

INDIGENOUS CONSTRUCTION OF FISHING BOATS AT VERSOVA VILLAGE IN MAHARASHTRA STATE

HARJIT KAUR KOHLI & P. V. SUBBA RAO

Central Institute of Fisheries Education, Versova, Bombay-400061.

ABSTRACT

Versova, one of the 23 fishing villages in the district of Greater Bombay, is a major fishing centre. During the last three decades mechanisation of fishing boats received a tremendous boost in the state specially in and around Bombay resulting in higher income and gainful employment to fishermen. Indigenous construction of fishing boats at Versova contributes to the marine fisheries development. In spite of certain constraints in construction activities, training of artisans in boat construction would ultimately help in the economic growth of the village.

INTRODUCTION

Maharashtra ranks third in marine fish production in the country with an estimated landings of 2.83 lakhs tonnes during 1982-83. Out of a total fishermen population of 2.32 lakhs, about 1.04 lakhs are directly involved in fishing in the state (Govt. of Maharashtra, 1982). During the last three decades, mechanisation of fishing boats received a tremendous boost in the state especially in and around Bombay resulting in higher incomes and gainful employment to fishermen.

Versova village (Lat 10° 08' 28.5'' N and Long 78° 48' 10.2'' E) situated 30 km. north of Bombay, is the largest among the 23 fishing villages of the district of Greater Bombay. 3.67 per cent of the active fishermen population living in the Versova possess 5.81 to 16.56% of the fishing boats in the state and contribute 15.68% of the total fish catch (Table I). The value of these catches (Rs. 19.98 crores) form 16.56% of the total value of fish catches landed in the state. The value of the catches estimated at landing centre prices (Government of Maharashtra, 1983), increases by three times as the product moves from producer to consumer and in this process provides gainful employment to fishermen.

Considering the importance of Versova village as a major centre of fishery activity the present study has been taken up. The objectives of the present investigation is to survey the fishing boats in the area in terms of their design, fabrication system and construction costs.

Table 1. Distribution of fishermen, fishing boats and fish production in Maharashtra state.

Items	Maharashtra State	Greater Bombay district	Versova Village	Percentage in relation to	
				State	Dist.
Fishermen population	2,32,091	36,171	7,120	2.06	19.68
Active fishermen	1,04,031	14,784	3,821	3.67	25.84
Percentage of active fishermen	44.82	40.87	53.66	—	—
Total number of boats	12,485	2,347	635	5.11	27.18
Number of Mechanised boats.	4,557	1,130	265	5.81	23.45
Percentage of Mechanised boats.	36.49	48.14	41.53	—	—
Fish Production in tonnes (1982-83)	2,86,256	1,15,745	44,259	5.68	38.23
Value (Rs. in crores)	120	52	19.88	16.56	38.23

The survey was conducted in the village for a period of three months in 1985. To evaluate the construction system, 13 boats under construction including three trawlers, one trawler-cum-gillnetter (Boodi), three gillnetters and six bagnetters (dolnetters) at the two boat building premises at Versova village were considered.

Present status of Versova village:

Locational advantages:

Versova village is located adjacent to the Versova creek which starts from Malad creek and joins the Arabian Sea. All the fishing vessels in the village are berthed in the creek and the creek provides a safe-fishing harbour for the fishing boats. Proximity to the city of Bombay provides a ready market for the fish landed from the village. Being nearer to the market the fishermen incur lower marketing costs and enjoy higher net-returns than the fishermen of far of villages.

Fishing fleet:

It is observed that while the number of mechanised boats were increasing the number of non-mechanised boats were fluctuating, the main reason being the higher profitability from mechanised boats. Another reason for the increase in the number of mechanised boats was the availability of institutional finance to the fishermen. The fishing fleet of Versova comprises different types which include trawlers, trawlers-cum-gillnetters (Boodi), gillnetters and bagnetters (Table II).

Table II. Types of fishing boats at Versova.

Types of Boats	Machanised	Sail	Dhonies	Total
Trawlers	41	—	—	41
Bagnetters (Dol netters)	151	8	89	248
Gillnetters	70	—	70	140
Longliners	—	19	—	19
Others	—	12	175	187
Total	262	39	334	635

Source: Department of Fisheries, Fisheries, Govt. of Maharashtra., 1982

Marine fish landings:

The marine fish landings of Maharashtra during 1982-83 were 2.83 lakhs tonnes and the district of Greater Bombay accounts for 1.15 lakh tonnes. On an average mechanised boats account for 97% of the landings and make significant contribution in fish landings. The increase in fish production is responsible for the development of boat building industry at Versova (Govt. of Maharashtra, 1982-83).

The Design of fishing boats:

In Maharashtra, fishing boats are called by different names viz. Versova, Bassein, or Satpati types of boats, based on their shape. These boats differ from one another in their shape and in the length of the keel.

Bassein boats :

The overall length ranges between 13 to 17 meters. The construction is strong and the bow is pointed.

Satpati boats :

The total length ranges between 10 to 15 meters. The length of the keel is only 7-8 meters, however these boats have a larger fish hold capacity.

Versova boats :

The length of Versova boat varies from 15 to 17 meters and the keel is about 9-10 meters. The bow is elongated to give the boat a special shape which enables the boat to cut the water for a smooth operation. The local boat builders at Versova feel that this type of construction and shape would make the boat more stable even in the rough seas.

The mechanised boats are of varying sizes, ranging from 4 to 18 meters where as non-mechanised boats range from 4 meters to 6 meters in length. Mechanised boats are fitted with marine diesel engines with horse-power ranging from 14 to 97.61. Selection of the engines depend on the size of boat, type of fishing and the design of boats.

CONSTRUCTION SYSTEM

The fishermen of Versova get their boats constructed locally engaging contract labour. The required boat building materials are procured and supplied by the proposed boat owners. The boats are constructed according to the traditional designs of local (Versova type) crafts. The fishermen prefer the traditional design due to the lower costs of construction and availability of construction facilities locally.

Boat building premises:

In Versova village, there are no boat building yards either in the public sector or in the private sector. However, two charitable trusts in the village have extended land facilities for boat construction. The trust collects an amount of rupees five hundred from the boat owners as rent. There is no specified time limit for completion of a boat. However, it was observed that it takes about 6 to 8 months to complete a boat.

Fishing crafts:

The different types of boats constructed in Versova are the trawlers, Bcodie, gillnetters and bagnetters (Dolnetters).

Trawlers:

The over all length of trawlers constructed at Versova range between 12 to 18 meters and winches are installed on the boats to provide a mechanical facility for trawling. The cost of a trawler including the diesel engine varies from Rs. 4 to 4.5 lakhs. The estimated life-span of a trawler was reported as 10 years.

The construction of a trawler at Versova usually takes 6 to 8 months. Enquiries revealed that the construction is completed early when investment is made by the owner and delayed when the owner obtains institutional finance since observation of formalities etc. are normally time consuming. In both cases, wood and other materials are supplied by the owners and construction work is under the supervision of "Mistry", who engage majdoors on daily wages. The daily wages for skilled and semi skilled majdoors range between Rs. 25 to 30 and Rs. 7 to Rs. 8 respectively. Generally wood is obtained from the Maharashtra Government Forest Department auctions at Thane which are held periodically. Thus waiting for Government auctions of wood and arranging finance, delays the completion of the construction of the boats.

Trawler-cum-Bottom set gillnetters (Boodi):

Trawlers-cum-bottom-set gillnetters are twin purpose boats used in operation of trawl nets and gillnets. This type of boats are known as 'BOODI' in Versova. The operation of particular type of net depends on the season, weather and phases of the moon. Boodies vary in length from 10-12 meters and use engines of horse-power ranging between 35 to 97.61. When bottom set gillnets are operated, the boats take with them two dhonies for paying and hauling the nets. The crew consists of seven members including one tandel. A boodi costs approximately Rs. 3.5-4.00 lakhs and has a life span of 10 years.

Gillnetters :

Boats used exclusively for operating gillnets are known as gillnetters and their over all length ranges between 8 to 9 meters; engines with 35-60 horse power are installed on these boats. The crew consists of eight persons including one tandel. A gillnetter costs between Rs. 3.00- 3.5 lakhs and has a lifespan of about 5 years.

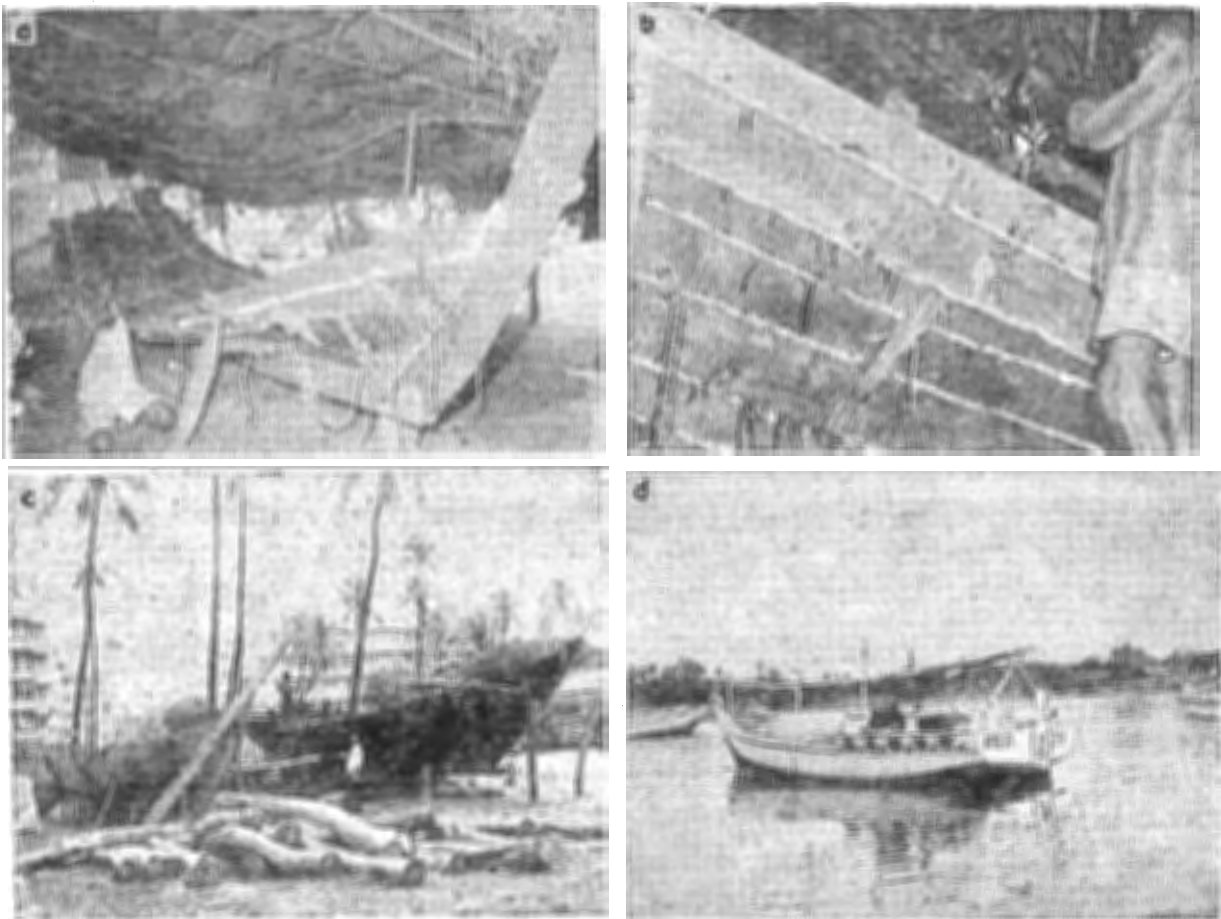


Fig. 1. a) Distinctive feature of planking a bagnetter. b) Planking in progress. c) Hull completed, d) A bagnetter constructed at versova on her maiden cruise.

Bagnetters (Bolnetters):

Bagnetters are boats used in operation of bagnets or dolnets. Fishing operations are conducted in particular areas during particular phases of moon. In bagnet fishing, the net is stationary and fish are caught in the net because of the movement of water due to tidal action. These boats use engines with horse-power ranging from 14-40, The bagnetters have a strong and higher free board. The overall length of these boats ranges from 22 to 50' and the cost of bagnetters ranges between Rs. 1.0 to 2.5 lakhs and the life-span of a bagnetter is estimated between 8 to 10 years.

Cost of construction :

A sample survey was conducted on construction costs of different types of boats at Versova. Data from 13 boats have been collected and the details of costs of different types of boats is shown in Table III.

Table III. Average construction costs (Rs. in lakhs) of different types of boats at Versova, 1985.

Items	Trawler	Boodi	Gillnetter	Bagnetter
Cost of material	2.27	1.91	1.53	1.05
Cost of equipment	1.63	1.52	1.19	0.77
Cost of labour	0.39	0.45	0.30	0.12
Total cost	4.27	3.88	3.02	1.94

The cost of materials formed the major component in construction of boats ranging from 49% (boodies) to 54% (bagnetters) of total costs. Equipment cost ranged between 39% (gillnetters) to 40% (bagnetters) of total cost. Cost of labour which includes wages of mistry, skilled and unskilled labour ranged between 6-12% of the total cost.

Finance for construction of fishing boats:

A sample survey conducted for thirteen boats on the sources of finance and the time taken to obtain the finance reveal that the National Cooperative Development of Corporation (NCDC) has provided finance for six boats, the Versova Vividh Karyakari Machchimar Sahakari Society for one boat and private money lenders provided finance for three boats and the state Government of Maharashtra for three boats.

The time taken for sanction of finance ranged between six months to four and a half years. The NCDC and the Versova Cooperative sanctioned finance within six months. The Government of Maharashtra sanctioned finance

for one boat within a period of 8 months and the remaining three boats got the finance after 4½ years. In respect of boats which obtained finance from private sources the lag ranged from six months and three years.

The delay in the sanction of loans have caused severe financial losses to the prospective boat-owners in that, the loans are sanctioned on the basis of prevailing prices at the time of application and actual prices shoot up by the time the loan is sanctioned, thus making it necessary for the prospective boat owner to search for the deficit amount from a private source. This situation needs improvement through simplifying the procedures and early sanctions of finances.

In spite of the above constraints boat building activity in the village continues. In order to improve the skills of carpenters and mistries, it is essential that these artisans are given training in modern boat yards for improving their skills. This would ensure quality fishing boats for the village.

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