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P. B. No. 2704, E. R. G. Road, Cochin-682 031, India

21. ORNAMENTAL SHELL INDUSTRY OF RAMANATHAPURAM COAST

p. Natarajan, K. Ramadoss, D. Sivalingam and P. Thillairajan
Central Marine Fisheries Research Institute, Cochin-682 031

ABSTRACT

As many as twelve shell craft industries established at KeelaVaral and Ramaswaram cater to the demand of the internal and external market of ornamental shells in India and abroad. Several species of molluscan shells which occur in the Gulf of Mannar and Palk Bay constitute the raw materials for these industries. Apart from very rare SPECISS, 15 important species are regularly exploited for this purpose. The Genus *Lambis* commonly known as 'Spider conch' is very important among them by virtue of its abundance. Of the 9 species of *Lambis* known from India, only 3 species are abundant in this coast. Exploitation of these shells are mostly by skin diving and to a limited extent by trawl, gill and drag nets employed mainly to catch finfishes, lobsters and crabs.

This paper mainly deals on the ornamental, curious and religious values of molluscan shells, their industry, types of shells and species used by the industry, varied products, marketing, employment opportunities and certain aspects of costs and earning of the industry.

INTRODUCTION

Eye catching, striking contrast colour pattern and varied shapes are the features which have aroused the curiosity of man towards the molluscan shells. The initial curiosity led to finding out many ways of usefulness of these shells starting from using them initially as vessels for keeping food and water to using them as ornaments of high value. The Ramanathapuram coast is a rich area inhabited by just common species of molluscs as well as hard to get species of high rarity. Majority of the molluscan species that have been reported all along the south east coast of India are known to occur in Ramanathapuram coast. The availability of a variety of shells in good abundance has led to the development of a typical ornamental shell industry at Keelakarai and Rameswaram. It is realised that documenting various aspects of this industry is highly essential for the proper development of the industry.

MATERIAL AND METHODS

Periodical visits were made to important shell industry centres to collect data on different species of molluscs used in industry, places of collection, specieswise cost, total number of manpower engaged in the industry, details of marketing through retail and wholesale outlets.

Important molluscan shell landing centres were visited once in a week to collect data on the collections, fishing methods, fishing Enquiries manufacturing centres on the details of articles made and their cost. Chank data were collected both from shell industry and Tamil Nadu State Fisheries Department,

SHELL INDUSTRY

The entire shell industry may be divided into 1) the raw material production 2) production of ornamental shells and shell products and 3) marketing.

Raw material production The raw materials include the shells of different shapes and sizes belonging to the following genera *Oliva*, *Cypraea*, *Natica*, *Cerithidea*, *Pterocera*, *Gafrarium*, *Strombus*, *Babylonia*, *Conus*, *Murex*, *Cymatium*, *Turco*, *Merita*, *Marpa*, *Turbinella*, *Lambis*, *Pyrene*, *Umbonium*, *Dentalium*, *Area*, *Velata*, *Littorina*, *Fistularia*, *Traphezium*, *Fusinus*, *Cymbium*, *Cancellaria*, *Faciolaria*, *Turbinella*, *Cassis*, *Bursa*, *Phalium*, *Tonna*, *Drupa*, *Buttia*, *Thais* etc. Among these shells it is estimated that 1,75,000 shells of 3 species of *Lambis* are fished annually and each shell fetches Rs 1 to 3/- for the fisher-

men. The fishing for the chanks is the monopoly of the State Government and the merchants get the chanks when the catches are auctioned by the Government every year.

The methods of exploitation of these shells depend on the size, behaviour and habitats in which they occur and maybe divided into 1) hand picking in shallow waters 2) skin diving in deeper waters 3) hand dredging and 4) by different types of nets. Moderately small shells like *Oliva* and *Cypraea* are usually collected by hand picking in the intertidal rocky zone during low tides. Exposed coastal muddy flats and near-by islands are the habitat wherein a variety of colourful dead shells and live specimens are collected during low tides. Chanks, *Turbinella pyrum* are usually landed by skin diving done upto 20 m depth range in Palk Bay and Gulf of Mannar. Hand dredging with a common type of triangular net fastened

with a long pole called 'Arachal' or 'Kachan' is done in areas like Devipatnam, Sundaramadayam, Vedaiaai, Marakkayarpatnam, Mandapam and Pamban to collect small sized gastropods like *Pyrene* during October to April every year. These nets are set at the bottom at 2 to 3 m depth and dragged with the connected pole for a distance of about 10 m by hand. Then the net is lifted out of water and emptied of its contents. The main aim of operating this net is to exploit molluscan shells, whereas other nets like gill nets such as bottom set gill net, nanduvalai and singivalai which are employed to catch finfish, crabs and lobsters, and gastropods like *Pterocera*, *Trochus* etc. in good numbers as they are caught incidentally. A wide variety of shells like chanks, species of *Gafrarium*, *Strombus*, *Babylonia*, *Conus*, *Murex*, *Cymbium*, *Harpa* etc. form a portion of the by catch in trawl nets operated for shrimps and fish.

TABLE 1. Procurement and sales-rate of commercially important shells by shell industries of Keelakaral & Rameswaram

Species	Vernacular name	Purchase rate	Sales rate	Quantity
<i>Turbinella pyrum</i>	Sanku	There are 11 sizes viz. Fo: 0; 1,2,3,4, 5,6,7, AR and 8 (Re 1/- to Rs. 3/- depending upon the size)	Rs 3/- to Rs. 50/- depending upon the size.	per piece
<i>Pterocera lambis</i>	Aiviral Sanky	Rs 1/- to Rs. 3/- depending upon the size	Rs 2.50 to Rs. 5.00/- depending upon the size	
<i>Umbonium vestiarlum</i>	Poochi Koodu	Rs 1/-	Rs 2/-	Per litre
<i>Oliva spp</i>	Kovanchu	Rs 5/-	Rs 15/-	„
<i>Dentalium sp</i>	Vellai Mooku	Rs 6/-	Rs 8/-	
<i>Arca spp</i>	Sippi/Kilinjal	Rs 1.50/-	Rs 2/-	
<i>Cymatium pileare</i>	Pillayar Sanku	Rs 2/-	Rs 3/-	per piece
<i>Tibia spp</i>	Ezuthani	Rs 0.40/-	Rs 0.75/-	
<i>Babylonia spp</i>	Puramuttai	Rs 2.00/-	Rs 4.00/-	per litre
<i>Conus spp</i>	Vazhvi Poo	Rs 0-10/-to Rs 0-75/-	Rs 0.25/-to Rs 1.50/-	per piece
<i>Cypraea spp</i>	Sozhi/Mani Mowri	Rs 0.05/-to Rs 0.10/-	Rs 0.12/-to Rs. 0.15/-	

Species	Vernacular name	Purchase rate	Sales rate	Quantity
<i>COZUS</i> spp (Glory of India)	Vazhi Poo	Rs 100/- (This shell is not polished; polished shell does not fetch good price)	Rs 400/-	
<i>Strombus</i> spp	Veranjan	Rs 0.40/-	Rs 0.75/-	
<i>Fistu/aria</i> spf>	Sihappu Mulli	Rs 0.15/-	Rs 0.30/-	
<i>Trapzium</i> sp	Kuthurai IVulli	Rs 1.50/-	Rs 2.00/-	
<i>Fusinus</i> sp	Vellai Chaval	Rs 0.30/-	Rs 0.40/-	
<i>Harpa</i> sp	Sarpa Koodu	Rs 2.00/-	Rs 2-50/-	
<i>Cymbium melo</i>	Suvappu pathiram	Rs 3.00 to Rs 5.00/- depending upon the size	Rs 6 to Rs. 10/- depending upon the size	
<i>Cancel/araia</i> spp	—	Rs 4.00	Rs 6.00	per litre
<i>Fascio/ar/a</i> spp	—	Rs 0.15	Rs 0.25/-	per piece
<i>Mures rmosus</i>	Yanai IVulli	Rs 3 to Rs. 10/-	Rs 5/- to 25-00	
<i>M. florifer</i>	Karuppu Kullai	Rs 1/- to Rs. 2/-	Rs 3/- to Rs. 5.00	
<i>M. muteramos/s</i>	Katta sanku	Rs 0.10/-	Rs 0.25	
<i>M. triremis</i>	„	Rs 0.50 to Rs 1.00	Rs 1.00 to Rs. 3.00	
<i>M. haustelium</i>	Vellai Poodu			
<i>M. adj'ustus</i>	Karuplu Mulli			
<i>Pterocera Chiragra</i>	Aru viral sanku	Rs 1/- to Rs. 4/-	Rs 5/- to Rs 15/-	
<i>P. aurantia</i>	Silanthi sanku	Rs 1/- to Rs. 2/-	Rs 2/- to Rs 5/-	
<i>Cassis madagascarensis</i>	Mattu Thalai	Rs 10/- to Rs 30/-	Rs 30/- to Rs. 50.00	
<i>Cypraea reticulata</i>	Sozhi	Rs 1/- to Rs 1.50	Rs 2/- to Rs 4-00	
<i>C. talpa</i>	Anil sozhi	Rs 2.00/- to Rs 3.00	Rs. 4.00/- to Rs. 6.00 „	
Operculum of <i>Turbo</i>	Ravanan Vizhin	Rs 3-00/- to Rs. 5/.	Rs. 6/- to Rs. 10.00	per liter

Shell divers, shell collectors, beach combers and those who collect shells from boats and launches sell their collections either to shell procurers who act as agents of shell industry or directly to the shell processors in the industry. Different species of molluscan shells, their procurement rate and market rate of finished product by the shell industry are given in Table 1. The important centres where the shells are processed are Pamban, Mandapam, Vedalai, Periapattinam, Devipattinam, Thirupalakkudi, Mullimunai, Karankadu, Thondi and Sethubavachathiram. Shell are also being

procured from Tuticorin, Cuddalore, Andaman and Nicobar Islands. On an average Rs 4,00,000 of raw materials are used in the industry,

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After drying the shells in the open for 3 to 5 days, they are soaked in fresh water for 2 to 5 days in cement tanks, depending on the size and quantity of the shells. This enables removal of dirt and decayed soft parts of the animals. Then the shells, whether big or small are placed in bleaching powder solution or bleaching liquid for 24 h in cement tanks

constructed for this purpose, followed by immersing the shells in caustic soda solution in another tank for one h. Depending on the thickness, colour and quantity of the shells, they are polished by allowing them to remain in 5% Hydrochloric acid from 10 seconds to 4 minutes

Ornamental products

In view of the increase in demand for ornamental molluscan shells there has been a wide diversification, producing novel items such as table lamps, lamp shades and domes, dolls, garlands, pendants for chains, necklaces, ear-drops, beads for the neck, hair pins, fantasy flowers sculptures of Gods and Goddesses, agarbathi stands, bangles, flower vases, shell screens for windows and door curtains etc.

Marketing

There are as many as 12 shell industry units of which 3 are at Keelakarai and 9 at Rameswaram which manufacture the ornamental shells and market them throughout India. The market outlets in India are Bombay, Calcutta, Delhi, Mathura, Haridhwar, Lucknow, Puri, Ayodhya, Kanyakumari, Madras, Dwarka, Hyderabad, Bangalore and Agra. The shell and shell products are exported to countries like USA, U K., Australia and Austria. The annual turn over of the shell industry amounts to Rs 10,00,000.



FIG 1. A shell shop.

GENERAL REMARKS

ecological habitat surrounding Mandapam-Rameswaram coastal belt is ideally suited for the settlement and growth of a variety of gastropod and bivalve shell species. The island system in the Gulf of Mannar provides suitable areas serving as breeding ground for many of the gastropod shells which form the important components supporting the shells industry at Keelakarai and Rameswaram area.

The craftsmanship in the shell industry is age old and dates back to the historic time when the shell industry has been recorded to nurture the then craftsmen of shell people in the society, some of these are still available in some national museums and temples. The causative factors which prompted the development of the shell industry into a

well established one are manifold such as mere whimsical curiosity to religious sentiments, Curiosity tempted man to collect the gorgeously multicoloured shells and then he found some uses of the shells, initially as utensils for keeping food and water. Even now beggars use the shells of *Cymbalum melo* as 'beggar's bowl'. Later the aesthetic sense prevailed to find ways and means of using them as ornaments, The use of sinistral chanks and dextral chanks in temples testifies to the religious sentiments attached to chanks.

Keelakarai is purely a shell processing and shell ornamental manufacturing centre and there are no retail or wholesale outlets for the public. On the other hand Rameswaram thrives not only with the shell and shell ornamental production but there are as many as seventy shell shops located in and around the Rameswaram temple. Being a very important religious place, Rameswaram attracts pilgrims and tourists from all over India and abroad and these shops cater to the need of these pilgrims and tourists. The shells and shell ornaments vary in cost from as low as Rs 1.50 to as costly as Rs 400 and a sinistral sacred chank costs anywhere around



FIG. 2. Shells on display.

to Rs. 5000 to 10000 depending on its size and perfection.

The shell craft industry at Keelakarai and Ramnad offer livelihood for nearly 250 shell-craftsmen apart from the fishermen, shell

procurers and the shell shop owners. Each craftsman earns around Rs. 15 to 20 a day. Some of the craftsmen work as shell collectors and procurers also and the shell crafting work is seasonal during May to September. Exploitation of the shells is not regulated and there is no organised fishery exists except for chanks. Therefore, it is suggested that systematic studies on the biology and population dynamics of these species are suggested for rational exploitation of these resources. This industry thrives mostly as a cottage industry along this coast. Further training in the craftsmanship and financial support to certain extent for the procurement of advanced machineries may improve the standard of the products which may attract a wider market in India and abroad. This may be achieved through organising a co-operative societies in the industry and the financial assistance may be extended by the Government or through banks. This may improve the economy of the industry in addition to increase the employment opportunity in the coastal area of Ramnad district.

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