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COMMITTEE ON FISHERIES

SUB-COMMITTEE ON AQUACULTURE

Eighth Session

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THE FAO FISHERIES AND AQUACULTURE DEPARTMENT'S EFFORTS IN IMPLEMENTING THE RECOMMENDATIONS OF THE PAST SESSIONS OF THE COFI SUB-COMMITTEE ON AQUACULTURE

EXECUTIVE SUMMARY

This document contains a brief overview of the efforts made by the FAO Fisheries and Aquaculture Department towards implementing the recommendations of the past sessions of the Sub-Committee on Aquaculture of the FAO Committee on Fisheries (COFI-SCA).

The Sub-Committee is invited to:

Reflect on the progress and achievements and provide advice, as required, to strengthen the implementation of the recommendations.

INTRODUCTION

1. The Seventh Session of the Sub-Committee was held in St. Petersburg, the Russian Federation, from 7 to 11 October 2013, at the kind invitation of the Government of the Russian Federation. The report of the session is provided as an information document (COFI:/AQ/VIII/2015/Inf.5).

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MAJOR RECOMMENDATIONS AND SUGGESTIONS OF THE SUB-COMMITTEE

2. The Sub-Committee made a number of suggestions and recommendations, and identified several priority areas for future work towards achieving the full potential of aquaculture for national, regional and global food security, poverty alleviation, and human development (please refer COFI:AQ/VIII/2015/Inf.5).

3. A study was conducted by FAO to support the development of an indicator system that can provide guidance to countries interested in undertaking a systematic assessment of the methods and the extent that small-scale aquaculture (SSA) contributes to aquaculture and rural livelihood development. While case studies provided invaluable and significant results showing the contribution of SSA to sustainable rural development, this study dealt with the process of how the indicator system was developed and how the results were derived. It provided evidence that governments can undertake a quantifiable, structured and systematic study outlining the contribution of SSA in their respective countries. It has also shown that a range of tools, examples and possible outcomes can be derived once a structured system is in place.

4. In line with FAO's Strategic Objective 3 on reducing rural poverty, and in particular on promoting decent rural employment, FAO continued strengthening its work on employment and labour conditions in fisheries and aquaculture. A scoping study on decent work in fisheries and aquaculture is being finalized to identify existing international labour norms, major issues and challenges, information needs, possible actions and opportunities for collaboration among stakeholders, for mainstreaming FAO's decent rural employment approach in fisheries and aquaculture, and in FAO's Blue Growth initiative (see COFI:AQ/VIII/2015/09 and COFI:AQ/VIII/2015/07 for more information).

5. As part of an ongoing consultative process, during the thirty-first Session of the Committee on Fisheries and Aquaculture (COFI), held from 9 to 13 June 2014, a side event was held on the occasion of World Day against Child Labour, entitled "Working for Blue Growth: Why decent employment in fisheries and aquaculture matters". In conjunction with the World Shrimp Congress held in Vigo, Spain, on 6 October 2014, FAO was invited amongst key stakeholders in fisheries and aquaculture, to discuss priority issues and actions on labour conditions in the sector.

6. The 2014 FAO Regional Conference for Africa discussed youth and development of aquaculture and livestock in Africa. Ongoing FAO initiatives are promoting employment and identifying opportunities, through diversification of the agricultural base, for youth employment in aquaculture, in particular, in Burundi, Kenya, Liberia, Nigeria, Rwanda, Senegal, and Uganda. An FAO study is presently addressing employment and human resource profiling in China's aquaculture and fisheries sector with a view to ascertain labour-associated production costs, as well as the sector's social and economic contribution through employment creation.

7. FAO is preparing the first State of the World's Aquatic Genetic Resources for Food and Agriculture (SoW AqGR) Report, through a country-driven process. The scope will be on farmed aquatic species and their wild relatives in areas within national jurisdiction. To facilitate the process, FAO prepared a questionnaire for the preparation of National Reports for the SoW AqGR which is expected to be received by December 2015. Regional capacity building workshops for National Focal Points have been held in collaboration with the Network of Aquaculture Centres in Asia-Pacific

(NACA) (Bangkok, March 2015), with the Central America Fisheries and Aquaculture Organization (OSPESCA) in the Latin America and Caribbean region (Guatemala, May 2015), and with the Lake Victoria Fisheries Organization (LVFO) in the Africa region (Entebbe, July 2015). The presentation of the first SoW AqGR Report is scheduled for early 2017 at the 16th Regular Session of the Commission on Genetic Resources for Food and Agriculture (CGRFA). The work towards the preparation of the SoW AqGR Report should link to and build on the FAO Code of Conduct for Responsible Fisheries. This is on the agenda of the FAO's Committee on Fisheries' (COFI) Advisory Working Group on Aquatic Genetic Resources and Technologies which holds its first meeting in Brasilia from 1–2 October 2015, prior to the Eighth Session of the Sub-Committee on Aquaculture. To promote the exchange of information between the CGRFA and the Advisory Working Group, relevant documents have been submitted to the Fifteenth Regular Session of CGRFA and the COFI Secretariat reports regularly to the respective Bureaus of both COFI and CGRFA.

8. Capacity-building efforts on the implementation of the ecosystem approach to aquaculture (EAA) as a strategy to improve the sector sustainability and environmental performance were implemented as part of FAO's normative work and through direct training, including developing aquaculture as a business under the EAA for selected countries in Africa (Malawi) and assisting countries in Central America (Nicaragua) in developing and implementing EAA management plans. Eight Central American countries have received training and have developed an ecosystem approach to fisheries and aquaculture management plans for shrimp culture. Five publications have been published reporting on the different processes and providing lessons learned. Special efforts are also being made to provide capacity building on EAA by including EAA as an integral part of spatial planning for aquaculture and climate-change related projects.

9. Under the Blue Growth initiative, FAO is assisting Kenya in the development of mariculture with an ecosystem approach, and is making efforts to integrate the sector with fisheries and aquaculture, tourism, forestry and other users of the watersheds and coastal zones, including land tenure conflict management.

10. The Global Conference on Inland Fisheries (www.inlandfisheries.org), co-organized by the Michigan State University (MSU), United States of America, was convened at FAO headquarters in Rome from 26 to 28 January 2015, wherein numerous contributions promoted an ecosystem approach that acknowledged the potential of aquaculture in food security and livelihoods. A formal partnership was established between FAO and the MSU.

11. Different stakeholders and FAO have been working together to promote public-private partnerships in several countries, specifically through several Technical Cooperation Programmes (Bangladesh¹, Kyrgyzstan² and Sri Lanka³) and the Government Cooperative Programme (Kyrgyzstan⁴). The primary objectives of these projects are to develop business models so that the government departments responsible for fisheries (or relevant institutions) can work closely with the private sector (e.g. fish seed/feed producers' associations) in the production and distribution of fish seed and feed.

¹ Enhancing aquaculture production for food security and rural development in Bangladesh through better seed and feed production and management with special focus on public-private partnerships (TCP/BGD/3501).

² Enhancing aquaculture production for food security and rural development through improved feed value chain, production and use (TCP/KYR/3502).

³ Improving seabass (*Lates calcarifer*) aquaculture in Sri Lanka through better feed and health management (TCP/SLR/3502).

⁴ Towards sustainable aquaculture and fisheries development in the Kyrgyz Republic (GCP/KYR/012/FIN).

12. Seaweed farming, as well as farming of other more valuable species such as mud crab and milk fish, has great potential in raising the socio-economic status of coastal communities. However, in Africa, farming of these species has largely remained a marginalized activity in coastal communities as these communities lack access to alternative, higher-return economic activities. The low income generated from seaweed farming, in many cases far below the minimum wage, has been a salient issue in seaweed farming countries in Africa. FAO continues to provide technical assistance for developing seaweed, mud crab and milk fish farming in Africa through various projects, as for example in the United Republic of Tanzania (Zanzibar) and in Kenya through a number of funding sources. FAO South-South Cooperation could be increasingly used to channel technical, financial and other assistance from regions with more robust aquaculture industries (e.g. Asia) to Africa.

13. A number of activities on aquatic animal health (AAH) were implemented during the intersessional period through various mechanisms, such as projects implemented under the Technical Cooperation Programme (TCP), the Unilateral Trust Fund, and other projects/activities funded by donors, FAO Members and regional fishery bodies. The scope of assistance is at the:

- national level – e.g. national TCPs for Indonesia, Malaysia, Suriname, Viet Nam;
- subregional level – Mozambique Channel, i.e. Madagascar, Mozambique, the United Republic of Tanzania;
- regional level – e.g. regional TCP involving five countries in the Western Balkan region and the Unilateral Trust Fund project involving 15 countries of the Southern African Development Community, or SADC region; and
- inter-regional level – e.g. inter-regional TCPs for Asia and Latin America and the Caribbean.

14. The range of assistance includes: emergency disease investigations (the Democratic Republic of the Congo and Viet Nam); development of a subregional or regional strategy on AAH/biosecurity; development of national strategies on AAH; and capacity building on various aspects of AAH, such as risk analysis, disease diagnostics, surveillance and emergency preparedness.

15. A series of initiatives were conducted by FAO on aquaculture in desert and arid lands, including: (i) the production of a technical manual on small-scale aquaponics⁵; (ii) the implementation of TCP projects for aquaculture development in arid zones (i.e. Algeria, Egypt, Jordan, the Sudan and the Syrian Arab Republic) using species such as carps, other cyprinids and tilapia while focusing on local ingredients for aquafeed production; and (iii) the elaboration of project proposals to be implemented within the framework of the FAO Regional Initiative on Water Scarcity in the Near East and North Africa.

PROGRESS REPORTING ON THE IMPLEMENTATION OF THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES (CCRF) PROVISIONS RELEVANT TO AQUACULTURE AND CULTURE-BASED FISHERIES USING THE NEW REPORTING SYSTEM

16. Significant efforts were made by FAO to implement the new questionnaire for reporting on the implementation of the Code of Conduct for Responsible Fisheries (CCRF) and the provisions relevant to aquaculture and culture-based fisheries. The new web-based questionnaire was launched in

⁵ Somerville, C., Cohen, M., Pantanella, E., Stankus, A. & Lovatelli, A. 2014. *Small-scale aquaponic food production. Integrated fish and plant farming*. FAO Fisheries and Aquaculture Technical Paper No. 589. Rome, FAO. 262 pp.

early March 2015 with a very positive response from Members. This new system will allow improved dialogue between FAO and the countries, and hopefully it will develop into an efficient tool to assess and contribute to improve aquaculture performance.

17. The results of the new questionnaire will be analyzed in this session of the Sub-Committee on Aquaculture. Resources permitting, FAO will provide technical support to follow the recommendations of Members regarding training on the use of the questionnaire and expanding its use as a self-assessment tool.

DRAFT STRATEGIC FRAMEWORK FOR STRENGTHENING THE ROLE OF THE COFI SUB-COMMITTEE ON AQUACULTURE IN ADVANCING AQUACULTURE DEVELOPMENT

18. At the request of the Sub-Committee on Aquaculture, the Secretariat prepared a working document (COFI/AQ/VIII/2015/5) that compiles regional aquaculture priority areas in support of the discussions on preparing a Strategic Framework. Due to limited financial resources, this was done as a series of regional desk studies, on the basis of publicly available and documented priorities.

19. The Secretariat organized an extraordinary session of the Committee for Inland Fisheries and Aquaculture of Africa (CIFAA) in Lusaka, Zambia, from 1 to 2 December 2014, for Members to decide on the future of the Committee, which is beset with many issues that limit its effectiveness, impede delivery actions and threaten its existence. At the session, Members decided to maintain CIFAA as an Article VI body under the FAO Constitution and recommended a review of CIFAA's statutes and rules of procedure to enable the Committee to address specific technical and scientific matters. As a way forward in strengthening the Committee, a working group was formed to review the statutes and rules of procedure of the CIFAA. This working group later met on 10–11 March 2015 in Addis Ababa, Ethiopia, where Members who were present emphasized the need for countries to be committed to making CIFAA more effective and functional by participating in sessions and contributing to the funding of activities through a Unilateral Trust Fund to be established. The working group will attend the CIFAA special session organized from 14–15 July 2015 in Dakar, Senegal to discuss the matter further.

20. FAO has continued supporting institutional and political strengthening of Africa for the sustainable development of aquaculture, particularly by assisting the Aquaculture Network for Africa (ANAF) Members in transforming ANAF into an intergovernmental organization. The most recent significant impetus to aquaculture development in Africa is the political support to the sector, which stems from the Second Conference of African Ministers of Fisheries and Aquaculture. The conference was organized by the Department of Rural Economy and Agriculture of the African Union Commission in collaboration with the NEPAD Planning and Coordinating Agency, and also with FAO's support in the context of the Sida⁶-funded NEPAD-FAO Fish Programme in Ethiopia in April 2014. The Conference endorsed the African Union policy framework and reform strategy for fisheries and aquaculture in Africa, and acknowledged the potential of the aquaculture sector to generate economic and social benefits and contribute to the development of the African economy, as well as the importance of fish and fish products in food and nutrition security and livelihoods.

⁶ Swedish International Development Cooperation Agency.

21. Several Members in the African region have been assisted through the Unilateral Trust Fund and TCP projects. Examples include: (i) “Promoting agricultural diversification to reduce poverty, fight malnutrition and enhance youth employment opportunities in four countries in Eastern Africa”; (ii) “Strengthening controls on food safety, plant and animal pests and diseases to boost agricultural productivity and trade, including aquaculture, in eight countries in Southern Africa”; (iii) “Creating agribusiness employment opportunities for youth through sustainable aquaculture systems and cassava value chains in six West African countries”; (iv) “Supporting aquaculture as a business” in three Eastern African countries; and (v) developing national aquaculture strategies and development plans in Eastern and Southern Africa.

22. In the Near East and North Africa countries, FAO has continued its support to sustainable aquaculture development through two of its statutory bodies, i.e. the Regional Commission for Fisheries (RECOFI) and the General Fisheries Commission for the Mediterranean (GFCM), respectively.

23. Efforts are under way to fill the posts of Aquaculture Officers in the regional and subregional offices, including the West Africa and Central Africa offices.

24. In Europe and Central Asia, FAO has continued its support to the European Inland Fisheries and Aquaculture Advisory Commission (EIFAAC) and the Central Asian and Caucasus Regional Fisheries and Aquaculture Commission (CACFish). EIFAAC recently agreed to abolish sub-committees and working parties in favour of a project approach, and it now has seven active projects. CACFish is a young commission with five Members founded with the support of the FAO-Turkey Partnership Programme. More than thirty workshops and sessions held under this programme have resulted in strengthened cooperation on inland fisheries and aquaculture among the Central Asian countries since the dissolution of the former Soviet Union.

25. With the support of Italy and the European Commission, the GFCM and FAO organized the 2014 Regional Aquaculture Conference on Blue Growth in the Mediterranean and the Black Sea: Developing Sustainable Aquaculture for Food Security. A set of conclusions⁷ were developed based on expert recommendations on governance issues, environment, markets and technology innovations.

26. In Asia, FAO supported the 24th annual meeting of the Governing Council of NACA. FAO also contributed to NACA’s work programme at the 11th Technical Advisory Committee meeting. FAO supported important NACA regional activities and collaborated with NACA in developing a regional strategy and an action plan for the sustainable intensification of aquaculture.

27. Support was provided to Asian Members for implementing FAO’s Regional Initiative on sustainable intensification of aquaculture for Blue Growth, including five country TCPs, seven TCP-Facility projects, and one GEF project that focused on six countries. Additionally three TCPs and three TCP-Facility projects supported non-regional initiatives. Six countries are included in the implementation of two inter-regional TCPs. All project activities focus on supporting Members in developing policies, strategies and regulations to promote sustainable aquaculture development, implement innovative aquaculture technologies and management practices, and improve farmers’ access to quality production inputs, appropriate technologies and markets.

⁷

https://gfcmsitestorage.blob.core.windows.net/documents/CAQ/2014/RegionalAquacultureConference/Final_conclusions_Bari_e-f.pdf

28. In Latin America and the Caribbean (LAC), FAO has continued its support to statutory bodies such as the Commission for Inland Fisheries and Aquaculture of Latin America and the Caribbean (COPESCAALC), which, in addition to its traditional objectives, has become an important forum where priority technical and policy areas for FAO's regional attention are discussed and then recommended to the FAO LAC Regional Conference.

29. The Aquaculture Network of the Americas (RAA is the Spanish acronym) has also been closely assisted by FAO in the region, thus advancing to its consolidation. Five Members have already completed their national processes and become full members, namely Cuba, Ecuador, Guatemala, Panama and Paraguay, and nine more are in their final steps. Benefits of this international aquaculture cooperation mechanism are already tangible and five strategic programmes have been included in the work plan, including support to small-scale aquaculture development, improved competitiveness of regional aquaculture, increased intraregional fish trade, increased regional fish consumption, and transboundary aquaculture diseases. These strategic programmes were adopted officially at the RAA's Ministers Council Meeting held in Asunción, Paraguay, in November 2014.

30. The Global Aquaculture Advancement Partnership, a programme to enhance partnerships, cooperation and collaboration towards sustainable development of aquaculture, has become an integral part of FAO's new Blue Growth initiative (See COFI:AQ/VIII/2015/07 for details).

EVALUATION FRAMEWORK FOR ASSESSING CONFORMITY OF PUBLIC AND PRIVATE CERTIFICATION SCHEMES WITH THE FAO TECHNICAL GUIDELINES ON AQUACULTURE CERTIFICATION

31. FAO continues to work on aquaculture certification and conformity assessment. In particular, the Conformity Assessment Framework is presently being improved, taking into consideration the comments of the Seventh Session of the Sub-Committee. Awareness-building on aquaculture certification and conformity assessment is being continued with assistance from the European Union. Details of such are provided in the working document COFI:AQ/VIII/2015/6.

APPLYING SPATIAL PLANNING FOR PROMOTING FUTURE AQUACULTURE GROWTH

32. In its efforts to assist Members to increase aquaculture production in a sustainable manner, FAO is making special efforts to address spatial planning to promote aquaculture growth by developing key publications and tools and by conducting training workshops in collaboration with other agencies. A technical publication as a step-by-step guide for managers, policymakers and technical staff on aquaculture zoning, site selection and aquaculture management areas is currently being prepared by FAO in partnership with the World Bank. In July 2015, an expert workshop was conducted in Turkey to complete the publication, and it is expected to be published in early 2016.

33. With assistance of experts across the globe and through a regional consultation FAO prepared an aquaculture planning and management toolkit for Asia-Pacific. The toolkit includes 16 tools covering five thematic areas: aquaculture site selection and zoning; biosecurity and aquatic animal health; food safety; environmental impact assessment and monitoring; and socio-economic impact

assessment. FAO developed a project through the regional TCP to test the implementation for some of the tools in three countries of the Association of Southeast Asian Nations (ASEAN). The regional TCP is an important activity of the FAO Regional Initiative on sustainable intensification of aquaculture for Blue Growth in Asia-Pacific to be launched in 2015. It aims to: (i) prepare the tools for use as operational manuals; (ii) build human capacity for implementation; (iii) implement selected tools at different scales; (iv) evaluate the application of the tools; and (v) share experiences and lessons learned at the regional level.

34. Under the Horizon 2020 umbrella, FAO is participating in two European Union-funded projects that are of relevance and importance to spatial planning. The first project is entitled “An Ecosystem Approach to Making Space for Sustainable Aquaculture” (AquaSpace), and the second “Marine Investment in the Blue Economy” (MARIBE). Both projects include European Union countries and non-European Union countries.

35. A number of field missions were conducted by FAO to provide technical assistance to Angola,⁸ Kenya, Saudi Arabia⁹ and the United Republic of Tanzania (Zanzibar) to identify potential aquaculture zones, to facilitate aquaculture investment, and to promote an effectively governed sector that is socially inclusive, equitable and environmentally responsible. FAO has also been assisting countries, including Costa Rica, Togo and Zambia, in preparing national aquaculture strategies and development plans that include the identification of potential areas to allocate zones for aquaculture.

36. Different countries are benefiting from FAO’s technical assistance. Members are beginning to record (or are now recording) the location and production of farms and farming areas as an essential step that can ultimately improve siting and management. These farming areas can be compared with sensitive ecosystems and habitats to highlight potential impacts, and can also be linked to the licensing process to identify unregistered or illegal farms.^{10, 11}

37. Other technical assistance includes assisting countries to plan for the sustainable expansion of mariculture. For example, at the Offshore Mariculture Conference 2014 in Naples, Italy, FAO made a keynote presentation to illustrate global development opportunities for offshore mariculture from a spatial perspective.¹²

⁸ Press release. *Angola committed to growing sustainable aquaculture*. (Available at www.fao.org/africa/news/detail-news/en/c/270410).

⁹ The project in Saudi Arabia is a follow-on activity to the work by RECOFI on spatial planning. FAO/Regional Commission for Fisheries. 2013. *Report of the Regional Technical Workshop on a Spatial Planning Development Programme for Marine Capture Fisheries and Aquaculture*. Cairo, the Arab Republic of Egypt, 25–27 November 2012. FAO Fisheries and Aquaculture Report No. 1039. Rome, FAO. 127 pp.

¹⁰ An excellent starting point for a spatial inventory of aquaculture with attributes that include species, culture systems and production is FAO’s National Aquaculture Sector Overview map collection (www.fao.org/fishery/naso-maps/naso-home/en/).

¹¹ A number of countries have developed, or are in the process of creating, their aquaculture inventories – e.g. Angola completed its aquaculture inventory in 2015 as part of the project entitled Spatial Planning of Aquaculture Zones in the Republic of Angola. At the Sixth Meeting of the Working Group on Aquaculture (WGA) in Oman in 2014, the WGA focal points agreed to prepare National Aquaculture Sector Overview maps for their respective countries (UTF/ANG/051/ANG).

¹² Kapetsky, J.M., Aguilar-Manjarrez, J. & Jenness, J. 2013. *A global assessment of potential for offshore mariculture development from a spatial perspective*. FAO Fisheries and Aquaculture Technical Paper No. 549. Rome, FAO. 181 pp.

38. FAO has been piloting the development of environmental monitoring systems to increase the resilience of fish farmers and fishers at the national and regional levels. A first pilot system was developed in Estero Real, Nicaragua, and a second subregional initiative started in the Lower Mekong Delta with a workshop to plan an integrated transboundary environmental monitoring system to address climatic variability and climate change for the watershed. The aim was to assist fish farmers with management decisions and early warning systems.

THE ROLE OF AQUACULTURE AND AQUAFEED IN IMPROVING NUTRITION

39. The FAO Fisheries and Aquaculture Department prepared a technical paper “Maximizing the contribution of fish to human nutrition”¹³ for the Second International Conference on Nutrition (ICN2), as well as contributed to the media release of “Aquaculture can grow faster, raising micronutrient supply from fish”.^{14, 15} A number of additional papers have been published on the role that fish and fish products play in nutrition, such as “The role of aquaculture in improving nutrition: opportunities and challenges”¹⁶, published in the State of World Fisheries and Aquaculture 2014 (SOFIA). The lack of nutritional data on aquaculture products to assess the contribution to nutrition led to increased efforts on establishing a user-friendly database on nutrients in fish. The global user fish and shellfish database on nutrient composition, which also includes information on aquaculture products with an increased focus on micronutrients, is being finalized and will be made available on the FAO INFOODS Web site.

40. Based on the results of the FAO-implemented regional project on “Reducing the dependence on the utilization of trash fish/low-value fish as feed for aquaculture of marine finfish in the Asian region”, a highlight of the special study “Transition from low-value fish to compound feeds in marine cage farming in Asia” was published in SOFIA 2014.

41. On the request of the governments of Bangladesh, Kyrgyzstan, the Philippines and Sri Lanka, FAO initiated in 2014 four in-country TCPs designed to improve feed quality and use. Each project addresses a number of fundamental and practical feed production and use issues. Collectively, their results will provide a regional recommendation.

42. A project on “Policy solutions for sustainable feed supply, good management practices to increase feed utilization efficiency for striped catfish in Viet Nam” has been undertaken by the FAO Fisheries and Aquaculture Department under the Blue Growth initiative.

43. A special study on feeding and feed management of Indian major carps in Andhra Pradesh, India, was carried out by the FAO Fisheries and Aquaculture Department following the

¹³ Thilsted, S.H., James, D., Toppe, J., Subasinghe, R.P. & Karunasagar, I. 2014. *Maximizing the contribution of fish to human nutrition*. International Conference on Nutrition 2014. (Available at www.fao.org/3/a-i3963e.pdf).

¹⁴ Press release. *Aquaculture can grow faster, raising micronutrient supply from fish*. (Available at www.fao.org/news/story/en/item/265790/icode).

¹⁵ Toppe, J. 2014. The right to food, fish and omega-3s: the nutritional benefits of fish are unique. *Eurofish Magazine*, pp. 44–45.

¹⁶ Toppe, J. & Subasinghe R.P. 2014. The role of aquaculture in improving nutrition: opportunities and challenges. *The State of World Fisheries and Aquaculture* (SOFIA, 2014). Rome, FAO.

recommendations of the COFI Sub-Committee on Aquaculture; it promotes the culture of species low in the food chain, particularly when focusing on food security.

44. Following the recommendations of the COFI Sub-Committee on Aquaculture (SCA-VII, Cape Town, South Africa), that efforts should be increased to find alternative feed ingredients, inter alia, plant- and animal-based feed ingredients to supplement fishmeal and fish oil, the FAO Fisheries and Aquaculture Department has initiated a global synthesis of available information to assess the availability and use of plant and terrestrial animal-based feed ingredients including the utilization of fish waste.

45. The FAO Fisheries and Aquaculture Department has completed a preliminary life-cycle analysis of the greenhouse gas emissions arising from the production of three farmed fish species with respect to aquafeed use in Asia: Nile tilapia, Indian major carps and striped catfish.

46. In Latin America, a study was conducted to assess the role of small-scale aquaculture in food security and family income in several countries of the region, namely Brazil, Colombia, El Salvador, Guatemala, Honduras, Nicaragua and Paraguay.

47. Special efforts are being made by FAO to address the environmental impacts of feeds, including the contribution of feeds to greenhouse gas (GHG) emissions. The reduction of feed conversion ratios is also seen as an important target, and FAO is working together with Members and the private sector to address this. A workshop to discuss the feed contribution to GHG emissions, and the ways to reduce the feed conversion ratio and transfer technologies from more advanced farming systems such as salmon to others, took place in Costa Rica in September. A report and policy recommendations are being prepared for dissemination.

THE ROLE OF THE COFI SUB-COMMITTEE ON AQUACULTURE IN PROMOTING CULTURE-BASED FISHERIES

48. In order to improve the reporting of and terminology related to culture-based fisheries, the FAO glossary has been amended following the advice of the Sub-Committee. Additionally, the Government of Sri Lanka, in association with the Asia and Pacific Fisheries Commission and FAO, hosted the regional workshop “Improving the contribution of culture-based fisheries and related fishery enhancements in inland waters to Blue Growth” on 24–27 May 2015, in Sri Lanka.

SPECIAL EVENT ON STRENGTHENING INTERNATIONAL COOPERATION FOR ACCELERATING SUSTAINABLE AQUACULTURE DEVELOPMENT

49. South-South Cooperation (SSC) continued to play an important role in the intersessional period. The Secretariat organized a High-Level Consultative Expert Workshop on Sustainable Development of Aquaculture and Inland Fisheries under the framework of the FAO and China South-South Cooperation Programme on 1–5 June 2015, in Wuxi, China. The Secretariat also facilitated a special session on non-formal education approaches and SSC at the 2nd International Symposium on Aquaculture and Fisheries Education on 22–24 April 2015 at Shanghai Ocean University, Shanghai, China. FAO also supported the development and implementation of the second phase of the China-

Mongolia SSC Programme that includes a component to support aquaculture development in Mongolia.

50. A Technical Assistance Programme between Namibia and Viet Nam during the period 2010–2015 aims to support the development of aquaculture in Namibia through the deployment of SSC experts and technicians from Viet Nam. The programme achieved the following results: (i) a national genetic selection programme for three spotted tilapia (*Oreochromis andersonii*), (ii) successful production of all-male three spotted tilapia by using hormonal sex reversal technique, (iii) a study to improve fish feed quality and feed management practices, (iv) capacity building to improve seed production of three spotted tilapia and North African catfish (*Clarias gariepinus*); and (v) a national extension strategy and aquaculture training material for capacity development of fish farmers and technicians.

51. In August 2014, a regional meeting to exchange experiences and local knowledge among small-scale aquaculture farmers of Latin America and the Caribbean, was held in Ibagué, Colombia. Seven countries (Antigua and Barbuda, Bolivia, Colombia, Costa Rica, Ecuador, Guatemala, Mexico, and Paraguay) participated and shared their results and progress in the implementation of integrated agri-aquaculture field school farms, as well as identified opportunities for South-South Cooperation. Brazil continued supporting and promoting SSC for the sustainable development of aquaculture through the RAA to facilitate transfer of information and knowledge between countries in Latin America and the Caribbean.

52. A programme on “Strengthening of Fisheries and Aquaculture Sectors in Africa” will be implemented in 2016 as part of a major partnership between Brazil and FAO to promote and implement triangular technical cooperation initiatives. It is regarded as an opportunity to share the valuable lessons learned by Brazil, as well as the good practices available in the country, with other developing nations, in view of eradicating poverty, achieving food security and generating employment and income through the sustainable management of fisheries resources. The programme will support activities aligned with regional priorities and FAO’s strategic framework, aiming to improve the capacity of regional organizations and to support African governments in the field of fisheries and aquaculture. The Programme will be fully aligned with other Brazilian bilateral and triangular SSC initiatives in the region, as well as with other ongoing activities implemented by FAO.

53. At its Seventh Session, the Sub-Committee on Aquaculture invited the Secretariat to inquire about establishing a “World Aquaculture Day”. Although the United Nations in Resolution 1980/67 sets out guidelines for establishing international years, guidelines for international days are nonexistent. In general, the proposal to declare an International Day has a policy nature, and hence at the FAO level it is possible for the Conference or Council to make such a declaration. The World Food Day and the International Day of Forests, for instance, were the result of a resolution of the Conference. If there are no expenditures involved and no demands made on Members, the Council could declare an international day. However, the request for such an event must come from the Members at the Council. Members are invited to discuss the details at the Council and Conference and take the necessary steps for setting up “World Aquaculture Day”.