1.1 Introduction:

Any occupied human dwelling place is called a settlement. The word more usually indicates a community of dwellings and associated shelters. Settlement is a man-made factor. Settlements are formed mainly to fulfill the basic necessity of a human being i.e. shelter. A settlement may be as small as a single house in a remote area or as large as a “Mega City”, that is a city, over 10 million residents.

Settlements are divided into different categories on the basis of their population, shape, structure and even on the basis of the main economic activity that is carried on in the settlement. The settlements are named after such economic activities e.g. the Mining settlement, the Fishing-settlement etc.

According to Wikipedia, the free encyclopedia, “a fishing village is a village, usually located near a fishing ground, with an economy based on catching fish and harvesting sea-food.”

Humans have been present in the Warden Sea area since the end of the last ice age. Though the fishermen have still remained stick to their traditions and old culture their perception of and interference with their marine environment has changed over time.

In our country there are very few independent fishing villages as such. Most of the fishing settlements are parts of the rural settlements or towns and are little away from the main rural settlements or towns. Thus the functioning of the fishing settlement is also strongly affected by the nearby rural settlement or towns. The fishing settlement may be called as the satellite settlement of the main settlement. But it has its own identity. The settlement dwellers want to maintain a bit distance from the residents of the main settlement. This may be because of their unique way of living and unique culture.

The fishing settlements emerge, grow and function in the presence of moist climate, sea breezes, occasional storms, flooded areas during the period of high tide. Thus the effect of all these factors on the various aspects of the settlement including the demographic aspect is very important.
The Fishing settlement is the settlement where the maximum number of people is found engaged in catching the fish in the water and in allied activities like drying and processing the fish, mending the nets, constructing and repairing the fishing boats etc.

Settlement is a dynamic factor. A settlement may be permanent or temporary. An example of a temporary settlement would be a refugee camp. However a temporary settlement may become permanent over time. The settlement may pass through the different stages. It takes birth, it grows and sometimes it may get destroyed. The Fishing settlements emerge on the sea-coast or little away from the sea coast or even on the bank of the large river or lake. The fishing settlements normally emerge near the large and medium sized settlements. The emergence, growth and structure of such settlements are strongly affected by the geographical or environmental set-up of the coastal regions.

Along with farming, Fishing is one of the oldest occupations of humankind. Fishing is the activity of catching fish. The term fishing may be applied to catching other aquatic animals such as different types of shell-fish squid, octopus, turtles, frog and some edible marine invertebrates. (Source: Wikipedia, the free encyclopedia) Fishing industries are industries concerned with taking, culturing, processing, preserving, storing, transporting and marketing of fish products. They include subsistence fishing, commercial fishing, recreational fishing and the various processing and marketing sectors. Fishing provides a rich and easily available source of protein and plays a vital role in improving the dietary standards. According to World Health Organization (W.H.O.) fish is a high protein food, very low in cholesterol and fat. Today fisheries are estimated to provide 16% of the world population's protein and that figure is considerably elevated in some developing nations and in the regions that depend heavily on the sea. Fish may also be collected live for research observation or for the aquarium trade. According to W.H.O. fresh fish diet is good for the total human health. The increase in the fish-catch would help in solving the problems of food-scarcity, malnutrition and under-nutrition. Living aquatic resources make a crucial contribution to food scarcity, particularly in the coastal zone. For example in south Asia fish contributes more than half of the animal protein intake in the diets of the coastal communities.
It is globally recognized that fisheries have a significant role to play in the economy of the country and the poor fishermen community is the single largest community giving not only significant contribution to the national income but also meeting most valuable nutritional requirements. It is therefore essential to give special attention to the overall development of the Fishing settlements where the fishermen and fisherwomen stay. If the fishing settlements have adequate infrastructural facilities and good hygienic environment the fisher-folk would feel more energetic and this will indirectly help in accelerating the growth of fishing and other allied activities.

99% of the worldwide annual commercial ocean catch comes from coastal waters, within 200 nautical miles of the coastline. These narrow coastal fringes are both the most productive and the most vulnerable. Asia contributes to 63.17% of total fish production in the world. However, south Asia’s contribution is only 6%. India occupies a prime position amongst south-Asian countries in fish production. India contributes 71% in this region. Today the per-capita availability of fish in India is 4.1kg per year. The per capita demand for fish as an item of food in India would vary between 6.9 kg and 9.2 kg by the year 2030. (Source: Challenges for Indian Marine Fisheries M. J. Modayil Central Marine fisheries Institute, Cochin)

India is a peninsular country and has a long coastline of 7516.5km. It is estimated that nearly one quarter of Indian population is living along the coastal area. It is estimated that the fisher-folk population living along the coastal areas of India is around 6730300 of which 2686000 are males, 1980000 are females and 2364000 are children below the age of six years. This fishing-population is involved in full time or part time fishing. The population involved in full time fisheries is around 738000 while part time fishing is 713000. The population which is involved in marketing and other allied activity pertaining to fishing is about 689000. (Source: The live stock census 1992)

As per the report of the Central Marine fisheries Institute, Cochin this population is likely to grow in coming years.

The fishing people have been the real protectors of the sea coasts in India and its fragile ecosystem. And it is the establishment of large scale sea-tourism centers and
diversion of mile after mile of sea-coasts for real estate development that has resulted in their eviction and brought havoc on coastal environment.

According to the report of the National Institute of Oceanography along the 8200 km long coastline of India, there are 3638 fishing villages. About 3 million people are directly involved in fishing, while another 3 million work in the ancillary industries. The ADB (The Asian Development Bank) estimates the total number people in India to be in the fisheries industry at 14.66 million. The 2006 estimate of 6.5 million metric tons of fish earned India 80 billion Indian National Rupee (INR) through exports. This is 3% of India’s total foreign trade and is second only to it. (Source: Report of the National Institute of Oceanography)

Majority of this fisher-folk community are economically and educationally far backward and struggling to strive even after more than half a century of independence. Since ancient time fishermen lived exclusively in isolated hamlets near the seashore, river-banks, ponds and lakes without any sort of the social contacts with the civilization. As such they are not assimilated in the general social order. Even in the villages comprising of other communities, fishermen live on the outskirts, which others avoid. Many fisherwomen carry the fishes over long distances to the market. They face many problems while carrying the fishes. Even the buses plying do not stop to allow them to enter the bus with their fish baskets. The other passengers make complaints about the typical smell of the fishes.

The settlement along the coast includes large metropolitan cities, towns, and villages. The fishing settlement fall in the category of a village. The presence of the Fishing settlements or fishing villages in the coastal parts of the country is a common feature. India has 3638 fishing villages and 2251 fish landing centers. Out of the total marine fish production nearly 50% comes from near-shore waters and are contributed by traditional fishermen. (Source: FAO-Food and Agriculture Organization Statistics 1992)

The major problems in the coastal fisheries are over-fishing, habitat destruction, pollution, post-harvest damages due to lack of infrastructure, non-fishing during monsoon, conflicts among mechanized and traditional sectors, interstate problems etc. In addition to these nowadays coastal tourism interferes with fishermen in their activities by
replacing them and denying access to their traditional fishing grounds and beaches. Thus the livelihood of the fishermen is threatened. This also strongly affects the fishing and the fishing settlements. The percentage of education in fishing communities, according to the socioeconomic report of the Government of India, 1992 varies from 1 to 2 percent. In Maharashtra, which has 406 fishing villages and 320,000 fisher-folk, more than 1 lakh are illiterate the average income of the members of this community is very meager.

According to the report of the National Association of Fishermen, India (NAFI) dated Tuesday, July 24, 2007 many fishermen do not have a square meal and can not afford clothing to cover their bodies. Some of the marine fishermen live in the boats with their families for want of houses and for this reason they are also called ‘Sea Tribal’ This is a bitter truth that in our country though the fishermen render very important service by catching fish in the seawater in adverse conditions, many are suffering with poverty, deprivation and exploitation by money lenders due to lack of education. Most of them live in thatched huts or Kaccha house and they spend most of the time on seashore for fish catching. Their health and social security are in peril. Many fishermen are detained by foreign countries on the charge of violating sea borders. Fishermen are also subject to the vagaries of weather. Their settlements get strongly affected or many times even get destroyed because of the attack of the mighty sea waves, cyclones etc. They are the victims of cyclones and sea-storms.

Many fishing settlements have grown on the west and on the east coasts of India. Thus some problems associated with these settlements would be more or less same all over the country e.g. the problem of coastal hazards. But each settlement may have its own problems depending on the geomorphic and socioeconomic set-up of the region where they are settled. It, therefore, becomes essential to make a case study of these fishing-villages in respect to their coastal environment. In the present work three fishing villages from the Alibag tahsil of Raigarh district of Maharashtra have been selected.

There are 17 fishing villages in Alibag tahsil. (Source: Marine Fisheries Centre, Alibag) All these villages are located within the distance of 20 km from the city Alibag. Bodni was selected because it is to the extreme north of the tahsil and will represent the northern section of the tahsil in respect of the fishing settlements. Rewdanda was selected
because it is located to the extreme south on the border of the Alibag tahsil and will represent the southern section of the tahsil in respect of the fishing settlements. Varsoli is very close to Alibag. Today it has become almost a part of Alibag city and is almost a mid-point between Bodni and Rewdanda. Thus it will represent the middle section of the tahsil in respect of the fishing settlements.

Fishing villages or Fishing settlements on the sea-coast have their own geographical identity. Almost all aspects of the fishing settlements are strongly affected or rather determined by the coastal environment and by the culture of the fisher-folk who form these settlements. It therefore becomes essential to study the coastal environment and the way of the living of the fishing community who form these fishing settlements. The fisher-folk have to consider number of natural factors like presence of the fishing grounds, presence of coastal vegetation like mangrove, availability of potable water etc. and cultural factors like government policies, industrial development in the nearby areas, nearness to the market etc. right from choosing the site of the settlement to the constructing of their own shelters. They are very much prone to the changing conditions of the coastal environment and of the sea. The storms in the coastal parts or the attack of the mighty sea waves or a mighty cyclone destroy the settlement and can take a heavy toll of life.

On Friday 21 May 2010, Cyclone Laila packing winds of 110 kilometres per hour closed in on the east coast of India on Thursday as tens of thousands of people evacuated their homes, fearing major storm damage. Laila hit the state of Andhra Pradesh and heavy rain and strong gales were experienced in the the coastal parts. (Source: “Hindu” The national level newspaper)

The Indian Meteorological Department graded this cyclone as “severe”. The department’s warning said a “storm surge” of up to two metres above the regular tide was likely to inundate parts of Andhra Pradesh. All fishermen were ordered to stay on shore due to “very rough” sea conditions, The agency said 40,000 people had been evacuated from hundreds of coastal villages, while some air flights and train services were also affected. State disaster officials said that besides existing cyclone shelters, schools and community halls were serving as relief camps to evacuees.
India and Bangladesh are hit regularly by cyclones that develop in the Bay of Bengal, causing widespread damage to homes and fields. Last May, Cyclone Laila tore through southern Bangladesh killing 300 people and destroyed 4,000 kilometers of roads and river embankments, leading to major flooding.

(Sources: 1 Nita Bhalla “Cyclone Laila leaves coastal villagers in need of aid” — Reuters, May 21, 2010

During the period of natural hazards the role of the coastal vegetation like mangrove vegetation is very important. The mangrove belt acts as a natural shield against the storms and helps in protecting the settlements. The area of the sea-water along with the mangrove vegetation provides good breeding grounds to the fish and other aquatic creatures. The villagers get their fuel wood also from the mangrove trees. The wood is also used for the construction of the houses.

The natural factors like coastal hazards as well as cultural factors like industrial pollution, water pollution due to marine accidents many times destroy or make harm to such factors like mangrove vegetation that provide a type of stability to the fishing villages.

Sometimes the cultural factors like the changing government policies also disturb the life of the fishermen. Such policies make the fisher-folk migrate to other areas and the fishing settlement may decline. According to the news in the national newspaper of India, ‘The Hindu’ Tuesday, Jun 28, 2005, fishermen from about 70 villages, who depended on Dabhol creek for their livelihood, lost out after the development of Dabhol power plant project. Only 17 fishermen registered with the Government were paid a compensation of Rs. 1 lakh each.

The power plant has started polluting the creek by discharging water from the cooling towers. The container ships that bring fuel to the plant possess a threat to fishing. Many fishermen migrated to other areas, leaving their settlements behind in search of livelihood.
The fisher-folk lead a very hard life. Most of them totally depend on the fishing in the open sea. Fishing is not practiced along the west coast of India during monsoon season i.e. from June to September. Many face the problems of unemployment and under employment. The Fishermen of the west coast many times face a bad time due to fish famine in the Arabian-sea. It is mainly due to the loss of natural habitat of different fish-species. The natural habitat of the fishes has been disturbed because of over commercial fishing. Sometimes the unexpected marine accidents also disturb the functioning of the fishermen and their settlements.

The accidents of two steamers and the oil-spillage in the sea water on 8th august 2010 near Mumbai port could totally disturb the life of the fishermen and the natural setup of the fishing settlements in and around Mumbai. The two ports were shut down for five days after two ships, MSC Chitra and MV Khalija-III, ran into each other off the coast of Mumbai on August 7 and the containers from the former spilled into the sea, leaking oil. Over 300 containers from the MSC Chitra fell into the water. The Chitra had 1,219 containers on board, of which 31 held hazardous chemicals and pesticides.

The oil slick could spread to a distance of two nautical miles from the ship. The vessel was carrying 2,662 tons of heavy oil in its various tanks and 245 tons of diesel oil. Around 800 tons of oil is estimated to have spilled into the sea (Source: Hidu daily and NDTV- New Delhi Television Version)

State environment minister Suresh Shetty described the situation as very serious. The Coast Guard, the Navy as also port officials had expressed inability to contain the spill as the ship is tilted. The oil had spread to a 2 km area around the ship and has already touched Awas village in Raigad. The slick was also seen near Uran, Bodni and Elephanta. Chitra has 2,662 tonnes of fuel oil, 283.8 tonnes of diesel oil and 88,040 tons of lube oil. As per the Hindu daily and NDTV reports everyone within sight of the harbor in Mumbai could see the oil spill. “Our fishing nets in the sea are all covered with oil. Naturally no one is willing to buy such fish,” said many concerned fishermen from Bodni, Awas and Saswane of Alibag tahsil of Raigarh district. The marine life here is contaminated. This has been confirmed by initial reports carried out by the state government. Mr. Ashok Chavan, the Chief Minister of Maharashtra then said, “Tests on
some fish have been done. Some contamination has been detected and the oil slick has even entered the sensitive mangrove belt of Alibag tahsil”. *(Source: News from the Hindu daily and NDTV)*

“My fear is that the oil slick will enter the mangroves and mudflats and once that happens we can’t do anything to clean it up. Moreover I don’t think India has the technology or the intent,” said Bittu Sehgal, an environmentalist. The effect of oil-spill along the coast of Alibag tahsil was long lasting. Five months after this accident on Jan 22, 2010 as per the TOI *(Times of India)* report the collision of Panamanian vessels MSC Chitra and MV Khalijia has severely impacted the regeneration of around 1,273 hectares of mangroves. The worst affected areas are Vashi, Colaba and Rewas. As per the report the spill may endanger the future of the entire mangrove population.

These are some of the findings of an interim report by the Bombay Natural History Society (BNHS), which recently submitted them to the ministry of environment and forests (MoEF).

“Since the incident took place at a time when mangroves flourish, there was no natural regeneration in any of the areas affected by the oil spill,” Deepak Apte, deputy director of BNHS’s conservation department, said. “This has obviously put the population of the mangroves at risk and there is a big question mark over the mangroves being restored naturally.”

Several areas like Vashi, Uran, Rewas, Bodni, Sewri, Gharapuri, Sasavane, and Kihim in Raigad districts were affected due to the oil slick.

The government had banned fishing in these regions soon after the collision occurred. People were not ready to purchase the fish in the nearby market-areas.

Many fishermen suffer even economically and they did not get any compensation of this loss either from the government or the shipping companies. The state fisheries department is carrying out random sampling at various locations throughout the city. The state government has appointed the National Environmental Engineering Research Institute and Goa-based National Institute of Oceanography to assess the environmental impact of the accident.
In short the fishing settlements are very prone to the changes that take place on the sea or the coastal areas.

Magnuson-Stevens Act of U.S.A. (MSA) defines a fishing community as: “a community which is substantially dependent or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel-owners, operators and crew and fish processors that are based in such community. As per the study carried by some scholars like Ghure, (Ghurye G.S. Dept. of Sociology, Bombay University, Castes, Class and Occupation, 1961, Popular Prakashan, Bombay.) on fishing community the fisher-folk do not easily get mixed up with the people other than the people of their own community. Fishing community is one of the most neglected communities. Though many fishing settlements or Koliwadas in the coastal parts of India are near or almost part of coastal towns or cities are often somewhat isolated and normally sited around a harbor which provides safe heaven for a village fleet or fishing boats.

The present work deals exclusively with some of such fishing settlements of the Alibag tahsil of Raigarh district (Maharashtra). While studying such fishing settlements we are required to study the culture and other aspects of the fishing communities of these regions who form these settlements. Fishing community is an integral part of the fishing settlement. The culture of the fishing community also exerts its influence on the housing structures and other aspects of the fishing settlements. Like the geographical or natural set-up of the coastal parts, the culture and other aspects of the fishing community have a profound impact on the various aspects of the fishing settlements.

The three fishing settlements selected are from the Konkan area of Maharashtra. Konkan is a stretch of 720Km on the west coast of Maharashtra with Sahyadri mountain ranges on the east and Arabian Sea on the west. Except for four monsoon months the narrow corridor is a dry place with fishing, agriculture and horticulture being main economic activities. Almost 40000 to 50000 fishermen from 375 fishing villages depend on 84000 Sq. Km. of fishing area. (Source: Report of the Indian National Center for Ocean Information Services, 2008)
About 75% fish production of India is from coastal waters. 58% of the fisheries resources potential in India is within the 0 to 50 m depth. (Source: Fisheries Census Statistics 1992) Well being and livelihoods of the fishing communities is linked to the health of the coastal eco-system. Due to economic globalization coastal and marine areas are being targeted, in an unregulated manner, for tourism, urban expansion, ports and harbors, waste and sewage disposal, installing oil refinery centers, gas projects etc. These activities directly affect productivity and health of fisheries resources. This has meant a deteriorating quality of life and loss of access to beaches for fishing communities. This also affects the fishing settlements. There are several cases of the displacement of the fishing communities. e.g. Sondikud, Orissa, Gangavaram, Andhra Pradesh. (Source: Managing coastal areas: A fishing community perspective Chandrika Sharma International Collective in Support of Fish-workers (ICSF)) Coastal development often disrupts access of fishing communities to beaches used for drying fish, repairing boats etc. Certain features are quite common in the coastal eco-system. e.g. Mudflats, Sand-dunes, Sea-cliffs, Sand-bars, Estuaries, Lagoons, Tidal inlets, salt marshes, presence of Mangroves, Sea-grass-beds, Sea-weeds etc.

In the same way coastal hazards is a part of the coastal eco-system. Storms, cyclones, tidal surges, flooding, erosion etc. bring about large scale destruction of life, property and natural resources in the coastal regions of the country every year.

Some aspects of physical infrastructure like roads, water-supply, supply of the electricity, communication etc. and specific industries in the settlement like Fishing and coastal tourism may be directly affected by storms, heavy rainfall etc.

Population of the settlement may be directly affected by extreme weather; Population movements caused by climatic changes may affect the size and characteristics of the settlement dwellers.

Health status of the settlement-dwellers is directly and indirectly affected by the changing weather conditions. According to a review report by Dr. Rajan Patil, consultant of United Nation’s development programme, “certain diseases are rampant during certain seasons among fishing communities e.g. the cholera, dysentery, Malaria are rampant during rainy season. The super cyclone has caused massive destruction along the coast of
Orissa in 1999 and its impact was felt several kilometers inland. The Tsunami which occurred on 26th December 2004 was one of the most serious and unexpected natural catastrophes to occur along the Indian coast. The major destruction caused by this Tsunami was to the life and property located along the coast of Andaman and Nikobar, Tamil Nadu, and Pondicherry. It would take several years to restore the damages caused by the Tsunami. The country has been experiencing loss of resources and degradation of coastal eco-systems as a result of changes in the shoreline due to erosion.”

Coastal ecosystems are also adversely affected by the cultural or man-made factors like marine pollution. Pollution in particular is becoming a big problem for fishing communities, especially near industrial areas in the states like Gujrat, Maharashtra, Andhra Pradesh and Tamilnadu. The coastline between Jamnagar and Salaya off the Gulf of Kutch in Gujrat is a favorite location these days for industrial development. Many mega industries have been set up like Integrated Petrochemical Refinery at Sikka (RPL) and Vadinar (Essar, IOC); Thermal Power Project, Cement Factory & Fertilizer Factory at Sikka. Since, the operation of these mega industries and associated industries, which is cropping up, may affect the fragile marine ecosystem of the Gulf of Kutch. With the changing scenario of rapid industrialization of Saurashtra coastline. (Source: Paryavaran ni Parishthit - Gujarat 2001 by Gujarat Ecology commission) Several industries are being set up along Visakhapatnam-Kakinada Coast. A 1000 MW power plant by NTPC, a big oil refinery, two Magnesia plants are some of them. ESSAR group is going to invest Rs.1000 crores to set up industries in this belt. The sea water is being polluted fast. In view of the above, regular monitoring of pollution concentration in the harbour and coastal waters is being done by NIO, RC, Visakhapatnam under the DOD project, ‘COMPAS’ (Source: Sadhuram, Y. Marine pollution monitoring and coastal processes of Andhra Coast, Indian Inst. of Technol., New Delhi and NIO, India 1994) Development of small-scale and large-scale industries, expansion of harbors and tourism related activities in the coastal zone, disposal of municipal wastes, industrial wastes and numerous recreational and commercial activities that not only degrade the quality of coastal water but also pose a serious health hazard to marine biota and human beings. (Source: Gowri VS, Ramachandran S, (2001), Coastal pollution of Chennai city, Coastal geomorphology
of India; Ramachandran S Institute of Ocean Management, Anna University, Chennai, India) Impacts are greatest on those traditionally fishing in inshore areas using non-mechanized crafts, including women engaged in drying, cleaning and collecting activities. It is therefore necessary to study the fishing settlement or the different aspects of fishing settlements in relation to its coastal environment.

The present work gives emphasis on the various aspects of the selected fishing settlements in Alibag tahsil of Raigad district of Maharashtra in relation to the geography of the coastal region. Location, pattern of the distribution of the houses, housing material, inner structure of the houses, size of the settlement, type of the settlement, infrastructure of the settlement, structure of the settlement, number of the settlement dwellers, age composition, sex composition, economic composition, literacy, occupational structure and health conditions of the settlement dwellers are the main aspects of the fishing settlements. Settlement is not a static thing. It is dynamic. The nature of all these aspects of the settlement may change because of the natural factors like changing weather-conditions during different seasons of the year, natural calamities like Tsunami waves, cyclones, storms and manmade factors like marine-pollution, technological advancement and Government policies. The present work, therefore, considers each of these factors and interprets its effect on the various aspects of the three selected fishing settlements of the Alibag tahsil of Raigarh district.

The actual place of land upon which the settlement is built is known as the settlement site. There are many reasons why a certain site might be chosen for the development of a settlement. Some factors are more important than others.

The situation of a settlement is its position in relation to the surrounding human and physical features, many of which will have an impact on settlement type, size and function.

The usual location-factors of the fishing settlement are the presence of good fishing ground in the nearby coastal area, sea-conditions and nearness to the market. But with technological advancement i.e. after the introduction of machine boats the nature of fishing ground has changed. Nowadays fishermen practice deep sea fishing and go far away from their settlements. The accessibility of the settlement has also increased
because of the modern means of transport. This has brought change in the traditional nature of the fishing settlement.

The coastal environment is an interface between land and marine water. This ecosystem is valuable to humans from the dawn of civilization. Human, biological and social needs readily met by coastal zone. Coastal environment plays a vital role in nation’s economy by the virtue of the marine resources and rich biodiversity. The coastal areas are assuming greater importance in recent years owing to incoming human population, urbanization and accelerated developmental activities. These activities have put tremendous pressure on the coastal environment. These days the central and state governments are making different policies for the development of the coastal parts. For the purpose of protecting and conserving the coastal environment the ministry of Environment and forests issued the Coastal Regulation Zone Notification under Environment Protection Act 1986. This notification regulates all developmental activities in the Coastal Regulation Zone area.

The various schemes and projects implemented by the Government in the coastal parts also affect the fishing, fisher-folk, and fishing settlements in many ways e.g. the Enron project near Dabhol has made many fishermen migrate to other parts leaving their original shelters behind. More than 30000 fisher-folk and marginal farmers now find themselves unable to provide for their families because this project usurped their habitat and eroded their ecological security (Source: South Indian Federation of Fishermen societies’ progress report 2002-2003).

The new threat for the fishermen near Ratnagiri is the proposed nuclear plant at Madban. The Indian government is proposing to set up a 9900 MW mega nuclear power plant at Madban, near Jaitapur, in Ratnagiri District of Maharashtra. It has signed an agreement with the French company Areva to supply the first two reactors of 1650 MW each for the proposed nuclear plant, and later it is expected to supply four more such reactors for the plant. But Tata Institute of Social Sciences (TIISS) report has criticized the location of the Jaitapur nuclear power plant in the Ratnagiri district of Maharashtra as it is on an earthquake zone.
For the last three years, the fishermen and the local people have been democratically protesting the government decision to set up the nuclear plant in their area because they fear that the nuclear plant will destroy their environment and livelihoods and damage their health, and they have refused to hand over their lands to the government for the project. These Nuclear plants will emit radioactive warm water which will destroy the aquatic life in the sea-water. (*Source:* Social impact assessment report of the Tata Institute of Social Sciences (TISS) on the Jaitapur power plant Dec. 27 2010)

The telling example in this connection is the location of India’s first Nuclear Power Plant reactor at the Tarapur. As per the report of the seminar by Lokayat (The Lokayat group is an activist forum based in Pune, India.) held on December 29 2009, on the Nuclear plants, Anil Gachke, who had come down from Tarapur near Mumbai, the location of India’s first reactor, gave facts about the devastating impact of the Tarapur Nuclear Power Plant on life of people living near Tarapur. He said that of the 350 mechanized fishing boats which used to operate in Tarapur previously, not one remains today. The plant releases warm water into the sea, and while the limit for temperature rise of sea water has been kept at 2-3 °C, the plant often releases hot water of temperatures from 7-8°C to as much as 20°C above sea temperature, which has destroyed the marine life in Tarapur.

Thus the policies of the Government may directly or indirectly affect not only the various aspects of the fishing settlement but the very existence of the fishing settlement. Fishermen require sufficient land for construction of sheds, for docking boats and storage of fishing gear, engine, for the construction of fish drying platforms, fish curing tanks etc. But the government has certain norms regarding all these fishing allied activities. In short the Government- policies may have positive or negative effect on the fishing settlements. Along with the natural factors the Present work also considers some of such developmental activities and government- policies which have affected the selected fishing villages of Alibag tahsil of Raigarh district of Maharashtra.

The fishing-settlements in hot and humid part of India are typical one. The high temperature throughout the year is useful in certain respects e.g. drying of the fish on the open sea beaches is possible, the warm water along the sea beach provides good breeding
grounds for the different fish species and thus ideal fishing grounds are found near many coastal areas. But to work in the coastal parts and on the sea where the climate is hot and humid is a very tiresome job. The fishermen in such areas lead a very hard life. The fisher-folk in India who are rendering such an important service is perhaps the most neglected section of the society. This also reflects through their living conditions and through the infrastructural facilities of their settlements.

The fishing settlement should be developed in such a way that it makes least harm to the valuable coastal environment and should provide maximum facilities to the fisher-folk. The present work, therefore, suggests some important measures in its concluding part, for the overall development of the selected fishing settlements in Raigarh district with reference to their coastal environment.

1.2 Objectives of the study:

1. To assess the selected fishing settlements in relation to the natural and cultural environment of the region
2. To assess the present infrastructure of these settlements.
3. To find out the challenges and problems that these settlements are facing today.
4. To suggest certain measures that can be adopted to make these settlements an ideal shelter for the fisher-folk

1.3 Limitations of the study:

1. The study is limited to the Alibag tahsil geographical region only.
2. The study deals manly with the present scenario of the fishing settlements and gives little consideration to the evolution of the settlements.