

Major groups of Fisheries in India

I. Pelagic Fisheries:

1) Indian oil sardine (*Sardinella longiceps*)

Order: Clupeiformes, Family: Clupeidae

Of the fifty species of clupeoid fishes inhabiting Indian seas, at least 25 species are found to be commercially important, Used for food and oil.

- Among the several clupeoid fishes, oil sardine is most abundant, Contributes nearly 7.79% of total marine fish production of India.

- This pelagic fish forms schools in coastal waters and is strongly migratory. The fishery is characterized by remarkably wide fluctuations on a seasonal, annual and decadal scale.

• Distribution- Global

Northern and western parts of Indian Ocean: Coast of Somalia, Kenya, Seychelles, Middle East, Pakistan, India, Malaysia, Indonesia, Philippines and Vietnam.

Distribution - India

- From Gujarat to Kerala on west coast and Tamil Nadu, Andhra Pradesh and Odisha coasts on the east coast.

- Enormous shoals support fisheries in Kerala and Karnataka. Maximum abundance in 30-50 m depth.

- Optimum temperature and salinity ranges of oil sardine are 27 - 28°C and 22.8 -33.5 ppt respectively.

Lesser sardines

- Belong to the families Clupeidae and Dussumieridae

- They are *Sardinella jussieu* (Tembang), *S. gibbosa*, *S. fimbriata* (Fringe-scale sardine), *S. albella* (Short-bodied sardine), *Amblygaster sirm* (Spotted sardine / Trenched sardine), *S. dayi*, *S. clupeoides*, (Bleeker smooth belly sardine) *S. melanura* (Black-tipped sardine), *S. sindensis*, *Kowala covala*, *Escualosa thoracata* (White sardine), *Dussumieria acuta* (common sprat / rainbow sardine) and *D. hasseltii*.

Distribution

Global

East coast of Africa, Mauritius, Seychelles, Madagascar, Arabia, India, Australia, Polynesia, Micronesia, Phillipines, China, Taiwan, Pakistan and Sri Lanka.

India

Of 15 species of lesser sardines in Indo-Pacific region, 12 species occur in the Indian waters along both east and west coasts. However, catches are abundant in North of Cape Comorin along the entire east coast.

Production Trend

- Lesser sardines contributed 2.9 -7.3% to the total annual marine fish production of the country during 1986-2000 and 5.7% in 2013. The catches in 2014 is 2.06 Lakh tonnes and in 2015, it was 2.56 lakh tonnes (7.5%)
- 2016 catches was 1.95 lakh tonnes
- The east coast contributed 65% during 1986-2000 (average: 67,172 t); West coast -35% (35,449 t). Tamil Nadu stood first in lesser sardine production during 2015 with a share of 26%.

Anchovies

- Belong to the family, Engraulidae.
- They are small pelagic fishes and constitute one of the most important pelagic resources in the world.
- In India, anchovies form the artisanal fisheries and a major source of income for the traditional fishers.
- Important species under anchovies included: *Coilia dussumieri*, *Stolephorus* spp, *Thryssa* spp. and *Setipinna* spp.

• Distribution – Global

South Pacific Ocean, Northwest Pacific ocean, Mediterranean and Black sea, Western Central Pacific-Indian Ocean.

• Distribution – India

- Both east coast and west coasts of India.

Whitebaits

- Belong to the family, Engraulidae
- Small pelagics, distributed at depths of 10-50 m. Ten species of white baits occur in India: *Encrasicholina devisi*, *E. heterolobus*, *E. punctifer* (*Stolephorus buccaneeri*), *Stolephorus andhraensis*, *S. baganensis* (*S. macrops*), *S. commersonii*, *S. dubiosus*, *S. indicus*, *S. insularis* and *S. waitei* (*S. bataviensis*).

- *E. devisi* and *S. bataviensis* constitute important fisheries along both coasts.

• **Distribution – Global**

Indo-Pacific region

• **Distribution – India**

- Abundant in southern states like Andhra Pradesh, Tamil Nadu, Kerala and Karnataka. Small quantities are obtained from Maharashtra too.

Recent Fish production

- In Kerala, total landing of whitebaits was 39135 t against 31556 t in 2013, accounted 8.1% of total production. *Encrasicholina devisi* with 72.7% contributed the major catch, followed by *Stolephorus commersonii* (22.2%). *S. indicus*, *S. waitei* and *S. insularis* accounted for 2.6, 1.1 and 1.1% respectively.
- In Karnataka, *Stolephorus* spp catch was 6886 t in 2010 and 4372 t in 2012 forming 0.9 to 1.8% of the total catch.
- In Goa, whitebaits contribution was 0.07% in 2015.

Indian mackerel (*Rastrellinger kanagurta*)

- Belonging to the family, Scombridae.
- The second important species after oil sardine in India. The bulk of mackerel landings are contributed by a single species, *Rastrelliger kanagurta* (Indian mackerel). In addition, *R. brachysoma* (Short mackerel) and *R. faughni* (Island mackerel) have also been reported to occur in India. However, their occurrence is very rare.

• **Distribution-Global**

Widely distributed in tropical regions of Indian and Pacific oceans, extending from African coast to Australia.

• **Distribution - India**

Occurs all along east and west coasts of India from Karwar in Northwest coast to Calcutta in Northeast coast in the inshore waters up to 25 m.

- Dense shoals of Indian mackerel appear regularly from Sep - Mar along the west coast of India from Ratnagiri in the north to Kollam (Quilon) in the south.

Production trend

- On an average 8.6% to the total marine fish production in the country during 1985 - 2000.
- West coast contributed 10.2% during 1985 -2000 whereas east coast contribution was only 4.9%.

- 84.6% of total landings of Mackerel is from West coast.
- Its contribution to total marine fish production was from 3.64% in 2002 to 5.52% in 2004 during 2001 - 2006.
- Indian mackerel catch in 2015 was 2.37 lakh tonnes, with a contribution of 6.97% to total marine fish production.