



Oceans and Fishing

PART - I

The earth is known as a watery planet as it is the only planet containing water in abundance. It is estimated that about 71% of the earth's surface is covered by oceans and seas. What is your image of a sea or an ocean? What have you seen or heard about oceans and seas? An extension of saline water on earth is called sea. Large sea areas are called oceans. Oceans are huge bodies of water generally separated by continents.

- ◆ Is the water found in your village/town saline or potable? Is it different in different parts of the village/town?
- ◆ What names do you know for different water bodies? Do large or small waterbodies have different names?
- ◆ In a map of the world or on the globe, find the names of five seas and five oceans. Run your fingers over the areas they cover.

It will be interesting to find out what lies under the water. The surface of water does not tell us about what lies under it. You may have had the opportunity to notice or feel what the bed of a river or stream or pond is like.

- ◆ Please share what you have seen or felt about what lies under the surface of waterbodies.
- ◆ How many meters deep are the water bodies that you have seen?

Ocean Relief

The floor of the ocean is just like the surface of the earth. The bottom of the sea is not a flat surface. It consists of hills, mountains, plateaus, plains, trenches etc. Many trenches on the ocean floor are so deep that even if the Mount Everest was placed in them, it would

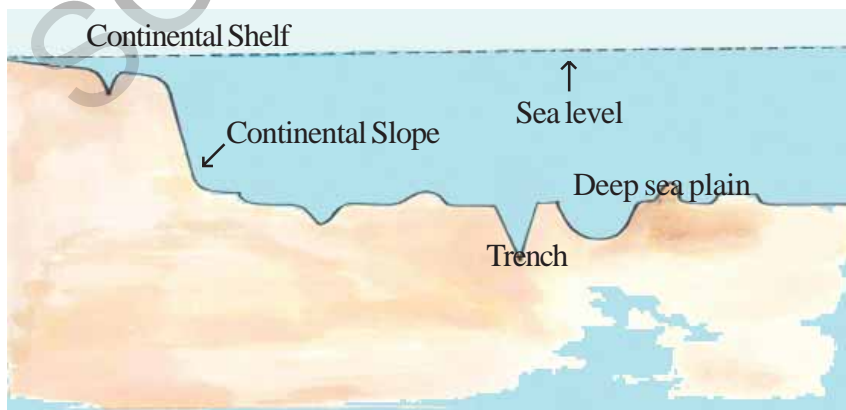


Fig 4.1 Relief features of an Ocean

drown completely. A major part of ocean floor is about 3-6 kms below the sea level.

Figure 4.1 is a sketch of the different kind of land forms that can be found under the surface of an ocean. Fig 4.2 shows the relief features of what lies below the surface of the oceans around India.

In figure 4.2 , observe the land mass of India and then go over to the floor of the Bay of Bengal, the Arabian Sea and the Indian Ocean. Try to point out the areas look like hills, plains and trenches on the ocean floor.

The waters of the oceans are never still. There are different kinds of movements in them.

- ◆ Have you experienced the different movements of water in a river? You may be aware of waves, currents and the coming and receding of floods. Discuss these experiences in the class.

Ocean waters have three kinds of movements. They are:

1) Waves: When the water on the surface of the ocean rises and falls, they are called waves. Waves are formed when gentle winds scrape across the ocean surface. The faster the wind, the bigger will be the waves.

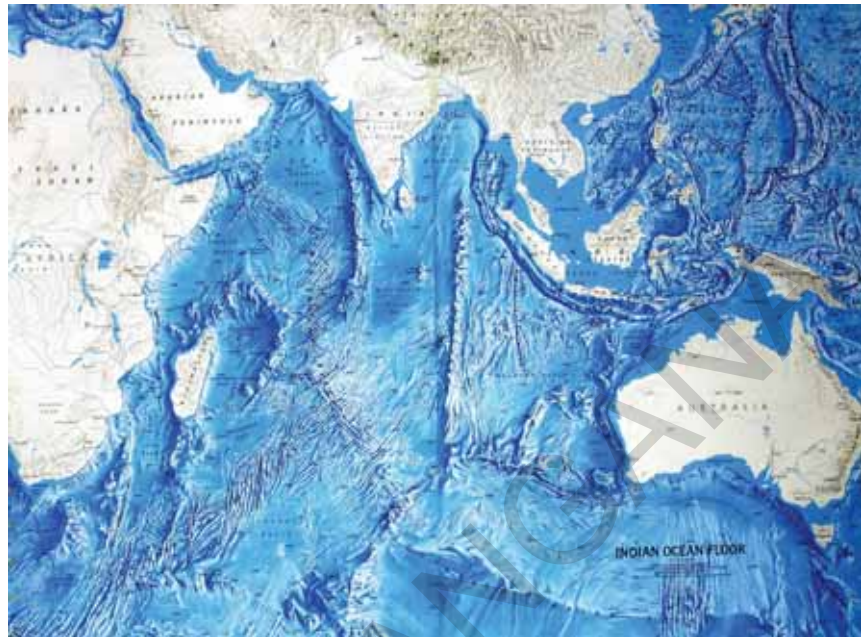


Fig 4.2 Relief features of Indian Ocean

2) Currents: In the oceans, water moves from one part to another in big streams. These streams which flow constantly in a definite direction on the surface of the ocean are called ocean currents. The ocean currents are of two types - the warm currents and the cold currents. The warm currents flow from the equatorial region towards the poles. The cold currents flow from the poles to the equatorial regions. They are mainly caused by the prevailing winds, difference in temperature and salinity of the ocean water.

3) Tides: Tides are the rhythmic rise and fall in the level of the water in the oceans every day. All places on the coast experience some hours of low tide and some hours of high tide. Tides do not rise to the same height every day. When the tide is high, water comes up to the coast for some distance. Then as low tide begins, the water moves back from the land. The tides are of great help for fishing. Tides at some places take away the mud brought down by rivers and prevent silting.

PART - II



Fishing Village on the Coastal Plains

Ocean water is always saline. It contains several mineral salts dissolved in it. Oceans are the main source of rainfall. Oceans are also storehouses of fish and other seafoods. Oceans provide natural highways for international trade. Let us visit Bhavanapadu, a fishing village near the coast of Andhra Pradesh and study the life of people living near the ocean.

- ◆ Find the districts that lie on the coastline of Andhra Pradesh.
- ◆ Find the district in which Bhavanapadu village is located.
- ◆ Look at the image of Bhavanapadu village (Fig 4.4) and find the following:

- i) Identify the water bodies in the image.
- ii) Identify the land that is used for activities other than agriculture in this village. If so, for what purpose?

Fishing

It is four in the morning. Appalakonda's wife, Dhanamma, wakes him up and gives him some rice gruel to eat by 5.00 am after which Appalakonda is ready to go out to the sea. His friends wait for him on the beach. All of them are poor fishermen. They don't own any boats or nets. They work on Tata Rao's mechanical boat. Altogether there are 20 members on a boat. Tata Rao also joins them and works along with them. The boat had already been made ready the day before, with all the necessary things properly loaded in it.

Fig 4.3 Bhavanapadu village settlement





Fig 4.4 Aerial view of Bhavanapadu village settlement

Before launching into the sea, they check the engine, the rope puller, the additional stock of diesel and also put their food packages down. They pray to the goddess in whom they have a strong faith.

Tata Rao owns this boat, which he purchased from Markonda in Odisha. It cost him around Rs. 6 lakhs. He borrowed the money from private lenders at a high rate of interest. He couldn't get a bank loan as he had no fixed assets. Even for daily fishing expenses, he has to get advances from middlemen. He has to invest a minimum of Rs. 5,000/- per trip for diesel, wages and other expenses. Since he borrowed money from a middle man, Tata Rao has to sell the day's catch of fish to the middleman at the rate he fixes. By this time, the boat is ready for sailing and all the twenty

members are on the boat. They go up to 15-20 kilometers in the sea.

Dhanamma, wife of Appalakonda attends to domestic work after he leaves for work and finishes this work by 9 am. Then, she goes to work in the salt pans. Sometimes, she also attends to agricultural work. As they don't possess any agricultural land or salt pans, their family depends on the daily wages they get. While labouring in the salt pans, Dhanamma eagerly waits for her husband's phone call. She remains anxious about her husband's safety and also about the catch. If there is a good catch, they will get more money for the household.

The fishermen return any time between 1 pm and 8 pm or sometimes even late in the night. On the day we visited the village, they came back at 3 pm with a good catch of a type of fish known as "para".



Fig 4.5



Fig 4.6

Fig 4.5 Anchored Boat with neatly packed net heap,
Fig 4.6 Engine of the boat, lunch carriers, diesel cans and picture of the goddess

Some middlemen temporarily store the fish, segregate them and carry them in cold container tanks to faraway places like Kolkata, Bangalore, Chennai, Hyderabad, Kerala and so on. These people get four times more money than the catcher does. Observe the following pictures of the Potaiah *adda* (4.9), the local middleman.

- ◆ What makes the middlemen in the fish business to earn much more money than the fishermen?
- ◆ For what purpose are the thermocol boxes shown in the photo lined up in the middleman's *adda*?

So far we discussed the big fishing business but there are also small fisher folk in this village. *Karrateppa* is a country made boat which goes up to 5 kilometers into the sea and brings small catch of fish. This fish can be taken by the wives of the fishermen known as *Berakathelu*. They sell this fish in nearby towns like Naupada, Tekkali, Pundi and Palasa.

Compared to the *Karrateppa*, there is far more risk of life in *Marapadava* (mechanised boat) because it goes far into sea and it is difficult to swim over to the shore in times of trouble. Apart from that, there is no first aid available in the big boats, nor any life jacket. Fishing is a risky and brave occupation.



Fig 4.7



Fig 4.8

Fig 4.7 Unloaded fish being carried to Auction hall.

Fig 4.8 Fish spread in the Auction hall, Middlemen are already there.



Fig 4.9 Middleman's adda storage tanks.



Fig 4.10 Loading at the middle man's adda to sell the fish in the big cities.

Nets

After reaching home in the afternoon, Appalakonda had his lunch, came to the cyclone shelter with the broken nets, and started repairing them. It is an activity commonly seen everywhere in Bhavanapadu.

The fishermen have a special tool kit for repairing the nets which consists of *Nulukarralu* (net repairing fork) (Fig 4.12), *Nulukanda* (Thread) and a flattened stick that determines the net ring size.

Nets are of different types based on different sizes of the *Kannulu* (Rings) and the layers of the net. Now a days, a net known as Ring Net which helps in getting a better catch is being increasingly used by the fishermen. This has helped to reduce migration from the village. Earlier, the nets were made of cotton thread. Now cotton nets have been almost completely replaced by plastic, nylon and other synthetic material. A net lasts for 4-5 years. Nets are purchased by weight and the type of rings they contain. Nets cost



Fig 4.11 'Berakatthelu', waiting for their turn to load fish in their Thattalu to sell at nearby towns.

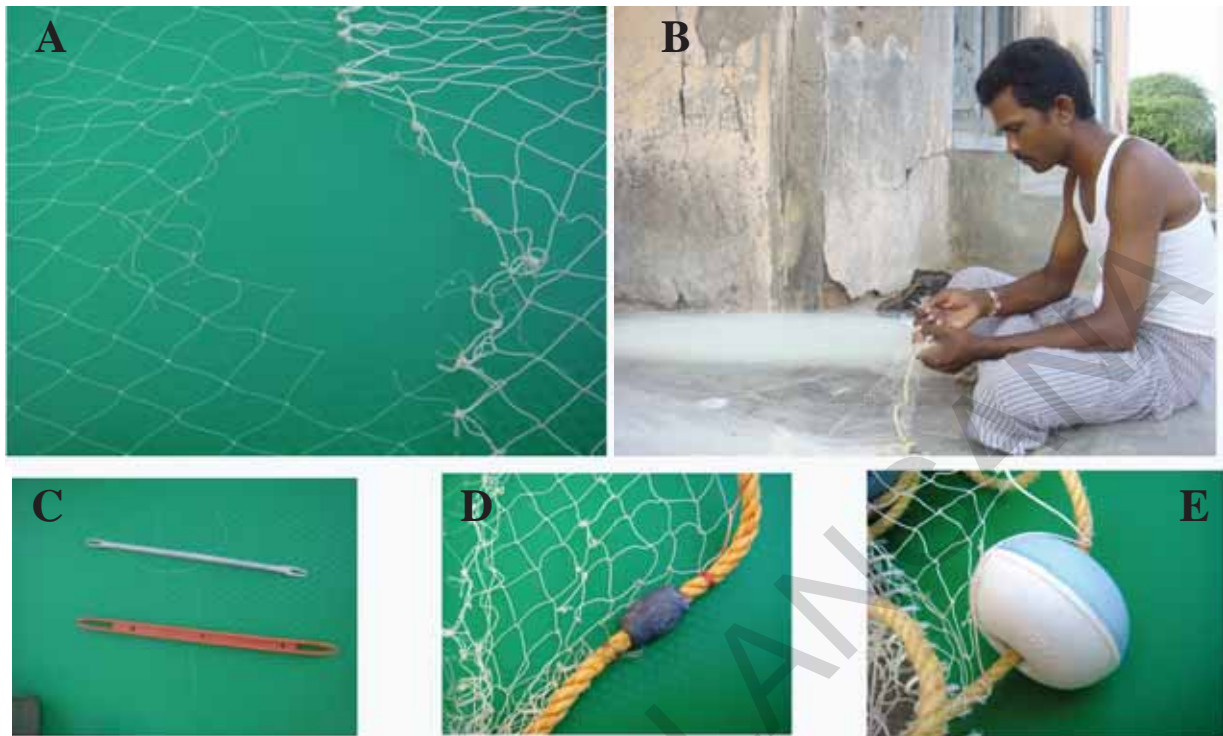


Fig 4.12 (A) Repairing nets, (B) Fisherman stitches (C) Nulukarralu. (D) Floating beads-Lead, (E) Floating beads-Plastic.

around Rs. 250-300 per kg. Ring nets weigh around 500 kgs. The fishermen of this area usually buy nets from Barhampur (Odisha).

Agriculture and Animal Husbandry

Fishing is not the only occupation of the people in Bhavanapadu village but they also cultivate the land to grow crops. They also rear animals and birds.

The village soil is mainly loamy and rice is the principal crop grown on it. Only a few acres of land are irrigated. Bhavanapadu lies at the tail end of Vamshadhara canal. Water comes to Bhavanapadu only after the fulfilment of the needs of the nearby village, Marripadu. Hence, most of the agriculture in Bhavanapadu depends on the rain.

There are no landlords in the village. A large number of cultivators of Bhavanapadu are small farmers. They don't grow any commercial crops. Some of them rear cows and buffaloes. There are two poultries in this village running profitably. Rice production is not sufficient for their needs, so the people get rice from the ration shops through their 'white cards' and sometimes buy it from the market.

Salinity and Drinking Water

The water in the village is saline. If one digs upto 8 or 10 feet near the beach, one can get potable water. But in summers, these wells dry up. And it takes a long time for the water to fill up again. Sometimes you have to wait for an hour to get another pot of water. So, women have to wait long to fetch water or have to walk upto 2 km to collect fresh water.



Fig 4.13



Fig 4.14

Fig 4.13, 4.14 Salt pan leveling work known as 'Adugetha', which makes the pan impervious



Fig 4.15 An old woman fetching water from a faraway place

The government has sanctioned a protective water project that pumps water from the nearest village known as Suryamanipuram. This project provided some relief for some time. But cleaning of overhead water tank and frequent repair of pumping motor is a hurdle. For some time, a youth organisation helped in keeping the water project active. But it has stopped functioning now.

Social Life

A large number of people of Bhavanapadu worship Gangamma, Gowri, and Shiva. They perform puja of their boats and nets. The most important festival is Gowri Purnima. They spend common good fund of the village on these festivals. Observe the Fig. 4.16. Most men, like Appalakonda, wear tattoos like this.



Fig 4.16 Why do you think people wear tattoos? What is the symbol on Appalakonda's hand? What does it signify?

There is an open stage, where the dramas, *burrakathas*, *harikathas* and record dances are performed. All these activities are led by the caste headmen called *Pillas*. They determine customs and traditions of the people. They even resolve disputes and impose fines. The money collected goes to common good fund.

Keywords :

1. Tool kit

2. *Kannulu*

3. *Burra Katha*

4. Mechanical Boat

Improve your learning

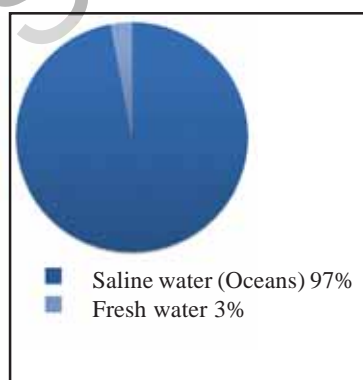
- Does Bhavanapadu look like the place you live in? What differences and similarities can you think of? Compare them in the following aspects:
 - Sources of livelihood
 - Types of employment
 - Water sources
 - Agricultural practices
- How many types of ocean movements are there? Which of them is useful to the fishermen?
- What is the difference between fishing with mechanical boats and with *Karrateppa*?
- Write the process of getting a mechanical boat ready for fishing.
- What does the tool kit of fishermen contain?
- What are the similarities that you find between the surface of the earth and the bottom of the sea?
- Collect information about the aquifers of your village/ town and fill in the table. Analyse the benefits.



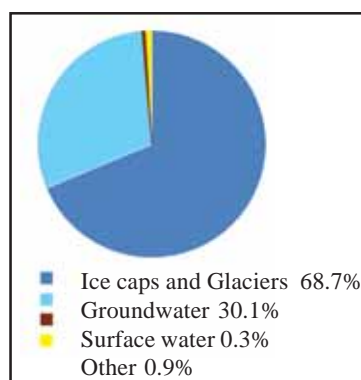
S.No.	Name of the aquifer	Uses	Limitations

- Make an album of pictures that reflects the life of fishermen.
- What solutions can you suggest to the fishermen so that they do not have to depend on the middlemen for money?
- In the last 4 chapters, we studied many different aspects of water. Here is more information about the availability of water on Earth. Look at them carefully and explain the availability of water resources on Earth.
- How do you support the statement ‘The life of fishermen is tied up with seas’?
- Read the first paragraph under the heading “fishing villages on the coastal plains” in page 35 and comment on it.

Distribution of fresh water



Distribution of water on earth



Distribution of fresh surface water

