



منظمة الأغذية  
والزراعة  
للأمم المتحدة

联合国  
粮食及  
农业组织

Food  
and  
Agriculture  
Organization  
of  
the  
United  
Nations

Organisation  
des  
Nations  
Unies  
pour  
l'alimentation  
et  
l'agriculture

Продовольственная и  
сельскохозяйственная  
организация  
Объединенных  
Наций

Organización  
de las  
Naciones  
Unidas  
para la  
Agricultura  
y la  
Alimentación

## REGIONAL COMMISSION FOR FISHERIES

### Third meeting of the Working Group on Fisheries Management

Doha, Qatar, 20-22 October 2009

### CONSIDERATION OF A DRAFT FISHERIES MANAGEMENT MEASURE TO BE ADOPTED BY THE REGIONAL COMMISSION FOR FISHERIES AT ITS SIXTH SESSION

#### INTRODUCTION

1. The Regional Commission for Fisheries (RECOFI) was established in accordance with Article XIV of the FAO Constitution. In Article III.1(b) of the Agreement for the Establishment of the Regional Commission for Fisheries, the Commission, within its area of competence, is empowered to formulate and recommend appropriate measures for the conservation and management of living marine resources, including measures to regulate fishing methods and fishing gear, prescribe the minimum size for individuals of specified species, establish open and closed fishing seasons and areas, and regulate the amount of total catch and fishing effort and their allocation among Members, for the purpose of implementing recommendations.
2. Furthermore, the Commission has the power to review the economic and social aspects of the fishing industry and recommend measures for its development, encourage, recommend and coordinate training and extension activities; encourage, recommend, coordinate and undertake research and development activities; assemble, publish and disseminate information regarding living marine resources and fisheries based on these resources and carry out any other activities as may be necessary for RECOFI to achieve its purpose as define in the Commission's Agreement. Importantly, the Commission shall apply the precautionary approach to conservation and management decisions and take into account the best scientific advice available and the need to promote the development and proper utilization of marine living resources.
3. At its fifth session (Dubai, United Arab Emirates, 12-14 May 2009), the Commission agreed that:
  - future work on stock assessment should focus on priority species supporting main fisheries of common interest. These species were identified at the second meeting of the Working Group on Fisheries Management (WGFM) (Cairo, Egypt, 27-30 October 2008) following a request by the fourth of the Commission (Jeddah, Saudi Arabia, 7-9 May 2009);

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- there was considerable merit in standardizing information and reporting at the regional level in relation to stock assessment and that RECOFI should promote such harmonization; and
  - an ecosystem approach to fisheries (EAF) and adaptive management procedures should be adopted. This approach should provide the framework within which fisheries management is pursued within the region.

4. To commence implementing fully the Commission's mandate with respect to its fisheries mandate, Members should consider appropriate harmonized fisheries management measures that could be adopted and implemented in a coordinated way for stocks of common interest. Such harmonization can be expected to yield important benefits including, for example, enhanced resource sustainability including fewer stock declines and collapses, more stable and improved financial returns for fishers and fishing communities and a more reliable contribution of fisheries to food security.

5. To encourage broader support for the identification, development and implementation of management measures, Members are urged also to promote stakeholder consultation (e.g. with fishers' associations and industry groups) and involvement in decision making. If stakeholders have been engaged in a consultative process, they are likely to champion and support the implementation of management measures, going so far as to monitor and enforce them among their membership. In addition, it has been demonstrated in fisheries that support from stakeholders can reduce significantly the cost of fisheries monitoring, control and surveillance and improve the impact of management measures.

#### **HOW TO IMPLEMENT THE COMMISSION'S FISHERIES MANAGEMENT MANDATE**

6. To give effect to the Commission's mandate and its subsequent decisions on fisheries management and taking account of the outcomes of the RECOFI Workshop on Stocks Status Reporting (Tehran, Iran, 26-29 July 2009),<sup>1</sup> RECOFI Members are encouraged to consider the types of regionally-agreed fisheries management measures that might be appropriate for adoption and implementation. At the practical level, and taking guidance from the Commission's deliberations, management measures should focus on stocks:

- that are common and shared among most or all Members;
- that are defined to be priority species and of high importance for regionally-exploited fisheries;
- that are subject to heavy fishing pressure, illegal, unreported and unregulated (IUU) fishing and/or other uncoordinated practices that prejudice the status of stocks; and
- for which there is a reasonable to good database of information to support analysis and studies necessary for the development of measures.

Other considerations could be important for the identification of stocks that should be prioritized for regional management. Members are encouraged to identify such considerations on a stock by stock basis and bring them forward for discussion in the WGFM.

7. The RECOFI Workshop on Stock Status Reporting identified four major and common concerned areas:

- i) the status and impacts of shrimp trawls;
- ii) general stock status of coastal fish resources;
- iii) degradation of marine habitats in coastal areas; and

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<sup>1</sup> See document RECOFI:WGFM3/2009/8 for a report on the Workshop.

iv) appraisal of stock enhancement and utilization of artificial reefs.

The workshop also agreed on the minimum data and their reporting protocols in an attempt to define the data that may be required to support management measures and monitoring indicators especially in the first two areas on concerns. However, in the absence of agreed management scope, priorities and operational objectives, no attempt was made to identify potential indicators and corresponding references. The workshop strongly urged for the WGFM to agree on management scope and to develop a set of operational objectives, which enabled to establish the agreed set of indicators directly linked to those objectives.

8. The principle outcome of implementing the EAF should be the development of comprehensive fishery management plans that seek to ensure the sustainable use of the whole system, not just the targeted species. Therefore, the full implementation of the EAF can often require cooperation with other any agencies that manage some of the impacts on the aquatic ecosystem (e.g. environment agencies). Moreover, the EAF considers that humans are an integral part of the ecosystem and it is important to take into account the non-ecological components of sustainability, including social, economic and institutional considerations. In this connection it must be recognized that there can be multiple competing interests for both access to the ecosystem and outcomes concerning the use of aquatic systems' goods and services.

#### **POSSIBLE MANAGEMENT SCOPE AND OPERATIONAL OBJECTIVES TO BE ADOPTED AND IMPLEMENTED REGIONALLY**

9. The overall goal of management should be the long-term sustainability of the fishery and aquaculture communities and supporting ecosystems. Still, it will be useful to consider explicitly what fishing activities, areas, groups that will, or will not, be included in the EAF process and what key community values will to be achieved. A summary of the questionnaires on the social and economic aspects of fisheries that was conducted during the RECOFI Stock Status Reporting Workshop is attached for information.

10. The RECOFI Workshop on Stock Status Reporting identified four major and common concerned areas, i.e. the issues to be resolved through the EAF, mainly from a biological perspective. Members are encouraged to consider further whether these four areas are appropriate to form the regional management scope and whether any important component has been overlooked, especially from the perspective of comprehensive management of fishery communities and supporting ecosystems. Non-fishing impacts including natural (e.g. climatic) and man-made impacts on the fishery, ecological (e.g. pollution), social (e.g. attitudes) or economic impacts (e.g. fluctuations in currency exchange rates, fuel costs and fish prices), as well as the fishery's effective governance and administration (e.g. legislation, management plans, consultation processes, monitoring, control and surveillance, etc) should be taken into account.

11. Operational objectives should indicate management out comes. They should be identified for each of the management issues adopted and be addressed directly through EAF. Examples of possible operational objectives corresponding the four issues identified by the RECOFI Stock Status Reporting Workshop could be:

- i) The status and impacts of shrimp trawls:
  - realizing maximum sustainable production of shrimp catch;
  - reducing a proportion of juvenile fish catch in total shrimp trawl catch to x %;
  - utilizing fully all organisms caught; and
  - monitoring fully species composition of whole catch and shrimp catch rate.
- ii) General stock status of coastal fish resources:
  - avoiding catch rate of key species to go below a pre-determined level; and
  - conducting region-wide stock assessment.

iii) Degradation of marine habitats in coastal areas:

- preserving the well-being of spawning and nursery habitats;
- seeking to maintain red tide occurrence below a predetermined level; and
- incorporating appropriately the fishery sector's interests into coastal development planning and management.

iv) Appraisal of stock enhancement and utilization of artificial reefs:

- placing stock enhancement and artificial reefs where they are most effective for the enhancement purpose and are likely to have minimum impacts on other ecosystems in the area.

12. The indicators to monitor the performance of each operational objective, targets and specific management actions should be developed. The EAF should be seen as an extension of conventional fisheries management, not an alternative. Whatever existing fishery management system or plan is in place, it should be used as a starting point with the management system evolving and adapting to become EAF compliant. Where no management plan exists this would be a key outcome from the process.

### **SUGGESTED ACTION BY THE WORKING GROUP**

13. The Working Group is invited to:

- provide a recommendation of set of operational objectives with specific targets for consideration of the sixth session of RECOFI;
- recommend the regional resource monitoring strategy that was drafted by the Workshop on Stock Status Reporting, after appropriate modifications corresponding to the set of operational objectives above, for the adoption at the sixth session of RECOFI;
- provide guidance to the Secretariat to raise awareness on the impacts of coastal zone development on fisheries and fishery resources and enhance communication to those institutions concerned, including the Regional Organization for Protection of Marine Environment; and
- recommend further and concrete steps to establish harmonized fishery management measures with the Region.

### Results of preliminary survey on fisheries characteristics with questionnaires

Table 1 Importance of fishery from social and economic aspects. Figures in the table indicate average score based on qualitative assessment by participants on with three categories defined as High (score 3), Medium (score 2) and Low (score 1).

	Shrimp trawl	Finfish trawl	Beach seine	Gillnets	Drift nets	Fixnet	Spanish mackerel fixnet	Wire traps	Crab traps	Barriers	Hook and Line	Long-line	Average Score	Rank
Sample size	3	0	2	4	5	3	2	6	2	2	6	5		
<b>Direct employment</b>	<u>2.7</u>	-	1.5	2.5	2.4	1.3	2.5	2.3	2.5	2.5	2.0	2.0	<b>2.20</b>	<b>3</b>
<b>Indirect employment</b>	<u>2.7</u>	-	1.0	1.8	1.8	1.0	2.0	2.0	2.0	2.0	1.7	1.6	<b>1.77</b>	<b>6</b>
<b>Local food supply</b>	<u>2.7</u>	-	2.0	<u>3.0</u>	<u>2.6</u>	2.0	<u>3.0</u>	2.5	2.0	<u>3.0</u>	2.0	1.6	<b>2.40</b>	<b>2</b>
<b>Contribution to national food supply</b>	<u>2.7</u>	-	2.0	<u>3.0</u>	<u>3.0</u>	<u>2.7</u>	<u>3.0</u>	2.3	2.0	<u>3.0</u>	2.0	2.0	<b>2.52</b>	<b>1</b>
<b>Contribution to export</b>	<u>2.7</u>	-	2.5	2.0	1.8	1.3	2.5	2.0	1.5	2.0	1.5	2.0	<b>1.98</b>	<b>4</b>
<b>Supply to local industry</b>	<u>2.7</u>	-	1.0	1.3	1.6	1.0	1.0	1.2	2.0	1.5	1.0	1.0	<b>1.38</b>	<b>8</b>
<b>Contribution to national GDP</b>	1.3	-	1.5	1.3	1.6	1.7	2.0	1.5	1.0	1.5	1.5	1.6	<b>1.50</b>	<b>7</b>
<b>Illegal operations</b>	2.0		1.5	1.3	1.4	1.3	1.5	1.3	1.0	1.0	1.0	1.0	<b>1.30</b>	<b>9</b>
<b>Oil consumption</b>	2.3	-	2.0	1.5	2.0	1.0	2.0	1.8	2.0	2.0	1.5	1.8	<b>1.82</b>	<b>5</b>
<b>Average Score:</b>	<b>2.41</b>	-	<b>1.67</b>	<b>1.94</b>	<b>2.02</b>	<b>1.48</b>	<b>2.17</b>	<b>1.89</b>	<b>1.78</b>	<b>2.06</b>	<b>1.57</b>	<b>1.62</b>		
<b>Rank:</b>	<b>1</b>	-	<b>8</b>	<b>5</b>	<b>4</b>	<b>11</b>	<b>2</b>	<b>6</b>	<b>7</b>	<b>3</b>	<b>10</b>	<b>9</b>		

Table 2 Importance of fishery from ecological and environmental impacts. Figures in the table indicate average score based on qualitative assessment by participants on with three categories defined as High (score 3), Medium (score 2) and Low (score 1).

	Shrimp trawl	Finfish trawl	Beach seine	Gillnets	Drift nets	Fixnet	Spanish mackerel fixnet	Wire traps	Crab traps	Barriers	Hook and Line	Long-line	Average Score	Rank
Sample size	3	1	2	4	5	3	2	6	2	2	6	5		
<b>Impacts of red tide</b>	1.0	1.0	<u>3.0</u>	1.5	2.2	2.3	2.0	1.8	1.0	<u>3.0</u>	1.3	1.5	<b>1.81</b>	<b>4</b>
<b>Negative impacts of coastal development</b>	<u>2.5</u>	<u>3.0</u>	<u>2.5</u>	2.0	2.2	2.0	<u>2.5</u>	1.8	2.0	2.0	2.0	2.0	<b>2.21</b>	<b>1</b>
<b>Positive impacts of coastal development</b>	1.5	1.0	1.5	1.3	1.4	2.0	1.5	1.3	1.0	2.0	1.5	1.5	<b>1.46</b>	<b>7</b>
<b>Impact to mangrove</b>	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	<b>1.04</b>	<b>9</b>
<b>Impact to coral reef</b>	1.8	1.0	2.0	1.8	2.0	2.0	2.0	2.3	1.0	1.5	1.5	1.8	<b>1.72</b>	<b>5</b>
<b>Impact to other natural environment</b>	2.3	<u>3.0</u>	<u>2.5</u>	1.5	2.2	2.3	2.0	2.2	1.5	1.5	1.2	1.3	<b>1.95</b>	<b>3</b>
<b>Discards</b>	<u>3.0</u>	<u>3.0</u>	2.5	1.8	1.8	2.0	2.5	1.8	2.0	2.0	1.0	1.0	<b>2.03</b>	<b>2</b>
<b>Bird bycatch</b>	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.3	<b>1.03</b>	<b>10</b>
<b>Turtle bycatch</b>	2.0	1.0	1.5	1.3	1.2	1.3	1.0	1.0	1.0	1.0	1.0	1.0	<b>1.19</b>	<b>8</b>
<b>Bycatch of other sensitive species</b>	2.3	2.0	1.0	1.5	1.4	1.0	2.0	1.3	2.0	2.0	1.3	1.0	<b>1.58</b>	<b>6</b>
<b>Average Score:</b>	<b>1.88</b>	<b>1.70</b>	<b>1.85</b>	<b>1.45</b>	<b>1.64</b>	<b>1.70</b>	<b>1.75</b>	<b>1.57</b>	<b>1.35</b>	<b>1.70</b>	<b>1.30</b>	<b>1.33</b>		
<b>Rank:</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>9</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>8</b>	<b>10</b>	<b>4</b>	<b>12</b>	<b>11</b>		

Table 3 Administrative and management tools and measures currently utilized for individual fisheries. Figures in the table indicate the percentage of countries that utilize relevant tools/measures for individual fisheries.

	<b>Shrimp trawl</b>	<b>Finfish trawl</b>	<b>Beach seine</b>	<b>Gillnets</b>	<b>Drift nets</b>	<b>Fixnet</b>	<b>Spanish mackerel fixnet</b>	<b>Wire traps</b>	<b>Crab traps</b>	<b>Barriers</b>	<b>Hook and Line</b>	<b>Long-line</b>
Sample size	3	0	2	4	5	3	2	6	2	2	6	5
<b>Subsidies</b>	67%	-	0%	50%	20%	33%	50%	50%	50%	50%	17%	20%
<b>Buy-back program</b>	67%	-	0%	25%	20%	33%	100%	33%	50%	50%	17%	20%
<b>On-board observer</b>	33%	-	100%	25%	40%	67%	50%	50%	50%	50%	33%	60%
<b>Gear inspection</b>	100%	-	50%	75%	80%	67%	50%	83%	100%	100%	67%	60%
<b>Port inspection</b>	100%	-	100%	75%	60%	33%	100%	50%	0%	50%	33%	60%
<b>Sample survey at landings</b>	100%	-	100%	75%	80%	67%	100%	83%	50%	100%	67%	60%
<b>Log book</b>	0%	-	0%	25%	20%	0%	0%	17%	50%	0%	33%	40%
<b>License for operation</b>	100%	-	0%	75%	80%	33%	50%	67%	100%	100%	33%	80%
<b>License for boats</b>	100%	-	100%	100%	100%	100%	100%	100%	100%	100%	83%	100%
<b>Gear restriction</b>	100%	-	50%	50%	60%	67%	50%	67%	50%	100%	67%	60%
<b>Closed season</b>	100%	-	0%	25%	40%	0%	0%	17%	0%	0%	17%	20%
<b>Closed area</b>	100%	-	50%	50%	40%	67%	50%	50%	50%	100%	17%	40%