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## COMMITTEE ON FISHERIES

### SUB-COMMITTEE ON AQUACULTURE

#### Sixth Session

Cape Town, South Africa, 26-30 March 2012

### IMPROVING AQUACULTURE DATA AND INFORMATION: A PROGRESS REVIEW

#### Executive Summary

This document briefly describes the progress in the implementation of the Strategy and Outline Plan for Improving Information on Status and Trends of Aquaculture (Strategy-STA), endorsed by the COFI-SCA III in 2006 and COFI-27 in 2007. The Strategy-STA is a voluntary instrument. Its overall objective is to provide a framework, strategy and plan for the improvement of knowledge and understanding of aquaculture status and trends as a basis for policy-making and management, and to ensure development that is compatible with good stewardship of resources and the environment.

Following the Strategy, the CWP established the Aquaculture Group (CWP-AS) at its 23<sup>rd</sup> session in 2010 to operate independently during the intersessional period specifically focusing on issues relevant to aquaculture. CWP-AS held its first meeting immediately after the COFI-SCA V in 2010 and agreed to its Terms of References, priorities and issues. It confirmed the importance of establishing global standards and methodologies of aquaculture data collection as well as regional and sub-regional collaboration. The first revised draft of the aquaculture component of the CWP Handbook was developed by the Expert Workshop held in 2009. A more updated draft incorporating recent developments will be available as a made-available document. Regional coordination for capacity building for aquaculture data collection was initiated in Southeast Asia in 2009 and is under preparation in Africa. However, the progress has been hampered due to the lack of resources to support activities.

The quality of aquaculture data reporting by countries has been gradually improved in a sense of level of details of reports. However, approximately 30% of countries with aquaculture production did not provide statistics to FAO while approximately 30% provided a complete report, including aquaculture structure, seed production and production by farming system. Recent developments in UN statistics including the Global Strategy of Improving Agricultural and Rural Statistics and revision of System of Environmental and Economical Accounts were briefly introduced due to their relevance in establishing aquaculture data collection system, especially of those social and economic aspects.

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**The Sub-Committee is invited to:**

- 1) Review and advise on the content of the draft CWP Handbook on Aquaculture statistics;
- 2) Advise on the way forward for the implementation of the Strategy and Project;
- 3) Advise on its intention to report on efforts to link aquaculture data collection with other data collection and, in particular, with agriculture censuses, rural household surveys, and population censuses.

1. FAO is the only source of comprehensive global fishery statistics. Consequently, most reviews of the state of world fisheries and aquaculture, past trends and future rely on FAO statistics which, in turn, rely heavily on national data reportings. The contribution of aquaculture to food security has been rapidly and consistently increasing and has reached close to 50% of the total production of fish for direct human consumption.

2. However, due to its rapid growth, many countries have struggled in establishing adequate institutional mechanisms to meet the information demands for sustainable management of the sector. There is an urgent need for many countries to adjust the current systems to meet the changing demand for data and information and improve national aquaculture statistical systems accordingly. Concurrently, clearly prepared guidelines on data collection and monitoring methodologies for the aquaculture sector must be established.

3. In response to the aforementioned, the Strategy and Outline Plan for Improving Information on Status and Trends of Aquaculture (Strategy-STA) was developed by FAO, through the Expert Consultation on Improving Information on Status and Trends of Aquaculture in 2004<sup>1</sup>, endorsed by the third session of the FAO Committee on Fisheries (COFI) Sub-Committee on Aquaculture (New-Delhi, 2006<sup>2</sup>) and subsequently the twenty-seventh session of COFI (Rome, March 2007<sup>3</sup>).

4. The Strategy is a voluntary instrument, global in scope, and applies to all types of aquaculture. The overall objective of the Strategy is to provide a framework for the improvement of knowledge and understanding of aquaculture status and trends as a basis for policy-making and management, and to ensure development that is compatible with good stewardship of resources and the environment. It calls on international and national efforts to assist with its implementation. The Strategy actions are categorized into the following three groups i) improving institutional mechanisms and procedures for statistics and trend and status reporting, ii) Global methodologies and standards, and iii) Capacity building in developing countries.

**Establishment of the CWP-AS:**

5. The first component of the Strategy was realized through the establishment of an Aquaculture Subject Group under the Coordinating Working Party on Fishery Statistics (CWP). In response to the endorsement by the COFI Sub-Committee on Aquaculture held in New Delhi in 2006 of the Strategy-STA, the 22nd session CWP reviewed the request to establish a CWP-like structure for aquaculture and recommended that FAO seek an appropriate form for such a mechanism and its relationship with the existing CWP. Accordingly, FAO held an expert workshop in Nakorn Nayok, Thailand, from 8-10 January 2008 which recommended establishing such a mechanism within the framework of the existing Coordinating Working Party on Fishery Statistics (CWP-FS), but with its own Terms of

<sup>1</sup> FAO. 1995. Towards improving global information on aquaculture. Fisheries Technical Paper No. 480. Rome, FAO.

<sup>2</sup> FAO. 2007. Report of the third session of the Sub-Committee on Aquaculture. New Delhi, India, 4-8 September 2006. FAO Fisheries Report No. 816. Rome, FAO

<sup>3</sup> FAO. 2007. Report of the twenty-seventh session of the Committee on Fisheries. Rome, 5-9 March 2007. FAO Fisheries Report No. 830. Rome, FAO.

Reference (TOR), rules of procedure and composition to reflect the specific needs of the aquaculture sector.

6. The CWP Intersessional meeting held in Dartmouth, Canada, from 8-9 July 2008 reviewed the outcome of the expert workshop. The meeting noted a substantial and increasing interrelationship between fisheries and aquaculture, while recognizing the need for different expertise to address specific aquaculture related issues. One of the outcomes of the meeting was the proposal to establish two specialized groups, one for capture fishery and the other for aquaculture, as sister groups with an independent equal status, and to use the main session for coordination and harmonization between the groups.

7. The 23<sup>rd</sup> session of the CWP held in Hobart, Australia, from 22-26 February 2010, reaffirmed the aforementioned agreement to establish a capture fishery group and an aquaculture group as intersessional subject groups. At the session it was also agreed that:

- the session would remain the unique decision making forum for the CWP and would oversee and coordinate the activities of the two groups, and promote the cause of the CWP as a whole.
- The two intersessional subject groups would operate independently during the intersessional period but would be required to convene during the main CWP Session and report the outcomes and work plans to the Session for its adoption.

8. The CWP considered it important to ensure an adequate level of collaboration between two subject groups as well as between the session and subject groups. This includes holding back-to-back meetings as well as the sharing of the CWP session to be chaired, alternately, by each group.

#### **Activities of CWP-AS:**

9. Based on the informal agreement at the CWP Intersessional meeting in July 2008, the Aquaculture Group promptly initiated its activities and held two ad-hoc meetings, one in Puerto Varas, Chile, from 3-4 October, 2008 just prior to the COFI-AQ/IV and the other in Rome, Italy on 6 March 2009 in conjunction with the 28th session of COFI. The first ad-hoc meeting was held with the participation of four member organizations of the CWP and eight experts from aquaculture specialized agencies and the second ad-hoc meeting with five CWP member organizations (FAO, GFCM, NACA, SEAFDEC, and Eurostat) and 4 additional organizations and experts. The meetings worked to develop a final draft of rules of procedure of the Group, develop a work plan and priorities, and identify a range of potential participants. Both meetings agreed that the revision of the aquaculture component of the CWP Handbook should be given the utmost priority.

10. The first CWP-AS meeting was held in Phuket, Thailand, on 2 October 2010, immediately following the completion of COFI-AQ/V, with the participation of four CWP member organizations (FAO, NACA, SEAFDEC, and SPC) and an additional 9 experts. The meeting agreed to the Terms of Reference proposed for an Aquaculture Group with three key objectives:

- keep under continuous review the requirements for information and data on aquaculture statistics for the purposes of research, policy-making and management, taking into account, inter alia, their purpose, usefulness, cost, burden in collection and collation, timeliness, quality, confidentiality needs and regional differences;
- develop standard concepts, definitions, classifications and methodologies for the collection, collation, analysis and dissemination of aquaculture data, information and statistics; and
- make recommendations for coordination and harmonization of activities in collecting, analyzing and disseminating aquaculture statistical data and information and seven main activities:
  - identify and discuss major issues and requirements on aquaculture information, data and statistics;
  - determine those issues and needs of importance requiring action to improve information, data and statistics for increasing the sustainable contribution of aquaculture to food security, economic development and poverty alleviation;

- recommend actions to coordinate and harmonize aquaculture information and statistical data collection, collation and dissemination procedures;
- advise on mechanisms to prepare, facilitate and implement action towards meeting the growing demand for timely and reliable information, data and statistics on aquaculture;
- advise on the strengthening of international collaboration to assist countries in improving and harmonizing aquaculture information, data and statistics collection, collation and dissemination procedures;
- advise on the preparation of technical reviews on information, data and statistics on aquaculture of international significance; and
- advise on the use of statistics for policy formulation and management.

11. At the meeting it was also agreed that i) the CWP member organizations have relevance and/or interest in aquaculture statistics (e.g. Eurostat, FAO, GFCM, ICCAT, ICES, OECD, NACA, SEAFDEC, SPC); ii) other regional organizations have relevance and/or interest in aquaculture statistics (e.g. ANAF, APEC, ASEAN, Globefish and FIN Members, NACEE, NEPAD, OSPESCA, RAA); and iii) international non-Governmental organizations and regional associations of aquaculture producers and service providers also have relevance (e.g. FEAP, CAPA). The TORs also indicate that the CWP-AS would hold its meetings in conjunction with COFI-SCA, on a biennial basis.

12. The meeting also reviewed the progress of the aquaculture component of the CWP Handbook and implementation of Strategy-STA. The issues and actions that the meeting considered important for the future are (a) the establishment of collaboration with the International Organization of Standardization (ISO); (b) the need for practical guidelines on how to collect data on farm-gate prices and other social and economic information and (c) the need for separate guidelines and standards for species where only a portion of the animals is commercially valuable (e.g. pearls and caviar). The meeting noted the benefit of collaboration at regional and inter-regional levels and agreed to the need to establish a Regional Working mechanism. As an initial step, CWP-AS members were encouraged to utilize capacity and capability available within the region as much as possible whenever planning and implementing the statistical activities.

13. CWP-AS has invited experts from those organizations that were identified as potential participants of the Group. Although several organizations including OSPESCA and CAPA expressed their interest to join the Group, to date, no formal action has been taken.

14. The second CWP-AS meeting is scheduled to be held on 31 March 2012, immediately after the COFI-AQ/VI.

### **Handbook of aquaculture statistics:**

15. The Strategy and Outline Plan for Improving Information on Status and Trend of Aquaculture (Strategy-STA) endorsed by the 3rd session of the COFI-AQ (New Delhi, India, 2006) stressed the importance to develop standard concepts, terminology and methodology for aquaculture data collection and the two CWP ad-hoc Aquaculture Group Meetings of 2008 and 2009 and the first CWP-AS meeting in 2010 identified the revision of aquaculture component of CWP Handbook as the highest priority.

16. The CWP Expert Workshop in Halong Bay, Viet Nam, from 10-13 November 2009, with the participation of five CWP member organizations and eleven selected experts, developed a final draft of an aquaculture handbook based on a preliminary draft developed by NACA and FAO. The draft attempted to cover a broad range of information currently required or which would be needed in the near future for the management of the aquaculture sector. The Workshop succeeded in finalizing the draft apart from a few points. FAO was tasked to finalize those unresolved issues.

17. Since 2010, there has been substantial development and revisions of standard concepts, classification and methodologies in monitoring and statistics in agricultural statistics as well as in general, many of which have strong relevance to aquaculture data collection and statistics. The section "Recent Development in United Nations Statistics and other forums" would cover some of the

important developments currently ongoing. At the same time, the need to modify the description into a more simplified and focused one was pointed out in order for the aquaculture component to be more comparable and consistent with the rest of the CWP Handbook. Taking the aforementioned into account, FAO has developed a revised draft without modifying the main contents and principles agreed at the Expert Workshop in 2009.

18. The latest draft prepared by FAO on the aquaculture component of the CWP Handbook (available in English only) is provided hereto to the Sixth Session of the Sub-Committee on Aquaculture as a made available document for review and feedback. This draft would be tabled to the second meeting of the forthcoming CWP-AS, and subsequently to the 24<sup>th</sup> Session of CWP which is planned to be held before February 2013 for final approval.

### **Regional Workshop to identify capacity building needs in aquaculture:**

19. FAO has continued its effort to secure funding to support the implementation of the Strategy-STA without success. However, the regional workshop aimed at identifying the capacity building needs in Asia for the implementation of Strategy-STA, held in Ha Long City, Viet Nam, during 16-18 November 2009, was considered as an effective and successful first step. Specifically, the 1<sup>st</sup> CWP-AS meeting held in Phuket in 2010 considered it necessary to hold Regional workshops similar to that held in Ha Long Bay in order to identify capacity building needs at the regional level, especially in Africa, Pacific, Central Asia and the Caucasus Regions.

20. The Aquaculture Network for Africa (ANAF) discussed, at its annual meeting held in Mombasa, Kenya, from 9-12 August 2011, the possibility of holding a regional workshop as well as developing a regional project focusing on aquaculture data collection and monitoring which has not yet realized.

21. FAO has collaborated and communicated with other regional fisheries and aquaculture organizations in developing harmonized data collection and reporting frameworks, which include the coordination with the GFCM on data sharing at the 13th SIPAM Annual Meeting held in November 2010, the identification of issues and formulation of TCP facility project for aquaculture data collection at Network of Aquaculture Centre in Eastern and Central Europe (NACEE) in October 2011 and assistance to the ANAF data collection training workshop in November 2011.

### **Current status of aquaculture statistics reporting:**

22. The FAO database currently provides statistics of 2011 aquaculture production for 187 countries and territories. However, among them, those who reported prior to the end of August, i.e. official due date of reporting, remained less than 30% and reached only around 70% at the end of the year. Those countries who did not report before the end of year include some world important aquaculture producers. About 30% of countries provided a complete report, including aquaculture structure, seed production and production by farming system.

23. In general, the level of detail of species in aquaculture data reporting has been towards improvement. Many countries that used to report only with high aggregation have now provided their national production at the species level. The total number of reported aquaculture species items increased from 380 to 530 during the last 10 years, which would be partially due to an increase in the number of species cultured, but also due to an improvement in national data collection and reporting.

24. FAO has made continuous efforts towards improving the standard classifications utilized in fisheries and aquaculture statistics. Specifically for aquaculture, an increased number of species and hybrids have been added to the ASFIS List as well as the ISSCAAP classification which has been updated to better reflect the needs in aquaculture statistics. Harmonized Systems – 2012 of the World Customs Organization incorporated substantial modifications of the classification of fish and fishery commodities for international trade statistics.

**Recent developments in the United Nations Commission Statistics and other forums:**

25. The Global Strategy of Improving Agricultural Rural Statistics was adopted at the 2010 United Nations Statistics Commission (UNSC). The core component of the Global Strategy is a conceptual framework to integrate agricultural statistics, including fisheries and aquaculture, into national statistical systems by sharing a common master sample frame, e.g. geographical locations, in order to satisfy the demands of policy makers and other users who rely on comparable data across locations and over time. Many of the proposed procedures and concepts would be directly applicable to establish effective and comprehensive aquaculture data collection and monitoring systems including social and economic aspects as well as linkages with processing and marketing.

26. FAO played a central role in developing the Global Strategy and the Fisheries and Aquaculture Department made a substantial contribution to incorporate the needs from a fisheries and aquaculture prospective. In order to enable the actual implementation of the Global Strategy for the benefit of fisheries and aquaculture, it would be essential to select a suitable common sample frame that could provide a link between aquaculture and other national statistical systems. FAO has made continuous efforts to incorporate one additional question into national population censuses to identify those who are engaged in aquaculture and fisheries, either part-time or full-time, in order to utilize this as a master sample frame together with geo references of facilities. It is considered that the Global Strategy and utilization of population census is considered to be effective especially in assessing the contribution of subsistence and small-scale operators by identifying their distribution through census and developing a sampling design most suitable to the situation.

27. The System of Environmental-Economic Accounts (SEEA) is the statistical framework for producing internationally comparable statistics on the environment and their relationship with the economy. The original SEEA was developed in 1993 and revised in 2003 when the fisheries component was also developed but remained as a final draft and was not formalized. Currently the UNSC is in a process of revising the SEEA with the intention to provide a standard framework to measure sustainability of natural resource utilization. Fisheries resources including aquaculture resources are selected as one of key resources to be covered under the Central Framework and FAO has made a substantial contribution, especially to the development of Chapter 5 and parts relevant to fisheries and aquaculture. The final draft of the Central Framework is available at <http://unstats.un.org/unsd/envaccounting/seearev/chapterList.asp?volid=1>. Concepts of accounting are well suited to aquaculture and could be used in setting a standard procedure of data collection and monitoring of the aquaculture sector.