

November 2015



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REGIONAL COMMISSION FOR FISHERIES

Ninth Meeting of the Working Group on Fisheries Management

Kuwait, State of Kuwait, 24-26 November 2015

Socio-economics of RECOFI fisheries

Executive Summary

The purpose of this paper is to provide an update on the socio-economics work that has been undertaken by the socio-economic task group, as well as to provide a summary of the main outcomes on this topic at the eighth session of RECOFI. Finally, this paper provides a proposal for the way forward, in the form of an updated Terms of Reference for the socio-economic Task Group.

The WGFM is invited to:

- 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

BACKGROUND INFORMATION

At the fifth session of RECOFI (United Arab Emirates, 12-14 May 2009), the inclusion of the Ecosystem Approach to Fisheries (EAF) was endorsed, and it was also included in the Terms of Reference for the Working Group on Fisheries Management (WGFM). Subsequently, there was 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, and so 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. At that time, the completed surveys had been 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.

SUMMARIZED RESULTS OF THE SURVEY QUESTIONNAIRE

The survey questionnaire was intended to as an preliminary work by the socio economic Task Group, with the goal of ascertaining what information was available in each RECOFI member country, and as a first step in building the socio-economic profile of the RECOFI region. While the full and updated results of the questionnaire is included in Appendix 3, a brief summary is provided here.

Prices of priority species

Regarding pricing information; 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.

Destination markets of priority species

Destination markets added to the picture of the pricing for these species.¹ 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

¹¹ In Appendix 3, information was added regarding production to determine and show whether catch information is disaggregated for priority species, and so is simply for reference and was not provided in the survey questionnaire responses.

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.

Fisheries management measures and perceptions of fishers acceptance

The objective of this question was to understand the management measures employed in the RECOFI region and the perception of the level of acceptance of these measures by fishers. 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.

Conflicts and challenges

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.

Fleet composition and size

One notable characteristic of fleets in the RECOFI region is the presence of expatriates onboard vessels. While Kuwait has expatriates comprising the entire crew regardless of vessel size, Oman, Bahrain, and Saudi Arabia all have a similar trend of higher percentages of nationals on smaller vessels, and the relationship with the size of the vessel and percentage of nationals in the crew is inverse. Iran (I.R.) and Iraq have crews which are mainly comprised of nationals, although in Iran (I.R.) there are expatriates in the crew of larger vessels. The presence of expatriates in crews draws attention to the need to explore further how this impacts the socio-economic measures which could potentially be applied in complement with management measures. For example, if subsidies or compensation were to accompany closed seasons, the eligibility of expatriates to receive these would be important to know. Additionally, the conditions under which expatriates are employed when compared with nationals would also warrant exploration.

Places for fishers to address their problems

The number and type of places or services to where fishers are able to address their problems is important in understanding how fisheries management is, and has the potential to be, applied. The availability of community leaders and fisheries associations to address issues fishers have may be related to how fishers perceive and engage in fisheries management measures. That six RECOFI member countries indicated that fisheries associations are used could be used as quite positive, however this question also draws quite superficial conclusions without further information to

supplement this initial questioning. For example, further information into the types of problems with which they go to each place to be addressed, how the problems are resolved, and the other services provided by these institutions would also give further insight into how fishers are able to engage in the fisheries management process.

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

Unfortunately, that the question was not clearly enough defined and therefore understandably not clearly understood, this important question which attempted to gather information on the importance of the small-scale fisheries sector in each RECOFI member country is not clear. Fortunately, past work in RECOFI has assisted to complement this information; for example, many countries have clearly stated numerous times that their fishery is either entirely or almost entirely composed of small-scale fishers. Follow-up questions in future work should more clearly define this contribution, as well as gathering each country's definition of small-scale fisheries.

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

Appendix 1

Socioeconomic Task Group Members
(as of November 2013)

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 Jihad -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 Jihad -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		
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		

Appendix 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).

Appendix 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.

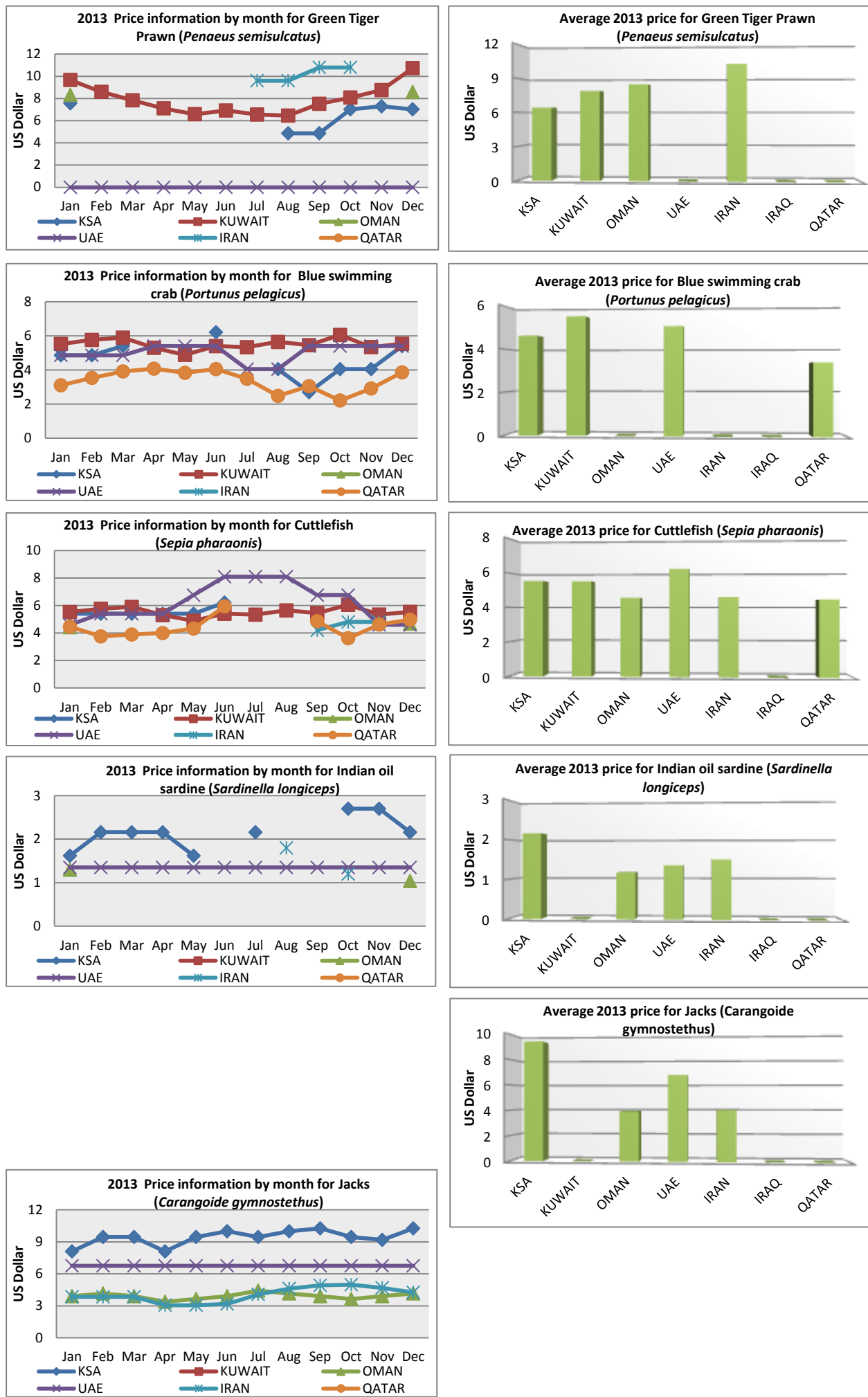
Local currencies were used, and converted to US dollars, using the rate as at July 2013.² The details are below in FIGURE 1. The availability of pricing information to the level requested in the questionnaire varied by country, and so the utility of comparing monthly pricing information per species across 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.

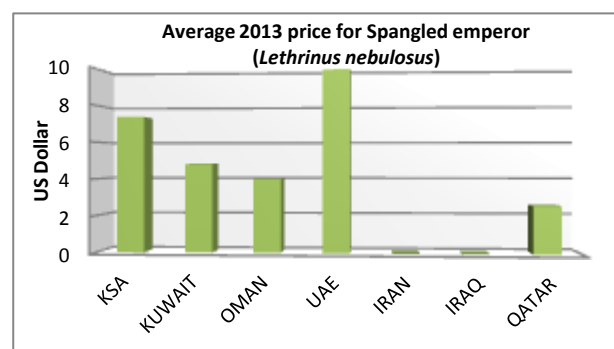
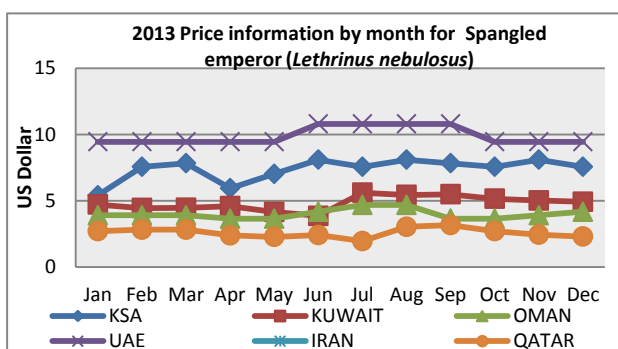
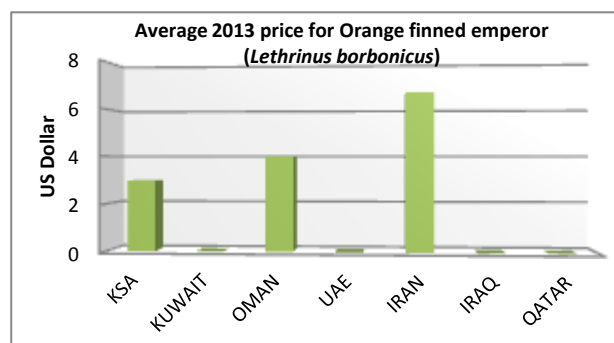
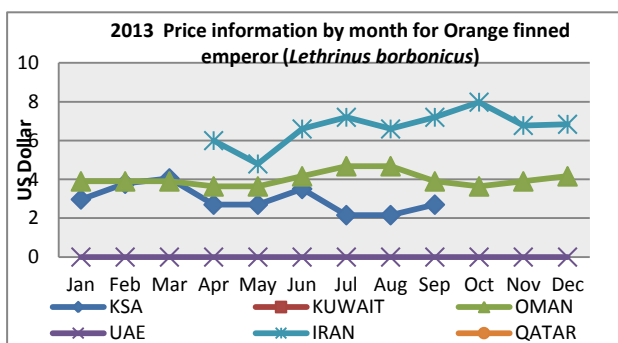
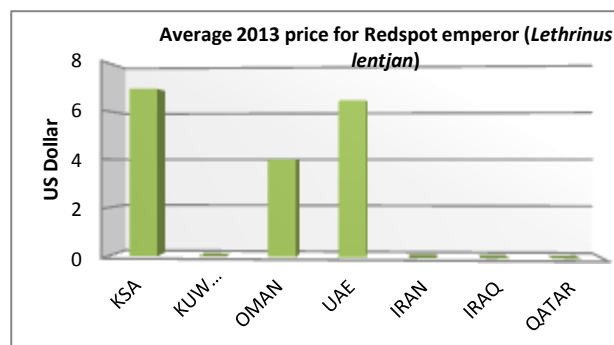
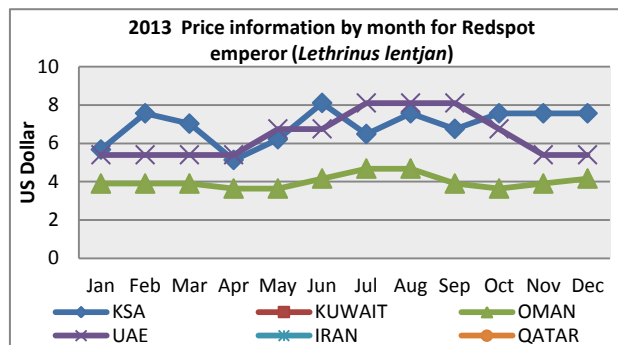
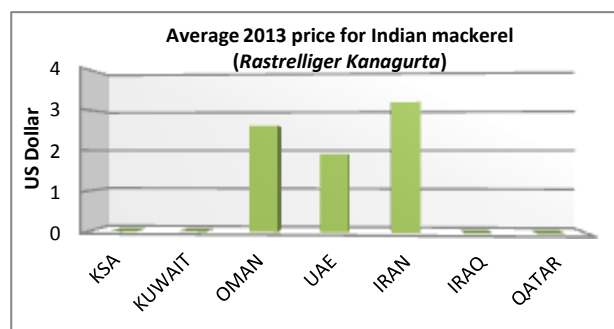
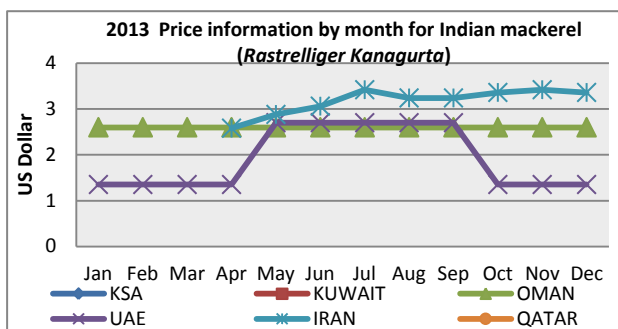
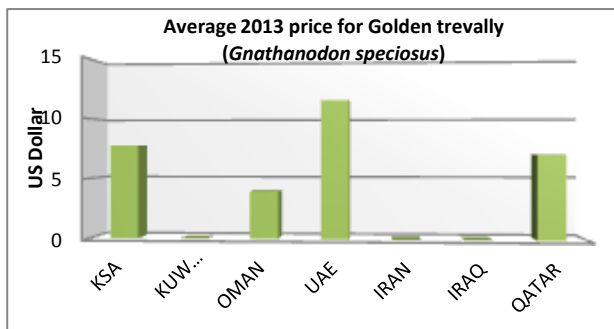
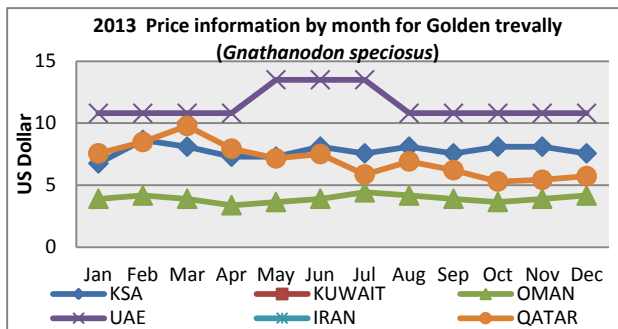
What makes a species more valuable varies from country to country, and further information could be collected, in combination with price to understand the dynamics which impact the value of this species. Additional information that could be used to supplement this information would be to understand its 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.³

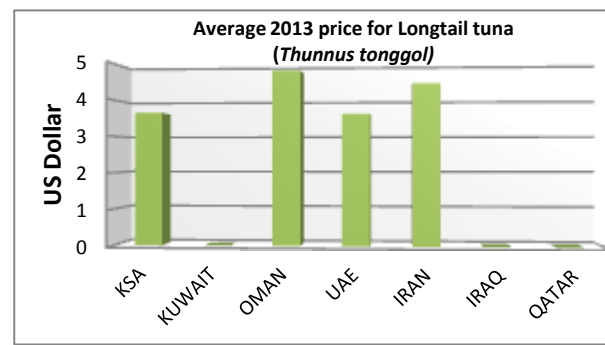
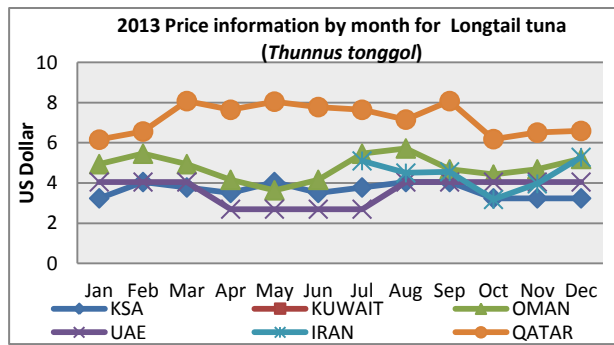
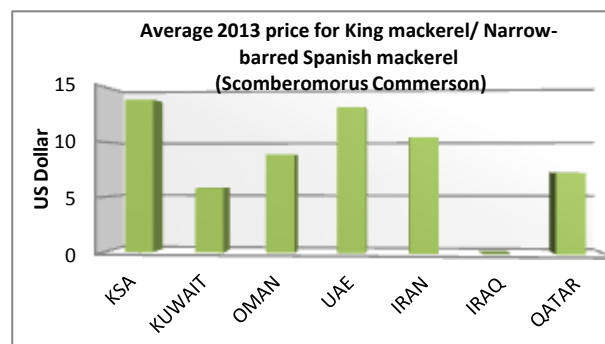
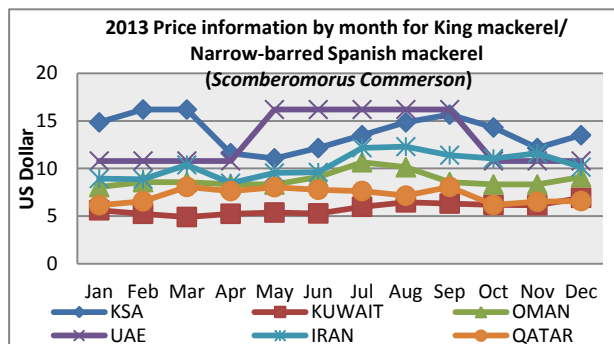
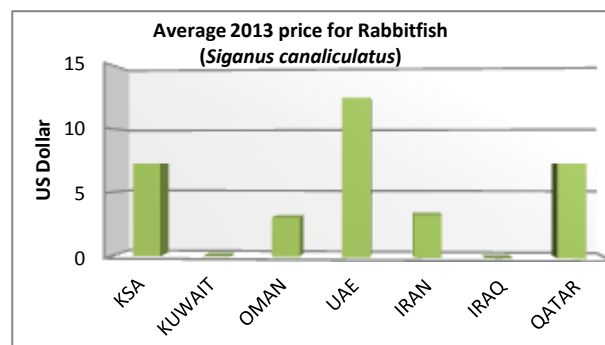
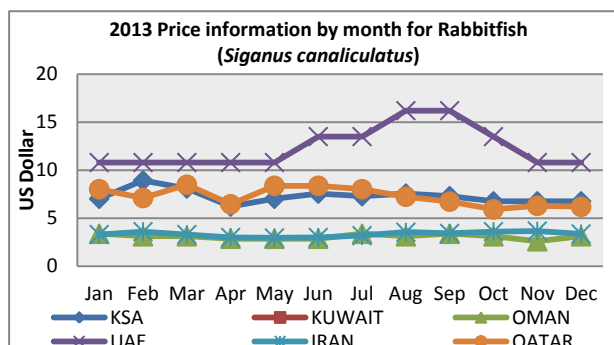
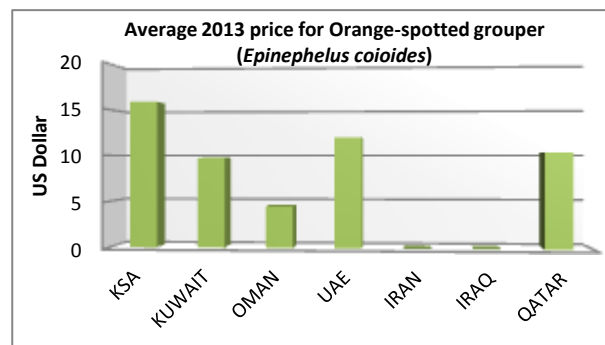
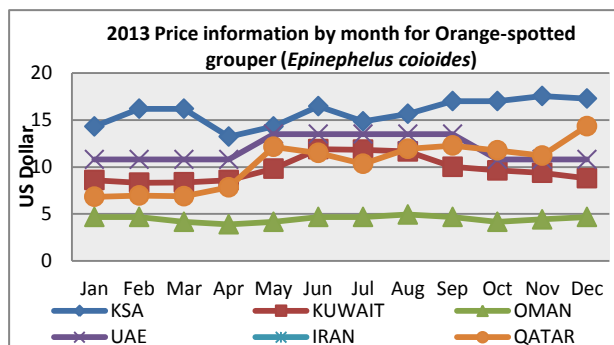
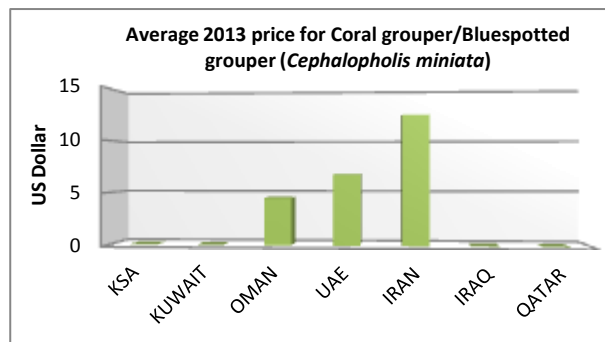
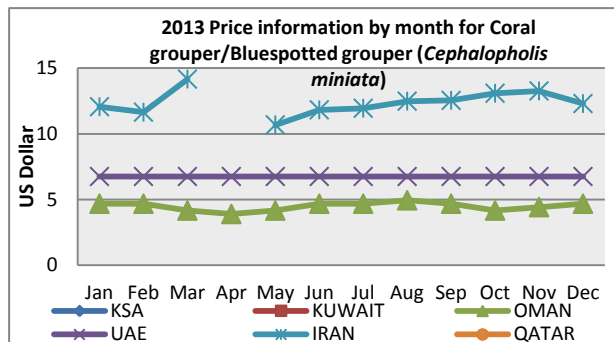
² 1 USD=3.75 SAR; .285 KWD, .384 OMR, .367 AED, .000067 IRR, .27 QAR

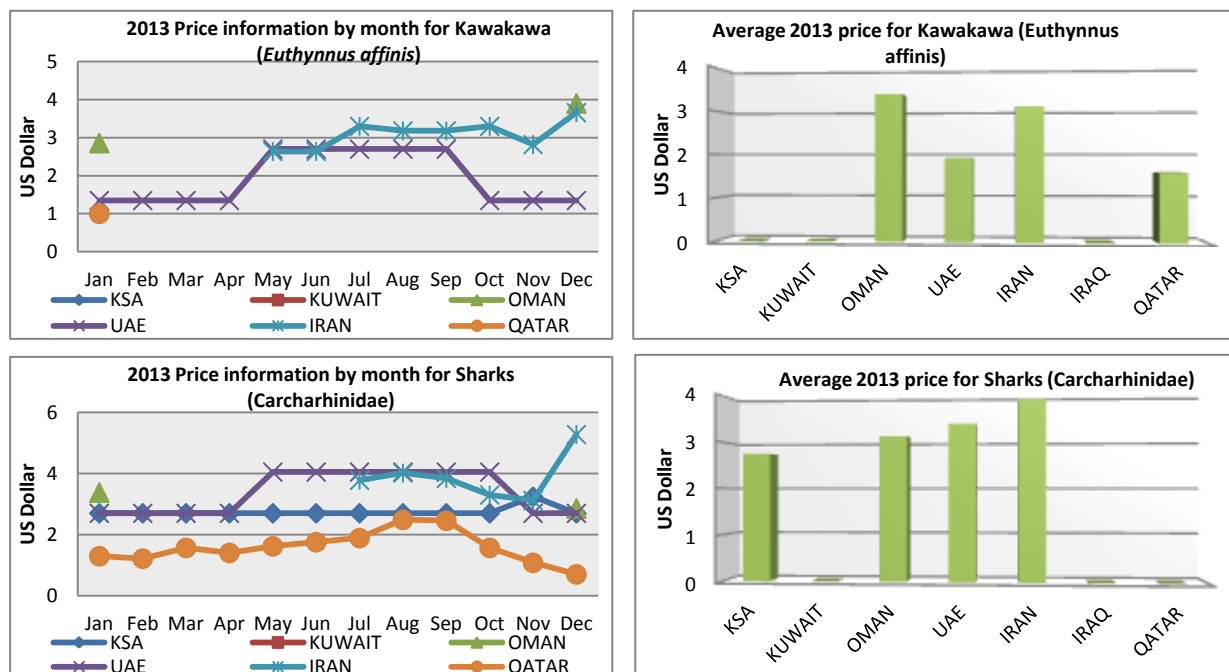
³ In Oman, the price listed for Jacks (*Carangoide gymnotethus*) is for small Jacks, and the price listed for Golden trevally (*Gnathanodon speciosus*) is for Large Jacks. Also, in the case of both emperors and groupers, prices are not further disaggregated in Omani data, so the same prices are listed for all emperor species as well as all groupers.

FIGURE 1. Price information for priority species 2013









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 (<i>Penaeus semisulcatus</i>)						
	Production (2012) ⁴	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 (<i>Portunus pelagicus</i>)						
	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 (<i>Sepia pharaonis</i>)						
	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 (<i>Stolephorus</i> 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

⁴ 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 (<i>Sardinella longiceps</i>)						
	Production (2012)	Destination Market				Imported (Y or N)
		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 (<i>Carangoide gymnotethus</i>)						
	Production (2012)	Destination Market				Imported (Y or N)
		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 (<i>Gnathanodon speciosus</i>)						
	Production (2012)	Destination Market				Imported (Y or N)
		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 (<i>Rastrelliger Kanagurta</i>)						
	Production (2012)	Destination Market				Imported (Y or N)
		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 (<i>Lethrinus borbonicus</i>)						
	Production (2012)	Destination Market				Imported (Y or N)
		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 (<i>Lethrinus lentjan</i>)						
	Production (2012)	Destination Market				Imported (Y or N)
		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 (<i>Lethrinus nebulosus</i>)						
	Production (2012)	Destination Market				Imported (Y or N)
		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 (<i>Cephalopholis miniata</i>)						
	Production (2012)	Destination Market				Imported (Y or N)
		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 (<i>Epinephelus coioides</i>)						
	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 (<i>Siganus canaliculatus</i>)						
	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 (<i>Scomberomorus Commerson</i>)						
	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 ⁵	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 (<i>Thunnus tonggol</i>)						
	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

⁵ Includes production from the Red Sea as well as the RECOFI area.

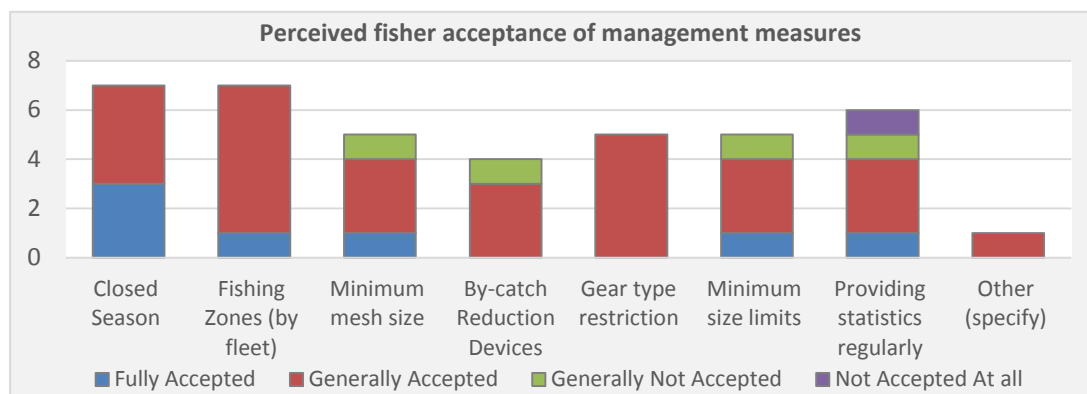
	Kawakawa (<i>Euthynnus affinis</i>)					
	Production (2012)	Destination Market				Imported (Y or N)
		Local /Domestic	%	International	%	
Bahrain	26249	Yes	1-25%	Yes	76-100%	No
Iran		Yes	76-100%	No	0	Yes
Iraq						
KSA	1200	No	0	No	0	No
Kuwait						
Oman	4609	Yes	76-100%	Yes	1-25%	No
Qatar		Yes	1-25%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

	Sharks (Carcharhinidae)					
	Production (2012)	Destination Market				Imported (Y or N)
		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 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.

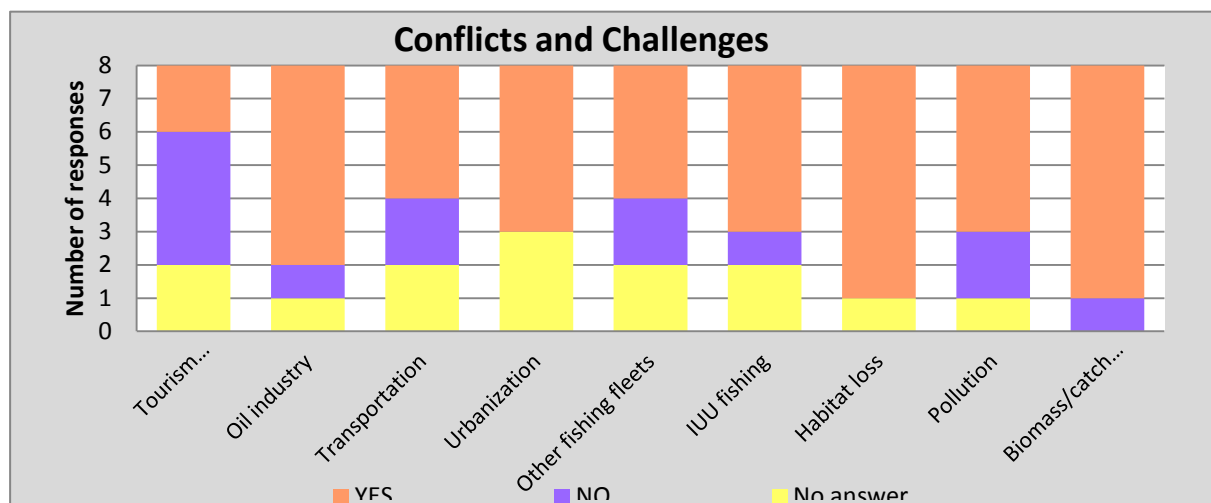
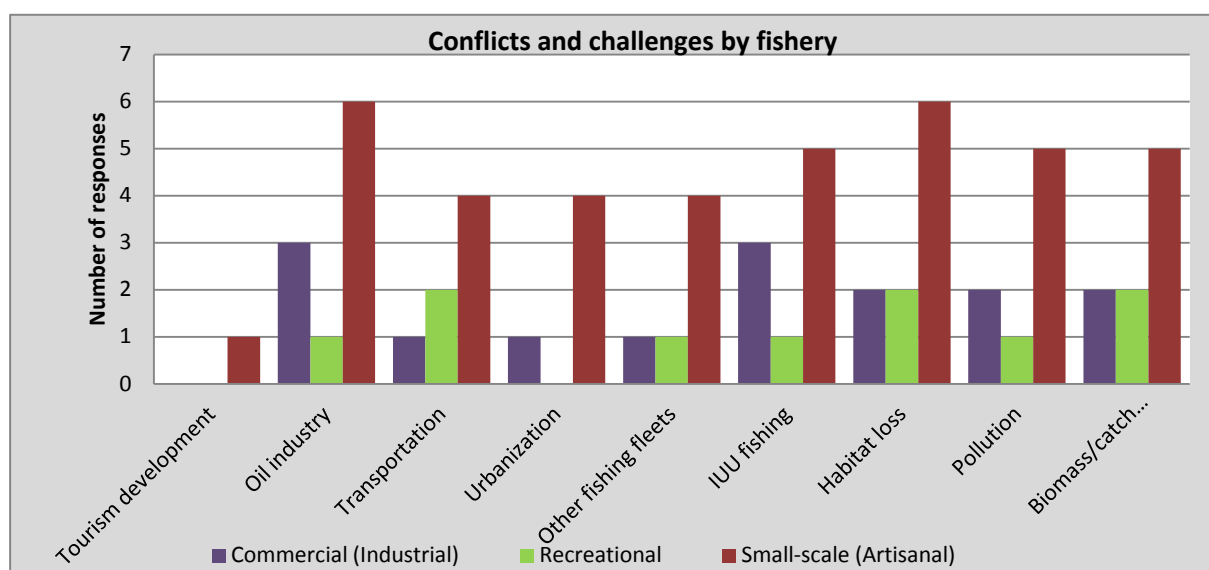


Figure 5 Fisheries affected by conflicts/challenges



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.

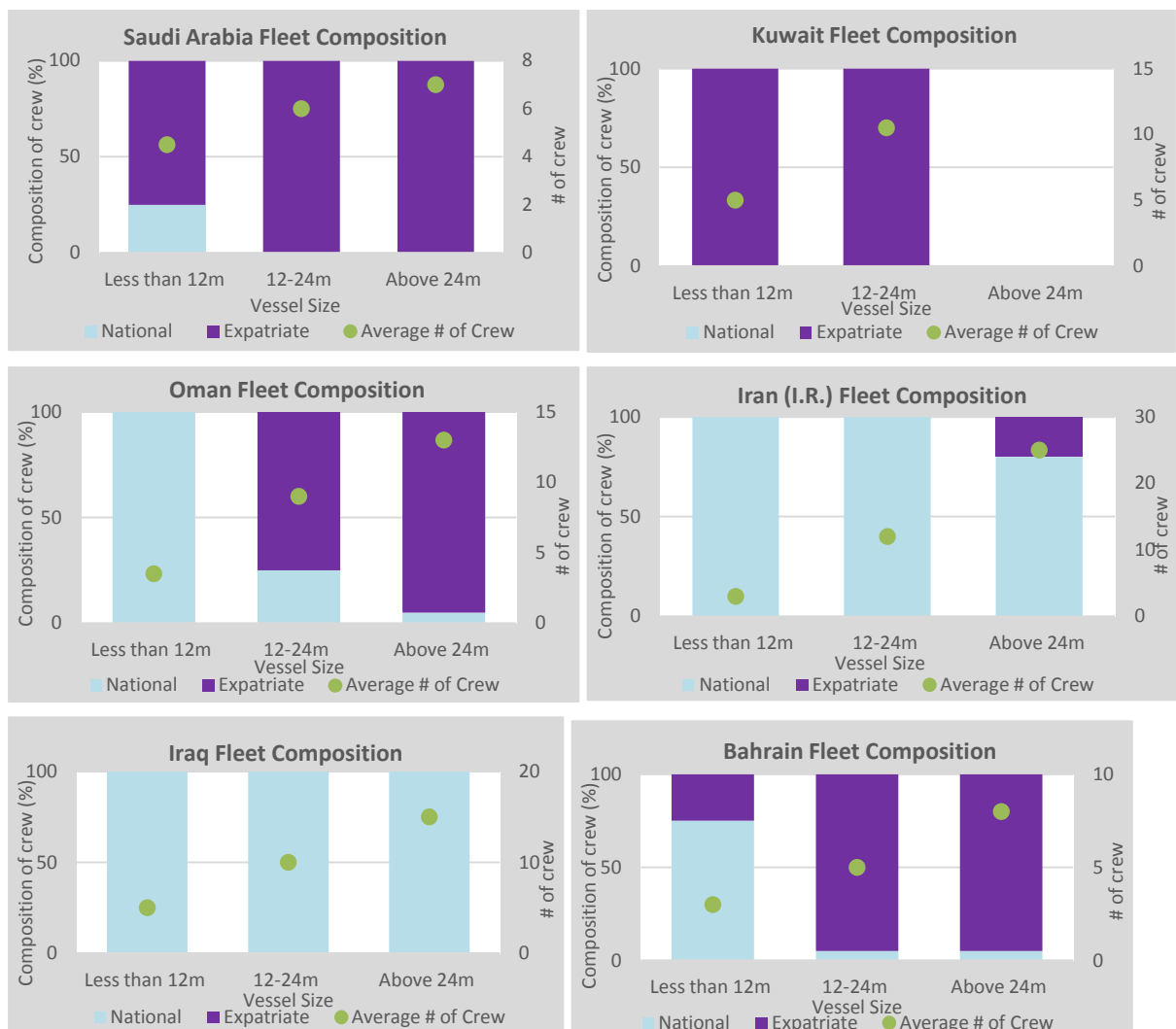
TABLE 1. Attempted solutions to address challenges.

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.

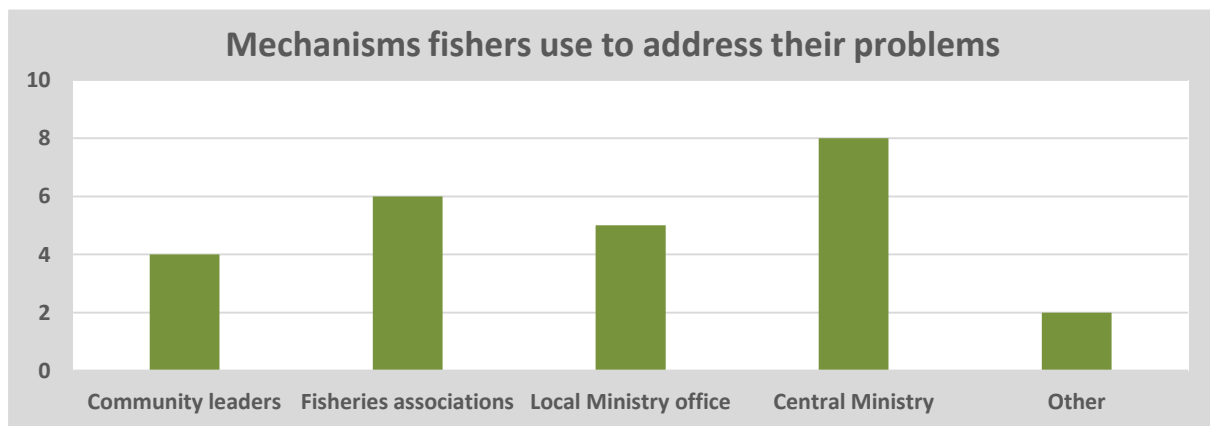
FIGURE 6. Composition of crew by vessel size.



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 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		