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1138 Increased penaeid shrimp catch by indigenous gears in post Tsunami period off Chennai coast, Tamil Nadu

Tsunami related tidal waves caused havoc on the lives, homes, fishing crafts, gears and other infrastructure facilities of coastal fisher population, especially, those belonged to Chennai, Cuddalore and Nagapatinam diaricts of Tamil Nadu, which had totally paralyzed the fishing activities of the entire coast. Since most of the crafts and gears were damaged, there was virtually no fishing from the last week of December 2004 to the third week of March 2005. As there was a needy and timely helping hand to the affected fishermen by the non-governmental agencies in the form gifted catamarans, fiberglass boats and net materials, the fishing by indigenous gears were started after a gap of nearly 2 months, although, the trawling operations did not resume due to various reasons. Thus, in the absence of trawling, the indigenous gears such as trammel net ("Mani valai"), bag net ("Eda valai") and

monofilament gill net ("Bannu valai") were operated off Chennai during February – March 2005.

Catch

Although three indigenous gears were operated, significant quantities of shrimps were caught in the trammel net operations and the details of the same are presented in this report. The effort, fishing hours, total catch, CPUE and percentage composition of shrimps in total catch during April 2004 – March 2005 are presented in Table 1. It has been observed that the percentage shared by shrimp catch in the total catch, prior to tsunami, i.e. May and September-October and December 2004 ranged from 12.5 to 44.4 and the CPUE was in the range of 1.85-4.02. In the post- tsunami period (5 weeks – last weeks of February and 4 weeks in March 2005), the total catch as well

Table 1. Details of efforts, shrimp catch, CPUE and percentage shared by penaeid shrimps in the total catch by trammel net operations

Month & Year	Effort (No. of Units)	Fishing hours	Shrimp catch (in Kg)	CPUE (Kg)	% of shrimps in total catch
May 04	41	124	165	4.02	44.4
June	Nil catch				
July	Nil catch				
August	Nil catch				
September	78	222	145	1.85	28.3
October	15	45	30	2	12.5
November	Nil catch				
December	312	809	995	3.18	31
January 05	No operation				
February	532	1596	3561	6.69	65.8
March	288	760	1571	5.45	40.8÷

as that of shrimp was so significant to a tune of 1,571-3,561 tonnes with a CPUE of 5.45-6.69 kg. Also, the percentage shared by shrimps has gone to a maximum of 65.8

Species composition

Prior to tsunami, the shrimp catch from trammel net operation was exclusively constituted by the Indian white shrimp *Fenneropenaeus indicus*. After tsunami, the catch from the same gear consisted of *Fenneropenaeus indicus* (92%) and *Penaeus monodon* (8%) during February 2005. In March 2005, the collections consisted of *F.merguensis* (54%), *P.mondon* (19%), *Metapenaeus monoceros* (23 %) and *F.merguensis* (4%). The occurrence of *P.monodon* *M. monoceros* and *F. merguensis* in the trammel net collections was unusual.

Size of shrimp population

The size of the sampled population of four species of shrimp during February-March 2005 is given in Table 2.

Table 2. Size composition of penaeid shrimps

Species	Sex	(Total length in mm)
<i>F.indicus</i>	Male	86-185
	Female	86-205
<i>P.monodon</i>	Male	130-208
	Female	115-222
<i>M.monoceros</i>	Male	105-127
	Female	111-147
<i>F.merguensis</i>	Male	127-142
	Female	124-160

For *F. indicus*, the size was found at 136-140 mm for males and 161-165 mm for

Table 3. Species – wise price structure of penaeid shrimps'

Month	Species	Catch (kg)	Cost (Rs.)	Total amount (Rs.)
Feb 05	<i>F.indicus</i>	3,276	250	8,19,000
	<i>P.monodon</i>	285	450	1,28,250
			Total	9,47,250
March	<i>F.indicus</i>	846	250	2,11,500
	<i>P.monodon</i>	295	450	1,32,750
	<i>M.monoceros</i>	357	200	71,400
	<i>F.merguensis</i>	73	250	18,250
			Total	4,33,900

females. The peak breeding season for this species was February – March.

Economics of shrimp catch

The price realized per kg was Rs. 250 for *F. merguensis*. When compared to the price prevailed before tsunami, at least an increase of Rs.50 per kg has been recorded. Further, the total amount realized after tsunami (Rs. 13,81,150) showed three – fold increase than that of pre – tsunami catch (Table 3).

The present observation in increased shrimp catch by trammel net may be due to a) the absence of trawl operation in the usual fishing grounds, thereby increased catch by indigenous gears, b) the usual school behaviour and breeding pattern of penaeid shrimps off Chennai coast and c) the negative impact of tsunami on the penaeid shrimp population of the study area.

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