National Report of Maldives

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1. Introduction

Fishing for tuna using live-bait and pole-and-line have been the main occupation and livelihood of Maldivians for at least a thousand years. Today, the key components of the fishery sector are pole-and-line skipjack fisheries, hand-line yellowfin fisheries, and fishing of groupers and other reef fish, sea cucumbers and lobsters. The sector has accounted for around 4-6 percent of GDP in recent years, and contributes to Maldives' earning of foreign exchange on account of the export of fresh, chilled, frozen, pouched and canned skipjack and yellowfin tuna. With a fishing fleet of approximately 1,200 pole-and-line vessels and approximately 350 hand line large yellowfin vessels, close to 15,000 fishermen and their families depend on fishing, according to records maintained by the Ministry of Fisheries and Agriculture (MOFA). This represents about 10-15 percent of the local workforce.

Following the liberalization of the skipjack industry in 2001, there has been large scale investment in infrastructure development in the past few years. Under the skipjack fishery development program, the disposable tuna catch from the pole-and-line fishery is purchased by 5 companies that have exclusive rights to buy skipjack tuna. Meanwhile, a fishery for large yellowfin tuna has developed independently in recent years and represents, on average, around 14 percent of the total landings over the past five years. Being a very seasonal industry however, there have been fluctuations in landings. This has inevitably resulted in difficulties for the industry at times when planned growth patterns have not materialized. Concurrently, as the size of fishing vessels have increased in recent years, they have become less fuel efficient and therefore, fewer fishing trips are made during periods of low-catch or high overheads.

2. General Fishery Statistics

2.1 Local fishing fleets

Commercial fishing in the Maldives is differentiated by distance from the shore. The Maldivian fishing fleet at present operates only within the Coastal Fishery Zone, an area of sea within 75 nautical miles of the local Exclusive Economic Zone. The local fishing fleet has dual registration status under the Maldivian Laws. All seagoing vessels are registered with the Ministry of Transport as per transport regulations. Fishing vessels are also registered separately with the Ministry of Fisheries and Agriculture (MOFA) under the Law No. 19/83 and a national registry of all fishing vessels is maintained by the Fisheries Management Agency of MOFA.

2.1.1 Pole and line fishery for skipjack tuna fleet

In 2008, the pole and line fishing fleet consisted approximately 1307 fishing vessels. Although the fleet often uses other fishing methods to harvest fish, pole and line fishing comprised between 69 percent and 76 percent of the total fishing effort, expressed in days fished (table 1).

Table 1: Fishing effort in the pole and line fishery for skipjack tuna.

year	GEAR	Days fished	% of days fished
2004	FN	5,788	3%
	HL	3,573	2%
	LL	1,953	1%
	MI	292	0%
	PL	148,188	69%
	TR	53,474	25%
2005	FN	5,488	3%
	HL	15,113	8%
	LL	1,479	1%
	MI	422	0%
	PL	133,655	71%
	TR	30,923	17%
2006	FN	363	0%
	HL	26,991	16%
	LL	758	0%
	MI	73	0%
	PL	125,917	75%
	TR	13,464	8%
2007	FN	720	0%
	HL	28,169	18%
	LL	788	1%
	MI	81	0%
	PL	118,773	76%
	TR	7,236	5%
2008	FN	284	0%
	HL	20,318	12%
	LL	2,113	1%
	MI	12	0%
	PL	119,670	73%
	TR	21,680	13%

2.1.2 Hand line fishery for yellowfin tuna.

The statistical data base contains fishing effort records for only 70 vessels in 2008. This is largely because all fishing vessels engaged in the fishery is registered with MOFA as fishing vessels. However, it is widely believed that the hand line fishing fleet for large yellowfin tuna comprised between 200 and 250 vessels. Almost always, hand line fishing is the method used for large yellowfin tuna (table 2).

Table 2: Fishing effort in the hand line fishery for large yellowfin tuna.

year	GEAR	Days fished	% of days fished
2004	HL	768	98%
	TR	12	2%
2005	HL	4,652	99%
	PL	47	1%
2006	HL	5,677	100%
	PL	3	0%
	TR	11	0%
2007	HL	7,261	100%
	LL	3	0%
	PL	12	0%
2008	HL	5,178	100%

2.2 Foreign Fishing fleet

At present there are 32 foreign fishing vessels operating in the Offshore Fishery Zone, an area of sea beyond 75 nautical miles of the local EEZ. These foreign fishing vessels operate under a fixed license, issued by the Ministry of Economic Development. These licenses would expire in April, 2010 and the government of Maldives has decided not to renew the licenses once they are expired.

2.3 Aggregate Fish Landings

Skipjack tuna and yellowfin tuna are the most important tuna species caught by local fishermen. In the last 5 five years, the aggregate volume of skipjack tuna (Small SKJ and Large SKJ) and yellowfin tuna (Small YFN and Large YFN) accounted for between 66 and 75 percent and

between 12 and 18 percent of total fish landings, respectively (Table 3). Skipjack tuna is wholly caught in the CFZ by artisanal fleet using live-bait and pole-and-line fishing method.

Table 3: Tuna and other marine fish landings from Maldives, 2004-2008

	Small SKJ	Large SKJ	Small YFN	Large YFN	DGT	KWK	FGT	SLF	SHK	GP1	GP2	GP3	OTHER	TOTAL
Year	*NUMBER OF FISH LANDED*													
2004	30,380,373	8,062,762	4,262,712	504,405	102,478	2,082,007	6,066,054	27,177	48,126	589,086	3,007,336	2,248,382	228,904	57,611,091
2005	33,083,575	10,968,867	4,638,915	568,793	90,356	2,457,044	8,427,261	45,408	45,000	743,734	2,659,906	2,380,298	736,974	66,846,131
2006	27,948,497	13,994,100	3,450,126	628,648	85,262	1,521,683	5,886,987	46,698	42,792	574,233	2,338,219	3,032,927	699,195	60,249,367
2007	23,663,648	8,359,319	3,345,126	730,495	83,152	2,537,384	6,349,407	24,125	39,093	508,575	2,116,973	4,387,609	801,721	52,946,627
2008	29,258,031	4,496,524	4,593,080	576,192	95,122	1,886,095	6,755,783	16,693	26,848	502,573	2,208,853	4,638,625	774,717	55,829,136
	METRIC TONNES													
2004	63,799	45,958	11,083	13,271	615	2,290	3,640	587	947	11,782	3,305	336	519	158,178
2005	69,476	62,523	12,061	12,493	542	2,703	5,056	930	900	14,875	2,937	357	1,070	185,923
2006	58,692	79,766	8,970	13,915	512	1,674	3,532	950	856	11,485	2,572	455	782	184,161
2007	49,694	47,648	8,697	15,652	499	2,791	3,810	517	782	10,172	2,329	658	920	144,169
2008	61,442	25,630	11,942	11,769	571	2,075	4,053	381	537	10,051	2,430	696	997	132,574
	VOLUME GROWTH													
2004	100	100	100	100	100	100	100	100	100	100	100	100	100	100
2005	109	136	109	94	88	118	139	159	95	126	89	106	206	118
2006	92	174	81	105	83	73	97	162	90	97	78	135	151	116
2007	78	104	78	118	81	122	105	88	83	86	70	196	177	91
2008	96	56	108	89	93	91	111	65	57	85	74	207	192	84
	SHARE IN IN THE AGGREGATE LANGING													
2004	40%	29%	7%	8%	0.4%	1.4%	2.3%	0.4%	0.6%	7.4%	2.1%	0.2%	0.3%	100%
2005	37%	34%	6%	7%	0.3%	1.5%	2.7%	0.5%	0.5%	8.0%	1.6%	0.2%	0.6%	100%
2006	32%	43%	5%	8%	0.3%	0.9%	1.9%	0.5%	0.5%	6.2%	1.4%	0.2%	0.4%	100%
2007	34%	33%	6%	11%	0.3%	1.9%	2.6%	0.4%	0.5%	7.1%	1.6%	0.5%	0.6%	100%
2008	46%	19%	9%	9%	0.4%	1.6%	3.1%	0.3%	0.4%	7.6%	1.8%	0.5%	0.8%	100%
	AVERAGE WEIGHT IN KILO GRAMS													
	2.1	5.7	2.6	22.5	6.0	1.1	0.6	21.3	19.9	20.0	1.1	0.1	1.5	

The landings of other species of tuna remain relatively insignificant by volume in the last five years, the total landings of frigate tuna (LTL), kawakawa (KWK) and dogtooth tuna (DGT) accounting for approximately 2-3 percent, 1-2 percent and less than 1 percent (0.3 - 0.4 percent) in the same period, respectively.

The aggregate landing of other species including sail fishes (SLF), sharks (SHK) and groups of other reef and oceanic fishes (GP1, GP2 and GP3) accounted for between 9 and 11 percent in the last five years.

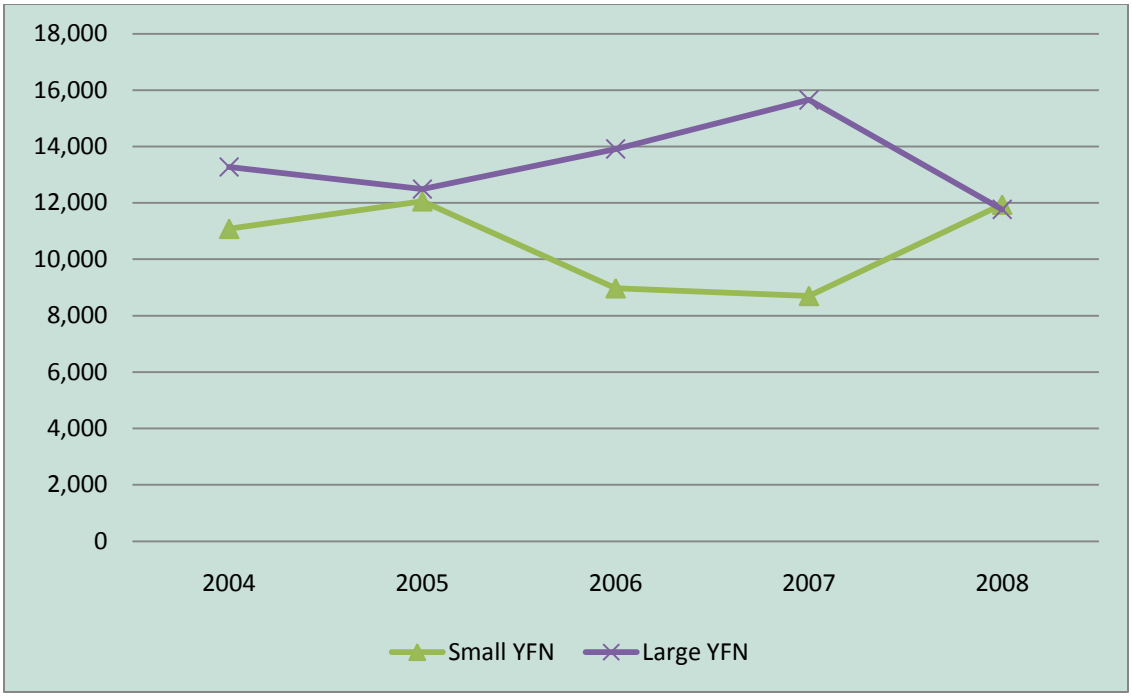
In volume, the landings of small skipjack tuna (Small SKJ) and large skipjack tuna (Large SKJ) declined over the last five year period (2004-2008), although the landings of small skipjack tuna (Small SKJ) have increased approximately 19%, between 2007 and 2008, essentially as a result fisherman targeting smaller tunas on the face of falling catch levels of large skipjack tuna (Large

SKJ) in the pole and line fishery (figure 1). Between 2007 and 2008, the landings of dropped by approximately 46 percent.

Figure 1: Aggregate landings of skipjack tuna in metric tonnes, 2004-2008

The large yellowfin tuna (Large YFN) is target fish in the hand line fishery for fresh tuna export and whereas the small yellowfin tuna (Small YFN) is a by-catch species skipjack tuna pole and line fisheries. Over the last 5 year period, landings of large yellowfin (large YFN) remained relatively stable, annual catches fluctuating between approximately 11,769 MT and 15,652 MT a year (figure 2). The annual by-catch landings of small yellowfin tuna (Small YFN) also remained relatively stable over the same period, catches varying between approximately 8,679 MT a year and 12,061 MT a year.

Figure 2: Total landings of yellowfin tuna, in metric tonnes, 2004-2008



Appendix 1 reports tuna and other marine fish landings from Maldives, 1970-2008

2.3.1 Fish landings by pole and line fishery

During the period 2004-2008, pole and line fishing method accounted for between 87-89 percent of total landings (Table 4).

During the period 2004-2008, the skipjack tuna landings from the pole and line fishery accounts for between 66 percent and 75 percent of total landings of all species (table 4). Yellowfin tuna landings from the fishery also accounted for between 7% and 13% of total landings of all species.

As reported in Table 4, the great bulk of all tuna species by volume is caught by using pole and line fishing method, the general exception being large yellowfin tuna (Large YFN), which is targeted by hand line fishermen.

TABLE 4: FISH LANDINGS BY POLE AND FINE FISHERY, 2004-2008

YEAR	Small SKJ	Large SKJ	Small YFN	Large YFN	DGT	LTL	FGT	SLF	SHK	GP1	GP2	GP3	OTHER	TOTAL
	METRIC TONNES													
2004	60,723	43,827	10,305	5,136	435	1,802	3,286	309	309	9,073	1,913	259	-	137,378
2005	68,215	62,058	11,609	4,183	187	1,988	4,539	727	403	8,641	1,596	221	60	164,427
2006	57,977	79,366	8,615	4,884	33	1,234	3,196	779	361	6,345	1,369	366	-	164,526
2007	48,892	47,251	8,440	5,686	168	1,845	3,510	315	356	5,886	1,303	599	-	124,250
2008	60,159	25,248	11,421	5,219	119	1,670	3,834	105	164	6,318	1,447	652	3	116,357
	VOLUME GROWTH													
2004	100	100	100	100	100	100	100	100	100	100	100	100		100
2005	112	142	113	81	43	110	138	235	130	95	83	85		120
2006	95	181	84	95	8	68	97	252	117	70	72	141		120
2007	81	108	82	111	39	102	107	102	115	65	68	231		90
2008	99	58	111	102	27	93	117	34	53	70	76	251		85
	SHARE IN IN THE AGGREGATE LANGING													
2004	38%	28%	7%	3%	0%	1%	2%	0%	0%	6%	1%	0%		87%
2005	37%	33%	6%	2%	0%	1%	2%	0%	0%	5%	1%	0%		88%
2006	31%	43%	5%	3%	0%	1%	2%	0%	0%	3%	1%	0%		89%
2007	34%	33%	6%	4%	0%	1%	2%	0%	0%	4%	1%	0%		86%
2008	45%	19%	9%	4%	0%	1%	3%	0%	0%	5%	1%	0%		88%
	SHARE OF THE FISHERY IN IN THE ATOTAL LANGING OF THE SPECIES													
2004	95%	95%	93%	39%	71%	79%	90%	53%	33%	77%	58%	77%		87%
2005	98%	99%	96%	33%	35%	74%	90%	78%	45%	58%	54%	62%		88%
2006	99%	99%	96%	35%	6%	74%	90%	82%	42%	55%	53%	80%		89%
2007	98%	99%	97%	36%	34%	66%	92%	61%	46%	58%	56%	91%		86%
2008	98%	99%	96%	44%	21%	80%	95%	28%	31%	63%	60%	94%		88%

2.4 Information on non-target species

As reported in Table 4, the volume and there share in the total landings of non-target species (sail fishes, sharks and other oceanic and reef related species) is relatively small in the local pole and line fishery, except the group of fishes belonging to GP1. Until now, reporting of discards are not mandatory and therefore discard records are not maintained by MOFA. However, it is believed that all fish, including non-target species are landed and utilised for consumption or export.

2.5 Description of recent changes in national data collection

To provide legal framework and effective enforcement measures to fully comply to the European Union Regulation dealing with Illegal, Unreported and Unregulated (IUU) fishing (Council Regulation (EC) No. 1005/2008 of 29 September 2008), a Regulation has been introduced under the general Fisheries Law (Law No. 5/87). The new Regulation provides for the implementation of the following management measures:

1. Mandatory licensing of all commercial fishing vessels.
2. Mandatory licensing of all commercial fish processing establishments

3. Mandatory licensing of all commercial fish aquaculture/ mariculture and live fish holding operations.
4. Mandatory reporting of catch and effort by all commercial fishing vessels (by monthly in logbook format)
5. Mandatory reporting of fish purchase records by all fish processing establishments.
6. Mandatory reporting of fish production or fish purchase by all fish aquaculture or live fish holding establishments.

Responding to an urgent request made by MOFA, in October 2008, IOTC sent an expert to help and provide expert advice to draw up the new data collection logbook. It is believed that the proposed logbook is fully compatible with the IOTC data collection requirements.

2.6 Report on the Implementation of the IOTC Recommendation of the SC

ON the recommendation of the Fisheries Advisory Board (of Maldives) in March 2009, Maldives announced a ban on shark fishing within the area inside 12 nautical miles of coastal waters. The ban will be extended to the whole EEZ from March 2010, from which date export of al shark and shark products will be totally prohibited.

This year, Maldives have also formulated a draft NPA to address the conservation issues relating to sharks. At present Maldives, the draft NPA-Shark is open for public consultation.

Incidental catch of seabirds in the pole and line fishery and hand line fishery is believed to be negligible.

Sea turtles are never caught by the pole and line fishery and hand line fishery.

3. Research programs conducted in the IOTC area and results of the research

The Marine Research Centre (MRC) (the research arm of MOFA) has been collaborating with IOTC in tuna tagging programmes and providing tuna size data. Two small scale tagging projects have been conducted recently in the Maldives as part of the large Indian Ocean Tuna Programme (IOTP). The first one was in 2004 and the most recent one was in 2007. A total of 34,000 skipjack and yellowfin were tagged and released from mid 2007 to late 2009. Roughly 12% of the releases have been made so far. The recoveries from these tagging experiments are shared with the IOTC for joint tagging data analyses that provides important information on growth, movement, and most importantly interaction. These are critical information helping scientists to understand the stock dynamics and their regular exercise of stock assessment work.

During 2003-2005 the Japanese OFCF, through IOTC, supported the reviving of the Maldives Regional Tuna Sampling Programme. Following the terminating of the OFCF assistance MRC

has been maintaining 10 fishermen-field officers in the islands to sample their catch. These data have been regularly reported to the IOTC. Size data are used for generating the catch-at-size data from the Maldives important input for the stock assessment work.

IOTC has regularly invited Maldivian scientists to attend the technical meetings, most recent been the Working Party on Tropical Tuna and Working Party on By-catch held in Mombasa.

4. Any other Information

This November, Maldives have officially requested the IOTC to consider her as a Cooperating Non-Contracting Party. The decision of IOTC is pending subject to approval of its members.

4.1 Vessel Monitoring System (VMS)

Ministry of Fisheries and Agriculture in collaboration with the World Bank has started a pilot program to initiate a Vessel Monitoring System in the Maldives. Based on the results of the programme, the government plans to implement a full scale VMS for all fishing vessels in the Maldives.

4.2 Catch and Effort Reporting

Under the new Regulation all fishing vessel owners are obliged to submit data of their fishing operations through logbooks provided by the Ministry of Fisheries and Agriculture. The information in the log book includes, time in fishing, baits used, area for bait fishing, area of fishing, details of catch by species, discards, details of catch sold to processors, etc.

4.3 Inspection Schemes and Compliance

The government of Maldives is planning to recruit 30 fisheries enforcement officers throughout the country. Their responsibilities include verification of catch log books, inspection of fishing vessels and supporting other government organizations in enforcing the fisheries laws and regulations.

The Ministry of Fisheries and Agriculture believes that by the actions which we have taken and the results thereof, we have fully demonstrated not only our commitment to but also our effective implementation of conservation and management measures.

Government of Maldives believes that the interests of conservation are best served by encouraging the participation and compliance of as many fishing nations as possible. Especially, Maldives being the leading pole and line fishing nation in the Indian Ocean, the need for us to participate and contribute in the decisions taken by the Regional Fisheries Management Body is crucial.

Appendix 1: Tuna and other marine fish landings from Maldives, 1970-2008

Year	Skipjack Tuna	Yellowfin Tuna	Total OFZ	Frigate Tuna	Kawakawa	Dogtooth Tuna	Other Marine Fish	Total
1970	27,684	1,989	-	3,023	644	-	2,602	35,942
1971	28,709	1,227	-	3,015	473	-	1,349	34,773
1972	17,971	2,076	-	3,186	596	-	1,633	25,462
1973	19,195	5,475	-	6,626	1,088	-	1,934	34,318
1974	22,160	4,128	-	6,006	830	-	2,026	35,150
1975	14,858	3,774	-	4,057	415	-	1,843	24,947
1976	20,092	4,891	-	2,707	953	-	3,017	31,660
1977	14,342	4,473	-	3,080	927	-	3,661	26,483
1978	13,824	3,584	-	1,661	768	-	6,403	26,240
1979	18,136	4,289	-	1,701	721	-	3,417	28,264
1980	23,561	4,229	-	1,595	1,063	-	4,349	34,797
1981	20,617	5,284	-	1,606	1,274	-	6,386	35,167
1982	15,881	4,005	-	2,061	1,887	-	7,279	31,113
1983	19,701	6,241	-	3,540	2,087	-	4,906	36,475
1984	32,048	7,124	-	3,105	1,714	376	5,333	49,700
1985	42,602	6,066	-	2,824	2,177	182	6,723	60,574
1986	45,445	5,321	-	1,778	1,071	136	4,520	58,271
1987	42,111	6,668	-	1,921	1,232	105	3,402	55,439
1988	58,546	6,535	-	1,629	1,257	84	3,423	71,474
1989	58,145	6,082	-	2,146	1,322	108	3,444	71,247
1990	59,899	5,279	-	3,013	1,891	281	6,011	76,374
1991	58,898	7,711	-	2,582	1,677	234	9,612	80,714
1992	58,577	8,697	-	3,389	2,451	337	8,584	82,035
1993	58,740	10,110	-	5,456	3,569	628	11,438	89,941
1994	69,411	13,126	-	4,019	2,656	387	14,446	104,045
1995	70,372	12,504	-	3,938	2,694	439	14,619	104,566
1996	66,502	12,440	882	6,485	3,789	624	15,574	106,296
1997	69,015	13,029	5,590	2,488	2,088	490	14,657	107,357
1998	78,409	14,169	2,994	4,217	3,624	470	14,230	118,113
1999	92,887	14,268	811	3,401	1,692	426	10,622	124,107
2000	79,682	12,184	3,521	3,990	1,897	451	17,236	118,961
2001	88,044	14,579	2,213	3,981	2,148	647	15,520	127,131
2002	115,322	21,729	3,139	4,187	2,242	789	15,239	162,647
2003	108,329	19,936	3,165	4,356	2,406	746	15,137	154,075
2004	109,749	22,584	2,546	3,639	2,290	615	17,473	158,895
2005	132,060	21,560	3,011	5,057	2,703	542	21,047	185,980
2006	138,458	19,767	3,177	3,532	1,674	512	17,099	184,219
2007	97,342	21,358	3,048	3,810	2,791	499	15,275	144,122
2008	87,072	22,631	1,081	4,053	2,075	571	15,092	132,574