RECENT STATUS OF TAIWANESE TUNA LONGLINE FISHERIES OPERATE IN THE INDIAN OCEAN

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ABSTRACT

Number of distant water longline (DWLL) vessels operated in the Indian Ocean, on average, was about 341 during 1998-2000 period. 90% of them was greater than 200 GRT. The mean annual catch of tuna and tuna-like species was about 103 thousand tons in the recent three years from 1998 to 2000. Major species caught were albacore, bigeye and the yellowfin tunas accounting for more than 77% of the total catch. Major fishing ground of this fleet was similar in 1996, 1997 and 1998, and was distributed in areas of 10°S-10°N/30°E-95°E and 25°S-35°S/30°E-95°E. Number of registered offshore longline vessels (less than 100 GRT) was estimated to be about 1700 during 1997-1999 period (including those operated in both the Pacific and the Indian Oceans). Catches landed in Taiwan are believed to be mostly from vessels operated in the Pacific region. In addition to the domestic landing, catches of bigeye and yellowfin tunas unloaded in the foreign bases (from both Oceans) were stable (or slightly increased) and were estimated to be about 13,000 to 15,000 mt and about 18,000 to 22,000 mt, respectively during 1998-2000 period.

INTRODUCTION

The Indian Ocean is one of the earliest fishing grounds explored by the tuna longline fisheries of Taiwan. Currently, there are two types of longline fishery operate in this Ocean. The distant water longline (DWLL) and the offshore longline (OSLL) fisheries.

In the late 1960s and early 1970s, the major species caught in DWLL fishery was yellowfin tuna, but subsequently shifted to albacore during mid- to late- 1970s. Since 1980, some larger boats equipped with super cold freezer also joined the exploitation in the region making bigeye and yellowfin tunas, together with albacore, comprise a bulk of the catch.

Except for the DWLL fishery, the offshore longline fishery, which operated in the surrounding waters of Taiwan originally, also has expanded their fishing activities to far distant fishing grounds in the Pacific and the Indian Oceans in recent decade. These small vessels mainly target on bigeye and yellowfin tunas for fresh sashimi market.

In this report, the current status of tuna longline fisheries in Taiwan during the recent three years will be described.

THE DISTANT WATER LONGLINE FISHERY

The DWLL vessels refer to those vessels in general, greater than 100 gross registered tons (GRT) and operated in the distant waters outside EEZ of Taiwan including high seas and foreign EEZ. Number of vessels operated in the Indian Ocean, on average, was about 341 during 1998-2000 period (Table 1). 90% of them was greater than 200 GRT.

The mean annual catch of tuna and tuna-like species has reached about 103 thousand tons in the recent three years (Table 2) from 1998 to 2000. Major species caught were albacore, bigeye and the yellowfin tunas accounting for more than 77% of the total catch (Figure 1) in this fishery. Except for these species, catch of the swordfish also was very abundant accounting for another 15% of the total catch in this Ocean.

Major fishing ground (Figure 2) of this fleet in general, was similar in 1996, 1997 and 1998, and was distributed in areas of 10°S-10°N/30°E-95°E and 25°S-35°S/30°E-95°E. High efforts also can be found in waters off Calcutta, India and Oman. However, there was a distinctive difference in catch distribution (Figure 3) of three major tuna species caught in this fishery. The albacore was mainly caught in area south of 10°S while bigeye and yellowfin tunas were mainly found in area north of 10°S although some of them also can be found in areas west of Madagascar and off Australia (Figure 3).

THE OFFSHORE LONGLINE FISHERY

OSLL vessels include those vessels operate in coastal and offshore waters of Taiwan and in general, smaller than 100 GRT. However, in recent decades, the fishing pattern of this fleet has been changed. Some of the vessels are now operating not only in coastal and offshore areas but also in distant waters (high seas or foreign EEZ) depending upon size and facilities equipped. This makes it difficult to classify the scale of this fishery as some of the OSLL vessels are actually operate in the similar pattern as those of the DWLL vessels. In addition, these vessels also changed

their fishing ground and target species based upon fishing season or catch. Thus, monitoring of the fishing activities of these vessels became very difficulty.

Number of registered OSLL vessels (less than 100 GRT) was estimated to be about 1700 during 1997-1999 period (including vessels operated in both the Pacific and the Indian Oceans). Total catch of tuna and tuna-like species by this fleet can be separated into two different types: those landed in Taiwan and those landed in foreign bases. Because of geographical location of Taiwan, catches landed in Taiwan are believed to be mostly from vessels operated in the Pacific region including surrounding waters of Taiwan, although an unknown number of these vessels may actually have operated in the Indian Ocean depending upon seasons.

In addition to the domestic landing, catches of bigeye and yellowfin tunas unloaded in the foreign bases (including the Pacific and the Indian Oceans) were in general, stable (or slightly increased) and were estimated to be about 13,000 to 15,000 mt and about 18,000 to 22,000 mt, respectively during 1998-2000 period (Table 3).

THE VESSEL MONITORING SYSTEM

For the purpose of better management of our distant water longline fishing vessels, the government has encouraged DWLL vessels to install the vessel monitoring system (VMS) through an incentive program from July 1996 to December of 2000. Currently, there are about 200 vessels operated in the Indian Ocean equipped with this system. Although installation of this system and reporting vessel position through VMS are not compulsory at this time, the government recognizes that as a major fishing nation, it is our obligation to play a leading role in the region not only to be in line with the international trend on management of fishery resources in the Indian Ocean, but also to achieve the goal of the sustainable use of these resources in the region.

THE OBSERVER PROGRAM

In addition to the vessel monitoring system, for purposes of understanding the bycatch issue of the longline fishery and in line with the international trend on conservation of marine living resources, the government has lunched an experimental observer program in 2001 with complementary legislative to be followed. Observations covered by this program include: bycatch, sharks, seabird, sea turtle, discards, dolphins and whales. The government fisheries authority, together with scientists from different fields, will evaluate the result of this program in the next year, and may further expand the coverage of this program provided that the results of this experimental program has proven to be feasible.

Table 1. Number of distant water longline vessel operated in the Indian Ocean during 1998-2000 period.

Year \ Size(GRT)	< 50	50-100	100-200	200-500	> 500	Sum
1998	21	12	3	181	126	343
1999	23	17	2	170	129	341
2000	23	16	1	173	126	339
Mean =	22	15	2	175	127	341

Table 2. Catch (mt) of tuna and tuna-like species for distant water longline fishery operated in the Indian Ocean during 1998-2000 period.

Species \ Year	1998	1999	2000*	Annual mean
ALB	21,572	22,514	21,650	21,912
BET	39,698	37,093	36,411	37,734
YFT	23,416	17,686	17,367	19,490
SWO	16,829	14,727	15,171	15,576
MLS	2,262	1,739	1,622	1,874
BLZ	3,711	2,855	2,800	3,122
BLM	457	360	300	372
BILL	742	613	601	652
SKJ	85	83	10	59
SHK	599	403	448	483
OTH	1820	1928	1822	1,857
SUM	111,191	100,001	98,201	103,131

* a preliminary result OTH: included other fishes.

Figure 1. Catch composition of Taiwanese DWLL fishery operated in the Indian Ocean during 1998-2000 period

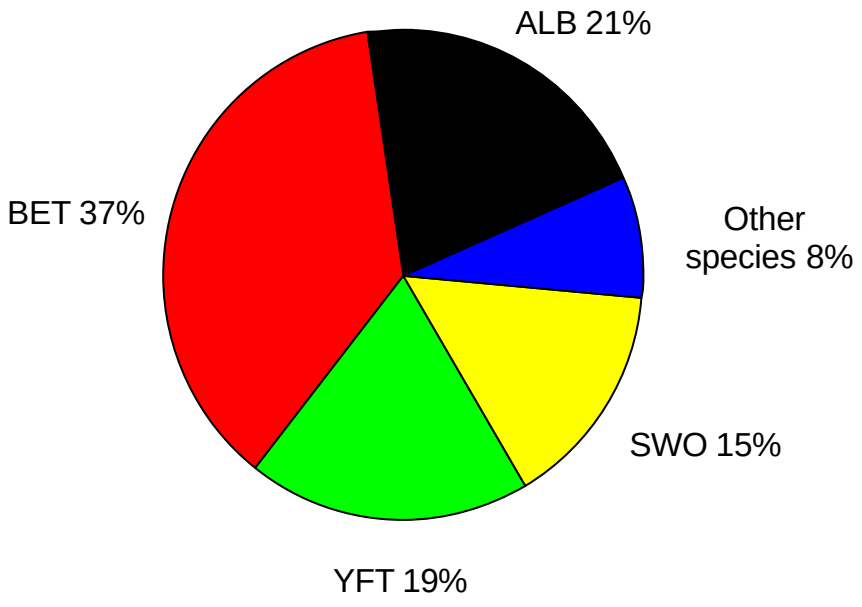

Table 3. Estimated catch (in mt, round weight) of tuna and tuna-like fishes in Taiwanese offshore longline fishery landed in foreign countries including those in the Pacific and the Indian Oceans durin 1998-2000 period.

Year	1998	1999	2000
BET	14,974	14,794	13,016
YFT	18,617	19,473	22,192
Total	33,591	34,267	35,208