaculture project, the Danish-funded Fisheries Sector Programme Support (FSPS) components Support to Marine and Brackish water Aquaculture (SUMA) and the Fisheries Management Information System (FMIS), and the Dutch funded Integrated Coastal Zone Management (ICZM) project.

PROCEEDINGS

Opening Remarks

7. The Chair of the Workshop, Mr Tran Van Nhuong (Project Manager, VIE/97/030/NEX), welcomed all participants and thanked the Department of Fisheries of Thua Thien Hue Province and the FAO FishCode Programme for their contributions to its organization. He then introduced Dr Le Thanh Luu, Director of Research Institute for Aquaculture No.1, who delivered an opening statement on behalf of the Minister of Fisheries, Dr Ta Quang Ngoc.

8. In the opening statement, Dr Le Thanh Luu introduced the CCRF, which was adopted by the member countries of FAO in 1995 as a global and voluntary instrument. Since the launching of the CCRF, a number of countries have taken further steps to develop practical guidelines adapted to their own local circumstances. Thailand, Australia, and Malaysia, for example, have all prepared their own codes of fisheries practice for specific aquaculture subsectors, including shrimp farming. A number of international organizations such as the Global Aquaculture Alliance and various NGOs have been involved in the development of specific guidelines based on the CCRF principles.

9. Dr Luu further emphasized that, in Viet Nam, efforts have been made towards the promotion and adoption of CCRF principles. For example, MOFI has launched the Sustainable Aquaculture for Poverty Alleviation (SAPA) Strategy and Implementation Programme, which is linked to the national poverty alleviation programme of the Government of Viet Nam (GoVN). This is just one of many examples reflecting the large amount of attention given to the CCRF by MOFI. Dr Luu argued that GoVN as well as other national stakeholders should continue to promote application of the CCRF to coastal aquaculture development in Viet Nam, and he also encouraged support from international donors and the private sector. He expressed thanks to UNDP, FAO and NACA for their longstanding support to this important task.

10. Dr Luu continued by emphasizing that although the promotion of the CCRF principles has been going on for some time now, there are many issues that constrain wide implementation of the CCRF. He stressed that this workshop should be used to raise awareness and understanding of the CCRF and to produce a consensus on further recommendations towards its application for coastal aquaculture in Viet Nam. Finally, Dr Luu expressed his thanks to all workshop organizers and participants and wished them success.

Adoption of the Agenda

11. The workshop Agenda was then presented by the Chair and adopted by participants, as shown in Appendix B.

Presentations on the CCRF and its implementation status

12. Presentations were made by representatives from FAO Rome, NACA, the Environmental Management of Coastal Aquaculture Project, DOFI Thua Thien Hue, DOFI Phu Yen and the Support to Marine and Brackish Water Aquaculture (SUMA) project on the status of CCRF implementation and constraints to its practical application in coastal aquaculture. The complete presentations may be consulted in Appendix C.

Implementation of CCRF on worldwide level

13. Mr R. van Anrooy, FAO Aquaculture Economist, gave a presentation entitled "The CCRF: status of implementation worldwide". He noted that the CCRF is a voluntary instrument, and it prescribes principles and standards for management and utilization for all types of fisheries (small-scale, industrial, inshore and offshore fisheries and aquaculture). He then emphasized that the CCRF aims to generate national and international-level action towards rational and sustainable utilization of fisheries and aquaculture, recognizing that structural adjustment is required and that policy decisions by governments should be made in close consultation with all stakeholders.

14. The speaker also elaborated on the responsibilities of governments towards implementation, emphasizing that FAO can be only a facilitator in coordination with governments and other stakeholders.[3] However, implementation is often lacking, or is carried out on only a small scale.

15. CCRF Article 9 on Aquaculture Development was presented along with the technical guidelines that were produced by FAO to support implementation of this article.

16. The presentation concluded with emphasis that implementation would require concerted and coherent action and cooperation from all stakeholders, that. political will and strengthening national legislation and policies are critical ingredients, and that greater awareness among all stakeholders about the CCRF would be essential to make implementation successful.

Implementation of CCRF on regional level

17. Mr M. Phillips, Aquaculture and Environment Specialist of NACA, presented an overview of Asian regional experiences in relation to the application of the CCRF to shrimp aquaculture. The principles of Article 9 of the CCRF dealing with aquaculture development were reviewed, along with Articles 10 and 11. These latter are very relevant to aquaculture because they concern the institutions, policies, cooperation and integration of fisheries into coastal area management (Article 10), and production of safe fishery products and international trade (Article 11). It was stressed that the CCRF is a voluntary instrument providing an important and useful set of principles to help guide sectoral development.

18. Participants were informed that CCRF principles are being used to support development of sustainable shrimp aquaculture development in Asia at both industry and government levels. The principles are being incorporated into sector-specific Codes of Conduct or Codes of Practice, which are increasingly considered as part of a strategy for market access. The CCRF provides "general" principles, but these principles have to be made operational to suit the specific circumstances at country/local level. Developing operational guidelines requires the participation of all stakeholders, including farmers, private business, government agencies and civil society organizations. Institutional and policy development is also necessary.

19. With regard to the implementation of the CCRF in Viet Nam, it was recommended that all stakeholders consider the formulation of a Code of Conduct that might include specific management measures relevant to national circumstances. Additional commodity or practical Codes of Practice could also be prepared. The formulation process can be used as well to assist the stakeholders to identify the policies, institutions and responsibilities necessary to support implementation. After development of the national code of conduct, capacity building and awareness raising activities should be undertaken to support implementation.

[3] The survey on the status of implementation of the CCRF was held for the second time in 2002, and 105 countries responded, including 13 of the 22 FAO member countries in Asia (Bangladesh, Bhutan, Cambodia, India, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Republic of Korea, Sri Lanka and Thailand).

Implementation of CCRF on national level

20. Mr Tran Van Nhuong, Project Manager for VIE/97/030/NEX, presented the preliminary findings of the shrimp-sector policy analysis and discussed the CCRF in relation to its application in shrimp farming in Viet Nam. An overview of the current situation with respect to coastal aquaculture in Viet Nam – mainly shrimp farming – was presented, and it was explained that despite its great contribution to the national economy, recent coastal shrimp culture developments are faced with a number of challenges at both national and international levels.

21. Aware of the challenges, the Vietnamese Government has made a number of policy interventions to support sustainability of coastal aquaculture and the people whose livelihoods depend on it. Coastal shrimp farming in Viet Nam can be characterized as small-scale, mainly household-based operations, although larger operations exist as well. The small-scale operations make policy implementation particularly challenging because of the large numbers of farmers involved. In addition, coastal aquaculture management faces various other constraints, including the lack of staff and weak management capacity.

22. It was emphasized that policy actions are often passive and may not be sufficient to address the challenges of sustainable coastal aquaculture, including those arising from a competitive international trade environment. So far, governmental policies in Viet Nam have tended to focus mainly on expansion of shrimp production and production area. Gaps between policy formulation and implementation are largely left unaddressed. Recent experiences with regard to different aspects of sustainable shrimp farming development, accumulated by a number of development projects and initiatives implemented by the government, donor agencies and NGOs should be disseminated to relevant stakeholders. Challenges in the subsector will have to be properly understood and addressed if coastal aquaculture is going to contribute to future development and poverty reduction in coastal communities.

23. Participants were informed that an inception workshop on "Strengthening environmentally and socially sustainable development in coastal aquaculture: an analysis of experiences and future policy options for the shrimp sector" had been organized at MOFI on 20 August 2003. Based on consultation with stakeholders, the objective of shrimp policy analysis was revised in order to "provide advice to the Government of Viet Nam to strengthen environmentally and socially sustainable development of coastal aquaculture, emphasizing shrimp farming". This inception workshop:

- identified key issues/problems facing sustainable development of shrimp farming;
- analysed experiences and identified better management solutions in order to address shrimp farm problems (including experiences of VIE/97/030/NEX and other relevant projects);
- made policy recommendations to implement and sustain better management solutions for shrimp farming; and
- published a final report, including recommended follow-up actions and project concept notes.

24. Mr Nhuong presented arguments as to why CCRF principles should be adopted to address the key issues in relation to coastal aquaculture development. The report on Project VIE/97/030/NEX, after three years of work linked to environmental management and coastal aquaculture in North Central Area of Viet Nam, recognized that CCRF application is strategically important for sustainable coastal aquaculture development. The project has encouraged application of aspects of the CCRF among community groups, and some positive results have been obtained. However, much work remains if comprehensive application of CCRF-based approaches by local stakeholders is to be achieved.

Implementation of CCRF at local level: Thua Thien Hue Province

25. Mr Nguyen Quang Vinh Binh of the Department of Planning and Implementation of Thua Thien Hue province provided participants with some experiences of CCRF implementation on the local level. Management in the Tam Giang lagoon, the main lagoon in the province, was presented as a case study. The range of fishing gear currently used in the Tam Giang Lagoon makes management of the lagoon resources very difficult. The situation has been further complicated with recent development of lagoon aquaculture.

26. The workshop was informed that, in order to cope with these challenges, a programme entitled "Integrated fishery management in Tam Giang Lagoon" has been launched under the Decision No.1198/QD of the Thua Thien Hue Provincial People's Committee. The objectives of the programme are to: i) build pilot demonstration models on community based fishery management, ii) develop a fishery management plan and iii) establish fishery (including aquaculture) management regulations that will be practical to apply in the Tam Giang lagoon. With support from provincial authorities, local people have combined traditional knowledge and behavioural codes of community groups known as *Van Chai* with modern community-based fisheries management approaches learned in Japan, Norway and Taiwan Province of China within the framework of the VIE/97/030/NEX project, in order to build specific management models for the Tam Giang Lagoon. To promote community-based management, the provincial government has further introduced a Central Government Decree on grassroots democracy. The programme is progressing very well, especially with regard to community-based fishery management. The commitment from the authorities to the programme is high.

Status of fisheries in Phu Yen Province

27. Dr Tran Thi Viet Ngan, Director of the Phu Yen Province Extension Department, briefed workshop participants on the status of fisheries in Phu Yen. She explained the current status of yellow fin tuna and lobster resource exploitation and management, and stressed that exploitation is getting out of hand. There is only very limited information on tuna and lobster exploitation and management of the resources is poorly enforced.

28. With regard to coastal shrimp farming in Phu Yen Province, it was shown how the sector is facing a number of challenges that need to be addressed. Among these challenges are environmental problems specifically related to the shortage of fresh water and the overuse of chemicals and drugs in shrimp aquaculture. Stakeholders should act together to address the existing challenges. Dr Tran Thi Viet Ngan recommended that the government formulate a national Code of Conduct, and that individuals and organizations should participate in its development and implementation.

SUMA experiences

29. Ms Tran Thi Thu Ngan, Environmental Specialist attached to the Support to Marine and Brackish Water Aquaculture (SUMA) component of the DANIDA-funded Fisheries Sector Programme Support (FSPS) presented SUMA experiences in relation to the CCRF and coastal aquaculture in the project provinces. The CCRF was shown to be highly relevant and important to coastal aquaculture in Viet Nam, as it could help increase focus on food safety and competitive power for national stakeholders, especially farmers. Regarding shrimp aquaculture, it was noted that the CCRF is important to both grow-out and hatchery operations.

30. There is general interest within the project area for implementing the principles of the CCRF. However, implementation is very difficult in practice because of the large numbers of small-scale farms as well as rapid and unplanned coastal aquaculture expansions.

31. Currently SUMA is supporting implementation of best management practices (BMP) through a training course for hatchery managers in Khanh Hoa. There is growing interest among hatchery managers to adopt the principles of CCRF, especially with respect to decreasing chemical use and introducing better feed management to operate hatcheries at a lower cost.

32. It was stressed that SUMA is conducting a number of activities relevant to the principles of the CCRF such as supporting the development of environmental impact assessment (EIA) guidelines and codes of practice for aquaculture, developing sectoral standards for shrimp farming and conducting training courses and workshops on food safety for seafood products.

33. It was recommended in conclusion that all stakeholders become involved in the development of a national Code of Conduct and that Viet Nam should proceed with the preparation of practical manuals for fish farmers. Training and awareness-raising programmes on the CCRF should be promoted to support implementation.

Group work on the CCRF

34. Participants broke into three working groups to discuss Article 9 of the CCRF. The framework for the working group discussions can be found in Appendix D, while details of working group outcomes are presented in Appendix E. A short summary of the respective working groups' review of the relevance of the CCRF, along with implementation status and constraints for Viet Nam, is presented below.

Relevance of the CCRF for Viet Nam

35. As the CCRF was prepared by many leading experts from different countries aiming at a worldwide application, it is a very rigorous and interdisciplinary document, but also very general. Although application of the CCRF is voluntary, its implementation in Viet Nam – taking account of the special circumstances in the country – would bring great benefits to aquaculture and fisheries considering the current trends in aquaculture development in Viet Nam.

36. Application of the CCRF can be considered as a basic step towards access, maintenance and development of fishery product export markets, since it might help to overcome non-tariff trade barriers.

37. As aquaculture in Viet Nam is generally characterized as small-scale, household level activity, a step-by-step approach is required when applying the principles of the CCRF.

38. Cooperation between sectors should be strengthened in planning and use of coastal resources, especially with the tourism and agriculture sectors, in order to prevent and mitigate negative impacts of aquaculture development on biodiversity and ecosystems.

39. The CCRF should be considered as a valuable reference for government, sectoral leaders and managers at different levels to specify their own codes and technical guidelines for fisheries (including aquaculture) management.

40. The CCRF provides valid recommendations for all stakeholders in the sector.

Implementation status and constraints

41. The CCRF is general and requires specification in order to apply it under different circumstances in Viet Nam.

42. Managers and local authorities generally pay attention to short-term success in order to report to the requests of higher authorities. However, it will take longer to increase their awareness on the CCRF and change their conventional behaviour.

43. Vietnamese fisheries are people's fisheries, with the characteristics of family-run businesses and spontaneous development.

44. Individualism among stakeholders such as farmers, middlepersons, service providers and processors is high.

45. Low education levels and low technical understanding of biological and environmental processes among farmers, as well as their economic situation, prevents them from following the advice in the CCRF.

46. Lack of transparent management of shrimp seed production, trade and quarantine procedures is a constraint.

47. Low understanding and integration of genetic conservation and biodiversity issues into socio-economic development planning is a limitation.

48. There is a lack of cooperation between the fisheries sector and other sectors and between different fisheries subsectors and administrative levels.

49. There are good examples of community-based management; however, the dissemination of the experiences is constrained by lack of legal support and commitment to application of the CCRF.

General discussions on the CCRF and follow-up

50. The working group reports were presented in the plenary session. All participants were satisfied with the outcomes of the three working groups (Appendix E). In the plenary discussion the following points were mentioned:

a) Most of the CCRF articles can be found in scattered documents of the current management and regulatory system for fisheries in Viet Nam. A legal framework to reformulate, improve, strengthen and expand the current system to fit the CCRF is, however, lacking.

b) The current management system does not function well, as indicated by weak cooperation between different subsectors and levels within fisheries, or between fisheries and other sectors, on the following issues:

- imports and exports of aquaculture products;
- research on products used in aquaculture;
- planning, research and conservation of the aquatic gene pool;
- control of brood stock and seed;
- capacity of management personnel with poor equipment; and
- high seasonality of shrimp farming, which overloads quarantine control capacity.

c) In the translation of the CCRF into Vietnamese, the CCRF is perceived as the responsibility of the government; stakeholders do not show strong "ownership of

their own responsibilities" in implementation of the CCRF. This indicates that the awareness of stakeholders on the CCRF and related issues is still limited.

51. The workshop participants agreed on the following recommendations for follow-up.

52. *A national Code of Conduct and implementation plan should be prepared for coastal aquaculture in Viet Nam.* This document should provide guidance to support responsible development of the coastal aquaculture sector, based on the CCRF and covering all coastal farming systems.

53. *In order to promote the application of the CCRF, the fisheries sector in Viet Nam must adjust the CCRF to fit local and sectoral conditions.*

a) MOFI and the departments and research stations under it should formulate projects/programmes for the dissemination of the CCRF, taking into consideration the stakeholders' needs and local conditions.
b) Each article (e.g. 9.3.1; 9.3.2…) should be detailed in technical guidelines for more effective use.
c) During the elaboration and implementation process, there should be annual evaluations of the progress and lessons learned for adjustment on plans for the coming year and follow-up actions.
d) The government should build a legal framework for the application of the national CCRF.

54. *MOFI should establish and coordinate an advisory/working group to prepare the national Code of Conduct and implementation plan.* The working group should include stakeholders from the Ministry, research institutes, Vietnamese Association of Sea Food Exporters and Producers (VASEP), and fishery associations and representatives of other ministries, as well as consumer organizations and others. Donors and projects, including FAO, DANIDA/FSPS, UNDP and others would be invited to support the work of the advisory group and implementation of the Code of Conduct in Viet Nam.

55. *Practical Codes of Practice or guidelines for specific species, or localities, or farming systems (at different stages of development) should be prepared.* The work of MOFI and SUMA on Codes of Practice would form part of this work.

56. *There should be a programme/project to increase awareness of the CCRF* and responsibilities with respect to implementation for all stakeholders, which should address fisheries managers, farmers, service providers, processing plants and local authorities as well as non-fisheries sectors (including agriculture and tourism).

CONCLUSION OF THE WORKSHOP

57. Dr Le Thanh Luu, on the behalf of the Ministry of Fisheries and Research Institute for Aquaculture No. 1 (RIA1), presented a summary of the conclusions of the workshop. First, CCRF application to coastal aquaculture in Viet Nam is very important because it could help ensure the production and sustainable development of safe, clean, high-quality seafood products and provide a good opportunity for the fisheries sector to gain and maintain access to regional and international markets.

58. Regarding the understanding and awareness on the CCRF, he stated that there are areas in which application of some of the CCRF articles (water supply co-management, disease management and good management practice) has started. He repeated that there are difficulties and challenges in the application of the CCRF in coastal aquaculture in Viet Nam because of the numerous small-scale businesses, the lack of comprehensive plans, the lack of knowledge concerning sustainable aquaculture among farmers, lack of enforcement of laws and regulations and even unclear supporting policies to encourage application of the CCRF.

59. However, it was emphasized that despite the difficulties and challenges, there are great opportunities to implement the CCRF in Viet Nam, because there is an emergent demand from the fisheries-sector stakeholders, including producers and processing companies. GoVN is aware of the importance of the CCRF and strongly supports its application.

60. To put the recommendations given by the workshop participants into practice, Dr Luu suggested a step-by-step process, beginning with composing a working group for the preparation of a national CCRF and technical guidelines, followed by an implementation plan to include dissemination to all stakeholders and some small-scale demonstration projects that should develop gradually into large-scale implementation.

61. Finally, Dr Luu expressed thanks to all participants, especially the workshop organizers and the international organizations (FAO, UNDP and NACA) for their financial and technical support to promote the implementation of the CCRF in Viet Nam. He urged all stakeholders, including GoVN, farmers, processing companies and the donor community to maintain their interest in supporting the adoption and dissemination of the CCRF in Viet Nam, and in his closing remarks he emphasized that this workshop would require proper follow-up.

APPENDIX A
LIST OF PARTICIPANTS

Name	Affiliation/address	Tel/Fax	e-mail
DENMARK			
Klavs Bender	RAMBOLL		kbr@ramboll.dk www.ramboll.com
Bodil Warming	RAMBOLL		bwaramboll@hn.vnn.vn
ITALY			
Raymon Van Anrooy	FAO, Rome		Raymon.VanAnrooy@fao.org
THAILAND			
Mike Phillips	NACA- Bangkok,		Michael.Phillips@enaca.org
VIET NAM			
Jesper Clausen	Khanh Hoa SUMA , No 42 Nguyen Thị Minh Khai, Nha Trang, Khanh Hoa		jesper.suma@fsps.com.vn
Dang Nguyen	Da Nang Extension Department, DOFI		
Dang Van Thong	Vice Director, Thanh Hoa DOFISH , 103 Nguyen Trai		
Dao Va Tu	VIE/97030 Project		thuyquyen76@yahoo.com
Dinh Thi Minh Hue	Viet Nam Tass Agency, No 5 Ly Thuong Kiet		ttngan.suma@fsps.com.vn
Dinh Trong Ly	Vice Director of Quang Ninh DOFI		
Do Nam	Vice Director, DoNRE of Thua Thien Hue		
Ha Xuan Thong	Director of IFEP - MOFI		ifep@netnam.org.vn
Hoang Ngoc Nghia	Staff DOFI Nghe An		
Hoang Thi Thoa	DOFI Thanh Hoa Staff		
Hoang Van Tuan	Technical staff, DOFISH Thanh Hoa, 103 Nguyen Trai, Thanh Hoa City		

Name	Affiliation/address	Tel/Fax	e-mail
Ho Thi Hoang Thanh	DOFI Thua Thien Hue		
Ho Viet Can	Specialist RIA3, No 33 Dang Tat, Nha Trang, Khanh Hoa		
Erland Jensen	STOFA - MOFI		Mofi@hn.vnn.vn
Le Minh Lyuong	Technical staff Thanh Hoa DOFI		
Le Thanh Luu	Director of RIA1 - MOFI		ria1@hn.vnn.vn luuria1@yahoo.com
Le Van Huong	Nghe An Fisheries Resource Protection Department		thanhpgdtsna@yahoo.com
Le Van Mien	Song Huong Project Management Board		
Le Van Thuong	Director, DOFI Thua Thien Hue		
Luong Ngoc Lai	Head of Hoang Phong Commune, Head of Aquaculture Union		
Lu Xuan Nhan			havukn2002@yahoo.com
Mai Van Tai	Environmentalist, VIE/97030 Project		maivantai@rial.org
Nguyan Mai Hanh	Fisheries Department Voice of Viet Nam		
Nguyen Dính	CBCRM in Central VN		
Nguyen Hung Dien	Director RIA3- No 33 Dang Tat. Nha Trang		ttncts3@dng.vnn.vn
Nguyen Luong Hien	Planning Department, TTHue DOFI		
Nguyen Ngoc Cau	Team Leader of Van Xuan Community Group, Thanh Hoá		
Nguyen Quang Vinh Bình	Planning Department, TTHue DOFI		
Nguyen Song Ha	STREAM/SAPA - MOFI		nguyensongha@fpt.vn

Name	Affiliation/address	Tel/Fax	e-mail
Nguyen Thị Phuong Mai	Khanh Hoa SUMA No 33 Dang Tat, Nha Trang		
Nguyen Thị Thuc	Cooperative Representative		tuanhvfs@hn.vnn.vn
Nguyen Thị Tuyet Suong	Vice Director of Quang Ninh DOFI		
Nguyen Thu Hanh	STOFA - MOFI		
Nguyen Van Anh	Private Company		
Nguyen Van Cho	Hue University 24 Phung Hung St, Hue City		
Nguyen Van Chuong	Phu Da Commune		
Nguyen Van Duyen	Vice Director of Ca Mau DOFI		
Nguyen Van Khanh	VIE/97030 Project		
Nguyen Van Trung	Technology Department Quang Ninh DOFI		
Nguyen Van Thu	ICZM		
Nguyen Van Tuan	Shrimp Disease Specialist, VIE/97030 Project		nguyenhuunghia@lycos.co.uk
Nguyen Xuan Ly	Head of Science and Technology Department - MOFI		khcn1@hn.vnn.vn
Pham Gia Truc	FAO, No 3 Nguyen Gia Thieu – Hanoi		truc@fao.org.vn
Pham Minh Tam	Research Assistant, RIA1		
Phan Thuy Quyen	Accountant VIE/97030 Project		vie97030.ria1@fpt.vn
Thai Huu Loc	Nghe An Seed Producers Representative		Stofa@fsps.com.vn
Tran Bich Nga	Director of Hai Phong Products Quality Control		naf1@hn.vnn.vn
Tran Long Phuong	Aquaculture specialist		

Name	Affiliation/address	Tel/Fax	e-mail
Tran Quoc Thanh	Vice Director, DOFI Nghe An		
Tran Thi Anh Nguyet	Socio-economic Department, RIA1		
Tran Thi Thu Ngan	SUMA - MOFI		
Tran Thi Viet Ngan	Director of Phu Yen Extension Department, No 80 Le Duan, Tuy Hoa		
Tran Van Chuong	DOFI Thua Thien Hue		
Tran Van Dinh	DOFISH Thanh Hoa, 103 Nguyen Trai, Thanh Hoa City		
Tran Van Nhuong	Project Manager VIE/97030 Project		vie97030.ria1@fpt.vn
Tran van Quynh	Director Extension Center – MOFI		
Tran Viet Giao	Head of Phu Da Commune		
Trih Quang Tu	Socio-economic Department, RIA1		
Vo Duc Tin	Vice Director of Da Nang Extension Department, DOFI		
Vo Thi Tuyet Hong	Head of Vinh Giang Commune, Hue		
Vo Van Dai	Director of Dien Kim Aquaculture Join Stock Company Nghe An		
Vu Van Ha	Technical staff, DOFISH Thanh Hoa, 103 Nguyan Trai, Thanh Hoa City		

APPENDIX B

WORKSHOP AGENDA

Thursday, 3 October

8h00	Registration
8h30 – 8h45	Opening remarks: Dr Le Thanh Luu
8h45 – 9h15	The CCRF: the status of implementation worldwide (Dr Raymon Van Anrooy)
9h15 – 9h40	Regional application of the CCRF to shrimp farming (Dr Mike Phillips)
9h40 – 9h50	Policy analysis and application of CCRF to shrimp farming in Viet Nam (Tran Van Nhuong)
9h50 – 10h00	Tam Giang lagoon presentation (Nguyen Quang Vinh Binh)
10h00 - 10h15	Coffee break
10h15 – 11h15	Other presentations and general discussions
11h15 – 11h30	Debriefing of the morning session and introduction to the afternoon (Working groups)
11h30 – 13h30	Lunch
13h30 – 15h00	Working groups (three)
15h00 – 15h15	Coffee break
15h15 – 17h15	Working groups (continued)
17h15 – 17h30	Resume of the first day sessions and introduction to the next day's programme

Saturday, 4 October

8h00 – 8h30	Finalize group work for presentation
8h30 – 10h00	Working Group presentations and discussion in plenary session
10h00 – 10h15	Coffee break
10h15 – 11h00	Final remarks and agreement on follow-up actions
11h00 – 11h15	Closure of workshop
11h15 – 12h15	Lunch

APPENDIX C

WORKSHOP PRESENTATIONS

Presentation No. 1
The CCRF: The status of implementation worldwide (PowerPoint Presentation)

Raymon Van Anrooy[4]

Background to the CCRF

A. FAO fishery mandate in the United Nations

B. Declining world fisheries – overfishing has implications for food security

- 1991 Committee on Fisheries (COFI), Cancún Conference and UNCED led to international initiatives with similar goals, i.e. need for long-term sustainable use of fisheries
- United Nations Fish Stocks Conference (1993–1995)
- Compliance Agreement (1992–1993)
- Code of Conduct (1993-1995)
- Reinforcing these initiatives was the 1995 Rome Consensus on World Fisheries.

Process for the elaboration of the CCRF

Concept of responsible fisheries:

- First mooted by the 1991 session of COFI in the context of large-scale pelagic driftnet fishing: i.e. 1991 conception of Code of Conduct
- Scope and the process of elaboration was a major item for discussion at 1995 session of COFI (e.g. Need for technical guidelines to support the CCRF implementation)
- Process of elaboration achieved through a total of five open-ended technical working groups
- FAO conference adopted the CCRF in October 1995

Purpose and objectives of the CCRF

- Action towards change in fisheries sector, i.e. rational and sustainable utilization of fisheries and aquaculture
- Structural adjustment required
- Policy decisions by governments in consultation with all stakeholders

Structure of the CCRF

- The CCRF is a voluntary instrument: i.e. does not have to be formally accepted. It prescribes principles and standards for management and utilization of all fisheries: i.e. small-scale, industrial, inshore and offshore fisheries and aquaculture
- The CCRF includes:

[4] Fishery Planning Analyst, Food and Agriculture Organization of the United Nations, Rome. Email: Raymon.VanAnrooy@fao.org.

- capture fisheries management
- fishing operations
- aquaculture development
- integration of fisheries into coastal area management
- processing and trade in fish and fishery products
- fisheries research

- The CCRF contains 12 articles + 2 annexes: substantive articles are articles 6 to 12; Article 9 deals with Aquaculture Development; (Technical Guidelines are produced to support its implementation)

Implementation of the CCRF

- FAO: responsibility to facilitate implementation (i.e. to work with governments and other stakeholders)
- Responsibility for implementation rests primarily with governments: involves difficult and sensitive policy decisions

Some results of the 2002 questionnaire on the CCRF

- Worldwide, 105 countries responded; 13 countries of the 22 member countries of FAO in Asia responded. Unfortunately Viet Nam did not respond in 2002.
- Countries in Asia that responded are: Bangladesh, Bhutan, Cambodia, India, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Republic of Korea, Sri Lanka and Thailand.

FAO initiatives to support implementation

A range of different but inter-related activities:

- dissemination of the CCRF
- promotion through regional fishery bodies
- staff are routinely promoting implementation during country visits
- elaboration of technical guidelines
- regional workshops for adaptation
- inter-regional programme
- monitoring of progress for committee on fisheries (i.e. direct inputs from governments)
- FAO Internet site

Figure 1. Fisheries policies and national legislation conforming to the CCRF: FAO members

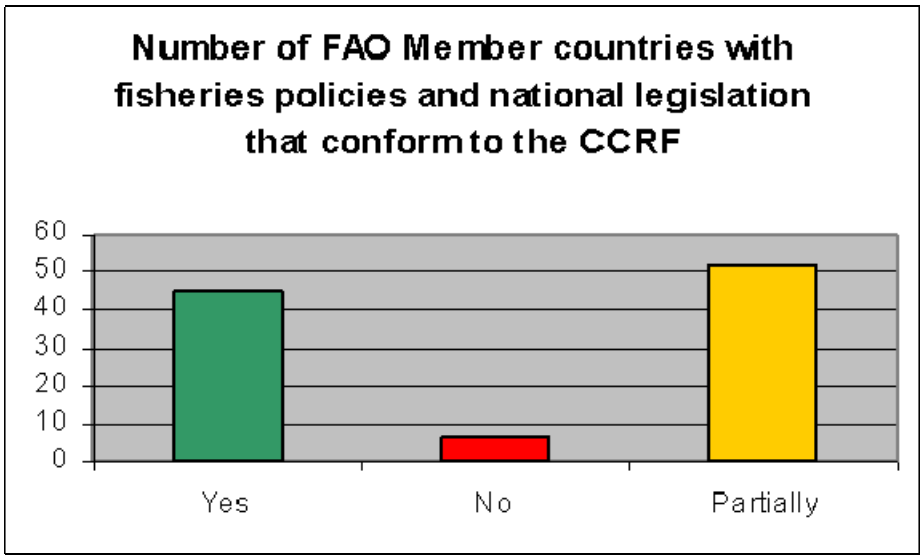


Figure 2. Fisheries policies and national legislation conforming to the CCRF: World

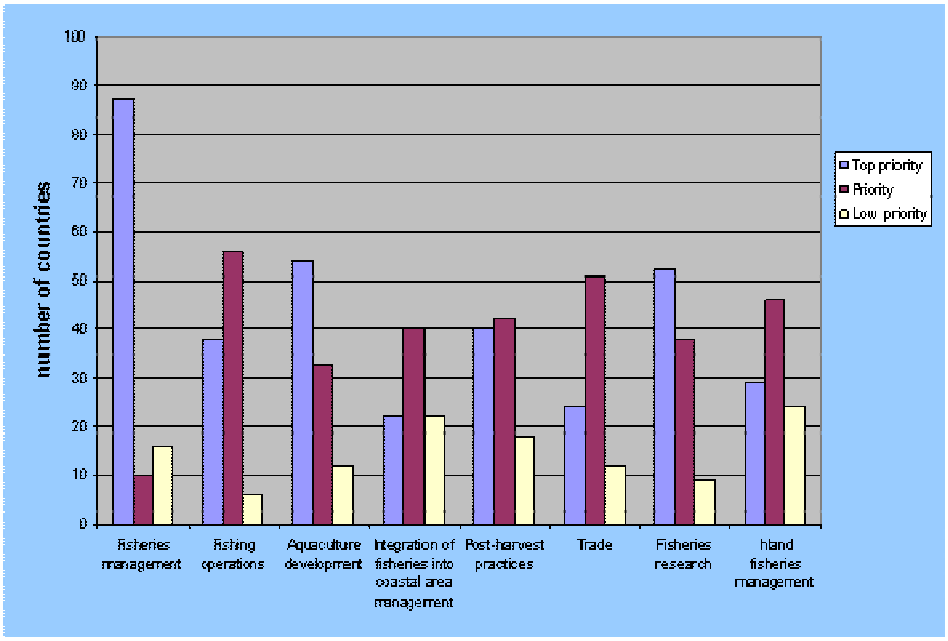


Figure 3. Asia

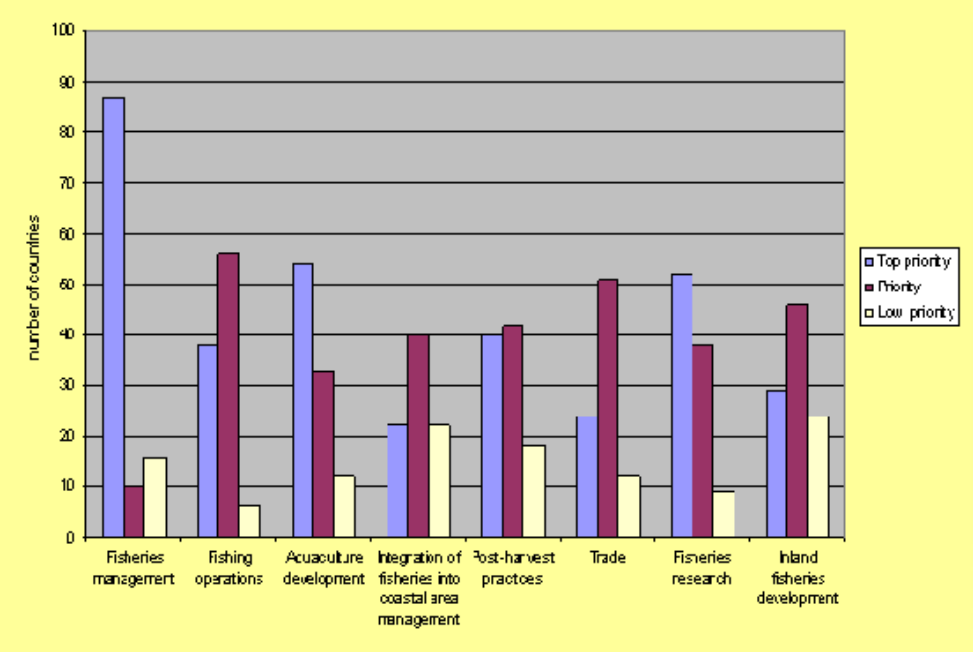


Figure 4. Code or instrument of best practices in accordance with CCRF

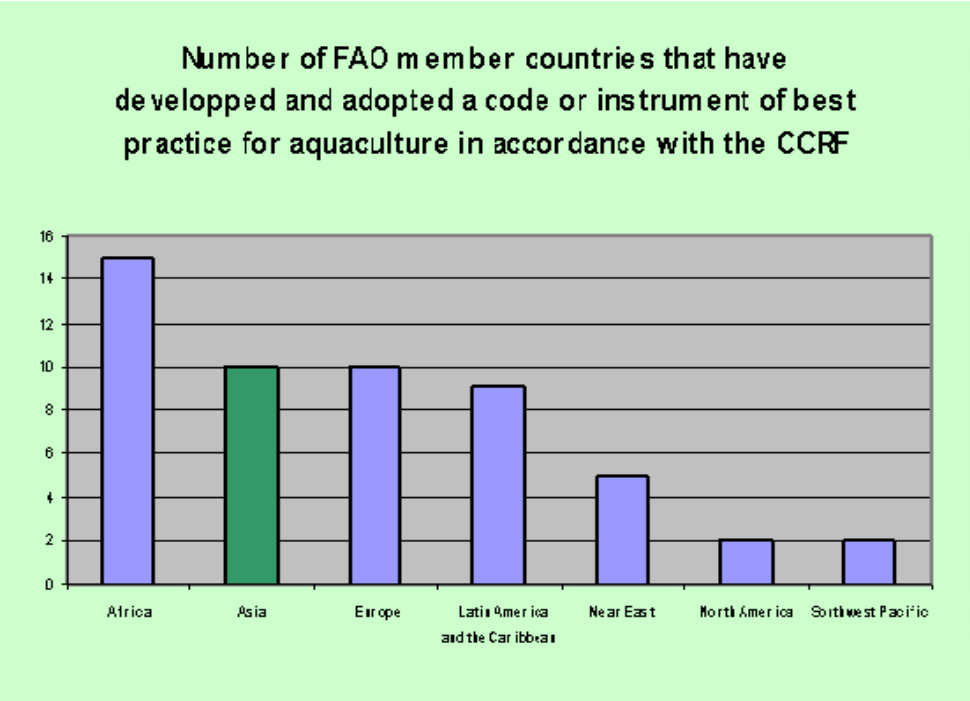
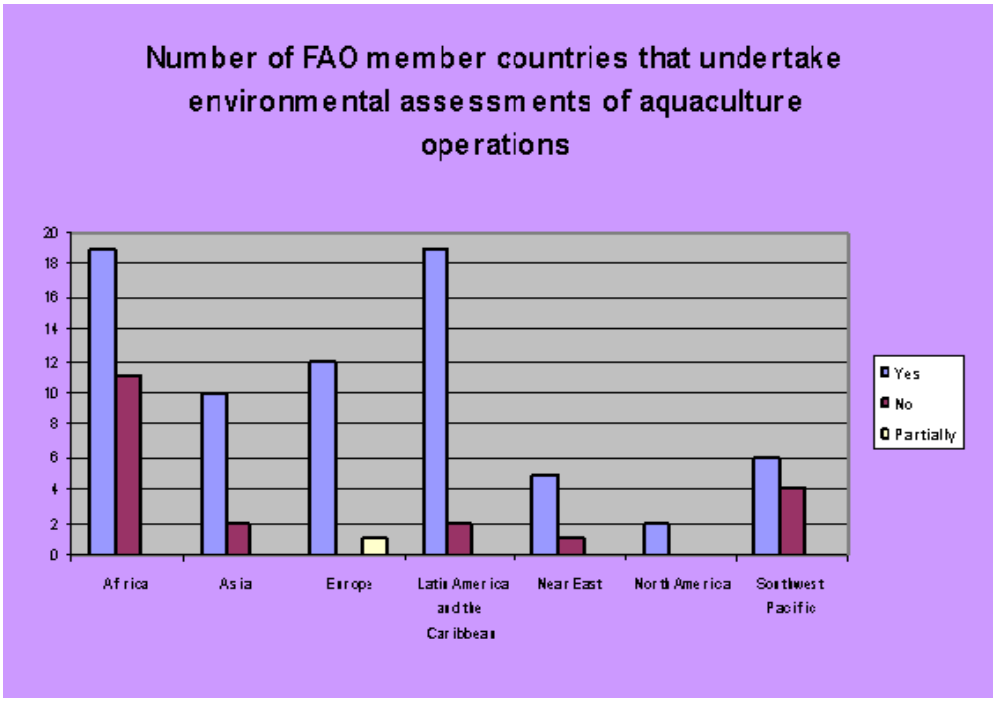


Figure 5.



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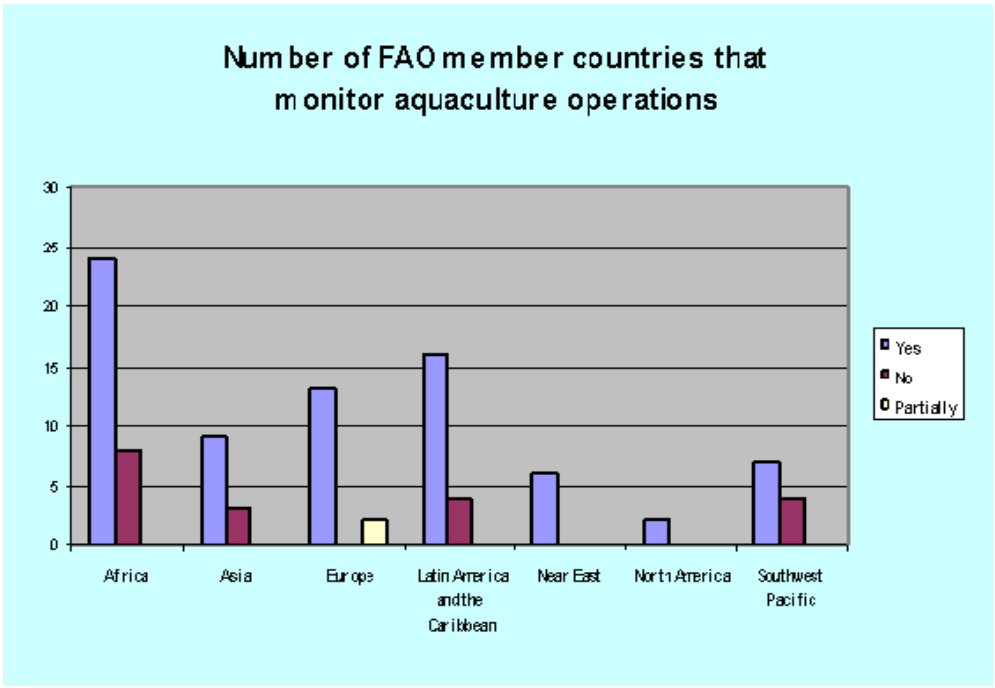

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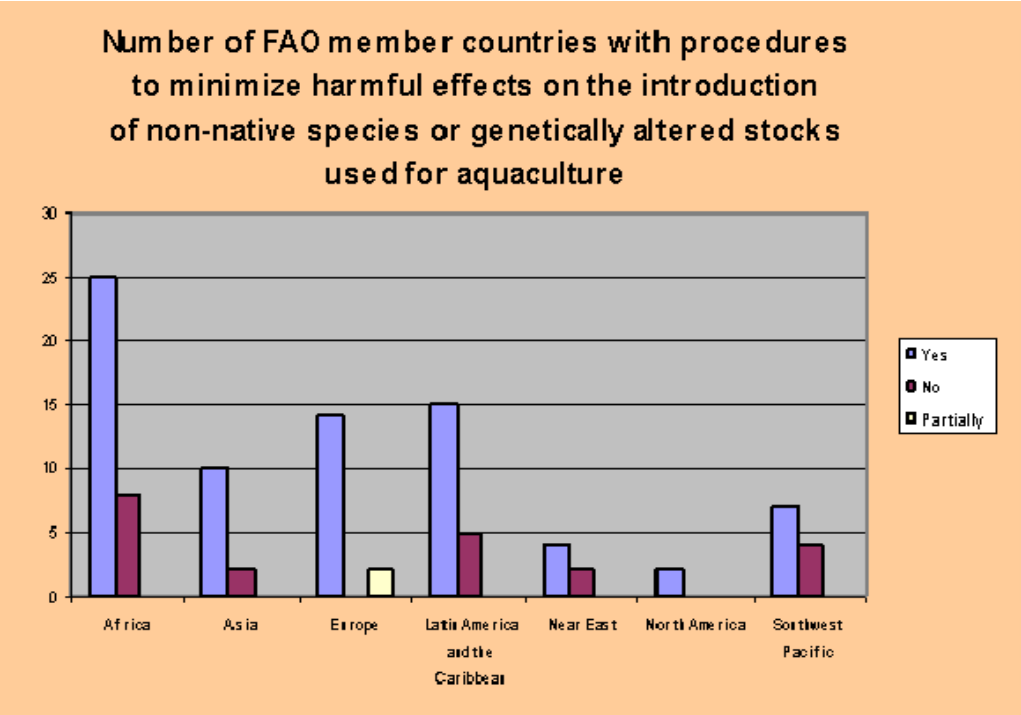

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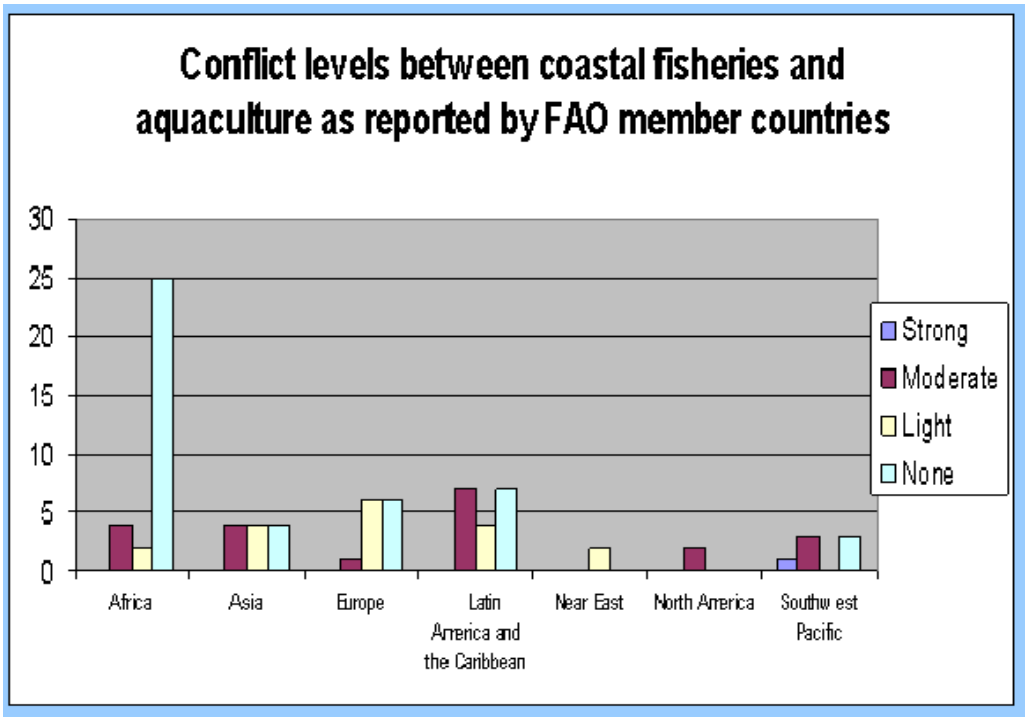

Conclusions

- Aquaculture development is considered a top priority by many countries and comes right after fisheries management as priority subject.
- The majority of the FAO member countries in Asia have:
  - developed and adopted a code or instrument of best practices for aquaculture in accordance with the CCRF,
  - procedures to undertake environmental impact assessments (EIAs) of aquaculture operations,
  - procedures to monitor aquaculture operations, and
  - procedures to minimize the harmful effects of the introduction of non-native species or genetically altered stocks used for aquaculture
- However, implementation and enforcement of these procedures are often lacking.

In general:

- Implementation requires concerted and coherent action and cooperation by all stakeholders.
- Political will on part of the governments and the strengthening of national legislation and policies are critical ingredients in the implementation of the CCRF.
- Greater awareness among all stakeholders about the CCRF is essential to make implementation successful.

Presentation No. 2
Shrimp Aquaculture: Some Asia regional experiences in application of the Code of Conduct for Responsible Fisheries to Shrimp Aquaculture

Michael J. Phillips[5]

Introduction

The presentation provided information on the main aquaculture articles of the Code of Conduct for Responsible (CCRF) and some initiatives taken in other countries in Asia to implement the CCRF in the shrimp aquaculture sector in Asia.

The major aquaculture article of the CCRF is Article 9: "Responsible aquaculture development". This article includes four sub-articles:

> Article 9.1, "Responsible development under national jurisdiction", emphasizes the importance of legal and administrative frameworks; aquaculture planning; supporting livelihoods of local communities and protecting them from negative social impacts; and environmental assessment and monitoring.
>
> Article 9.2, "Responsible development of aquaculture within trans-boundary aquatic ecosystems", emphasizes responsible aquaculture practices in shared waters; introductions of non-indigenous species; data collection and networking; and monitoring of aquaculture inputs.
>
> Article 9.3, "Use of aquatic genetic resources", emphasizes conservation of genetic diversity; development and use of codes of practice for trans-boundary movement; management to minimize spread of disease and improve quality of eggs, larvae and fry; and research on endangered species.
>
> Article 9.4, "Responsible aquaculture at the production level", emphasizes: support to rural communities and farmers associations and encouraging their active participation in development of responsible aquaculture practices; feeds and feed management; fish health management; responsible chemical use; disposal of wastes; and food safety of aquaculture products.

There are other CCRF articles relevant to aquaculture, including Article 10, "Integrated Coastal Area Management", concerning institutions, policy and cooperation for integration of fisheries and aquaculture activities into coastal area management; and Article 11, "Post-Harvest Practices and Trade", concerning production of safe fishery products and international trade.

The CCRF is a voluntary instrument. However, the articles provide a useful set of principles that can help guide the sectors development.

Major regional initiatives

Major Asia regional developments related to the CCRF and shrimp farming include:

[5] Environment Specialist, Network of Aquaculture Centres in Asia-Pacific, Suraswadi Building, Department of Fisheries, Kasetsart University Campus, Ladyao, Jatujak, Bangkok 10900, Thailand. Tel: 66-2-561-1728 (ext. 115); fax: 66-2-561-1727; e-mail: Michael.Phillips@enaca.org; Web: www.enaca.org

- The FAO/Australia meeting in Brisbane 2000 on “Management Practices and Institutional Arrangements for Sustainable Shrimp Aquaculture”. This meeting prepared a set of “objectives” and “operational principles” for shrimp aquaculture based on the CCRF.
- The World Bank/FAO/NACA/WWF Consortium Program on Shrimp Farming and Environment. This consortium program has through a series of case studies and consultations developed a set of recommended “better management practices” (BMPs) for shrimp aquaculture (www.enaca.org/shrimp).
- Codes of Conduct (and Practice) have been developed based on the CCRF and other documents adapted for shrimp culture in several Asian countries, including Australia, Bangladesh, Malaysia, Sri Lanka and Thailand. Viet Nam also has some experience (VIE/97/030 project, SUMA) on development of Codes of Practice, but as yet none have been completed or adopted.

The regional trend is also towards shrimp marketing schemes linked to adoption of Codes of Conduct and/or Practice. Thailand and Bangladesh are both working on certification of shrimp products coming from farms adopting Codes of Practice, or in Thailand a set of simplified “Good Aquaculture Practices” focused on farm hygiene.

- NACA and SEAFDEC have also developed regional guidelines based on CCRF for member countries (including Viet Nam). These include the Asia Regional Technical for Health Management and the Responsible Movement of Live Aquatic Animals. This document contains guidance on health management strategies to reduce risks of spread of serious aquatic animal pathogens in Asia, and to reduce the impact of such problems on trade and farm livelihoods.

Although several documents have been produced, the major concern at the present time is to ensure implementation. This is required to improve management of shrimp aquaculture according to accepted international principles and maintain (and hopefully improve) market access and strengthen sustainable development of the shrimp sector with benefits to people in the region.

Issues to be addressed through better management of shrimp aquaculture

The World Bank/FAO/NACA/WWF Consortium Program on Shrimp Farming and Environment has identified the following issues that need to be addressed through better management in the shrimp aquaculture sector:

- Shrimp farm sitting and its impacts on habitats
- Shrimp farm design and construction
- Water use, effluents and solid waste
- Shrimp PL quality and health
- Food safety, particularly responsible use of chemicals
- Feed and feed management
- Shrimp health management
- Social aspects (employment, livelihood improvement and poverty alleviation, social responsibility)

The implementation of better management practice requires actions at farm level, the local area (e.g. through local farmer groups, farm clusters) and national level. Effective and responsible institutions and services are necessary to support farmers to adopt better practices. Studies conducted by the Consortium also show that farms practicing better

management can reduce costs, and improve profitability. Thus, there is a strong farm level incentive for adopting better practice.

Thailand

In Thailand, 2004 has been designated as Food Safety Year. The intention of Thailand is the development of standard practices farm production to the consumer product under the slogan "Safe food for all". As part of this initiative, a Code of Conduct for Responsible Shrimp Culture is being promoted, as well as a set of "Good Aquaculture Practices".

Thailand's Codes of Conduct for Responsible Shrimp Farming include specific Codes developed for the shrimp farm, hatchery, feed production and post-harvest treatment and processing. These Codes are based on elaboration of the FAO CCRF to specific conditions in Thailand with a "farm to table" approach involving all elements in the supply chain. The Codes are primarily directed at industry (business sector).

The Codes of Conduct for Responsible Shrimp Farming for the shrimp farm include the following elements:

- Sites of shrimp farms and habitat protection
- General pond management
- Stocking density
- Feeds and feed management
- Shrimp health management
- Drugs and chemicals
- Effluent and sediment management
- Harvesting and transportation
- Social responsibilities
- Training
- Data collection

Thailand's Codes also promote local farmer organization, and encourage the active participation of farmer organizations in implementation and promoting better farming practice.

Bangladesh

Shrimp is the second largest export commodity in Bangladesh. The Bangladesh shrimp industry generates over US$300 million annually and produces 2.5 percent of global market exports. The industry has production inefficiencies and is exposed to critical social and environmental risks. A sustainable increase in export earnings is possible but difficult to achieve because the sector is so fragmented and poorly organized.

In response, a "Seal of Quality" program is formulating codes and the means to promote their compliance. These Codes are meant specifically to meet the requirements of the Bangladesh shrimp industry. The Codes reflect 5 key areas:

- Food safety
- Traceability
- Human rights and labour rights

- Environmental sustainability
- Social responsibility

A major challenge is how to engage the many small-holders in Bangladesh in the implementation of the Codes and in certification programs based on these Codes.

Lessons learned

The principles of the FAO Code of Conduct for Responsible Fisheries are being used for shrimp aquaculture in Asia – at both industry and government levels. The principles are being incorporated into sector specific Codes of Conduct (and Practice) that address key issues. Applying Codes of Conduct is increasingly being used as part of a strategy for market access. The Codes of Conduct provide "general" principles, but these general principles have to be made "operational" in the specific circumstances of the country/local area. Attention has to be given to among other things:

- Farmers, and farmer capacity to adapt Codes
- Farming systems and environment
- Institutions and policy support
- Participation in development, ownership and implementation by farmers
- Incentives to farmers to adopt

Putting Codes of Conduct into operation requires the participation of all stakeholders including farmers and businesses, government agencies and civil society organizations. Institutional and policy development is also normally necessary to support implementation of the Code (that in itself can provide a useful "check list" of issues for sector development).

How implementation of the CCRF can supported in Viet Nam

The CCRF workshop is to identify relevant issues for responsible development of the shrimp sector, and policy and institutional support requirement in Viet Nam. The workshop might also like to consider a national Code of Conduct (or Practice) in Viet Nam that might include specific management measures relevant to national circumstances. The CCRF can help identify policies, institutions and supporting responsibilities. Capacity building and awareness raising activities could be undertaken based on the CCRF.

Presentation No. 3
Policy analysis and application of the CCRF to coastal shrimp farming in Viet Nam

Mr Tran Van Nhuong[6]

1. Introduction

Aquaculture's contribution to the economy is large. However, there are challenges regarding coastal aquaculture, at national and international levels. These include the environmental, social and economic impacts of the coastal aquaculture sector in Viet Nam, and rapidly changing international market and trading environment.

Being aware of such challenges, the Vietnamese Government has made a number of policy interventions and actions to support sustainability of the fishery sector and the people whose livelihoods depend on it. These policies try to address various issues related to coastal aquaculture, such as aquaculture planning, institutional strengthening, environmental monitoring and environmental impact assessment, diversification of culture methods and species, building capacity for stakeholders at all levels, and marketing and processing.

The prominent characteristic of coastal shrimp farming community in Viet Nam is its small-scale nature, based mainly on household operations. Implementation of policy is particularly challenging due to the large numbers of farmers involved. In addition, coastal aquaculture management faces other constraints including the lack of staff and weak management capacity. Policy actions are often passive and may not be sufficient in addressing the challenges in sustainable coastal aquaculture, including those arising from a competitive international trading environment. The policies tend to focus mainly on area expansion and increased production, and there are also gaps between policy formulation and implementation.

There are experiences addressing different aspects of sustainable shrimp farming development, accumulated by a number of development projects and initiatives implemented by the government, donor agencies and NGOs. Such experiences should be disseminated to relevant stakeholders and challenges in the sub-sector will have to be properly understood, and addressed if coastal aquaculture is going to contribute to future development and poverty reduction in coastal communities. In response to such concerns, the VIE/97/030 project launched a research study entitled "Strengthening environmentally and socially sustainable development in coastal aquaculture: an analysis of experiences and future policy options for the shrimp sector".

An inception workshop of the study was organized at MOFI on 20 August 2003. Based on consultation of stakeholders at the inception workshop, the objective of the policy analysis was changed towards the provision of advice to the GoVN to strengthen environmentally and socially sustainable development of coastal aquaculture, emphasizing shrimp farming. The expected outputs of the analysis are the following:

1. Key issues/problems facing sustainable development of shrimp farming identified;

[6] VIE/97/030 Project Manager, RIA1/UNDP, Research Institute for Aquaculture No. 1, Dinh Bang, Tu Son, Bac Ninh, Viet Nam, Tel: 84-4-8785748; fax: 84-4-8785748; e-mail: vie97030.ria1@fpt.vn; web: **http//www.undp.org.vn/projects/vie97030/policy**

2. Experiences analyzed and better management solutions identified to address shrimp farm problems (including experiences of VIE/97/030, and other relevant projects);

3. Policy recommendations to implement and sustain better management solutions for shrimp farming; and

4. Final report, including recommended follow up actions, and project concept note(s), published.

2. Policy analysis methodology

Analysis framework

A four-phase policy analysis was used. The first phase was an identification of the problems associated with the development of coastal aquaculture in Viet Nam. A compilation of lessons and experiences learned was prepared in the second phase. The third phase involved a review of the most important existing policies, while the fourth phase intended to provide policy recommendations to the Government of Viet Nam.

Data collection

- Focused group consultations
- Individual stakeholder consultations
- Secondary data review
- Key policy review and analysis

3. Progress in the three provinces of Thanh Hoa, Nghe An and Thua Thien Hue

- 22 focused group consultations with different stakeholder representatives;
- 90 individual consultations with representatives of different stakeholders;
- Through this workshop, try to obtain inputs from other provinces.

4. Sustainable coastal aquaculture development and the application of the CCRF

- This means responsible coastal aquaculture development.
- Application of the CCRF has strategic importance

However:

- FAO has built up general guidelines; countries have to build their own specific regulation.
- In order to do so government should have proper mechanism and good coordination between stakeholders.

Presentation No. 4
Summary notes of the Workshop on the CCRF and Coast Aquaculture in Viet Nam

Dr Le Thanh Luu[7]

1. Role and Significance

The CCRF is very important to ensure the sustainable development of aquaculture. This is a good opportunity for fisheries sector in order to access to the region and international market, and to ensure the save and clean food quality.

2. Our understanding and awareness of the CCRF:

Some are just becoming acquainted with the CCRF. However, some are already starting to apply some of the CCRF articles: water supply, co-management, disease management, codes of good practice (supported by MOFI).

3. Who is interested in the CCRF?

- Government
- Farmers (Producers)
- Processing Companies
- Services (feed, seed…)
- Investors, financial supporters
- Mass Organizations
- Consumers

4. Difficulties and Challenges in the application of the CCRF

- Many small scale businesses, lack of comprehensive plans, from first step (seed selection step)
- Too many are involved in aquaculture and aquaculture services, then difficult to manage
- Lack of knowledge
- Unclear policies, lack of enforcement of laws and regulations

4. There are possibilities for implementing the CCRF

Why?

- There is an emergency demand coming from the fisheries sector itself
- Stakeholders want to implement the CCRF (producers, processing companies...)
- Government is aware of the importance of the CCRF and will strongly support implementation
- International cooperation is available

5. How?

Translation the CCRF and disseminate to farmers, with suitable methodology:

- Start with simple and move to more complicated concepts by choosing simple issues such as: formulate working groups, documents preparation, document dissemination and implementation preparation. Plan short- and long-term implementation.

[7] Director, Research Institute for Aquaculture No.1.

- Move from lower to higher awareness levels by choosing the simplest article to apply, obtain experience and continue to a next article. Then improve awareness of producers, services, policy makers and increase cooperation step by step.
- Implement in small groups (demonstration model) first, and then apply on a large scale. First, try in one or two provinces where some experience is available. Choose for some demonstration sites in the provinces. Include representatives of farmers, enterprises, service providers, policy makers and then disseminate to other provinces.
- Good cooperation between government, mass organizations and implementers is required. These entities must build up a mechanism to support the application of the CCRF; support infrastructure investments in relation to the application of the CCRF; facilitate education and capacity building to support CCRF application; and build experience and exchange information on implementation.

6. Follow up actions

- Build long term plans/projects with new approaches and organizational methods;
- Who will do what: working group could include members from: FSPS, NACA, FAO, MOFI, RIA1 or other interested organizations (to be determined).

7. Who provides support?

- Government
- UNDP, FAO, WB, ADB and/or EU
- SIDA, CIDA, USAID, NORAD and/or DANIDA

8. What can be done after this workshop?

- Build up a national CCRF for Vietnamese aquaculture (not only for shrimp because we now promote to diversify cultured species).
- Determine the main stakeholders: fisheries and fisheries processing associations, MOSTE, MOFI, interested NGOs, international organizations, national and international consumers.
- Target those who will participate: farmers, scientists, managers, related organizations.
- Build a CCRF for selected communities, including concepts of integrated management and bottom-up agreement.
- Propose the establishment of a demonstration project for shrimp farmers and fishers.
- In the year 2000 SUMA organized a workshop on good practices for shrimp farming. There is a need for good cooperation between various ministries.
- Coordination of sites is important: There is a need for coordination between related sectors.

APPENDIX D

FRAMEWORK FOR WORKING GROUP DISCUSSIONS

Three working groups worked on a detailed analysis of each principle of the Code of Conduct for Responsible Fisheries relevant to shrimp aquaculture. The work focused on Article 9 (Aquaculture development).

- Working group 1: Article 9.1 and 9.2
- Working group 2: Article 9.1 and 9.2
- Working group 3: Article 9.3 and 9.4

Objectives for each Working group:

- Review CCRF principle
- Consider relevance to shrimp farming in Viet Nam
- Prepare short note on implementation status and any specific constraints faced
- Identify responsibilities of government concerning policy and institutional requirements for implementation
- Identify responsibilities of farmers/private sector and any other stakeholder to support implementation
- Identify other follow up actions that support implementation.

APPENDIX D

REPORT ON THE OUTCOMES OF WORKING GROUP AND PLENARY DISCUSSIONS

Article 9.1: Responsible development of aquaculture, including culture-based fisheries, in areas under national jurisdiction

Article 9.1.1	*States should establish, maintain and develop an appropriate legal and administrative framework which facilitates the development of responsible aquaculture.*
Relevance	Yes, the legal and administrative framework provides the basis for development of the sector
Status and constraints	The Fishery Law has been drafted, now awaiting adoption by the National Assembly. The next step is to prepare specific regulations that support implementation of the Fishery Law. Delegation of administrative/management responsibilities for the Fishery Law needs to be clarified, although some reforms are currently taking place. Many legal documents (over 800) exist in the fishery sector, but are difficult to understand, especially for farmers. Enforcement of the existing laws is a problem. Many agencies and institutions are monitoring adherence to the law, but there is limited coordination and exchange of information. Ministries try to develop regulations independently.
Recommendations for the government	Review and update of existing regulations in order to reflect the needs of stakeholders, especially at the grassroots level. The law should be explained at all levels. Central and provincial governments should allocate more funds for dissemination and raising awareness of fishery laws.
Recommendations for farmers, business sector and other stakeholders	None
Follow up actions	Promote collaboration and information sharing between stakeholders.

Article 9.1.2	*States should promote responsible development and management of aquaculture, including an advance evaluation of the effects of aquaculture development on genetic diversity and ecosystem integrity, based on the best available scientific information.*
Relevance	Yes, knowledge about the present situation is highly important as a point of departure for future planning.
Status and constraints	A number of agencies and institutions are involved in monitoring and assessment, however co-ordination and exchange of information is poor. So far, each sector/ministry has independent regulations.

Responsibilities of the government	Promotion of exchange of information and co-operation between stakeholders is highly recommended. A two-way flow of information is appreciated.

Recommendation for farmers, business sector and other stakeholders	Participate in promotion of exchange of information and co-operation.
Follow up actions	Workshops and meetings between stakeholders to convey results of monitoring operations.

Article 9.1.3	*States should produce and regularly update aquaculture development strategies and plans, as required, to ensure that aquaculture development is ecologically sustainable and to allow the rational use of resources shared by aquaculture and other activities.*
Relevance	Yes, an urgent and important issue. Highly relevant because this principle deals with aquaculture planning
Status and constraints	Master plans have been developed for many provinces but not all. Master plans lack detailed planning, making them difficult to implement. Implementation plans/action plans are lacking. Lack of multi-disciplinary actions. Some projects support community level planning, but there is no coordinated policy on this issue. Lack of indicators for socio-economic assessment. Lack of integration of relevant sectors in planning process. Plans sometimes do not address the needs of farmers. Planning guidelines are not developed due to lack of resources. Plans are not legal documents and do not provide details on farm management. Present planning appears to favour the larger business sector, and not small-scale farmers. Planning is often top-down and carried out in a spontaneous way without effective use of scientific information. In many cases, environmental impact assessments (EIA) are not carried out. Plans tend to be short-term and lack strategic thinking.
Responsibilities of the government	Develop a long-term strategy for the establishment and updating of plans. Provide guidelines for planning. Incorporate socio-economic and environmental aspects in planning: EIA requirements should be specified and fulfilled before a project is launched. Good plans must be institutionalised. Comprehensive resource and socio-economic assessments must be carried out before planning begins.
Responsibilities for farmers, business sector and other	As for the government.

stakeholders
Follow up actions

Article 9.1.4	*States should ensure that the livelihoods of local communities, and their access to fishing grounds, are not negatively affected by aquaculture developments.*
Relevance	Yes, very relevant, but only in certain provinces (such as Thua Thien Hue lagoon as a good example). The article should also include interactions with other sectors, not just the fisheries sector.
Status and constraints	In some areas shrimp farmers conflict with other resource users, especially fishers and agricultural farmers. Examples are salt intrusion caused by aquaculture in sandy areas (a problem to agriculture) and conflicts with mangrove conservation. Social conflicts such as in Thua Thien Hue are difficult to solve, due to the many stakeholders involved.
Responsibilities of the government	Good planning, taking all stakeholder benefits into consideration, especially small scale and poor fishers. Promote participation and involvement of all sectors, organizations and institutions in aquaculture management. Encourage co-management. Prevention of social conflicts.
Responsibilities of farmers/private sector stakeholders	As government (above).
Follow up actions	

Article 9.1.5	*States should establish effective procedures specific to aquaculture to undertake appropriate environmental assessment and monitoring with the aim of minimizing adverse ecological changes and related economic and social consequences resulting from water extraction, land use, discharge of effluents, use of drugs and chemicals, and other aquaculture activities.*
Relevant	Yes, similar as to 9.1.2
Status and constraints	
Responsibilities of the government	
Responsibilities of farmers/private sector stakeholders	
Follow up actions	

Article 9.2: Responsible development of aquaculture including culture-based fisheries within trans-boundary aquatic ecosystems

Article 9.2.1	*States should protect trans-boundary aquatic ecosystems by supporting responsible aquaculture practices within their national jurisdiction and by cooperation in the promotion of sustainable aquaculture practices.*
Relevance	Yes, and highly relevant for some regions (e.g. Mekong Delta). The groups had similar comments for 9.2.1, 9.2.2, 9.2.3, and 9.2.5. However, little information is available, and awareness on these issues is low.
Status and constraints	
Responsibilities of the government	
Responsibilities of farmers/private sector stakeholders	
Follow up actions	

Article 9.2.2	*States should, with due respect to their neighbouring States, and in accordance with international law, ensure responsible choice of species, sitting and management of aquaculture activities which could affect trans-boundary aquatic ecosystems.*
Relevance	Yes, see 9.2.1 above
Status and constraints	
Responsibilities of the government	
Responsibilities of farmers/private sector stakeholders	
Follow up actions	

Article 9.2.3	*States should consult with their neighbouring States, as appropriate, before introducing non-indigenous species into trans-boundary aquatic ecosystems.*
Relevance	Yes, see 9.2.1 above
Status and constraints	
Responsibilities of the government	
Responsibilities of farmers/private sector stakeholders	
Follow up actions	

Article 9.2.4	*States should establish appropriate mechanisms, such as databases and information networks to collect, share and disseminate data related to their aquaculture activities to facilitate cooperation on planning for aquaculture development at the national, sub-regional, regional and global level.*
Relevance	Yes, highly relevant (e.g. Mekong Delta)
Status and constraints	The Mekong River Commission secretariat provides a database and information network that is available to other bodies in the region. Information on aquatic animal disease status is also collected and sent to NACA and OIE for sharing around the region. Several initiatives for information collection, for example FAO has approved a TCP to assist database development through reporting mechanism and databases developed by STOFA. STREAM is promoting communications of lessons in aquatic resource management related to poverty reduction. The old statistical system (sent to and filled out by province) is not helpful or appropriate and should be revised.
Responsibilities of the government	Train local people in information collection. Administrators should not only conduct surveys by questionnaires but also collect information from different sources. A national monitoring system for aquaculture must be established.
Responsibilities of farmers/private sector stakeholders	
Follow up actions	

Article 9.2.5	*States should cooperate in the development of appropriate mechanisms, when required, to monitor the impacts of inputs used in aquaculture.*
Relevance	Yes, see 9.2.1 above
Status and constraints	
Responsibilities of the government	
Responsibilities of farmers/private sector stakeholders	
Follow up actions	

Article 9.3 Use of aquatic genetic resources for the purposes of aquaculture including culture-based fisheries

Article 9.3.1	*States should conserve genetic diversity and maintain integrity of aquatic communities and ecosystems by appropriate management. In particular, efforts should be undertaken to minimize the harmful effects of introducing non-native species or genetically altered stocks used for aquaculture including culture-based fisheries into waters, especially where there is a significant potential for the spread of such non-native species or genetically altered stocks into waters under the jurisdiction of other States as well as waters under the jurisdiction of the State of origin. States should, whenever possible, promote steps to minimize adverse genetic, disease and other effects of escaped farmed fish on wild stocks.*
Relevance	Yes, aquatic systems are sources for new seed selection, genetic resources and help avoid extinction of species. The group identified several species, including an example of a local fish in Ca Mau province – the "Duong fish" species – that has disappeared. Some species are indicators of status of the natural environment Good or valuable sources of genetic material, as there is diversity from natural selection (aquatic systems are sources of genetic material for aquaculture).
Implementation status and constraints	When importing new species, there are difficulties in control of aquatic animal diseases. Government has regulations on aquatic genetic conservation (disease, genetic issues to some extent) but there is limited implementation. Many aquatic ecosystems have been seriously damaged and are difficult to restore. Ecological benefits are neglected in areas where aquaculture development takes place. Little attention is given to the possibilities of developing the stocks and culture of indigenous species in their native areas. Introduction of exotic species is done without much consideration of the ecological impacts. Poor and over-exploited brood stock, especially with regards to shrimp. Supply of shrimp brood stock is low compared to demand. Undefined and complicated regulations on import and trial/experiment of exotic species.
Recommendations for the government	Government should announce a list of diseases affecting imported aquatic species and should have effective disease management strategies, especially for addressing illegal introductions. Up to 2003, the Department of Aquatic Resources Protection has conducted disease-controlling activities. From October 2003, the task will be given to NAFIQAVED. Provide equipment and capacity at local level.
Recommendations for farmers, business sector and others	Improve basic knowledge of imported aquatic animal species. Encourage participation of different stakeholders in extension activities. Follow government regulations. Research institutes should perform initial trials/experiments on exotic species and assess risk prior to widespread use. Research on disease control and clean farming procedures to be carried out at research and extension institutions. Research on indigenous species for culture and conservation. Improve quarantine checking and monitoring.

	Better control over local hatcheries.
Follow up action plans	Inventory of existing aquatic species and their distributions.
	To build conservation areas for genetic resources (*in situ* conservation).
	To build gene banks for genetic resources (*ex situ* conservation).
	Develop and improve community-based management.
	Focus planning so as to give good consideration to potential areas, species and local farmers' conditions.
	Restoration of endangered species that have economic value in aquaculture.
	Encourage the implementation of environmentally friendly farming systems.
	More financial support for gene conservation.
	Strengthening and de-centralization of seed/brood stock system into levels: central, regional/provincial, district and private.
	MOFI should make a specific official announcement concerning Article 9.3

Article 9.3.2	*States should cooperate in the elaboration, adoption and implementation of international codes of practice and procedures for introductions and transfers of aquatic organisms.*
Relevance	Yes, to conserve existing genetic resources and supplement new sources of genetic material.
Implementation status and constraints	Government has regulations but their implementation is still limited.
	Difficulties in implementation because of conflicts of interest between individuals, organizations and at national level.
	Many documents concerning seed import, but their implementation is weak, partially from complicated procedures.
Recommendations for the government	Strengthen investment in management and control activities.
	Promote international co-operation in conservation and exchange of aquatic animal genetic materials and aquatic animals.
	MOFI to specify and decentralize management responsibilities and authority from themselves to lower levels.
Recommendations for farmers and business sector and other sectors	Improve knowledge and seriously implement regulations.
	Exchange knowledge and experience between areas.
	Abide by government regulations.
	Research institutes perform initial trials/experiments and assess risk on exotic species prior to widespread use.
	Importers submit ecological impact (risk) assessments to management bodies.

Follow up action plans	Further workshops and international cooperation. Implementation of recommendations.

Article 9.3.3	*States should, in order to minimize risks of disease transfer and other adverse effects on wild and cultured stocks, encourage adoption of appropriate practices in the genetic improvement of brood stock, the introduction of non-native species, and in the production, sale and transport of eggs, larvae or fry, brood stock or other live materials. States should facilitate the preparation and implementation of appropriate national codes of practice and procedures to this effect.*
Relevance	Highly important because 'prevention is better than mitigation'.
Implementation status and constraints	Government has control mechanisms in place but individuals and organizations do not strictly adhere to them (more concerned with private benefits). A national strategy drafted, but not completed/disseminated. Lack of quarantine equipment. Limited knowledge of quarantine staff, therefore they are not able to implement quarantine activities. Management documents available but with poor implementation. Too many small family-run hatcheries and low understanding. Lack of management bodies to implement plans.
Recommendations for the government	Acquire equipment for quarantine procedures. Train human resources and increase staffing for this activity. Develop suitable legal measures. Detailed guideline by MOFI for seed producers and farmers. Use certification system for seed production and trade. Increased cooperation in seed quarantine between provinces. Establishment of a seed selection centre to select and supply good quality seed and to quarantine brood stock.
Recommendations for farmers, business sector and others	Serious commitment to implementing quarantine regulations. Agreements between seed producers and farmers through written contracts.
Follow up action plans	Establish practical programs for implementation of effective quarantine measures. Increase farmer understanding on seed quality and disease control. Complete and disseminate national health management strategy

Article 9.3.4	*States should promote the use of appropriate procedures for the selection of brood stock and the production of eggs, larvae and fry.*
Relevance	Yes, highly important because that determines aquaculture productivity and yields.
Implementation status and constraints	State has regulations, but implementation is still limited. Limited research on genetic conservation compared to economically valuable species.

	Genetic conservation research is scattered in different projects and programs of different sectors and ministries.
	MOFI and CITES have a list of limited or banned species for export.
	Difficulties in biological and reproductive characteristics of endangered species.
Recommendations for the government	Finalize the national system for seed management.
	Strengthen seed management at Provincial level.
	Financial support for conservation: zoning and management of conservation areas and research on biological, reproductive and culture technology issues related to indigenous species.
Recommendations for farmers, business sectors and others	Promote local seed production.
	Compliance with the State sector standards for seed.
	Co-investment together with government.
	Commitment to endangered species conservation and conservation area.
Follow up action plans	Research on responsible procedures for selection of brood stock, and production of eggs, larvae and fry.
	Increase farmers' understanding of the importance of conservation.
	Encourage farmers to experiment with using endangered species aiming at population recovery and subsequently the culture of those current endangered species.
	Strengthen cooperation between different sectors and ministries in surveying the status of endangered species.
	Carry out research on seed production of endangered and valuable species to release them into their natural habitat and in that way assist in their protection.
Article 9.3.5	*States should, where appropriate, promote research and, when feasible, the development of culture techniques for endangered species to protect, rehabilitate and enhance their stocks, taking into account the critical need to conserve genetic diversity of endangered species.*
Relevance	Yes, because of concern over extinction of aquatic species.
Implementation status and constraints	There is a Viet Nam Red Book on endangered species, but implementation of management measures is weak (because of economic interests). It concerns overexploitation; ecosystem changes and the loss of spawning and nursery areas.
	Government currently funds research projects on breeding and culture of endangered aquatic animal species (freshwater and coastal).
Recommendations for the government	Carry out research on the role of protected areas in endangered species conservation and on endangered aquatic animal species.
	Publish a book on endangered aquatic species.
Recommendation for farmers, business sectors and others	Promote and improve awareness of protection and rehabilitation of endangered aquatic animal species.

Follow up action plans	Update list of endangered aquatic animal species.
	Further activities on rehabilitation of endangered resources

Article 9.4 Responsible aquaculture at the production level

Article 9.4.1	*States should promote responsible aquaculture practices in support of rural communities, producer organizations and fish farmers.*
Relevance	Yes. The article encourages community-based management of aquaculture. As such, it is very relevant because management is more effective if carried out through community participation.
Implementation status and constraints	Government has supported some pilot projects, with good results, but the pilot area in which this took and takes place is limited. There is a legal basis for community based management in general (central decree on grassroots democracy), but this is not specifically used with respect to coastal aquaculture. Lack of skills in community-based management of aquaculture. Government support of aquaculture is high, and there are a variety of government assistance programs, such as extension, finance, and others. Policies are implemented and specified differently in different localities/provinces. No specific government regulation/law on community-based management in aquaculture.
Recommendation for government	MOFI should develop a legal document to clarify rights and responsibilities in support of community-based management of coastal aquaculture. Provincial government (DOFI) should provide further details and guidance for community-based management in coastal aquaculture. Actions should be directed towards empowerment of local communities to manage coastal aquaculture. Financial support for research on community based aquaculture management is required. Aquaculture planning should be conducted at a detailed level to prevent conflicts among aquaculturists themselves and between aquaculturists and other local stakeholders.
Recommendation for farmers, business sectors and others	Improve local level awareness on community-based management. Encourage involvement of other farmers in community-based management. Optimize effectiveness of government support. Establishment of groups and associations. Strengthen the cooperation between farmers, investors, service suppliers, seed producers and research institutes.
Follow up action plans	Encourage coordination between banks, scientists, farmers and government in promoting and supporting community based management of aquaculture. Promote an approach for community management and improve step-by-step community based management through aquaculture groups and co-operatives as basic units for grassroots aquaculture development.

Article 9.4.2	*States should promote active participation of fish farmers and their communities in the development of responsible aquaculture management practices*
Relevance	Yes, it is in line with government policies to promote grass roots democracy

Implementation status and constraints	Government does not have detailed policies on community participation in coastal aquaculture (see Article 9.4.1 above). There is a grassroots democracy decree that provides a basis for community-based management. Limited awareness of farmers on their roles in community based management of aquaculture. Farmers have a phobia for old style "co-operatives". A Viet Nam Fisheries Association exists but not all provinces and levels have their local sub-associations. The effectiveness of the Viet Nam Fisheries Association (VINAFISH) is low. No specific government management document exists on community based management and participation in aquaculture.
Recommendations for the government	See Article 9.4.1 above. Review and approve regulations for community-based management of aquaculture. Legalize roles and responsibilities of communities in management of coastal aquaculture. Increase involvement of aquaculturists in aquaculture planning. Develop mechanisms to assist aquaculturists who participate in community-based aquaculture management (service, capital assistance, land use…). Decentralize management power to lower levels, particularly commune authorities in the case of aquaculture development and planning. Capacity building for local officers.
Recommendations for farmers, business sectors and others	Actively participate in community management groups. Establish groups and associations. Strengthen cooperation between farmers, investors, service suppliers, seed producers and research institutes.
Follow up action plans	Disseminate guidelines on community based management of aquaculture (process, roles, responsibilities, functioning etc). Identify the rights and responsibilities of community groups. Build a mechanism for community operation and step-by-step procedures to improve community-based management into an effective cooperation unit to become a basic unit for grassroots aquaculture development.

Article 9.4.3	*States should promote efforts which improve selection and use of appropriate feeds, feed additives and fertilizers, including manures*
Relevance	Yes, important because it relates to production and quality of aquaculture products and environmental issues.
Implementation status and constraints	Government has general regulations on feed, but not specific enough and with weak enforcement. Farmers are confused because there are many feeds available.

	Weak cooperation between MOFI and other sectors.
	Many different kinds of feed with different price range confusing farmers.
	Most feed companies are private and foreign, which complicates control and monitoring.
	Label problems: they are not clear and sometimes unavailable in Vietnamese.
	Few government-funded research initiatives on aquatic feed.
Recommendations for the government	Develop a sectoral standard on the quality of aquaculture feeds.
	Improve feed quality control.
	Improve extension on feeds and feed management.
	Increase government investment in feed research.
	Recommendations on which kind of feed is suitable to each area, species and farming types.
	Establishment of a Quality Control Centre for inputs to aquatic products (including feed, chemical, drugs and seed).
Recommendations for farmers, business sectors and others	Feed companies and salesmen should follow regulations.
	Farmers should improve their knowledge on the feed quality and management.
	Farmers should only buy products from reliable sources where products have clear labels, guidelines for usage, and have been used effectively in other areas.
	Cooperation between farmers and feed providers should increase.
	Use of raw trash feed should be limited.
Follow up action plans	MOFI and DOFI should more frequently review and publish updated information on feeds and fertilizers.
	Increase farmer understanding on feed selection, feeding and pond management.

Article 9.4.4	*States should promote effective farm and fish health management practices favouring hygienic measures and vaccines. Safe, effective and minimal use of therapeutants, hormones and drugs, antibiotics and other disease control chemicals should be ensured.*
Relevance	Yes, important because it relates to production and quality of aquaculture products and environmental issues.
Implementation status and constraints	Government has general regulations on disease control chemicals, but not specific enough and with very weak enforcement.
	Limited cooperation between different sectors and ministry.
	Many different kinds of drugs with varying price ranges are confusing for farmers.
	Most drug companies are private and foreign owned.
	Label problems: not clear and sometimes without a Vietnamese language version.

	Limited government research on drug use in aquaculture.
Recommendations for the government	Development of a sectoral standard on chemicals allowed in aquaculture.
	Improve control and monitoring of chemical use.
	Promote extension programs on the responsible use of chemicals.
	More government investment in drug research.
	Recommendations on which types of drugs are suitable to each area, species and farming types.
	Establishment of a Quality Control Centre for aquatic products (see above).
	Limit licenses for new drug import and production.
	Promotion of Veterinarian training.
Recommendations for farmers, business sectors and others	Chemicals producers, importers and salesmen should follow government regulations.
	Farmers should improve their awareness of health management and chemical use.
	Farmers should only buy products in reliable sources where products have clear labels, guidelines for usage, and have been used effectively in other areas. No use of banned drugs.
	No experimentation at the household level without control by the DOFI.
	Increase cooperation between farmers and chemical suppliers.
Follow up action plans	MOFI and DOFI should more frequently review and publish updated information on chemical use in aquaculture.
	Increase farmers' understanding on chemical selection and use in relation to pond management.
	Recommendations for farmers to reduce the use of drugs, particularly antibiotics.
	Increase government research on these issues and encourage farmers to use vaccines in the future.
	Research on traditional medicine for aquaculture use.

Article 9.4.5	*States should regulate the use of chemical inputs in aquaculture which are hazardous to human health and the environment.*
Relevance	Important because this relates to production and quality of products and environmental issues.
Implementation status and constraints	Government has regulations, but implementation is weak.
	Too many chemicals used for aquaculture, and farmers find it difficult to choose the appropriate one. Problems are made worse by poor labelling on chemical containers (some in foreign languages).
	The wide range of chemicals available with varying price ranges is confusing for farmers.
	Most of chemical companies are private and foreign ones.
	Label problems: they are generally unclear and sometimes not in Vietnamese language.
	Little government research on chemical use in aquaculture.

Recommendations for the government	Development of sectoral standards on allowable chemicals in aquaculture.
	Improve control and monitoring of chemical use.
	Inform farmers on allowed chemicals and responsible use of those that may be harmful to human health or the environment.
	Improve cooperation between different sectors and ministries.
	More government investment in chemical research is required.
	Recommendations on which types of chemicals are suitable to each area, species and farming types.
	Establishment of a Quality Control Centre for aquatic products (see above).
	Licenses for new drug import and production should be limited.
	Use license certification system for management of service providers.
Recommendations for farmers, business sectors and others	Chemicals companies/traders/salesmen should follow government regulations.
	Farmers should improve their knowledge and awareness of hazardous substances.
	Cooperation between farmers and suppliers of inputs.
	Farmers should only buy products from reliable sources where products have clear labels, guidelines for usage, and which have been used effectively in other areas.
	No use of banned chemicals.
	No experimentation at the household level without control by DOFI.
Follow up action plans	More frequent review and dissemination of updated list of medicines available.
	Increase farmers' understanding of chemical selection, use and the functioning of the chemicals in relation to pond management.
	Recommendations for farmers to reduce the use of chemicals.
	Recommendations to farmers for using probiotics that are friendly to the environment.

Article 9.4.6	*States should require that the disposal of wastes such as offal, sludge, dead or diseased fish, excess veterinary drugs and other hazardous chemical inputs does not constitute a hazard to human health and the environment.*
Relevance	Yes, important because it relates to production, quality of products and environmental issues.
Implementation status and constraints	Government has some regulations on this subject but implementation and enforcement are weak.
	Some shrimp farms and areas do not follow the waste management regulation.
	Farmers' understanding of community based management and community morale is low.
	Lack of planning, guidelines and regulations (sanctions should be established).
	Lack of equipment to check pollution levels.
	No effective treatment methods available.

Recommendations for the government	Increase control over waste discharge.
	Promote environment management.
	Enforcement of planning, guidelines and regulations development
	Increase research on waste treatment.
	Enforcement of current commune management and community-based aquaculture.
Recommendations for farmers, business sectors and others	Farmers have to follow the waste management regulations.
	Implement waste treatment regulations. No discharge without treatment.
	Waste treatment should be paid for by farmers themselves.
Follow up action plans	Further development of regulations on waste management, including clear consequences for individuals and organizations who do not comply.
	Carry out research on waste treatment through biotic products.
	Increase research on solid waste treatment.
	Increase farmers' understanding of chemical selection and use. Develop recommendations for farmers to reduce the use of chemicals.
	Develop recommendations for farmers to use probiotics that are friendly to the environment.

Article 9.4.7	*States should ensure the food safety of aquaculture products and promote efforts which maintain product quality and improve their value through particular care before and during harvesting and on-site processing and in storage and transport of products.*
Relevance	Yes, very important because it affects human health as well as the market access and value of the products.
Implementation status and constraints	There are regulations but the implementation is still weak because farmers are eager to make a short term profit
	Low cooperation between farmers and processors.
	Farmers' understanding about phytosanitary issues is limited.
	Lack of planning, guidelines and regulations concerning food safety during production.
	Lack of equipment to check hygienic standards.
Recommendations for the government	More control over shrimp farms and processing companies.
	Increase enforcement of laws and regulations.
	Promotion of farmers' awareness of these issues.
	Carry out research on the linkages between farmers and processors to create a chain which promotes the production of safe products.
	Promote the establishment of a system whereby the farmers directly export their products.
	Ensure that middlepersons operate hygienically as well.
Recommendations	Processing companies should not buy low quality products.

for farmers, business sectors and others	Farmers should exercise self-enforcement over health safety regulations.
	Use of good aquaculture practices (GAPs)
	Processing plants should cooperate with farmers as shareholders.
	Processing plants need aquaculture engineers to ensure good sanitation at farm level.
Follow up action plans	Define penalties for organizations and individuals that violate regulations.
	Promote clean production of products.
	Increase farmers' understanding of trade barriers and the implications of irresponsible chemical use.

FAO FishCode Reviews
already published

1 Pintz, W.S. Tuna and bottom fishery licence management: Tonga. *FAO/FishCode Review*. No. 1. Rome, FAO. 2003. 35p.

Fish are now the largest single export from the Kingdom of Tonga. However, expansion of the industry faces severe infrastructure constraints, and granting substantial numbers of new longline licences without resolving the constraints could seriously affect all Tongan commercial fisheries.

2 Gillett, R. Aspects of fisheries management in the Maldives. *FAO/FishCode Review.* No. 2. Rome, FAO. 2003. 61p. (*Restricted distribution)*

The inshore marine resources of the Maldives, an atoll environment, are being increasingly exploited for baitfishing, food for local residents, consumption by tourists, exports and non-extractive uses such as dive tourism. This situation must be reconciled with the limited nature of the resources.

3 Die, D.L.; Alió, J.; Ferreira, L.; Marcano, L.; Soomai, S. Assessment of demersal stocks shared by Trinidad and Tobago and Venezuela. *FAO/FishCode Review*. No. 3. Rome, FAO. 2004. 32pp.

The FAO/WECAFC Workshop on assessment of demersal stocks shared by Trinidad and Tobago and Venezuela (2002) initiated an assessment of the shrimp stocks shared by the two countries. The main conclusion of the assessment is that some shrimp stocks are being severely overfished and are suffering as a result.

4 Gillett, R. The marine fisheries of Cambodia. *FAO/FishCode Review.* No. 4. Rome, FAO. 2004. 57p.

Excess fishing effort and associated declines in abundance of target species are the most serious problems facing Cambodia's marine fisheries: resource sustainability will require restrictions on resource access.

5EN FAO/FishCode. Seminar on responsible fisheries management in large rivers and reservoirs of Latin America. *FAO/FishCode Review*. No. 5. Rome, FAO. 2004. 72p. [En]

This report of the Seminar on Responsible Fisheries Management in Large Rivers and Reservoirs in Latin America (2003), attended by experts from member countries of the Commission, observers from other regional bodies and representatives from local fishing communities in El Salvador, presents the principles of responsible fishery management in Latin America as well as a selection of national reports.

5SP FAO/FishCode. Seminario sobre ordenación pesquera responsable en grandes ríos y embalses de América Latina. *FAO/FishCode Revista.* No. 5. Roma, FAO. 2004. 78 p. [Sp]

El Seminario sobre ordenación Pesquera Responsable en Grandes Ríos y Embalses de América Latina (2003) se efectuó en San Salvador en asociación con la novena reunión de la Comisión de Pesca Continental para América Latina (COPESCAL). Participaron expertos de países Miembros de la Comisión ; observadores de otros organismos regionales y representantes de comunidades pesqueras locales de El Salvador. Se presentaron dos documentos sobre los principios de la ordenación pesquera responsable en grandes ríos y embalses en América Latina y una selección de informes nacionales.

6 Swan, J. National Plans to combat illegal, unreported and unregulated fishing: models for coastal and small island developing states. *FAO/FishCode Review.* No. 6. Rome, FAO. 2003. 76p.

These case studies for use in FAO regional and subregional workshops were prepared in accordance with the FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing. The "Republic of Galactia" and the "Alpha Islands" are fictitious, but the fisheries profiles presented draw on typical existing circumstances.

7 Kuemlangan, B. Creating legal space for community-based fisheries and customary marine tenure in the Pacific: issues and opportunities. *FAO/FishCode Review.* No. 7. Rome, FAO. 2004. 65p.

The laws of Pacific Island countries generally support traditional fisheries management with only modest efforts to encourage the use of customary marine tenure-based community fisheries management. Government commitment for the role of customary marine tenure in community-based fisheries management, with support from interested stakeholders, will complement efforts for promoting sustainable utilization of fisheries resources and improved livelihoods in the Pacific region.

8 FAO/FishCode. Report of the Workshop on Development of a Management Plan for Tomini Bay Fisheries, Indonesia. *FAO/FishCode Review.* No. 8. Rome, FAO. 2004. 31p.

Tomini Bay fishery resources are still considered to be underexploited, but annual catches have increased dramatically over the past ten years. In the absence of a fisheries management body, The FAO/Government of Indonesia Workshop on the Development of a Management Plan for Tomini Bay Fisheries (2003) provided a starting point for addressing responsible fisheries issues and laying the groundwork for a fisheries management plan.