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## **REGIONAL COMMISSION FOR FISHERIES**

**Report of the**

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### **SEVENTH MEETING OF RECOFI THE WORKING GROUP ON AQUACULTURE**

**Doha, the State of Qatar, 26–28 April 2016**

REGIONAL COMMISSION FOR FISHERIES

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## PREPARATION OF THIS DOCUMENT

This document is the final report of the seventh meeting of the Working Group on Aquaculture (WGA) of the Regional Commission for Fisheries (RECOFI) held from 26 to 28 April 2016 in Doha, the State of Qatar. This report was prepared by the WGA Secretariat and endorsed by the WGA Focal Points and meeting participants.

## ACKNOWLEDGEMENTS

Many thanks are due to the Ministry of Municipality and Environment, the State of Qatar, particularly to the Fisheries Wealth Department for their support and excellent hosting of the meeting.

**FAO. 2016.**

*Report of the seventh meeting of the RECOFI Working Group on Aquaculture. Doha, the State of Qatar, 26–28 April 2016.*

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## ABSTRACT

The seventh meeting of the Working Group on Aquaculture (WGA) of the Regional Commission for Fisheries (RECOFI) was held in Doha, the State of Qatar, from 26 to 28 April 2016 and was attended by the representatives from six Member countries. The WGA reviewed the outcome and recommendations of the eighth session of the Commission and took note that the recommendation on Minimum Reporting on Aquaculture Data and Information was adopted as a binding obligation. It was further noted that June 1st was set as the annual deadline for submission of the mandatory data, with the reference year for the data submitted being the preceding year; and that the Regional Aquaculture Information System (RAIS) would be the mechanism through which the data and information would be submitted. The meeting agreed on a series of preliminary actions deemed necessary for the timely implementation of the recommendation, which included the preparation, testing and adoption of a tailored questionnaire. The outcome and recommendations of the regional WGA training course on risk analysis on live aquatic animal introductions and of the round-table meeting on the RECOFI regional aquatic biosecurity programme were reviewed. The WGA agreed on the necessity to establish an *ad hoc* biosecurity task force which would provide technical follow-up on all the aquatic animal health issues and WGA recommendations, decide on priority items that should be addressed first, and activate the proposed biosecurity strategy. A first output of the task force would be the drafting of a recommended regional risk analysis protocol for consideration and adoption by the Commission. The WGA appreciated the efforts of the Secretariat in drafting a technical paper on marine spatial planning for the RECOFI area, and agreed that the paper responded to the needs of the countries in providing a framework for marine spatial planning. In view of the growing interest in cage aquaculture, the WGA recommended that a regional set of cage site-selection criteria be prepared for adoption as RECOFI guidelines. The WGA took note of the offer by the Islamic Republic of Iran to fund and host a technical workshop on marine spatial planning (MSP), with a focus on marine cage aquaculture, and open for attendance to all RECOFI Members. With reference to the RAIS, the meeting noted that stronger efforts are urgently needed to ensure that the information system effectively provides the intended services to the sector. Further discussions focused on the updating of the various RAIS directories and the expansion of the system as an all-encompassing RECOFI regional capture fisheries and aquaculture data and information system as recommended by the Commission. The WGA Chairperson invited all WGA Focal Points to actively participate in the work of the working group so as to ensure that its mandated task is fulfilled and contributes to strengthening the development of the aquaculture sector in the region. All RECOFI countries were urged to communicate in a timely manner the names and contact details of their WGA Focal Points. The WGA Chairperson was re-nominated for an additional intersessional period.

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## ABBREVIATIONS AND ACRONYMS

AED	Emirati Dirham
BGI	FAO Blue Growth Regional Initiative
CIHEAM	International Centre for Advanced Mediterranean Agronomic Studies
COFI	FAO Committee on Fisheries
EAA	ecosystem approach to aquaculture
EAF	ecosystem approach to fisheries
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FIAA	Aquaculture Branch, FAO Fisheries and Aquaculture Department
FIAS	Statistics and Information Branch, FAO Fisheries and Aquaculture Department
GIS	geographic information system
IAA	integrated agriculture-aquaculture
IAMZ	Mediterranean Agronomic Institute in Zaragoza (Spain)
IT	information technology
KSA	Kingdom of Saudi Arabia
MAF	Ministry of Agriculture and Fisheries (Oman)
MSP	marine spatial planning
NALO	National Aquaculture Legislation Overview
NASO	National Aquaculture Sector Overview
NENA	Near East and North Africa
NERC	FAO Regional Conference for the Near East
NFP	National Focal Points
PAAFR	Public Authority for Agriculture Affairs and Fish Resources (Kuwait)
RAIS	Regional Aquaculture Information System
RAS	recirculation aquaculture system
RECOFI	Regional Fisheries Commission
SCA	COFI Sub-Committee on Aquaculture
UAE	United Arab Emirates
UTF	unilateral trust fund
WGA	Working Group on Aquaculture
WGFM	Working Group on Fisheries Management

## **OPENING OF THE MEETING**

1. The seventh meeting of the Regional Commission for Fisheries (RECOFI) Working Group on Aquaculture (WGA) was held in Doha, the State of Qatar, from 26 to 28 April 2016. Nine delegates attended the meeting from six Members of the Commission. The list of participants is attached as Appendix 2.
2. The meeting was officially opened with a welcoming statement delivered by Mr Mohamed Al-Mohannadi, Director of Fisheries Wealth Department, Ministry of Municipalities and Environment, the State of Qatar, and highlighted the country's commitment to the development of a sustainable aquaculture industry while ensuring regional cooperation and an open dialogue with Members of the Commission.
3. Mr Al-Mohannadi informed that the State of Qatar has recently allocated marine sites for finfish cage culture as well as sites for land-based shrimp farms and for processing facilities. He also indicated that the construction of a new aquaculture research centre is underway to support the development of the industry. The centre will likely become an important source of seed material for commercial operations. The State of Qatar has also designed freshwater fish farms suited to the local conditions, which are being adopted by private sector investors. The opening statement is attached in Appendix 4.
4. The Chairperson of the WGA, Mr Dawood Al-Yahyai, Director of Aquaculture Development, Ministry of Agriculture and Fisheries, Sultanate of Oman, welcomed the participants to the meeting and stressed the important role of the WGA in the coordination of aquaculture development and the sharing of knowledge in the region. He noted that a stronger involvement was needed from all the relevant national authorities and WGA Focal Points to maximise the effectiveness of the working group.
5. The WGA Technical Secretary, Mr Alessandro Lovatelli, Aquaculture Officer, Aquaculture Branch (FIAA), FAO Department of Fisheries and Aquaculture, Rome, welcomed the participants and the WGA Focal Points attending the meeting. He expressed, on behalf of the Secretariat, his appreciation to the State of Qatar for hosting the seventh meeting of the WGA.
6. Mr Jassem Al-Mohamady, Deputy Director of Fisheries, and Mr Abdulaziz Al-Duhaimi, Head of Fisheries Statistics, from the Ministry of Municipalities and Environment, the State of Qatar also attended the opening session.

## **ADOPTION OF THE AGENDA**

7. The meeting adopted the agenda with a few minor changes. The agenda and the list of documents before the meeting appear in Appendixes 1 and 3, respectively.
8. The WGA Technical Secretary recalled that the WGA at its sixth meeting (Muscat, Oman, 21–23 October 2014), requested the Secretariat to circulate the draft annotated agenda of the WGA meetings well in advance, to allow the WGA Focal Points to provide their inputs and comments on issues that required attention from the WGA. The WGA Technical Secretary further noted that the agreed procedure was duly followed in preparation of the current WGA meeting, but none of the WGA Focal Point, apart from Oman, had acknowledged receipt of the draft agenda nor provided any inputs. The WGA Chairperson invited the meeting participants to actively contribute towards the preparation of the agendas of the next meetings.

## **REVIEW OF THE SIXTH MEETING OF THE RECOFI WORKING GROUP ON AQUACULTURE**

9. The WGA Technical Secretary presented the agenda item and reviewed the key discussions and outcomes of the sixth meeting of the WGA held on 21–23 October 2014 in Muscat, Oman. He recalled that the proposed work programme, that included seven priority activities, was presented and discussed at the eighth session of the Commission (Muscat, Oman, 12–14 May 2015).

10. Concerning the Regional Aquaculture Information System (RAIS) the participants had noted that insufficient attention to the strengthening of the system remained an issue. Adequately feeding all the RAIS databases with updated information and data would raise the status of RAIS as a reliable regional information system. The WGA Focal Points agreed to take the necessary actions and provide updated information to the RAIS Regional Centre. Furthermore, the terms of reference for the RAIS Regional Centre staff were discussed and agreed.

11. Recognizing the importance of the timely collection, submission and sharing of accurate aquaculture statistics and other relevant aquaculture information, the WGA reviewed and agreed on a recommendation on reporting of minimum aquaculture data and information for submission to and consideration by the Commission. The modalities of the data and information collection were discussed and it was agreed that submission would be via the RAIS Web sites.

12. The WGA Focal Points discussed the programme of work for the intersessional period recognizing the limited availability of funds of the Commission. The key activity prioritized was a training in aquaculture risk analysis to be financially supported by the Commission. Other activities proposed included a workshop on recirculation aquaculture system technologies (RAS), a workshop on aquaponics, training in marine fish propagation, and a technical meeting on the use of geographical information systems (GIS) in aquaculture development. The WGA Focal Points noted that the latter activities could be supported either by the private sector or through bilateral arrangements rather than through seeking funds from the Commission.

## **MAIN OUTCOMES OF THE EIGHTH SESSION OF THE COMMISSION**

13. The Secretariat presented to the WGA the key outcomes of the eighth session of the Commission, held in Muscat, Oman, from 12–14 May 2015 particularly those concerning the WGA. Among these, the Commission reviewed the draft terms of reference of the RECOFI WGA Focal Points and those of the RAIS Regional Centre staff, and adopted them with some minor changes. The adopted terms of reference of the RECOFI WGA Focal Points and those of the RAIS Regional Centre staff are reproduced in Appendixes 5 and 6, respectively.

14. The Commission recognized the valuable and continuing support provided by Kuwait to service, operate and manage the regional information system.

15. The WGA meeting participants were informed that the Commission acknowledged the importance of the timely collection and dissemination of accurate aquaculture data and information. It reviewed and adopted as a binding obligation the draft RECOFI Recommendation RECOFI/8/2015/1 on Minimum Reporting on Aquaculture Data and Information, drafted during the sixth meeting of the WGA (Muscat, Oman, 21–23 October 2014), with some amendments. The text of the adopted recommendation appears in Appendix 7.

16. The Commission agreed that 1 June would be the annual deadline for submission of the mandatory aquaculture data and information, with the reference year for the data submitted being the preceding calendar year. It was also agreed that RAIS would be the mechanism through which the data and information would be submitted by the Member countries.

17. With specific regards to the current status of RECOFI, the Commission recognized that a different funding mechanism would be required for it to effectively operate and agreed that the actual decision on the budget and elements involved would need to be discussed and agreed at an *ad hoc* session. The Commission noted the offer of Kuwait to host the RECOFI headquarters and Secretariat, should they be relocated. The Secretariat was requested to prepare indicative budget scenarios for the future functioning of the Commission.

18. Regarding the proposed WGA work programme and budget the Commission reduced the number of proposed activities of the WGA and combined some of them to be held concurrently with others. The

training workshop on aquaponics was removed in view of there being a similar workshop<sup>1</sup> planned that RECOFI Member countries would be invited to attend (supported by the Small-Scale Agriculture Regional Initiative implemented by FAO in the Near East and North Africa region). The technical meeting on Geographic Information Systems (GIS) in aquaculture would be jointly organized as a bilateral meeting between Oman and Saudi Arabia, and would report to the WGA. The full programme of work and budget endorsed and approved by the Commission is attached in Appendix 8.

## **WGA INTERSESSIONAL PROGRAMME OF WORK AND BUDGET FOR THE BIENNIUM 2015–2016**

19. The WGA Chairperson informed the participants on the WGA activities that took place since its sixth meeting (Muscat, Oman, 21–23 October 2014). The major activity organized in the intersessional period was the joint back-to-back training workshop on aquaculture risk analysis on aquatic animal introductions and a round-table meeting on the RECOFI regional aquatic biosecurity programme. Detail of discussions that followed appear in the relevant agenda item below.

20. With specific regards to the organization of the technical workshop on aquaculture recirculation technologies (RAS), the WGA Technical Secretary reminded the participants that the WGA Focal Points had agreed for the Secretariat to contact renowned commercial RAS systems providers and invite them, at their own expenses, to attend a regional workshop that would gather representatives from all the RECOFI countries.

21. The WGA Technical Secretary informed the meeting that the commercial RAS companies contacted did not express much interest in attending such a workshop, and so it was not organized. He also indicated that it was unlikely that the workshop would be organized any time soon.

22. In view of the regional interest in aquaculture recirculation technologies, the WGA Technical Secretary extended an invitation received by the Secretariat, for RECOFI countries to attend a RAS training course planned to take place in southern France during the last quarter of 2016. The 5-day training course is being organized under the aegis of the EU Aquaexcel2 project ([www.aquaexcel.eu](http://www.aquaexcel.eu)) in collaboration with the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) and the Mediterranean Agronomic Institute in Zaragoza (IAMZ) ([www.iamz.ciheam.org](http://www.iamz.ciheam.org)).

23. The meeting participants were informed that concerning practical arrangements, in addition to travel, accommodation and food, non-EU participants would be required to pay a registration fee of EUR1 500. It was agreed that interested parties from the region (from the public and/or private sector) should contact the course organizer for additional information (Dr Jean-Paul Blancheton; E-mail: [Jean.Paul.Blancheton@ifremer.fr](mailto:Jean.Paul.Blancheton@ifremer.fr)).

## **STATUS REVIEW OF AQUACULTURE DEVELOPMENT BY COUNTRY**

24. As a standing agenda item agreed at the six meeting of the WGA (Muscat, Oman, 21–23 October 2014), the participants made short presentations on recent aquaculture developments in their countries, loosely following the FAO National Aquaculture Sector Overview (NASO) template. The participants provided selected information on recent aquaculture developments, including emerging issues and national priorities (see summary table below).

25. For the following WGA meetings it was agreed that the short country presentations should attempt to closely follow the NASO template and particularly to highlight emerging and significant national issues that may be of regional interest and would hence require further deliberations during the course of the meeting.

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<sup>1</sup> See: FAO. 2016. *Report of the FAO technical workshop on advancing aquaponics: an efficient use of limited resources, Osimo, Italy, 27–30 October 2015*. FAO Fisheries and Aquaculture Report No. 1132. Rome, Italy. ([www.fao.org/3/a-i5337e.pdf](http://www.fao.org/3/a-i5337e.pdf)).

Iran (Islamic Republic of)	In 2014 the country produced just under 950 000 tonnes of fish with almost 372 000 tonnes derived from aquaculture. The sector has been growing at a rate of 12 percent annually mainly along the Caspian Sea. Most of the farmed fish are warm water species. Cage aquaculture started two years ago along the shores of the Caspian Sea mainly producing rainbow trout. There is a growing interest in marine cage farming in the southern part of the Gulf where two marine finfish hatcheries have been built and in operation. One company started producing Asian seabass ( <i>Lates calcarifer</i> ) (500 tonnes) and another European Gilthead seabream in a recirculation system (French technology). Cage farming is expanding in many inland freshwater bodies (e.g. dams). In view of the large imports of tilapia (approx. 6 000 tonnes in 2015) there is a growing interest in culturing this fish particularly in the central regions of the country. In this respect research is ongoing but the environmental authorities have expressed their concern with regard to farming of this exotic species. Trout farming is expanding with over 95 percent of the national production consumed nationally. One hatchery is now in operation producing the local Caspian salmon ( <i>Salmo trutta caspius</i> ). Concerning shrimp farming, 22 000 tonnes of the white leg shrimp ( <i>Peneaus vannamei</i> ) were produced in 2015, while the white spot disease remains an issue. There is also a growing interest in aquaponic systems particularly with the objective of improving the use of water resources.
Oman	At present, one shrimp farm ( <i>P. indicus</i> ) (400 tonnes) is in operation 600 km south of Muscat and 12 small-integrated freshwater tilapia farms. The government is finalizing a project that is identifying suitable cage farming sites in the northern area of Musandam. The project is also studying issues related to carrying capacity and identification/suitability of farmed species. There are private entities that have requested the introduction of <i>P. vannamei</i> , but for the time being the authorities will not allow its introduction. There is one private tilapia hatchery operating efficiently. There are numerous Nile tilapia farm applications currently under evaluation. The current annual national tilapia market is estimated at around 1 500 tonnes and the government has identified an export demand from neighbouring countries of an additional 1 500 tonnes. Other aquaculture commercial projects that are likely to start in 2016 is a RAS facility for grouper and abalone, a second RAS farm for finfish (grouper – <i>Epinephelus</i> sp. being the main target species) and one shrimp farm.
Qatar	The authorities have identified three areas for marine cage culture with an overall target production/site of 2 000 tonnes. The Aquaculture and Fisheries Research Centre currently under construction in Ras Mutbakh (north of El-Khoor City on the East coast) should be completed and tested by early 2017. The centre covers an area of several hectares and includes laboratory facilities, marine fish and shrimp culture units, marine fish and shrimp hatchery facilities, plankton cultivation and feed formulation units, administration offices, etc. The overall objective of the centre is to support the development of an aquaculture sector in Qatar through the identification and testing of suitable farming technologies adapted to local conditions and using local commercial finfish species. Efforts have started to introduce biofloc farming technology. The WGA Focal Point for Qatar proposed for consideration the organization a technical biofloc workshop and study tour for the benefit of all the RECOFI countries. The recent work on biofloc carried out in Saudi Arabia was cited. The Secretariat was requested to look into the possibility of organizing such an activity and the newly appointed WGA Focal Point for Saudi Arabia invited to share with the RECOFI Members the results of the recent biofloc work carried out in Jeddah under the FAO/KSA UTF project (UTF/SAU/048/SAU).
Saudi Arabia	The Kingdom of Saudi Arabia has aquaculture development and particularly mariculture as a top development priority in support of its food security programme. The objective is to raise annual fish consumption from the current level of 12 to 19 kg/person. The country has suitable land and sea locations (mainly in the Red Sea for mariculture), experienced investors and a strong local market. The authorities have strengthened the regulatory base to support the growth of the industry. The aquaculture industry in Saudi Arabia has grown annually by 16 percent since the

	early 2000s. Institutional technical capacity building remains a top priority. An atlas of suitable marine culture sites along the coast of the Red Sea was recently finalized and is available on the FAO Web site ( <a href="http://www.fao.org/3/a-c0046b.pdf">www.fao.org/3/a-c0046b.pdf</a> ).
Kuwait	The relevant authorities in Kuwait have identified a location for marine cage aquaculture development, which has an area of 10 km <sup>2</sup> . The area will be open for the establishment of nine marine fish farms of 12 cages each. The distance between each farm will be approximately one kilometre. Each farm will have a licence for an initial production of 250 tonnes/year. Furthermore, the authorities are supporting two approaches to brackishwater aquaculture development: integrated agriculture-aquaculture systems (IAA) and recirculation aquaculture technologies (RAS).
United Arab Emirates	The United Arab Emirates is prioritizing sustainable aquaculture development as a contributor to food security, economic diversification, employment generation and the reduction of fishing pressure on wild resources. The first phase of the Sheikh Khalifa Marine Environment Research Centre has been completed: the marine finfish hatchery has a production capacity of 10 million fingerlings. Construction of the second phase of the project, which includes the extension of the hatchery for low survival marine species and a series of research facilities, will commence soon on the site in Umm Al-Quwain. At present 10 commercial farms are operational; six commercial species are being cultured producing. These farms produced 790 tonnes in 2015 or about 1 percent of the estimated national seafood market. The UAE targets aquaculture production of 36 000 tonnes by 2021.

26. With regard to the updating of the National Aquaculture Sector Overview (NASO) for the RECOFI region, the WGA Focal Points provided to the Secretariat soft copies of revised NASOs except for Bahrain and Iraq. The available updated national overviews will be published in the FAO and RAIS dedicated Web pages as soon as they are revised and finalized. The WGA Focal Points noted that they had previously agreed to undertake sector overviews updating every two years prior to the biannual session of the Commission.

#### **IMPLEMENTATION OF THE RECOFI RECOMMENDATION ON MINIMUM DATA REPORTING ON AQUACULTURE**

27. The Secretariat introduced the agenda item covering issues related to the implementation of minimum data and information reporting on aquaculture. The WGA participants acknowledged that the Commission had adopted the recommendation at its last session (Muscat, Oman 12–14 May 2015) making it a binding recommendation for all RECOFI Member countries. The text of the approved recommendation RECOFI/8/2015/1 on Minimum Reporting on Aquaculture Data and Information appears in Appendix 7.

28. A presentation, prepared by the FAO Fisheries and Aquaculture Statistics and Information Branch (FIAS), was presented by the Secretariat to discuss on how to move forward with putting into practice the recommendation. The key issues highlighted for its implementation included (i) the status of reported aquaculture statistics by the countries; (ii) the use of existing international standards and globally accepted references on aquaculture statistical data collection and reporting; (iii) comparison with national statistics reporting systems; (iv) identification of capacity building needs; (v) assessment of appropriate resource needs allocation; and (vi) definition of a roadmap for the implementation of activities.

29. The WGA agreed to adopt the proposed FAO-FIAS roadmap for the execution of the RECOFI recommendation on minimum data reporting on aquaculture. In particular, the roadmap will consist of the following three preliminary steps: (1) FAO-FIAS to develop a statistical questionnaire for aquaculture data collection and circulate it to the WGA Focal Points; (2) the WGA Focal Points to share the questionnaire with their national statistics department for a testing phase; and (3) the questionnaire to be commented on by the WGA Focal Points, finalized by FAO-FIAS and eventually adopted by all RECOFI Member countries.

30. The list of species or species groups cultured in RECOFI countries with production data (in tonnes) registered by FAO with production data for the most recent three years was circulated to the meeting participants (see Appendix 9).

### **OUTCOME OF THE RECOFI-WGA TRAINING COURSE ON RISK ANALYSIS ON AQUATIC ANIMAL INTRODUCTION**

31. The WGA meeting noted that the “Introductory Training Course on Risk Analysis for Movements of Live Aquatic Animals for RECOFI” was held from 1 to 4 November 2015 in Muscat, Oman. The event was hosted by the Ministry of Agriculture and Fisheries (MAF) and was attended by 19 participants representing only three of the eight RECOFI Member countries (Iran [Islamic Republic of] - 1, Oman - 16 and the United Arab Emirates - 2), two FAO staff, one international consultant and one invited resource speaker from Saudi Arabia.

32. The training course consisted of three major components, namely: (i) introductory remarks and presentations; (ii) introductory training course on risk analysis for movements of live aquatic animals; and (iii) the way forward (discussion of regional needs and future activities on risk analysis). The main outcomes of the activity were: (i) the training of the participants in the basics of risk analysis for movements of live aquatic animals; and (ii) a series of recommendations arising from the working group exercise on implementing risk analysis in the RECOFI region (identification of needs and recommendations). The three most important risk sectors for the RECOFI countries that participated in the training course were: environmental, pathogens, food safety and hygiene risks.

33. The WGA, during its seventh meeting, was requested to discuss and decide particularly on the following issues: (i) standardizing protocols for the application of risk analysis to prevent new pathogens in the RECOFI area; (ii) training assistance and capacity building; (iii) exchanging expertise between RECOFI countries; (iv) establishing a regional team for risk analysis; (v) exchanging risk analysis plans and cases between RECOFI countries; and (vi) establishing a list of regional laboratories accredited for aquatic animal health.

### **OUTCOME OF THE ROUND-TABLE MEETING ON RECOFI REGIONAL AQUATIC BIOSECURITY PROGRAMME**

34. The round-table meeting on the RECOFI regional aquatic biosecurity programme was organized back-to-back with the risk analysis training (see previous section) and attended by the same participants. Prior to the meeting, in an attempt to improve knowledge of regional progress in aquatic biosecurity, the FAO Secretariat (Ms Melba Reantaso and Mr Richard Arthur) had prepared a listing of the programme activities that were to be undertaken by the Member countries, and forwarded it the WGA Focal Points with a request to indicate what progress, if any, had been achieved since 2007. Responses were received only from Iraq, Oman and Qatar. Nonetheless, the additional information received assisted in providing a picture of the limited progress made by RECOFI countries towards completing the national components of the regional programme.

35. At the round-table meeting, the following were accomplishments: (i) review of the RECOFI Regional Aquatic Animal Health Programme developed in 2008 and the recommendations of the recently concluded “Introductory Training Course on Risk Analysis for Movements of Live Aquatic Animals for RECOFI Members”; (ii) informing the participants on emerging biosecurity challenges that may hinder the sustainable development of aquaculture in the region; and (iii) updating the regional biosecurity/aquatic animal health programme and its implementation.

36. The main output of the round-table meeting was the “Revised Plan for Implementation of the RECOFI Aquatic Animal Health Management Programme”, including the priority and time-frame for each activity. The WGA during its seventh meeting was requested to discuss the revised plan and finalise arrangements for its immediate implementation.

37. The results and recommendations of the risk analysis training course and round-table meeting were discussed. Six items classified by the round-table meeting as “high priority” and for “immediate action” were considered for implementation. The following next steps were agreed:

- Member countries who have not yet filled out the form updating the 2008 survey and the one page table of which activities were being undertaken (see Paragraph 33) should do so within one month (i.e. by 28 May 2016). (Note: the survey update has so far been completed by Bahrain, the Islamic Republic of Iran, Oman and Saudi Arabia and the activities table by Iran IR, Iraq, Oman, Qatar and Saudi Arabia). The WGA Chairperson indicated that he would follow-up the commitment to ensure compliance.
- The WGA noted that a consultant would need to be contracted for the updating of the regional biosecurity/aquatic animal health programme. The Secretariat will draft the terms of reference in collaboration with the WGA Chairperson and identify a suitable consultant.

38. The WGA Focal Points agreed on the necessity to establish an *ad hoc* biosecurity task force (team) which would provide technical follow-up on all the aquatic animal health issues and WGA recommendations, decide on which priority items should be addressed first, and activate the proposed biosecurity strategy. It was also noted that the task force dealing with biosecurity issues should eventually become a permanent one, working under the auspices of the WGA, due to the specific and technical competencies required.

39. Furthermore, it was agreed that the *ad hoc* biosecurity team should be initially asked to collect copies of any national protocols on the application of risk analysis to prevent the introduction of new aquaculture pathogens to their country, and to provide the details to the Secretariat. Following this, a consultant would be recruited, to review existing protocols and draft a recommended risk analysis protocol for consideration by the *ad hoc* biosecurity team.

40. It was also agreed that after an agreement was reached by the biosecurity team members, the Secretariat would proceed and prepare a final version of the protocol for presentation and discussion at a workshop of the biosecurity team. It was proposed that the workshop could take place back-to-back with the next WGA meeting or other suitable regional meeting. The recommendations and outputs of this workshop would then be presented to the next session of RECOFI for endorsement.

41. The formation and activities of the *ad hoc* biosecurity team would thus address recommendation (i) in the above Paragraph 33, and also (iv): establishing a regional team for risk analysis. In addition, coordinated by the WGA Chairperson, the team would address recommendations (iii) exchanging expertise between RECOFI countries; (v) exchanging risk analysis plans and cases between RECOFI countries; and (vi) establishing a list of regional laboratories accredited for aquatic animal health. Training assistance and capacity building (ii) would also be addressed at a later stage by the *ad hoc* biosecurity team.

42. The delegate of Iran (Islamic Republic of) drew attention to the fact that in his country aquaculture and biosecurity are handled by different institutions; generally it is aquaculture staff of the Fisheries Ministry who attend RECOFI meetings, but there is a need to involve colleagues from the Ministry in charge of biosecurity issues.

## **FROM ZERO TO A MILLION: THE DEVELOPMENT OF THE NORWEGIAN CAGE AQUACULTURE INDUSTRY**

43. In view of the regional interest and expanding marine cage culture sector in the region, the WGA accepted the kind offer received from Norway, also discussed during the eighth session of the Commission (Muscat, Oman, 12–14 May 2015), to present a seminar on the Norwegian experience in relation to the development of its cage aquaculture industry.

44. In the presentation delivered by the invited speaker, Mr Johán H. Williams, Specialist Director, Department for Fisheries and Aquaculture, Ministry of Trade, Industry and Fisheries, Norway, and

former chairperson of the FAO Committee on Fisheries (COFI), he highlighted the key challenges and constraints that the Norwegian cage sector faced since the very early years of the industry. In his deliberations, Mr Williams focused on actions and decisions taken that had helped the industry grow to its present status. The presentation was well received and was followed by a fruitful debate.

45. The Norwegian salmon industry has been characterized by a continuous series of technical innovations that has, over the years, ensured an increase in productivity per person-year. The production cost has almost halved in 25 years thanks to technological advances and stimulated by the limiting and conservative official regulatory actions imposed on the industry over the years. A key factor that has helped with the success of the salmon industry has been the active market promotion of this farmed product by the various trade associations also aided by relevant government agencies.

## **MARINE SPATIAL PLANNING FOR THE RECOFI AREA: PRINCIPLES, PERSPECTIVES AND OPPORTUNITIES**

46. The WGA participants were informed that at its seventh session (Tehran, Islamic Republic of Iran, 14–16 May 2013) the Commission recognized the knowledge base established by the Secretariat for spatial planning in the RECOFI region and concluded that to move forward, the next phase of the spatial planning development programme would be to proceed with an “operational phase” and, within available resources, provide the necessary support for its implementation.

47. To further support awareness on marine spatial planning (MSP) in respect to the competition for access to, and use of, all marine resources, especially in a “high use”, constricted and vulnerable spatial area such as the Gulf, a technical presentation on marine spatial planning in the RECOFI countries was presented by the Secretariat. The WGA participants were reminded that an advance copy of the FAO technical paper on “*Marine spatial planning for the Gulf (RECOFI) Area*” had been circulated for comments.

48. The WGA acknowledged the need for a technical paper on “*Marine spatial planning for the Gulf (RECOFI) Area*” derived from various RECOFI meetings since 2009, especially following the “Regional Technical Workshop on Spatial Planning Development Programme for Marine Capture Fisheries and Aquaculture”<sup>2</sup> held in Cairo, Egypt, in November 2012. At this meeting, the use of marine spatial planning to support aquaculture and fisheries development was considered as one of the essential requirements for ensuring sustainable marine capture fisheries and aquaculture development in the RECOFI region.

49. The WGA agreed that the draft technical paper responded to the needs of RECOFI Members by providing a framework for marine spatial planning and should be finalized for distribution. The WGA voiced its appreciation for the document prepared by FAO.

50. WGA Focal Points highlighted the need for marine aquaculture spatial planning<sup>3</sup> as well as the need to exchange information on its current status in the countries of the RECOFI region.

51. The need for RECOFI guidelines on marine fish cage site selection was discussed under this agenda item. It was agreed that the Secretariat would circulate published information on essential criteria for

<sup>2</sup> 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. 127 pp. ([www.fao.org/3/a-i3362e.pdf](http://www.fao.org/3/a-i3362e.pdf))

<sup>3</sup> An atlas of potential areas for cage aquaculture in the Red Sea is an example of “*Marine aquaculture spatial planning*” in which the analysis is primarily focused on mariculture, whereas *Marine Spatial Planning (MSP)* is a cooperative approach that integrates all marine users in identifying issues, opportunities and challenges to securing the sustainable use of marine space. Clearly, marine aquaculture spatial planning contributes to MSP. On the other hand, *Marine Spatial planning for Fisheries and Aquaculture* is concerned with the use of various spatial strategies such as EAA/EAF to aid in the management of fisheries and aquaculture. Any stakeholder groups might have their own spatial plans for the use of the Gulf marine waters, for instance, the military or navy and certainly the navigation authorities will have theirs.

marine fish cage site selection, including criteria described in the recently prepared atlas of potential areas for cage aquaculture in the Red Sea (or along the Saudi coast line) and relevant documentation available from the General Fisheries Commission for the Mediterranean (GFCM). Following this, it was agreed that the WGA Focal Points would review the information and propose criteria that could be considered for adoption as RECOFI guidelines. A draft set of RECOFI guidelines on criteria for marine fish cage site selection will be prepared by the Secretariat with the help of a consultant and distributed in advance of the next WGA meeting for consideration by the WGA Focal Points, and with a view to adoption at the next session of the Commission.

52. The WGA Focal Points agreed to prepare a spatial inventory of aquaculture for their respective country with attributes including species, culture systems and production using FAOs National Aquaculture Sector Overview (NASO) map collection. This will provide baseline information for the future planning and management of aquaculture in their country. The Secretariat noted that it had already distributed, at the previous WGA meeting, the MS Excel forms for the preparation of the NASO maps along with the NASO maps user manual to assist the WGA Focal Points with the collection of the data required for the elaboration of the maps. Upon completion of the Excel forms, these would need to be sent to the Secretariat (Mr V. Crespi) for validation and migration into the FAO NASO maps collection web site ([www.fao.org/fishery/naso-maps/naso-home](http://www.fao.org/fishery/naso-maps/naso-home)).

53. The WGA Focal Point of the Islamic Republic of Iran invited FAO to organize a technical workshop on MSP with a focus on marine cage aquaculture. He further indicated that the workshop would be funded by the Government of Iran (Islamic Republic of) and the Iran Fisheries Organization (IFO). Once organized, an invitation to participate will be extended to all RECOFI countries.

#### **FOLLOW-UP ON THE REGIONAL AQUACULTURE INFORMATION SYSTEM (RAIS)**

54. The Secretariat introduced agenda item 11 covering issues related to the maintenance and updating of the RAIS. It was noted that the names and addresses of WGA Focal Points in the RAIS were out of date and that limited communication and interaction between the WGA Focal Points and the staff of the RAIS Regional Centre was still an issue. Furthermore, it was noted that annual aquaculture statistics were not regularly updated making it impossible to adequately monitor the status and trends of the sector at the national and regional level. This, along with the outdated information in some of the other RAIS directories, as already highlighted in previous WGA meetings, was negatively affecting the credibility and reliability of the system as well as reducing the number of regular users.

55. The representative from Kuwait presented the Web analysis report for RAIS elaborated by the Regional Centre staff using Google analytics (see Appendix 10). The report covering the period from 1 April 2015 to 24 April 2016 showed that there is a global interest in RAIS, but primarily from Arabic-speaking countries. It was noted, however, that the percentage of returning visitors was declining and almost 50 percent less compared to the previous reporting period presented at the sixth WGA meeting (Muscat, Oman 21–23 October 2014). This is most certainly attributable to insufficient data entry by RAIS administrators (WGA Focal Points and Regional Centre staff) which is causing a steady decrease of interest by potential users and regional aquaculture stakeholders.

56. The WGA Focal Points reiterated the importance of a functional RAIS and agreed on a series of steps to be taken to enhance the information system. The WGA participants invited the RAIS Regional Centre in Kuwait to ensure that its coordinating services were secured and reinforced, if necessary, and that adequate technical IT support was provided to the RECOFI members. Furthermore, the following points were agreed: to update aquaculture production statistics up to 2015; to revise/update the data set for each directory in the system; verifying the correctness of the WGA Focal Points' contact details; to post items on the news and events pages; and to improve communication between the WGA Focal Points and the RAIS Regional Centre staff. The WGA Chairperson proposed, and all countries agreed, to update the RAIS contents and databases at the earliest time possible.

## **EXPANSION OF THE RAIS INTO A RECOFI REGIONAL FISHERIES AND AQUACULTURE INFORMATION SYSTEM: IMPLICATIONS FOR RAIS AND REQUIREMENTS**

57. The Secretariat delivered a presentation on the expansion of RAIS into a larger RECOFI regional information system containing capture fisheries and aquaculture data and information. This regional database and information system would strengthen the Commission and would help support fishery management and aquaculture development in the region. The proposal, already adopted by the RECOFI Working Group on Fisheries Management (WGFM) at its ninth meeting (Kuwait City, Kuwait, 24–26 November 2015) consists of a roadmap to move toward one integrated formal RECOFI Web site, with the possible names of “RECOFIS (RECOFI Information System)” or “RAFIS (Regional Aquaculture and Fishery Information System)”, to be decided at a later stage<sup>4</sup>. The information system would be based in Kuwait within the premises of the Public Authority for Agriculture Affairs and Fish Resources (PAAFR) and would be managed by dedicated staff including a data manager, IT support staff and an administrative clerk.

58. A needs assessment note prepared by the Secretariat for a roadmap on the step-by-step implementation of the Recommended Minimum Data Reporting on Aquaculture was tabled for discussion and the main points were agreed upon by the WGA Focal Points. The WGA agreed to move toward one integrated RECOFI Web site noting that the Commission had already endorsed two binding recommendations: RECOFI/6/2011/1 on capture fisheries data and RECOFI/8/2015/1 on aquaculture data. Therefore, the establishment of the regional database and information centre is a core undertaking for RECOFI and an essential step to strengthen the Commission in supporting fishery management and aquaculture development.

59. The meeting participants noted that the Secretariat, in cooperation and consultation with the Public Authority for Agriculture Affairs and Fish Resources (PAAFR) in Kuwait, would detail the necessary activities to enable the establishment of the expanded RECOFI regional data and information centre, including supporting the capacity in data management and information technology needed to operate and maintain the system. The WGA noted that the Secretariat had recently submitted to the authorities in Kuwait for their consideration and funding, a project proposal in support of the RECOFI information system.

## **PRODUCT AND SERVICES UPDATES**

60. During the adoption of the agenda, the participants agreed that all WGA meetings should have a standing agenda item on innovative commercial products and services of particular interest to the development of the aquaculture sector in the RECOFI area. Presentations of any product and service would be short and factual with the full understanding that neither the Secretariat nor the WGA Focal Points were promoting the firm offering the service and/or product over other commercial companies.

61. It was agreed that the presentations of any given product or service would be made either by the Secretariat or any of the experts and WGA Focal Points attending future WGA meetings. The meeting participants recognized the importance of sharing information on products that have been successfully tested and used in the region as well as technical services that have been delivered professionally.

62. The Secretariat briefly presented information on a new microalgae bioreactor product developed in Canada. The importance of disease-free live feed production in a hatchery environment remains a critical first step in lowering livestock mortality at the hatchery stage and producing strong healthy animals for growout. The bioreactors are sealed biosecure systems, self-cleaning and fully automated and offer a technical solution for reliable, on-site production of live feeds, such as algae or zooplankton. The company produces various models and has recently launched a lower cost version with a less sophisticated control system. For further information, interested parties could contact Industrial Plankton Inc. (E-mail: [info@industrialplankton.com](mailto:info@industrialplankton.com); Web: [www.industrialplankton.com](http://www.industrialplankton.com)).

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<sup>4</sup> The WGA meeting participants added an additional name to the WGFM proposal: i.e. “FARIS” = Fishery and Aquaculture Regional Information System.

## **ANY OTHER MATTER**

63. The Secretariat informed the meeting that the Blue Growth Regional Initiative (BGI) would be presented and discussed during the thirty-third Regional Conference for the Near East (NERC) in Rome, Italy, from 9 to 13 May 2016. The WGA participants were invited to ensure that their national delegations attending NERC would be informed on FAO's fisheries and aquaculture work in the region.

64. The WGA Chairperson, informed the WGA Focal Points and participants attending the meeting, that over the past intersessional period the overall participation and responsiveness of the countries to the work of the WGA has been rather poor. He reiterated that the WGA is a technical forum that belongs to the region and it was the responsibility of each Member country to actively contribute to the regional discussions and work whilst FAO provided the Secretariat. He urged all the countries to be more active.

65. The WGA Chairperson further noted that some of the RECOFI countries had changes in their official WGA Focal Point nominations, but the names and contact details had not been communicated to the Chairperson nor to the Secretariat. He urged Kuwait and the United Arab Emirates in particular to communicate their official WGA Focal Points nominations. He stressed the importance of a technically strong and connected network of WGA Focal Points for the WGA to actively fulfil its mission and goals. The current list of WGA Focal Points appears in Appendix 11.

## **DATE AND PLACE OF THE EIGHTH WGA MEETING**

66. The WGA participants took note that the Commission at its eighth session (Muscat, Oman, 12–14 May 2015) had indicated that the next WGA meeting would take place in Bahrain noting however, that confirmation from Bahrain was still pending. The WGA Chairperson indicated that he would approach Bahrain and eventually inform the RECOFI members and the Secretariat if the venue was confirmed.

67. The WGA tentatively agreed to hold the eighth WGA meeting at the end of the year or in early 2017 following a round of consultation among the WGA Focal Points, the authorities in Bahrain and the WGA Technical Secretary.

## **ELECTION OF THE CHAIRPERSON**

68. The WGA participants invited and unanimously agreed to re-nominate, Mr Dawood Suleiman Al-Yahyai, the current WGA Chairperson for an additional term. Mr Adly Abdel Rahman Al-Ansari, WGA Focal Point of Bahrain, was retained as the WGA Vice-Chairperson. The participants noted, as discussed and agreed at its sixth meeting (Muscat, Oman, 21–23 October 2014), that there was no need to nominate a second vice-chair and that the current vice-chair would not necessarily become the chairperson once the term of the current chair was over.

69. The WGA Technical Secretary recalled the important role played by the WGA Chairperson, particularly during the intersessional periods, and recalled that the chairperson is effectively the link between the RECOFI Secretariat and the Member countries.

70. The meeting participants acknowledged the excellent work carried out by the re-elected chairperson, Mr Dawood Suleiman Al-Yahyai, WGA Focal Point for Oman, over the past intersessional period.

## **ADOPTION OF THE REPORT**

71. The WGA Technical Secretary thanked all the participants for their contribution to the discussions, particularly towards the identification of priority activities. The report of the meeting was subsequently adopted through email exchanges on 27 May 2016.

72. The meeting noted with appreciation the kind support from the State of Qatar in hosting and providing administrative and logistic support to the meeting.

#### **FIELD TRIP**

73. On the third day of the meeting, the WGA participants made a field trip to the site of the Qatar Aquaculture and Fisheries Research Centre, which is currently under construction. Head of the Fisheries Development Section Mr Mohammed Al-Abdullah, kindly gave the delegates a tour of the facilities following an introductory video presented by the construction team. A short discussion followed in which the delegates welcomed the valuable future role the centre will be able to play in regional aquaculture development.

**Agenda**

1. Opening of the meeting
2. Adoption of the agenda and arrangements of the meeting
3. Main outcomes of the sixth meeting of the RECOFI Working Group on Aquaculture (WGA) and of the eighth session of the Commission
4. WGA intersessional programme of work and budget for the biennium 2015–2016
5. Status review of aquaculture development by country – brief country presentations
6. Implementation of the RECOFI recommendation on minimum data reporting on aquaculture
7. Outcome of the RECOFI WGA training course on risk analysis on aquatic animal introduction
8. Outcome of the round-table meeting on RECOFI regional aquatic biosecurity programme
9. From zero to a million: the development of the Norwegian cage aquaculture industry
10. Marine spatial planning for the Gulf (RECOFI) area: principles, perspectives and opportunities
11. Follow-up on the Regional Aquaculture Information System (RAIS).
12. Expansion of the RAIS into a RECOFI regional fisheries and aquaculture information system: implications for RAIS and requirements
13. Product and services updates
14. Any other matter
15. Date and place of the eighth WGA meeting
16. Election of the chairperson
17. Adoption of the report

## Annotated agenda and timetable

### Monday, 25 April 2016

Arrival of participants. Informal hotel lobby meeting at 20:30

### Tuesday, 26 April 2016

#### Morning - 09:00 hours

1. **Opening of the meeting**
2. **Adoption of the agenda and arrangements of the meeting.** *For decision*
3. **Main outcomes of the sixth meeting of the RECOFI Working Group on Aquaculture (WGA) and of the eighth session of the Commission.** *For information*  
The WGA Secretariat will summarize the outcomes of the sixth meeting of the WGA and the recommendations and its work plan adopted by RECOFI at its eighth session.
4. **WGA intersessional programme of work and budget for the biennium 2015–2016.** *For discussion and recommendations*  
Implementation of WGA technical activities adopted by the Commission at its eighth session and overview of the activities conducted since the sixth WGA.
5. **Status review of aquaculture development by country – brief country presentations.** *For discussion and recommendation*  
Updating of the National Aquaculture Sector Overviews (NASO), FAO National Aquaculture Legislation Overview (NALO) and NASO maps. The WGA Focal Points will be invited to present their NASO reports, highlighting recent developments in the aquaculture sector, including emerging issues and national priorities along with status of updating or preparation of the following FAO RECOFI products: NASO, NASO maps and NALOs prior to the ninth RECOFI session in May 2017.
6. **Implementation of the RECOFI recommendation on minimum data reporting on aquaculture.** *For discussion and recommendation*  
The representative from the RAIS Regional Centre will report on the information received from the countries in relation to the binding recommendation RECOFI/8/2015/1 on “*Minimum Reporting on Aquaculture Data and Information*”. The WGA will be invited to present the status of aquaculture data and information reporting based on the recommendation. The WGA will discuss how best to implement the recommendation through the assistance of the FAO Statistics and Information Team and discuss constraints and future developments towards timely aquaculture data reporting.

#### Afternoon - 14:00 hours

- Implementation of the RECOFI recommendation on minimum data reporting on aquaculture.** *For discussion and recommendation (Cont'd)*
7. **Outcome of the RECOFI WGA training course on risk analysis on aquatic animal introduction.** *For discussion and recommendation*  
A brief summary of the outcomes of and recommendations generated from the “Training Course on Risk Analysis for Aquatic Animal Introduction” held from 2 to 4 November 2015 in Muscat, Oman, will be provided.  
The WGA will be invited to review and endorse the recommendations and propose any follow-up action.
  8. **Outcome of the round-table meeting on RECOFI regional aquatic biosecurity programme.** *For discussion and recommendation*  
The updated *Revised Plan for Implementation of the RECOFI Aquatic Animal Health Management Programme* prepared during the round-table meeting held on 5 November 2015 in Muscat, Oman, will be presented. The WGA is requested to discuss the programme itself and the identified regional activities. The WGA is also requested to discuss the poor response (3 of 8 countries) by the National Focal Points (NFP) in the

request for updating of the FAO self-assessment survey questionnaires and in providing an indication of national progress towards completing the activities outlined in the 2008 implementation plan (2 of 8 countries) as well as the low participation by RECOFI countries in the meeting (only Iran IR, Oman and UAE). Poor response by the WGA Focal Points and low participation by RECOFI Member countries are major constraints to making progress in further updating of the RECOFI Regional Aquatic Animal Health Management Programme and in its implementation including the conduct of future training activities.

### Wednesday, 27 April 2016

#### Morning - 09:00 hours

**Outcome of the round-table meeting on RECOFI regional aquatic biosecurity programme.** *For discussion and recommendation (Cont'd)*

9. **From zero to a million: The development of the Norwegian cage aquaculture industry.** *For information*

In view of the growing regional interest in cage aquaculture the invited speaker, Mr Johán H. Williams, Specialist Director, Department for Fisheries and Aquaculture, Ministry of Trade, Industry and Fisheries (Norway), will present the Norwegian experience with the development of its cage aquaculture industry. The speaker will highlight challenges and constraints faced by the country over the years, but mainly focus on actions and decisions taken that have helped the industry grow to its current status.

10. **Marine spatial planning for the Gulf (RECOFI) area: principles, perspectives and opportunities.** *For discussion and recommendation*

The Secretariat will present a brief summary of a draft publication on “Marine spatial planning for the Gulf (RECOFI) area”. The WGA will be invited to review and endorse the draft publication and discuss how best to implement actions through the technical assistance of the FAO.

11. **Follow-up on the Regional Aquaculture Information System (RAIS).** *For discussion and recommendations*

Will also cover:

- Implementation of RAIS communication strategy
- RAIS data/information collection and submission

WGA Focal Points will be invited to present the status of their national databases, discuss constraints and future developments towards enhancing RAIS at the national and regional level.

#### Afternoon - 14.00 hours

**Follow-up on the Regional Aquaculture Information System (RAIS).** *For discussion and recommendations (Cont'd)*

12. **Expansion of the RAIS into a RECOFI regional fisheries and aquaculture information system: implications for RAIS and requirements.** *For discussion and recommendation*

The Secretariat will report the outcome of the Working Group on Fisheries Management (24–26 November 2015, Kuwait) with regard to the establishment of a regional database and information centre to strengthen the Commission and support fishery management and aquaculture development in the region. The regional centre will be based in Kuwait and initial budget will be secured through an FAO/Kuwait cooperation agreement. The WGA is requested to review and endorse the proposal.

13. **Product and services updates**

14. **Any other matter**

Will also cover:

- Update on the implementation of the FAO Blue Growth Initiative in the NENA region and the 33<sup>rd</sup> Near East Regional Conference (NERC)
- Enhancing the role of the RECOFI WGA Focal Points

- Adopted terms of reference of the RECOFI WGA Focal Points
- RECOFI WGA Focal and Alternate Focal Points
- CIHEAM recirculation aquaculture training course

15. **Date and place of the eighth WGA meeting**

16. **Election of the chairperson**

17. **Adoption of the report**

**Thursday, 28 April 2016**

**Morning - 09:00 hours**

18. **Field day**

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**List of documents**

RECOFI:WGA/VII/2016/1 Rev.1	Annotated Agenda
RECOFI:WGA/VII/2016/2	Report of the intersessional activities
RECOFI:WGA/VII/2016/Inf.1	List of documents
RECOFI:WGA/VII/2016/Inf.2	List of participants
RECOFI:WGA/VII/2016/Inf.3	Report of the Sixth Meeting of the Working Group on Aquaculture, Muscat, Oman, 21–23 October 2014. FAO Fisheries and Aquaculture Report No. 1094. Rome. 50pp
RECOFI:WGA/VII/2016/Inf.4	Report of the Eighth Session of the Regional Commission for Fisheries, Muscat, Oman, 12–14 May 2015. FAO Fisheries and Aquaculture Report No. 1119. Rome. 51pp [Bilingual version English/Arabic]
RECOFI:WGA/VII/2016/Inf.5	Adopted Terms of Reference for the RECOFI WGA Focal Points
RECOFI:WGA/VII/2016/Inf.6	Adopted Terms of Reference for the Regional Aquaculture Information System (RAIS) Regional Centre staff
RECOFI:WGA/VII/2016/Inf.7	Adopted Recommendation RECOFI/8/2015/1 on Minimum Reporting on Aquaculture Data and Information
RECOFI:WGA/VII/2016/Inf.8	Report of the Introductory Training Course on Risk Analysis for Movements of Live Aquatic Animals for RECOFI Members and the Round-Table Meeting on RECOFI Regional Aquatic Biosecurity, Muscat, Oman, 1–5 November 2015. FAO Fisheries and Aquaculture Report. [Advanced copy]
RECOFI:WGA/VII/2016/Inf.9	Marine Spatial Planning for the Gulf (RECOFI) area. FAO Fisheries and Aquaculture Technical Paper. [Advanced copy]
RECOFI:WGA/VII/2016/Dma.1	Report of the Seventh Session of the Regional Commission for Fisheries, Tehran, Islamic Republic of Iran, 14–16 May 2013. FAO Fisheries and Aquaculture Report No. 1052. Rome. 51pp [Bilingual version English/Arabic]
RECOFI:WGA/VII/2016/Dma.2	Report of the Eighth session of the FAO Committee on Fisheries (COFI) Sub-Committee on Aquaculture (SCA), Brasilia, Brazil, 5–9 October 2015. FAO Fisheries and Aquaculture Report No. 1131. Rome, Italy [Bilingual version English/French/Spanish]
RECOFI:WGA/VII/2016/Dma.3	Report of the Special Meeting on RECOFI Consolidation and Development, Rome, Italy, 11–12 May 2010. FAO Fisheries and Aquaculture Report No. 960. Rome. 37pp
RECOFI:WGA/VII/2016/Dma.4	Report of the Regional Technical Workshop on Aquatic Animal Health, Jeddah, Kingdom of Saudi Arabia, 6–10 May 2008. FAO Fisheries and Aquaculture Report No. 876. Rome. 119pp

RECOFI:WGA/VII/2016/Dma.5

Report of the Joint RECOFI WGA/WGFM Workshop on Spatial Planning Development Programme for Marine Capture Fisheries and Aquaculture, Cairo, Egypt, 25–27 November 2011. FAO Fisheries and Aquaculture Report No. 1039. Rome. 127pp

**Opening statement by Mohamed Al-Mohannadi Director of  
Fisheries Ministry of Municipalities and Environment the  
State of Qatar**

Your Excellency Mr Piero Mannini, Secretary of the Regional Commission for Fisheries

Dear Gentlemen, FAO Experts

Dear Gentlemen, Representatives of Member States in the Commission

Dear Participants

*May God's peace, mercy and blessings be upon you.*

I am honoured, on my own behalf and on behalf of His Excellency Mr Mohamed bin Abdullah Al-Rumaihi, Minister for Municipalities and Environment in the State of Qatar, to welcome you all and to express my pleasure to host the seventh meeting of the RECOFI Working Group of Aquaculture here in Qatar, bringing together international and regional experts, with the specialists in the field of aquaculture from all the States.

I wish to emphasize that, in order to meet our national requirements, and in line with your recommendations that reflect regional and international demands, we have prepared in the State of Qatar, a special fisheries and aquaculture strategy of which the foremost objectives are to encourage and promote investment in the field of aquaculture.

Marine sites have been identified for aquaculture, including sites chosen for fish farming in floating cages and coastal locations for the establishment of shrimp farms.

I wish also to mention, in the context of developing and promoting this sector, the current establishment of the aquaculture research centre in Ras Matbakh, which will be the main source to provide investors with fish seed material.

In the field of freshwater aquaculture, work has been undertaken to implement a fish hatchery project as a preliminary step to support local farmers. They will be able to take advantage of this hatchery and start production.

We hope that our efforts will contribute to achieving prosperity for all, good governance of our marine resources and ensure the sustainability of living resources for future generations in all the countries of the region.

We appreciate your participation at this meeting, and we are confident in your abilities to achieve the desired objectives. We wish you a pleasant stay in Qatar, and fruitful discussions, with God's help.

*May the peace, mercy and blessings of God be with you all.*

Dr Faleh Bin Naser

Assistant Undersecretary for Agricultural Affairs and Fishery Wealth

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سعادة الدكتور/ بييرو ماني، أمين الهيئة الإقليمية لمصايد الأسماك

السادة/ خبراء منظمة الأمم المتحدة للأغذية والزراعة،

السادة/ مندوبي الدول الأعضاء بالهيئة،

الإخوة الحضور

السلام عليكم ورحمة الله وبركاته،،

يشرفني، بالأصالة عن نفسي، ونيابة عن سعادة السيد/ محمد بن عبدالله الرميحي وزير البلدية

والبيئة بدولة قطر، أن أرحب بكم جميعاً، وأعبر لكم عن سعادتنا باستضافة الاجتماع السابع لمجموعة الاستزراع السمكي هنا في قطر، والذي يجمع بين الخبراء الدوليين والإقليميين، مع المتخصصين في مجال الاستزراع السمكي من كافة دولة الإقليم.

أود الإشارة إلى أنه، تلبيةً للمتطلبات الوطنية، وتوافقاً مع توصياتكم التي تعكس المتطلبات الإقليمية والدولية، فقد قمنا في دولة قطر، بإعداد استراتيجية خاصة بالاستزراع السمكي والتي من أهم أهدافها تشجيع ودفع الاستثمار في مجال الاستزراع السمكي،

كما أنه تم تحديد واختيار مواقع بحرية للاستزراع السمكي، كما أنه تم تجديد واختيار مواقع بحرية للاستزراع في الأقفاص العائمة، بالإضافة إلى اختيار مواقع ساحلية لإنشاء مزارع الربيان،

كما أود الإشارة إلى أنه في إطار تنمية وتطوير هذا القطاع يتم في الوقت الحالي إنشاء مركز أبحاث الإحياء المائية برأس مطبخ، والذي سيكون المصدر الرئيسي لتزويد المستثمرين بصغار الأسماك، وفي مجال الاستزراع في المياه العذبة جاري العمل على تنفيذ مشروع مفرخ أسماك ليكون اللبنة الأساسية لدفع المزارعين المحليين للاستفادة من إنتاج هذا المفرخ والبدء في الإنتاج.

نتمنى أن تساهم جهودنا في تحقيق ما نصبوا إليه جميعاً من تحقيق الإدارة الرشيدة لمواردنا البحرية الحية وضمان استدامتها للأجيال القادمة في كافة دول الإقليم.

ونحن إذ نتمن مشاركتكم في هذا الاجتماع، ونثق في قدراتكم على تحقيق الأهداف المرجوة من تلك الفاعلية، نتمنى لكم إقامة سعيدة في بلدكم الثاني قطر، كما نتمنى لكم مناقشات مثمرة بمشيئة الله.

والسلام عليكم ورحمة الله وبركاته،،

د. فالح بن ناصر

الوكيل المساعد لشؤون الزراعة والثروة السمكية

### **Adopted Terms of Reference<sup>1</sup> for the RECOFI WGA Focal Points**

**NB:** The Commission at its eighth session held in Muscat, Sultanate of Oman, held from 12 to 14 May 2015, adopted the terms of reference.

Within the coverage area of the Commission, the national RECOFI Working Group on Aquaculture (WGA) Focal Points will:

- Promote and support the activities of the Working Group, especially in the intersessional periods.
- Disseminate information concerning aquaculture nationally and in the region.
- Facilitate the exchange of information related to aquaculture.
- Facilitate the collection of national data and information for publication in the RAIS Web site.
- Promote and enhance regional cooperation among Members.
- Bring national aquaculture development issues of regional interest to the attention of the Working Group on Aquaculture and the Commission.
- Advise on, and assist in the formulation of, *inter alia*, work programmes, projects and other activities.
- Act to support the implementation of activities consistent with the above responsibilities.
- The RECOFI-WGA Chairperson will be the main interface between the RECOFI-WGA Focal Points and the Commission Secretariat.

Any other information related to the overall national aquaculture sector can be submitted.

Furthermore, the RECOFI-WGA Focal Points will ensure that the RECOFI National Focal Points are briefed fully on the activities of the Working Group on Aquaculture (WGA) and, as appropriate, provide advice on the Commission's programme of work and budget and other activities, including on their relevance to national policy.

To ensure that the national RECOFI-WGA Focal Points are in a position to undertake these responsibilities, they should be experienced aquaculture officers with ready and regular access to the RECOFI National Focal Points and other national policy makers.

The Working Group on Aquaculture (WGA) may review these terms of reference from time-to-time and make recommendations for their amendment.

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<sup>1</sup> The Commission endorsed the Terms of Reference of the RECOFI National Focal Points at its fifth session held in Dubai, United Arab Emirates, from 12 to 14 May 2009.

### **Adopted Terms of Reference for the Regional Aquaculture Information System (RAIS) Regional Centre staff**

**NB:** The Commission at its eighth session held in Muscat, Sultanate of Oman, held from 12 to 14 May 2015, adopted the terms of reference.

Within the coverage area of the Commission, the RAIS Regional Centre staff will be responsible for the management, maintenance, assessment and exchange of aquaculture related data and information among all RECOFI Member countries and networking with national governmental institutions, scientific and non-governmental organizations, regional and specialised agencies, for the effective information dissemination and implementation of network activities. The staff should accomplish the following tasks:

- Liaise with all WGA Focal Points to implement and ensure an efficient data and information flow in RAIS.
- Encourage the WGA Focal Points to submit data and news on a regular basis.
- Prepare and distribute news releases and technical reports, as appropriate, and produce a brief annual report on the status, trends and prospective of aquaculture development in the region.
- Carry out regular revision and validation of submitted data to ensure correctness and consistency.
- Ensure the regular maintenance of the information system, supervising ongoing publishing activities and administration of the system including backups and security patches.
- Conduct web analysis to assess the impact of RAIS on aquaculture stockholders, and prepare bi-annual standardized web analysis reports to be presented during the annual meetings of WGA and RECOFI sessions.
- Handle relevant correspondence and reply to inquiries for public information materials.
- Liaise with public/private organizations, which may support the RAIS network.
- Participate, when possible, in national and regional events (e.g. meetings, conferences, workshops, fairs) and deliver presentations for promoting the services of RAIS in the region.

#### Work force requirements:

- *Aquaculture Officer:* with university degree or equivalent in aquaculture science with at least 5 years of experience in the region.
- *Information Officer:* University degree or equivalent in information or communications sciences with at least 5 years of practical experience in information and communication.
- *Information Technology (IT) Officer:* University degree or equivalent in computer science with at least 5 years of practical experience in information architecture of web sites, content management and maintenance tools.

#### All should satisfy the following criteria:

- Excellent and proven communication skills with government officials, scientific organizations and other stakeholders engaged in the RECOFI area aquaculture sector.
- Fluency in written and spoken Arabic and English.
- Excellent team working skills.

**Recommendation RECOFI/8/2015/1 on Minimum  
Reporting on Aquaculture Data and Information**

**NB:** The Commission at its eighth session held in Muscat, Sultanate of Oman, held from 12 to 14 May 2015, adopted the recommendation RECOFI/8/2015/1.

The Regional Fisheries Commission (RECOFI),

*RECALLING* the FAO Code of Conduct for Responsible Fisheries, which calls for sustainable development and responsible aquaculture practices;

*RECALLING* the RECOFI's role in promoting the sustainable development of aquaculture in the marine areas defined in Article IV of the RECOFI Agreement;

*RECALLING* the Article III(g) of the RECOFI Agreement in which Contracting Parties agree to promote programmes for aquaculture enhancement and to regularly collect and disseminate information on aquaculture production and other data relevant to the function of the Working Group on Aquaculture (WGA) and as defined in the endorsed Terms of Reference of the WGA;

*CONSIDERING* the development of the Regional Aquaculture Information System (RAIS) to promote aquaculture in the RECOFI area as endorsed by the Commission at its third Session;

*RECOGNIZING* the need of the Working Group on Aquaculture (WGA) to have access to reliable data to undertake its work effectively;

*RECALLING* that standards in aquaculture data collection and statistics should be established in line with guidelines set by the FAO Coordinating Working Party on Aquaculture Statistics;

*NOTING* that the Regional Aquaculture Information System has been established as the aquaculture data collection scheme through which RECOFI member countries can regularly submit national data on aquaculture;

*NOTING* that RECOFI endorsed that the responsibilities of the RAIS national coordinators be formally endowed with a national institution;

*ADOPTS*, in conformity with the provision of paragraph 1(b) and (h) of Article III and Article V of the RECOFI Agreement, the following:

1. Contracting Parties shall submit the data within the coverage area of the Commission for the parameters listed below on an annual basis to the RECOFI Secretariat through the RAIS website:

**PRODUCTION STATISTICS - MANDATORY**

- CWP<sup>2</sup> Statistical Areas
- Culture environment (brackish, marine and freshwater)
- Cultured species (scientific and common name; including capture-based species)
- System of culture (extensive, semi-intensive, intensive)

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<sup>2</sup> See *The Coordinating Working Party on Fishery Statistics: Its Origin, Role and Structure*. FAO Fisheries Circular. No. 193. December 1995.

- Type of culture (cages, ponds, raceways, hatchery)
- Type of product (eggs, fingerlings, market size)
- Capture-based aquaculture input (eggs, wild fingerlings, wild fish)
- Production quantity (tonnes/units)
- Production value (currency)

**PRODUCTION CENTRES - MANDATORY**

- Unit (segment) of production (hatcheries, ongrowing farms)
- Number of production centres per unit (segment)
- Cultured species per unit (segment)
- Total volume (m<sup>3</sup>) of facilities of production centres per segment
- Destination of product per segment (consumption, ongrowing, restocking, ornamental)

**MARKET - OPTIONAL**

- Feed, fishmeal and fish oil:
  - Domestic production (tonnes)
  - Imports (per tonne)
  - Domestic prices for major farmed species (value per tonne)
- Trade and consumption:
  - Import and export of aquatic products (weight and value)
  - Import and export of major farmed species (weight and value)
  - Main export destination for farmed species
  - National per capita consumption of aquatic products

2. The deadline for submissions is June 1<sup>st</sup>, with the reference year for the data submitted being the preceding year.
3. Members shall nominate a national focal point responsible for the submission of aquaculture data.

### WGA programme of work and budget for 2015–2016

**NB:** The Commission at its eighth session held in Muscat, Sultanate of Oman, held from 12 to 14 May 2015, approved the WGA 2015–2016 programme of work and budget.

Activity	Date	Location	Duration (days)	Indicative cost (USD)	Status
7 <sup>th</sup> meeting of WGA	End 2015	Qatar	3	--	Annual meeting
8 <sup>th</sup> meeting of WGA	End 2016	Bahrain (to be confirmed)	3	--	Annual meeting
Training workshop on aquaculture risk analysis	October 2015	Oman	4	20 000	1 <sup>st</sup> priority
Technical workshop on aquaculture recirculation technologies (RAS)	End 2015	Qatar	1	--	Back to back with 7 <sup>th</sup> WGA
Workshop on the development of a regional biosecurity strategy for aquaculture	October 2015	Oman	1	--	Together with the 1 <sup>st</sup> priority
Advancement of the Regional Aquaculture Information System	2015–2016	Kuwait	--	15 000	Ongoing

**List of species or species groups cultured in RECOFI countries**

Production data (in tonnes) registered by FAO with  
production data for the most recent 3 years

Main grouping	Species (Scientific name)	Species (Common name)	2012	2013	2014
<b>Inland aquaculture</b>					
PISCES	<i>Oncorhynchus mykiss</i>	Rainbow trout	131000	143917	126515
PISCES	<i>Hypophthalmichthys molitrix</i>	Silver carp	86360	92836	85437
PISCES	<i>Cyprinus carpio</i>	Common carp	67260	54281	77461
PISCES	<i>Hypophthalmichthys nobilis</i>	Bighead carp	7728	8394	17034
PISCES	<i>Ctenopharyngodon idellus</i>	Grass carp (=White amur)	17057	25932	17034
PISCES	<i>Oreochromis niloticus</i>	Nile tilapia	5218	5895	6415
PISCES	Acipenseridae	Sturgeons nei	466	599	660
PISCES	<i>Clarias gariepinus</i>	North African catfish	85	125	104
PISCES	<i>Acipenser gueldenstaedtii</i>	Danube sturgeon (=Osetr)	30	39	35
PISCES	<i>Oreochromis aureus</i>	Blue tilapia	-	-	...
PISCES	Mugilidae	Mullets nei	1200	500	...
CRUSTACEA	<i>Astacus leptodactylus</i>	Danube crayfish	280	200	52
CRUSTACEA	<i>Macrobrachium rosenbergii</i>	Giant river prawn	61	63	18
<b>Marine-coastal aquaculture</b>					
PISCES	<i>Lates calcarifer</i>	Barramundi (=Giant seaperch)	20	20	2525
PISCES	<i>Sparus aurata</i>	Gilthead seabream	1829	2195	1977
PISCES	<i>Oreochromis spilurus</i>	Sabaki tilapia	360	400	370
PISCES	<i>Epinephelus</i> spp.	Groupers nei	115	125	140
PISCES	Osteichthyes	Marine fishes nei	...	2	125
PISCES	<i>Mugil cephalus</i>	Flathead grey mullet	50	60	60
PISCES	<i>Siganus</i> spp.	Spinefeet (=Rabbitfishes) nei	39	50	50
PISCES	<i>Sparidentex hasta</i>	Sobaity seabream	500	500	3
PISCES	<i>Epinephelus coioides</i>	Orange-spotted grouper	1	...	1
PISCES	<i>Siganus canaliculatus</i>	White-spotted spinefoot	...	-	0
PISCES	<i>Rhabdosargus sarba</i>	Goldlined seabream	-	-	...
PISCES	Sciaenidae	Croakers, drums nei	...	...	...
PISCES	<i>Acanthopagrus latus</i>	Yellowfin seabream	-	-	-
PISCES	<i>Valamugil seheli</i>	Bluespot mullet	...	...	...
PISCES	Sparidae	Porgies, seabreams nei	...	...	...
PISCES	<i>Oreochromis (=Tilapia) spp.</i>	Tilapias nei	-	-	-
PISCES	<i>Thunnus albacares</i>	Yellowfin tuna	...	...	...

PISCES	<i>Lutjanus argentimaculatus</i>	Mangrove red snapper	...	-	...
PISCES	<i>Epinephelus tauvina</i>	Greasy grouper	-	-	...
PISCES	Mugilidae	Mulletts nei	...	...	...
PISCES	<i>Acanthopagrus berda</i>	Gold silk seabream	...	...	...
PISCES	<i>Dicentrarchus labrax</i>	European seabass	...	10	...
CRUSTACEA	<i>Penaeus vannamei</i>	Whiteleg shrimp	10152	12698	35455
CRUSTACEA	<i>Penaeus indicus</i>	Indian white prawn	5405	1290	627
CRUSTACEA	<i>Penaeus semisulcatus</i>	Green tiger prawn	...	...	...
CRUSTACEA	<i>Penaeus monodon</i>	Giant tiger prawn	...	...	...
AQUA.INVERT.	<i>Holothuria scabra</i>	Sandfish	10	12	10

**TOTALS****335226****350143****372108****Symbols used in the data tables**

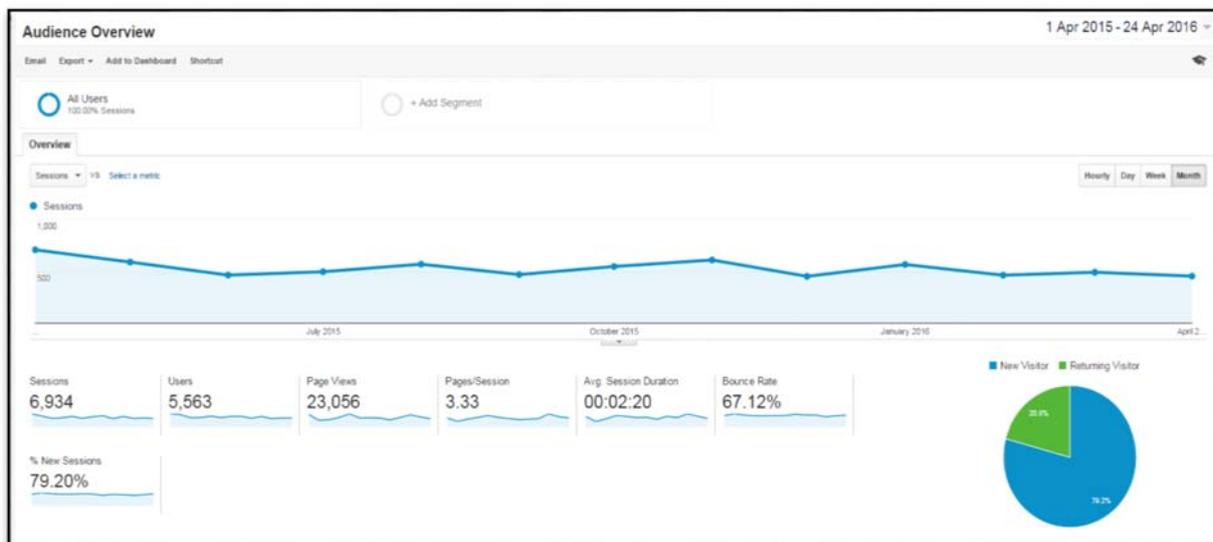
... Data not available; - None; magnitude known to be nil or zero 0 Less than 0.5 tonnes.

**RAIS web analysis summary report**  
(from 01 April 2015 to 24 April 2016)

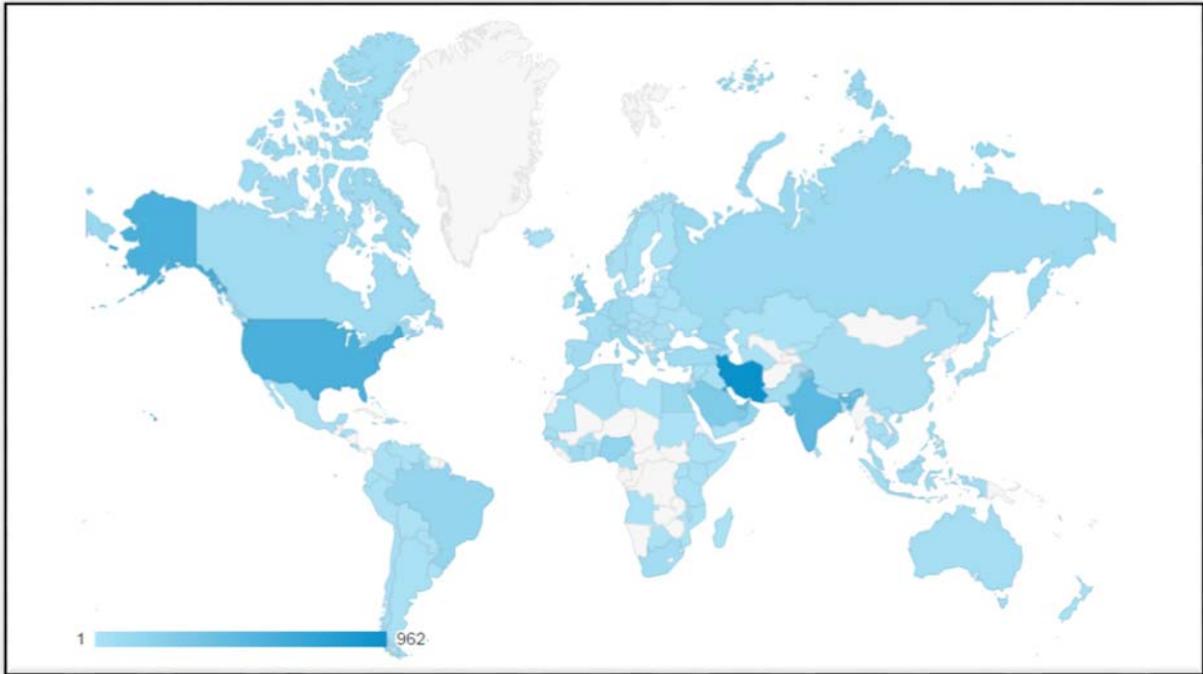
The data indicated that the number of people (i.e. number of unique visitors) who visited the web site during the period from 01 April 2015 to 24 April 2016 was 5 563 or about 50 percent less compared to the absolute unique visitors of 10 759 in the previous assessment period (1 March 2013 to 18 October 2014). This is most certainly because the information system is not regularly updated in terms of information and aquaculture data and it does not respond to the needs of sector users which are in need of update and reliable information.

Concerning “pages view/visit” for RECOFI Countries, the analysis value (in descending order) was recorded for visitors from the Iran (Islamic Republic of), Kuwait, United Arab Emirates, Saudi Arabia, Bahrain, Oman, Qatar and Iraq. The overall average of page view per visit was 3.33 pages. The “bounce rate” throughout the whole period was 67,12 percent (NB: the bounce rate is the percentage of simple page visits, i.e. visits in which the person left the site from the entrance page without interacting with the page). For RAIS, the *average time on site* for the whole period and all visitors was estimated to be 2 minutes and 20 seconds in average, which is very low.

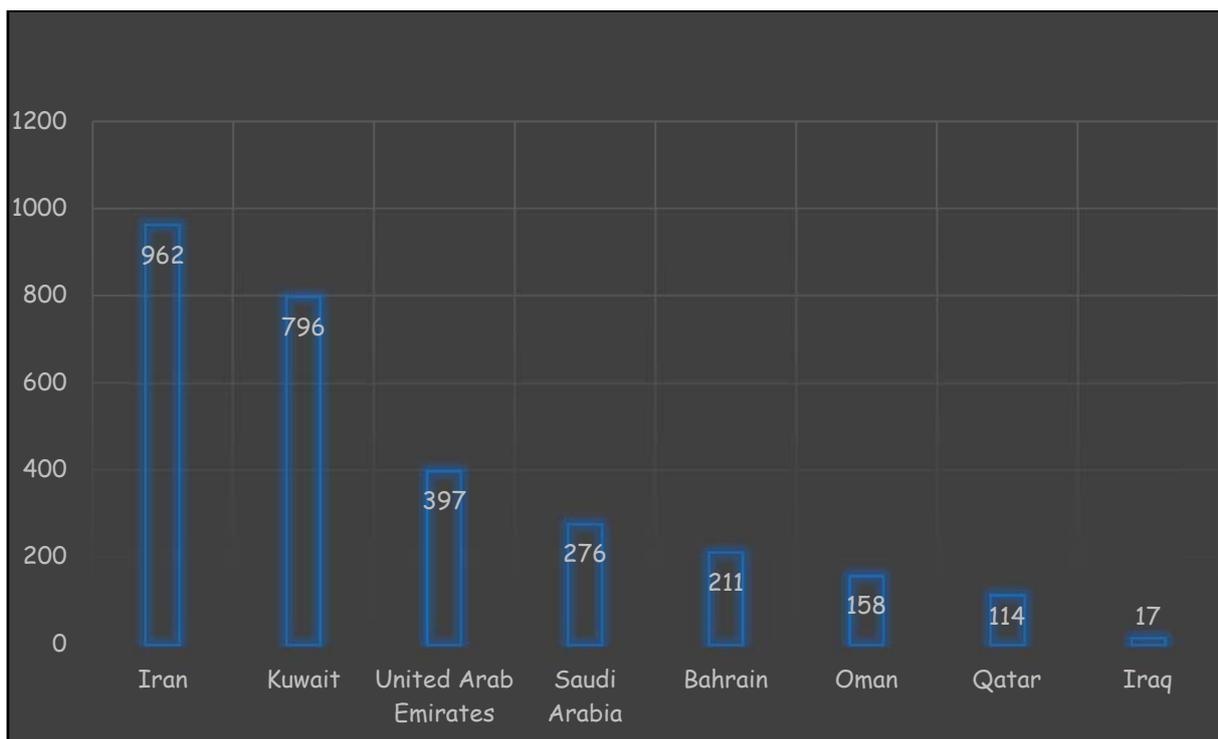
The results show that 42,3 percent of the visitors were from the RECOFI Member countries while 57,7 percent of the visitors were from other countries. As already mentioned in this report and in the reports of previous the RAIS website would have more visitors and be more useful if the aquaculture data and information, provided by the Member countries, is updated more frequently. This will certainly attract and retain a wider number of visitors.



**Figure 1.** Audience overview



**Figure 2.** Sessions per country



**Figure 3.** Number of sessions in the RECOFI Member countries

**List of the WGA Focal Points**

(as of 28 April 2016)

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**UNITED ARAB EMIRATES***Currently no official nomination*

The seventh meeting of the Working Group on Aquaculture (WGA) of the Regional Commission for Fisheries (RECOFI) was held in Doha, the State of Qatar, from 26 to 28 April 2016 and was attended by the representatives from six Member countries. The WGA reviewed the outcome and recommendations of the eighth session of the Commission and took note that the recommendation on Minimum Reporting on Aquaculture Data and Information was adopted. The meeting agreed on a series of preliminary actions deemed necessary for the timely implementation of the recommendation which included the preparation, testing and adoption of a tailored questionnaire. The outcome and recommendations of the regional WGA training course on risk analysis on live aquatic animal introductions and of the round-table meeting on the RECOFI regional aquatic biosecurity programme were reviewed. The WGA agreed on the necessity to establish an *ad hoc* biosecurity task force which would provide technical follow-up on all the aquatic animal health issues and WGA recommendations, decide on priority items that should be addressed first, and activate the proposed biosecurity strategy. In view of the growing interest in cage aquaculture the WGA recommended that a regional set of cage site-selection criteria be prepared for adoption as RECOFI guidelines. The WGA took note of the offer by Iran IR to fund and host a technical workshop on marine spatial planning (MSP). With reference to the Regional Aquaculture Information System (RAIS), the meeting noted that stronger efforts were needed to ensure that the information system provides the intended services to the sector.

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