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Продовольственная и
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Organización
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Unidas
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COMMITTEE ON FISHERIES

SUB-COMMITTEE ON AQUACULTURE

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IMPROVING THE PROGRESS REPORTING ON THE IMPLEMENTATION OF THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES (CCRF), PROVISIONS RELEVANT TO AQUACULTURE AND CULTURE-BASED FISHERIES AND THE PROPOSAL FOR A REVISED REPORTING MECHANISM ON CCRF WITH AN INTERACTIVE QUESTIONNAIRE

SUMMARY

This document comprises two parts: the status of progress in implementing the aquaculture and culture-based fisheries provisions of the 1995 FAO Code of Conduct for Responsible Fisheries (CCRF) as informed by member countries and a proposal to improve global monitoring and reporting by countries of progress in complying with those provisions. Part I describes current status and some trends in the progress of implementation, globally and by region, based on comparable data from the 2004, 2006 and 2008 surveys. Owing to the low responses and the overall poor quality of information obtained from the questionnaire surveys, it is difficult to determine the assistance required by the members to better implement the aquaculture CCRF provisions. This provides justification for Part II, which proposes a revised questionnaire and further improvements to the reporting mechanism following recommendations of COFI SCA IV. The Sub-Committee is invited to comment on the analysis and proposal, to recommend specific follow-up actions to develop and implement the recommended reporting mechanism and to recommend a time-frame for the completion of the task.

TRENDS IN THE PROGRESS OF IMPLEMENTING THE CCRF PROVISIONS ON AQUACULTURE AND CULTURE-BASED FISHERIES

Introduction

1. FAO has been monitoring the implementation of the 1995 FAO Code of Conduct for Responsible Fisheries (hereinafter referred to as the Code or CCRF) with a standard questionnaire distributed to member countries, regional fishery bodies (RBF) and international non-

governmental Organizations¹ (INGOs). The questionnaire includes sections on aquaculture, in particular the Article 9 and some elements in Articles 5 and 10 of the CCRF.

2. Article 4.2 of the Code states, *inter alia*, that FAO will report to the FAO Committee on Fisheries (COFI) on the application and implementation of the Code. In this regard, the COFI Secretariat biannually reviews the responses received from FAO Members, regional fishery bodies (RFBs), and international non-governmental organizations (INGOs), to a standard questionnaire, on the implementation of the Code, and reports the progress to COFI. The Secretariat of the COFI Sub-Committee on Aquaculture (COFI/SCA) also regularly reviews the progress in the implementation of the Code's aquaculture-related provisions^{2,3} using the same methodology and presents this to the Sub-Committee for discussion and decision. This document is the fourth such reports prepared by the Secretariat of the Sub-Committee.

3. This report: i) summarises the reporting from member countries to the 2008 survey and, in order to assess potential improvement, compares it with responses to the 2004 and 2006 surveys, and ii) proposes a revised new questionnaire and reporting mechanism to improve the reporting process.

4. In 2008, 66 countries⁴ (i.e. 43 percent of the countries receiving the questionnaire) responded. This response is lower than that of 2006 (81 countries or 52 percent) and almost equal to that of 2004 (67 countries or 43 percent). Such low responses have already been a cause of concern. COFI and the SCA continue to address the issue related to the number and quality of responses and called for special focus on aquaculture and trade through separate surveys under each Sub-Committee.⁵

5. This document does not include reports from RFBs and INGOs, or FAO actions except those related with improvement in the reporting. The 66 responses received for the 2008 questionnaire limits the analysis that can be done and allows only a broad and, at best, qualitative comparison with the previous set of responses from 67 and 81 countries for 2004 and 2006, respectively. Therefore this document mostly provides an indication of 2008 status and needs while less attention is given to temporal trends.

General status

6. **Priority accorded to aquaculture:** In 2008, 61 percent of responding countries considered aquaculture sector development to be a top priority. The Asian region, unsurprisingly, continues to have a high number of countries (82 percent) that consider aquaculture as top priority followed by Latin America and the Caribbean with 77 percent, and the Near East with fifty seven percent. In all other regions aquaculture priority was around 50%.

¹ Questionnaire for Monitoring the Implementation of the 1995 FAO Code Of Conduct For Responsible Fisheries. The International Plans Of Action On Capacity, Sharks, Seabirds, And Illegal, Unreported And Unregulated Fishing and The Strategy For Improving Information On Status And Trends Of Capture Fisheries.

² FAO 2002, 2003, 2006, 2008. Progress made on the implementation of the Aquaculture related provisions of the Code of conduct for responsible fisheries. COFI:AQ/II/2002/4. 8 p.; COFI:AQ/II/2003/4. 8 p.; COFI: AQ/III/2006/3. 11 p; COFI:AQ/IV/2008/4. 11 p.

³ FAO 2008. Improving progress reporting on the implementation of the Code of Conduct for Responsible Fisheries (CCRF), provisions relevant to aquaculture and culture-based fisheries. Fourth session of the Committee on Fisheries Sub-Committee on Aquaculture, Puerto Varas, Chile, 6-10 October 2008. COFI:AQ/IV/2008/4. 11 p. <http://ftp.fao.org/docrep/fao/meeting/013/k2846e.pdf>

⁴ FAO 2009. Progress in the implementation of the Code of Conduct for Responsible Fisheries, related international Plans of Action and Strategy. Twenty- eighth Session of the Committee on Fisheries. Rome, Italy, 2 – 6 March 2009. COFI/2009/2. <http://ftp.fao.org/docrep/fao/meeting/015/k3833e.pdf>

⁵ The report of the COFI 27 session states: "...the Sub-Committees on Aquaculture and on Fish Trade, respectively, should take responsibility for monitoring the implementation of Articles 9 and 11 of the Code with the format and frequency of more detailed monitoring to be determined by the Sub-Committees at their 2008 Sessions; and that future Sub-Committee reports presented to COFI would contain information on progress with the implementation of these Articles. (para. 21).

7. **Legal and institutional framework:** Fifty three percent of the responding countries reported having some type of framework in 2008. Indeed all regions saw an improvement in this area as compared with the situation in 2004. As in previous reports, most responses lacked specificity, which did not permit assessment of the appropriateness or effectiveness of the regulatory frameworks. Nevertheless, some of the following questions shed more light on this issue.

8. **Codes of practice:** In 2008, 68 percent of countries reported some code of practice being adopted by government agencies; 33 percent reported codes of practice as being adopted by producers; 25 percent reported having codes of practice for suppliers and 23 percent have codes of practice for manufacturers.

9. **Environmental impact assessment (EIA):** Forty seven percent of responding countries declared having an EIA in place in 2008. Sixty two percent of the countries in Latin America and the Caribbean, 60 percent in Asia and over 50 percent in Africa and North America carry out some form of EIAs before establishing aquaculture operations. As to effectiveness, only 32 percent of countries reporting EIA across regions in 2008 felt that it was “effective” while most countries indicated difficulties and/or deficiencies in the implementation of EIAs. As in the previous report, the diversity of answers and of requests for assistance related to this topic; partly reveal the lack of indicators or performance appraisal to evaluate “effectiveness” of the EIA process.

10. **Monitoring of aquaculture operations.** Forty two percent reported having some monitoring in place in 2008. Forty five percent of the reporting African countries, 60 percent of the Asian countries, 62 percent of Latin America and the Caribbean, 43 percent of Near East and 14 percent of European countries seem to have a monitoring system in place. Only thirty nine percent of countries reporting in 2008 said monitoring aquaculture operations was “effective”. Most countries referred to various kinds of deficiencies and bottlenecks to an effective monitoring system. The responses revealed that there is no common understanding as to what and how to monitor.

11. **Use of exotic species in aquaculture:** In 2008, 66 percent reported having some provisions to minimize potential impacts from the use of exotic species while 33 percent of these countries said such measures were effective. There were significant differences amongst regions; both countries in North America, 73 percent in Asia, 71 percent in the Near East, 62 percent in Latin America and the Caribbean and 50 percent in Africa have implemented some measures to minimize potential impacts.

12. **Promoting responsible aquaculture in support of rural communities, fish farmers and other stakeholders:** The diverse responses – in terms of content, elements and scope – were organized into four categories: i) institutions (that included policies, strategies, norms, regulations); ii) farming technologies and training; iii) public infrastructure and facilities (e.g. state owned hatcheries); and iv) economic support to farmers. The answers to 17 (a), which solicits information on the assistance required to implement each of the above-mentioned measures, were likewise organized into the same categories to facilitate comparative analysis.

13. **Implementation of measures and request for assistance:** In 2008, 58 percent of reporting countries indicated having implemented institutional measures, 20 percent reported introducing technology and training measures and 11 percent affirmed the implementation of infrastructure/facilities and 5 percent economic support.

14. Ninety one percent of Asian respondents confirmed the adoption of some measures mainly regarding technology and training assistance and institutional measures. Similar interests are indicated in the requirements for assistance.

15. Ninety one percent of African respondents have implemented institutional measures. Only 9 percent indicated having implemented measures related to technology and training; this constituted the largest proportion of requests for assistance from Africa. Additionally, only 9 percent of the reporting countries indicated having established public infrastructure/facilities and implemented economic support measures to farmers. Compared to other regions, Latin America and the Caribbean, Africa and Asia had the most requests for assistance on institutional measures and technology and training.

16. In summary, over the past biennium, the surveys showed some decline on the implementation of CCRF provisions for aquaculture and culture-based fisheries. Such “decline” could be at least partly, an artefact of the reporting system since fewer countries responded in 2008 and countries that have previously reported as having implemented some measures; e.g. institutional frameworks or EIAs, did not respond to the 2008 questionnaires. Also in few cases, countries reporting a framework in place in a previous biennium indicate not having such framework in the present reporting. This situation could be attributed to changes in the respondents and or to different interpretations of a question during different reporting periods. As a consequence of the above, because of the low level of response and its quality, it is not possible to use the results in the formulation of a representative analysis of the sector globally. Therefore, it is important and timely to continue in the efforts to improve the reporting procedure.

IMPROVING REPORTING OF THE IMPLEMENTATION OF AQUACULTURE AND CULTURE-BASED FISHERIES PROVISIONS OF THE CCRF

Introduction

17. Although FAO has been monitoring the implementation of the CCRF using the responses received from the member countries to a standard questionnaire, the declining rate of responses, irregular reporting and the poor quality of responses have not allowed the Secretariat to conduct a detailed assessment of the overall progress made globally, by region, or by country.

18. Both COFI and COFI/SCA have requested FAO to develop a questionnaire to assess the status of compliance of States to the aquaculture provisions of the CCRF. In response, FAO, drafted a reporting template (i.e. questionnaire) specific to aquaculture to supplement the aquaculture section in the comprehensive CCRF questionnaire. This draft questionnaire was presented to COFI/SCA IV in 2008⁶. The Sub-Committee recommended further actions on the questionnaire, which were endorsed by the 28th session of COFI (Rome, March 2009).

19. The recommended actions included the revision of the pilot version of the questionnaire and its testing in different regions to reflect different environmental conditions of the sector and ensure global applicability. The following actions for revision were advised: i) make the questionnaire comprehensive and more generic; ii) have country specific benchmarking criteria that are linked to the relevant sections in Article 9 of the CCRF; iii) make provisions to supplement rankings with contextual information; and iv) provide for a distinction between the criteria on the development of initiatives and criteria on their implementation.

20. To carry out these recommendations, a pilot testing process of the new questionnaire was organized. The activity and its results are described below.

⁶ Paras 30, 33 and 34. COFI SCA IV, Puerto Varas Chile, October 2008.
<http://ftp.fao.org/docrep/fao/011/i0615t/i0615t00.pdf>

Process

21. **Activities.** These included the following: (i) re-drafting the questionnaire based on the recommendations of COFI/SCA IV; (ii) responding to and evaluating the questionnaire by selected experts and focal points from various regions; and (iii) conducting an expert workshop to draft and recommend a final version of the questionnaire together with strategic and technical actions regarding its use. The test and evaluation activity were carried out during November and December 2009 and the expert workshop was held from 12-15 January 2010 in Bangkok, Thailand.

22. **Purpose.** The activity was guided by the following purposes: (i) assess global progress of compliance with the Code's provision on aquaculture; (ii) identify constraints and needs for effective implementation by States; and (iii) serve as a basis for governments' self-assessment of their capacities for compliance to the aquaculture provisions of the CCRF. To achieve the above, the questionnaire has to be able to gather data that would: establish **benchmarks** for compliance status, adapted to each country's capacity, establish quantitative and qualitative performance **indicators** of specific compliance actions, **measure** performance and **indicate major constraints to and needs for** effective implementation of the CCRF. Constraints included external factors such as climate change.

23. **Participation.** Eleven experts and focal points from: Chile, China, India, Kenya, Norway, OSPESCA (on behalf of the Central American countries), Palau, the Philippines, Solomon Islands, Tonga, Turkey and Viet Nam responded to the draft questionnaire through an electronic communication. The respondents were also requested to evaluate the questionnaire using an evaluation guideline. The results of the test responses and the evaluation were presented and discussed at an expert workshop.

24. **Structure of the questionnaire.** The questionnaire comprised three sections: Section I addressed the **extent of compliance** to a provision or aspects of a provision. It has three parts, which are meant to assess the degree of implementation of: (i) the essential management mechanisms to achieve the provisions of the CCRF, (ii) the supporting management measures, and (iii) the measures that enhance the implementation of the essential mechanisms. Section II was meant to assess the State's **capacity to support** compliance. A Section III collected **data reflecting priorities** in aquaculture development, including programme thrusts and support mechanisms for various aspects of the development effort. Most of the questions were meant to draw out specific or "contextual" information that support or illustrate some of the responses in Sections I and II.

25. **Features of the questionnaire.** The questionnaire was developed and tested in two formats; Word and Excel. The Excel format allows immediate feedback to the respondent because the formulae for generating mean scores on Sections I and II are embedded. Other analytical protocols can be embedded as well, all of these being automatically interactive and the respondent organization is able to generate an immediate feedback of the assessment. From FAO's perspective, the Excel format would facilitate analysis. Also a customized report for a particular State or a group of States can be easily developed. The Word format is an alternative that have to be manually keyed into the Excel format for analysis.

26. **Evaluation criteria.** The experts were guided by an evaluation sheet that accompanied the questionnaire and focused on three related assessment criteria: its attributes, usefulness, and effectiveness. The components of each criteria were: (i) the intrinsic attributes of the questionnaire including its overall structure and the structure of the questions; (ii) the usefulness of the questionnaire in terms of government needs that include assessment of status of compliance, assessment of capacities, assessment of constraints, and identification of priority needs; and (iii) effectiveness of the questionnaire in establishing benchmark, establishing performance indicators and measuring performance.

27. **Evaluation system.** Three aspects of the questionnaire were analysed: (i) whether the questionnaire was properly designed, (ii) would it achieve the purposes of the survey, and (iii) would it accomplish its tasks? The indications of the analysis in answer to these questions were discussed by the expert workshop.

28. **The Experts Workshop.** The main objective of the workshop was to improve the effectiveness of the questionnaire being tested, as a tool to assess compliance by and capacities of governments to comply with the aquaculture provisions of the CCRF. The workshop consisted of four types of activities: presentation of background information and the working papers; working group discussions, plenary discussions, and drafting of recommendations. In line with the analysis, the workshop discussions came up with the observations described below.

29. An assessment of the content of the reformulated questionnaire concluded that it sufficiently address all provisions in Article 9 and the relevant provisions of Articles 2 and 10 of the Code. The content also covers all the relevant elements of the CCRF Technical Guidelines dealing with sustainable development of aquaculture.⁷ The assessment also noted that Article 9 in the CCRF does fails to address certain issues that have emerged since its adoption in 1995.

30. The workshop noted a weak attention to the aquaculture social issues in Article 9. Other relevant missing element was the consideration of external pressures on the sector such as climate change or global market fluctuations. Both could affect the sustainability of the sector. The reformulated questionnaire, thus, attempts to elicit information on socio-economic issues and includes questions on external forcing factors.

31. The workshop emphasized the importance of quality (validity, reliability, accuracy and completeness) of the information and to the efficiency in obtaining this. It was noted that within a country there can be several institutional sources of data, which would require a well organized and suitable system of searching, assembling and checking the quality of the data and information.

32. The workshop highlighted a contentious issue regarding subjectivity of responses or reluctance to provide a response. It was recognized that any self assessment is prone to some subjectivity or bias but the more critical issue is the bias associated with sensitive aspects which might also be a cause of low returns. Related to the latter issue, the workshop noted that the instances when other organizations have attempted to evaluate the CCRF compliance to publish criticizing reports have generated adverse repercussions on the aquaculture or fishery sectors of some States. In this regard, it was suggested that a policy that encourages transparency (rather than confidentiality) would promote an open and objective presentation and discussion of issues and would contribute to improve the performance and the image of the sector.

33. The workshop recognized that there would be a wide variation of abilities as well as motivations for responding, which will require strengthening of capacities of responsible institutions i.e. the focal points and promoting a better understanding and appreciation of its purposes and benefits.

34. The workshop emphasized the importance of making the questionnaire convenient and clear. It also noted that the length of the questionnaire and the medium that is associated with responding to a lengthy and data-dense questionnaire can be a major factor in low returns or poor quality data. An interactive questionnaire can be more lengthy and comprehensive but it has two attractions: it can provide immediate feedback and thus an immediate perceived benefit to the respondent. These would help maintain the respondent's interest.

⁷ FAO Technical Guidelines for Responsible Fisheries. No. 5. Rome, FAO. 1997. 40p (available at <http://www.fao.org/docrep/003/w4493e/w4493e00.htm>).

35. The experts related the low rate of return and poor quality of data mainly to the following issues: (i) complexity and lack of clarity of questionnaire; (ii) perception that responses are “going down a black hole”; (iii) lack or perceived lack of benefits for the reporting country; (iv) perception that some parts of questionnaire touch on sensitive issues, and (v) unclear pathway of distribution and responsibilities to respond within the countries.

36. The workshop noted that the new questionnaire identifies gaps rather than priorities or needs. However the separation of questions into essential, supporting and enhancing does enable the identification of critical gaps as areas for priority attention. Analysis of the results would identify areas of regional or global weaknesses in compliance. This would be a basis for FAO to suggest global and regional programmes to strengthen capabilities and improve compliance or address a key deficiency or gap. In line with the workshop’s conclusions, a revised version of the questionnaire was produced (Annex 1) and the experts formulated the following specific recommendations.

Key Recommendations

37. Further improvements to the questionnaire were needed in the scoring system, i.e. the scale for rankings, and the guidance provided to assign rankings. A provision for contextual information to elaborate on and explain the ranking is being included. Other final recommendations and improvements are reflected in the reformulated questionnaire.

38. A manual of instruction shall be developed for responding institutions and officers to assure quality data and facilitate the task of responding to the questionnaire. The present questionnaire has two sections. It was recommended to develop a third section as a preparatory worksheet to collect relevant information only for the purposes of the responding country. This section may be part of the instructions manual.

39. Strategies to effectively administer and obtain answers to the questionnaires include: (i) a recommendation to Governments to designate a national institutional focal point that is responsible for coordinating the responses to the questionnaire considering the multidisciplinary elements and the involvement of different agencies or institutions as appropriate; (ii) a mechanism for a dialogue between the analyst (in FAO) and the focal points should be established for the purpose of assuring data quality; and (iii) a need to highlight the relevance of the code, particularly its importance as a tool to assist the countries in assessing and improving their capacities for complying with the Code and, in general, developing a sustainable aquaculture sector.

40. Reports to governments: Upon request, FAO could develop a customized report for individual States. The customized report is confidential and could provide the recipient State initial advice for the purpose of improving its capacity for developing and managing a responsible and progressive aquaculture sector. FAO and other organizations are encouraged to use the information generated from the questionnaire to develop programmes of technical assistance for a country or a group of countries.

41. Governments are encouraged to develop self-assessment reports using their own benchmarks, this being one of the most relevant outputs of the questionnaire responses.

IMPLEMENTATION OF THE NEW REPORTING SYSTEM

42. The new reporting system consisting of a specific aquaculture questionnaire and reporting process can be fully tested in the next two biennium with provisions for review and some modifications as needed. The electronic interface is being developed within the web reporting

system for the full CCRF questionnaire testing and this is being presented to the 29th Session of COFI⁸

TIMING OF REPORTING

43. Biennial

SUGGESTED ACTIONS BY THE COMMITTEE

44. The Committee is invited to deliberate on this important issue and in light of the presentation:

- Recommend the proposed questionnaire and reporting system for a trial testing through two reporting periods
- Recommend specific follow up actions to develop and implement the current instrument.

⁸ Electronic options for monitoring implementation of the FAO code of conduct for responsible fisheries. FAO Fisheries and Aquaculture Circular No. 1039. 2009. <ftp://ftp.fao.org/docrep/fao/011/i0582e/i0582e00.pdf>

ANNEX 1

REFORMULATED QUESTIONNAIRE

Status of Compliance to the Provisions in Aquaculture and Culture-based Fisheries of the FAO Code of Conduct for Responsible Fisheries (CCRF)

I. INTRODUCTION

General Purpose: The information that the government is being requested to provide through this questionnaire is meant to supplement those from the larger survey on the Code. This questionnaire focuses on aquaculture and culture-based fisheries, in particular the provisions of Article 9 of the Code. There are additional questions that relate to capacity for ecosystems management and preparedness and response to natural disasters

Expected outputs: The following will be the outputs from this survey: (i) assessment of state of compliance report to COFI and COFI/SCA, (ii) customized country reports, as requested, developed for requesting State to provide technical advice for improving compliance and capacity for compliance to the Code.

Purposes of the outputs: The outputs will be used to assess the overall global progress of the Code's article 9 implementation and identify major constraints to implementation. These will provide FAO and the governments a basis for developing measures to improve performance.

II. RESPONDENT

This will be kept confidential and a code will be used for the analysis.

State Responding: _____

Agency: _____

Coordinating Officer: _____

Role in Organization: _____

Email:

Fax:

Postal Address:

III. INSTRUCTIONS

It is important that you give an answer to every question. Please do not leave a blank answer.

Please indicate the presence or absence of the management instrument or measure by marking 0 for None or No in the Response box. If the answer is Yes indicate the extent or degree of its enforcement or implementation in the Response box. There are three rankings for a Yes response: 1, 2 and 3. Please refer to the Manual of Instructions accompanying this questionnaire for guidance. Each question has an explanation to help you decide the ranking. Culture-based fisheries issues should be considered when relevant.

Section I : Status of Compliance

| PART 1. | |
|--|-----------------|
| ESSENTIAL MANAGEMENT INSTRUMENTS AND MEASURES | RESPONSE |
| 1.1 Aquaculture Policy | |
| 1.2 Aquaculture Development Plan | |
| 1.3 Regulatory measures to support aquaculture development: | |
| Regulatory measures include: | |
| 1.3.1 Access rights to land and water bodies | |
| 1.3.2 Registration of aquaculture farms and hatcheries | |
| 1.3.3 Zonation (area for aquaculture, or for species culture, or for disease containment) | |
| 1.3.4 Carrying capacity (limits set on farming density) | |
| 1.3.5 Environmental assessment and monitoring | |
| 1.3.6 Control of effluents | |
| 1.3.7 Feeds (environmental impact, quality, food safety issues) | |
| 1.3.8 Seed (source – wild, hatchery – as environmental issue) | |
| 1.3.9 Water abstraction | |
| 1.3.10 Use of alien species along the lines of FAO's or OIE's guidelines or CBD provisions (include transboundary) | |
| 1.3.11 Movement of live animals along the lines of FAOs and OIE's guidance | |
| 1.3.12 Impacts on biodiversity | |
| 1.3.13 Escapes and stock enhancement issues | |
| 1.3.14 Food safety (along the lines of CODEX) | |
| 1.3.15 Use of drugs, chemicals and other substances | |
| 1.3.16 Fish health management along the lines of FAO and OIE | |

| PART 2. | |
|---|-----------------|
| SUPPORT MECHANISMS THAT FACILITATE THE IMPLEMENTATION OF THE REGULATORY MEASURES LISTED IN Part 1 | RESPONSE |
| 2.1 Consultation with stakeholders in formulating the Aquaculture Policy and/or Aquaculture Development Plan. | |
| 2.2 Participation of farmers associations in sector development and management. | |
| 2.3 Integration of aquaculture in coastal planning and management. | |

| | | |
|------|---|--|
| 2.4 | Integration of freshwater aquaculture in watershed management or land use planning and development. | |
| 2.5 | Integration of aquaculture in community development planning. | |
| 2.6 | Ecosystems functions are considered in aquaculture planning and development (eg. wildlife sanctuary, water quality improvement, recreational functions, oxygen provision, nutrients sequestration etc.). | |
| 2.7 | There is an incentive system for farmers to restore or rehabilitate resources degraded by their aquaculture activities (e.g. mangrove, salt marshes, abandoned lands, polluted water bodies, degraded soil etc.). | |
| 2.8 | Practices are adopted that lead to improvement in the sustainability of aquaculture farms (i.e. better management practices or BMPs, good aquaculture practices or GAPs, codes of practice, etc). | |
| 2.9 | There is an incentive system to minimize adverse environmental impacts. | |
| 2.10 | Positive trend of investment in aquaculture research. | |
| 2.11 | Positive trend of investment in aquaculture extension and training. | |

| PART 3. ENHANCING MECHANISMS THAT WOULD IMPROVE THE EFFECTIVENESS OF THE MEASURES AND MECHANISMS LISTED IN PARTS 1 AND 2. | RESPONSE |
|---|-----------------|
| 3.1 Mechanisms are in place to ensure that livelihoods of the local communities are not negatively impacted when developing aquaculture. | |
| 3.2 There is a voluntary certification system that promotes the practice of responsible aquaculture (examples are; ecolabel, social label, organic, green label, local origin, etc.). | |
| 3.3 Farms are covered by government assistance scheme in case of disasters (disease outbreaks i.e. mandatory destruction of stock from an epidemic etc.). | |
| 3.4 Aquaculture farmers have access to commercial insurance. | |

Section II: Capacity of the State to (i) **develop** knowledge, information, technology and advice and; (ii) **promote their adoption** to support the development, enforcement, implementation, monitoring and evaluation of the measures in Section I.

| PART 4. THE LEVEL/DEGREE OF CAPACITY TO SUPPORT THE MEASURES IN SECTION 1. | RESPONSE |
|--|-----------------|
| 4.1 Capacity of the national research system to provide (knowledge, information, technology, advice) to policy, planning and management. | |
| 4.2 Capacity of the extension systems to disseminate and utilize the outputs from the national or external research systems in support of aquaculture development. | |

| | | |
|-----|--|--|
| 4.3 | Specific capacity (of State) on | |
| | a) Health management | |
| | b) Environmental management | |
| | c) Biodiversity conservation | |
| | d) Food safety | |
| | e) Conflict management | |
| 4.4 | Preparedness to respond to disasters. | |
| 4.5 | Preparedness to manage the risk impacts from climate change. | |