

COUNTRY REPORT PREPARED FOR THE INDIAN OCEAN TUNA COMMISSION

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ABSTRACT

*Mozambique has no national fleet for tuna and tuna like species so swordfish (*Xiphias gladius*) and marlin (*Istiophoridae*) are caught by foreign fleet. Landings are undertaken outside the country so it is difficult to sample on landings or to have an observer program. Swordfish and marlin are caught in small quantities by recreational and sport fishing. It is planned in SWIOFP project component 4 (pelagics) to start an observer program to get information on species composition and biological characteristics of the main tuna species.*

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1. INTRODUCTION

Purse seine and long line are the two main fishing techniques used in Mozambique in the tuna fishery. This activity is carried out by distant water fishing fleets, which operate in the EEZ as from 12 nautical miles off shore from January to December.

Purse seine fishing occurs mainly between the parallels 10° 32' and 20° S. In 2009 the purse seine fleet was composed of vessels from France, Spain and Seychelles.

Long line fishing occurs between 20° and 26 52' S, mainly below parallel 25° S. In 2009, the fleet was constituted by vessels from Korea, Spain, Philippines and Japan.

1.1. Background

Mozambique is located in south-east Africa and has the third longest coastal façade on the African continent. Mozambique's coastline measures 2700 km and is characterized by a wide diversity of habitats, including sandy beaches, coral reefs, estuary systems, bays, mangroves, and sea grass beds.

Fishery plays an important role in the Mozambican economy, for sustenance, income and food security of fishing communities. There are three main fishing sectors: industrial, semi-industrial and artisanal. Over 100,000 people are believed to be directly involved in artisanal fisheries as fishermen.

Mozambique has no national fleet for tuna and tuna like species so swordfish (*Xiphias gladius*) and marlin (Istiophoridae) are caught by foreign fleet . Landings are undertaken outside the country so it is difficult to sample on landings or to have an observer program. It is planned in SWIOFP project component 4 (pelagics) to start an observer program to get information on species composition and biological characteristics of the main tuna species.

According to IOTC catch statistics in 2009 the industrial long liners fished mainly in the northern part of the country, border with Tanzania.

Tuna is also caught in small quantities by recreational and sport fishing.

Table 1 shows catches for purse seine and long line in 2009. The bulk of the catch (45%) is composed by skipjack, followed by yellow fin tuna (19%) and swordfish (17%).

Table 1 Catches from IOTC for purse seine and long line in 2009.

Catches	YFT	BET	ALB	SKJ	BLM	SWO	TUN	OTH	TOT
Purse seine	286	96	68	1866			22		2338
Long line	519	50	83		9	723	444		1828
Total	805	146	151	1866	9	723	466		4166

As there is no data on black marlin and swordfish for purse seine only long line catches will be analyzed. Catches of swordfish and black marlin are presented in Figure 1. Spain had the highest catches of swordfish followed by Japan.

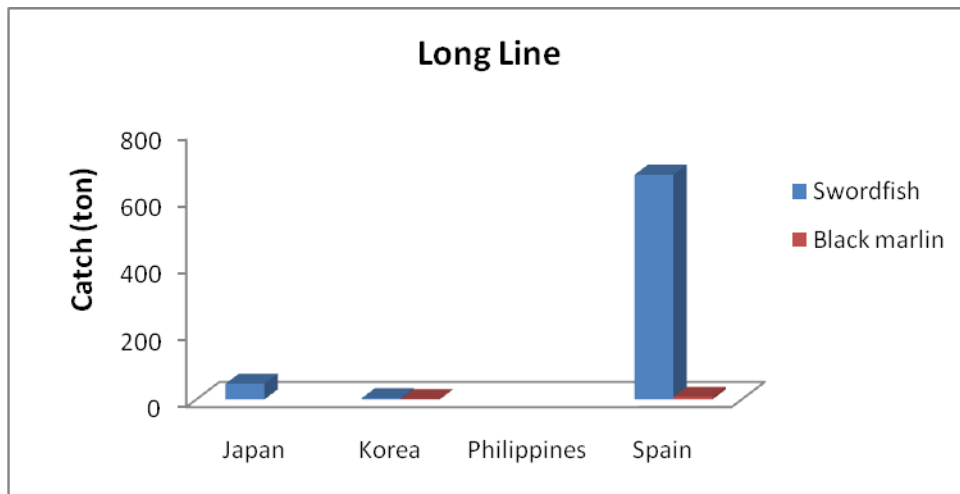


Figure 1 Catches of swordfish and black marlin for long line flag country.

Monthly catch analysis showed that the highest catches in Spain long liners were in July, September and October (117, 106 and 154) tonnes respectively in the same position (latitude and longitude). It looks like they were targeting this species. In Japan long liners the best catch was in October in the same position of Spain long liners.

Black marlin was only caught by Korea (1 ton) and Spain (1 to 2 tonnes).

2. Line fishing

Tuna is caught in line fishing in very small quantities which can be negligible. According to Table 2, *Euthynnus affinis*, *Thunnus albacares* and *Katsuwonus pelamis* catches make up between 0.02 and 0.64% of the total catch.

Table 2 Tuna catches in line fishing in Mozambique, 2000-2010

	E. affinis		K.pelamis		T.albacares	
	Catch(kg)	% total catch	Catch(kg)	% total catch	Catch(kg)	% total catch
2002	3280	0.64				
2003	735	0.14				
2004						
2005	1479	0.25	438	0.07		
2006	189	0.03				
2007	682	0.1				
2008	165	0.03	330	0.05	110	0.02
2009	1534	0.21				
2010	160	0.02				

Source: IIP

3. Recreational fishing (Game fish)

This type of fishing is carried out along the Mozambican coast with and without boat mainly during weekends and holidays. Fisheries Research Institute started collecting data from 2005 onwards. Data was obtained from Maputo Province (area between Ponta Dabela and Ponta do Ouro) through Lubombo Transfrontier Conservation Area, and for Maputo city, Inhassoro, Vilanculos, Inhambane and Beira were collected by the F.R. Institute (Anon, 2009)

During 2009, the F R Institute collected data on 17 competitions, eleven in Maputo city, three in Maputo Province, one in Inhambane and one in Sofala. In each competition, the data obtained referred to fishing location, number of fishermen, time of fishing, number of boats and species composition. In sport fishing competitions are also recorded biological data, total length, individual weight, sex and maturity stages of the species caught.

3.1. Game fish at Maritimo Club

3.1.1. Catch, fishing effort and catch rates

In 2009, 19 boats carrying 1 to 5 persons, participated in game fish during 135 days. Fishing varied between 4 and 12 hours and total catch recorded was 7047 kg. The mean monthly catch rate was estimated as 41.6 kg/boat and 53.1 kg/day, 15.5 kg/fisherman and 5.3 by hour. Compared with 2008, there was a reduction of 50.9 kg/boat and 12kg/day. Regarding catch rate by fisherman there was no variation. (Anon, 2009)

3.1.2. Species composition

Species composition was dominated by red snapper, 17%, 1207.5 kg, followed by king mackerel and Spanish mackerel, 14%, 998.5 kg and 975.7 kg respectively and tuna, 10%, 709.5 kg.

3.2. Game fish at Ponta Dobela to Ponta do Ouro

3.2.1. Catch, fishing effort and catch rates

Between April and December, 15 boats participated in competitions during 27 days from Ponta Dobela, Milibangalala and Ponta do Ouro. The boats carried 1 to 4 persons and 57 fishermen were recorded. Fishing took place between 1 to 9 hours with and without boat. About 644 kg of fish was recorded and the best catches were in December. During 2009, catch rate was estimated in Mililbangalala and Ponta do Ouro only for fishermen with boat and was 31.35 kg/boat. Compared with 2008 there was an increase of 8.9 kg/boat. At Ponta do Ouro, the catch rate was estimated in 17.85 kg/boat.

3.2.2. Species composition

Species composition was dominated by barracuda (27%), followed by dorado (20%), tuna (15%) and Spanish mackerel (10%). Tuna dominated in species composition by weight with 22% followed by barracuda with 19%. (Anon, 2009)

Table 3 shows total catch of tuna and marlin from 2008 to 2010 for recreational fishing. The highest catches were from tuna albacore.

Table 3. Total catches (Kg) of tuna and marlin from 2008 to 2010.

Catch per year	2008	2009	2010	Total
Species caught				
Allothunus falai				
Euthynnus affinis				
Katsuwonus pelamis	9			9
Thunus albacares	1051	354	34240	35644
Makaira indica				

Source: IIP

4. Sport fishing

Table 4 shows fishing effort and catch from competitions covered by FR Institute in 2009. Total catch recorded in sport fishing in Maputo was 6232.48 kg, 5036.1 kg in Maputo City and 1196.38 kg in Maputo Province. Mean catch per boat was 7.7 kg/day of competition. There was an increase of catch comparing with 2008 due to increase in the coverage of competitions by the F R Institute.

Table 4 Fishing effort and catch from competitions covered by F R Institute in 2009.

Province	Location	Days of competition	Number of boats	Fisherman by boat	Catch recorded-kg
Maputo city	Maritimo club	4	76	4	1957.3
	Naval Club	6	35	4	832.4
	Inhaca Island	3	32	4	2295.2
Maputo Province	Ponta Ouro	10	68	5	1196.38
Gaza Province	Chidenguele	2	0		53
Inhambane Province	Inhasorro	5	23	5	587.5
Sofala Province	Beira	1	10		806.2
Total		29	244		7727.98

4.1. Species composition

During competitions about 31 species were presented in the catches. Catch in weight was 7727.98 kg. *Scomberomorus commerson*, king mackerel dominated the catches in Maputo city with 38%, followed by *Thunnus albacares* (tuna albacore) with 28%. *Thunnus albacares* dominated the catches in Maputo Province competitions with 31% (373.62kg) followed by *Katsuwonus pelamis*, skipjack (tuna) with about 15% (177.17kg).

Total catches of tuna and marlin in sport fishing from 2005 to 2010 are presented in Table 5. The highest catches in 2009 and 2010 were from tuna albacore followed by tuna like species.

Table 5. Total catches of tuna and marlin in sport fishing from 2005-2010

Catch per year	2005	2006	2007	2008	2009	2010	Total
Species caught							
Allothunus falai					42		42
Auxis thazard					26		26
Euthynnus affinis					969	86	1054
Katsuwonus pelamis					41	37	78
Thunus albacares	196	912	295	1122	1394	287	4206
Makaira indica					218	361	579

Source: IIP

The catch of marlin is not allowed and the specimens should be returned to the sea immediately.

5. References

Anon, 2009. Relatório anual 2009. Instituto Nacional de Investigação Pesqueira. 70pp.

IOTC catch statistics