

CAPACITY MANAGEMENT

PREPARED BY: IOTC SECRETARIAT, 15 JANUARY 2015

REVIEW AREA: *Conservation and management*

GENERAL CRITERION: *Capacity management*

DETAILED CRITERIA:

- 1) Extent to which the RFMO has identified fishing capacity levels commensurate with long-term sustainability and optimum utilization of relevant fisheries.
- 2) Extent to which the RFMO has taken actions to prevent or eliminate excess fishing capacity and effort.

SUPPORTING INFORMATION

1. *Extent to which the RFMO has identified fishing capacity levels commensurate with long-term sustainability and optimum utilization of relevant fisheries.*

In general, the Commission employs effort-based (input) controls i.e. controls on fishing capacity (e.g. controlling the numbers and tonnages of vessels) as opposed to catch based (output) controls (catch limits etc.).

2. *Extent to which the RFMO has taken actions to prevent or eliminate excess fishing capacity and effort.*

IOTC has implemented a range of measures to limit fishing capacity in an effort to ensure the long-term sustainability and optimum utilisation of the fisheries under its mandate. The first attempt at limiting fishing capacity was through Resolution 03/01, which allowed CPCs with less than 50 vessels over 24 m to develop their fleets. The affect of this as a capacity limiting measure was considered as a failure.

Other attempts at controlling fishing capacity were introduced in 2006 (Resolution 06/05) and 2007 (Resolution 07/05), for tropical tunas and swordfish/albacore, respectively. These two Resolutions were subsequently superseded by Resolutions 09/02, which combined both Resolutions 06/05 and 07/05. Resolution 09/02, has since 2012 been superseded by Resolution 12/11 ([Appendix I](#)). The fact that under these Resolutions some CPCs (developing coastal States, in particular small islands developing States and territories within the IOTC area) were provided with the opportunity of developing their fleets through a Fleet Development Plan, these measures would not have been successful, had the economic conditions been favourable for these CPCs to realise their Fleet Development Plans. It should be noted that one of the recommendation of the Panel that carried out the 1st Performance Review of the IOTC was for the loophole created by the Fleet Development Plans to be closed, which has not occurred. The potential effect of fleet development plans over future levels of input fishing capacity (total number of fishing units operated in the IOTC Area) was reviewed in a study presented to the Commission in 2014¹. Relevant extracts of the report are reproduced in [Fig. 1](#) and in [Appendix II](#):

¹ <http://www.iotc.org/sites/default/files/documents/2013/11/IOTC-2013-SC16-INF04%20-%20Report%20on%20Fishing%20Capacity%20FINAL.pdf>

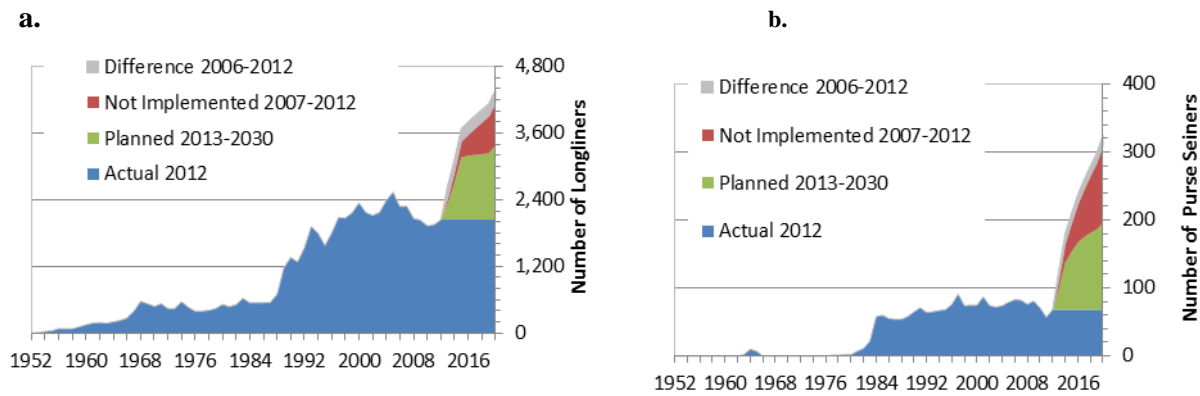


Fig. 1. Total numbers of active purse seiners (right) and longliners (left) estimated over the period 1952–2012 (Actual) and numbers of vessels estimated for 2013 and following years assuming that all IOTC CPCs will execute their fleet development plans as planned; the following scenarios were considered:

1. CPCs will execute their plans fully for 2013 and following years and all new vessels will add to the number of active vessels estimated for 2012 (Actual 2012 plus Planned 2013–30);
2. CPCs will execute their plans fully for 2013 and following years as in a. above, and, in addition, the CPCs that did not realize their FDPs for 2007–12 will execute their plans gradually in 2013 and following years (Actual 2012 plus Planned 2013–30 plus Not Implemented 2007–12);
3. CPCs will execute their plans for 2007 and following years fully, starting in 2013 and all new vessels will add to the number of active vessels estimated for 2006, which was the year in which the IOTC established the baseline (Actual 2012 plus Planned 2013–30 plus Not Implemented 2007–12 plus difference 2006–2012).

Extent to which the RFMO has identified fishing capacity levels commensurate with long-term sustainability and optimum utilization of relevant fisheries.

Estimation of fishing capacity is problematic

In 2001, the Working Party on Tropical Tunas concluded that providing advice on optimal fishing capacity was difficult, and unreliable. Any estimate of overall fishing capacity needs to be able to estimate the relative effects of different vessels and gear on the stock (e.g. to estimate relative fishing power or what the fishing mortality rate for a specific combination of vessel types and number would generate). The information required to generate reliable estimates of vessel-specific fishing power are not available. Fishing power often changes markedly over time, with an increasing trend and, as such, fishing capacity, if measured in terms of number of vessels, will not be a static quantity. In addition, different combination of number and types of vessels can have comparable effects on the stock (in terms of the effect of their removals on the dynamics of the stock). As such, when a variety of vessel types and sizes exist in a fishery, there is no unique combination of vessels that would yield “optimal” performance in terms of normal stock assessment performance criteria (e.g. MSY , F_{MSY} , risk statistic). Other criteria (often economic and social) come into consideration.

Extent to which the RFMO has taken actions to prevent or eliminate excess fishing capacity and effort.

In general, the Commission employs effort-based controls i.e. controls on fishing capacity (e.g. controlling the numbers and tonnages of vessels) as opposed to catch-based controls (catch limits etc). Notwithstanding the difficulties estimating optimal fishing capacity, the IOTC Scientific Committee has regularly provided advice to the Commission on bigeye tuna, yellowfin tuna, albacore and swordfish and to a lesser degree skipjack tuna that recommend the need to limit fishing effort to specified levels (See Resolution 12/11 *On the implementation of a limitation of fishing capacity of Contracting Parties and Cooperating Non-Contracting Parties*) based upon best available information. In response, the Commission has opted to implement a range effort based controls to ensure the long-term sustainability of the major tuna stocks and swordfish.

The Commission has adopted the following conservation and management measures that limit fishing capacity recognising the FAO Code of conduct for responsible fishing of fishing capacity and the FAO International Plan of Action for the Management of the Fishing Capacity (IPOA) of fishing capacity.

Year	Management measure	Operational component/s
2014	Resolution 14/01 <i>On the removal of obsolete Conservation and Management Measures</i>	Nil Active

Year	Management measure	Operational component/s
2012	Resolution 12/11 <i>On the implementation of a limitation of fishing capacity of Contracting Parties and Cooperating Non-Contracting Parties</i>	Limits on the number of their vessels, by gear type, of 24 m overall length and over, and under 24 metres if they fish outside their EEZ, fishing for tropical tunas and for swordfish and albacore tuna in the IOTC Area. Active
2009	Resolution 09/02 <i>On the implementation of a limitation of fishing capacity of Contracting Parties and Cooperating Non-Contracting Parties</i>	Limits on the number of their vessels, by gear type, of 24 m overall length and over, and under 24 metres if they fish outside their EEZ, fishing for tropical tunas and for swordfish and albacore tuna in the IOTC Area. Superseded by Resolution 12/11
2007	Resolution 07/05 <i>Limitation of fishing capacity of IOTC Contracting Parties and Cooperating non-Contracting Parties in terms of number of longline vessels targeting swordfish and albacore</i>	Limits on the number of their vessels, by gear type, of 24 m overall length and over, and under 24 metres if they fish outside their EEZ, fishing for swordfish and albacore tuna in the IOTC Area. Superseded by Resolution 09/02
2006	Resolution 06/05 <i>On the limitation of fishing capacity, in terms of number of vessels, of IOTC contracting parties and co-operating non contracting parties</i>	Limits on the number of their vessels, by gear type, of 24 m overall length and over, and under 24 metres if they fish outside their EEZ, fishing for tropical tunas in the IOTC Area. Superseded by Resolution 09/02
2003	Resolution 03/01 <i>On the limitation of fishing capacity of Contracting Parties and Cooperating non-Contracting Parties</i>	Limits on the number of their fishing vessels larger than 24 meters length overall. Active
2001	Resolution 01/04 <i>On limitation of fishing effort of non members of IOTC whose vessels fish bigeye tuna</i>	Non-Members of IOTC were requested to reduce their fishing effort in 2002 in relation to 1999 levels. Superseded by Resolution 14/01

Currently, the Commission allows developing coastal States, in particular small islands developing States and territories within the IOTC Area to submit fleet development plans. If the plans are implemented in the proposed timeline, and the countries already fishing in the area keep their baseline capacity, the fleets fishing for tuna and tuna-like species in the Indian Ocean by the year 2020, will be more than 250% over the baseline capacities; obviously an untenable position for stocks of tuna and tuna-like species in the area.

APPENDIX I

RESOLUTION 12/11

ON THE IMPLEMENTATION OF A LIMITATION OF FISHING CAPACITY OF CONTRACTING PARTIES AND COOPERATING NON-CONTRACTING PARTIES

The Indian Ocean Tuna Commission (IOTC),

NOTING that the IOTC Scientific Committee during its Eleventh Session agreed that the total overcapacity is a major concern in all Oceans;

RECALLING the adoption by IOTC in 2003 of the [Resolution 03/01](#) *on the limitation of fishing capacity of IOTC Contracting Parties and Cooperating Non-Contracting Parties*; the adoption in 2006 of Resolution 06/05 [superseded by Resolution 09/02, then [Resolution 12/11](#)] on limitation of fishing capacity, in terms of number of vessels, of IOTC Contracting Parties and Cooperating Non-Contracting Parties, and the adoption in 2007 of Resolution 07/05 [superseded by Resolution 09/02, then [Resolution 12/11](#)] *on limitation of fishing capacity of IOTC Contracting Parties and Cooperating Non-Contracting Parties in terms of number of vessels targeting swordfish and albacore*;

RECOGNISING that FAO International Plan of Action for the Management of the Fishing Capacity (IPOA) provides, in its Objectives and Principles that "States and Regional Fisheries Organisations confronted with an overcapacity problem, where capacity is undermining achievement of long-term sustainability outcomes, should endeavour initially to limit at present level and progressively reduce the fishing capacity applied to affected fisheries";

TAKING INTO ACCOUNT the need to have due regard for the interests of all Members concerned, in conformity with the rights and obligations of those Members under international law and in particular, to the rights and obligations of developing countries of the Indian Ocean rim with respect to entry into the high-seas fisheries in the IOTC area of competence;

RECOGNISING the need to ensure the proper implementation of the [Resolutions 03/01](#), 06/05 [superseded by [Resolution 09/02](#), then [Resolution 12/11](#)] and 07/05 [superseded by [Resolution 09/02](#), then [Resolution 12/11](#)], in order to allow the stabilisation of the level of fishing capacity active on the stocks of high commercial value under the IOTC responsibility, and to facilitate the work of the IOTC Scientific Committee to be able to provide the Commission with sound scientific advice;

ADOPTS in accordance with paragraph 1 of Article IX of the IOTC Agreement, that:

1. Contracting Parties and Cooperating Non-Contracting Parties (CPCs) shall notify to the IOTC Secretariat, by 31 December 2009, the lists of vessels, by gear type, over 24 meters overall length and over, and under 24 meters if the fished outside their Exclusive Economic Zone (EEZ), and corresponding overall capacity in GT, which have actively fished in accordance with the provision of IOTC Resolution 07/04 [superseded by [Resolution 10/07](#), then by [Resolution 10/08](#)]; [Resolution 10/07](#) then superseded by [Resolution 12/07](#), then [Resolution 13/07](#), then [Resolution 14/05](#)):
 - for tropical tunas during the year 2006²
 - for swordfish and albacore during the year 2007

Both lists shall include the vessel at that time considered under administrative process of construction.

2. In notifying their vessels fishing for tropical tunas in the area in 2006, and for swordfish and albacore in 2007, the CPCs shall confirm that they have verified the effective presence and fishing activities of their vessels in the IOTC area in 2006 and in 2007, through their VMS records, catch reports, port calls, or other means. The IOTC Secretariat shall have access to such information upon request.
3. This provision does not apply to those vessels included in the lists, but considered under administrative process of construction in 2006 and in 2007.

² Acknowledging that the catch levels and vessels presence in 2006 of certain Members is not representative of their historical presence, and consequently that these Members may increase the number of vessels present during the period of application of the Resolution to a maximum level operating in a season or year since 2000. These Members shall provide the Commission the identified number of vessels and corresponding capacity in GT by 31 December 2009.

4. Within the period of application of this Resolution, CPCs may change the number of their vessels, by gear type, provided that they can either demonstrate to the Commission, under the advice of the IOTC Scientific Committee that the change in the number of vessels, by gear type, does not lead to an increase of fishing effort on the fish stocks involved or where they are directly limiting catches using individual transferable quotas under a comprehensive national management plan which has been provided to the Commission.
5. CPCs shall ensure that where there is a proposed transfer of capacity to their fleet that the vessels to be transferred are on the IOTC Record of Vessels or on the Record of Vessels of other tuna Regional Fisheries Management Organisations. No vessels on the List of IUU Vessels of any Regional Fisheries Management Organisation may be transferred.
6. The other CPCs which had the objective of developing their fleets following the provisions of IOTC [Resolution 03/01](#), through the introduction to the IOTC of a fleet development plan, shall confirm, by 31 December 2009, *inter alia*, the type, size, gear and origin of the vessels included in the Fleet Development Plans and the programming (precise calendar for the forthcoming 10 years) of their introduction into the fisheries). All future fishing efforts shall be in accordance with such development Plans of the concerned CPCs.
7. The CPCs which have introduced a Fleet Development Plan, and have confirmed the information on the vessels included in those plans according to the provision of paragraph 3, shall implement their Plans according to their programming. Regarding CPCs which fail to introduce vessels in accordance with their Fleet Development Plans, the IOTC Compliance Committee and the Commission will give annual consideration to the problems related to the implementation of Fleet Development Plans.
8. The IOTC Compliance Committee shall verify, at any IOTC Plenary Session, the compliance of CPCs with the provisions of this Resolution, including the implementation, according to the notified programming, of the Fleet Development Plans.
9. In relation to the foregoing, the Commission will give due consideration to the interests of the developing coastal States, in particular small islands developing States and territories within the IOTC area of competence.
10. This Resolution is applicable during the years 2012 and 2013. The Commission shall review its implementation at the 2014 IOTC Session.
11. This Resolution supersedes Resolution 09/02 *on the implementation of a limitation of fishing capacity of Contracting Parties and Cooperating Non-Contracting Parties*.

APPENDIX II: EXTRACT OF THE FISHING CAPACITY REPORT

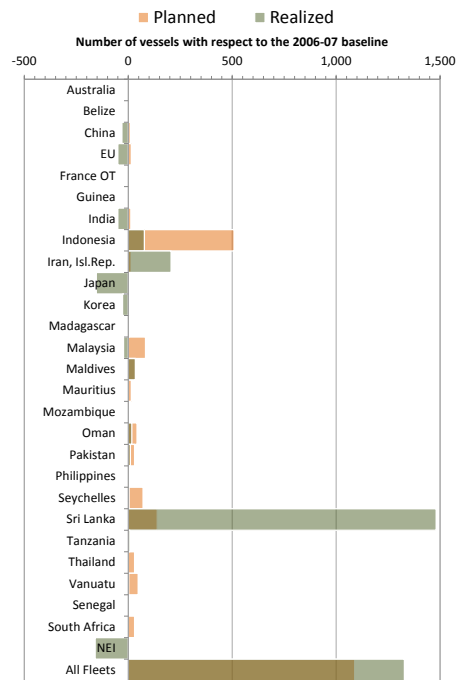
Fig.2: Performance of IOTC CPCs in implementing their FDPs, where existing, and levels of input fishing capacity for CPCs that had not presented FDPs and other fleets operating in the IOTC Area (NEI):

a. Number of active fishing vessels:

- CPCs that have presented FDPs: performance in terms of the number of active fishing vessels recorded in 2012 over the number of vessels existing at the time the baselines were established (2006-07) and the number of vessels that each CPC planned to add during 2007-12, as recorded in its FDP;
- CPCs that have not presented FDPs and other parties fishing in the Indian Ocean: number of fishing vessels recorded in 2012 *versus* the numbers existing at the time the baselines were established (2006-07).

The green bars show the difference between the number of vessels operated in 2012 and the 2006-07 baselines for each fleet, i.e. the actual number of fishing vessels that was added/removed (**Realized**) by each Party over the period 2007-12

The orange bars show the number of fishing vessels that IOTC CPCs having presented FDPs **Planned** to add to their fleets over the years 2007-2012

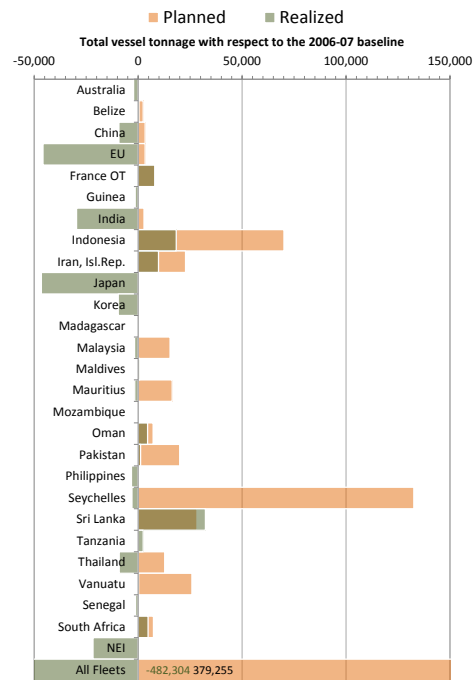


b. Overall vessel tonnage for all active fishing vessels combined:

- CPCs that have presented FDPs: performance in terms of the overall GRT/GT of the active fishing vessels recorded in 2012 over the GRT/GT existing at the time the baselines were established (2006-07) and the GRT/GT that each CPC planned to add during 2007-12, as recorded in its FDP;
- CPCs that have not presented FDPs and other parties fishing in the Indian Ocean: overall GRT/GT of the active fishing vessels recorded in 2012 *versus* the GRT/GT existing at the time the baselines were established (2006-07).

The green bars show the difference between the GRT/GT of vessels operated in 2012 and the 2006-07 baselines for each fleet, i.e. the actual number of fishing vessels that was added/removed (**Realized**) by each Party over the period 2007-12

The orange bars show the overall GRT/GT of fishing vessels that IOTC CPCs having presented FDPs **Planned** to add to their fleets over the years 2007-2012



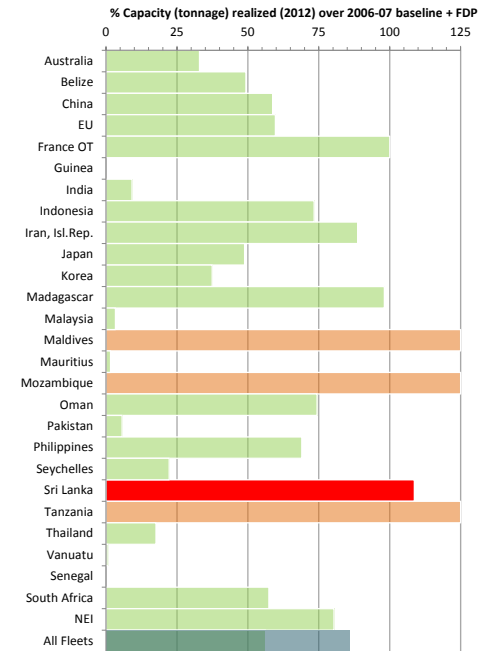
c. Vessel tonnage realized over the period:

- CPCs that have presented FDPs: performance (%) in terms of the amount of vessel tonnage (GRT/GT) that the GRT/GT in 2012 represents over the GRT/GT existing at the time the baselines were established (2006-07) plus the GRT/GT that each CPC planned to add during 2007-12, as per its FDP.
- CPCs that have not presented FDPs and other parties fishing in the Indian Ocean: performance (%) in terms of the amount of vessel tonnage (GRT/GT) that the GRT/GT in 2012 represents over the GRT/GT existing at the time the baselines were established (2006-07)

Green bars are used for CPCs that did realize their FDPs or did not realize them fully; or those CPCs for which the total vessel tonnage in 2012 was the same or below the baseline ($\leq 100\%$).

Orange bars are used for CPCs that did not have baselines and/or FDPs and reported active vessels in 2012

Red bars are used for CPCs that exceeded the vessel tonnage that they had planned to add through their FDPs ($>100\%$)



Note that Comoros, Eritrea, Kenya, Sierra Leone, Sudan, United Kingdom (Overseas Territories), and Yemen did not report lists of active fishing vessels for 2006, 2007 (baselines), or 2012 and, to date, have not presented fleet development plans to the Commission.