

Marine fisheries of the north-west coast of India during 2008

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The north-west coast hitherto referred as NWC consists of two major coastal states of India viz., Gujarat and Maharashtra and the Union Territory, Daman and Diu. Gujarat has the longest coastline amongst Indian states and Maharashtra is known for its major harbours like Sassoon Docks and New Ferry Wharf which make the position and status of this region unique and interesting. Having a long history of mechanised efforts, this region is also well known for its resources like Bombayduck, non-penaeid prawns and pomfrets. Although the coastal stretch is very long, the fishery is conspicuous by its fluctuating intensity with most of the activities centred on big harbours like Sassoon Docks, New Ferry Wharf, Versova, Porbander/Okha, Jhaka and Veraval. Stretches like the southern Gujarat comprising Navsari, Valsad and Surat as well as the coasts of Raigarh and Sindhudurg of Maharashtra are mostly peppered with low intensity landing centres most of which are seasonal too. At the same time the specialised dolnet fishery of Thane and purseseine fishery of Ratnagiri and Bombayduck fishery of Jafrabad, Rajpara and Nawabunder have an aura of uniqueness around them, which is equally fascinating to study.

The estimated marine fish landings of the NWC was 9.5 lakh t in 2008 as against 8.4 lakh t in the previous year. Around two thirds of this quantity is attributable to Gujarat state including Daman and Diu whose tally touched almost 6 lakh t in 2008. The corresponding increase in total unit efforts in the interregnum was 7.6%. Of these, the contribution of the five major harbours are 46% which is a clear indication of the skewed pattern of landings.

Assemblage profile

The extent of contribution attributable to major assemblages to the landings of NWC is depicted in Fig. 1.

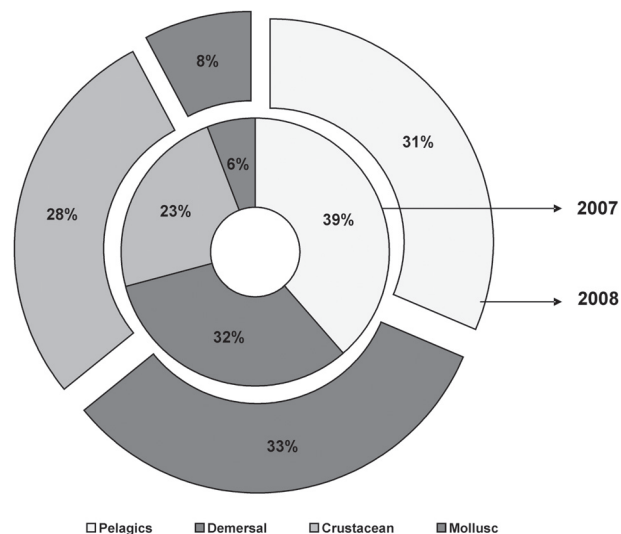


Fig. 1. Groupwise contribution to marine fish landings in the north-west region of India

As is evident from the chart, in 2008 demersal and pelagic resources accounted for more than 60% of the total estimated landings and between them they had equal share. The important crustacean group was slightly behind with 28%. There was a marked dip in the contribution of pelagic resources as compared to 2007. The loss of pelagic contribution had been taken up by crustacean resources which had 5% more stake in 2008 landing spectrum.

Gearwise scenario

Among the most dominant gears, mechanised trawl and mechanised dolnet were the standout gears which accounted for more than 80% of NWC landings. Their domination was so complete that none of the eight other gears could make it to the cut. This is one unique feature of NWC which cannot be seen in other zones. Detailed breakup of percentage contribution of various gears for the years 2007 and 2008 attributed to NWC is given in Table 1. Another interesting feature was the persistence of

outboard gears which are very late entrants albeit on a subdued scale. Mechanised trawling predominantly consisted of multiday effort whose catch per hour increased from 36 kg in 2007 to 49 kg in 2008 which amply buttresses the increased contribution by this gear discussed above. The other major gear, mechanised dolnet, however had a different trend. The per unit return of this gear came down by more than 10% from its 2007 estimate of 505 kg per unit to 444 kg per unit in 2008.

Table 1. Gearwise contribution to the landings of north-west region (in percentage)

Gear	2007	2008
Mechanised trawl	51.12	54.29
Mechanised dolnet	31.09	26.41
Mechanised gillnet	6.64	5.95
Mechanised purse seine	1.53	1.76
Mechanised bagnet	0.23	0.79
Mechanised hooks and lines	0.11	0.08
Outboard gillnet	7.43	7.36
Outboard bagnet	0.09	1.75
Outboard hooks and lines	0.31	0.27
Non-mechanised gears	1.43	1.21

Seasonal scenario

Traditionally, NWC has two quarters which are virtually undisturbed by fishing regulations and the rest two coming under the influence of seasonal regulations. Fig. 2 showcases the performances of four quarters in the years 2007 and 2008.

As is evident from Fig. 2, the first and fourth quarters had a mixed trend when compared to 2007. While the fourth quarter showed a marginal decline, the first showed some increment. The third season remained undisturbed in the two year period whereas

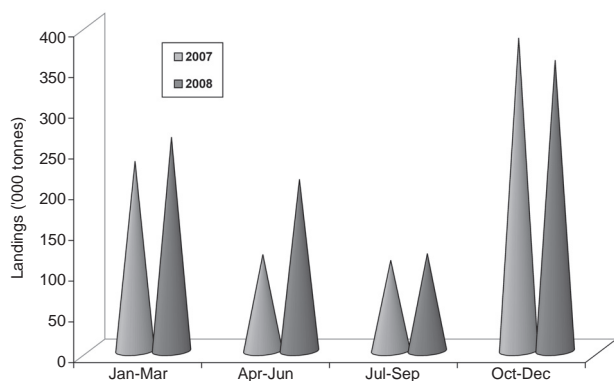


Fig. 2. Seasonwise landings in north-west region

the second quarter landings of 2008 showed notable increase over the corresponding figures of the previous year.

Resource spectrum

The spectrum of resourcewise landing in NWC is depicted in Fig. 3. For comparison, the corresponding landing estimates for the previous year is also given along with.

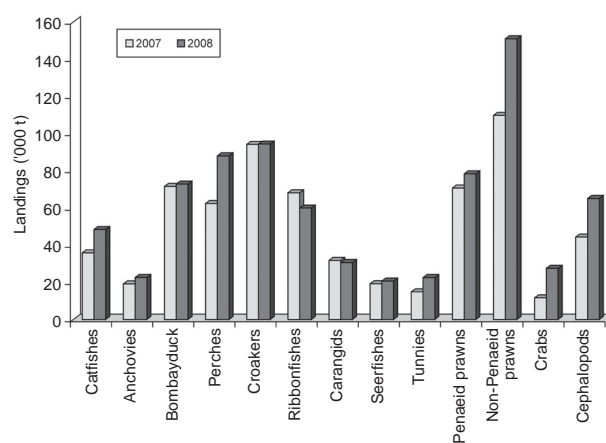


Fig. 3. Major groups landed in north-west region

Non-penaeid prawns have shown a quantum jump in terms of landings in 2008. They not only dominate the inter-resource contribution, but also top the list of those resources which showed an increase corresponding to their 2007 performance. The landings of catfishes, anchovies, perches, seerfishes, tunnies, penaeid prawns, crabs and cephalopods recorded hike of varying degrees in 2008 as compared to 2007. Carangids and ribbonfishes showed decline in the one year period under focus with the latter's fall being more significant. Croakers were landed at the same level in 2008 as they were in 2007.

During 2008, in Maharashtra, there were about 210 species landed of which 70 came under pelagic and 140 under demersal. In the case of Gujarat, about 155 species were landed of which 50 were pelagic and 105 demersal. In the year 2007, the total number of species landed in Maharashtra and Gujarat were 208 and 160 respectively. Another interesting feature is the contribution of independent species in the major groups to which they belong to. Table 2 indicates the major groups and the most dominant species landed under each group in the case of Maharashtra during 2008. The percentage

contribution indicates the proportion in weight of the respective species towards the total weight attributable to the group to which the species is attached. As is evident *Acetes indicus* dominated the non-penaeid prawn group by accounting for about 80%.

Table 2. Major species contributing to their respective groups of importance in Maharashtra

Group	Species	Percentage contribution
Perches	<i>Nemipterus japonicus</i>	52.01
Carangids	<i>Megalaspis cordyla</i>	42.54
Pomfrets	<i>Pampus argenteus</i>	49.66
Seerfishes	<i>Scomberomorus guttatus</i>	69.38
Penaeid prawns	<i>Parapenaeopsis stylifera</i>	32.38
Non-penaeid prawns	<i>Acetes indicus</i>	79.64

A similar analysis carried out for the Gujarat State indicated that among the pomfret species, the silver pomfret contributed overwhelmingly to the tune of 84%, whereas *Acetes* dominated the non-penaeid prawn landings (Table 3). Carangid group also peppered with quite a few species contributing almost equally with *M. cordyla* leading the pack.

Contribution from major harbours

As mentioned earlier, NWC is so dominated by mechanised gears that it can be termed as a trawling hot bed. Naturally, crafts using such gears with higher cost of operation, target fertile and receptive markets. Mumbai being a megapolis fits the bill perfectly.

Table 3. Major species contributing to their respective groups of importance in Gujarat

Group	Species	Percentage contribution
Perches	<i>Priacanthus cruentatus</i>	47.05
Carangids	<i>Megalaspis cordyla</i>	27.64
Pomfrets	<i>Pampus argenteus</i>	83.57
Seerfishes	<i>Scomberomorus guttatus</i>	53.60
Penaeid prawns	<i>Parapenaeopsis stylifera</i>	32.08
Non-penaeid prawns	<i>Acetes indicus</i>	83.42

Three major harbours dot the Mumbai coastline and naturally they show the lion's share in Maharashtra landings. Similarly Gujarat has been served by harbours located at Okha, Veraval and Jakhau. The following table shows the relative contribution of major harbours in 2008.

In Gujarat, Veraval old and new harbours account for about one third of the annual total landings of the state whereas New Ferry Wharf in Mumbai matches it in the context of Maharashtra.

Table 4. Contribution from major harbours in north-west region

State	Harbour	Percentage
Gujarat	Veraval	27.67
	Porbander	17.24
Maharashtra	Sassoon Docks	12.47
	New Ferry Wharf	28.59
	Versova	6.31