

ISSN 0254-380 X



MARINE FISHERIES INFORMATION SERVICE

No. 188

April, May, June, 2006



TECHNICAL AND EXTENSION SERIES

CENTRAL MARINE FISHERIES RESEARCH INSTITUTE

COCHIN, INDIA

(INDIAN COUNCIL OF AGRICULTURAL RESEARCH)

Trawl fisheries of penaeid shrimps and crabs off Chennai coast - An assessment before and after Tsunami

The December 2004 tsunami played a havoc on the marine fishing communities and fishing infrastructure facilities along the Tamil Nadu

coast in general and Chennai, Cuddalore and Nagapatinam coasts in particular, which had resulted in the total absence of mechanized

Table 1: Catch and effort details for shrimps and crabs during Nov 03-June 04

Month & Year	No. of Fishing units	Fishing efforts (hours)	Total shrimp catch (t)	CPUE kg/hr	% of shrimp in total catch	Total crab catch (t)	CPUE kg/hr	% of crab in total catch
Nov-03	2700	69879	101	1.84	7.38	89	1.27	6.45
Dec	2582	55239	127	2.29	10.87	98	1.77	8.41
Jan-04	2719	42989	95	1.78	5.19	121	2.8	8.35
Feb	2150	52930	130	2.75	9.75	63	1.18	4.69
Mar	1957	46395	38	0.81	5.45	12	0.26	1.77
Apr	494	5219	10	1.91	7.19	3	0.56	0.21
May	No fishing due to annual fishing ban							
June	3522	53369	248	4.65	8.59	221	4.13	7.58
Total	16114	325970	749	2.29		607	1.86	

Table 2: Catch and effort details for shrimps and crabs during Nov 04-June 05

Month & Year	No. of Fishing units	Fishing efforts (hours)	Total shrimp catch (t)	CPUE kg/hr	% of shrimp in total catch	Total crab catch (t)	CPUE kg/hr	% of crab in total catch
Nov-04	3548	90800	312	3.43	14.23	63	0.69	2.87
Dec	3108	65680	243	3.69	13.47	69	1.09	3.82
Jan-05	No fishing							
Feb	No fishing							
Mar	92	2160	3	1.26	12.5	0.4	0.14	1.52
Apr	1073	18707	37	1.99	8.56	20	1.07	7.67
May	No fishing due to annual fishing ban							
June	4853	72134	422	5.84	12.27	93	1.29	2.71
Total	17683	177347	1017	5.73		245.4	1.38	

and non-mechanized fishing from the last week of December 2004 to the third week of March 2005. Though fishing by indigenous gears started in the first week of February 2005, the trawl fishing resumed only by the last week of March 2005. An attempt has been made here to compare the trawl fisheries for penaeid shrimps and crabs during November-December 2004 and March-June 2005 with that of November 2003 to June 2004.

Shrimps and crabs

Data on the fishing units, efforts, total shrimp catch, cpue (kg/hr) and percentage of shrimps and crabs in total catch for Nov 2003-June 2005 and Nov 2004-June 2005 are presented

in tables 1 & 2.

During Nov 2003-June 2004, the total efforts were 3,25,970 hrs with a yield of 749 tonnes at a cpue of 2.29 kg/hr. The total efforts were only 1,77,347 hrs during Nov. 2004-June 2005 with a higher yield of 1017 tonnes at a CPUE of 5.73 kg/hr. The increased yeild of shrimps which could be due to non-fishing during the post tsunami period (January-February 2005) and the regular fishing ban period (45 days from 16th April to 31st May 2005). Though regular fishing started from June 2005, the total effort appeared to be nearly half of that expended during Nov 2003-June 2004. However, marginal increase in cpue (5.84 kg/hr) has been recorded in June

2005 when compared to that (4.65 kg/hr) of 2004.

During Nov 2003-June 2004, the total efforts were 3,25,970 hrs with a yield of 607 tonnes at a cpue of 1.86 kg/hr, whereas during Nov-04-June 05, the total fishing efforts, total crab catch and cpue were less: 1,77,347 hrs, 245.4 tonnes, 1.38 kg/hr. respectively. The lesser yield of crabs prior and after tsunami may be due to lesser fishing efforts and delayed regrouping of crab communities in the fishing ground.

Species composition - Shrimp

During November 2003 - June 2004, *Metapenaeus monoceros* accounted for 17 % of total catch, followed by *Fenneropenaeus indicus* (16%), *Parapenaeopsis maxillipedo* (13%), *Metapenaeus dobsoni* (11%), *Metapenaeopsis stridulans* (9%), *Penaeus semisulcatus* (6%), *Parapenaeopsis stylifera* (4%), *Penaeus monodon* (3%), *Parapenaeopsis uncta* (3%), *Trachypenaeus sedili* (3%), *Trachysalambria aspera* (3%), *Metapenaeus moyebi* (2%), *Metapenaeopsis mogiensis* (2%), *Trachysalambria pescadorensis* (2%), *Parapenaeus longipes* (2%), *Solenocera crassicornis* (2%), other species (1.8%) and *Trachysalambria curvirostris* (0.2%).

During November 2004-June 2005, *M. dobsoni* ranked first (16%), followed by *M.*

monoceros (14%), *F. indicus* (13%), *P. maxillipedo* (10%), *P. monodon* (8%), *P. semisulcatus* (7%), *M. stridulans* (7%), *P. stylifera* (6%), *P. longipes* (4%), *M. mogiensis* (3%), *M. moyebi* (2%), *M. affinis* (2%), *P. uncta* (2%), *T. sedili* (2%), other species (1.4%), *Metapenaeopsis tolensis* (1%), *S. crassicornis* (0.9%) and *T. asper* (0.7%). Species like *T. curvirostris* and *T. pescadorensis* present during Nov 03-June 04 were absent during the corresponding period in 2004-05. However, *M. affinis* and *M. tolensis* were present only in 2004-05.

Species composition - Crab

During November 2003 - June 2004, *Portunus sanguinolentus* dominated (55%), followed by *Podophthalmus vigil* (14%), *Charybdis natator* (12%), *Portunus pelagicus* (6%), *Charybdis lucifera* (6%), *Charybdis feriata* (5%), other crabs (1.5%) and *Portunus argentatus* (0.5%). Though *P. sanguinolentus* was the dominant species (55%) during Nov 04-June 05, increased catches of *P. vigil* (22%), *C. natator* (13%) and *P. argentatus* (2%) were noticed. However, there was decreased catches of *C. lucifera* (4%), *P. pelagicus* (1%) and *C. feriata* (1%) when compared to the previous season.

Data presented above clearly indicate that the

congregation of shrimp population in the usual fishing grounds has swelled (as indicated by increased cpue in March, April and June 2005) as there was no fishing during January-February and May 2005. The periodical closure of fishing is likely to increase the overall shrimp production in a particular place. However, the same conclusion could not be drawn in the case of crabs, though the species

composition varied between the two seasons. Further observation on these two commercially important groups in the coming months may throw more light on the extent of resources available for exploitation.

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