

**REGIONAL COMMISSION FOR FISHERIES**

**Report of the**

---

**FOURTH MEETING OF THE WORKING GROUP ON AQUACULTURE**

**Muscat, Sultanate of Oman, 27–28 January 2009**



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## **PREPARATION OF THIS DOCUMENT**

This document is the final report of the fourth meeting of the Working Group on Aquaculture (WGA) of the Regional Commission for Fisheries (RECOFI) held from 27 to 28 January 2009 in Muscat, Sultanate of Oman.

This report was prepared by the WGA Secretariat and endorsed by the WGA.

## **ACKNOWLEDGEMENTS**

Many thanks are due to the Ministry of Fisheries Wealth, Sultanate of Oman, particularly the Directorate General for Fisheries Research for the support and excellent hosting of the meeting.

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### ABSTRACT

The fourth meeting of the Working Group on Aquaculture (WGA) of the Regional Commission for Fisheries (RECOFI) was held in Muscat, Oman, from 27 to 28 January 2009 and was attended by the representatives from seven member countries. The WGA reviewed the recommendations and decisions of the Commission made at its fourth session (Jeddah, Kingdom of Saudi Arabia, 7–9 May 2007) and noted that all planned and endorsed WGA activities had been duly implemented. The meeting extensively discussed the final activities and inputs to the Regional Aquaculture Information System (RAIS) in view of its imminent and official launching in March 2009. The participants discussed and agreed on: i) the RAIS User Manual, ii) the promotional flyer, iii) the press release, and iv) the overall communication strategy to launch and to further strengthen the information system. The WGA noted with regret that the start of the “Aquaculture legal and policy framework project” during the intersessional period was not possible as the agreed financial input from all the contributing Commission members had not been received. The WGA finalized its proposed programme of work for the new intersessional period based on the needs and recommendations resulting from the implementation of activities in the last biennium and emerging issues of importance for the region. The WGA recognized that the Commission, based on its current level of financial contribution, may not have the required budget to implement a comprehensive aquaculture programme and recommended that some activities could be implemented with extrabudgetary funds. The six main activities proposed in order of priority for the new work plan include: 1) application of risk analysis to aquaculture, 2) environmental monitoring in cage aquaculture, 3) impacts of red tides to aquaculture, 4) development of national strategies on aquatic animal health, 5) spatial tools and aquaculture zoning, and 6) aquaculture recirculation strategies. The WGA recommended that the Commission should also encourage and support more training and on-the-job cooperation in the field of aquaculture development among its members as well as in countries outside the region.

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## **OPENING OF THE MEETING**

1. The WGA Chairperson, Mr Dawood Suleiman Al-Yahyai, welcomed the participants from the RECOFI members and, on behalf of the Ministry of Fisheries Wealth, Sultanate of Oman, expressed his pleasure in hosting the fourth meeting of the of the Working Group on Aquaculture (WGA) of the Regional Commission for Fisheries (RECOFI). The meeting was held at the Safeer International Hotel, Muscat, from 27 to 28 January 2009 and was attended by seven countries of the Commission mainly represent by the WGA Focal Points and Alternate Focal Points. The list of participants is provided in Appendix B.

2. Mr Alessandro Lovatelli, RECOFI-WGA Technical Secretary, welcomed the participants and presented the agenda of the meeting. He highlighted the importance of developing the new work plan proposal based on the needs of the region and recommendations of the two technical workshops on aquatic animal health and cage aquaculture development organized by the WGA as endorsed by the Commission at its fourth session (Jeddah, Kingdom of Saudi Arabia, 7–9 May 2007).

## **ADOPTION OF THE AGENDA**

3. The agenda was presented by the WGA Chairperson indicating that the first day of the meeting would be entirely dedicated to the finalization of the Regional Aquaculture Information System (RAIS) in view of its official launching planned for March 2009. The second day of the meeting would review the intersessional activities of the Working Group and deliberate on its new work programme proposal for submission to the Commission at its Fifth session planned to take place from 12 to 14 May 2009 in Dubai, United Arab Emirates.

4. The annotated agenda attached as Appendix A, was adopted without changes. The list of the meeting documents appears in Appendix C.

## **REVIEW OF INTERSESSIONAL ACTIVITIES**

5. The meeting participants noted that all but one of the planned activities of the WGA endorsed by the Commission at its fourth session (Jeddah, Kingdom of Saudi Arabia, 7–9 May 2007) were successfully implemented. These included two regional technical workshops on aquatic animal health (Jeddah, Kingdom of Saudi Arabia, 6–10 April 2008) and on marine cage aquaculture development (Muscat, Sultanate of Oman, 25–26 January 2009) and the finalization of the Regional Aquaculture Information System (RAIS).

6. It was noted that the only activity that was not initiated was the “Aquaculture legal and policy framework project” due to the fact that the funds from some of the contributing RECOFI countries had not been deposited.

## **REGIONAL AQUACULTURE INFORMATION SYSTEM (RAIS)**

7. In view of the imminent and official launching of the Regional Aquaculture Information System (RAIS) the WGA concurred that a full day was required for this activity. The Secretariat opened this Agenda item by briefing the participants on the developmental status of the Web-based information system and the current level of data uploaded following the WGA Technical meeting on the RECOFI Regional Aquaculture Information System held from 6 to 8 November 2007 in Safat, Kuwait.

8. It was noted that, although considerable effort had been carried out by the RAIS National Coordinators and the WGA Focal Points to feed the system with the required data, additional effort was envisaged prior to the official launching of RAIS. It was agreed that the RAIS National Coordinators would verify the correctness of the current national data in the system and ensure that the missing data and information would be uploaded with no further delay. Furthermore, Iraq, Qatar and Saudi Arabia were invited to finalize and submit their National Aquaculture Sector Overview (NASO). The Islamic Republic of Iran, Iraq, Qatar and Saudi Arabia were also requested to submit a description of their respective RAIS National Centre.

9. The meeting participants reported some technical malfunctions concerning the editing of data/information already uploaded in the system. These and other minor technicalities were dealt with during the meeting throughout the assistance of the Web developer based in FAO headquarters in Rome.

### ***Role of the RAIS Regional Centre***

10. In introducing this Agenda item the Secretariat reported that the delay in officially launching and promoting the RAIS Web site was mainly due to the fact that the RAIS Regional Centre in Kuwait still required additional technical capacity building. This requirement was officially communicated to the Secretariat by the Public Authority for Agriculture Affairs and Fish Resources (PAAFR) hosting the system.

11. It was agreed that a training session would be organized in Kuwait prior to the launching of the Web site to enable the RAIS Regional Centre staff to independently operate the information system and enable daily maintenance actions. In this regard the Secretariat informed the delegates that the mission of two experts would be covered through the extrabudgetary funds provided by Kuwait for the development of RAIS. It was also recalled that FAO would continue to provide the necessary technical assistance and backstopping to ensure a smooth operation of the system for an additional year.

### ***Presentation and adoption of the RAIS user manual***

12. The Secretariat presented the draft RAIS User Manual as discussed and agreed during the WGA Technical meeting on the RECOFI Regional Aquaculture Information System (Safat, Kuwait, 6–8 November 2007) and invited the participants to provide feedback on its contents and structure. The WGA endorsed the manual as being user friendly, agreed on the proposed layout and thanked the Secretariat for the excellent work carried out.

13. The WGA Focal Point for Bahrain volunteered to have the manual translated into Arabic so that the Secretariat could finalize, print and distribute the bilingual manual (Arabic and English) by the next session of the Commission. It was further agreed that a PDF version of the manual would be immediately posted on the RAIS home page. The draft RAIS User Manual is attached to this report as Appendix D.

### ***RAIS communication strategy***

14. The draft RAIS communication strategy was presented by the Secretariat Information Officer (RECOFI:WGA/IV/2009/2) to initiate discussions on how best to promote the RAIS at national and regional levels during its official launching planned for March 2009. The

delegates deliberated on the means to be used and actions to be taken to enhance the visibility of the system and to ensure an effective flow of data and information. The RAIS communication strategy is attached as Appendix G?

15. The WGA reiterated the importance of producing RAIS promotional material as well as the need of organizing ad hoc seminars in English and Arabic to promote the system at national level. In this regard the Secretariat presented a draft flyer and press release prepared for the meeting. The documents were discussed and finalized by the group, while the WGA Focal Point for Oman agreed to have them translated into Arabic. The draft flyer and press release are attached as Appendices E and F, respectively.

16. The delegates also agreed that the participation of RAIS representatives at targeted national and international aquaculture events and major aquaculture exhibitions would be an opportunity to promote the existence of the RAIS to a wider spectrum of potential users.

17. This Agenda item was concluded with the identification of the next activities that would lead to the finalization and official launching of the RAIS. The proposed and agreed calendar of activities is attached to this report as Appendix H.

#### ***Other matter***

18. The Secretariat delivered a presentation on a series of new initiatives undertaken by the FAO Fisheries and Aquaculture Department including the development of a GIS-based database on aquaculture systems distribution and characteristics. This application would enable RECOFI members to easily set up an independent fish farm location monitoring system based on the available Google map technology. The information shared was well received by the participants who agreed to complete an MS-Excel form to collect the necessary data and farm coordinates. It was agreed that the outputs of this activity would be posted on the RAIS Web site provided that the information was fed to the Secretariat.

19. The participants finally recommended that the Secretariat should always include an agenda item on RAIS in future WGA meetings to have the opportunity to report and discuss on advances made and technical problems, if any, experienced by the National Coordinators.

#### **AQUACULTURE LEGAL AND POLICY FRAMEWORK PROJECT**

20. The WGA participants noted with regret that the launching of the “Aquaculture legal and policy framework project” (see RECOFI:WGA/IV/2009/Inf.3 – Appendix H) during the last intersessional period was not possible as the agreed financial inputs from all the contributing Commission members had not been received. The participants further reiterated the importance and relevance of this project also in view of the recent technical workshops organized by the WGA on aquatic animal health and cage culture development.

21. The Technical Secretary informed that by the end of January 2009 only the contributions from two countries had been deposited with FAO (Kingdom of Saudi Arabia and United Arab Emirates). He further informed the WGA that the Secretariat had sent out in November 2007 through the appropriate channels, as requested at the Fourth session of the Commission (Jeddah, Kingdom of Saudi Arabia, 7–9 May 2007), an official letter to all Members requesting them to confirm their commitment to the project as well as providing an

invoice indicating the agreed amount (USD 22 500) and the RECOFI account details. These letters were copied to the officially nominated WGA Focal Points.

22. It was agreed that the WGA Focal Points of those countries that had not taken action to follow-up the matter with the relevant national authorities and report back to the Secretariat by the end of February 2009. The WGA Focal Points were informed to contact the Secretariat in Cairo, Egypt, in the event they required a new copy of the letter circulated.

### **WGA PROGRAMME OF WORK FOR 2009–2011**

23. The proposed programme of work of the WGA for the next intersessional period was extensively discussed during the meeting. The work plan is based on recommendations and needs resulting from the implementation of activities during the last biennium, and emerging issues of importance for the region.

24. In the preparation of the work programme the WGA recognized that the Commission, based on its current level of contribution, may not have the required budget to implement a comprehensive aquaculture programme. Hence, the programme proposed below lists of six activities presented in order of priority, some of which (a minimum of two is recommended), could be supported by the regular budget contribution of the Commission while others would require extrabudgetary funding rather than postponing their implementation to the next intersessional period. In this regard the WGA recalled that the establishment of the RECOFI Regional Aquaculture Information System (RAIS) was possible due to the contribution from the State of Kuwait and felt that the Commission members should continue supporting WGA activities also through this funding mechanism.

25. In addition to the six technical activities proposed by the WGA (see below), it was agreed that the next work plan would likely include the implementation of the aquaculture legal and policy framework project, if the funding shares from all contributing Commission members are received, as well as a continued technical support aimed at further strengthening the Regional Aquaculture Information System (RAIS).

#### ***Application of risk analysis to aquaculture (Activity 1)***

26. The WGA endorsed the report of the Regional technical workshop on aquatic animal health held in Jeddah, Saudi Arabia, from 6 to 10 April 2008 which identifies a number of capacity building themes which ideally should be carried out at the regional level. Two of these activities were discussed at the meeting. The application of risk analysis to aquaculture was proposed as the top priority activity for inclusion in the next work plan of the Working Group.

27. Risk analysis is recognized as having a wide applicability to aquaculture as an important tool that provides insights and assists in making decisions that will help to avoid the negative impacts (e.g. environmental degradation; introduction and spread of pathogens, pests and invasive species; genetic impact; unsafe foods; and negative social and economic impacts), thus helping the growth of aquaculture to proceed in a more socially and environmentally responsible manner.

28. The WGA concurred that an integrated approach to risk analysis and application of risk management measures will assist the sector in reducing risks to successful operations

from both internal and external hazards and can similarly help to protect the environment, society and other resource users from adverse and often unpredictable impacts.

29. The activity proposed is therefore the organization of a training workshop on the introduction of risk analysis as applied to the aquaculture sector. This introductory course would consist of lectures on the principles of risk analysis process, its application to the risk sectors affecting aquaculture, and group exercise using pathogen risk analysis as a model in the application of the risk analysis process to aquaculture.

30. Oman offered to eventually host the workshop.

### ***Environmental monitoring in cage aquaculture (Activity 2)***

31. During the Regional technical workshop on sustainable marine cage aquaculture development held in Muscat, Oman, from 25 to 26 January 2009, held back-to-back with the Fourth WGA meeting, several follow-up actions had been identified and activities recommended. One priority activity identified concerned the development of a specific fish cage culture monitoring programme for the region.

32. The participants attending the above mentioned technical workshop suggested that monitoring programmes adopted in countries which have a flourishing fish cage farming industry could be used, however recognized that these would need to be adapted to local environmental conditions. Furthermore, the importance of monitoring results against environmental specific threshold impact limits (Environmental Quality Standards [EQS]) was emphasized by the group.

33. The WGA recommended that a group of marine biologist postgraduates from the region be responsible for the adaptation of an existing monitoring programme and EQS by establishing contacts and undergoing training with a recognized research institution that holds expertise in cage farming environmental impact and monitoring. The activity proposed for the next WGA work plan would consist of a short hands-on training activity abroad. This activity would ensure quick and effective transfer of expertise that would allow the trainees, in close collaboration with the partner institution, to adopt the monitoring programmes and EQS to local conditions.

34. The WGA invited the WGA Technical Secretary to identify a suitable research institution where such training could be carried out and to eventually make the necessary arrangements should the activity be endorsed by the Commission.

### ***Impacts of red tides to aquaculture (Activity 3)***

35. In view of the recent major red tide event in the region that seriously affected fish cage aquaculture, the WGA recommended the organization of a technical workshop on the impacts of hazardous algae on aquaculture with a focus on how the fish cage culture sector could handle the problem by developing suitable counter measures in case of an algal bloom outbreak. The WGA further recommended that the organization of the proposed workshop be coordinated and possibly co-organized with the Regional Organization for the Protection of the Marine Environment (ROPME; [www.ropme.org](http://www.ropme.org)) in view of the relevant mandate of this organization and the recent meetings organized covering algal blooms in the region.

36. Kuwait offered to eventually host the workshop.

#### ***Development of a national strategy on aquatic animal health (Activity 4)***

37. At the aquatic animal health workshop organized by the WGA (Jeddah, Kingdom of Saudi Arabia, 6–10 April 2008) it was agreed that national and international aquatic animal health programmes are becoming essential to ensure the sustainable development of aquaculture and protect existing capture fisheries, aquaculture and aquatic biodiversity from negative impacts of exotic pathogens and diseases. Such national programmes need to be harmonized at both regional and international levels and particularly with programmes of neighbouring and major trading partners in order to achieve maximum effectiveness particularly for the safe transboundary movement of aquatic animals. Such national strategy provides a country with a road map, using the concept of phased implementation based on national needs and priorities to achieve the desired aquatic animal health status.

38. This planning workshop will elaborate on the essential elements of a “National Strategy on Aquatic Animal Health” (i.e. policy, legislation and enforcement; risk analysis; pathogen lists; information systems; health certification; quarantine; disease surveillance; monitoring and reporting; zoning; emergency preparedness; research; institutional structure; human resources development; regional and international cooperation; and including farm-level health management) and the steps required in its development and implementation.

#### ***Spatial tools and aquaculture zoning (Activity 5)***

39. The WGA concurred that recommending and finding sites for fish cage farming or other aquatic practices in the region has been and will be a challenge for the authorities and the industry. The WGA further acknowledged that coastal zoning through the use of appropriate spatial tools would allow the identification and possible allocation of specific geographical areas (zones and sites) to aquaculture practices particularly in those countries in the region that have limited natural resources and which are in high demand by competing users. Furthermore, zoning would also simplify the process of farm site selection.

40. It is proposed to review the regional competence in the use of spatial planning tools (e.g. GIS, remote sensing) and organize an inception workshop that would synthesize the knowledge acquired in the region and to recommend a road map on how to move forward in aquaculture zoning.

#### ***Aquaculture recirculation technologies (Activity 6)***

41. In view of the geographical conditions in the region and limitations of specific resources, the WGA felt that there is a need to introduce alternative fish farming technologies in the region such as recirculation systems including aquaponics. The advantages of such technology are multiple including the possibility of farming marine species on land-based facilities and the reduced requirements of freshwater in case freshwater species are farmed. The WGA therefore recommended the organization of a technical workshop on recirculation systems by inviting experts from the private sector including from those commercial companies that provide such technology. Independent experts that may provide an economic insight on such farming systems should also be invited. The WGA also proposed to replicate the format of the advance course on recirculation technology and systems organized in Tarragona, Spain, from 10 to 14 March 2008 by the International Centre for Advanced

Mediterranean Agronomic Studies (CIHEAM) through the Mediterranean Agronomic Institute of Zaragoza (Instituto Agronómico Mediterráneo de Zaragoza – IAMZ), in Zaragoza, Spain.

***Aquaculture legal and policy framework project***

42. The WGA noted that although the Commission members at its Fourth session (Jeddah, Kingdom of Saudi Arabia, 7–9 May 2007) agreed to contribute in equal parts to the budget for the funding of the “Aquaculture legal and policy framework” project, at the time of the meeting only two members had transferred their contribution to the RECOFI account. It was agreed that the implementation of the legal project would be included in the new WGA biannual work programme assuming that all contributions would be received by the next session of the Commission (May 2009).

***Regional Aquaculture Information System (RAIS)***

43. The WGA noted and agreed that, although the RAIS Regional Centre staff in Kuwait would be in a position to respond and deal with most technical issues related to the functioning of the information system following its official launching of RAIS in March 2009, a limited budget allocation should be reserved for further strengthening the system. Such funds would enable the WGA to implement specific tasks that may include the establishment of new databases, organize additional training activities for newly authorized RAIS users, printing of promotional material, etc.

**ANY OTHER MATTER**

***Regional training cooperation***

44. The WGA recommended that the Commission should encourage and support more training and on-the-job cooperation in the field of aquaculture development among its members as well as outside the region.

***Confirmation of WGA Focal Points and Alternate Focal Points***

45. The list of the WGA Focal Points (FP) and Alternate Focal Points (AFP) was reviewed and updated following the transfer of former nominees to other postings. It was noted that most countries had officially nominated both the FP and the AFP. The representative of Kuwait and the FP of Qatar agreed that they would provide to the Secretariat the name and contact details of their AFP at the soonest possible. The updated name list of the FPs and AFPs, including their addresses and contact details, is attached to this report as Appendix I.

**NOMINATION OF THE WGA CHAIRPERSON**

46. The nomination of the current Chairperson of the WGA, Mr Dawood Suleiman Al-Yahyai (Oman), was reconfirmed for the next intersessional period. The WGA acknowledged his excellent support and coordination during his previous mandate period.