
Tropical Tuna Fisheries of Pakistan-Status and Trends

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ABSTRACT

Annual landings of tropical tuna in Pakistan have increased by 8.04 % in 2021 as compared to landings of 2020. During 2021, yellowfin tuna (*Thunnus albacares*) contributed 5,598 m. tons whereas landings of skipjack tuna (*Katsuwonus pelamis*) during 2021 were recorded to be 810 m. tons. The increase in the landings of yellowfin and skipjack tunas during 2021 over 2020 were 7.26 % and 13.76 % respectively. As compared, landings of neritic tuna have shown a decrease of 22.77 % during the same period. Increase in the landings of tropical tuna is attributed to operation of tuna longliners in offshore waters during August to December 2021. Decrease in landings of neritic tuna during same period is on account of partial closure of small scale fishing operations along Balochistan coast during September to December because of protest of fishermen on account of poaching of shrimp trawlers in waters of Balochistan. Overall annual tuna landings of Pakistan have shown a decrease of 15.80 % during 2021 as compared to year 2020.

INTRODUCTION

Pelagic gillnetting is main method being used in catching tunas in Pakistan. A major part of tuna gillnet fleet is based in two coastal cities Karachi and Gwadar whereas small gillnet vessels targeting neritic tuna are based in almost all coastal towns and villages along the Pakistan coast. Gillnets consisting of multifilament are used in Pakistan for catching tropical tunas including yellowfin tuna (*Thunnus albacares*) and skipjack tuna (*Katsuwonus pelamis*). Bigeye tuna (*Thunnus obesus*) is extremely rare in Pakistan and seldom caught by tuna fleet of Pakistan.

Information about tropical tuna fisheries of Pakistan is known through the work of Khan (2016), Moazzam (2011, 2012a-b, 2018, 2020), Moazzam *et al.*, (2017, 2019, 2020, 2021), Nawaz and Moazzam (2014) and Shahid *et al.* (2018). These studies were based mainly on the fisheries statistical data that was published by Marine Fisheries Department, Government of Pakistan. A Crew-based Observer Programme initiated by WWF-Pakistan since 2012 which was completed in September 2019 but a number of these observers are still providing information which is also incorporated in the studies during 2020 and 2021.

Based on the information generated through this WWF-Pakistan’s Crew-based Observer Programme, data of tuna and tuna like species was reconciled with the landings data available with Marine Fisheries Department, Government of Pakistan. An exercise for reconstruction of landing data for IOTC species since 1987 to 2018 was also carried out. These data sets were provided to IOTC by Marine Fisheries Department, Government of Pakistan whereas a part of it was presented in WPNT07 (Moazzam and Ayub, 2017) which were later on accepted by IOTC Scientific Committee’s meeting held in Karachi, Pakistan in 2019.

TROPICAL TUNA LANDINGS

Tropical tuna landings during 2021 was observed to be comparatively higher than in 2020 (Table-I). Total landings of tropical tuna was observed to be 6,408 m. tons during 2021 whereas it was 5,931 m. tons during 2020. The landings of tropical tuna, therefore was 8.04 % higher than 2020 as compared to landings of 2021. Landing of yellowfin tuna (*Thunnus albacares*) was 5,598 m. tons during 2021 and 5,219 m. tons in 2020. Annual landings of skipjack tuna (*Katsuwonus pelamis*) during 2021 were recorded to be 810 m. tons which was 712 m. tons during 2020.

Table-I: Annual Landings of Tropical Tuna Landings during 2020 and 2021

Species	Scientific Names	2020	2021	% Increase/Decrease
Yellowfin tuna	<i>Thunnus albacores</i>	5,219	5,598	7.26
Skipjack Tuna	<i>Katsuwonus pelamis</i>	712	810	13.76
Bigeye tuna	<i>Thunnus obesus</i>	0	0	-
Subtotal (TT)	Tropical tuna	5,931	6,408	8.04
Subtotal (NT)	Neritic tuna	20,286	15,667	22.70
TOTAL (Tuna Landings)TT+NT		26,217	22,075	-15.80

Source: Marine Fisheries Department, Government of Pakistan

The increase in landings of tropical tuna during 2021 is attributed mainly to the operation of Pakistani tuna fleet in deeper oceanic waters during August 2021 and December 2021. During 2021, tuna fleet of Pakistan operated for 10 months (January to May and August to December) with two months voluntary close season during June and July. In 2020, major part of tuna fleet operated for only 8 months as compared to a normal fishing year of about 10 months due to a widespread bloom of jellyfish (*Crambionella orsini*) in the Arabian Sea since September 2019 (Moazzam, 2021). This bloom covered almost entire

Arabian Sea by late March 2020 forcing the fleet to stop their operation due to clogging of fishing net.

It was further pointed out that during 2020, tuna fishing operation was commenced in August, however, the tuna prices were extremely low in Karachi Fish Harbour, therefore, a major part of tuna fleet shifted their operation to Gwadar. This fleet mainly operated in the coastal waters because of higher catch of Spanish mackerels and other species as compared to previous years. The annual landings of neritic tuna was observed to be higher in 2020 (20,286 m. tons) as compared to previous year (19,797 m. tons) on account of this reason. The landings of tropical tuna showed a decrease in 2020 (5,219 m. tons) as compared to their landings in 2019 (7,510 m. tons).

During 2020, a major decrease in the landings of neritic tuna was observed as compared to previous years. In 2020, annual landings of neritic tuna was observed to be 20,296 m. tons which decreased to 15,667 m. tons during 2021. This is mainly because of partial closure of small scale fishing operations along Balochistan coast during September to December due to protest of fishermen on account of poaching of shrimp trawlers in waters of Balochistan.

TREND OF TROPICAL TUNA LANDINGS

Tropical tuna has always been very important component of large pelagic fisheries in Pakistan. Landings data which was reconstructed by Marine Fisheries Department, Government of Pakistan and WWF-Pakistan (Moazzam, 2021; Moazzam *et al.*, 2017) indicates that the annual landings of tropical tuna ranged between 6,000 m. tons during 1987 to a maximum of about 29,000 in 2017 (Fig.1). Unprecedented increase in the annual landings of tropical tuna was noticed in 2017, thereafter the landings to tropical tunas plunged down to a level of about 16,500 m. tons in 2018, to 5,931 m. tons in 2020. In 2021, it showed a minor increase to a level of 6,408 m. tons.

Analysis of the reconstructed landing data also indicates that yellowfin tuna (*Thunnus albacares*) is the most dominating species among all tunas species. An increasing trend in the annual landings is noticeable since 2000 when landings of yellowfin tuna were 8,000 m. tons which steadily increased to 23,992 m. tons in 2017, thereafter it decreased to a level of 5,219 m. tons in 2020 but showed an increase in 2021 to a level of 5,598 (Fig. 2).

An opposite trend was observed in case of skipjack tuna (*Katsuwonus pelamis*). Its annual landings were observed to have a maxima in 1994 when it reached to a level of 8,000 m. tons. Since then its annual landings decreased to 485 m. tons in 1999. This decrease can be attributed to impact of Somali piracy (Moazzam 2012). Annual landings of skipjack tuna remained low (between 485 m. tons and 1,118 m. tons) during 1994 and 2016. An unprecedented increase in annual landings of skipjack tuna was noticed in 2017

when it reached a level of 3,000 m. tons. Since 2017, a decreasing trend was observed till 2020 when it reached mere 712 m. tons. Annual landings of skipjack tuna were shown an increase in 2021 when it reached a level of 810 m. tons. Seasonal changes in the tropical tuna landings in 2021 is not studied due to limited information available through observers but it is believed to follow the pattern already reported for 2018 and 2019 (Moazzam, 2020; Moazzam *et al.*, 2019).

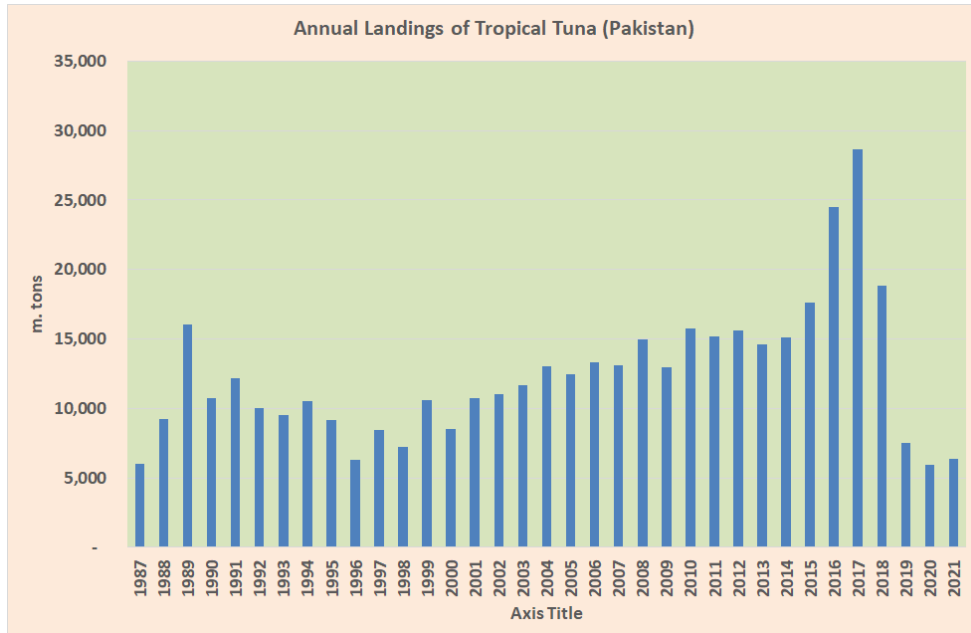


Fig. 1: Trend of landings of tropical tuna in Pakistan.

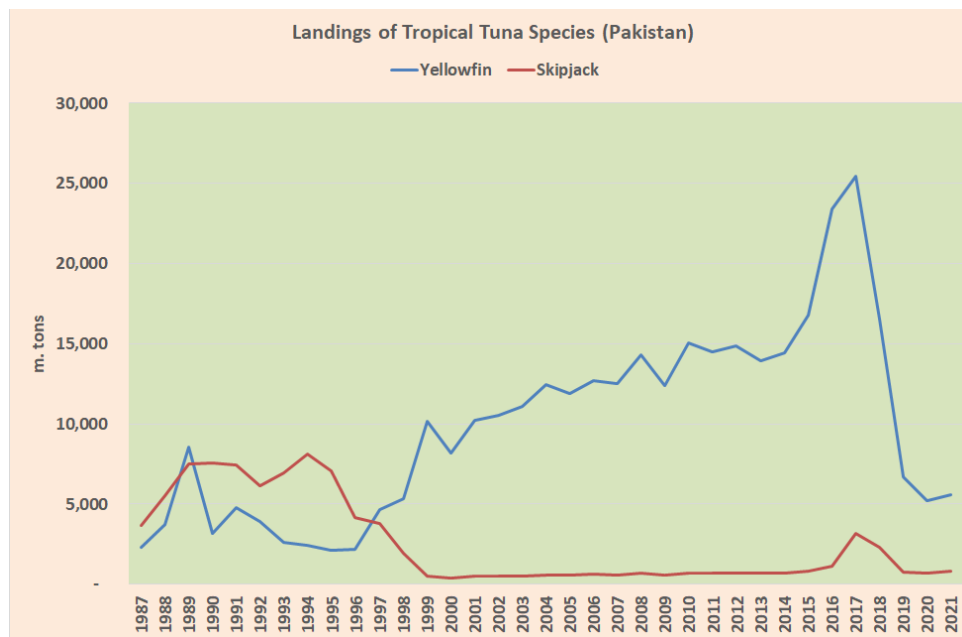


Fig.2: Trend of landings of tropical tuna species in Pakistan

CONCLUSION

Tropical tuna species forms the important part of the tuna fisheries in Pakistan (Moazzam, 2018, 2020). During 2021, tropical tuna landings was observed to be about 8.04 % higher than 2020 which is mainly because of operation of tuna fleet in comparatively deeper oceanic waters during August to December 2020. Because of change in marketing pattern, tuna fishing fleet which used to be based in Karachi has shifted its operation to Gwadar (near Iranian border) in 2020 where higher prices for tropical tuna was prevailing as compared to Karachi Fish Harbour. Operation from Gwadar provided them access to cheaper Iranian fuel (diesel) which is smuggled to Gwadar.

Bigeye tuna (*Thunnus obesus*) is rarely caught by Pakistani gillnet vessels. This may be because of geographical distribution of bigeye tuna in Indian Ocean. According to Lee *et al.* (2005) bigeye tuna mainly distributed in tropical waters of Indian Ocean between 10°N and 15°S which is an area seldom fished by Pakistani gillnetters. Mohri *et al.*, (1991) observed that low catches in the north high latitude region of the Arabian Sea.

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