Received: 15 November 2013

Indian Ocean Tuna Commission
Commission des Thons de l'Ocean Indien
iotc ctoi

IOTC–2013–SC16–NR13

KENYA National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2013

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INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

In accordance with IOTC Resolution 10/02, final scientific data for the previous year was provided to the Secretariat by 30 June of the current year, **for all fleets other than longline** [e.g. for a National report submitted to the Secretariat in 2013 final data for the 2012 calendar year must be provided to the Secretariat by 30 June 2013)	NO*
In accordance with IOTC Resolution 10/02, provisional **longline data** for the previous year was provided to the Secretariat by 30 June of the current year [e.g. for a National report submitted to the Secretariat in 2013, preliminary data for the 2012 calendar year was provided to the Secretariat by 30 June 2013). **REMINDER:** Final longline data for the previous year is due to the Secretariat by 30 Dec of the current year [e.g. for a National report submitted to the Secretariat in 2013, final data for the 2012 calendar year must be provided to the Secretariat by 30 December 2013).	NO*
If no, please indicate the reason(s) and intended actions: ***During this year Kenya changed its data collection system from total enumeration to a sample based system of data collection of the artisanal fleet across vessels gear categories. By the time of dateline of submission an analysis of the data to establish the total catch had not been done. This approach will generate better estimates of total catch compared to earlier method. Data shall be made available to the secretariat once ready.* ***Kenya does not have a long line vessel on its register.*	

Executive Summary

Kenya's current fishing fleet for tuna and tuna like species is composed of entirely artisanal fishery and recreational fishery. The National report therefore summarises the fishing activities of these fleets. The commercial artisanal tuna fishery is small-scale artisanal multi- species multi-gear fishery concentrated in the coastal areas. A majority of the vessels are wooden planked propelled by sails and some are increasingly being motorised. About 821 artisanal vessels are engaged in the fishing of tuna and tuna like species. Artisanal commercial fishing for tuna and tuna-like species in the territorial waters use artisanal long line hooks, gillnets and monofilament nets. Key species landed are tuna Yellowfin, Skipjack and Kawa kawa, sailfish, and king mackerel. Tuna catches decreased from 302 tons to 201 tons. Other important species landed were sailfish 142 tons, and King fish 121. Recreational fisheries species target billfishes (Marlins, swordfish and swordfish) and tuna however other small pelagic species such as barracuda, king mackerel Wahoo and sharks are also reported in the catches of recreational fishermen. The key ecosystem issues that are relevant to the Kenyan tuna fisheries relate to the incidences of shark bycatch which occur in artisanal fisheries.

Contents

Background/General fishery information

The Kenyan marine capture fishery is small-scale artisanal multi- species multi-gear fishery concentrated in the coastal near-shore areas. The major fishing areas reported along the Kenyan coast are the Kiunga coastline and Lamu islands in the North, Tana River mouth, Ungwana Bay and Malindi area including the offshore North Kenya Bank and Shimoni, Vanga, Funzi Island and coral reef areas on the Southern border, some of the rich inshore grounds include grounds around the Lamu Archipelago, Ungwana Bay, the North Kenya Bank the Malindi bay. Nearly half of the total catches are composed dermersal reef and reef associated fish species while pelagic fish contributes about a quarter of the catches (2,297 MT). Other important fish groups in the catches include cephalopods and crustaceans. Nominal commercial catches have fluctuated between 5,000-8,000 MT annually since the 1970s with distinct seasonality in catches high during the northeast monsoon than the southeast monsoon. The vessels and gears deployed in the fishery are artisanal to traditional gears. Fishing is a day trip using motorised or non motorised vessels using a variety of gears including gillnets, artisanal longline hooks, seines nets and traditional traps.

Tuna and tuna like species represent 6% percentage of the total Kenyan artisanal marine fisheries catch of 8,865. These species are targeted by artisanal boats using gillnets, monofilament nets and artisanal longline hooks. The most important fishing season is September to November. Landings are composed of tuna species (Yellowfin, skipjack and Kawakawa) not always distinguished to species level in catches and kingfish. Billfish catches in the artisanal fishermen landings are represented mainly by Sailfish (Istiophoridae).

A recreational trolling line fishery is also important in Kenya Kenya's pelagic fisheries. The total catch is considered significant especially when compared to the artisanal commercial fisheries. The catch composition is varied with at total of fifteen pelagic species commonly landed however the mainstay of the fishery is composed of marlins, Tuna, sailfish, and swordfish.

Fleet structure

The national fleet structure consists of the artisanal commercial segment and the recreational fisheries segment. The commercial artisanal fishing fleet is composed of a multi-gear and multi- species fleet operating in the territorial waters. Estimates of the total fishing fleet for the entire artisanal sector is obtained from the frame surveys conducted biennially with the most recent conducted in the year 2012. A majority of the vessels are wooden planked propelled by sails and some are increasingly being motorised. The local boats are broadly categorized as outrigger boats or dhows which come with variants depending on the construction designs. About 821 artisanal vessels are engaged in the fishing of tuna and tuna like species. The number and mean craft sizes for each fishing craft types are shown in figure 1. The Main gears used are artisanal long lines, gillnets and monofilament nets. The most important gears are artisanal long line hooks and gillnets. Trolling lines are only deployed by the recreational fishery and not used by commercial artisanal fishing sector. A vast majority of the vessels operate day trips as all the fishing occurs in the territorial waters. The number of vessels targeting tuna and tuna like species and the gear type is summarised in the table1.

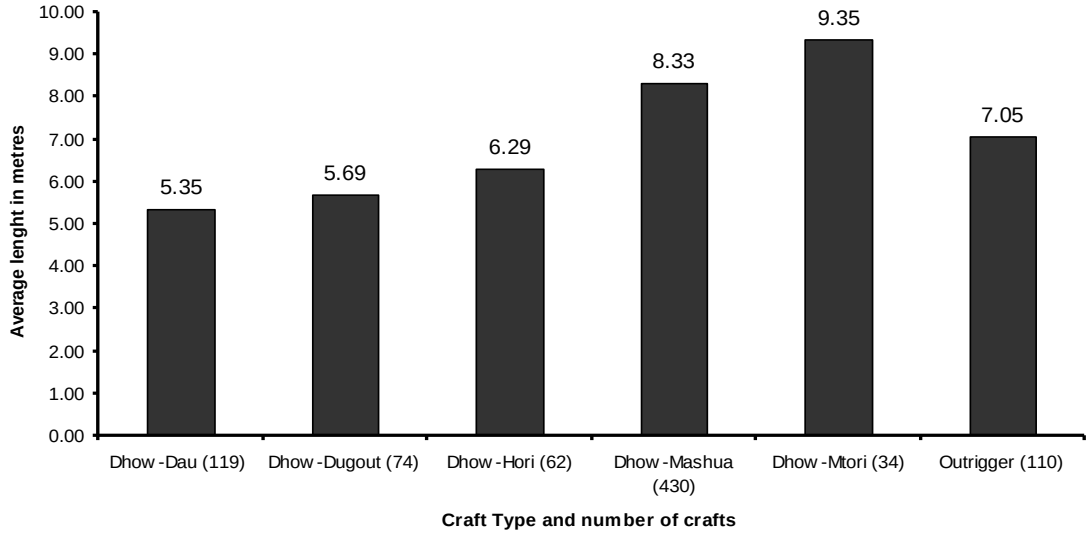

Figure 1: Artisanal mean fishing craft sizes per craft type

Table 1: Number of Kenyan vessels operating in the IOTC area of competence, by gear type**.**

Vessels & Gears/Year	2004	2006	2008	2011	2012
Dhows	383	470	629	854	721
Outrigger boats	136	154	195	157	110
Gillnets	3,917	3,336	2,150	4,168	7,984
Longline hooks	10,908	8,224	9,009	16,476	16,879
Trolling line	608	500	625	741	604
Monofilament nets	902	1,050	1,472	3,239	2,851

Catch and effort (by species and gear)

Artisanal commercial fishing for tuna and tuna-like species in the territorial waters use artisanal long line hooks, gillnets and monofilament nets. Key species landed are tuna Yellowfin, Skipjack and Kawa kawa, sailfish, and king mackerel. Table 2 summarises artisanal catch data for the year 2005- 2012. Tuna catches decreased from 302 tons to 201 tons. Catches for tuna are not distinguished to species level because of identification problems with the data collectors. Other important species landed were sailfish 142 tons, and King fish 121 tons respectively. The Figure 2 shows the artisanal catch trends from 2000.

Table 2. Annual catch by the commercial artisanal fleet for the primary species in the IOTC area of competence

Species/Year	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Sailfish	111	148	84	105	160	165	145	142
King mackerel	110	82	117	77	75	119	179	121
Tuna	336	233	204	319	295	180	302	201
Sharks & Rays	253	189	174	183	232	274	306	373

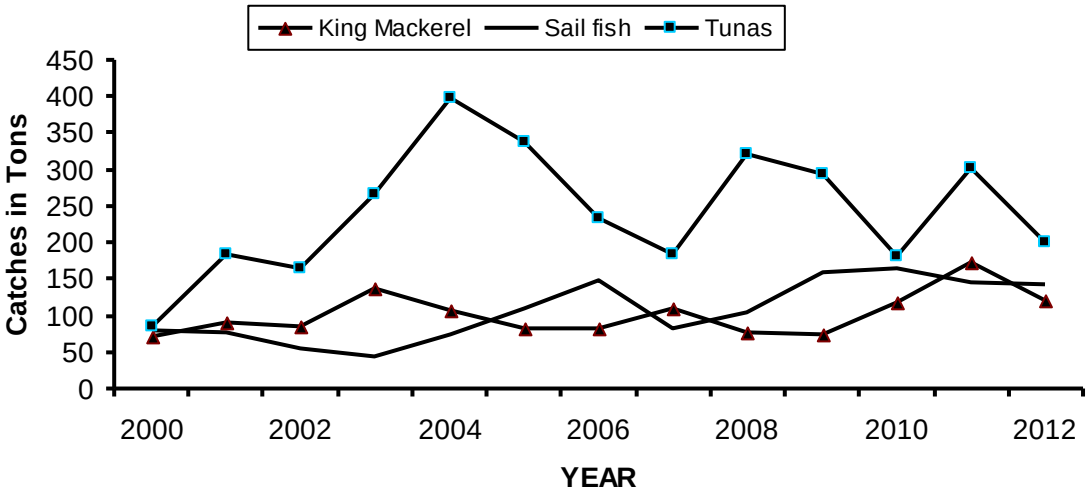

Figure 1. Historical annual catch for the artisanal fleet, by primary species, for the IOTC area of competence from 2000- 2012. **[Mandatory]**

The spatial representation of the catch by species and the fishing fleet dynamics is not possible primarily because the entire catch is caught by artisanal operators who do not have GPs devices equipped on their vessels. All the catch and the fleet is caught within the territorial waters**.**

Recreational fishery

Game fishing in Kenya dates back 50 years with the flagship species targeted being billfishes (Marlins, swordfish and swordfish) and tuna. Small pelagic species such as barracuda, king mackerel Wahoo and sharks are also reported in the catches of recreational fishermen. The common fishing locations are indicated in on the Watamu and Malindi banks and reef drop offs, the Pemba Channel and sea mounts. Fishing has distinct high seasons and low seasons related to the tourist seasons. There are 87 chartered boats used in the recreational fisheries in Kenya and the trolling lines as the main gear. Anglers enforce a voluntary tag and release policy for marlins and sharks. About 93 tons of fish were landed from recreational fisheries in the year 2012. Details of the catch composition are indicated in table 3 below.

Table 3: Landings from recreational fisheries in 2012

Species	Kgs
Marlin, Black	941
Marlin, Pacific Blue	1,185
Sailfish	27,990
Kawa kawa	469
Yellowfin Tuna	41,246
Skipjack tuna	844
Wahoo *Acanthocybium solanderi*	10,328
Kingfish	3,870
Barracuda	1,238
Dolphin (Dorado)	5,231
Shark, Hammerhead	200
Shark, Mako	0
Shark, Tiger	0
Shark, Other	0
Total	93,542

Ecosystem and bycatch issues

Sharks

Sharks are caught mainly as bycatch by artisanal baited longline and gillnet fisheries and semi-industrial prawn trawl fisheries in territorial waters where the carcass is retained and fully utilised. Recreational trolling line fisheries encounter sharks as bycatch but have a voluntary shark release policy for all sharks caught. Sharks are also caught in industrial tuna fishing within operating in the Kenya EEZ by licensed foreign fishing fleets. Whilst the current knowledge of stock status and distribution of shark catch is limited, recent studies indicate that the following species are commonly landed in artisanal catches; *Sphyrna lewini*, *Carcharhinus melanopterus and Carcharhinus amblyrhynchos (*Kiilu B. K and Ndegwa S. 2013) with a general decline in the catch rates in the recent years. The most common species encountered in recreational trolling line fisheries include; Mako shark, Hammerhead sharks and tiger shark. Table 3 presents trends in catches of shark species for respective fisheries in Kenya since 2008-2012.

Presently there are no specific management measures directed to the management and conservation of shark fisheries. Kenya intends to remedy this situation by developing a National Plan of Action for sharks by the end of 2014 plan year.

Table 3: Total number and weight of sharks, by species, retained by the national fleet in the IOTC area of competence (for the most recent five years at a minimum, e.g. 2008–2012

1. Recreational trolling line sharks Species

	2008		2009		2010		2011		2012	
	No.	**Kgs.**	**No.**	**Kgs.**	**No.**	**Kgs.**	**No.**	**Kgs.**	**No.**	**Kgs.**
Shark, Hammerhead	4	200	3	83	4	139	0	0	1	200
Shark, Mako	2	270	3	200	2	142	1	90	0	0
Shark, Tiger	22	4,715	2	350	2	305	4	660	0	0
Shark, Other	51	3,385	55	2,886	38	1894	55	1,809	0	0
Total	**79**	**8,570**	**63**	**3,519**	**46**	**2480**	**60**	**2,559**	**1**	**200**
2. Industrial Longliner										
Mako sharks		**3,354**		**6,093**		**327**				
Blue sharks		**4,408**		**3,514**		**695**				
Other sharks		**63,238**		**34,393**		**0**				
Total		**71,000**		**44,000**		**1,022**				
3. Artisanal fisheries										
	No.	**Tons**	**No.**	**Tons**	**No.**	**Tons**	**No.**	**Tons**	**No.**	**Tons**
Sharks all species combined		183		232		274		306		373

Seabirds

Kenyan fishing fleet does not have any interactions with sea birds and therefore development of a National Plan of action for sea birds is not considered as necessary.

Marine Turtles

Five species of Indian Ocean sea turtles are found in Kenya including the Green turtles which are the most common species and are reported to nest throughout the coastline. Hawksbills and Olive ridleys have been reported nest at specific location on the Kenyan coast. Loggerheads and Leatherbacks have been sighted migrating through Kenyan waters. The main challenges facing sea turtle conservation include incidental capture in fisheries, coastal development and loss of habitats

The government completed the development of the national conservation strategy and action plan for sea turtles 2010- 2014. The implementation involves multiple agencies. The strategy is very comprehensive with the aim of reducing and mitigating threats reverse declining sea turtle populations and enhance ecological, social, and cultural benefits of sea turtles.

Data on the incidental capture and gear -sea turtles interactions for the artisanal tuna fishing fleet is limited due to the artisanal nature of the fishing operations. The existing mitigation measures in the national legislation are targeted at the prawn trawl fishery. Great efforts are dedicated on the raising awareness among the artisanal fisherfolk on the importance of sea turtle conservation

National data collection and processing systems

6.1. Logsheet data collection and verification

Logbook data collection and verification started in 2007 and applied to the authorised long line vessel flying the Kenyan flag. Currently there are no authorised vessels using the logsheet data collection system as the entire authorised fishing fleet for tuna fisheries is artisanal.

6.2. Vessel Monitoring System

There is a working Vessel Monitoring System which is used for the shrimp fishing vessels. The artisanal tuna fishing vessels are small in size and cannot be fitted with the VMS equipment

6.3. Observer programme

An observer scheme has not been introduced in Kenya however earlier preparations were made in the early years of 2010 by training observers under the SWIOFP program. The main challenge is that the current authorised vessels are small to accommodated observers.

6.4. Port sampling programme

Note in place during the this time

6.4. Unloading/Transhipment

No transhipment is undertaken by Kenyan fishing vessels

Implementation of Scientific Committee Recommendations and Resolutions of the IOTC relevant to the SC.

Table 9. Respond with progress made to recommendations of the SC and specific Resolutions relevant to the work of the Scientific Committee [to be updated annually to include most recent Conservation and Management Measures adopted by the Commission.

Res No.	Resolution	Scientific requirement	CPC progress
05/05	Concerning the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 1–12	A voluntary practice of catch and release for sharks is in place for recreational fisheries. In artisanal fisheries shark catches are retained whole and carcases are wholly utilised.
10/02	Mandatory statistical requirements for IOTC members and cooperating non contracting parties	Paragraphs 1–7	Kenya Provides to the Secretariat the available data from the recreational and artisanal fisheries.
10/06	On reducing the incidental bycatch of seabirds in longline fisheries. **Reminder**: Resolution 12/06 will supersede Resolution 10/06 on 1 July 2014	Paragraphs 3–7	This resolution is not applicable to Kenyan authorised vessels because there exists no longline fishing vessel on its registry.
11/04	On a regional observer scheme	Paragraph 9	The observer scheme has not been developed because the fishing fleet is artisanal of length overall less than 24 meters. Filed observation of artisanal catches commenced in 2013 covering about 20 small fish landing sites across the entire shorelines with sufficient sampling frequency
13/03	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–11	A catch and effort data recording scheme has been established in 2013 based on the sub sampling of the entire artisanal fishing fleet activities whether targeting IOTC species or not
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–10	
12/09	On the conservation of thresher sharks (family alopiidae) caught in association with fisheries in the IOTC area of competence	Paragraphs 4–8	These species of sharks is not encountered by Kenyan authorised vessels

Literature cited

Ministry of Agriculture Livestock and Fisheries, National Fisheries statistical bulletin Report 2012

Kiilu B. K and Ndegwa S. 2013. Shark bycatch in small scale tuna fishery interactions along the Kenyan coast IOTC–2013–WPEB09–13