

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 occupied by seas and oceans. What is your image of a sea or an ocean? What have you seen or heard about seas and oceans? 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 are the names you use 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 hand over the areas they cover.

It will be interesting to learn 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 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 is placed in them, it will drown completely. A

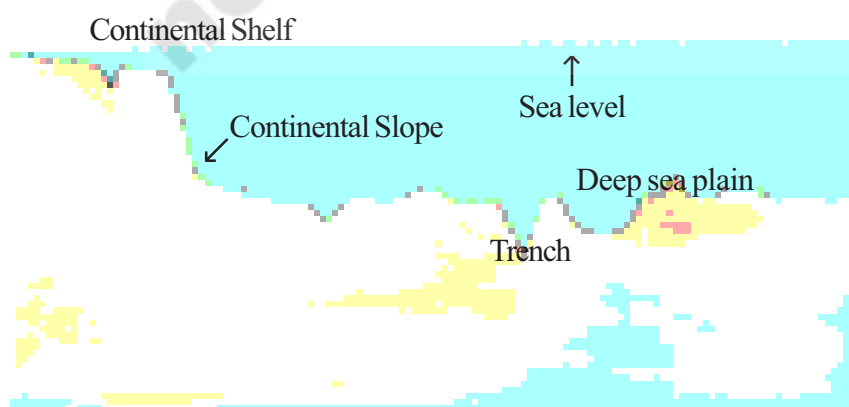


Fig 4.1 Relief features of an Ocean

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

Figure 4.1 is a sketch of the kind of land forms that can be found under the surface of an ocean. And in fig 4.2 are the relief features of what lies below the surface of the oceans around our country.

In the figure 4.2 do notice 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 what may look like hills, plains and trenches on the ocean floor.

The water 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. They are formed when gentle winds scrape across the ocean surface. The faster the wind, the bigger will be the waves.

2) Currents: In the oceans, water is found to move from one part to another in

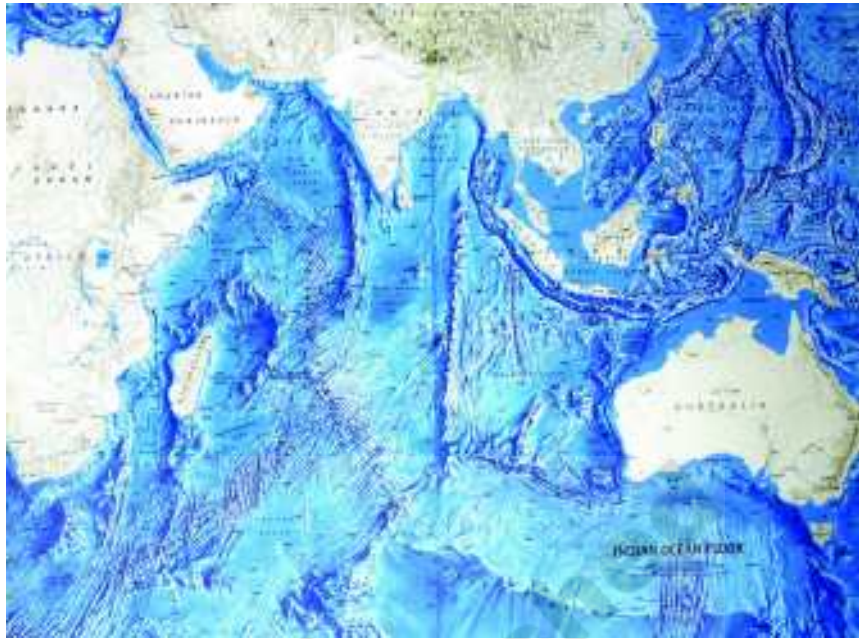


Fig 4.2 Relief features of Indian Ocean

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 towards the equatorial regions. These are mainly caused by the prevailing winds, differences 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 everyday. 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 to 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. The oceans are the main source for rainfall. Oceans are the store houses of fish and other sea foods. They are the main source of salts. 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.

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

- Identify the water bodies in the image.
- 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. They are altogether 20 members on a boat. Tata Rao too joins them and works along with them. The boat has already been made ready the day before, with all the necessary things properly loaded.

Fig 4.3 Bhavanapadu village settlement





Fig 4.4 View from above 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 Rupees 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 middle men. He has to invest a minimum of Rupees. 5,000/- per trip for diesel, wages and other things. Because he has borrowed money from the middle man, Tata Rao has no option but to sell the day's catch of fish to the middle man at the rate he chooses to fix. By this time the boat is ready for sail 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 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 were there, they came back at 3 pm with a good catch of a variety of fish known as "*para*".



Fig 4.5

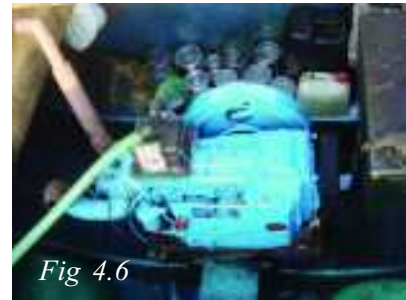


Fig 4.6

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

- ◆ What enables the middle men 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*?

Besides the big fishing business discussed till now, small business in fishing also takes place in the village. *Karrateppa* is a country made boat which goes up to 5 Km into the sea and brings small catches of fish. It can be carried by the wives of the fishermen known as *Berakatthelu*. 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 shore in times of trouble. What is worse, there is no first aid 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 Middle man's adda storage tanks.



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

Nets

After reaching home in the afternoon Appalakonda took his lunch, came to the cyclone shelter with the broken nets, and started repairing them. It is an activity seen at every common place of 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. Recently 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 there were nets made up of cotton thread. Now cotton nets have almost been replaced by plastic, nylon and other synthetic materials. A net lasts for 4-5 years. Nets are purchased by weight and the type of rings they contain. Nets cost around



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

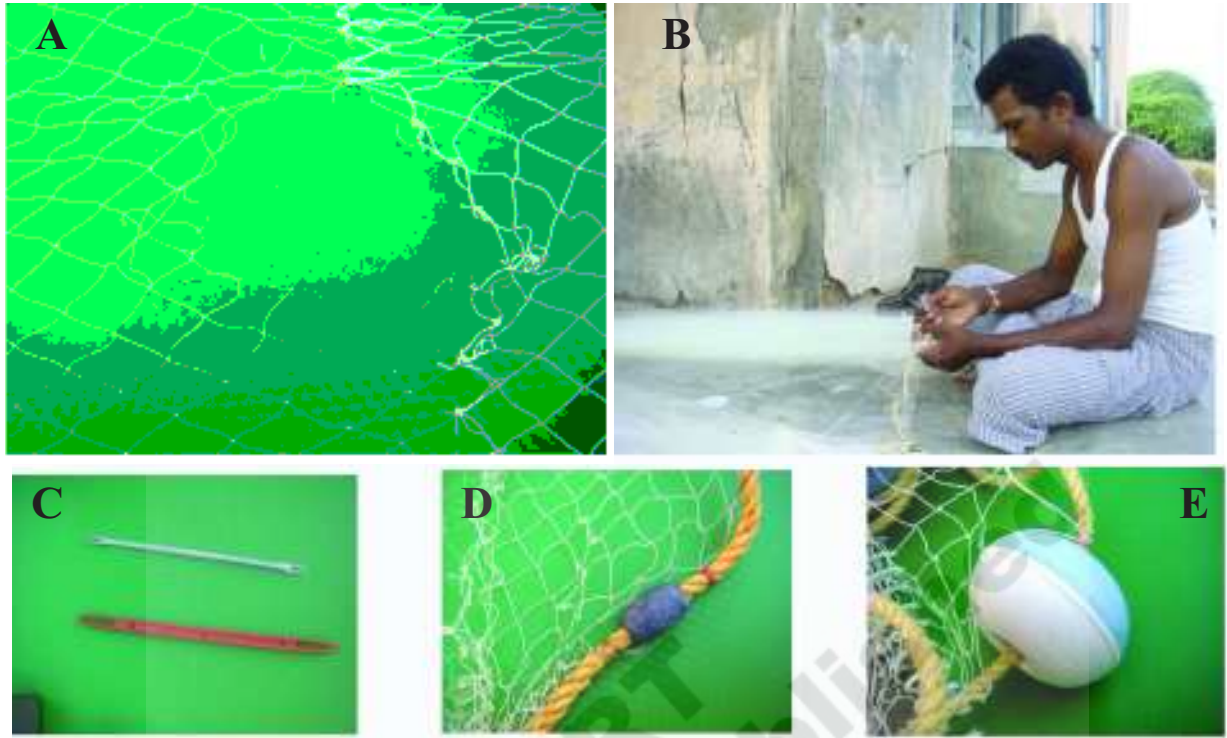


Fig 4.12 (A) Repairing nets, (B) Fisherman stitches (C) Nulukarralu.
(D) Floating beads-Lead, (E) Floating beads-Plastic.

Rupees 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. They cultivate the land to grow crops and 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, Marrisipadu. 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. However, some of them rear cows and buffaloes. There are two poultries in this village running on profit. Rice production is not sufficient for their needs so they get rice from the ration shops through their 'white cards' and sometimes buy rice 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 summer these wells dry up. And it takes long time for the water to fill up again. If you wait for an hour you may get another pot of water. So women have to wait long to fetch water or they walk upto 2 km to collect fresh water.



Fig 4.13

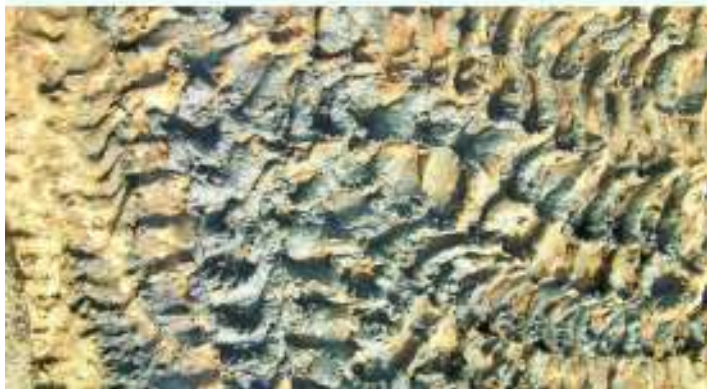


Fig 4.14

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. It gave relief for some time. But cleaning of over head 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 this has stopped functioning now.

Social Life

A large number of people of Bhavanapadu primarily worship Gangamma, Gowri, and Shiva. They perform puja to 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 of the 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 lead by the caste head-men 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.

Key words :

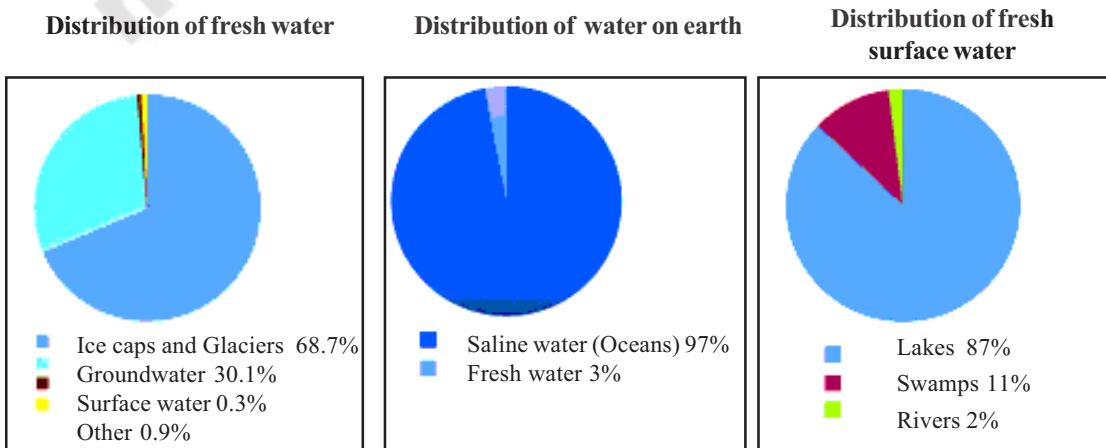
1. Tool kit 2. *Kannulu* 3. *Burra Katha* 4. Mechanical Boat

Improve your learning

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

S.No.	Name of the aquifer	Uses	Limitations

8. Make an album by collecting pictures that reflect the life of fishermen.
9. Locate the coastal districts of Andhra Pradesh and write down.
10. What solutions do you show to the fishermen for not depending on the middlemen money?
11. Across the last 4 chapters we studied many different aspects of water. Here is more information about the availability of water on our earth. Look at them carefully and explain the water in our lives and on earth.



Europe

Industrial Revolution took place first in Europe. As factory based production became predominant in the countries of Western Europe, they also tried to establish control over other countries and continents. In this lesson we will try to find out about how the people of Europe have been using their distinct natural environment and resources.

Location of Europe

In order to find out the location of Europe and to see how far it is from India you will need an atlas or a globe. To begin with, look at Map 1 in which Europe has been shaded. Identify the boundaries of the continent of Europe. There is an ocean to the north of Europe. Identify its name on the map. This ocean is frozen for most of the year.

- ◆ Name the ocean to the west of Europe.

This ocean separates the continents of Europe and North America. About 500 years ago the people of Europe discovered the sea route to America and millions of Europeans migrated to the continent of America and settled down there.

- ◆ Look in the atlas and find the name of the sea just south of Europe.

This sea separates Europe in the north from Africa in the south. The name of this sea means ‘middle of the world’. Do you know why it is called by this name? In

ancient times the people of Europe did not know about other continents like America or Australia. They only knew about Europe, western parts of Asia and northern parts of Africa. You can see that all these regions are situated around the Mediterranean Sea. That is why Europeans thought that this sea was in the centre of the world and named it so. It has been known by this name ever since.

- ◆ Name the mountains to the east of Europe.



Map 1: Location of Europe