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RESEARCH ARTICLE

INDIGENOUS KNOWLEDGE SYSTEMS OF MARITIME COMMUNITIES OF VISAKHAPATNAM COAST

[1]Srinivasu, K. and [*,2]Murali Mohan, M.

[1]Department of Anthropology, Andhra University
[2]Central Marine Fisheries Research Institute, Visakhapatnam, Andhra Pradesh, India

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ABSTRACT

This paper delineated the indigenous knowledge system of fishing communities of Visakhapatnam district. The present study is undertaken to bring out the present status of fishing communities inhabiting the Visakhapatnam district and their techno-cultural adaptations. In addition to this, housing types, demographic profiles, economic aspects of the fishing communities have been described in detail.

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INTRODUCTION

Anthropology of fishing stemmed from studies focusing on the way that human beings have adapted to earning a living in the marine environment are grouped together under "maritime anthropology". Since the marine environment is hostile, alien, uncertainties and risks to perform fishing, a set of norms, values, and various social networks and institutions are established. These social networks had been utilized to combat the weather conditions and to generate knowledge on fish populations and fishing. Fishing has been the hazardous occupation. Fishing takes place in an uncertain and risky environment with constant threats of storms, accidents, or equipment failure (Binkley 1991). Though fishing appears to be a monotonous activity, but it has lots of plurality in events, techniques and populations. Peggie and Pollnac (1988) showed that those exploiting the sea have to cope with irreducible risk through the use of ritual and magic. Even locating one position on a vast sheet of water is always a problem. Marine ecozones contain a large number of species with different habits that require different capture techniques (Cove 1973). Unlike hunting on land, the fisher is not aware of what he is harvesting thereby uncertainty in choosing the species. Added to this, volatile markets and periodic stock failures are keeping the fishing economy at crossroads.

Corresponding author: Murali Mohan, M.,
Central Marine Fisheries Research Institute, Visakhapatnam. Andhra Pradesh, India.

Anthropological studies of maritime communities have traditionally studied on three areas which are modern fisheries, shipboard life and prehistoric marine adaptations (Acheson 1981). Depending on ecological, economic and cultural factors, one can distinguish better traditional fishing communities, peasant fishing societies and modern industralized fishermen (Johnson 1979). Among these peasant fishermen are a relatively simple with non-mechanised technology. They produce for their subsistence as well as for the markets. Traditional fishermen people have simple technology and fish mainly for their subsistence and industrialized fishermen with mechanized and capital intensive equipment.

At least two to three caste groups are exclusively involved in marine fishing in each maritime States of India Jalari, Palle and Vadabalija in Andhra Pradesh, Pattinavars, Mukkuvars and Paravas in Tamil Nadu, Dhevara, Mukkuva and Pooislan in Kerala, Moogveeras in Karnataka, Nayakas in Goa, Kolis in Maharastra, Kolis, Khairwar and Machhawa in Gujarat, Kaibartas in West Bengal and Jalia, Kaibarta Jalia and Khandyats in Orissa are a few communities exclusively depend on marine fishing. Andhra Pradesh has a coastline of about 1030 km spread over nine districts. They are Srikakulam (182), Vizianagaram (25), Visakhapatnam (155), East Godavari (177), West Godavari (17), Krishna (122), Prakasam (116) and Nellore (174) districts. The coastal area has been classified into north, central and southern zones based on geographical, physical and environmental features.

Each of these zones is also represented by a very few major fishing caste groups. Against this background the present study is undertaken to bring out the present status of fishing communities inhabiting the Visakhapatnam district and their techno-cultural adaptations. The fishing and allied activities are gaining significant importance as fishing sector provides economic owners to the backward and economically weaker sections of the rural community. The Jalari are Telugu fishermen, palanquin bearers and cultivators in Ganjam and Vizagapatam (Thurston 1909). Their major concentration is in northern coastal districts of Andhra Pradesh. Most of them depend on marine fishing for subsistence. Their family is characterized by patrilineal, patrilocal, patriarchal and neo-local residence. The traditionally joint family was common among them. At present, nuclear families are more common among Jalari. It is observed that there are two types of marriages among Jalari. Marriage by negotiation and marriage by elopement are more common. Monogamy is the common norm. The Jalari traditional occupation is fishing. After the catch of fish, they reserve some quantity for domestic consumption and the remaining is sold on the shore itself to relatives and contractors. It is observed that the kinship plays a vital role in the deployment of crew for fishing, particularly for big-net hunt, but in case of persons deployed on a contract basis the kinship ties are not considered.

The Jalari women are involved in the fish trade. Traditionally, a fishing village is administered through village headman and *'kulapeddalu'* (caste leaders). It is observed that the caste panchayat is still functioning and it looks after the family disputes, elopement, dowry, divorce, adultery etc. It is further observed that there are some changes in the structure of the village administration, wherein a few persons are elected as panchayat members. The introduction of statutory panchayat has not changed much in the traditional leadership. The Jalari society is still administered by the headman and a caste council of elders. By and large, the Jalari are Hindus. However, in recent years a few families embraced Christianity. It is observed that each family has its own two or more family deities like *Yellamma, Nookalamma, Polamma, Sattemma, Dhanasakthi* etc,. They believe the village deities protect from epidemics, diseases and from natural calamities and disasters. In addition, they worship Hindu Gods- Rama, Hanuma, Siva, Sai Baba, Venkateswara and others. There are two important religious functionaries '*dasudu'*, who is chief worshipper of a village deity and *'bhaktudu',* who is the chief worshipper of a lineage deity.

The Vada Balija is mainly found in Srikakulam, Vizianagaram and Visakhapatnam districts of Andhra Pradesh).They calls themselves as vadabalijas though they have no claim to be regarded as balijas (Thurston 1909). The Vada Balija were sailors, engaged in sea trade between the east coast of India and the islands of the Indian Ocean until this was cut short by Portuguese pirates and later by the East India Company. Then only the Vada Balija were forced to adapt fishing as a means of subsistence (Sen 1938).They have exogamous surnames like Mylipilli, Sodipilli, Vasipilli etc. the vada balija follow the concept of ritual purity and pollution. Nuclear families are more common among the Vada Balija. Joint families among them are rare.

All family members contribute to family income. Their families are characterized by patrilocal, patrilineal and patriarchal types. Monogamy is the most common form of marriage. The kinship terminology of Vada Balija is Dravidian kinship terminology which is similar to the neighboring Telugu speaking castes.

Most of Vada Balijas are dependent on fishing and fishing related activities. The women are fish vendors sell among peasant markets. The women are also involved in fish processing activities like drying fish and sell them in wholesale and retail markets. The Vada Balija men manufacture boats and nets from the locally available materials. They have an indigenous knowledge of measures for fabricating various navigation boats. In the traditional political system, the caste panchayat plays a vital role. The *kularaju* is the head of the caste panchayat assisted by the *pillis,* who are the most influential persons in the village. They settle the disputes like divorce, remarriage etc,. Nowadays both statutory and traditional cast panchayat are functioning complementary to each other. Most of Vada Balija are Hindus. Their religion is the coexistence of Greater Hindu traditions and Little Traditions. They worship their family and village deities like Gangamma, Rajamma, Peddammoru, et,. They also worship Gods like Rama, Shiva, Satyanarayana Swamy etc. They celebrate Hindu festivals like Sankranti, Ugadi, Sivaratri etc. Traditionally the Vada Balija did not depend on Brahman priests for religious services, performed instead by their community priests. Nowadays, the Brahman priests are invited to perform the marriage ceremonies.

The Objectives

1. To study the location aspects of fishermen's villages/habitations in relation to the geophysical resource base.
2. To delineate the ethnographic profile of the fishing communities.
3. To study the indigenous knowledge system of fishing communities of the area.

MATERIALS AND METHODS

In this study traditional anthropological techniques like participant observation, interview, key-informant interview, focus-grouped interview etc. have been applied

- Survey of India 1:50,000 scale Topo-sheets, Landsat imagery and Google earth digital maps are used to estimate the location aspects of habitations/villages.
- State government Revenue Records and Fisheries Department Statistical Tables are used to arrive the demographic and other infrastructure facilities.
- Two schedules are designed, one to draw village/habitation based infrastructure, development and welfare programs, and the other for individual to collect personal information. Both are canvassed through face to face interview method.
- All 65 villages/habitations in the study area are covered to elicit information on location database, while two habitations, one urban and the other rural are selected to collect individual information.

- The selection of the village (Rural) and habitation (Urban) is based on purposive sample, and is representative.
- About 130 fisherwomen are selected at random in both the habitations for face-to-face interview.
- The collected data is analyzed by using simple statistics to arrive averages and percentages.
- Audio-visual aids are used to collect additional information in both the contexts (village and individual data).
- The data are organized into different tables and they are incorporated in the text, wherever necessary, as value addition.

Visakhapatnam, a maritime city on the east coast (Coromandel Coast / Bay of Bengal) of India is located halfway between Kolkata (West Bengal) in the north and Chennai (Tamil Nadu) in the south is the second largest city of Andhra Pradesh. About 5 km south of the Visakhapatnam coast has been the habitat of fishermen communities; they are Vadabalija, Jalari and Palle communities. Among these Vadabalija is the numerically dominant community followed by the Palle and Jalari. The people of these communities live in villages, which are located very contiguous to the coast.

Housing and Households

In all 65 villages / habitations put together 9,908 'units' of dwellings recorded are shared by 28,100 households, out of about 1.3 lakh fishing population. A unit means a living room (in traditional houses round one with encompassing corridor, rectangular in other types with clear wall separated rooms) with common veranda and kitchen / cooking place. The analysis related to housing, households and the population clearly indicates that there is acute shortage of housing and is overcome by sharing the 'unit' of the house by more than two families. It is interesting to note that the house is shared by the parents and their married sons, and further observed that the house is shared but not the heat. Cooking and dining are independently being done at different corners of the house depending on availability of space coupled with wind path. The shortage of cooking space and combating the frequently changing wind directions (due to differential heating between land and water) was overcome by 'mobile hearths', an indigenous technological system (ITS).

RESULTS AND DISCUSSION

Demographic Profile / Population

In the present study about 1.3 lakh populations only 0.57 percent is other than the fishing community people. The fishermen population is categorized into male, female and children with an aim to assess the present and prospective fishing people. At present about 51 thousand families are found along the Visakhapatnam coast, out of which only about 25,000 people are actively involved in fishing (Source: State Fisheries Development Corporation, Visakhapatnam).

Economic Assets (Boats for Navigation)

In total 4,194 boats are in operation along Visakhapatnam coast. Out of which 47.35 percent (1986) are country boats, followed by motorised boats (country boats fixed with diesel engine) which account for 33.60 percent.

It is clear from the data that a large majority of boats (47.35 + 33.60 = 80.95%) in use is traditional in spite of the introduction of high powered trawlers. This phenomenon is characterizing the present study area as the peasant fishing economy. Fibre boats (11.71%) and trawlers (7.34%) accounting for 19.05% are mostly operated from the Visakhapatnam fishing harbor and Bhimunipatnam jetty. The data further indicates that the adoption of hi-tech boats is taking place in sub-urban and Rural-North villages, which are contiguous to the urban centers. Use of more number of country boats in rural south may be due to absence of harbours and jetties in this area, and the distance to the existing harbours and jetties.

Indigenous Knowledge Systems on Maritime Resources

Based on the method and technique of fabrication the boats in the study area are divided into three broad categories such as:

Tied Boats (kattu padvalu): The literal meaning of this type of boats is that the boats made out of tying the logs. No nails or other such joining methods. Tied boats can be divided into two types:

a) Badisa Theppa or Pola Theppa: The tied boats are locally called as *theppa,* which literally means in Telugu language a boat that floats. The word catamaran seemed to have been derived from Tamil word *kattamaran*, where in *kattu* means to bind and *maran* means timber. Catamaran is the simplest of all boat types in the study area and locally called as *badisa theppa* or *pola theppa*.
b) Therachapa Theppa: The therachapa theppa, a four logged boat, is an extended and developed form of *badisa theppa* or *pola theppa*, where *magasira* on front and *anakapeeta* on back sides are attached. The boat when tied gains boat shape while untied it will be divided into two halves.

Stitched Boats (kuttu padava): These are considered as traditional type of boats. In this category wooden planks (2-3 inches thickness) of varied length and breadth are perforated and are stitched with thread with a packing of grass or fibre. Local people call the process as *kuttu padava* (*kuttu* =stitched, *padava* =boat), hence is called *kuttu padava*. These boats are further divided into two categories, traditional stitched boats and traditional but mechanized boats.

a) Traditional stitched boats: In this type the main stem of the boat is made of three parts. The main part of *eruva* is a wooden stump of 3 x 2.6 inches size joined on either side by *animaku* and *avaramaku,* the former at the anterior and the later at posterior ends of *eruva.*
b) Traditional but Mechanized Boat**:** This type of boat in all respects is a traditional stitched boat but fixed with 9 hp diesel engine. In order to fix the engine at the rear end (aravamaku) of the boat, *aravamaku* is flattened as did in the case of tied boat (*kattu padava).* Two flat wooden logs are attached to *aravamaku* to lodge the engine, which reduces the engine vibrations.

Moulded Boats (fibre reinforced plastic is moulded over wooden frame): The boats moulded out of synthetic fibre glass materials are gaining demand and are in operation due to their cost effective and durable characters.

Even in this category two types of boats are delineated and they are partial and total fibre boats.

Type-wise nets and other related parameters of the fishing are presented

Pedda Vala (big net): Literally *pedda vala* means big net and it is a shore seine. This is carried on a big boat locally called *padava*. *Pedda Vala* requires many working hands to operate, ranging from 20 to 50 persons, depending upon the size of the *pedda vala*. Iraga Vala (trawl net): The *Iraga vala* consists of four main parts. They are *madi, melu madi, varamulu and tallu*. Visuru Vala (cast net): The cast net in the local Telugu dialect is called *Visuru vala*. This is operated in the shallow waters of the sea and in estuaries throughout the year. The mesh is about half an inch wide and it is made out of forty count cotton yarn. Of late, it is made from nylon thread because of nylon durability.

Vaddi Vala (drift net): This is a kind of drift net and it is locally called v*addi vala*, operated at sea. Each net may measure about 40 metres in length and four metres in width. While operating in the open sea about ten to twenty nets are joined by lacing together. Fishing with *vaddi vala* is carried out during nights. The other types include pedda kavvalla vala (Big net), Iraga vala (Trawl net), Esura vala (Cast net), Vaddi vala (Drift net), Chinna kavallu vala, Nadipi kavallu vala, Pedda kavallu vala, Narama vala, Kadurla vala, Alivi vala and Disco vala used in the study area. In addition to these different types of nets used by the fisher folk, they also use a few varieties of fishing lines for catching specific varieties of fish in a particular season on the open seas using catamarans (katla theppa) or fibre boats to reach the fishing spots known to them.

Conclusion

It is mentioned in the preceding Chapters it is apparent that the Jalaries and the Vadabalijas have shown marginal changes in accepting modern technological innovations. Their adaptation to the modern innovations depends on the Climatic change, development policies and the risk in which the fisher folk of north coastal Andhra Pradesh is exposed, a few innovations were introduced, such as trawlers, mechanised boats and some types of nets. It is observed that by and Large, the modern technology has not displaced their traditional structure and values.

Though they have connection with the marketing mechanism, there is an abundance of traditional Lore that the Jalaries and Vada Balijas Possess, not only in the Traditional Technology of fishing but also in the Knowledge of marine ecology.

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