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.

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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.

Key words:
Indigenous knowledge, Vadabalija, Jalari, Economic assets, Nets.

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 Vizagapatnam (Thurston 1909). Their major concentration is in the northern coastal districts of Andhra Pradesh. Most of them depend on marine fishing for subsistence. Their family is characterized by patrilineal, patrilocal, patriarchal and nuclear-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, Sattiemma, 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 call 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, Peddammor 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, Ladsat 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.
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 combing 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.
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 vaddi 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 Posses, not only in the Traditional Technology of fishing but also in the Knowledge of marine ecology.

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