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Report of the

NINTH MEETING OF THE RECOFI WORKING GROUP ON FISHERIES MANAGEMENT

Kuwait City, Kuwait, 24-26 November 2015

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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PREPARATION OF THIS DOCUMENT

This is the final version of the report as approved by the ninth meeting of the Regional Commission for Fisheries (RECOFI) Working Group on Fisheries Management (WGFM), held in Kuwait City, State of Kuwait, from 24 to 26 November 2015. The report was prepared by the WGFM secretariat. The material contained in the appendixes is reproduced as submitted.

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ABSTRACT

This document contains the report of the ninth meeting of the Regional Commission for Fisheries (RECOFI) Working Group on Fisheries Management (WGFM) which was held in Kuwait City, State of Kuwait, from 24 to 26 November 2015. The WGFM took note of the outcomes of the eighth session of RECOFI (Muscat, Oman, 12 to 14 May 2015), including that the Commission noted that none of the priority activities of the WGFM had taken place, and that the Commission had reduced the activities of the current intersessional period to only one activity: the joint appraisal of the Kingfish stock in the RECOFI area. Delegates provided updates on ongoing and current work on RECOFI priority species, recognizing the importance in ensuring that the knowledge base of RECOFI is preserved and to reduce fragmented studies being conducted by individual RECOFI member countries. It was proposed that two species be added to the list of RECOFI priority species. It was regarded as important to hold the Kingfish stock assessment workshop in the first half of 2016. The WGFM agreed that the continuation of this socio-economic work is appreciated as a key activity in the intersessional period, noting the important role of the Task Group. It was re-highlighted that the data reported under Recommendation RECOFI/6/2011/1 would provide an adequate basis for monitoring the status of fishing operations and resources and taking management decisions. The meeting reviewed the standard classifications and terminologies and agreed on a set of RECOFI standards to cover the minimum data reporting component. The WGFM agreed to move toward one integrated formal RECOFI website for the integration of the current RECOFI regional data set and that Kuwait and FAO would further clarify and detail the tasks, activities and budget required in the transitional period and integrate them into a FAO/Kuwait cooperation agreement. It was agreed that there could be areas for cooperation between RECOFI and ROPME to the benefit of both regional organization and their members. The State of Qatar confirmed that it would host the tenth meeting of the Working Group on Fisheries Management in 2016.

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OPENING OF THE MEETING

1. The ninth meeting of the Regional Commission for Fisheries (RECOFI) Working Group on Fisheries Management (WGFM) was held in Kuwait City, State of Kuwait from 24 to 26 November 2015. The meeting was convened by RECOFI and FAO and attended by 16 delegates from five member countries of RECOFI: Iraq, Kuwait, Qatar, Saudi Arabia and the United Arab Emirates. Bahrain, the Islamic Republic of Iran and Oman sent apologies for their absence. The list of participants is attached as Appendix 2.

2. The meeting was opened with a welcome address from Seham Safar, Senior Aquatic Research Specialist, Public Authority for Agriculture Affairs and Fish Resources (PAAFR), on behalf of His Excellency Faisal Al-Hassawi, Director-General of PAAFR, Kuwait. The opening address emphasized the importance of a collaborative regional approach to improving regional fisheries management, and emphasized that this approach requires commitment, rational planning and practical steps forward. The address further expressed appreciation for holding the meeting in Kuwait and hoped that the efforts of RECOFI would contribute to achieving sustainable management of living marine resources for future generations in all RECOFI member countries. This opening statement is attached as Appendix 4.

3. Mr Piero Mannini, Secretary of RECOFI and Senior Fishery Liaison Officer, Fisheries and Aquaculture Department, FAO, delivered an opening statement on behalf of Mr Abdessalam Ould Ahmed, Regional Representative at the FAO Regional Office for the Near East and North Africa. Mr Ould Ahmed expressed his appreciation of the important work of RECOFI, noted in particular that this work was essential for the sustainable exploitation of shared fisheries stocks in the RECOFI region, and highlighted with regret that member countries continued to provide only modest support to the Commission, in terms of both financial and technical support. This opening statement is attached as Appendix 5.

4. As Mr Mohammed Al Kharafi, Head of the Bioaquatic Studies and Research Section of PAAFR and current Chairperson of the WGFM, did not attend, Mr Nabil Fita, Vice-Chairperson of RECOFI and Director-General of the Fisheries Research Center in Eastern Province, Kingdom of Saudi Arabia, was proposed as acting Chairperson of the meeting. Mr Nabil Fita kindly agreed to act as Chairperson of the ninth meeting of the WGFM.

5. The Chairperson welcomed the participants to the meeting. He and the Secretary expressed their regret at the continued low participation of member countries in RECOFI meetings. It was noted that only three RECOFI member countries had attended a recent Working Group on Aquaculture (WGA) training workshop on the transport of live aquatic animals and biosecurity in aquaculture in the RECOFI region, held in Muscat, Oman from 1 to 5 November 2015, even though this activity had been rated as the top priority at the last RECOFI session in May 2015. The RECOFI Secretary observed that given the continued trend in low participation in Commission activities, FAO may scale down its support to RECOFI.

ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE MEETING

6. The Agenda, attached as Appendix 1, was adopted. The list of documents for the session is attached as Appendix 3.

7. The Secretary of RECOFI explained administrative arrangements for the meeting.

OUTCOMES OF THE EIGHTH SESSION OF RECOFI AND IMPLICATIONS FOR THE WGFM

8. Mr Piero Mannini presented document RECOFI:WGFM9/2015/2, which is attached as Appendix 6. The main outcomes of the eighth session of RECOFI, held in Muscat, Oman from 12 to 14 May 2015, were presented.

9. The WGFM noted that in the last intersessional period, none of the priority actions had been implemented, and the Commission had reduced the activities for the current intersessional period to only one: joint appraisal of the kingfish stock in the RECOFI area. The WGFM acknowledged the Commission's decision to include data collected under RECOFI Recommendation RECOFI/6/2011/1 in the Regional Aquaculture Information System (RAIS), and the implications of this decision for both the WGFM and the current meeting.

10. The WGFM was informed that the Commission had considered strengthening the Secretariat, including by relocating it to one of the RECOFI member countries, and had proposed discussing these plans at an ad hoc session in 2016. The Secretary informed the WGFM that this meeting may not take place, given the apparent low interest in RECOFI activities reflected by the participation of member countries in the last period. It was hoped that RECOFI members would adopt a more proactive approach to strengthening and consolidating their regional fisheries management organization.

CURRENT WORK ON RECOFI PRIORITY SPECIES

11. The Chairperson introduced document RECOFI:WGFM/9/2015/3, which served as a template for compiling information on the current activities of member countries. The WGFM was reminded of the rationale for having this list of species, which were identified as species whose stocks supported fisheries of common interest to RECOFI member countries. These updates on ongoing and current work are important in ensuring that RECOFI's knowledge base is preserved and in reducing the fragmentation of studies conducted by individual RECOFI member countries. Information from the template was compiled into a table, which is attached as Appendix 7.

12. The WGFM concurred on the merit of updating this simple inventory and description of the scientific work carried out by RECOFI members at both the individual country and regional levels.

13. Kuwait proposed adding Klunzinger's mullet (*Liza klunzingeri* [Day, 1888], Aquatic Sciences and Fisheries Information System [ASFIS] code LZK) and greenback mullet (*Liza subviridis* [Valenciennes, 1836], no ASFIS code available) to this list. The WGFM agreed that this proposal be submitted to the ninth session of RECOFI in May 2017 for possible endorsement. Iraq noted that its current research on marine species remained limited, as research in Iraq has focused mainly on inland fishery resources, with work on marine species concentrating on data collection by the fisheries institute at Basra University.

JOINT APPRAISAL OF THE KINGFISH STOCK IN THE RECOFI AREA: PREPARATORY WORK BEFORE THE ASSESSMENT WORKSHOP

14. The Secretary of RECOFI introduced document RECOFI:WGFM9/2015/4 on the joint appraisal of the kingfish stock in the RECOFI area and the preparatory work for the assessment workshop, which is attached as Appendix 8. The WGFM appreciated the importance that this activity had been given at the previous session of RECOFI. The Chairperson re-emphasized the need for RECOFI member countries to commit themselves to preparing for and participating in this workshop to ensure the full benefit of undertaking such an activity. The WGFM reaffirmed the importance of holding this workshop and its commitment to providing all the necessary information for the assessment.

15. The WGFM highlighted that it would be important to hold the kingfish stock assessment workshop in the first half of 2016, but it was not possible to confirm a more specific date as the National Focal Point of the hosting country, Oman, was not present at the meeting. It was also noted that Oman was the regional focal point for the Cooperation Council for the Arab States of the Gulf's (GCC's) work on the kingfish, so focal points would be identified from both Oman and the Islamic Republic of Iran for all matters related to this activity, particularly the preparation and compilation of the necessary data and information, as proposed by the WGFM at its seventh meeting (Kuwait, 2013) and endorsed by the Commission at its seventh and eighth sessions (Islamic Republic of Iran 2013 and Oman 2015, respectively).

RESULTS OF THE SOCIO-ECONOMICS SURVEY QUESTIONNAIRE

16. Ms Lori Curtis, Consultant, FAO, Rome, Italy, introduced document RECOFI:WGFM9/2015/5, which is attached as Appendix 9. She presented an update on survey questionnaire results, which included information submitted by Bahrain and corrected an error from the previous version. The WGFM then discussed possible ways forward for this work, emphasizing the need for further socio-economic data collection and analysis, but also noting that there could be more clarity on the overall scope of this work. The WGFM considered the revised terms of reference for the Task Group.

17. The WGFM agreed that continuation of this socio-economic work is appreciated as a key activity in the intersessional period, noting the important role of the Task Group. It was also noted that information could continue to be collected, expanding on what was already available from the survey results to ensure that as much of the socio-economic information available at the national level as possible was shared at the RECOFI level.

18. The discussion focused on the use of social and economic indicators in fisheries management. The meeting was reminded that sustainable social and economic components are essential to the ecosystem approach to fisheries management. This need had initially been addressed during the FAO/RECOFI Workshop on Fishery Stock Indicators and Stock Status, held in Tehran, Islamic Republic of Iran in July 2009. The meeting acknowledged that the Task Group could play a proactive role in linking ongoing data collection to management objectives.

19. The WGFM urged RECOFI member countries to update their Task Group members as soon as possible, through their National Focal Points.

20. Ms Sachiko Tsuji, Senior Fishery Statistician, FAO, Rome, Italy, delivered a complementary presentation on the ecosystem approach to fisheries management, highlighting how this approach targeted long-term sustainability in environmental use, the stock of biological resources and socio-economic aspects. It was a fact-based adaptive management approach. She emphasized the importance of selecting appropriate reference points (including reference limits) and corresponding indicators and of agreeing on management actions.

UPDATE ON IMPLEMENTATION OF THE RECOFI RECOMMENDATION ON MINIMUM DATA REPORTING

21. Ms Sachiko Tsuji introduced document RECOFI:WGFM9/2015/6, which is attached as Appendix 10. She informed the meeting that while only Bahrain and Qatar had submitted their 2014 catch and effort data in the 2015 round, Bahrain, the Islamic Republic of Iran, Oman, Qatar and Saudi Arabia had already established data collection systems for regularly submitting catch and effort data separated by fleet segment and fishing gear type, as defined by RECOFI Recommendation RECOFI/6/2011/1 on minimum data reporting in the RECOFI area. Iraq had made efforts to provide operational information. Kuwait and the

United Arab Emirates had not yet submitted any data, although both countries had indicated their intention to provide equivalent information to the Commission in the near future.

22. The Secretariat reaffirmed that the data reported under Recommendation RECOFI/6/2011/1 would provide an adequate basis for monitoring the status of fishing operations and resources and making management decisions. The WGFM discussed the convenience and feasibility of taking further steps towards actively utilizing these data, possibly beginning with the joint assessment of the kingfish and the development of operational management objectives and corresponding indicators. In particular, it was noted that the Commission had not yet been able to identify fisheries management objectives of regional relevance, including the associated multidisciplinary indicators and related reference points and reference limits. This was a significant constraint that could affect progress towards the formulation of regional fisheries management plans such as those for shrimp and kingfish fisheries.

23. The meeting reviewed the standard classifications and terminologies and agreed that those indicated in Appendix 11 would be the RECOFI standards for covering the minimum data reporting component of RECOFI Recommendation RECOFI/6/2011/1. This information would provide the basis for a regional database on integrated catch and effort; member countries were kindly requested to insert supplementary categories under these standard classifications when necessary. The WGFM also agreed that the data component corresponding to Recommendation RECOFI/6/2011/1 would be disseminated to the public, while any additional information, either supplementary or providing new details, would be kept for use within the Commission only.

24. Mr Usama Khalifa, Fisheries Consultant, PAAFR, delivered a presentation on the integrated data collection under development in Kuwait to meet the requirements of RECOFI Recommendation RECOFI/6/2011/1. He informed the WGFM of the Oracle database system used by PAAFR, the sorting of the stored data, how the data were linked to geographic information systems (GIS), and the kinds of effort indicator that are currently available. Finally, he informed the Secretariat that within one month, Kuwait would be able to submit the information required under the recommendation for the previous five years (2010–2015).

GCC KINGFISH AND SHRIMP FISHERIES MANAGEMENT PLANS

25. The Chairperson introduced this agenda item, and noted that Oman, the regional focal point for the GCC's work on kingfish, was not in attendance so it would not be possible to report on the status of the GCC kingfish management plan.

26. Mr Usama Khalifa delivered a presentation on the status of the length frequency survey of narrow-barred Spanish mackerel (*Scomberomorus commerson*) in Kuwait fisheries, including the history of this project, which was carried out in the framework of the GCC's survey of countries, dating back to 2004–2006. He presented the current status, including three published articles that dealt with the growth and population parameters of this species in the area, covering the Islamic Republic of Iran, Oman and the United Arab Emirates. The results showed high variation in the determined asymptotic length ($L\infty$), indicating that these results depended mainly on the sample size and length range.

OUTCOMES OF THE FAO REGIONAL WORKSHOP ON THE 2009 PORT STATE MEASURES AGREEMENT FOR THE NORTH WEST INDIAN OCEAN

27. Ms Lori Curtis introduced working document RECOFI/WGFM9/2015/8 on the outcomes of the FAO regional workshop on the 2009 FAO Agreement on Port State Measures (PSMA) to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing. She provided an overview of how the PSMA fitted a combination of tools and was believed to be one of the most cost-effective means of combating IUU

fishing. She highlighted the role that the series of regional capacity building workshops had played in promoting awareness of the benefits of the PSMA and developing countries' ability to fulfill the requirements for becoming parties to the PSMA. The WGFM took note of the outcomes of the workshop, particularly the recommendations and strategies of workshop working groups.

INTEGRATION OF THE CURRENT RECOFI REGIONAL DATA SET INTO RAIS: ACTION PLAN AND REQUIREMENTS

28. Mr Valerio Crespi, Aquaculture Officer, Fisheries and Aquaculture Department, FAO, Rome Italy, presented document RECOFI:WGFM9/2015/7, which is attached as Appendix 12. He pointed out that RAIS represents the only example of a regional project that is fully funded by a single RECOFI member country – Kuwait. He reminded the WGFM that the Commission had recently endorsed its second binding Recommendation RECOFI/8/2015/1 on minimum reporting on aquaculture data and information, in addition to the existing binding Recommendation RECOFI/6/2011/1 on minimum data reporting in the RECOFI area. This decision would imply mandatory data collection and submission by member countries to the Secretariat, and further dissemination on the Internet. Mr Crespi then provided background information on the history, functions and operating methods of RAIS. He emphasized that the information system was almost ready to host the data required by the binding recommendation on aquaculture, with limited effort and changes to the existing Web site. He also mentioned that the presence of two RECOFI Web pages currently on the FAO Web site could create confusion and duplication. It would therefore be a good idea to establish a new and unique RECOFI Web site hosting all the fishery and aquaculture information available for the RECOFI region.

29. Ms Tsuji briefed the WGFM on the minimum requirements for adapting the existing RAIS to make it suitable for communicating and handling data and information originating from the implementation of RECOFI Recommendation RECOFI/6/2011/1 and linked activities, including constraints such as the lack of additional resources for system modifications. In particular, she stressed the importance of securing a dedicated data and information manager to cover both aquaculture and fisheries data exchanges and related communications, possibly immediately as an interim position.

30. The WGFM reviewed the road map proposed by the Secretariat, which included a simple expansion of the existing RAIS Web site to create a dedicated capture fisheries section by using currently available functions; two experimental exercises in data dissemination and sharing during the joint assessment of kingfish and the preparations for the next WGFM; and the formulation of proposals to cover the necessary information technology developments and long-term maintenance costs, for finalization at the tenth meeting of the WGFM and endorsement at the ninth session of RECOFI.

31. The meeting agreed to move towards a single integrated RECOFI Web site, with the possible name of RECOFIS (the RECOFI Information System), RIS (the Regional Information System) or RAFIS (the Regional Aquaculture and Fishery Information System), to be decided at a later stage.

32. In conclusion, the WGFM generally concurred with the proposed roadmap, on the understanding that the current RAIS regional centre would have adequate capacity and resources to cover the required tasks. Kuwait confirmed its commitment to collaborating with FAO during this transition period towards the launch of a new official RECOFI Web site. Kuwait and FAO would further clarify and detail the tasks, activities and budget required for the transition period and integrate these needs into a FAO/Kuwait cooperation agreement. Considering the many similarities between the aquaculture and fishery components in terms of the structure and functions required, Kuwait considered that some components could be implemented immediately. It was noted that the seventh meeting of the Working Group on Aquaculture, to be held in February 2016, would provide another opportunity to review progress, particularly through implementation of RECOFI Recommendation RECOFI/8/2015/1.

33. On behalf of the Commission members and FAO, the Chairperson and Secretary of RECOFI expressed their high appreciation of Kuwait in taking the initiative to lead efforts in support of the RECOFI regional data and information centre. This action constituted a positive sign of increased ownership by the members of the Commission.

34. The WGFM acknowledged that establishment of the regional database and information centre was a core undertaking for RECOFI and an essential step in strengthening the Commission and supporting fishery management and aquaculture development in the region.

35. The WGFM agreed that the Secretariat, in full cooperation and consultation with the Kuwaiti counterpart at PAAFR, would detail the necessary activities to be implemented to establish the RECOFI regional data and information centre, including development of the capacities in data management and information technology needed to operate and maintain it. On this basis, a project outline, including a budget estimate, would be formulated with PAAFR and the relevant FAO technical units.

ANY OTHER MATTERS

36. The RECOFI Secretary noted that the Commission had requested cooperation with other relevant regional entities, such as the Permanent Fisheries Resources Committee (PFRC) of GCC and the Regional Organization for the Protection of the Marine Environment (ROPME). Further to this request, the RECOFI Secretary and Mr Rashid Al Shihi, Oceanographic Specialist with the Ministry of Environment and Water of the United Arab Emirates, used the WGFM meeting in Kuwait as an opportunity to meet Mr Abdul Rahman Al Awadi, Executive Secretary of ROPME and Mr Hassan Mohammadi, Coordinator of ROPME.

37. The mandate area and constituencies of ROPME and RECOFI were identical and, while keeping in mind the respective mandates of the two organizations, there could be areas for cooperation to the benefit of both regional organizations and their members. The Secretariats of ROPME and RECOFI, with the support of concerned national officers and experts, would work together to lay the ground for fruitful collaboration and synergies.

38. The WGFM was informed that the RECOFI Secretary had been contacted by the Sea Around Us Project of the University of British Columbia (Canada) to discuss cooperation with RECOFI on catch reconstruction for RECOFI member countries. Meeting participants expressed concerns arising from previous experiences at the country level, and advised the Secretariat that there was no immediate interest in such collaboration.

39. The WGFM took note that the FAO Fisheries and Aquaculture Department was preparing a paper on marine spatial planning for the Gulf (RECOFI) area and that RECOFI member countries should send to the Secretariat any relevant GIS activities that they believed would be relevant to this report.

40. The WGFM thanked the outgoing Chairperson of the WGFM, Mr Mohammed Al-Kharafi. Mr Nabil Fita from the Kingdom of Saudi Arabia was unanimously elected as the new Chairperson of the WGFM.

DATE AND PLACE OF THE TENTH MEETING OF THE WORKING GROUP ON FISHERIES MANAGEMENT

41. The WGFM noted with appreciation that the State of Qatar had confirmed that it would host the tenth meeting of the Working Group on Fisheries Management, tentatively scheduled for November 2016.

ADOPTION OF THE REPORT

42. The report of the meeting was adopted on 26 November 2015 at 13:30 hours.

APPENDIX 1

AGENDA

Tuesday, 24 November 2015

Morning: 09:00

Registration

1. Opening of the meeting

The WGFM Chairperson will call the meeting to order and invite the representative of the hosting country to address the meeting. The Chairperson will ask the Secretary of the Commission (and acting Technical Secretary of the WGFM) to provide an outline of the issues that will be of major concern during the meeting.

2. Adoption of the Agenda and arrangements for the meeting

The meeting will review the provisional Agenda (RECOFI/WGFM9/2015/1) and proceed to its adoption. The Secretary will inform the meeting of the arrangements for the meeting and propose a timetable for the presentation and discussion of the adopted agenda.

Reference doc: RECOFI/WGFM9/2015/1, RECOFI/WGFM9/2015/Inf.1

3. Outcomes of the eighth Session of RECOFI of relevance to the WGFM

The Secretariat, in concurrence with the Chair of the WGFM, will present document RECOFI/WGFM9/2015/2, outlining the main outcomes of the eighth session of RECOFI which was held in Muscat, Oman, 12-14 May 2015, with particular reference to requests and comments made by the Commission for the WGFM, which will be elaborated in further detail as a part of the consequent agenda items.

Reference doc: RECOFI/WGFM9/2015/2, RECOFI/WGFM9/2015/Inf.3

4. Current work on RECOFI priority species

National experts will be invited to report using the template provided by the Secretariat on past, current and future work involving RECOFI priority species, at the national and regional level.

Reference doc: RECOFI/WGFM9/2015/3

Tuesday, 24 November 2015
Afternoon: 13:30

5. GCC Kingfish and shrimp fisheries management plans

Participants from GCC countries will brief the WGFM on the key elements of the GCC Kingfish and shrimp fisheries management plans.

6. **Joint appraisal of the Kingfish stock in the RECOFI area: preparatory work before assessment workshop**.

The Secretariat will introduce document RECOFI/WGFM9/2015/4. The WGFM will be asked to report on the availability and the status of the information required for the assessment workshop and reconfirm the date and location as the only scheduled activity in the interim period.

Reference doc: RECOFI/WGFM9/2015/4

7. Socio-economics of RECOFI fisheries

The Secretariat will introduce document RECOFI/WGFM9/2015/5, which will include an revision of the outcomes of the previous RECOFI socio-economic survey, and some options for the way forward including the expansion of the survey with regards to the inclusion of operating costs and a survey which can be used to implement with fishers.

Reference doc: RECOFI/WGFM9/2015/5

Wednesday, 25 November 2015
Morning: 09:00

8. Update on the implementation of the RECOFI recommendation on Minimum Data Reporting

The Secretariat will report the latest status of information received from member countries in accordance with the RECOFI Recommendation on Minimum Data Reporting. In addition, the WGFM is requested to review the set of standard terminologies proposed.

Reference doc: RECOFI/WGFM9/2015/6

9. Integration of current RECOFI regional data set into RAIS: action plan and requirements

The Secretariat will introduce document RECOFI/WGFM9/2015/X, which will include the requirements for the integration of the current RECOFI regional data set into RAIS and will outline an action plan. The WGFM will be invited to comment on their capacity to fulfil these requirements and the elements of the action plan.

Reference doc: RECOFI/WGFM9/2015/7

Wednesday, 25 November 2015
Afternoon: 13:30

10. Outcomes of the FAO Workshop on the FAO 2009 Port State Measures Agreement for the North West Indian Ocean

The Secretariat will introduce document RECOFI/WGFM9/2015/8, which will include a summary of the outcomes of the workshop on the FAO 2009 Port State Measures Agreement to combat, eliminate and deter IUU fishing in the North West Indian Ocean. It will also include the work that is currently being undertaken to follow-up on the recommendations at the global level.

Reference doc: RECOFI/WGFM9/2015/8

11. Any other matters

12. Date and place of the tenth meeting of the Working Group on Fisheries Management

Thursday, 26 November 2015

Afternoon: 13:30

13. Adoption of the report

APPENDIX 2

LIST OF PARTICIPANTS

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APPENDIX 3

LIST OF DOCUMENTS

RECOFI/WGFM9/2015/1	Provisional agenda and timetable
RECOFI/WGFM9/2015/2	Outcomes of the ninth Session of RECOFI of relevance to the WGFM
RECOFI/WGFM9/2015/3	Current work on RECOFI Priority Species
RECOFI/WGFM9/2015/4	Joint appraisal of the Kingfish stock in the RECOFI area: preparatory work before assessment workshop
RECOFI/WGFM9/2015/5	Socio-economics of RECOFI fisheries
RECOFI/WGFM9/2015/6	Update on the implementation of the RECOFI recommendation on Minimum Data Reporting
RECOFI/WGFM9/2015/7	Integration of current RECOFI regional data set into RAIS: action plan and requirements
RECOFI/WGFM9/2015/8	Outcomes of the FAO workshop on the port State measures agreement for the North West Indian Ocean
RECOFI/WGFM9/2015/Inf.1	List of Documents
RECOFI/WGFM9/2015/Inf.2	List of participants
RECOFI/WGFM9/2015/Inf.3	Report of the Eighth Session of RECOFI, Muscat, Sultanate of Oman, 12-14 May 2015
RECOFI/WGFM9/2015/Inf.4	Report of the Eighth Meeting of the RECOFI Working Group on Fisheries Management, Cairo, Arab Republic of Egypt, 8-10 December 2014

APPENDIX 4

OPENING STATEMENT BY ENG. FARHAN AHMED MANSOUR ZOBIRAN, DIRECTOR OF FOLLOW-UP & COORDINATION DIVISION, PUBLIC AUTHORITY OF AGRICULTURAL AFFAIRS AND FISH RESOURCES – PAAF, STATE OF KUWAIT ON BEHALF OF HIS EXCELLENCY ENG. FAISAL AL-HASSAWI, THE DIRECTOR GENERAL OF THE PUBLIC AUTHORITY OF AGRICULTURE AFFAIRS AND FISH RESOURCES, STATE OF KUWAIT

Your Excellencies
Distinguished Guests
Dear RECOFI members and observers
Ladies and Gentlemen,

Peace be upon you all,

On behalf of His Excellency Eng. **Faisal Al-Hassawi,** The Director General of the Public Authority of Agriculture Affairs and Fish Resources, State of Kuwait, I would like to offer my warmest welcomes to you to this beautiful country, the State of Kuwait and hereby announce opening of Ninth meeting of the working group on Fisheries Management of Regional Commission for Fisheries (RECOFI). It is a privilege for the State of Kuwait to host this event with participation of member countries and learned officials from RECOFI.

Existence of various fisheries bio-resources in Kuwait territorial waters offers vast potential for aquaculture and fisheries production in this country. In this regard, Kuwait Fisheries Sector has the responsibility of policy making, planning and monitoring fisheries resources exploitation. Through effective protection and rehabilitation of fisheries resources, Kuwait Fisheries Sector is managing fisheries with developed management and maintenance of fisheries and aquaculture infrastructures besides improving utilization of resources in territorial waters of State of Kuwait. State of Kuwait tries to provide fisheries potentials with steady cooperation of the member countries of RECOFI.

I believe that a collaborative regional approach to improve regional fisheries management is not beyond our reach. It requires commitment, rational planning and practical steps forward. I understand that in the Ninth Meeting of Working Group on Fisheries Management, some important decisions will be held including effective implementation of regulations and management measures with due consideration of socioeconomic factors in the decision making processes.

I hope that our efforts contribute to achieving sustainable management of our living marine resources and its sustainability for the future generations in all RECOFI member states. We appreciate your participation in the current event, and we are confident in your abilities to achieve its desired objectives.

My sincere appreciation and thanks to Dr. Mannini, The Secretary of RECOFI and his colleagues in Cairo, FAO-RNE office for their leadership and support for conducting this important event.

We wish you a pleasant stay in State of Kuwait, and a fruitful discussion supported by the God willing.

APPENDIX 5

OPENING STATEMENT
BY MR PIERO MANNINI, SENIOR LIAISON OFFICER AND SECRETARY OF RECOFI ON BEHALF OF MR ABDESSALAM OULDAHMED, REGIONAL REPRESENTATIVE, FAO REGIONAL OFFICE FOR THE NEAR EAST AND NORTH AFRICA

Distinguished Delegates, Colleagues, Ladies and Gentlemen,

It is my pleasure to extend a warm welcome to each and all of you on the occasion of the opening of the Ninth meeting of the Working Group on Fisheries Management (WGFM) of the Regional Commission for Fisheries (RECOFI) that is held in Kuwait, kindly hosted by the Public Authority for Agriculture and Fisheries Resources (PAAF).

The complex semi-enclosed nature of the RECOFI area means that the marine fishery resources are shared between coastal countries. Many marine species use different habitats at different stages of their life cycle, which may involve trans-boundary distribution across the RECOFI region. Many fishery stocks are shared across national boundaries; fish may breed in one country and grow in another, they may migrate through the waters of several States, or they may simply represent a single stock that straddles several countries' jurisdiction. Fish do not need passports and do not recognize national boundaries.

One of FAO's key approaches in addressing the issue of shared stocks is through the encouragement of regional fisheries management organisations or RFMOs. These regional organisations have come to be widely recognized by the international community as the primary organizational mechanism through which States work together to ensure the long-term sustainability of shared fishery resources. Many of the key fisheries resources of the Gulf are shared and jointly exploited by several countries – shrimp and grouper (*hamour*), and migrating kingfish (*channad*) are leading examples. If exploitation of these resources is to bring maximum benefits to the people of the region and also remain sustainable, it is essential that the Gulf countries collaborate in their monitoring and fishery management.

RECOFI Members share the benefit of exploiting many of the fishery resources as well as the responsibility for their sound management. RECOFI is the ideal vehicle for this collaboration, but in the 15 years since its work began, the organisation has not received the technical and financial support needed from its member countries for it to be fully effective. Despite the obvious constraints posed by the lack of financial means, RECOFI has had since 2007 remarkable technical outputs as represented by 28 scientific publications often prepared with the support of leading international experts, and more than 100 working papers. All RECOFI publications are available at http://www.fao.org/fishery/rfb/recofi/en. I wish to remind you that RECOFI was established by the initiative and vison of the coastal countries in the region to facilitate and reinforce regional collaboration. Supporting including funding at a more realistic level as it is the case for other RFMOs in the world would allow RECOFI to implement useful and needed joint projects in fisheries and aquaculture in the region.

I note that it is also under discussion between RECOFI members that the Secretariat role should be gradually handed over by FAO to a member country. This is highly desirable to strengthen the embedding of the Commission in the region. I regret to note, however, that Members are not yet adequately providing their Commission, RECOFI, with the needed support to increase the regional capacity for the appraisal and management of common resources. Much more can and should be done. I wish to extend my thanks to those in the Public Authority for Agriculture and Fisheries Resources, and FAO who have worked together to make possible the organization of this Ninth Meeting of the Working Group on Fisheries Management. Special thanks are due to the State of Kuwait for hosting this event. I wish you a full and very productive meeting for the benefit of all. Thank you very much for your attention.

APPENDIX 6

MAIN OUTCOMES OF THE EIGHTH SESSION OF RECOFI AND IMPLICATIONS FOR THE WGFM

BACKGROUND

The eighth session of RECOFI was held in Muscat, Sultanate of Oman, from 12 to 14 May 2015. The session was attended by 21 delegates from all eight of the RECOFI Member countries (Bahrain, Iran I.R., Iraq, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates). Two observers (CITES and WWF) attended the Session.

The Commission reviewed the work carried out in the intersessional period, in particular the work of the WGFM, the WGA and the Commission's administrative and financial reports. The Commission considered select issues of particular relevance for the region, such as the state of the aquaculture, fish stock status reporting, regional minimum data collection and reporting, aquaculture development; review the functioning of the Commission including strengthening its Secretariat and adopting a work programme for the current intersessional period (2015-2016).

MAIN OUTCOMES AND DECISIONS

The main outcomes of the session and decisions taken by the Commission were the following:

- The Commission **took note** of a number of issues related to the national fisheries and aquaculture sectors and **concurred** on the merit to take a regionally concerted approach to fisheries management and aquaculture development based on the shared nature of the marine ecosystem and its fishery resources in the RECOFI region.
- The Commission **acknowledged** the urgent need to formulate coordinated policy measures with the objective of effective fishery management of an increasing number of commercially important species, and to ensure their sustainable exploitation.
- The Commission **commended** the work of the Secretariat to raise its visibility at the international level and for providing the working documents and publications prior to the meetings and sessions and **expressed** its strong appreciation for the support provided by FAO to the Commission and expressed his wish that FAO would be able to maintain this vital technical support in the future.
- The Commission **commended** the work of the Working Group on Aquaculture (WGA) whilst acknowledging that some planned activities could not be undertaken due to budgetary constraints.
- The Commission **took note** of the main issues affecting the efficient and full functioning of the Regional Aquaculture Information System (RAIS).
- The Commission **adopted** the terms of reference of the RAIS Regional Centre staff and **appreciated** that the State of Kuwait confirmed its availability in providing the services needed to operate and manage the system.
- The Commission **reviewed** the outcomes of the seventh and eighth meetings of the Working Group on Fishery Management (WGFM) and **confirmed** the relevance of the regional priorities identified, including the joint appraisal of shared fishery resources and regional management plans.
- The Commission **acknowledged with concern** that none of the priority activities of the WGFM had been addressed during the intersessional period and member countries should be called on to be more pro-active to support and implement the Commission's decisions and work.

- The Commission **adopted** the draft RECOFI Recommendation RECOFI/8/2015/1 on Minimum Reporting on Aquaculture Data and Information, and **agreed** that June 1st would be the annual deadline for submission of the mandatory aquaculture data and information.
- The Commission **was informed** that the data reported under the RECOFI Recommendation RECOFI/6/2011/1 on minimum data reporting in the RECOFI area now would provide adequate basis for monitoring the status of fishing operations and resources and taking management decisions.
- The Commission **decided** that RAIS would include the data collected under the aforementioned Recommendation, **acknowledged** the need to establish an agreed data access protocol and develop a standardized and integrated database, and **endorsed** the dissemination of data through RAIS.
- The Commission **considered** the strengthening of the Secretariat including its location in a RECOFI member country, and **agreed** that the actual decision on the budget and elements involved would need to be discussed and agreed at an *ad hoc* session in 2016.
- The Commission **noted** the offer of the State of Kuwait to host the RECOFI headquarters and Secretariat, should they be relocated.
- The Commission **agreed** that due to still enduring budgetary constraints, the activities of the WGFM were reduced to include only the first priority, the regional assessment of kingfish stock.
- The Commission **reduced** the number of activities of the WGA and to join some of them to be held concurrently with others.
- The Commission **reconfirmed** that the ninth session of RECOFI would be hosted by the State of Kuwait in May 2017.

APPENDIX 7

CURRENT WORK ON RECOFI PRIORITY SPECIES

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
Green Tiger Prawn *Penaeus semisulcatus*	KSA	Stock assessment; Population Dynamics; Age and Growth; Reproduction	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Trawling Survey; Commercial Catch Sampling; Laboratory analysis	Surveys at Sea; Beach seining surveys; Monthly Commercial Catch Sampling; Age and maturity analyses	Biomass estimate; Biomass size composition; Stock spatial distribution; Commercial catch age/size composition; Age/Growth and Maturity data
	Kuwait	Research projects	KISR	Length-frequency analysis Experimental fishing survey Catch-Effort Statistics	Determined Biological parameters & fisheries management strategy	Finished last year with some recommendation about rational management of shrimp fisheries
Blue swimming crab *Portunus pelagicus*	KSA	Stock assessment; Population Dynamics; Age and Growth; Reproduction	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Trawling Survey; Commercial Catch Sampling; Laboratory analysis	Surveys at Sea; Beach seining surveys; Monthly Commercial Catch Sampling; Age and maturity analyses	Biomass estimate; Biomass size composition; Stock spatial distribution; Commercial catch age/size composition; Age/Growth and Maturity data
Pharaoh cuttlefish *Sepia pharaonis*	KSA	Stock assessment; Population Dynamics; Age and Growth; Reproduction	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Trawling Survey; Commercial Catch Sampling; Laboratory analysis	Surveys at Sea; Beach seining surveys; Monthly Commercial Catch Sampling; Age and maturity analyses	Biomass estimate; Biomass size composition; Stock spatial distribution; Commercial catch age/size composition; Age/Growth and Maturity data

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
Stolephorus anchovies *Stolephorus* spp.	KSA	Essential Fish Habitat	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Acoustic survey; Mid-water trawling; Ichthyoplankton survey	Spring and summer survey	Spatial and temporal distribution; Biomass estimate; Stock spatial distribution
Indian oil sardine *Sardinella longiceps*	KSA	Essential Fish Habitat	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Acoustic survey; Mid-water trawling	Survey at Sea	Spatial and temporal distribution; Biomass estimate; Stock spatial distribution
Bludger Jacks *Carangoide gymnostethus*	KSA	Landing Sites Monitoring (LSM)	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Landing Sites Monitoring (LSM)	weekly landing site visit	Catch Per Unit Effort (CPUE)
	Qatar	*Reproductive Biology; Current status of fish stock evaluated against exploitation rate.*	Fisheries Department	Commercial catch sampling; Lengthe Freuency Distribution Analysis	Monthly commercial catch sampling. Length frecuncy recording in a daily manner.	Spawning season: October, March, March, April & May; Lc50: 32.49 cm (Combined sexes); Explotation rate of the stock is being estimated.
Golden trevally *Gnathanodon speciosus*	KSA	Landing Sites Monitoring (LSM)	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Landing Sites Monitoring (LSM)	weekly landing site visit	Catch Per Unit Effort (CPUE)
	Qatar	*Reproductive Biology; Current status of fish stock evaluated against exploitation rate.*	Fisheries Department	Commercial catch sampling; Lengthe Freuency Distribution Analysis	Monthly commercial catch sampling. Length frecuncy recording in a daily manner.	Spawning season: May; Lc50: 36.10 cm (Combined sexes); Maximally exploited as EMax= 0.465 & Ecurrent= 0.45

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
	UAE	Report Scientific paper	MOCCAE EAD	Size frequency data Biological data	Size frequency data were collected from commercial Catches Biological data were collected from specimens purchased from commercial catches	Spawning season extended from March to May. The length at first sexual maturity was greater than the length at capture. The biological reference points F_{opt} and F_{limit} are greater than the current fishing effort and stocks are over-exploited
Indian mackerel *Rastrelliger Kanagurta*	KSA	Landing Sites Monitoring (LSM)	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Landing Sites Monitoring (LSM)	weekly landing site visit	Catch Per Unit Effort (CPUE)
Snubnose emperor/ Orange finned emperor *Lethrinus borbonicus*	KSA	Landing Sites Monitoring (LSM)	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Landing Sites Monitoring (LSM)	weekly landing site visit	Catch Per Unit Effort (CPUE)
	Qatar	*Reproductive Biology;* *Current status of fish stock evaluated againist the exploitation rate.*	Fisheries Department	Commercial catch sampling; Lengthe Freuency Distribution Analysis	Monthly commercial catch sampling. Length frecuncy recording in a daily manner.	Being studied

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
	UAE	Report Scientific paper	MOCCAE EAD	Size frequency data Biological data	Size frequency data were collected from commercial Catches Biological data were collected from specimens purchased from commercial catches	A single spawning season occurred between March and June, males achieved sexual maturity at a larger size and older age than females Juvenile retention value was 36.3 %. The results of the yield per recruit indicated that the existing fishing mortality rate was higher than the biological reference points, indicating that this species was overexploited
Pink ear emperor/ Redspot emperor *Lethrinus lentjan*	KSA	Stock assessment; Population Dynamics; Age and Growth; Reproduction	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Trawling Survey; Commercial Catch Sampling; Laboratory analysis	Surveys at Sea; Beach seining surveys; Monthly Commercial Catch Sampling; Age and maturity analyses	Biomass estimate; Biomass size composition; Stock spatial distribution; Commercial catch age/size composition; Age/Growth and Maturity data
	Qatar	*Reproductive Biology;* *Current status of fish stock evaluated against exploitation rate.*	Fisheries Department	Commercial catch sampling; Lengthe Freuency Distribution Analysis	Monthly commercial catch sampling. Length frecuncy recording in a daily manner.	Spawning season: February, March, April, May and June with the peak during May; Lc50: 26.42 cm (Combined sexes); Under exploited as E10= 0.758 & Ecurrent= 0.45
	UAE	Report Scientific paper	MOCCAE EAD	Size frequency data Biological data	Size frequency data were collected from commercial Catches Biological data collected from specimens purchased from commercial catches	The results concluded that the spawning season extended from April to June. The length at first sexual maturity was greater than the length at capture. The fishing mortality was considerably less than the biological reference points, indicating species was exploited sustainably.

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
Spangled emperor *Lethrinus nebulosus*	KSA	Stock assessment; Population Dynamics; Age and Growth; Reproduction	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Trawling Survey; Commercial Catch Sampling; Lab analysis	Surveys at Sea; Beach seining surveys; Monthly Commercial Catch Sampling; Age and maturity analyses	Biomass estimate; Biomass size composition; Stock spatial distribution; Commercial catch age/size composition; Age/Growth and Maturity data
	Qatar	*Reproductive Biology; Current status of fish stock evaluated againist exploitation rate.*	Fisheries Department	Commercial catch sampling; Lengthe Freuency Distribution Analysis	Monthly commercial catch sampling. Length frecuncy recording in a daily manner.	Spawning season: January, February, March, April and May with the peak during February; Lc50: 32.64 cm (Combined sexes); Maximally exploited as Emax= 0.65 & Ecurrent= 0.68
	UAE	Report Scientific paper	MOCCAE EAD	Size frequency data Biological data	Size frequency data were collected from commercial Catches Biological data were collected from specimens purchased from commercial catches	A single spawning season occurred between February and April and the peak in March, the females achieved sexual maturity at a larger size than males The results of the yield per recruit indicated that the existing fishing mortality rate was higher than the biological reference points, indicating that this species was overexploited
Coral hind Coral grouper Bluespotted grouper *Cephalopholis miniata*	UAE	Report	MOCCAE	Size frequency data Biological data	Size frequency data were collected from commercial Catches Biological data were collected from specimens purchased from commercial catches	Spawning season extended from May to August The length at first maturity is smaller than the length at first capture Juvenile retention value was more than 90% of the sampling.

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
Orange-spotted grouper *Epinephelus coioides*	KSA	Stock assessment; Population Dynamics; Age and Growth; Reproduction	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Trawling Survey; Commercial Catch Sampling; Laboratory analysis	Surveys at Sea; Beach seining surveys; Monthly Commercial Catch Sampling; Age and maturity analyses	Biomass estimate; Biomass size composition; Stock spatial distribution; Commercial catch age/size composition; Age/Growth and Maturity data
	Qatar	*Reproductive Biology; Current stock status evaluated against exploitation rate.*	Fisheries Department	Commercial catch sampling; Length Frequency Distribution Analysis	Monthly commercial catch sampling. Length frecuncy recording in a daily manner.	Spawning season: March, April, May and June with the peak during April; Lc50: 47.73 cm (Females) & 50.12 cm(Males); Maximally exploited as Emax= 0.55 & Ecurrent= 0.54
	UAE	Report Scientific paper	MOCCAE EAD	Size frequency data Biological data	Size frequency data were collected from commercial Catches Biological data were collected from specimens purchased from commercial catches	The spawning season was well defined, occurring once a year in April and early May. The mean size at first capture was considerably smaller than both the mean size at sexual maturity and the size at which yield per recruit would be maximized Fishing mortality rate higher than precautionary target biological reference points.The stock status is over-exploited
White-spotted spinefoot Rabbitfish	KSA	Stock assessment; Population Dynamics; Age and Growth; Reproduction	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Trawling Survey; Commercial Catch Sampling; Lab analysis	Surveys at Sea; Beach seining surveys; Monthly Commercial Catch Sampling; Age and maturity analyses	Biomass estimate; Biomass size composition; Stock spatial distribution; Commercial catch age/size composition; Age/Growth and Maturity data

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
Siganus canaliculatus	Qatar	*Reproductive Biology; Current stock status evaluated against exploitation rate.*	Fisheries Department	Commercial catch sampling; Length Frequency Distribution Analysis	Monthly commercial catch sampling. Length frecuncy recording in a daily manner.	Spawning season: March, April with the peak during April; Lc50: 19.04 cm (Combined sexes); Sustainably exploited as Emax= 0.75; E10= 0.65 & Ecurrent= 0.68
	UAE	Report Scientific paper	MOCCAE EAD	Size frequency data Biological data	Size frequency data were collected from commercial Catches Biological data were collected from specimens purchased from commercial catches	Fish in spawning condition were only observed between February and May. The mean sizes at first sexual maturity for males and females were higher than the length at fully recruited. The annual instantaneous rate of fishing mortality was considerably greater than the target and limit biological reference points, indicating stock is overexploited.
Narrow-barred Spanish mackerel King mackerel *Scomberomorus commerson*	KSA	Stock assessment; Population Dynamics; Age and Growth; Reproduction	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Trawling Survey; Commercial Catch Sampling; Lab analysis	Surveys at Sea; Beach seining surveys; Monthly Commercial Catch Sampling; Age and maturity analyses	43. Biomass estimate; Biomass size composition; Stock spatial distribution; Commercial catch age/size composition; Age/Growth and Maturity data
	Qatar	*Current status of fish stock evaluated against the exploitation rate.*	Fisheries Department	Lengthe Freuency Distribution Analysis; Commercial catch sampling.	Length frecuncy recording in a daily manner.	Over-exploited as Emax= 0.49 & Ecurrent= 0.57 Current relative spawning stock biomass equals 13.8% compared to the corresponding virgin un-exploited stock. Closed season for three months a year will increase the spawining stock biomas to be 20% of the corresponding virgin stock.

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
	UAE	Report Scientific paper	MOCCAE EAD	Size frequency data Biological data	Size frequency data were collected from commercial Catch Biological data were collected from specimens purchased from commercial catch	Spawning occurred between April and August, the mean sizes and ages at first sexual maturity were 72.8 cm *L*F (1.9 years) for males and 86.3 cm *L*F (2.1 years) for females. The size at which fish were fully recruited to the fishery (62.6 cm *L*F) was considerably smaller than both the mean size at first sexual maturity for females and the size at which yield per recruit would be maximized The annual instantaneous fishing mortality rate of was by far in excess of the precautionary target and limit biological reference points, indicating that the resource is heavily over-exploited.
Longtail tuna *Thunnus tonggol*	KSA	Landing Sites Monitoring (LSM)	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Landing Sites Monitoring (LSM)	weekly landing site visit	Catch Per Unit Effort (CPUE)
	UAE	Report	MOCCAE	Size frequency data Biological data	Size frequency data were collected from commercial Catch Biological data were collected from specimens purchased from commercial catch	Spawning season extended from May to July The length at first maturity is smaller than the length at first capture Juvenile retention value was more than 82% of the sampling.
Kawakawa *Euthynnus affinis*	KSA	Landing Sites Monitoring (LSM)	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Landing Sites Monitoring (LSM)	weekly landing site visit	Catch Per Unit Effort (CPUE)

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
	Qatar	*Reproductive Biology; Current stock status evaluated against the exploitation rate.*	Fisheries Department	Commercial catch sampling; Length Frequency Distribution Analysis	Monthly commercial catch sampling. Length frequency recorded daily	Being analysed
Requiem sharks nei Carcharhinidae	KSA	Landing Sites Monitoring (LSM)	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Landing Sites Monitoring (LSM)	weekly landing site visit	Catch Per Unit Effort (CPUE)
	Qatar	Statistical data on CPUE of ***Carcharhinus dussumieri***, being recorded.	Fisheries Department	Sataistical Data on Catch, effort & CPUE	Statistical data recording & reporting	Statistical reports submitted.
Silver pomfret *Pampus argenteus*						
Hilsa shad Indian shad *Tenualosa ilisha*						
King soldier bream *Argyrops spinifer*	KSA	Stock assessment; Population Dynamics; Age and Growth; Reproduction	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Trawling Survey; Commercial Catch Sampling; Laboratory analysis	Surveys at Sea; Beach seining surveys; Monthly Commercial Catch Sampling; Age and maturity analyses	Biomass estimate; Biomass size composition; Stock spatial distribution; Commercial catch age/size composition; Age/Growth and Maturity data

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
	Qatar	*Reproductive Biology; Current status of fish stock evaluated againist the exploitation rate.*	Fisheries Department	Commercial catch sampling; Lengthe Freuency Distribution Analysis	Monthly commercial catch sampling. Length frecuncy recording in a daily manner.	Spawning season: November, December, January, February and March with the peak during December; Lc50: 24.61 cm (Combined sexes); Under exploited as EMax= 0.602; E10= 0.509 & Ecurrent= 0.369
	UAE	Report Scientific paper	MOCCAE EAD	Size frequency data Biological data	Size frequency data were collected from commercial catch Biological data were collected from specimens purchased from commercial catches	The spawning occurred from January to April. The mean size at maturity is higher than both the length at fully recruited and the length at which yield per recruit would be maximized Juvenile retention value was more than 66% of the sampling. The annual instantaneous fishing mortality rate is lower than the precautionary target and limit biological reference points, indicating that the resource is exploited sustainable.
Painted sweetlips *Diagramma pictum*	KSA	Landing Sites Monitoring (LSM)	Marine Studies Section - Research Institute - King Fahd University of Petroleum and Minerals	Landing Sites Monitoring (LSM)	weekly landing site visit	Catch Per Unit Effort (CPUE)

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
	Qatar	*Reproductive Biology; Current status of fish stock evaluated againist the exploitation rate.*	Fisheries Department	Commercial catch sampling; Lengthe Freuency Distribution Analysis	Monthly commercial catch sampling. Length frecuncy recording in a daily manner.	Spawning season: February, March, April and May with the peak during April; Lc50: 34.32 cm (Combined sexes); Over-exploited as Emax= 0.636 & Ecurrent= 0.72
	UAE	Report Scientific paper	MOCCAE EAD	Size frequency data Biological data	Size frequency data were collected from commercial Catches Biological data were collected from specimens purchased from commercial catches	The spawning season is extended from April to May. The mean size and age at sexual maturity were 35.7 cm 2.9 years for females and 26.7 cm and 0.5 years for males. The maximum recorded age (11 years) and small mean size and young age at sexual maturity for males may be a direct result of intensive demersal fishing in the southern Arabian Gulf. The mean length at which became vulnerable to capture was 33.3 cm, which corresponded to only 3 and 7% of the cumulative reproductive potential of males and females, respectively. The mean size at first capture smaller than the size for both at first sexual maturity and the length at which yield per recruit would be maximized. The fishing mortality rate was sub-stantially greater than the target and limit reference points, indicating stock is over-exploited.

Species	Country	Type of Research	Implementing institution	Methodology	Activities	Results
Smalltooth emperor *Lethrinus microdon*	Qatar	*Reproductive Biology; Current status of fish stock evaluated againist the exploitation rate.*	Fisheries Department	Commercial catch sampling; Length Frequency Distribution Analysis	Monthly commercial catch sampling. Length frecuncy recording in a daily manner.	Spawning season: April, May, June, July, August, September and October with the peak during Jun; Lc50: 29.20 cm (Combined sexes); Sustainably exploited as Emax= 0.833; E10= 0.717 & Ecurrent= 0.720
	UAE	Report Scientific paper	MOCCAE EAD	Size frequency data Biological data	Size frequency data were collected from commercial Catches Biological data were collected from specimens purchased from commercial catches	*L. Microdon* had a single spawning season later in the year, between June and November Juvenile retention was highest (60.6%). The existing fishing mortality rate for *L. microdon* was approximated the target biological reference point and was within the limit biological reference point, indicating that this species was exploited sustainably
Indian white prawn *Penaeus indicus*						

APPENDIX 8

JOINT APPRAISAL OF THE KINGFISH STOCK IN THE RECOFI AREA: PREPARATORY WORK BEFORE THE ASSESSMENT WORKSHOP

BACKGROUND INFORMATION

The seventh session of the Regional Commission for Fisheries (May 2013) acknowledged that the joint assessment bringing together GCC work on narrow-barred Spanish mackerel (*Scomberomorus commerson*) and that of the other RECOFI members such as Iran (Islamic Republic of) and Iraq, and possibly also Pakistan and Yemen would be the first essential step toward establishing effective management for the stock of this species in the RECOFI region and adjacent areas, with a special emphasis on the importance of good communication and information sharing prior to the workshop.

The Commission underlined the joint assessment of narrow-barred Spanish mackerel will require a full commitment by all RECOFI members in submitting relevant data and information in a timely manner. The Commission reaffirmed at the sixth, seventh and eighth sessions of RECOFI the request made for the Secretariat to invite Pakistan and Yemen to this regional meeting. The Commission ranked the implementation of the kingfish stock assessment as the first priority in the intersessional (2015-2016) workplan and acknowledged the kind offer of the Sultanate of Oman to host the meeting.

The workshop on the regional joint assessment of kingfish stock is planned in early 2016 in Muscat, Oman. At the eighth session of RECOFI, the Commission was informed that the GCC Permanent Fisheries Research Council was formulating joint management plans for the management of narrow-barred Spanish mackerel and shrimp resources.

The Commission noted the importance of genetic typing studies to be included in the future programme of work. The Commission recognized that it was important that data on shrimp and narrow-barred Spanish mackerel also be incorporated and considered in regional datasets used in the stock assessment of these species for regional management purposes.

OBJECTIVES OF THE KINGFISH WORKSHOP

The objectives of the kingfish (narrow-barred Spanish mackerel) regional stock assessment are:

- To provide fishery scientists, managers and decision-makers of the RECOFI countries with an opportunity to meet and discuss the common issues related to narrow-barred Spanish mackerel fisheries from data collection, research, management strategy and regulations;
- To provide a platform for scientists to work together on real narrow-barred Spanish mackerel data, conduct stock assessment and develop science-based management strategy for the long term sustainability of the fishery and the social and economic benefits of the region;
- To discuss and develop a cost-effective and practical institutional arrangement and a regional plan for cooperation and collaboration in the sustainable management of the shared narrowbarred Spanish mackerel resource.

ACTIVITIES

The seventh meeting of the WGFM (5-7 November 2013, Kuwait) reviewed the preparatory work to the regional kingfish stock assessment. In particular:

The WGFM acknowledged that the joint assessment bringing together GCC work on narrow-barred

Spanish mackerel (*Scomberomorus commerson*) and that of the other RECOFI members such as Iran (Islamic Republic of) and Iraq, and possibly also Pakistan and Yemen would be the first essential step toward establishing effective management for the stock of this species in the RECOFI region and adjacent areas, with a special emphasis on the importance of good communication and information sharing prior to the workshop. Regarding a possible underestimation of juvenile mortality exerted by shrimp trawling, the WGFM was informed about the recent work (2013) by KISR 'Estimating 111 tonnes of narrow-barred Spanish mackerel by-catch of average 67 gram in the period from September 2010 to January 2011'. The WGFM recognized such information could be vital to understand the current situation of this species and all Members were requested to provide any materials to the Secretariat that could have relevance for stock assessment and consideration of management of the fisheries exploiting this RECOFI priority species. The meeting approved the objectives of the workshop, the agenda, and the data and participant skill requirements.

Data and skills requirement of the Kingfish Workshop

Data requirements of the workshop

Each country should bring:
1. Length frequency data over a certain time period;
2. Full catch statistic time series data;
3. Fishing effort data or data on numbers of fishing vessels and fishermen engaged in the fishery;
4. Any other data available for example types of gear and vessels, fishing locations, market price.

Skill requirements

1. Knowledge of the narrow-barred Spanish mackerel fishery;
2. Knowledge of basic stock assessment theory and models as this is not a training course, but a workshop;
3. Numerical skills, using Excel (better competent in R or other programming languages);

Draft Agenda of the narrow-barred Spanish mackerel stock assessment workshop

I *Presentation from country*

- ✓ Landings and trends
- ✓ Current state of the narrow-barred Spanish mackerel fishery
- ✓ Concerns and issues require management attention
- ✓ Research projects and their results if there is any
- ✓ Potential challenges to implement a kingfish regional management plan

II *Review of the existing published results*

- ✓ Growth estimation
- ✓ Mortality rate estimation
- ✓ Models applied
- ✓ Conclusions achieved

III *Estimation of growth equation from length frequency data*

- ✓ The von Bertalanffy growth equation
- ✓ Data requirements for fitting the equation

- ✓ Using software to estimate the equation from lengthy frequency data

IV *Estimation of total mortality from length frequency data*

- ✓ The theory behind the estimation of total mortality from time series length frequency data
- ✓ Using a software to estimate total mortality from time series length frequency data
- ✓ Estimation of natural mortality
- ✓ Estimation of exploitation rate based on natural mortality, fishing morality and total mortality rates

V *Catch only methods for stock assessment*

- ✓ Yield per recruit model
- ✓ Surplus production model
- ✓ How to fit these models to data
- ✓ Key parameters from the modelling that can be used for determining stock status and for management purposes

VI *Designing management*

- ✓ Management objectives
- ✓ Designing regulations to achieve the objectives

Current situation

The Commission, at its seventh session in May 2013, regarded the implementation of the regional assessment of the Kingfish stock as the first priority to be undertaken by the WGFM during the 2013-2014 intersessional period. The Secretariat proposed that the host country (Sultanate of Oman) could hold the workshop in November 2013. The proposed period date was not convenient for the host country and it was agreed with the Secretariat to postpone the meeting to 2014. Meanwhile the Secretariat had contacted Pakistan that confirmed the interest to participate in the regional stock assessment exercise. The first week of November 2014 was identified with the host country as a convenient period to organize the workshop. Eventually, in September 2014, upon request of the host country, the regional Kingfish stock assessment was postponed again. At the eighth session of RECOFI in May 2015, the Commission again endorsed the cooperative regional Kingfish assessment as the first ranked (and only) priority activity for implementation during the 2015-2016 intersessional period. Currently, the workshop on the regional joint assessment of kingfish stock is planned in early 2016 in Muscat, Sultanate of Oman.

APPENDIX 9

RESULTS OF THE SOCIO-ECONOMICS SURVEY QUESTIONNAIRE

BACKGROUND INFORMATION

After an agreement to begin exploring the social and economic dimensions of fisheries in the RECOFI region at the sixth session of RECOFI, held in Rome from 10 to 12 May 2011, a workshop on the Social and Economic Aspects of Fisheries in the RECOFI region was held in Manama, Kingdom of Bahrain from 22 to 24 April 2012. At this workshop, country profiles were presented, and the potential ways forward for social and economic work were discussed and explored, including different possible indicators which could be considered important and useful for the RECOFI region.

At this workshop, one of the notable outcomes was that a Task Group was established, (current Task Group members listed in Appendix 1), with a Terms of Reference (Appendix 2).

CONSIDERATION OF SOCIAL AND ECONOMIC WORK IN RECOFI

Seventh session of RECOFI

The Commission unanimously agreed that social and economic considerations are critical, noting that the success and effectiveness of management measures relies on how these factors are taken into account. The relevance of socioeconomic work to implement an ecosystem approach to fisheries/aquaculture (EAF/A) was stressed.

The Commission suggested developing guidelines for the social and economic aspects of fisheries for the RECOFI region, in terms of data collection and monitoring so that Member countries can adapt to their own contexts, while ensuring that tools are developed to facilitate comparability.

Seventh and eighth meetings of the WGFM

At the seventh meeting of the WGFM (Kuwait, 5–7 November 2013), the meeting reviewed the draft questionnaire developed by the Task Group. The Task Group member from Oman, Ms Ruqaiya Al-Bulushi, with the support of the Secretariat, developed the revised version of the national questionnaire. The meeting endorsed the revised version with the integration of the comments and proposed changes, to be circulated to Task Group members and filled out for each country. The WGFM recommended that some topics that would be omitted at this stage are relevant and important for socioeconomic work and should be taken up at a later stage. The WGFM requested the Secretariat to circulate the revised questionnaire to the Task Group members. The Task Group would then report the results of questionnaire survey to the eighth meeting of the WGFM.

At the eighth meeting of the WGFM (Cairo, Egypt 8–10 December 2014) the survey questionnaire results were presented. The completed surveys were received by seven Member countries, including Iraq, Iran IR, Kuwait, Saudi Arabia, United Arab Emirates, Oman and Qatar. The level of information from each country varied, and the information provided by Member countries was encouraging, in particular as a starting point for gathering information on markets about pricing, as well as consumption by species.

It was acknowledged that this survey questionnaire, while general, marked a good start to ascertaining the available information and to establish the foundations for the socioeconomic work of RECOFI, and in particular the information on price, trade and crew composition are useful.

It was recognized that further information should be identified to collect and analyse at the regional level to build on this questionnaire, and could focus on operational/running costs and employment issues. The

meeting agreed that the Socio Economic Task Group should take this forward, including the design and circulation of the new survey to be completed and analysed. The meeting acknowledged the need to ensure that the Task Group members are updated, play a more proactive role and are less reliant on the Secretariat.

Eighth session of RECOFI

At the eighth session of RECOFI (Muscat, Oman, 12-14 May 2015), the Commission noted that all member countries had agreed to ensure that the Task Group members were updated in order to continue to work on this matter and expand the survey as appropriate and possible. Country delegates were requested to provide the updated Task Group members within two weeks of the conclusion of the eighth session. Regarding the survey questionnaire, the Commission recommended that, while some components of the survey would not need repeating, others should be subject to resurvey and updating. The Commission advised that fishers should be included in future surveys to gather information on their situation and attitudes, and that additional data on operating costs and profit should be collected.

Revised and updated survey questionnaire results are attached as Appendix 3, to incorporate responses from Bahrain which were submitted in April 2015, as well to correct errors which were noted by Iran (I.R.) during the eighth session of the Commission.

WAY FORWARD

After an initial good start with the socio- economic work, the WGFM, in order to ensure continuity in its work on this matter, may wish to consider next steps for how this socio-economic profile can be built for the RECOFI region, using the limited resources available, but taking advantage of the existing Task Group. The current Terms of Reference for the Task Group, as well as the composition of the Task Group itself need to be updated in order to facilitate progress on this area of work. Possible elements which could be included in the Terms of Reference are proposed here for possible discussion:

- Formulation of a basic workplan to build up the socio-economic profile of RECOFI fisheries, to be discussed by the WGFM
- Identification of initial indicators which would be useful for RECOFI fisheries
- Exchange of information of current and future socio-economic data collection and work
- Regular virtual meetings and communication via e-mail or skype to ensure timely exchange of information on socio-economic matters

The WGFM is requested to do the following:

- Provide details of each member country's Task Group member and alternate
- Review and propose updates for the Task Group ToR
- Provide any comments on the utility of the socio-economic work to date and in the future of RECOFI work

Annex 1

Socioeconomic Task Group Members
(as of 6 April 2016)

Country	Task Group Member	Alternate
Bahrain	Nasser Al-Saffar **(Task Group Coordinator)** Senior Specialist, Catch & Licensing Directorate of Fisheries Resources Public Commission for the Protection of Marine Resources, Environment & Wildlife P.O. Box 20071 Manama, Kingdom of Bahrain Tel.: +973 17815872 Mob.: +973 36177221 Fax: +973 17728459 E-mail: nalsaffar@pmew.gov.bh	
Iran IR	Ghazanfar Azadi (Focal Point) Deputy Director General for Fisheries and Fisheries Affairs Iran Fisheries Organization Ministry of Jahad-e-Agriculture No 236, West Fatemi Avenue. P.O. Box 14155-6353 PC 1418636331, Tehran, Iran Tel.: +9821-66941373 Mob.:+989123054502 E-mail: Azadi2222@gmail.com	Behrooz Geranpayeh (Alternate F.P) Expert of Fishing Economy Iran Fisheries Organization Ministry of Jahad -e-Agriculture No 236, West Fatemi Avenue. PO Box 14155-6353 PC 1418636331, Tehran, Iran Tel: +9821-66941373 Mob:+989123220625 E-mail: Geranpayeh@gmail.com
Iraq	Wartan Azzad SERKESS Senior Fish Biologist National Project Coordinator FAO Iraq Ministry of Agriculture/General Board of Fish Resource Development Baghdad Mob.: +9647901497521 E-mail: vart_fish@yahoo.com	
Kuwait	Nashami Alnajar Bio-Researcher, PAAFR nashamialnajar@gmail.com	Maryam Alakroka Jr. Bio-Researcher, PAAFR makroka@gmail.com
Oman	Ruqaiya Al-Bulushi Head of Fisheries Management Section Ministry of Agriculture and Fisheries Sultanate of Oman P.O. Box 467 PC 100, Muscat, Oman Tel.: +968 24953288 E-mail: albulushiruq085@gmail.com	
Qatar	Mehsen Nasser Saleh Specialist Geologist first Department of Fisheries Ministry of Environment	

	P.O. Box 8703 Doha, Qatar Tel.:+974 4420 7633 E-mail: mnmohd@moe.gov.qa	
UAE		
Saudi Arabia	Khalid Saleh Al-Shaye Deputy Director of Marine E-mail-:Kalshaye@gmail.com	

Annex 2

Terms of Reference (as defined and agreed in April 2012)

Socioeconomic Task Group

The need to formulate a plan of work focused on the comprehension and assessment of the social and economic aspects in the RECOFI region relating to and in support of the sustainable management of marine fisheries in the region was agreed at the Workshop on Social and Economic Aspects of Fisheries in the RECOFI region (Bahrain, 22–24 April 2012), and also agreed on the establishment of a Task Group to address the socio-economic dimension of fisheries in the region. The Task Group is established to support and facilitate the work of the Working Group on Fisheries Management (WGFM) focused on the social and economic aspects of RECOFI fisheries.

The Task Group carries out advisory and liaison functions with respect to the WGFM's programme of work in the field of fishery socioeconomics. In addition, the Task Group, through its Coordinator maintains contact with the Commission's Secretariat on issues related to the socioeconomic work plan and related activities.

The meeting agreed on the following terms of reference for the Task Group:

1) Keep informed the relevant national authorities and counterparts on the RECOFI socio-economic work plan and related activities;

2) Identify and liaise with the existing social and economic expertise in each country;

3) Promote and coordinate the implementation of the fishery socio-economic activities in the member countries including basic information gathering, collation and compilation;

4) Contribute to the implementation of the RECOFI socio-economic work including the revision and pilot execution a survey questionnaire;

5) To ensure the effective flow of communications regarding the RECOFI activities to and from national scientific and institutional counterparts, and from relevant stakeholders; and

6) Assist the Task Group Coordinator to formulate a regional work plan for consideration by the WGFM at its sixth meeting (Qatar, October 2012).

Annex 3

Detailed survey results

Question 1 - Price: Indicate price (in local currency) per kg for 2013 of species. Specify lowest and highest price for the species in the year, and indicate where this price is obtained.

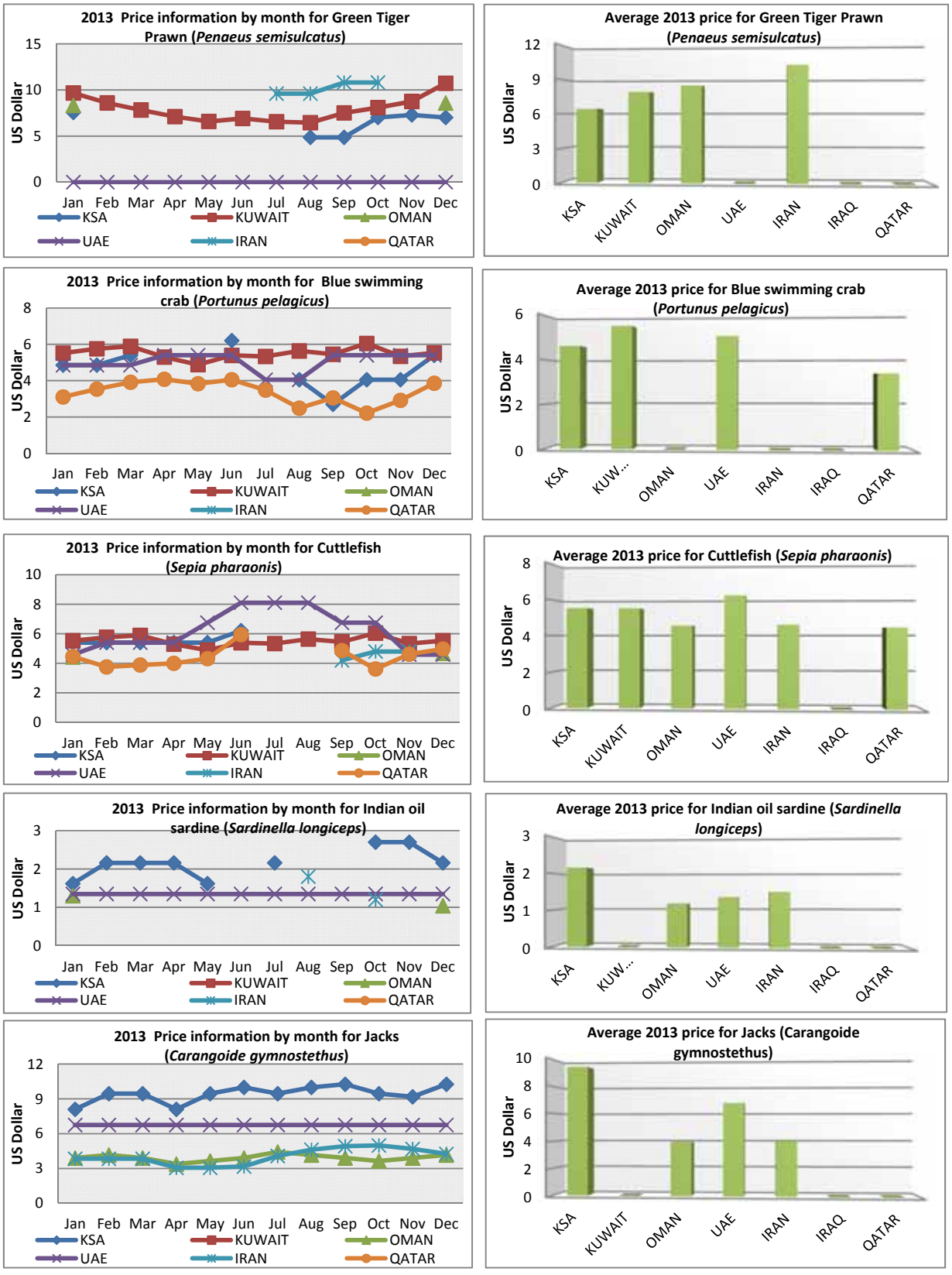
Local currencies were used, and converted to US dollars, using the rate as at July 2013.[1] The details are below in FIGURE 1. The availability of pricing information to the level requested in the questionnaire varied by country, and so the utility of comparing monthly pricing information per species across the countries is limited. Comparing average prices for each species per country might be more useful; it becomes clear that pricing for fish species is not simply correlated with the general pricing of fish from one country to another. For example, while Narrow-barred Spanish Mackerel might be less expensive in Iran (I.R.) than in United Arab Emirates, this is not the case for all of the priority species.

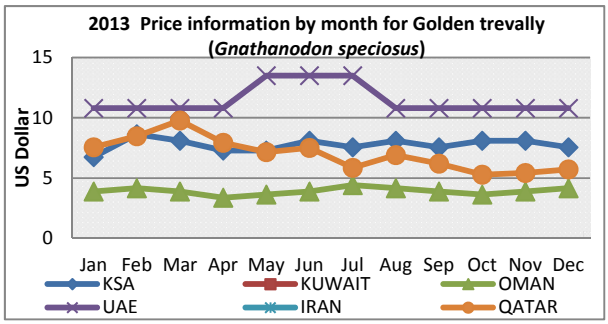
What makes a species more valuable varies from country to country, and further information could be collected, in combination with price to understand the dynamics which impact the value of this species. Additional information that could be used to supplement this information would be to understand its end use, how it is processed, per capita supply (including imports), number of points in the value chain, cultural preferences for species, availability and prices of other protein sources and existing subsidies or other measures taken by member countries which would influence the prices of specific species. This would further enhance the utility of the existing information in its applicability to informing management measures and improving livelihoods of fishers.The majority of countries were able to provide a majority of the information, however price information was not complete for some countries; Iraq was unable to provide any pricing information. Countries provided as detailed information for each species as possible, however sometimes it was not possible to disaggregate the data to the level requested.[2]

[1] 1 USD=3.75 SAR; .285 KWD, .384 OMR, .367 AED, .000067 IRR, .27 QAR

[2] In Oman, the price listed for Jacks (*Carangoide gymnostethus*) is for small Jacks, and the price listed for Golden trevally (*Gnathanodon speciosus*) is for Large Jacks. Also, in the case of both emperors and groupers, prices are not further disaggregated in Omani data, so the same prices are listed for all emperor species as well as all groupers.

FIGURE 1. Price information for priority species 2013




2013 Price information by month for Golden trevally (Gnathanodon speciosus)
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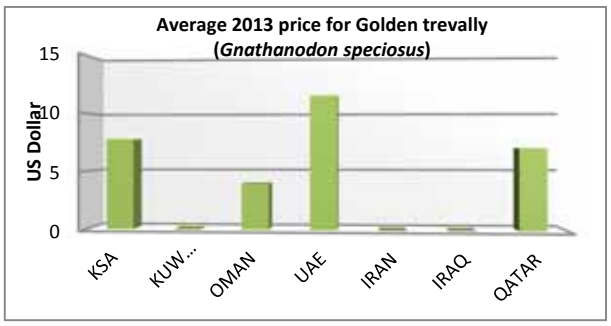
Average 2013 price for Golden trevally (Gnathanodon speciosus)
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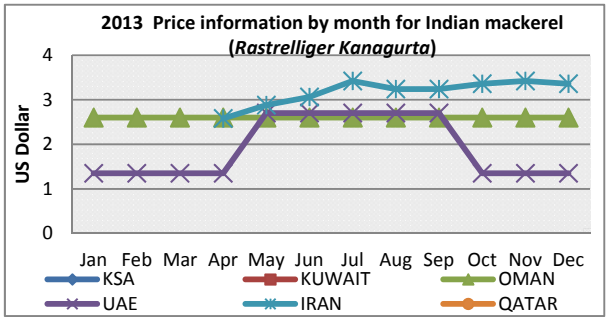
2013 Price information by month for Indian mackerel (Rastrelliger Kanagurta)
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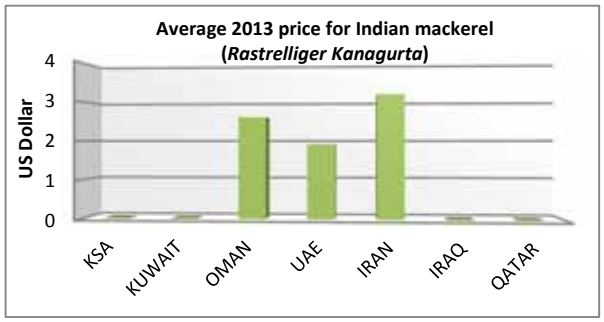
Average 2013 price for Indian mackerel (Rastrelliger Kanagurta)
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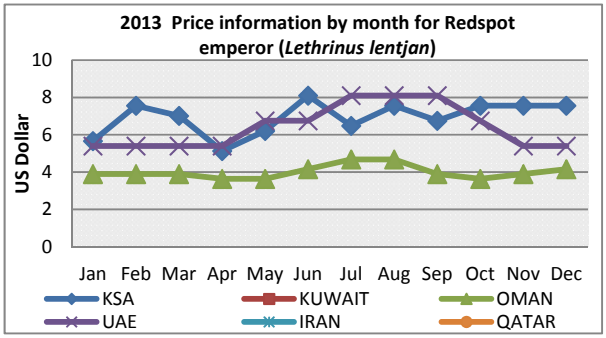
2013 Price information by month for Redspot emperor (Lethrinus lentjan)
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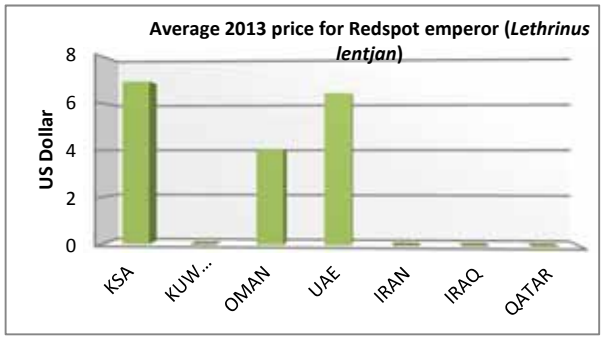
Average 2013 price for Redspot emperor (Lethrinus lentjan)
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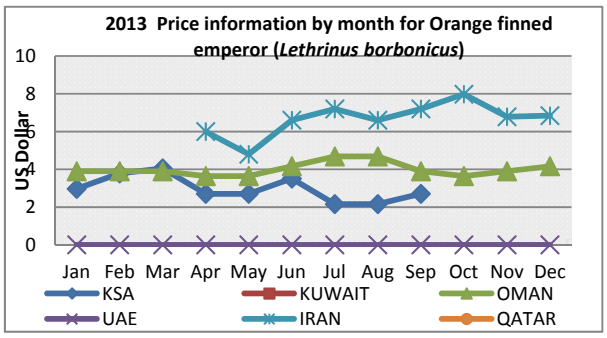
2013 Price information by month for Orange finned emperor (Lethrinus borbonicus)
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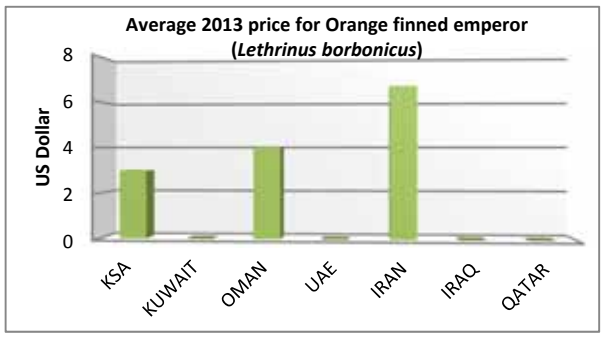
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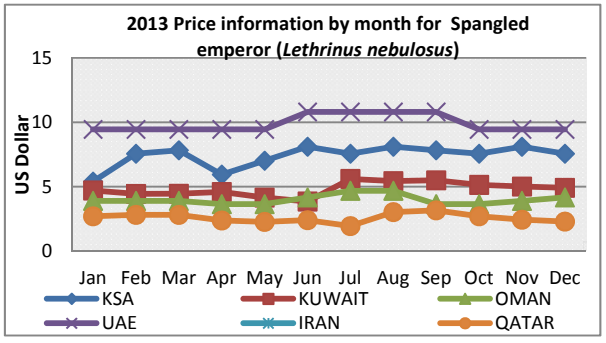
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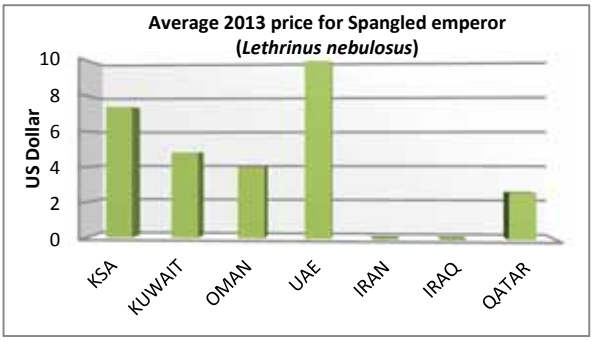
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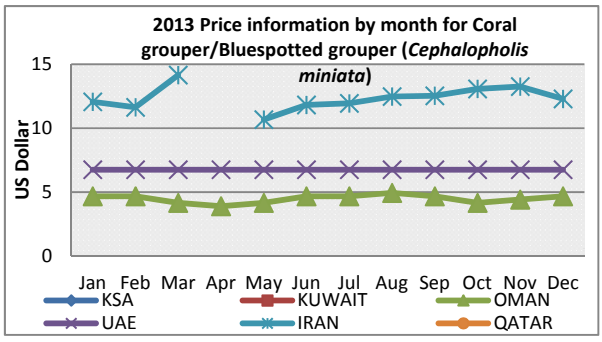
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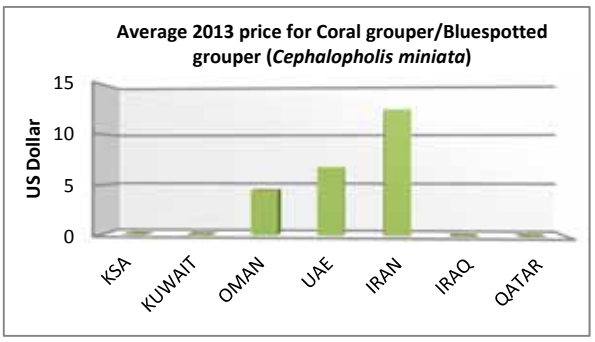
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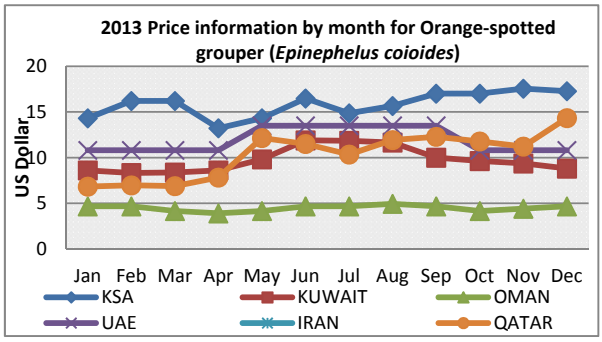
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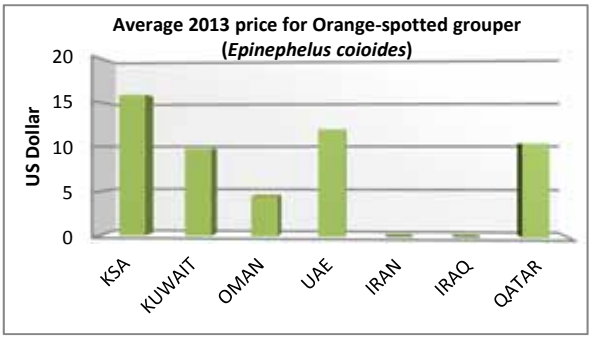
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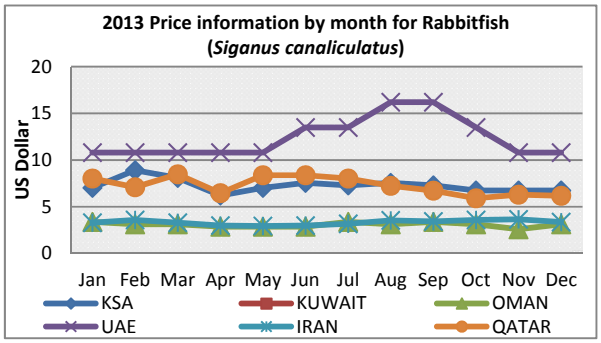
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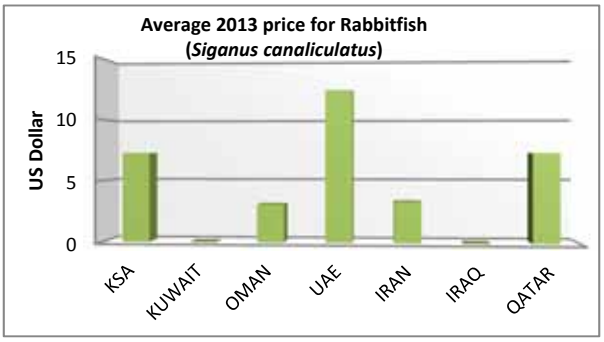
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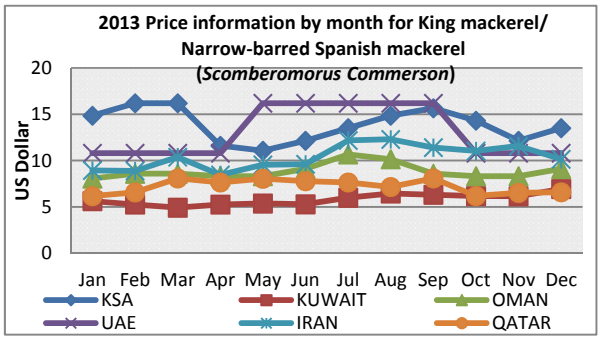
2013 Price information by month for King mackerel/ Narrow-barred Spanish mackerel (Scomberomorus Commerson)
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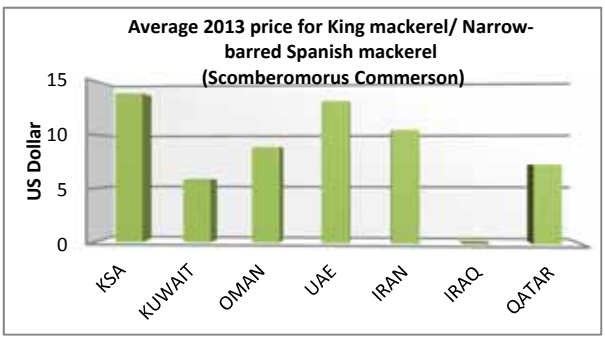
Average 2013 price for King mackerel/ Narrow-barred Spanish mackerel (Scomberomorus Commerson)
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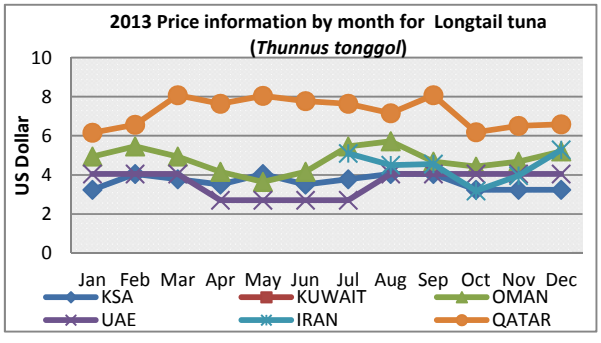
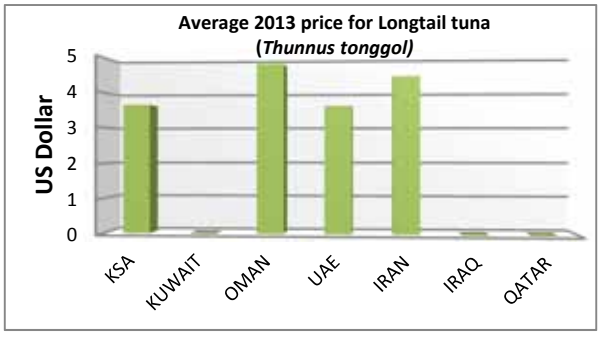
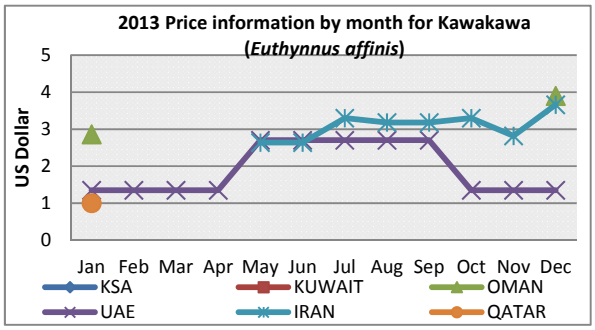
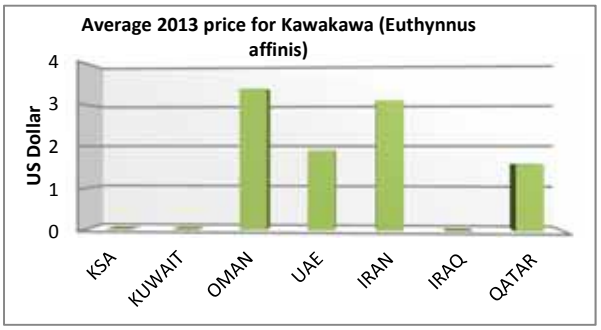
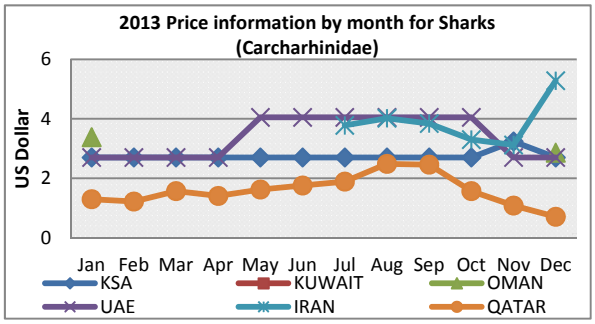
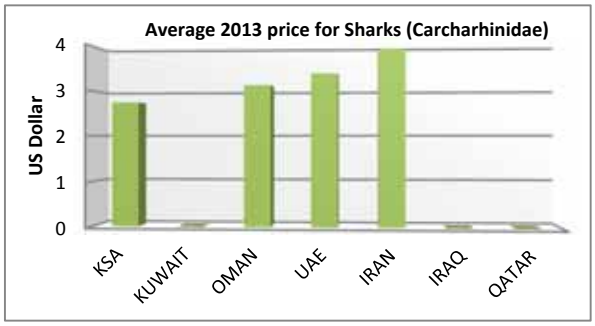

2013 Price information by month for Longtail tuna (Thunnus tonggol)
US Dollar
10
8
6
4
2
0
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
KSA
KUWAIT
OMAN
UAE
IRAN
QATAR


Average 2013 price for Longtail tuna (Thunnus tonggol)
US Dollar
5
4
3
2
1
0
KSA
KUWAIT
OMAN
UAE
IRAN
IRAQ
QATAR









Most countries indicated that price information was obtained at markets.

Question 2 - Destination markets: for each species check all that apply in terms of the destination market, and also indicate if this species is also imported.

Information is detailed below in Figure 2 on the destination markets by species for each country. Respondents were requested to provide information on the proportion of the production which was for domestic consumption versus export, and to also indicate whether or not the species was imported. A number of trends were revealed; some trends were national, for example the United Arab Emirates consumed all that it produced of priority species and did not export at all. Additionally, most of the species were also imported to meet the local demand not met by local supply. While this was the most obvious example, a similar trend was noted in Kuwait, although in this case production was only indicated for nine of the priority species, and for one (Green Tiger Prawns (*Penaeus semisulcatus*)) it was indicated that a small percentage (1 to 25) was exported. In contrast, in Bahrain and Oman many species were both consumed domestically and also exported, to varying degrees. Species specific trends which were included Green Tiger Prawns (*Penaeus semisulcatus)*, which was the species where some level of export was indicated most frequently, if the percentage of the production varied, which is noticeable given that priority species export was not particularly common. Oman and Iran (I.R.) both indicated that between 50 and 75 percent of production of Green Tiger Prawns were exported. Additionally, both Bahrain and Iran (I.R.) indicated a high level (75 to 100 percent) of export of cuttlefish (*Sepia pharaonis*). Finally, King mackerel/Narrow-barred Spanish mackerel (*Scomberomorus Commerson*) noticeably was almost entirely consumed domestically in all RECOFI member countries, many supplementing domestic production with imports.

FIGURE 2. Destination markets of priority species.

	Green Tiger Prawns (*Penaeus semisulcatus*)					
	Production (2012)[3]	Destination Market				Imported (Y or N)
		Local /Domestic	%	International	%	
Bahrain	2490	Yes	76-100%	Yes	1-25%	Yes
Iran		Yes	26-50%	Yes	51-75%	No
Iraq	984					
KSA	6300	Yes	76-100%	Yes	1-25%	No
Kuwait		Yes	76-100%	Yes	1-25%	
Oman		Yes	26-50%	Yes	51-75%	Unsure
Qatar		Not Applicable		Not Applicable		No
UAE						

	Blue swimming crab (*Portunus pelagicus)*					
	Production (2012)	Destination Market				Imported (Y or N)
		Local /Domestic	%	International	%	
Bahrain	4319	Yes	1-25%	Yes	76-100%	No
Iran	1679	Not Applicable				
Iraq						
KSA	3800	Yes	51-75%	Yes	26-50%	No
Kuwait	20	Yes	76-100%			
Oman						Unsure
Qatar	78	Yes	1-25%	No	0	Yes
UAE	920	Yes	76-100%			Yes

	Cuttlefish (*Sepia pharaonis*)					
	Production (2012)	Destination Market				Imported (Y or N)
		Local /Domestic	%	International	%	
Bahrain	264	Yes	1-25%	Yes	76-100%	Yes
Iran	4090	No	0	Yes	76-100%	No
Iraq						
KSA	1220	Yes	76-100%	Yes	1-25%	No
Kuwait		Yes	76-100%			
Oman	6530	Yes	51-75%	Yes	26-50%	Yes
Qatar	90	Yes	1-25%	No	0	Yes
UAE	480	Yes	76-100%			Yes

	Anchovies (Stolephorus spp.)					
	Production (2012)	Destination Market				Imported (Y or N)
		Local /Domestic	%	International	%	
Bahrain						
Iran		Yes	76-100%	No	0	No
Iraq						
KSA		Not Applicable	0	No	0	No
Kuwait		No				
Oman		Yes	51-75%	Yes	26-50%	No
Qatar		Not Applicable		Not Applicable		No
UAE	520	Yes	76-100%			Yes

[3] This information was *not* gathered in the survey questionnaire, but rather added according the information available on FAO FishStat to complement the information given in the questionnaire.

	Indian oil sardine (*Sardinella longiceps*)					
		Destination Market				Imported (Y or N)
	Production (2012)	Local /Domestic	%	International	%	
Bahrain		Yes	1-25%	Yes	76-100%	Yes
Iran	33263	Yes	76-100%	No	0	No
Iraq						
KSA		Yes	76-100%	No	0	Yes
Kuwait		No				
Oman	43549	Yes	26-50%	Yes	51-75%	No
Qatar		Not Applicable		Not Applicable		No
UAE		Yes	76-100%			Yes

	Jacks (*Carangoide gymnostethus*)					
		Destination Market				Imported (Y or N)
	Production (2012)	Local /Domestic	%	International	%	
Bahrain		Yes	76-100%	Yes	1-25%	Yes
Iran		Yes	76-100%	No	0	No
Iraq						
KSA		Yes	51-75%	No	0	Yes
Kuwait						
Oman		Yes	1-25%	Yes	76-100%	Unsure
Qatar		Not Applicable		Not Applicable		No
UAE		Yes	76-100%			Yes

	Golden trevally (*Gnathanodon speciosus*)					
		Destination Market				Imported (Y or N)
	Production (2012)	Local /Domestic	%	International	%	
Bahrain	57	Yes	76-100%	No	0	Yes
Iran		Yes	76-100%	No	0	No
Iraq						
KSA		Yes	51-75%	No	0	Yes
Kuwait	540					
Oman		Yes	76-100%	Yes	1-25%	No
Qatar	168	Yes	1-25%	No	0	Yes
UAE	390	Yes	76-100%			Yes

	Indian mackerel (*Rastrelliger Kanagurta*)					
		Destination Market				Imported (Y or N)
	Production (2012)	Local /Domestic	%	International	%	
Bahrain		Yes	76-100%	Yes	1-25%	Yes
Iran	2272	Yes	76-100%	No	0	No
Iraq						
KSA		Yes	76-100%	No	0	No
Kuwait						
Oman	8596	Yes	51-75%	Yes	26-50%	No
Qatar		Not Applicable		Not Applicable		No
UAE	1420	Yes	76-100%			Yes

	Orange finned emperor (*Lethrinus borbonicus*)					
		Destination Market				Imported (Y or N)
	Production (2012)	Local /Domestic	%	International	%	
Bahrain		Yes	51-75%	Yes	51-75%	No
Iran		Yes	76-100%	No	0	No
Iraq						
KSA	680	Yes	76-100%	Yes	1-25%	Yes
Kuwait		Yes	76-100%			
Oman		Yes	51-75%	Yes	26-50%	No
Qatar		Yes	1-25%	Yes	1-25%	Yes
UAE		Yes	76-100%			Yes

	Redspot emperor (*Lethrinus lentjan*)					
		Destination Market				Imported (Y or N)
	Production (2012)	Local /Domestic	%	International	%	
Bahrain	158	Yes	76-100%	Yes	1-25%	Yes
Iran		Not Applicable				
Iraq						
KSA	2550	Yes	76-100%	Yes	1-25%	Yes
Kuwait		Yes	76-100%			
Oman		Yes	51-75%	Yes	26-50%	Unsure
Qatar		Yes	1-25%	Yes	1-25%	Yes
UAE	9450	Yes	76-100%			Yes

	Spangled emperor (*Lethrinus nebulosus*)					
		Destination Market				Imported (Y or N)
	Production (2012)	Local /Domestic	%	International	%	
Bahrain	810	Yes	76-100%	Yes	1-25%	Yes
Iran	3637	Not Applicable				
Iraq						
KSA		Yes	76-100%	Yes	1-25%	Yes
Kuwait		Yes	76-100%			
Oman		Yes	51-75%	Yes	26-50%	Unsure
Qatar		Yes	26-50%	Yes	26-50%	Yes
UAE	5640	Yes	76-100%			Yes

	Coral grouper/Bluespotted grouper (*Cephalopholis miniata*)					
		Destination Market				Imported (Y or N)
	Production (2012)	Local /Domestic	%	International	%	
Bahrain						
Iran		Yes	76-100%	No	0	No
Iraq						
KSA		No	0	No	0	Yes
Kuwait						
Oman		Yes	51-75%	Yes	26-50%	Unsure
Qatar		Not Applicable		Not Applicable		No
UAE		Yes	76-100%			Yes

	Orange-spotted grouper (*Epinephelus coioides*)					
	Production (2012)	Destination Market				Imported (Y or N)
		Local /Domestic	%	International	%	
Bahrain		Yes	76-100%	No	0	Yes
Iran	4402	Not Applicable				
Iraq						
KSA		Yes	76-100%	No	0	Yes
Kuwait		Yes	76-100%			
Oman		Yes	51-75%	Yes	51-75%	Unsure
Qatar		Yes	1-25%	No	0	Yes
UAE	3750	Yes	76-100%			Yes

	Rabbitfish (*Siganus canaliculatus*)					
	Production (2012)	Destination Market				Imported (Y or N)
		Local /Domestic	%	International	%	
Bahrain				No	0	
Iran		Not Applicable				
Iraq						
KSA		Yes	76-100%	No	0	Yes
Kuwait						
Oman		Yes	76-100%	Yes	1-25%	Unsure
Qatar		Yes	1-25%	No	0	Yes
UAE		Yes	76-100%			Yes

	King mackerel/ Narrow-barred Spanish mackerel (*Scomberomorus Commerson*)					
	Production (2012)	Destination Market				Imported (Y or N)
		Local /Domestic	%	International	%	
Bahrain	161			No	0	
Iran	16510	Yes	76-100%	No	0	Unsure
Iraq						
KSA	5042[4]	Yes	76-100%	No	0	Yes
Kuwait	90	Yes	76-100%			
Oman	5620	Yes	76-100%	No	0	Yes
Qatar	1808	Yes	1-25%	Yes	1-25%	Yes
UAE	8250	Yes	76-100%			Yes

	Longtail tuna (*Thunnus tonggol*)					
	Production (2012)	Destination Market				Imported (Y or N)
		Local /Domestic	%	International	%	
Bahrain		Yes	26-50%	Yes	26-50%	Yes
Iran	76297	Yes	76-100%	Unsure	0	Unsure
Iraq						
KSA		Yes	76-100%	No	0	No
Kuwait						
Oman	14287	Yes	76-100%	No	0	No
Qatar		Not Applicable		Not Applicable		No
UAE	760	Yes	76-100%			Yes

[4] Includes production from the Red Sea as well as the RECOFI area.

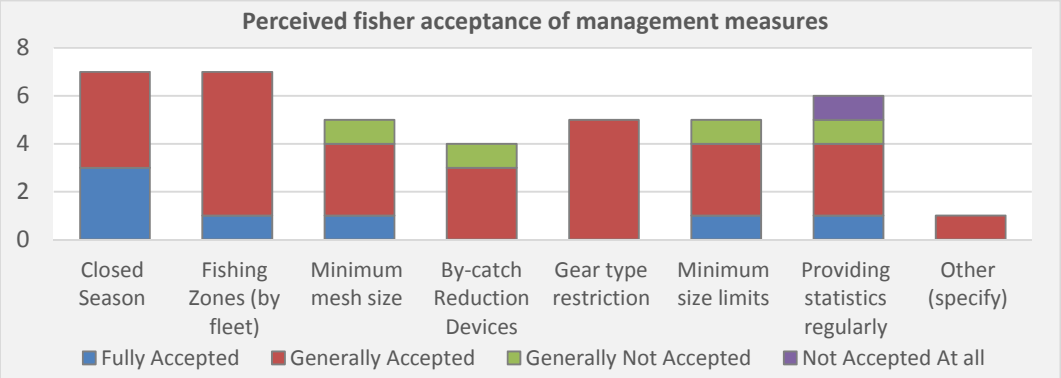
	Kawakawa (*Euthynnus affinis*)					
		Destination Market				Imported (Y or N)
	Production (2012)	Local /Domestic	%	International	%	
Bahrain	26249	Yes	1-25%	Yes	76-100%	No
Iran		Yes	76-100%	No	0	Yes
Iraq						
KSA	1200	No	0	No	0	No
Kuwait						
Oman	4609	Yes	76-100%	Yes	1-25%	No
Qatar		Yes	1-25%	Yes	1-25%	Yes
UAE	310	Yes	76-100%			Yes

	Sharks (Carcharhinidae)					
		Destination Market				Imported (Y or N)
	Production (2012)	Local /Domestic	%	International	%	
Bahrain		Yes	1-25%	Yes	76-100%	No
Iran		Yes	76-100%	Unsure	0	No
Iraq						
KSA	440	Yes	76-100%	No	0	No
Kuwait		Yes	76-100%			
Oman	5482	Yes	76-100%	Yes	1-25%	No
Qatar		Yes	1-25%	No	0	Yes
UAE	1350	Yes	76-100%			Yes

Question 3 – Perceived fisher acceptance of management: What is the view of fishers on existing management tools?

For each management measure, it was requested to choose from four options to indicate the perceived level of acceptance by fishers on each. In RECOFI member countries, the number of management measures employed ranged between 1 and 8, with an average of 5.5. In terms of the perceived acceptance of the management measures by fishers, for the most part fishers generally accepted and trends for particular management measures in the RECOFI region were not evident. It appears that management measures may be more accepted in some countries and less accepted in other countries. For example, in Saudi Arabia, Oman and Iran (I.R.), all management measures employed were considered either generally or fully accepted by fishers. In contrast, the majority of management measures employed in Bahrain were perceived to be not at all accepted by fishers. This information creates a superficial picture on this topic, and warrants further exploration into how the management measures are decided and employed, whether the measures are accompanied by compensation and the approach to implementation.

FIGURE *3*. Attitude of fisher on management tools.



Question 4 - Conflicts/problems: What are the most common conflicts that have appeared in the fisheries sector from 2010-2013 (check all that apply, and indicate any solutions or measures taken to address problem).

Respondents were requested to indicate which were of the indicated challenges were applicable and if they were a problem, then which fisheries did they impact (small-scale, commercial/industrial, recreational). The main problems and challenges faced in the fishing industry included habitat loss and biomass/catch reduction, with seven RECOFI member countries indicating that these were a problem. This was followed closely by conflicts with the oil industry, which was indicated by six member countries. IUU fishing and conflicts with urbanization were indicated as problems by five member countries. The number of conflicts and problems indicated by individual member countries ranged from two to eight problems, with an average of 5.3 per country. All of the problems indicated are indicated as most frequently experienced by the small-scale/artisanal fishery sector. IUU fishing and conflicts with the oil industry are the problems which are more frequently listed as affecting the commercial/industrial fishery sector when compared with the other problems.

FIGURE 4 Conflicts and challenges affecting fisheries.

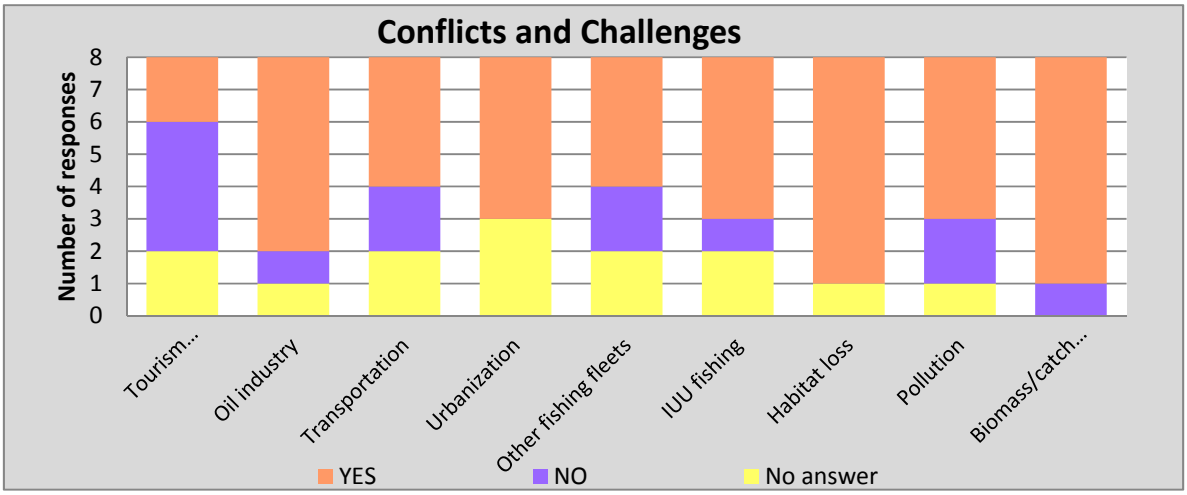
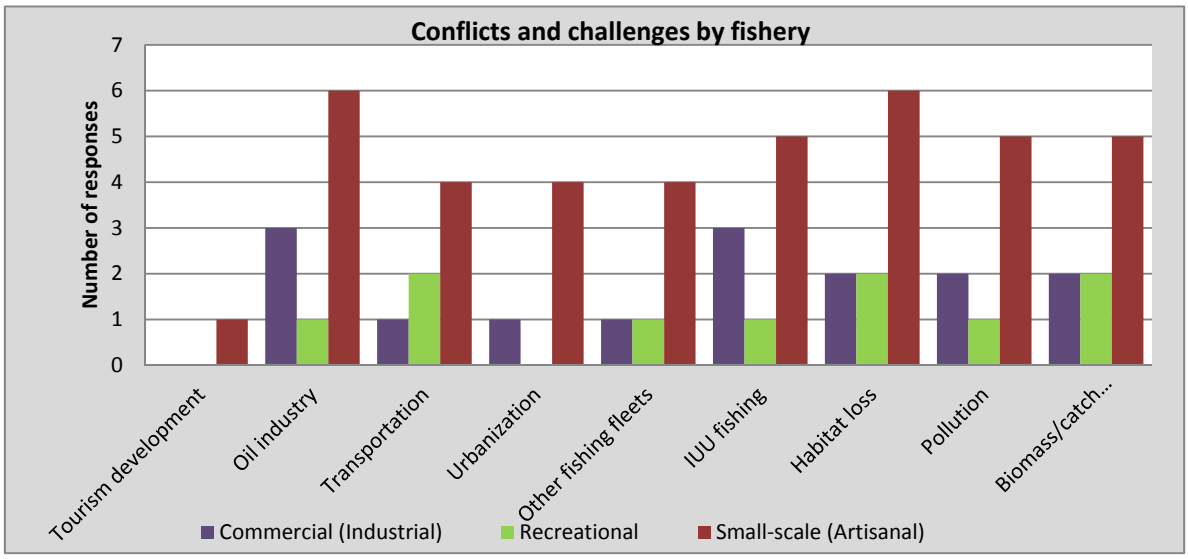


Figure 5 Fisheries affected by conflicts/challenges



Additionally, respondents were requested to indicate whether any solution was attempted to mitigate the challenge faced. As highlighted below in TABLE 1, a variety of solutions were proposed by Oman, Qatar and Iran (I.R.) to address specific problems.

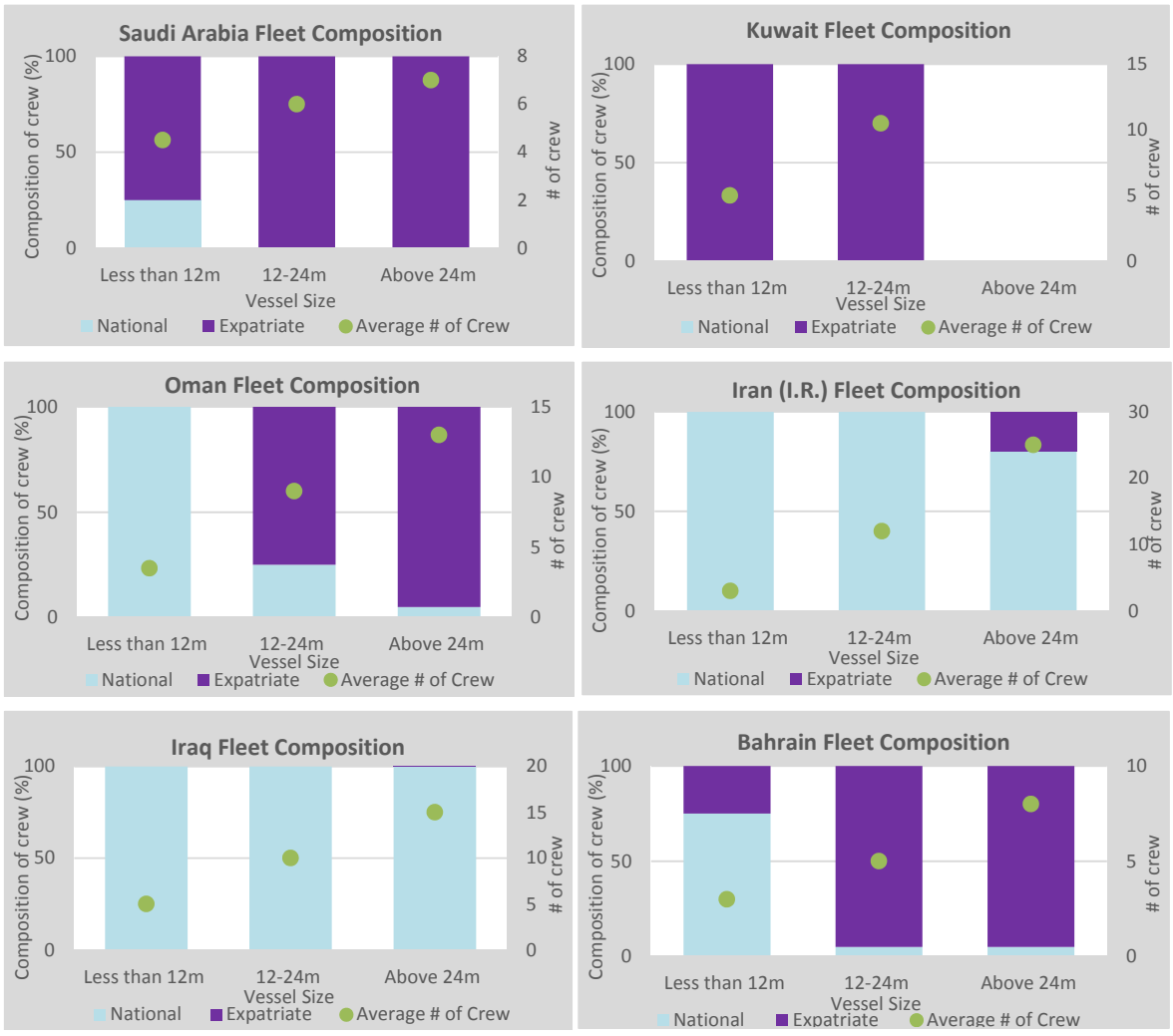
TABLE 1. Attempted solutions to address challenges.

Problem	Attempted solutions
Tourism development	--
Oil industry	Supporting socio-economic activities (Oman)
Transportation	--
Urbanization	Rehabilitation of coastal areas, ICZM (Qatar)
Other fishing fleets	Setting fishing zones (Oman)
IUU fishing	Providing conservation and exploitation Act of Aquatic Resources and establishment of marine protected unit (Iran, I.R.), Control and surveillance (Bahrain)
Habitat loss	Artificial reefs projects (Oman), Rehabilitation of coastal areas, ICZM, Compensation (Qatar), Protection (Bahrain)
Pollution	Environmental actions (Bahrain)
Biomass/catch reduction	Reduce fishing effort (Bahrain)

Question 5 - Fleet composition and fisher income share: Indicate composition of fishers on vessel and method of income, by vessel size.

The composition of the crew of fishing vessels, in terms of whether they were nationals or expatriates was identified, as well as the total number of crew on board. Where a range was provided, the median number was used. The proportion of expatriates versus national crew varies from country to country. The highest proportion of expatriates were in Kuwait and Saudi Arabia with the lowest being in Iraq.

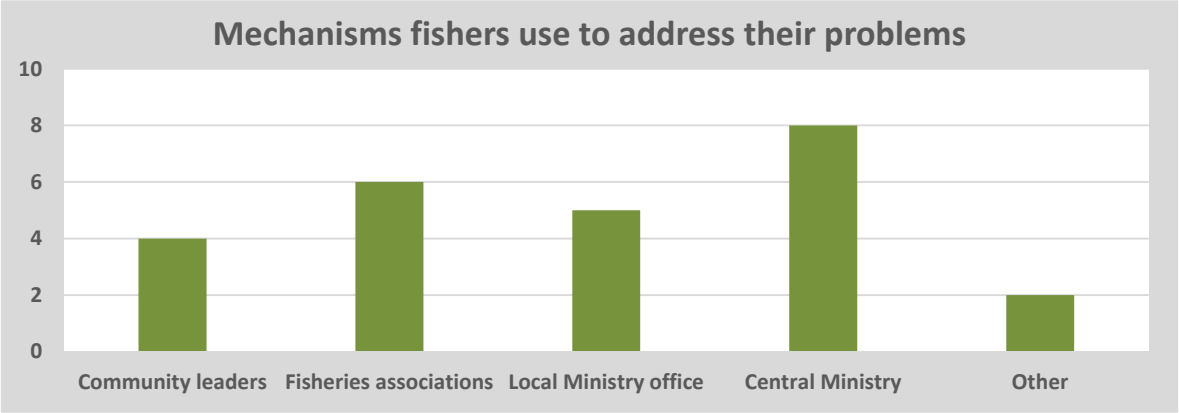
FIGURE 6. Composition of crew by vessel size.



Additionally, in Oman the small-scale fishery crews are comprised entirely of national fishers, while the number of expatriates increases with the vessel size.

Question 6: How do fishers address the problems they face?

The means for addressing problems varied, and on average fishers addressed their problems in 3 places, and in some Member countries up to four means were employed, while in others only only one or two were used. The Central Ministry was the most commonly cited means for addressing problems, followed by the Local Ministry Office and Fisheries Associations.



Question 7 - Describe the process of designing, implementing or communicating any management policy to fishers.

This question was asked in order to try to get a picture of the means and level of influence at different levels of management. This varied greatly, whereby some Member countries employed an approach that focused on the central ministries and laws as the means for fisheries management, to other countries which used a method that was consultative and participatory at the different levels of management and governance.

Country	Method
KSA	Legislation and regulations from specialists and researchers of fisheries with cooperation of the legal department of ministry and formulated in an operational systems of fisheries.
KUWAIT	The management of fisheries is the fisheries sector in PAAF and the implementation is by coast guard, Ministry of commerce, Ministry of Interior and Kuwait Fishermen Union.
OMAN	Design (preparing): Managers, Research and consultation of Sunat Al-Bahar. Communication: Request of feedback from Sunata Al bahar on the draft proposal. Implementation: Ministry establishing decision/policy which is implemented through the local (Regional) representatives of the Ministry.
UAE	--
IRAN IR	Getting the fishing community comments Organizing Commission and committees of fishery management with the participation of representatives of the fishing community Determining annual Policies and programs Notification of Annual policies and programs to the fishing cooperatives and fisheries management bodies in coastal Provinces Monitor the implementation of projects in cooperation with fisheries cooperatives
IRAQ	In Iraq, fisheries and aquaculture are currently dealt with under the General Fisheries Law no. 48 of 1976 (1976 Fisheries Law). The 1976 Fisheries Law comprises seven chapters and 36 articles. The 1976 Fisheries Law establishes the Company, a state enterprise that is responsible for the regulation of the sector and that has an executive role in carrying out fisheries and aquaculture activities. The 1976 Fisheries Law largely ignores sea fisheries, and only mentions fishing in the territorial sea, for which a license should be obtained in conformity with the relevant regulation (of which no English translation exists), and, in very broad terms, high seas fishing. Article 9 provides that the Company has the right to carry out fishing activities on the high seas, but does not provide any detail on how to regulate such fishing activities. The 1976 Fisheries Law thus leaves sea-fisheries unregulated, except for fishing activities in the territorial sea. A new draft policy and law was done with cooperation with FAO, first reading of this draft was finished with The Ministry of Justice, waiting to be issued.
Qatar	Development precautionary measures, in the absence of scientific study; Conduct stock assessment study and develop management strategy including monitoring, control & surveillance as well as monitoring and evaluation indicators; Develop and implement awareness programme for all the relevant stakeholders; Issuance and application of ministerial decisions including fisheries management regulations.
Bahrain	Shrimp season: Ministry decree issue to ban shrimping and control has started to prevent illegal fishermen

Question 8: The contribution of the artisanal/small-scale fishery sector to total fish production, employment and local food supply

This question was phrased in manner which was not completely clear, and thus the responses cannot be considered accurate. The question was intended to elicit responses on the contribution of the small-scale artisanal sector as a proportion of the total fisheries sector. However, as it is known that the small-scale fisheries sector has a generally higher contribution than larger scale fisheries, it seems that some of the responses are not completely reflective of the situation, particularly in the case of employment and local food supply.

Country	Total production		Employment	Local food supply
	Quantity	Value		
KSA	99.80		100	
KUWAIT	93	95		
OMAN	98.8	96.9	54.3	52.4
UAE	100	100	100	
IRAN IR	85	80	90	92
IRAQ	10	12	40	10
QATAR	100	100		
BAHRAIN	100	100	7.5	30
RECOFI Average	96	95		

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APPENDIX 10

UPDATE ON THE IMPLEMENTATION OF THE RECOFI RECOMMENDATION ON MINIMUM DATA REPORTING

INTRODUCTION

1. At the Eighth Session of the RECOFI (RECOFI-VIII) held in Muscat, Oman, 12-14 May 2015, the Secretariat informed that the data reported under the RECOFI Recommendation RECOFI/6/2011/1, entitled "Recommendation on minimum data reporting in the RECOFI area" (Appendix 1), has become providing an adequate basis for monitoring the status of fishing operations and resources and supporting for taking management decisions, and urged the Commission to establish a common database and an agreed data access policy. Correspondingly, while the Commission agreed the need of an agreed data access protocol and standardized and integrated data based and instructed to the Working Group on Fisheries Management (WGFM) to review the set of standard terminologies proposed, it avoided making commitment moving toward this direction.

2. The document briefly reminds the background and objectives of the Recommendation RECOFI/6/2011/1 in contrast with the current situation and urges the Members to seriously consider how to move forward. The majority of the content of this document is the same as those in the RECOFI/VIII/2015/9.

HISTORY AND OBJECTIVES OF THE RECOFI RECOMMENDATION ON MINIMUM DATA REPORTING

3. It should be noted that the RECOFI Recommendation on Minimum Data Reporting was established as an initial part of process establishing a pragmatic management scheme based on an Ecosystem Approach to Fisheries Management with adaptive management procedures, the decision taken by the 2nd meeting of the WGFM (Cairo, Egypt, 27-30 October 2008), endorsed by the fifth Session of the RECOFI (Dubai, United Arab Emirates, 12-14 May 2009).

4. Following this decision, the FAO/RECOFI Regional Workshop on Stock Indicators and Stock Status Reporting (Tehran, Islamic Republic of Iran, 26–29 July 2009) reviewed data and statistics availability in the region and stock status reporting and recognized the lack of information commonly accessible through the Region. The meeting identified the three key issues in the region, i) the impact of shrimp trawls, ii) status of general finfish resources, signified with emperors and groupers, biologically vulnerable component, and iii) status of priority species, initiated with shared assessment of Spanish mackerel, and determined the minimum data requirement to address these key issues from the perspective of monitoring stocks and fisheries status. The concept was further developed through the 3rd meeting of WGFM (Doha, Qatar, 20-22 October 2009) and the 4th meeting of WGFM (Muscat, Sultanate of Oman, 3-5 October 2010) and the 6th session of RECOFI (Rome, Italy, 10-12 May 2011) endorsed the Recommendation RECOFI/6/2011/1, entitled "Recommendation on minimum data reporting in the RECOFI area".

5. Following, the 3rd meeting of WGFM agreed to establish the regional database to maintain the information that directly supported fishery management in the region as a public asset of the Commission. In addition, considering the outcomes of the Workshop, the WGFM-3 elaborated operational objectives (i.e. what goals should be achieved through the implementation of EAF), as follows and anticipated further discussion at the 4th WGFM on specific actions, reference points, status monitoring indicators and indicators to monitor achievements:

Income and fish supply:

- maintain fishers' income above the reference level;
- ensure the quality of fish for food; and
- ensure maximize incomes generated per quantity of catch through improving quality.

Status of key species:

- maintain the stock of Spanish mackerels above the reference level; and
- maintain healthy conditions for coastal finfish communities, in keeping groupers and emperors stocks above the reference level.

Vulnerable components:

- maintain bycatch of shrimp trawls under the reference level;
- maintain a healthy ecosystem to support fish production of key species (including both physical and biological [e.g. feed] environments);
- minimize impacts of fishing gears on natural environments (i.e. the proportion of use of bycatch reducing devices); and
- marine protected areas (e.g. maintenance of biodiversity and the protection of marine habitats).

Other components:

- update regularly legislation and regulations on fisheries management;
- enhance MCS to enforce regulations;
- promote education and awareness raising among fishers for effective management and environmental-friendly operations;
- cooperate with other bodies/sectors on how to protect marine ecosystems;
- rehabilitate the ecosystems through enhanced collaboration with other sectors, as much as possible;
- enhance monitoring effects of river-flow, especially in the northern area of the Gulf, and land-based activities on marine ecosystems; and
- implement appropriate regulation and controls on recreational fishing activities.

6. The Recommendation on the Minimum Data Reporting entered into force on 1 January 2012 after two years preparatory phase. In 2015, RECOFI-VI was informed that the data submitted under the Recommendation would provide an adequate basis for monitoring the status of fishing operations and resources and taking management decision. On the other hand, the other mechanisms implementing the ecosystem management approach of effective fisheries management, including an establishment of regional database, development operational objectives and corresponding monitoring indicators, and joint stock assessment of Spanish mackerel, have not yet been achieved, though all of them are at their quite mature state with substantive preparatory works already done and wait for the final decisions/ commitment. Data and information would have its value only when utilized in proper effective manner. This would be the time to concentrate to finalize all remaining task and to initiate actual implementation of ecosystem based approach of fisheries management in the Region.

DATA SUBMISSION IN 2015 ACCORDING TO THE RECOFI RECOMMENDATION ON MINIMUM DATA REPORTING

7. For the 2015 round of data submission, Bahrain and Qatar has submitted the 2014 data at the moment of this report preparation.

8. The general situation has remained as the same as reported at the RECOFI-VIII. Bahrain, Iran, Oman, Qatar, and Saudi Arabia have fully proven their capacity of regularly reporting the catch and effort information defined in the Recommendation. While Iraq has made its effort of providing a comparable information within its capacity, Kuwait and UAE have never submitted the information under the Recommendation. The format and extent of content details differs among the Members. Saudi Arabia submitted all detailed data collected (disaggregated in month, gear-vessel size classifications, species,

operating areas, and landing sites). Bahrain, Oman and Qatar provided annual catch and effort table (Oman with monthly for 2012 and 2013 data) with gear-vessel size classifications and species. Iran and Iraq provided tables of aggregated indicators. Majority of data were submitted in Excel, while Iran utilizes pdf, Iraq with word file, and Oman with text format readily to be integrated into any database format.

9. All the Members who submitted data provided catch and effort for whole national fisheries, not limited to those three gears defined in the Recommendation. Total amount of catch reported under the Recommendation indicated a good correspondence with the total catch reported for the RECOFI Capture Database. Oman and Saudi Arabia submitted monthly data that also covers the requirement of monthly catch data for Spanish mackerels (4-a.i). Bahrain provided average size of Spanish mackerel for the period from 2004 to 2014 as a part of 4-a-ii.

10. As a result of five of eight members providing a catch and effort data of whole national fisheries, the catch and effort data submitted under the Recommendation currently covers 64 % of whole catch taken under the RECOFI area and 59 % of catch in the Gulf. The apparent coverage for key species groups for monitoring, i.e. shrimps, kingfishes (Scomberomorus spp.), groupers (Epinephelus spp.), and emperors (Lethrinus spp.) for 2013, is shown in the table below. It should be noted that those ratios were calculated based on the scientific names reported and did not take into account the amount of catch reported under higher species aggregations. Further information on coverage of data submitted under the Recommendation is in Appendix 2.

Table: Catch and effort data reported under the Minimum Data Recommendation, in comparison with the catch amount reported for the RECOFI catch data.

	Whole RECOFI Area	**Gulf**
Total Catch	64%	59%
Shrimp	82%	85%
Kingfishes	81%	77%
Groupers	56%	48%
Emperors	59%	36%

11. Comparable data is generally available for the year 2009 and after. In addition, historical data is available for Bahrain (1986 onward) and Saudi Arabia (2006 onward). Oman informed the 7th meeting of the WGFM its intention to make the historical data since 1984 available to the Commission after reprocessing data in accordance with the current fishing gears and boats classifications.

12. This level of coverage would be in general adequate for further analysis and to utilize as a basis of fisheries management decisions in ecosystem approach, total lack of information on the catch of the second largest fishing country in the Region (the United Arab Emirates), accounting for 20 % of finfish catch in the Gulf, raises a serious concern. On the other side, Kuwait repeatedly informed the existence of relevant data that are not yet made available to the Commission. While the 7th meeting of the WGFM urged once again Kuwait to finalize the internal process to make the data compiled by the KISR available to the RECOFI fishery management process, the situation has not yet changed.

ACTION NEEDED TOWARD THE DISSEMINATION OF DATA AND INFORMATION COLLECTED UNDER THE RECOMMENDATION

13. The RECOFI-VIII acknowledged the need to establish an agreed data access protocol and develop a standardized and integrated database prior to the dissemination of data. According to the Commission's decision to disseminate immediately the data and information collected under the Recommendation on Minimum Data Reporting with the RAIS immediately, they haves become urgent needs.

14. First, following the RECOFI-VIII request, the WGFM is invited to review the set of standard terminologies. The standard classifications and terminologies would serve as the basis of the standard data submission format and establishing an integrated regional database.

15. Second, regarding to a protocol for data collection for size frequency of the narrow-barred Spanish mackerel, there are two general ways in reporting size frequency data, i) to report individual size measurement taken, and ii) to report size frequency after raising sample measurement data into catch size frequency. Due to technical difficulty and uncertainty relating through raising process, the experts in stock assessment usually prefer the former option, that could be more suitable for the Region where the sampling methodologies may differ widely according to the Members. As an initial implementation, it would be more pragmatic to ask Members to provide any size frequency data available with their own convenient format.

16. Qatar informed that it routinely collects the average weight of Spanish mackerel as part of the on-going catch/effort survey, based on eye-estimated fish weight, separated by boat/gear category. Bahrain provided average length of annual Spanish mackerel catch. The information could be used to monitor general trend as well as for identifying differences across fishing gears, fishing grounds, seasons, etc. In the case of difficulty in providing size frequency data, average size could be useful supplementary information.

17. Regarding the data access policies, the Secretariat has maintained all data submitted in its original format. The 7th meeting of WGFM agreed to maintain all detailed information submitted in this framework, including disaggregation of catches taken by recreational fishing, considering that the Recommendation should serve as a minimum standard and should not constrain efforts to collect information beyond those defined (Article 1-b). On the other hand, public dissemination of data with high level of details may cause problem in confidentiality and political sensitivity.

Annex 1:

RECOMMENDATION RECOFI/6/2011/1
ON MINIMUM DATA REPORTING IN THE RECOFI AREA

The Regional Commission for Fisheries (RECOFI),

RECALLING that the purpose of RECOFI is, *inter alia*, to promote the development, conservation, rational management and best utilization of living marine resources, as well as the sustainable development of aquaculture;

RECALLING that the third meeting of RECOFI's Working Group on Fisheries Management (WGFM) (Doha, Qatar, 20-22 October 2009) agreed that a recommendation on minimum data reporting in the RECOFI Area should be drafted for review by the fourth meeting of the WGFM (Muscat, Oman, 3-5 October 2010) for submission to the Sixth Session of RECOFI (Manama, Bahrain, 10-12 May 2011);

REAFFIRMING the strong desire of RECOFI Members to promote closer international cooperation and harmonization in fisheries of mutual interest;

AWARE that minimum data reporting requirements for the RECOFI Area are fundamental to promoting long-term sustainable fisheries, especially for species of common interest in the region (see Annex 1);

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

1. (a) Each Member shall take such measures as may be necessary to ensure the collection and submission of information required under the paragraph 2, 3 and 4 of this recommendation.

   (b) Nothing in this recommendation shall constrain a Member pursuing data collection and sharing them with the Commission for the purpose of improving management of fisheries and fishery resources in the RECOFI area beyond the requirements of this recommendation.

2. (a) Each Member operating with shrimp trawl fishery shall make available to the Commission the following information with respect to that fishery:

   (i) opening and closing dates of the fishery;
   (ii) number of vessels engaged in the fishery according to its own vessel type/ size categories (e.g. steel-hulled/speed boats/dhows);
   (iii) annual average tow duration, annual average number of tows per day, and total number of days at sea, according to vessel type/size categories;
   (iv) live-weight equivalent of annual catch of shrimp, swimming crab, cuttlefish, narrow-barred Spanish mackerel, emperors, groupers, sharks, rays, and other finfishes, taken by the fishery;
   (v) annual amount of discards, and
   (vi) species composition of by-catch and discards, if available.

   (b) If any by-catch reduction device (BRD) is used or other mitigation measure taken, each Member should advise the Commission of details of such BRD/mitigation measure used and submit the catch and effort for those vessels with mitigation measures separated from those vessels operating normally.

3. Each Member shall make available to the Commission the following information with respect to gillnets, wire-traps, and hooks-and-line fisheries, respectively:

   (a) annual effort in individual fisheries, in terms of "number of days at sea", and if this is not possible, alternative effort with its brief description, and

   (b) live-weight equivalents of annual total catch, and of annual catches of narrow-barred Spanish mackerels, emperors, groupers, sharks and rays taken by individual gears with species identification of emperors and groupers to the extent possible, and amount of discards if available.

4. (a) Each Member shall make available to the Commission the following information with respect to narrow-barred Spanish mackerel *Scomberomorus commerson* taken in any fishery in the country:

   (i) catch in live-weight equivalent on a monthly basis to the extent possible, if not on an annual basis;
   (ii) fork length composition of catch on a monthly basis to the extent possible, if not on an annual basis, either based on fishery monitoring or obtained from other sources, and
   (iii) for operations targeting narrow-barred Spanish mackerel (e.g. kingfish fixed net, gillnet and hooks and line), monthly catch with fork length composition and effort by gear type, together with clear description of kinds of effort used, to the extent possible.

   (b) Each Member shall make available to the Commission any results obtained through surveys and research works relevant to narrow-barred Spanish mackerel, including fishery-dependent and fishery-independent stock indicators, biological parameters (e.g. growth rate, length frequency data obtained by projects, age-length relationship, reproductive information, natural mortality) and ecological information (e.g. distribution, feeding habitat, habitat preferences).

5. Each Member shall, to the extent practicable, make available to the Commission the following additional information:

   (a) shrimp species composition within the shrimp trawl catch, and
   (b) species composition of discards.

6. Each Member shall submit to the Commission the information required under paragraphs 2, 3, 4 and 5 of this recommendation, and any modification to information reported previously, before the end of August of the following year. Each Member shall cooperate in exchanging historical information relevant to those described in this recommendation.

7. Each Member shall cooperate in sharing survey plans and protocols prior to their implementation, as well as results of such surveys upon their conclusion, to the relevant Members through the Commission.

8. The Commission shall collate, maintain and promptly disseminate to Members the information provided under paragraphs 2, 3, 4 and 5 of this recommendation. The Commission may, subject to the request from a Member who provided information, impose restrictions on access to the information by the public.

9. The Commission shall monitor and evaluate regularly the status of implementation of this recommendation.

List of key species supporting main reference fisheries in the RECOFI Area (revised)

FAO name	ASFIS code	Common name	Scientific name
Green Tiger Prawn	TIP	Green Tiger Prawn	*Penaeus semisulcatus*
Blue swimming crabs	SCD	Blue swimming crab	*Portunus pelagicus*
Pharaoh cuttlefish	IAH	Cuttlefish	*Sepia pharaonis*
Stolephorus anchovies	STO	Anchovies	*Stolephorus* spp.
Indian oil sardine	IOS	Indian oil sardine	*Sardinella longiceps*
Bludger	NGY	Jacks	*Carangoide gymnostethus*
Golden trevally	GLT	Golden trevally	*Gnathanodon speciosus*
Indian mackerel	RAG	Indian mackerel	*Rastrelliger Kanagurta*
Snubnose emperor	LBW	Orange finned emperor	*Lethrinus borbonicus*
Pink ear emperor	LTS	Redspot emperor	*Lethrinus lentjan*
Spangled emperor	LHN	Spangled emperor	*Lethrinus nebulosus*
Coral hind	CFI	Coral grouper/Bluespotted grouper	*Cephalopholis miniata*
Orange-spotted grouper	ENI	Orange-spotted grouper	*Epinephelus coioides*
White-spotted spinefoot	SCN	Rabbitfish	*Siganus canaliculatus*
Narrow-barred Spanish mackerel	COM	King mackerel/Narrow-barred Spanish mackerel	*Scomberomorus commerson*
Longtail tuna	LOT	Longtail tuna	*Thunnus tonggol*
Kawakawa	KAW	Kawakawa	*Euthynnus affinis*
Requiem sharks nei	RSK	Sharks	Carcharhinidae
Silver pomfret	SIP	Silver pomfret	*Pampus argenteus*
Hilsa shad	HIL	Indian shad	*Tenualosa ilisha*
King soldier bream	KBR	King soldier bream	*Argyrops spinifer*
Painted sweetlips	DGP	Painted sweetlips	*Diagramma pictum*
Smalltooth emperor	LEN	Smalltooth emperor	*Lethrinus microdon*
Indian white prawn	PNI	Indian white prawn	*Penaeus indicus*

revised at RECOFI-VIII

Annex 2

Summary of data submitted under the Recommendation

	Bahrain	Iran	Oman	Qatar	Saudi Arabia
Coverage in catch amount [Min Data reporting]/[Catch DB]					
Total catch	100%	54%	99%	132%	92%
Shrimp	100%	89%	97%	n.a.	85%
Kingfishes	100%	93%	105%	126%	67%
Groupers	100%	82%	84%	121%	119%
Emperors	100%	76%	327%	366%	122%
Catch composition reported by fleet segments					
Steel boat		0.05%			
Dhow	35%	41%	10%	82%	65%
Speedboat	62%	34%	83%	18%	35%
Catch composition reported by gears					
Shrimp trawl	29%	6%	0%		27%
Gillnet	14%	62%	46%	22%	22%
Wire trap	40%	3%	6%	59%	36%
Hook-and-Line	4%	4%	24%		15%
Others	13%		23%	19%	
Species breakdown: Number of species reported (catch report at species level)					
Groupers	2 (19%)*	0%	4 (100%)	4 (100%)	10 (86%)
Emperors	4(100%)	0%	4 (32%)	3 (100 %)	4 (78%)

Kingfishes, Groupers, and Emperors were defined as *Scomberomorus* spp., *Epinephelus* spp., and *Lethrinus* spp., respectively.

* Bahrain informed that 98 % of catch reported under *Epinephelus* spp. is Orange-spotted grouper (*Epinephelus coioides*).

APPENDIX 11

RECOFI STANDARD CLASSIFICATIONS FOR MINIMUM DATA REPORTING AND MAPPING FROM NATIONAL DATASETS

Year: Calendar year (1 January to 31 December)

Area:

RECOFI	Gulf	Oman Sea
Bahrain	Gulf	
Iran (Islamic Republic of)	Gulf	Oman Sea
Iraq	Gulf	
Kuwait	Gulf	
Oman	Gulf	Sea of Oman Arabian Sea
Qatar	Gulf	
Saudi Arabia	Northern Area Southern Area	
United Arab Emirates	Gulf	Oman Sea

Vessels:

RECOFI	Steel boat	Dhow	Speedboat
Bahrain		Dhow	Speedboat
Iran (Islamic Republic of)	Vessel	Dhow	Boat
Iraq	Steel	Fibre	Wooden
Kuwait	Steel boats	Wooden dhow	Speed boats
Oman		Launch	Fibreglass
Qatar		Dhow	Speed boats/ skiffs
Saudi Arabia		Large	Small
United Arab Emirates		Dhow	Fibreglass

Gears:

RECOFI	Shrimp trawl	Gillnet	Wire trap	Hook and line	Other*1
Bahrain	Shrimp trawl	Gillnet	Large wire trap Small wire trap Crab wire trap	Hooks and line Longline	Lader-Jellfish
Iran (Islamic Republic of)	Shrimp trawl	Gillnet	Wire-traps	Hooks and lines	Pair-boats purse seine Beach seine Fish trawl Mid-water trawl Barrier net
Iraq	Trawler	Gillnet	Gillnet\traps		
Kuwait	Trawler	Gill netters	Trap setters		
Oman	Shrimp/shrimp trawler	Net	Trap	Troll/hand line	Beach seine Cast net Cuttlefish and squid Lobster Small pelagic net
Qatar		Kingfish (driftnet pelagic/ driftnet Spanish mackerel)	Trap	Hooks and line	
Saudi Arabia	Trawl	Gill net Small gill net	Trap	Hand-line Long line Troll line	
United Arab Emirates		Gill net	Trap/gargoor	Hooks and line Longline	

*1 This classification covers gears other than those required for minimum data reporting.

Species:

RECOFI	ASFIS 3A code	Scientific name	English name	
Bahrain		Scientific name		Arabic name
Iran (Islamic Republic of)			X	
Iraq			X	
Kuwait				
Oman		SP_SCN	SP_ENG	
Qatar		Scientific name	Common name	Local name
Saudi Arabia			X	Name in Arabic
United Arab Emirates				

Because of the large number of categories in this classification, only the principle information to be provided is indicated here. Detailed mapping tables will be provided separately to the focal points of individual countries.

Slightly different English names are often utilized to indicate the same species. To ensure accurate mapping from the different names utilized by individual countries, members are requested to include unique identification of each species (e.g. ASFIS code or scientific name) in addition to the name normally utilized.

This document contains the report of the ninth meeting of the Regional Commission for Fisheries (RECOFI) Working Group on Fisheries Management (WGFM) which was held in Kuwait City, State of Kuwait, from 24 to 26 November 2015. The WGFM took note of the outcomes of the eighth session of RECOFI (Muscat, Oman, 12 to 14 May 2015), including that the Commission noted that none of the priority activities of the WGFM had taken place, and that the Commission had reduced the activities of the current intersessional period to only one activity: the joint appraisal of the Kingfish stock in the RECOFI area. Delegates provided updates on ongoing and current work on RECOFI priority species, recognizing the importance in ensuring that the knowledge base of RECOFI is preserved and to reduce fragmented studies being conducted by individual RECOFI member countries.

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