

# Fishing Fleet Maintenance at Versova: An Example of "Emancipation Through Co-operation"

Versova is a coastal fishing village within the city limits of Greater Bombay. Most of the inhabitants of the village derive their livelihood from fishing or related activities. It is also an important fish landing centre. The main varieties of the fishes landed at Versova are Bombay Duck, Pomfret, Ribbon fish, Shrimp etc. These are mainly caught in "dol" net (Bag net of fixed type), gill net and trawl net. The fishermen of the village have high degree of co-operation among themselves. Though they have adopted modern methods in fishing and allied activities, they have not given up the good traditions which are beneficial to the society.

In several studies the various activities of the Versova fishermen have been elaborated and were found emulative (Rao, 1980; Subbarao & Mathur, 1980-81; Raje & Badonia, 1987; Raje & Deshmukh, 1989; Raje & Ramamurthy, 1990; Raje & Singh, 1991 and 1992). Kohli & Rao (1984-85) reported on indigenous construction of the fishing boats at Versova. The orderly fishing fleet maintenance at Versova is an excellent example to highlight the fact that co-operation among the local fishermen has worked for the benefit of the whole community. Such accounts are very scanty in the available literature.

## Current Status of Resources

Most of the Versova fishermen keep their fishing confined to inshore waters upto 35 meters depth and around 30 km away from the shore. About 335 mechanised boats of OAL (Overall length) ranging from 5 meters to 15.5 meters size operate from here. Of these, 175 are dol netters, 140 are trawlers and 20 are gill netters. The engines used in these boats have HP in the range from 5 (for small dol/gill netters) to 95 (for bigger dol, gill and trawl netters.)

A survey of the various techniques and material was done with special emphasis on the boat construction system, repair and maintenance of boats and maintenance of engines and gears. The

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current status of the human resources involved in all these activities and their status were also investigated. Attempt has been made here to find out the possible factors for such a high degree of co-operation for the maintenance of fishing fleet.

## Independence in maintenance

**Ordeals experienced:** Proper maintenance and upkeep of fishing boats and nets etc. is an essential pre-requisite for assured income from fishing. In this regard the fishermen of Versova have set up an example of self-sufficiency by mutual co-operation in the recent past. Earlier, these fishermen were dependent upon outsiders for any mechanical failures or repairs etc., and they used to pay very high amount for such service. In addition to this, they used to incur expenses because of the forced laying down of the boats when they were not able to do fishing.

The outsiders were not easily accessible and were also slow in attending to the jobs. They used to charge on daily wage basis and there used to be no guarantee of the parts purchased through them or from the retailers. Moreover, the supply of these parts were also erratic. Under these circumstances the fishermen had to go over long distances even for the minor repairs. More over this was time-consuming, apart from transportation difficulties.

**Harnessing local talent:** To free themselves from the clutches of outsiders Versova fishermen innovated the system of utilising their local resources, including manpower, for the fleet maintenance activities. A sizable number of local people are now engaged in the above activities and their charges are reasonable. Seeing this even the outsiders have started operating in the vil-

lage on the same lines. A detailed account of the human resources involved in fleet construction and maintenance activities is given in Table-I.

**Workshop and supplies:** Since workshops are indispensable for such activities, Versova fishermen themselves started running three workshops locally. Proximity of these workshops to the landing centre came as an added advantage. Items like twine, ropes, paints, iron made parts and other miscellaneous articles are now made available through the societies which procure these materials directly from the authorised dealers or manufacturers and supply them with minimum profit.



Fig.1 Department store and spare parts division of "Vesava Machhimar Vividh Karyakari Sahakari Society Ltd."

**Triumph of Co-operatives:** The quantum of annual sale during the last eight years towards the "Departmental store and spare parts division" of fishermen's multipurpose society (Fig.1) shows the progressive utilization of this local facility in recent years. (Table-II)

**Infrastructure:** The initial success generated enthusiasm among the local people and now Versova has a well established system of construction, repair and maintenance of boats, engines and gears. Different activities related to the above system are described in the succeeding text.

**Construction System:** The boats are constructed locally engaging contract labour. The fishermen prefer the traditional design due to lower cost and availability of the construction infrastructure locally.

There were no boat building yards here either in public or private sector. This lacuna has been filled up by two charitable trusts in the village who have extended land facilities for boat construction at nominal rates (Fig.2). Institutional finances are available now from societies as well as from the Govern-

ment for construction of boats.

**Repair and Maintenance of Boats:**

For speedy navigation and effective operation of gear, boats should be in perfect order and without any kind of leakages. In Versova, repairs of boats are mostly undertaken during off-season i.e. during



Fig.2. Boats under construction at Versova on the land of Charitable trust

Table 1

Human resources at Versova engaged in construction, maintenance and repairs of fishing boats and gears etc.

Activity	Local	Others	Approx. Charges
<b>A: Construction of boats:</b>			
i. Boat building yards etc	2 Nos	-	Rs.1000 per boat as rent of the land
ii) Contractor	-	6 Nos	5 meter boat (Rs. 11,000-15,000) 4 - 10.5 metre boat (Rs.15000-18,000) 10.5-15.5 metre boat (Rs. 55,000-60,000) Trawlers OAL 13.5-14.5 mts.* (Rs. 55,000-60,000) OAL 14.5-15,mts.** (Rs. 70,000-80,000)
<b>B: Repair &amp; Maintenance of Boats</b>			
i) Carpenter	6 Nos	10 Nos	Rs.70 per person/day
ii) Miscellaneous (Fibreglass patch work etc.)	5 Nos	3 Nos	Rs.18-20 per. 3 metre strip of 7.5 Cms.
<b>C: Maintenance of Engine:</b>			
i) Annual contract for boat	13 Parties (36 persons)	-	Rs.2000 per annum
ii) Mechanics	-do-	-	Rs.1000 to 2000 (according to H.P. of engine)
iii) Electricians	3 Nos	-	According to work in the range of Rs.20 to Rs.100
<b>D: Repair &amp; Maintenance of Gear</b>			
i) Dol net makers	6 Nos	10 Nos	Rs.4000-5000/net
ii) Trawl net makers	1No.	25 Nos	Rs.2000-3000/net
iii) Gill net makers	--- purchased ready made ---		
iv) Repairers (Exclusively for repair works)	300 Nos	400Nos	Rs.30-35 per day Rs.20-25 overtime (7 to 11 p.m.)
* Trawlers of 13.5 to 14.5m.	OAL are about 2 to 2.5 m. deep		
** Trawlers of 14.5 to 15.5m	OAL are about 3 to 3.5 m. deep		

monsoon and the neap-tide periods. The following facilities are available.

i) *Carpenter:* Since they get enough work, carpenters are now available in the village itself and they charge reasonably according to the quality of the wood used and magnitude of the work carried out. There are sixteen regular carpenters in Versova out of whom six are from fishermen community.

ii) *Miscellaneous items:* During a fishing season the boats are painted four to five times. Hull is treated with anti-fouling paint of green and red colour and colours like white, blue, green and red are used to decorate the boat above the draught line. Fishermen boil gum-arabic with groundnut or other edible oil in the ratio of 1:2 and apply this in the inner portion of the boat in hot condition to allow it to percolate into the grooves between the planks. The same mixture is applied to the leaking bottom also by soaking it in cotton. Leaking bottom portions of the boat between grooves are covered by copper plate and thick tarpaulin pieces and these are fixed by small nails by fishermen themselves. Now fibreglass workers are also available to fix patches by fibreglass material.

iii) *Maintenance of Engine:* Fishermen are well aware that productivity and performance of a boat depends on the maintenance of the engine. Routine maintenance of engines is done by fishermen themselves. However, for specialised repairs etc. thirteen parties of fishermen are there whose services are always available to them. These parties accept payment on annual contract basis. There are three local electricians who attend to wiring or dynamo repairs and fittings etc. Spare parts of

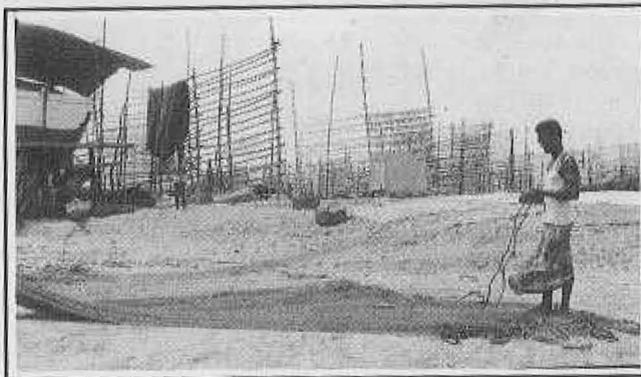
the engine are available through the societies and genuine spares are procured directly from the companies. Other miscellaneous items like sand paper, grinder and packing etc. are either available through society or from private firms at Versova.

*iv) Maintenance of Gears:* Maintenance of gear is as important as that of boat and engine. Synthetic twines and gear materials are now available in the societies. Mostly twisted and braided twines are in use at Versova and local fishermen have preference for blue colour. The web-bings are available either from society or from market.

**Table - II**

Name of the Society: "Vesava Machimar Vividh Karyakari Society Limited"	
Name of the Division "Department store and spare Parts division"	
Year	Annual Sale in Rs.
1984-85	13,39,211
1985-86	13,57,352
1986-87	14,80,582
1987-88	16,33,615
1988-89	16,66,045
1989-90	16,28,029
1990-91	18,96,177
1991-92	25,03,422

Making, mending or repairing of nets are specialised jobs (Fig.3) and owners have to hire a few persons for the same. The portions of the net are changed frequently, weekly or fortnightly, according to the availability of tides and type of fishes to save the net from major damage. The persons are hired on daily



**Fig.3. Fishermen engaged in repairing 'Dol net'**

wages and are assigned to repair or mend the net within the stipulated time. There are about sixteen dol net and twenty six trawlnet makers available at Versova.

Above account shows how fishermen of the village contribute through co-operation to the efficient management of fishing fleet at Versova and their contribution for increased self-sufficiency can be an example for others to emulate.

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**Ware Housing Corporation to set up Marine Products Processing Plant.**

The Warehousing Corporation has been working for quite some time to set up a marine product processing plant of an integrated nature. This exercise seems to have now reached a decisive phase. The corporation will be receiving financial aid from Japan of the order of Rs.120 Lakhs for setting up the plant near Konada village located in the northern belt of Andhra Pradesh Coast of Bay of Bengal.

There are around 15 fishing villages in the Konada belt, an area where, according to Central Fisheries Organisations, the fishery potential will

be viable for exploitation at a sustainable level. A survey conducted by the Corporation in respect of the site selected has shown that it would be convenient to provide road connections and power supply to the proposed plant. Konada is close to Visakhapatnam for transportation of the catches and for shipments.

One point mentioned is that the area is rich not only in finfish resources, but also crustaceans, particularly shrimps. The assistance from the Government of Japan is expected to be received shortly for commencing the work. As matters stand the fishery produce of the area is being purchased by the middlemen for supply to the processing plants at Visakhapatnam.

**Pennar Aqua Exports Limited**

M/s Pennar Aqua Exports Limited, Hyderabad, a 100% E.O.U company came up with public issue of Rs.5.95 crores recently. The company is now engaged in the setting up of an integrated Aquaculture Project consisting of Farm, Hatchery and Processing Plant. Commercial production of hatchery was expected by December 1994. The farm will be operational by March 1995 and the processing plant will start functioning from April 1995. The company has technical collaboration and equity participation from M/s J.V. Marine Enterprises co., Ltd., Taipei, Taiwan. It has also a marketing tie-up with Kobe Yako Ltd, Japan