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FAO Fisheries and Aquaculture Department: Products and services - Bycatch and discards

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Introduction

The mission of the Fisheries and Aquaculture Department of Food and Agriculture Organisation of the Unite Nation (FAO) is to facilitate and secure the long-term sustainable development and utilization of the world's fisheries and aquaculture. These two sectors play fundamental social and economic roles in the global economy by: (1) meeting global and national sustainable food security, (2) providing self and paid employment for fishing and aquaculture communities as a means of alleviating poverty, (3) contributing to national and international trade and (4) generating national income.

Underpinning these basic social and economic objectives is the requirement for fisheries and aquaculture to be responsibly managed. The Fisheries and Aquaculture Department therefore provides, on the request of Members, technical assistance in all aspects of fisheries and aquaculture management and development. To this end, the Department:

- collects, analyzes and disseminates information on the sector operations (catch, production, value, prices, fleets, farming systems, employment);
- develops methodology, assesses and monitors the state of wild resources and provides resources management advice;
- provides socio-economic analysis of fisheries and aquaculture and assists in the elaboration of development and management polices and strategies and institutions;
- supports and assists regional cooperation through a network of Regional Fishery Commissions; and
- monitors and advises on technology development, fish processing, food safety and trade.

In the fisheries sector, the Fisheries and Aquaculture Department focuses its activities on 3 medium term strategic objectives:

1. Promotion of a responsible fisheries sector management at the global, regional and national levels with priority given to the implementation of the Code of Conduct for Responsible Fisheries, Compliance Agreements, International Plans of Actions, paying particular attention paid to the problem of excess capacity, the strengthening of Regional Fisheries Bodies and full involvement in the implementation of important international fisheries instruments.

2. Promoting increased contribution of responsible fisheries to World food supplies and food security. Following on the outcome of the Kyoto Conference on the Sustainable Contribution of Fisheries to Food Security, the Department focuses on reduction of waste in fisheries, particularly fish that are harvested but discarded.

3. Global monitoring and strategic analysis of fisheries, with priority given to development of databases and analysis of information using modern information systems.

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The Department maintains collaboration, cooperation and coordination with a range of partners and ensures formal liaison (including representing the Organization at technical and interagency meetings and others) with FAO Members, UN and specialized agencies, other global, regional and national organizations and bodies, both governmental and non-governmental, including regional fishery bodies and regional economic groupings, in different areas of the World.

The Department also acts as the Secretariat of the Committee on Fisheries (COFI), a governing body of FAO, which provides a global and neutral forum to discuss any fisheries and aquaculture-related matters. COFI has two Sub-Committees – one on Fish Trade and one on Aquaculture. Through these Committees, FAO coordinates the implementation of the programme of work on fisheries and aquaculture; liaises with other units and coordinates departmental inputs to FAO's statutory bodies (Conference, Council, FAO regional conferences and FAO regional fishery bodies) and monitors the follow-up action by the Department on decisions and recommendations of these bodies.

One major global issue that is covered in its programme of work is bycatch and discarding. Bycatch is the catch of fish or other animals and plants that a fisher did not intend/want to catch when he/she was fishing, did not use, or which should not be have been caught in the first place. In many cases these unwanted animals and plans are discarded from the fishing operation. Calls for action on bycatch and discards have been raised at the United Nations General Assembly (UNGA), and was considered by FAO at its 28th session of COFI.

The Code of Conduct for Responsible Fisheries (CCRF)

The FAO Code of Conduct for Responsible Fisheries[1] calls for sustainable use of aquatic ecosystems and requires that fishing and aquaculture be conducted with due regard for the environment. The Code sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources that give due respect for the ecosystem and biodiversity. The Code recognizes the nutritional, economic, social, environmental and cultural importance of fisheries and aquaculture, and the interests of all those concerned with these sectors.

Implementation of the Code

In 1997, COFI Members found it necessary to have some form of international agreements in order to manage the issues in compliance with the Code of Conduct for Responsible Fisheries. The most suitable instrument for this purpose was considered to be a series of International Plan's of Action (IPOA)[2]. These are a voluntary instruments elaborated within the framework of the Code of Conduct for Responsible Fisheries, although aspects of which can become legally binding. The IPOAs apply to all States and entities and to all fishers. Four IPOAs have been developed to date.

- International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks)
- International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)
- International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity)
- International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds)

In addition to the IPOAs, the FAO have provided supporting material to assist in the implementation of the Code and its IPOAs including:

[1] http://www.fao.org/fishery/ccrf/en

[2] http://www.fao.org/fishery/ccrf/2,3//en

- Guidelines to reduce sea turtle mortality in fishing operations
- FAO Technical Guidelines for Responsible Fisheries:
  - No.1 Fishing Operations
  - No. 1 Suppl. 2 Best Practices to reduce incidental catch of seabirds in capture fisheries
  - No. 2 Precautionary Approach to Fisheries Management and Species Introduction
  - No. 4 Suppl. 1 Conservation and management of sharks
  - No. 4 Suppl. 2 The ecosystem approach to fisheries
  - No. 4 Suppl.2 add. 2 The ecosystem approach to fisheries
  - No. 2.2 The human dimensions of the ecosystem approach to fisheries
  - No. 4 Suppl. 3 Managing Fishing Capacity
  - No. 12 Information Sharing and Knowledge Sharing

The Code and its related IPOAs and technical guidelines are widely recognized by governments and NGOs as the global standard for setting out the aims of sustainable fisheries and aquaculture and as a basis for reviewing and adopting national fisheries legislation.

FAO products and services related to bycatch and discards

With respect to the management of bycatch and reduction of discards, these are central aspects of the Code (Articles 7, 8, 11 and 12). For example:

Article 7.3.1 of the Code:
"To be effective, fisheries management should be concerned with the whole stock unit over its entire area of distribution and take into account previously agreed management measures established and applied in the same region, all removals and the biological unity and other biological characteristics of the stock. The best scientific evidence available should be used to determine, inter alia, the area of distribution of the resource and the area through which it migrates during its life cycle."

Article 7.6.9 of the Code:
"States should take appropriate measures to minimize waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species, and negative impacts on associated or dependent species, in particular endangered species. Where appropriate, such measures may include technical measures related to fish size, mesh size or gear, discards, closed seasons and areas and zones reserved for selected fisheries, particularly artisanal fisheries. Such measures should be applied, where appropriate, to protect juveniles and spawners. States and subregional or regional fisheries management organizations and arrangements should promote, to the extent practicable, the development and use of selective, environmentally safe and cost effective gear and techniques."

Article 7.7.3 of the Code:
"States, in conformity with their national laws, should implement effective fisheries monitoring, control, surveillance and law enforcement measures including where appropriate, observer programmes, inspection schemes and vessel monitoring systems. Such measures should be promoted and, where appropriate, implemented by subregional or regional fisheries management organizations and arrangements in accordance with procedures agreed by such organizations or arrangements."

Article 8.4.3 of the Code:
"States should make every effort to ensure that documentation with regard to fishing operations, retained catch of fish and non-fish species and, as regards discards, the information required for stock

assessment as decided by relevant management bodies, is collected and forwarded systematically to those bodies. States should, as far as possible, establish programmes, such as observer and inspection schemes, in order to promote compliance with applicable measures."

Article 12.10 of the Code:
"States should carry out studies on the selectivity of fishing gear, the environmental impact of fishing gear on target species and on the behaviour of target and non-target species in relation to such fishing gear as an aid for management decisions and with a view to minimizing non-utilized catches as well as safeguarding the biodiversity of ecosystems and the aquatic habitat".

Bycatch and discards are clearly identified in both the IPOA-Seabirds (incidental capture) and IPOA-Sharks. Bycatch and discards have also been specifically addressed though technical publications including FAO Fisheries Technical Papers 339[1], 370[2], 470[3], FAO (2009)[4] expert workshops and consultations, as well as through field projects such as the FAO-GEF-UNEP global project on reducing bycatch (REBYC)[5] and related activities.

Specifically for tuna, FAO has initiated (or is in the process of doing it) global studies on bycatches and discards on the global scale for tuna purse seine, longline and small scale fisheries. Their outcome will be reported in FAO Fisheries Technical Papers and distributed to the tuna RFMOs and their Members.

Emerging issues

Notwithstanding the emphasis given to bycatch and discards in the past, there remain significant concerns with respect to effective management of bycatch and reduction of discards in capture fisheries. These concerns have most recently been expressed in United Nations General Assembly Sustainable Fisheries Resolution (UNGA A/RES/64/72) which has called for action on bycatch and discards. The resolution also welcomes the support of the Committee on Fisheries at its twenty-eighth session to develop "International Guidelines on Bycatch Management and Reduction of Discards"[6].

In the above regard, FAO convened an Expert Consultation to develop draft text for International Guidelines on Bycatch Management and Reduction of Discards in December 2009. The Expert Consultation concluded its work and the draft text of guidelines are included in the administrative report of the meeting[7]. The draft text includes, *inter alia*, advice to States and RFMO/As on:

- governance and institutional frameworks;
- bycatch management plans;
- data collection, reporting and assessment;
- monitoring control and surveillance (MCS);
- research and development on bycatch mitigation and discard reduction technologies;
- pre-catch losses and ghost fishing;
- awareness, communication and capacity building;
- special requirements of developing States; and
- additional considerations for implementation of the guidelines.

In concluding their work, The Expert Consultation requested the Technical Consultation set up to further develop the Guidelines, to consider ways and means to ensure that implementation of the

[1] A global assessment of fisheries bycatch and discards. FAO Fisheries Technical Paper T339

[2] Bycatch management and the economics of discarding, FAO Fisheries Technical Paper T370 .

[3] FAO. 2005. Discards in the world's marine fisheries: an update, by K. Kelleher. FAO Fisheries Technical Paper No. 470. Rome

[4] Guidelines to reduce sea turtle mortality in fishing operations

[5] http://www.fao.org/fishery/gefshrimp/en

[6] Report of the twenty-eighth session of the Committee on Fisheries. FAO Fisheries and Aquaculture Report R902

[7] FAO FR 934 (in press)

guidelines would have the desired impact. This Technical Consultation is scheduled for late, 2010 and will report progress to COFI.

Bycatch management and reduction of discards in tuna Regional Fisheries Management Organisation (RFRMOs)

Problems and characteristics associated with bycatch and discards in the tuna RFMOs are to some extent distinct from other fisheries given the areas and modes of operation of tuna vessels and gears. There has been significant global attention paid to seabirds, sharks and turtles, based on the IPOAs and guidelines. Bycatches of dolphins by tuna purse seiners in the eastern Pacific also brought a lot of attention not only on the regional scale, but also global due to the global trade of tuna and their canned products. Presently, dolphin mortality has been dramatically reduced within a framework of the Agreement on the International Dolphin Conservation Program (AIDCP), which has been created in conjunction with the Inter-American Tropical Tuna Commission (IATTC).

On the other hand, the bycatch of non tuna finfish in tuna fisheries, have received much less attention both within the RFMO community and by civil society at large. As a consequence, there is a paucity of quantitative information on the causes and magnitude of non tuna finfish bycatch at the species level. This has led to a continuation of finfish bycatch problems and lack of practical cost effective technological solutions to fully mitigate the catch of non tuna finfish. In the absence of systematic fishing technology research and development it is unlikely that solutions will be readily found.

The tuna RFMOs have also recognized the existence of similar problems for small juveniles of target tuna species by collecting data on their catches, analyzing them and their impact on the stocks of these species. However, the relevant regulations, if desired and even established, have been frequently ineffective in substantially reducing the catches of small juvenile tuna due to the lack of practical cost effective technological solutions and/or willingness and/or feasibility to implement and enforce them.

The problems with increasing the fishing selectivity occurs also with the different tropical tuna species that are caught together and some of them are underexploited while the others are fully or overexploited. For example, in some areas, catches of skipjack could be increased, but this species is caught together with some other tropical tuna species that are fully or overexploited, making such increases not desired unless the selectivity can be improved.

Conclusions

The Code will be enhanced through the development of International Guidelines for Bycatch Management and Reduction of Discards. Together, they provide a more holistic framework for management of bycatch and discards. However, implementation of the guidelines and the degree to which fishers comply will require greater efforts being made to monitor and assess marine resources. This task becomes more difficult if operating costs increase (e.g. fuel costs and crew salaries) and catches and their value dwindle. Clearly, while there will always be a need to be pragmatic in identifying and applying management measures, the need for innovation, cooperation, communication in development and application of solutions for bycatch management and reduction of discards has never been greater.