A Review of Tuna Fisheries Management in Iran

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Title: **Tuna Fisheries Management in Iran**

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Introduction

During 2013 almost 11500 fishing vessels and 143000 fishermen received permission for fishing activities leading to almost 514000 Mt which 474,000 tons caught from the Persian Gulf and Oman sea. Fishing through Iranian Southern waters put into practice by 3 vessel types: regular boats (7520), Dhows (3135) , Trawlers and purse seiners (54). These vessels are equipped with different fishing gears to harvest variety of aquatics e.g. Large and small pelagic, Demurral species, Lantern fish and Shrimp, within allowed areas

Significance of Tuna species in Iran

Large pelagic has the biggest share of harvest amount comparing to other species i.e. demersal , small pelagic, prawns and lantern fish. The average harvest of main target species during 10 years is as below:

Large pelagic: 53% , Demersal: 36% , Small pelagic: 8% , shrimp : 8% and lantern fish 2%

Following pie chart shows the contribution of each group to national southern capture fisheries during a 10-year period.
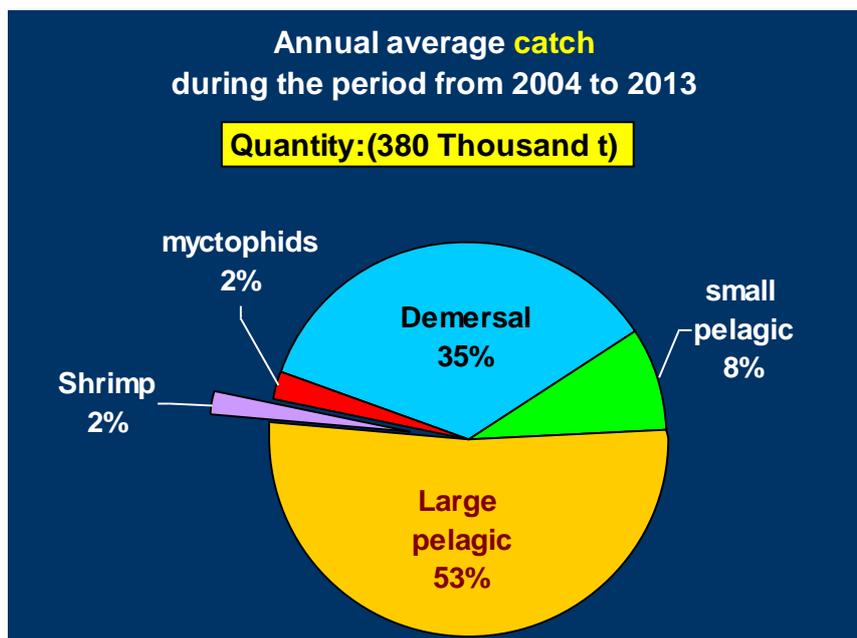
Tuna harvest amount is approximated near 170000 Mt. at 2013 , which is considered as 71% of total large pelagic harvest. So tuna fish make up 38 percent of the fishery south of country. This amount has been captured by 4600 Gillnet and trolling boats, 2160 Dhows and 4 purse seiners, that been **active in catching tuna fish.**

Also Canned Tuna per capita consumption also estimated at 1 Kg per person (650 Million cans per year, almost 8 cans per person per year)

Trend of tuna harvest

Main Tuna captured species Respectively are: Skip Jack, Long Tail, yellowing, kawakawa, Frigate and Big eye tuna. According to several studies during last decade, Skipjack harvest has been diminished since 2006. In contrast, long tail tuna fisheries show a positive trend. Yellow fin fisheries also have been recovered after since 2007 and after a fall.
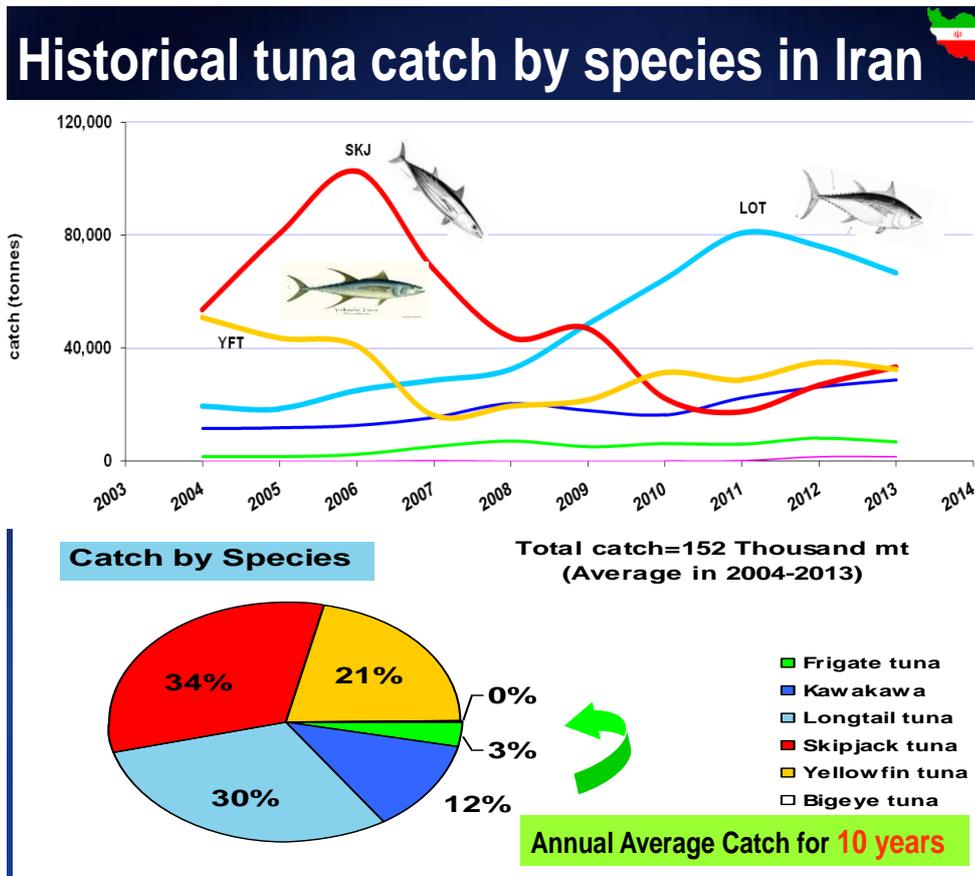
The review of Catch trends reveals that the harvest amount of Tropical tuna species has been reached to its peak in 2006 after a raise. It has been reduced until 2011. On the other hand, Neurotic Tuna has been increased. Piracy has been a reduction in fishing that during years and During those vessels were fishing in coastal waters

Biometry findings during last decade also show that comparing to the skip jack caught by Dhows is bigger that those caught by purse seiners. (69 against 53 Cm) In contrast, Yellow fin Tuna which caught by purse seiners are bigger than those caught by Dhows did. (92 against 79 Cm) following diagram shows this status.

Tuna Fishing Plan In Iran

Tuna stocks Status are greatly associated due to high migration of Tuna schools within world oceans, Therefore Tuna harvest should be regulated based on International principles. For Tuna fisheries Management following items should be considered:

1- Directives

- catch permission license regulation

- Code of practice for catch and fishing license

- Data collection and Biometry

- Code of practice for IUU commission

- Directive for vessel anchor, loading and unloading in ports

2- IFO's main policy is to prevent gillnet expansion and find alternatives such as Purse seine and Long line method. As a result Tuna harvest plan has been presented to IOTC as below:

Table: fishing capacity based on the number and tonnage of vessels and fleet development plan

| Vessel Type	A .Reference 2006	B. Planned FDPS 2007-2013	Reference capacity at 2013(A+B)	Active Capacity in 2013	Capacity to be added under Fleet Development Plan								
					2013	2014	2015	2016	2017	2018	2019	2020	Total
Gill net(number)	985	311	1296	1224	-	0	0	0	0	0	0	0	0
Gill net(GT)	72083	26712	98795	92058	-	0	0	0	0	0	0	0	0
Ll, Ps & etc (number)	8	5	13	6	-	4	5	9	14	14	10	4	60
Ll, Ps&etc.(GT)	9974	9907	9468	10471	-	3100	4100	6650	10200	10200	7850	4400	46500
Total (number)	993	316	1309	1230	-	4	5	9	14	14	10	4	60
Total(GT)	82057	36619	118676	102529	-	3100	4100	6650	10200	10200	7850	4400	46500

3 - Vessels performance control at sea and in port:

- In port operation control

- Vessels safety and Insurance certifications control
- Navigation system (offline) , fishing gears , crew documents control
- offline data and filled logbooks forms control
- Control of Vessel anchoring, Loading and unloading , fish supply
- Transportation and physical security, Port Services and maintenance control
- Fishing permission issuance

- At sea vessel control

Vessels performance control at sea is achieved from Logbook data information, reports from other vessels or regular visits catch quality and amount during anchoring in port.

Port operation processes
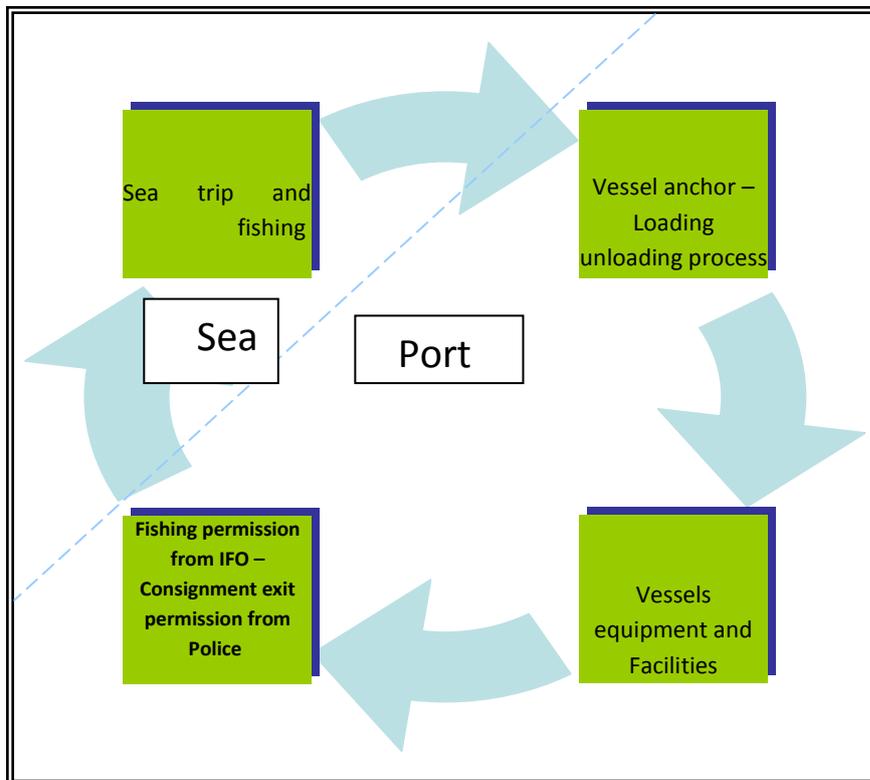
4-Data collection

Data collection is underway in 7 coastal provinces (43 out of 63 ports – for 74 fish species).*Unloading Data collection is done in port for following aims:*

o *To enhance fishery management*

o *Basic source for stock assessment*

o *To be alert about catch-and-effort data*

▪ **Sampling Method:**

A. *Artisanal fishery: sampling 10% of vessels in each class. (Based on 10% of questionnaire and 100% of fishing efforts the catches will be raised).*

  ▪ *DATA validation:*

o *At landing places*

o Data center in Province

o *Data unit in Head quarter Tehran*

o   *Finally SC Tehran. Also crosscheck in 1 or 2 of landing Places from time to time.*

o *Capture fishery data collection software (AMAR SOFTWARE): used for data entry and   reporting.*

B- For industrial fishery, logbook system and landings used.

-   **Vessels are obliged to maintain a logbook to keep the catch record. This makes them able to set up a catch report to port authorities end of each harvest season.**

-   **Some logbooks have been provided for fishing vessels to keep the catch record in this format. The data that collected via these logbooks is highly helpful to identify the catch composition, fishing areas and fishing effort, etc. catch amount and composition and fishing effort of purse seiners are shown in following diagram.**

5-Weight –Size data collection

Weight- size data collection is executed in 16 fishing ports , 5 among of them are specially collect tuna related data.

o   **Size data collected for each Fishery:** *Gillnet / Purse seine /Trap / Trawl / Hook*

   ▪   **Type of data compiled: length (FL) & weight data collected**

Sampling Method:

   ▪ **PORT SAMPLING, ONBOARD SAMPLING**
   ▪ *For tuna fishes, 1 fish per one tone catch shall be measured.*
   ▪ **Increasing data resolution for Size data** *by 5° grid area and month strata.*
   ▪ *Improving species identification: Bet From YFT,…*
   ▪ *Used for data entry and results will be processed by other statistical software's.*

6- Infraction Fishing Consideration

 The Commission fishing infraction is assembled according to level of Type of abuse in various levels (Town, Province, and Center). IFO has this authoritative power to legally combat IUU activities through its IUU commission and after investigating them.

7 - Regional and International Interactions:

Reports of completed National measures have been represented to International and regional organizations. National related competent bodies regularly justified about updates. IOTC report shows that Iran's commitment of 11 percent to 65 percent. Indicates that management actions have been correct.