

IMPACT OF MECHANISATION OF FISHERIES DEVELOPMENT IN KARNATAKA

S.K. PATTANAYAK

Department of Fisheries, Bangalore, Karnataka.

ABSTRACT

Karnataka, one of the maritime states on the west coast, has progressed quite well in marine fisheries due to its vast fisheries resources and diversification in mechanised fishing. Mechanisation programmes were started by the state from 1957-58 only. Starting with 2 small mechanised boats, the state has today a fishing fleet of 398 purse seiners, 731 gillnetters, 2 deepsea trawlers and about 1,500 shrimp trawlers contributing over 85% of the total marine fish landings. The marine fish production during 1987-88 up to the end of March 1988 was 1,29,659 tonnes valued at Rs.48.05 crores.

INTRODUCTION

Introduction of mechanisation in fishing was successfully achieved by first training fishermen in mechanised fishing and then distributing mechanised boats on loan-cum-subsidy basis to groups of 5 fishermen who have completed training in the State Fishermen Training Centres. In order to bring the traditional rampani units under the fold of mechanisation about 60 rampani units were assisted to procure purse-seine units by sanctioning subsidy. Thus, initially the fishermen were able to own mechanised boats without any capital investment. Simultaneously, fishery requisites like nylon etc., were supplied to fishermen at subsidised rates. Salt was also distributed at subsidised rates through fish curing yards for preservation of fish. In addition to this, other infrastructural facilities like ice plants, freezing plants, cold storages, canning plants and fish meal plants were installed in a phased manner supported by laying of approach roads to the landing centres, operation of transport trucks and marketing facilities. This planned approach of the department successfully transformed the tradition oriented coastal fishery into a well planned modern fishing industry in the state today.

Until a decade ago the major fishing force in the state remained to be the traditional fishing sector, with dugout canoes and plank boats, predominant method of fishing being rampanis, the giant shore seine. Its contribution to the marine landings in the state was about 75% of the total catch. Today, after the introduction of purse seining in the state, the pattern of landings has completely changed. The mechanised sector landings have crossed the traditional sector landings, the share being 60% and 40% respectively. This is an achievement since the average pattern for the country is such that mechanised sector only contributed about 40% of the total marine landings. The 1,500 mechanised boats in the state are coastal trawlers mainly built for the prawn fishery. Therefore, its contribution quantitatively was only around 25% of the total landings. The major contribution to the state landings was from the giant rampani (huge shore seines operated by large outrigger boats involving 60-80 fishermen for each unit, which is a specialty of Karnataka) and was anything around 60 to 70% of the total catch in a year. This traditional gear, meant for the pelagic fishery mainly the mackerel (*Rastrelliger kanagurta*) and the oil sardine (*Sardinella longiceps*), had its operational range only upto 3 km from the coast. Therefore, only the shoals that come closer to the shore could be caught and caused violent fluctuations in the marine landings in the state. For stabilising the fishery by bringing in some predictability of the landings and to bring in additional resources under mechanisation, as well as to reduce the mounting pressure on coastal trawl fishery, the government introduced purse-seining in the state for the first time in 1975-76. It was an event of great significance not only at the state level but also at the national level as purse seining in Indian waters became a commercial reality as also a promising stabiliser of fish production to states endowed with pelagic fishery.

PURSE-SEINING IN KARNATAKA

Against the estimated average resource potential of about three lakh tonnes of mackerel and 4 lakh tonnes of oil sardine along the west coast of India, Karnataka state alone could land an annual additional catch of 1.0 lakh tonnes of mackerel and another 1.5 lakh tonnes of oil sardine per year. On the Indian coast, mackerel and sardine schools are mainly observed extending over a belt along the coast between 20 and 50 km offshore almost throughout the year and only a fraction of its seems to move close to the shore after the monsoon. This untapped

zone of pelagic resources is now made available and accessible to the Karnataka fishermen by the introduction of purse seiners. The pelagic fishing season in the state used to last only 3-4 months. It could now be extended over a period of about 8 months in a year by purseseine operation in addition to the advantage of its massive catching capacity and extended area of operation compared to the conventional operational range of traditional rampanies

Though the state is renowned as the mackerel coast of India, the present trend of pelagic fishery shows an equal or even higher intensity of oil sardine fishery along the Karnataka coast. These two species together account for almost 50-60% of the total landings in the state. Other species that are caught in appreciable quantities by purse-seines are catfish (*Tachysurus* Sp) tuna, sciaenids, horse mackerel and *Anchoviella*.

Starting with 2 demonstration purse-seine units by the government in the year 1975-76, the fishermen were induced by financial incentives by way of subsidy and necessary technical know-how to venture into purse-seining in the state. This as well as the successful operation of some purse-seine units in neighbouring Goa helped in the introduction of two purse-seine units in the private sector for the first time in the year 1975-76. The successful results of these pioneering units have evoked an all round interest among fishermen as well as financial institutions in the state to consider purse-seiners as commercially viable. By 1976-77 the number of purse-seine units rose to 20 which again shot upto 100 by 1978-79 and now there are about 398 purse-seiners operating along the Karnataka coast. An interesting phenomenon in the fishing sector in the state is that the landings of these purse-seiners have crossed the catches by the 1,500 mechanised trawlers.

The secret of success in commercial purse-seining in Karnataka is that the local fishermen are known for their quality of adaptability, calibre of professional skill and spirit of entrepreneurship. This is due to the fact that the marine fishermen of Karnataka have sound foundation of primary and secondary education from the large number of fisheries schools managed by the fisheries department for the last 3 to 4 decades along the coast, and later transferred to the education department. The commercial banking institutions in the state also actively promote the venture by their realistic policy of financing fisheries enterprises on advice from the fisheries depart-

ment. Above all, it was the adequacy of infrastructure facilities on the shore along the Karnataka coast that, made purse-seining in the state commercially viable and successful. Today, the purse-seine catches of Karnataka reach far off markets, hundreds of miles away in fresh condition.

DIVERSIFIED FISHING

After the introduction of purse seine in the coastal waters of Karnataka in the mid seventies, the total marine fish production has reached initially a peak and then remained static. The indiscriminate operations of purse-seiners in the traditional fishing areas have resulted in the large scale destruction of the juveniles of oil sardine and mackerel and developing eggs of catfish along the Karnataka coast which in the long run may affect these stocks. Since the landings by purse-seiners have been poor during the last few years, the fishermen have been put to considerable hardships. The operation of some units has become uneconomical due to reduced stock levels of oil sardine and mackerel. Hence, the government of Karnataka is assisting these units for diversified fishing with gill nets and long lines. Mechanised boats were introduced only recently for gill net fishing. There were 109 such boats in 1980-81, which increased to 731 in 1987-88. The average annual catch per gill net has increased from about 1.28 to 7.19 tonnes over the last few years. These mechanised gill net boats are now catching about 4,000 tonnes which could be increased to about 20,000 tonnes with increased level of exploitation.

In order to safeguard the interests of the traditional and small mechanised boats, it is envisaged in the Karnataka Marine Fishing Regulation Act to demarcate the operational areas for various types of fishing boats, namely, traditional (upto a distance of 6 km from sea shore), small mechanised units (6km to 20 km) and bigger mechanised vessels (beyond 20 km).

As the resources of inshore waters are being effectively exploited, there is need to give immediate attention to deep sea fishing. A new dimension to this has been added by the declaration of the Exclusive Economic Zone. Therefore, the challenging task of exploiting the deep sea resources in the newly acquired exclusive economic zone has to be tackled with utmost speed. The main constraint today is that there is no comprehensive survey of the deep sea resources, which has to be carried out to provide the knowledge about the resources to the private enterprise which can venture into deep sea fishing. It is also necessary that the reasons for fluctuations in fisheries should be properly assessed.