

**Methodological Workshop
on the Management of Tuna Fishing Capacity**

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**Overview of the FAO Project
on the Management of Tuna Fishing Capacity
and its Implementation**

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Background information

Tuna and tuna-like species are very important economically and a significant source of food for both developing and developed countries nearly world-wide. The so-called principal market tuna species are most important among the tuna and tuna-like species in terms of catch weight and value. Their names are skipjack tuna, yellowfin tuna, bigeye tuna, albacore, Atlantic and Pacific bluefin and southern bluefin tuna. These species are the subject of the Project's activities. For convenience, they will be referred to, in this paper, as simply tuna.

The present tuna fishing capacity is excessive in respect to both the tuna resources and the demand for tuna products. This excess has led to an overexploitation or even depletion of some tuna stocks. In the past, prices for raw materials for tuna products were reduced below those allowing profitable fishing for some tuna species. The problem became so critical and urgent that the tuna industry was trying to resolve it independently of governments and international organisations. The owners of tuna purse seines have formed a global organisation, temporarily limiting fishing effort generated by their vessels. The number of longliners has already been reduced in some countries, and there are some plans to do it further. However, these voluntary actions are unlikely to be sufficient in a long-term.

In response to:

- FAO's International Plan of Action (IPOA) for the Management of Fishing Capacity and
 - the status of tuna resources and fishing capacity in each ocean,
- some tuna fishery bodies have already started to manage tuna fishing capacity in their areas of competence and some others are considering it. The technical problems associated with the management of tuna fishing capacity seem to be similar in all oceans. They are multidisciplinary and involve conservation, socio-economic and technological issues (e.g., the effect of technological improvements on (i) fishing capacity, (ii) effective fishing effort, mortality and catches, (iii) resources, (iv) prices of tuna products, which are determined also by the demand for tuna products competing with other food products and (v) the profitability of tuna fishing and processing). Presently, the secretariats of most, if not all tuna fishery bodies do not have the economic expertise required to technically address and resolve these problems, relying on the expertise of their member countries.

Tuna are fished, traded, processed and consumed almost globally. Vessels registered in coastal countries of one ocean frequently fish in another ocean. The tuna industrial fleets are capable of quickly moving from one ocean to another. Such movements have already taken place in response to changing economic and stock conditions and they are likely to occur in the future. Because of such transfers, the management of fishing capacity at a regional scale is difficult. Also, substantial illegal, unregulated and uncontrolled (IUU) fishing occurring in all oceans (which also may transfer from one ocean to another) significantly complicates this management.

For the reasons mentioned above, it is desired to analyse, consider and discuss the technical problems associated with the management of tuna fishing capacity on the global scale in the multi-disciplinary context. This will:

- allow to adequately address the technical problems through intensive research into them, preventing the duplication of research effort,
- enhance the management of tuna fishing capacity by individual tuna fishery bodies in the areas of their competence and at national scales and
- possibly lead to some global recommendations and/or decisions to be undertaken, making the management of tuna fishing capacity more effective at the global, regional and national scales.

Therefore, at the 24th Session of the FAO's Committee on Fisheries, some countries requested the FAO's assistance in addressing the problem of tuna fishing overcapacity. They recognised FAO's global multidisciplinary expertise and role associated with the fish resources, fishing, processing and trade and its support to developing countries. Some of these countries may need this support to actively participate in international discussions on the establishment of international and national regimes for the management of tuna fishing capacity. Due to this request, FAO has formulated a Project on the Management of Tuna Fishing Capacity: Conservation and Socio-economics and Japan has provided funds for its implementation.

Objective of the Project

The general objective of the Project is to improve the management of tuna fisheries on the global scale.

The specific objectives of the Project are to:

- provide technical information necessary for and
- identify, consider and resolve technical problems associated with the management of tuna fishing capacity on the global scale, taking into account conservation and socio-economic issues.

Implementation

Collaboration

To facilitate the execution of the Project, FAO has created its Task Force (TF) for the execution of the Project. Its Members have been nominated by FAO's Services and Units involved in the formulation and execution of the Project, as listed below.

- FAO Fisheries Department (FI)
 - Marine Resources Service (FIRM)
 - Dr Jacek Majkowski (Coordinator), Fishery Resources Officer
 - *Ms Dora Blessich/Mr Kyriakos Kourkoliotis*, Project Analyst
 - Fishery Information, Data and Statistics Unit (FIDI): *Ms Adele Crispoldi/Dr Sachiko Tsuji*, Senior Fishery Statistician
 - Fish Utilisation and Marketing Service (FIU): *Ms Helga Josupeit*, Fishery Industry Officer
 - Development Planning Service (FIPP): *Dr Rebecca Metzner*, Fishery Analyst (Fishing Capacity)
 - Fishing Technology Service (FIIT)
 - *Mr Joel Prado/ Mr Andy Smith/Thomas Moth-Poulsen*, Fishery Industry Officer
- Technical Cooperation Department (TC)
 - Policy Assistance Division (TCA), Field Programme Development Programme (TCAP): *Mr Uchimura Motomu/Mr Kazumasa Watanabe*, Programme Analyst

The Marine Resources Service (FIRM) of the FAO Fisheries Department (FI) leads and coordinates the execution of the Project. Also, the other above-listed Services and Units of the same Department will be responsible for various activities of the Project.

Considering the Project's objectives, FAO would like to implement the Project in a way mutually beneficial to all involved in, dependent on and/or affected by tuna fishing. Fully recognising the responsibilities and achievements of the various organisations involved in tuna fishing and their members, the FAO would like to collaborate with them,

utilising their expertise, data and other information of relevance to the Project as they regard it as appropriate. These organisations include the tuna fishery bodies, the INFOFISH, the Organization for Promotion of Responsible Tuna Fisheries (OPRT), the Secretariat of the Pacific Community (SPC), the Forum Fisheries Agency (FFA) and the World Tuna Purse Seine Organisation (WTPO).

Therefore, the Project has created the Technical Advisory Committee (TAC) composed of technical experts affiliated with and/or closely familiar with the above-mentioned organisations, so in their personal capacity, they will:

- foster the collaboration of the organisations and their member countries with the Project and
- provide technical advice on the best way of implementing the Project.

TAC's assistance in the Project's implementation includes:

- the provision of technical advice on:
 - the access to the data and other information required by the Project,
 - the selection of methods to be used in the Project's analyses and studies and
 - the identification of consultants and contractors for these analyses and studies and
- the evaluation of the technical work done by the consultants and contractors.

The Members of TAC are listed below.

- *Dr Robin Allen*, Director, Inter-American Tropical Tuna Commission (IATTC)
- *Mr Alejandro Anganuzzi*, Secretary, Indian Ocean Tuna Commission (IOTC)
- *Dr John Annala*, Chair, Stock Assessment Group (SAG), Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
- *Dr John Hampton*, Oceanic Fisheries Programme Manager, Oceanic Fisheries Programme (OFP), Secretariat of the Pacific Community (SPC)
- *Dr James Joseph*, Consultant
- *Dr Peter Miyake*, Scientific Advisor, Japan Tuna
- *Dr Julio Moron*, Assistant Director, Organización de Prodcutores Asociados de Grandes Atuneros Congeladores (OPAGAC) and till May 2003, Secretary, World Tuna Purse Seine Organisation (WTPO)
- *Dr Chris Reid*, Market Advisor, Forum Fisheries Agency (FFA)
- *Dr Victor Restrepo*, Assistant Executive Secretary, International Commission for the Conservation of Atlantic Tuna (ICCAT)
- *Dr Suba Subasinnighe*, Director, INFOFISH
- *Dr Naouzumi Miyabe/Dr Ziro Suzuki*, Director, Pelagic Fish Resources Division (PFRD), National Research Institute for Far Seas Fisheries (NRIFSF)

Activities

The Project's duration will be four years. Its activities consist of:

- technical work,
- meetings of TAC and some other meetings to review and integrate results of the technical work and to formulate conclusions and recommendations and
- the dissemination of these findings .

This work includes:

- the collation of data and other information of relevance to the management of tuna fishing capacity,
- analyses of these data and information and other relevant studies and
- the identification of future needs for the additional technical work required for a better management of tuna fishing capacity.

The analyses and other studies consist of:

- (A1) the review of tuna resources and fisheries (the leading FAO Service(s): FIRM with assistance from FIDI),
- (A2) the estimation of tuna fishing capacity (the leading FAO Service(s): FIDI/ FIIT with assistance from FIPP and FIRM),
- (A3) the determination of demand for tuna raw materials and products (the leading FAO Service(s): FIIU),
- (A4) the review of the socio-economic importance and profitability of the tuna industry (the leading FAO Service(s): FIIU/FIIU with assistance from FIIT and FIDI) and
- (A5) the determination of options for the fisheries management, particularly that of tuna capacity (the leading FAO Service(s): FIPP/FIRM with assistance from all other Services of FI).

In the process of their refinements, Studies A3 and A4 were combined into one single Study (A3/A4) for which the FIIU is responsible. The refined titles of the Studies are given below.

- (A1) Tuna fisheries and resources.
- (A2) Estimation of tuna fishing capacity.
- (A3/4) Tuna fishing industry.
- (A5) Optimum tuna fishing capacity, management options and implications.

Studies and Related Meetings

In the middle of January 2003, proposals of the Studies were forwarded by e-mail to the Members of TAC for their preliminary review. In response to suggestions for improvements and other comments from TAC, the proposals of the Studies were revised, taking into account these suggestions and comments.

In March 26 to 28, 2003, the 1st Meeting of TAC was held in Rome, Italy to:

- review methods for estimating the fishing capacity and its value optimal from the conservation and socio-economic view point and their data requirements,
- determine the applicability of these methods for tuna, particularly in the light of availability of input data for this estimation,
- select the methods most appropriate for the use by the Project and
- finalize the proposal of the Studies to be carried out by the Project particularly in the context of the methods to be used by the Project for the estimation of tuna fishing capacity and its optimum value and their input data requirements.

In April 2003 after the 1st Meeting of TAC, TF finalized the plan of work for implementation of the Studies to be carried out by the Project, taking into account the outcome of the 1st Meeting of TAC. Subsequently, the Project initiated and carried out the Studies. An emphasis was placed on Studies A1, A2 and A2/3, particularly on the collation and processing of data and other required information.

In March 15 to 18, 2004, the 2nd Meeting of TAC was organized to review the Studies carried out by the Project and to make recommendations. The outcome of the Meeting is documented in:

- the Report of the Second Meeting of the Technical Advisory Committee of the FAO Project "Management of tuna fishing capacity: conservation and socio-economics", Madrid, Spain, 15-18 March 2004,
- the Statement by the Technical Advisory Committee (TAC) for the FAO Project on the Management of Tuna Fishing Capacity: Conservation and Socio-Economics (GCP/INT/851/JPN) and
- the Proceedings of the Second Meeting of the Technical Advisory Committee of the FAO Project "Management of tuna fishing capacity: conservation and socio-economics". Madrid (Spain), 15-18 March 2004. FAO Fisheries Proceedings No.2. Eds: W. H. Bayliff, J. I. de Leiva Moreno & J. Majkowski. Rome, 2005.

The Statement by TAC was presented and discussed at Technical Consultation to Review Progress and Promote the Full Implementation of the International Plan of Action (IPOA) to Prevent, Deter and Eliminate IUU Fishing and the IPOA for the Management of Fishing Capacity (Rome, Italy, June 24 to 29, 2004).

The 336 page Proceedings were published in 2005, documenting the technical outcome of the Project until holding the 2nd Meeting of TAC. They provide comprehensive information collated by the Project on the subjects of the Project's Studies. This information is presented in a form of nine very substantial papers. They were peer-reviewed and edited before their publication. The information from the papers is summarized and integrated in the 19 page Overview of the Proceedings, including also the major recommendations of TAC, which were made at its 2nd Meeting.

Major recommendations of TAC at its 2nd Meeting – Regarding the collection of data, TAC recommended that FAO should:

- promote efforts to provide external support for the collection of better information on tuna fishing in countries where small-scale fisheries account for a large part of tuna fishing activities,
- encourage countries to collect information on the characteristics and operation of tuna fishing vessels and/or fleets and
- promote the development of a global record of tuna fishing vessels.

Regarding the management of tuna fishing capacity, TAC recommended that FAO should promote the following actions.

- A moratorium should be imposed on the entry of additional large-scale tuna vessels into the fisheries until an efficient, equitable and transparent management system of fishing capacity is achieved.
- Within the constraints of capacity limits, the regional tuna fishery management organizations should have a system for allowing the transfer of fishing capacity.
- Any country or fishing entity that has expanded or is expanding its tuna fishing capacity should strengthen its management of fishing capacity as recommended above.
- The regional tuna fishery management organizations should collect information on the numbers, capacities and vessel characteristics for tuna vessels other than purse seiners and longliners (such as pole-and-line vessels and trollers) to determine if excess² capacity exists for these fleets.
- Rights-based management of tuna fisheries should be considered, where appropriate, as a long-term solution for the management of excess fishing capacity.
- Mechanisms for managing tuna fishing capacity should include monitoring, surveillance and control systems.

In addition to the above-given general recommendations of TAC, most of the papers in the Proceedings include specific recommendations on how to overcome problems encountered during the implementation of the studies.

Workshop

The 2nd Meeting of TAC recommended also that the Project in collaboration with the Tuna Agencies and Programs should organize a Workshop to develop quantitative methods to determine the desired magnitude of or desired change to fishing capacity on the basis of the status of stocks. Because the assessment of stock status is routinely carried out for, at least, principal market tuna species, TAC was of the opinion that it might be more practical, if feasible, to determine the desired magnitude of or desired change to fishing capacity on the basis of information from these assessments rather than other methods like the Data Envelopment Analysis (DEA) or industry surveys of tuna fishing capacity utilization. The tuna fisheries for which DEA has been performed are limited to few purse seine fisheries, but they do not include other important tuna fisheries

(like those using longlines and pole-and-lines) operating even on the same tuna stocks. The other problem is that DEA requires input data different to those for stock assessments, which are presently not available for most tuna fisheries. Industry surveys of tuna fishing capacity utilization have not been performed either to any significant extent, if at all.

Subsequently, as a result of informal discussions among some Members of TAC, it was proposed to extend the scope of the Workshop. A preliminary proposal of the Workshop was prepared by the FAO Project and presented and discussed at the 5th Meeting of the Secretariats of Tuna Agencies and Programs (Rome, Italy, March 11, 2005). The Meeting generally agreed that it could be a good idea to extend studies on fishing capacity to combine economic and biological considerations. They considered that the outcome of the Workshop would be very relevant for the work of their institutions and their member countries, technically assisting their fisheries managers in undertaking decisions on the management of tuna fishing capacity.

Finally, the following objectives have been established for the Workshop.

- A. To develop quantitative methods to determine the desired magnitude of or desired change to fishing capacity on the basis of the status of stocks, taking into account the multi-species and multi-gear nature of tuna fisheries.
- B. To determine the feasibility of (i) routinely collecting input data for the Data Envelopment Analysis (DEA) and (ii) performing industry surveys of tuna fishing capacity utilization.
- C. To relate DEA estimates of fishing capacity utilization to traditional estimates of fishing capacity.
- D. To review the factors affecting fishing capacity (number of vessels, their physical characteristics, etc.) that could be regulated by fisheries authorities.
- E. To review the existing measures for managing tuna fishing capacity and possibly, to identify additional options for such measures in the context of the outcome of addressing Objectives A to D.
- F. To prepare a Statement of participants of the Workshop.
- G. To formulate recommendations of the Workshop to the FAO Project on the Management of Tuna Fishing Capacity, FAO and the other institutions participating in the Workshop.