

**EVALUATION OF THE PROGRAMME OF MECHANISATION
OF FISHING BOATS - 1971**

1. The Study

Fishing industry, in 1960s, assumed great commercial importance due to rising domestic consumption and export demand. In fact it became an important source of earning foreign exchange. Keeping this in view, the Programme of Mechanisation of Fishing Boats was first taken up in the First Five Year Plan Period. Under the scheme, increased financial outlays were provided over the plan period and assistance was obtained from international agencies, especially under the Indo-Norwegian Projects. Despite this, the fishing industry in India could not develop to the desired extent. To exploit the potentialities of marine fisheries fully, the mechanisation programme had to be expanded, streamlined and made more efficient. This warranted the evaluation study of the on-going programme of mechanisation of fishing boats.

The study was undertaken by the Programme Evaluation Organisation at the instance of Planning Commission. The study examined, inter alia, the organisation, administration, funding, supplies and operational efficiency of fishing boats, the general impact of the programme and other related issues like processing, marketing, storage, transport, etc. of fish products. A special feature of the study was the cost and return analysis on investment and the analysis of productivity of boats operating in public, co-operative and private sectors.

2. Objectives

- i) To study the organisational and administrative problems in the implementation of the programme of mechanisation;
- ii) To study the problems faced by the programme with regard to : (a) provision of engines and equipments like twins, gear hull etc; (b) facilities of berthing, cold storage, transport, marketing and arrangements for repairs, etc;

- iii) To study the operational efficiency of mechanised boats in public, cooperative and private sectors in terms of costs and returns;
- iv) To assess, on a limited basis, the impact of the programme on employment, earnings and levels of living of the fishermen.

3. Sample Size/Criteria for Selection of Sample

382 mechanised boats (303 private, 40 public & 39 cooperative sector), 67 country boats and 1214 fishermen engaged on mechanised and country boats operating at 27 fishing centres in the 8 coastal States formed the sample for the study.

The maritime states were stratified into three categories on the basis of the average number of fishing boats per fishing centre. The three categories were (a) the States of Maharashtra, Gujarat, Orissa and WestBengal which had small centres having an average size of less than 30 boats. (b) States having medium size Centres viz. Mysore, Kerala and Andhra Pradesh where the average size of Centres was between 30 & 99 boats and (c) Tamil Nadu with large centres where the average number of boats per centre exceeded 100 boats. 12 mechanised boats were selected from each of the small centres, 18 boats from medium size centres and 24 boats from large centres. Systematic sampling with probability proportional to the number of boats in each centre was applied for the selection of fishing centres. Boats were selected for each centre after categorising them into public, cooperative and private sectors with probability proportional to their number. Three fishermen were selected at random from each sector. Two fishermen co-operative societies engaged in the fishing trade, preferably those owning or operating mechanised boats were also selected for each centre. Besides, two to four country boats alongwith two fishermen per boat from the different categories of the fishing centres were also selected at random.

4. Reference Period

The study was taken up in November, 1969 and completed in April 1970. Data were collected for the Second and Third Plans and for the years 1966-67 to 1968-69.

5. Main Findings

1. In terms of administrative set up, there had been considerable strengthening of the Fisheries Department and a number of development institutions had also been created in the important maritime states.

2. Facilities such as marketing, refrigeration, cold storage, processing, harbour and landing, repair and maintenance and training of fishermen were not adequate. All weather berthing facilities, their proper maintenance, the supply of fuel, ice and fresh water, proper landing quay, storage and processing facilities near the harbour or at a reasonable distance were rare in most of the fishing harbours.

3. The Indo-Norwegian Projects contributed to a substantial increase in the fishery activities of the coastal areas in different States. Foreign collaboration provided necessary technical know-how and equipment for locating and developing fishing centres, introducing modern techniques and helping fisherman to take to mechanisation.

4. The average operational cost of a mechanised boat worked out to Rs.17,700 and was four times that of a country boat. The sectorwise comparison reveals that the operational cost was substantially low in the public sector (Rs.11,200) while in the private and cooperative sectors it was higher (Rs.18,300 to 19,800). The operational cost of a bigger boat was more than double than that of a smaller boat.

5. The production of marine fish in terms of landings increased at an average annual rate of 4.6% during the period 1961 to 1968. The export of marine products also registered a significant increase over the years. From a level of Rs.42 million in 1962-63, the export earning had jumped to Rs.247 million in 1968-69.

6. The number of mechanised boats effectively in operation on 1.3.69 in the eight coastal States stood at 6515 which was less than the number actually introduced. Of the total number of boats in operation as on 31.3.69, 75 per cent were in the private sector, 20 per cent in the cooperative sector and the remaining 5 per cent in the public sector.

7. The study revealed that carts, trucks, insulated vans and rail wagons were being used for transportation of fish from the landing sites to markets or for exports. It was also revealed that about 50 per cent of the average catch was sold locally.

8. Considerable progress was made in the installation of new plants, creation of additional capacity for cold storage and preservation of fish during the Second and Third Plans. Out of the 27 selected fishing centres, 11 reported the existence of ice plants while cold storage facilities were available in 12 centres. The available capacity of storage facilities per centre broadly worked out to 69 tonnes for ice plant and 177 tonnes for cold storage. This was not very high; but even this low capacity was not fully utilised by fishermen. The development of processing industry was taken up mainly in the public sector.

9. The average rate of gross return on an investment of Rs.100 on a mechanised boat in 1968-69 worked out to 75 kgs., valued at Rs.69. It was substantially higher in the private sector boats than those of the cooperative and public sectors. An investment of Rs.100 on a country boat yielded a gross catch four times higher in quantity and more than two times higher in value of the catch obtained by a mechanised boat.

10. The gross return per manday in respect of a mechanised boat was about 28 kgs valued at Rs.26. No particular pattern could be observed regarding the comparative performance by the different sectors in this respect. On the other hand, the gross catch per manday of the country boat worked out to 66% of the weight and 36% of the value of gross return of the mechanised boat.

11. Govt. loans and subsidy formed about 95 per cent of the total investment made on mechanised boats in the co-operative sector and 62 per cent in the private sector. Country boats were largely self financed.

12. The co-operative sector was the largest defaulter in the matter of repayment of loans. The loans outstanding in Kerala, Andhra Pradesh and Maharashtra ranged between 83 per cent and 100 per cent.

13. The normal fishing days varied from 130 in West Bengal to 277 in Tamil Nadu. The normal fishing days worked out to 234.5 in the private sector and 165.9 in the public sector.

14. The gross return per manday in respect of mechanised boat was 28.1 kgs valued at Rs.25.7. It was highest in Tamil nadu (Rs. 36.7) followed by Orissa (Rs.31.5), Mysore (28.4) and Andhra Pradesh (Rs.27.8). The lowest was reported from West Bengal (Rs.6.9).

15. Training facilities existed in all the States except West-Bengal.

16. The pattern of functioning of the co-operative societies varied from State to State. Their performance in general had not been satisfactory.

17. Generation of income and employment due to mechanisation programme differed across the States and Sectors. The fishermen in Tamil Nadu were employed for 266 days during 1968-69 followed by 222 days in West-Bengal. It was lowest, i.e. 108 days in Mysore. The highest average annual family income (Rs.3612) was obtained by the fishermen in the private sector and lowest (Rs.1909) in the co-operative sector.

6. Major Suggestions

1. Adequate and proper facilities should be provided for making fishing industry commercialised and profitable.

2. For the achievement of export targets, the fish landings should be increased through the expansion of the programme of mechanisation of fishing boats and by taking up deep sea fishing.

3. Under the Programme of mechanisation of fishing boats, it would be advisable to introduce some amount of standardisation of boats with regard to their engines, equipments and management.

4. Considering the potential of the mechanisation programme to generate indirect employment opportunities in transportation, storage, processing and marketing, there is a strong case for further expansion of the programme.

5. For the success of the programme, facilities like storage, processing, supply of fuel, transport etc. need to be developed further and the existing facilities should be utilised fully.