Geographical Study of Chandipur, Odisha

UNIVERSITY OF CALCUTTA

B.SC. SEMESTER – V (HONOURS) PRACTICAL EXAMINATION 2020

(UNDER CBCS)

GEOGRAPHY LABORATORY NOTE BOOK

GEO-A-CC-5-11-P

ROLL NO – 183113-11-0058

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Certificate for Field Report

This is to certify that an educational excursionto Chandipur Odisha had been conducted from 14.1.2020 to 18.1.2020. The following sheets in Field Report has been done under my supervision

1.Study area and surroundings

2. Socio Economic Features

3. Features of Dwellings

4. Hotels in Chandipur and Climate

5. Tourism in Chandipur

6. Plot to plot land use

CSen 12.02.2021

(Chandrima Sen)

Department of Geography

Rammohan College

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12.02.2021

(Chandrima Sen)

Sibnath Sarkar
28.02.2021

Department of Geography

Rammohan College

ACKNOWLEDGEMENT :

I convey my deep gratitude to our teachers Dr. Chandrima Sen and Dr. Sibnath Sarkar, Department of Geography, Rammohan college. without their continuous support, guidance and encouragements it is not possible to complete the field report in this pandemic scenario.

I also extend my gratitude to Mr. Ashoke Sahoo and Miss Sulagna Bera, our non-teaching staff, for their continuous support and assistance.

My heartfelt thanks also go to Department of Geology, Jadavpur University and those esteemed employees, officers of various offices, departments and local police station, who supported us during our field study.

Last but not least, I would like to thank my family and all my classmates for their cooperation and support.

CONTENT

Introduction :- A field excursion is an integral part of geographical education. The excursion helps us to understand the physical features and landform making processes. It also helps us to know the social, cultural and economic elements of a place that we visit. The linkages between the physical and cultural elements are studied.

Objective :- The objective of field study is to understand the relationship between the various geographical elements.

Our field : Chandipur :- we had been to chandipur on sea, Odisha for our field study. This is a coastal settlement. Here the beach is receding, which attracts tourists. The coastal waters offer opportunities to fishermen to catch wide variety of fish. The potential to attract tourists lead to some positive and some negative impacts. The climatic conditions influence the tourist season and agricultural activities.

Methodology :- The preparation of the field report involves three stages.

Pre Field study: This includes study of topographical sheet, study of census data, study of coastal geomorphic processes from texts.

Field survey and observations : The field report is based on observation and different types of surveys listed below -

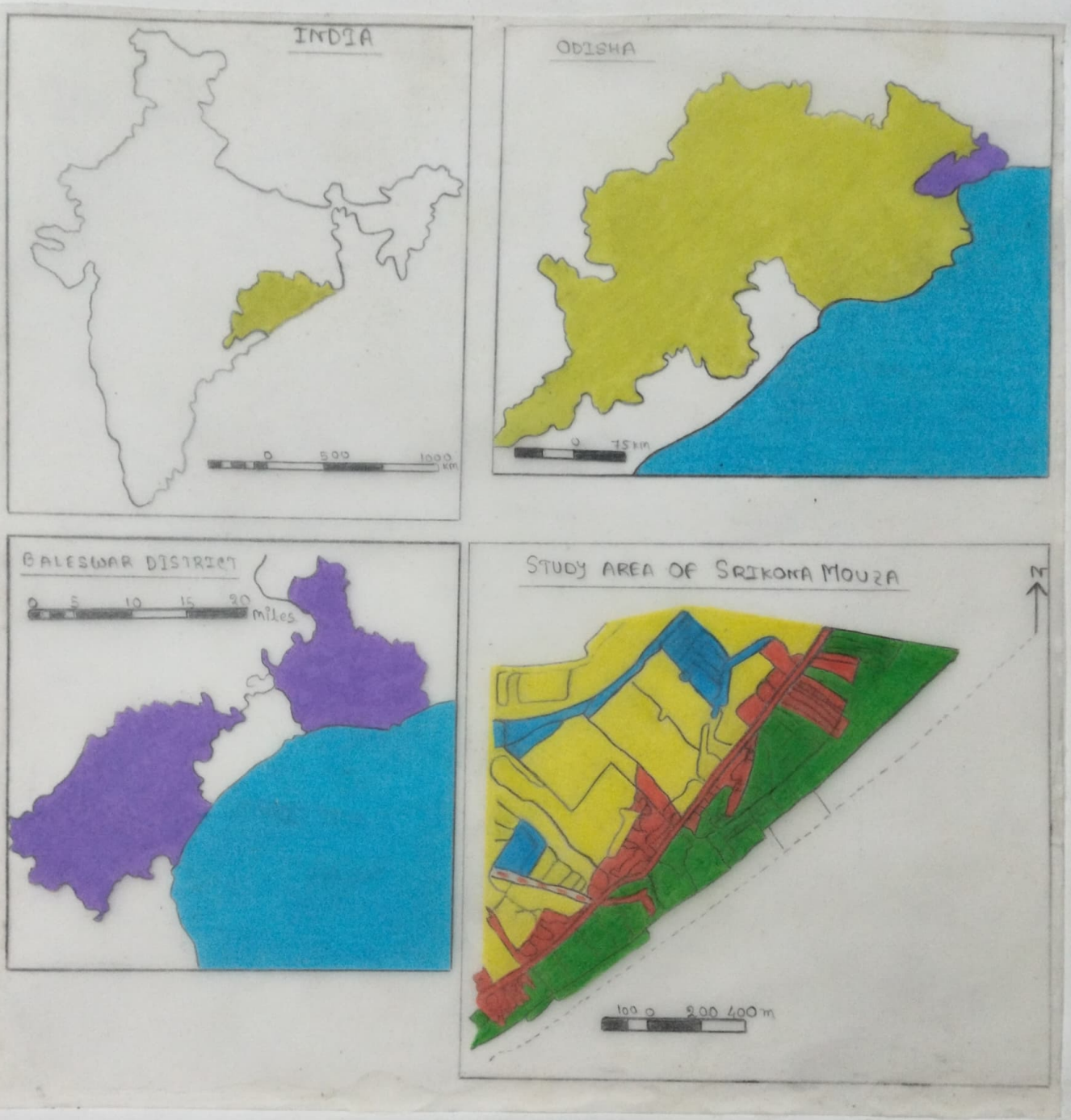
1. The observation of heights of different railway stations we passed through, to reach Balasore station from Howrah station.
2. Dumpy level and prismatic compass survey on the beach to get an idea about the beach topography.

3. collection of soil samples from various points of Chandipur.
4. study of vegetation found at different parts of Chandipur.
5. Interviews of fishermen.
6. Hotel survey through questionnaire.
7. Tourist survey through observation and questionnaire.
8. plot to plot land use survey of Srikona mouza
9. Beach market survey.
10. Household survey through schedule.

Post Field work :-

1. The ploting and drawing of instrument survey.
2. The processing of socio economic and demographic data.
3. Representing the data through suitable maps and diagrams.

LOCATION MAP



BALASORE STATION

Source:- Primary Survey 2020

ROUTE MAP SURVEY

we have started our journey from Howrah Railway station on 14.01.2020. Our team got on train at 6:05 in the morning and we got off the train at Balasore station at around nine in the morning. Then we took cars from Balasore railway station to chandipur. The total distance we covered from Howrah was 248 kilometers. The railway distance was 235 kms and road distance was 13 kms.

☒ Table for Height and Distance of Stations:-

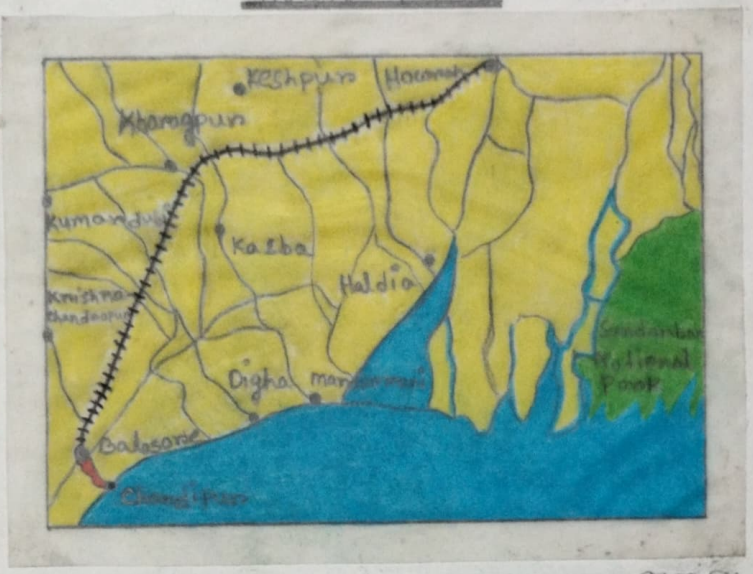
Name of stations	Distance	Height(m)
Howrah	0	12
Khanagpur	116	61
Belda	154	42
Jaleshwar	187	54
Balasore	234	16
Chandipur by Road (14 km)	248	3

Source:- Primary survey chandipur 2020

ROUTE MAP

HOWRAH

KHARAGPUR



NOT TO SCALE

BALASORE

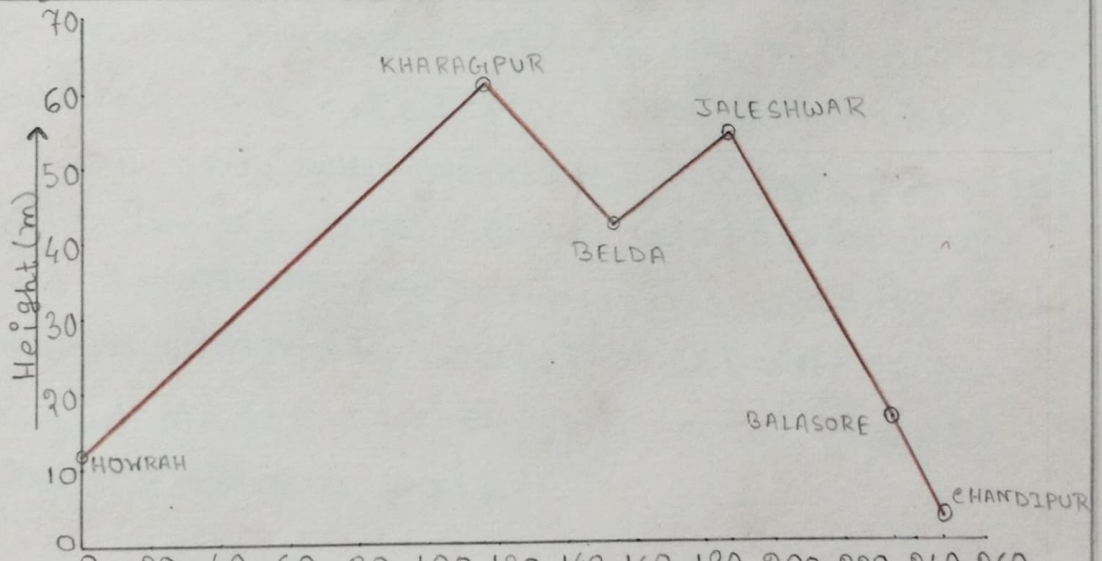
CHANDIPUR

INDEX

Railway

Road

LINE GRAPH SHOWING HEIGHT AND DISTANCE RELATION FROM HOWRAH TO CHANDIPUR



vertical scale: 1cm = 10 Height

Horizontal scale: 1cm = 20 Distance

→ CHANDIPUR BEACH

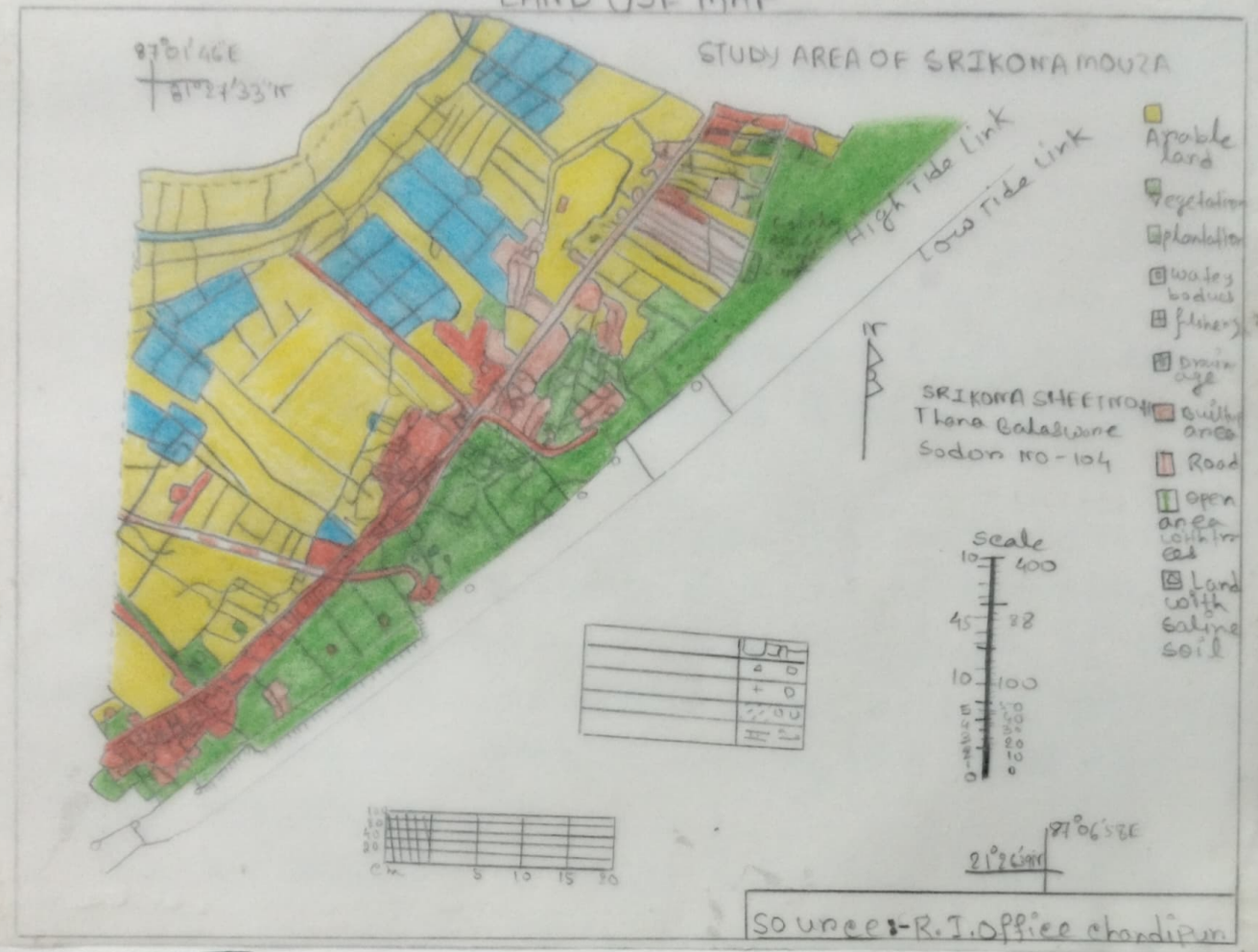
source :- Primary survey 2020

CHANDIPUR : PLOT TO PLOT LAND USE SRIKONA MAUZA

The Revenue Inspector's office provided us with the mauza map or cadastral map of srikona mouza which includes chandipur. A considerable portion of the mouza is arableland. paddy is the main crop. summer vegetables like pumpkin, ridge gourd, gourd, ladies finger, bitter gourd are raised. winters find the cultivation of cassava, brinjals, beans, radish. The villagers use high yielding variety seeds for paddy. The seeds for vegetables are exchanged as well as purchased. There are some stretches of casuarina plantation which suits the climatic and soil conditions. There are different "paras" or neighbourhoods in the village. The settlements are on the higher parts of the village. The waterbodies are used for irrigation and fishing. There are waterbodies under private ownership. There are some waterbodies which are common property. The wastelands and common property water resources can be managed better with the local people playing a prominent role.

PLOT TO PLOT LAND USE OF SRIKONA MOUZA

LAND USE MAP



ROAD

POLICE STATION

SETTLEMENT

PANTHANIVAS

CHANDIPUR: Geology and Geomorphology:-

Chandipur lies in the western part of subarnarekha delta. The delta has a flat crescentic outline. The agents of landform making here are fluvial, fluvio-marine, marine and aeolian. The geomorphic features on the coast are beach, tidal flat, coastal dunes, the shore has semidiurnal tides where the mean tidal range varies between 4.89 metres (spring) and 1.87 metres (neap). seasonal storm surges do not exceed 1 metre (mukherjee 1987).

The coastal zone is presently being severely eroded due to the encroachment of the sea.

The beach is very narrow. The width of the beach varies between 40 metres and 70 metres. The beach has two parts namely the backshore and the foreshore.

The backshore extends from the foot of the berm to the uppermost limit of water during high tide. It is further from the ocean. Here aeolian processes dominate. The sand is fluffy with more heavy minerals.

The foreshore extends from the lower limit of the backshore to the beach tidal flat contact. The beach widens out towards the river Burabalam as it merges with the ancient barrier beach. The sand here is cohesive. The tidal flat is monotonous and rippled. It extends for about 4 kilometres seaward from the beach. contact between the beach and the tidal flat is sharp and stepped (Sarkar et al 1991). The gradient of the tidal flat is lower than that of the beach. The slope is towards the south west.

Lithology: Sediment of foreshore fine to medium

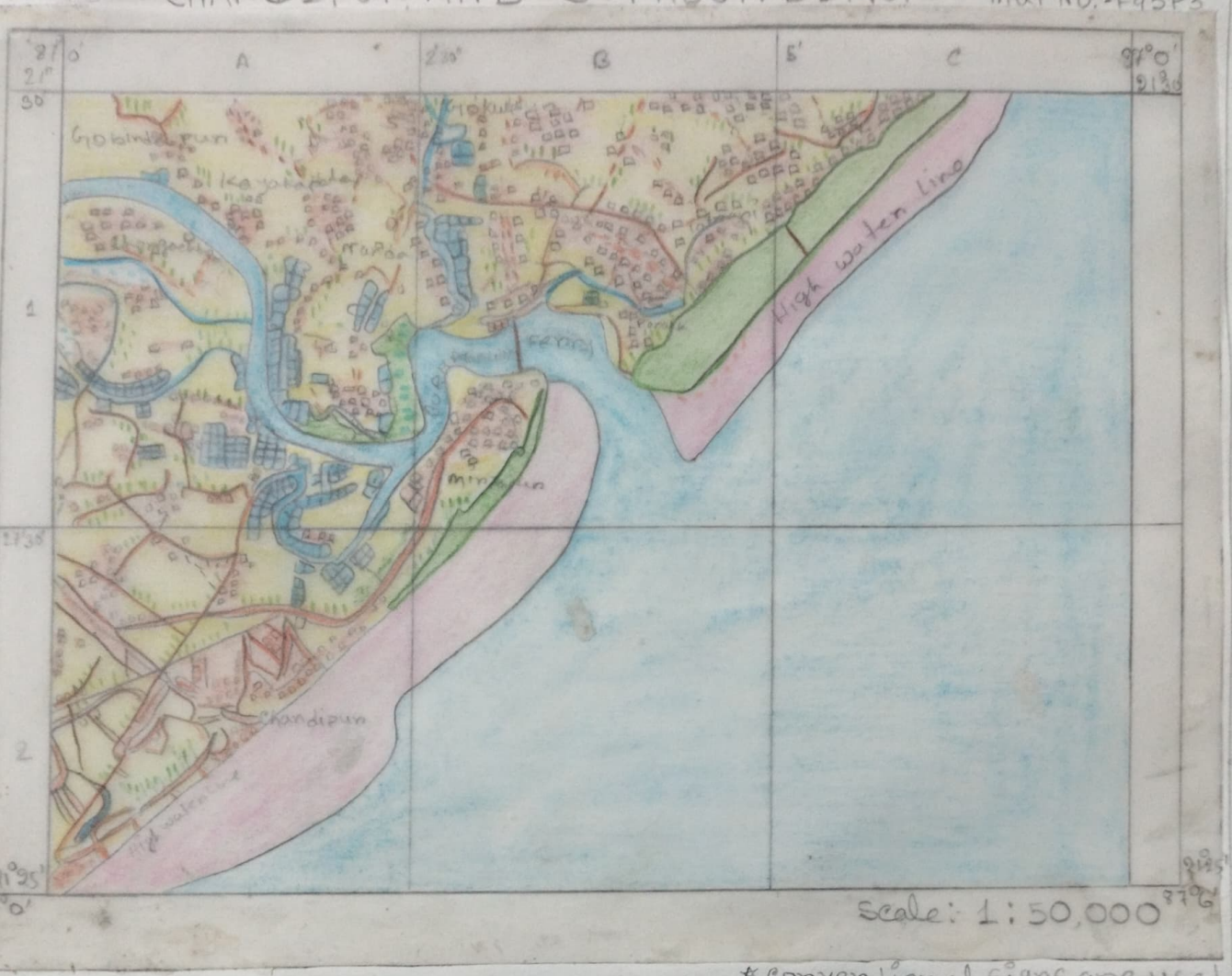
grained silty sand, wet and cohesive. The sand towards the sea has a reddish tinge.

Sedimentary structures: The foreshore region has been shaped by wave action. The sedimentary structures present here include the following.-

1. current crescent: Horse shoe shaped troughs around obstacles scattered around the beach.
2. Rill marks: Erosional forms made by thin layer of water on the sediment surface.
3. Rhombic Ripples: Ripples formed by swash and backwash.

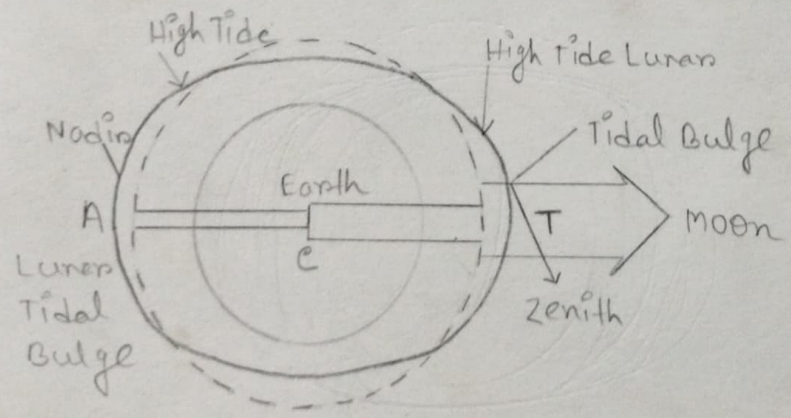
CHANDIPUR AND SURROUNDINGS

MAP NO.-F45P3

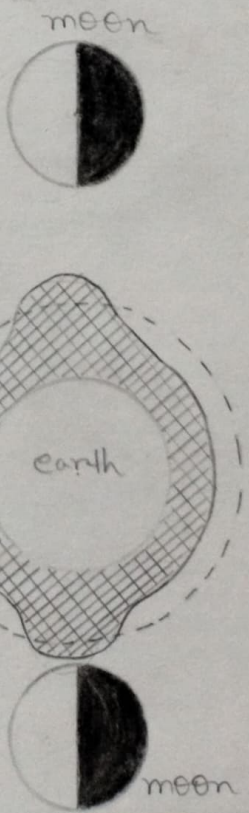


* conventional signs are used

HIGH TIDE



LOW TIDE



Low Tide

Chandipur Beach

High Tide

Source:- Primary Survey 2020.

MARKET MORPHOLOGY
SHOWING
THE LANDUSE PATTERN OF MARKET IN CHANDIPUR

INDEX

- Settlement
- Chandipur Hotel
- Bettle
- Shop
- Maa Tarini Travel
- Gift Shop
- Hotel
- PWD Department
- Sea Side
- Forest Office
- Food Shop
- Gift Items
- Medicine hall
- Hotel Subham
- Chandipur Sea Travel
- Vegetation
- Parking Zone
- Asha Nibhan guest house

NOT TO SCALE

Source:- Primary Survey 2020

CHANDIPUR: CLIMATE:-

Chandipur lies in the tropical monsoon climatic zone. It is a coastal station. Here the annual range of temperature is low. The highest average temperature is observed in May. The minimum average temperature is recorded in December and January. The rainfall shows a peak in the month of August. The rainy season extends from June to October. The rainfall is lowest in December and January. The months of February, March, April show moderate rainfall.

The seasons impact the agriculture. Tourism also varies according to the seasons.

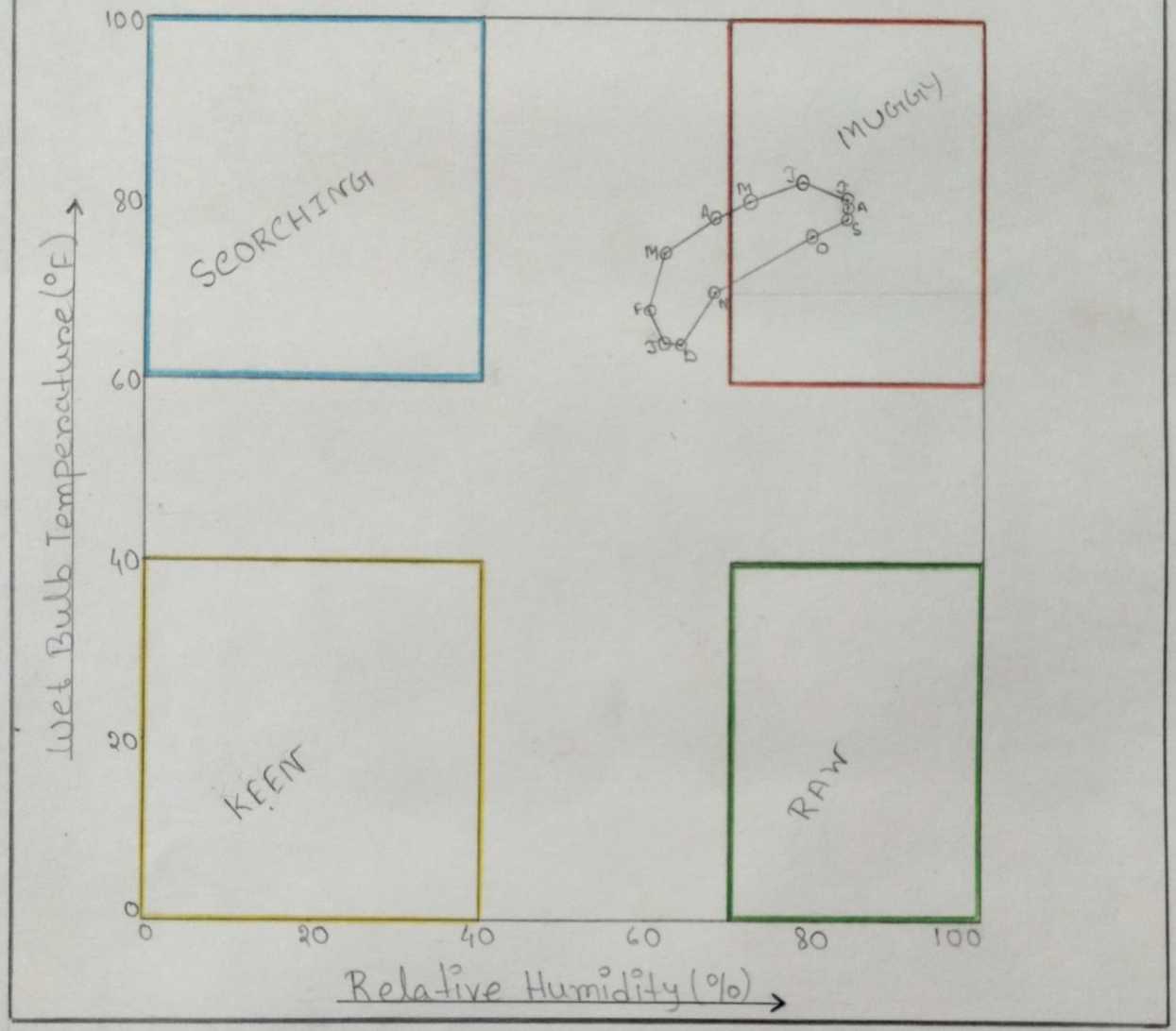
☑ Table for climograph of climate in chandipur:-

Months	Relative Humidity(%)	scale: 1 Inch = 20%	wet Bulb temperature(c)	wet Bulb temperature (°F)	scale: 1 Inch = 20°F
January	61	3.05	17.9	64.22	3.21
February	60	3.00	19.7	67.46	3.37
March	82	3.10	23.0	73.40	3.67
April	68	3.40	26.0	78.80	3.94
May	72	3.60	27.1	80.78	4.04
June	77	3.85	27.3	81.14	4.06
July	83	4.15	26.6	79.88	3.99
August	84	4.20	26.6	79.88	3.99
September	84	4.20	26.5	79.70	3.98
October	79	3.95	24.9	76.82	3.84
November	68	3.40	20.8	69.44	3.47
December	63	3.15	17.9	64.22	3.21

Source:- primary survey 2020.

CLIMATE IN CHANDIPUR :-

CLIMOGRAPH
SHOWING
RELATIVE HUMIDITY AND WET BULB TEMPERATURE
OF BALASORE STATION (TAYLOR'S METHOD)



VS → 1 Inch = 20°F

HS → 1 Inch = 20%

□ → Weather observation of a month

Source :- Primary survey 2020.

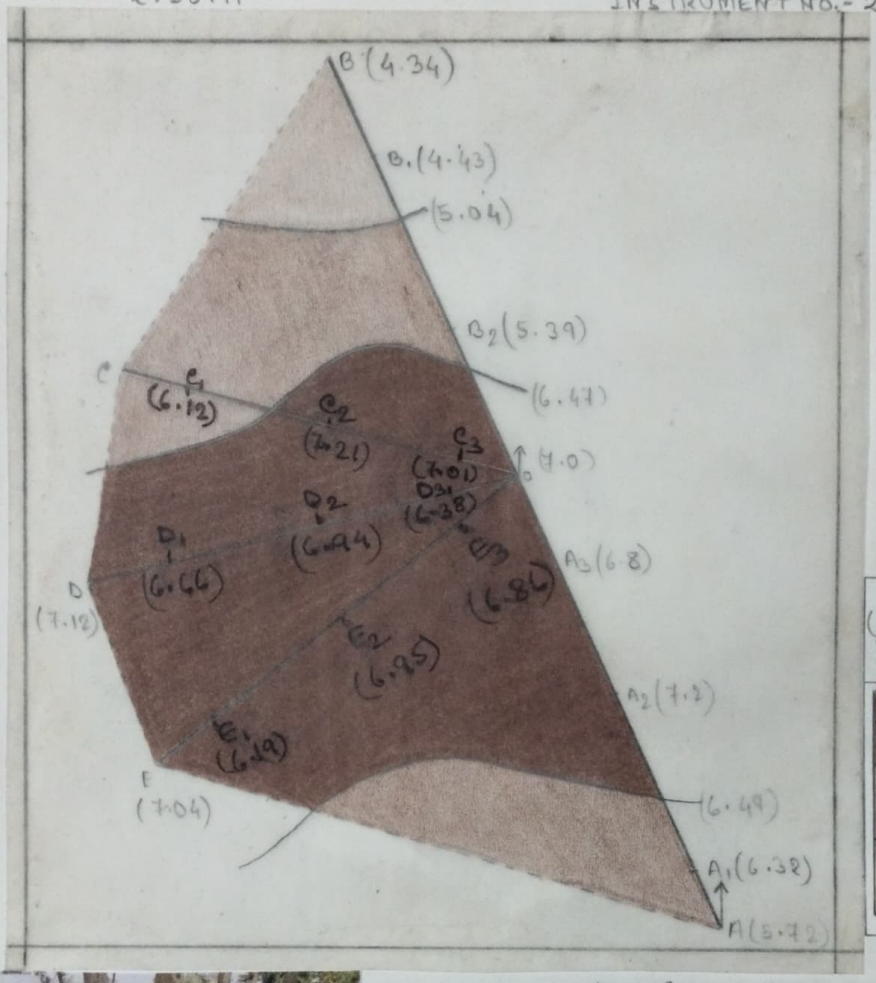
collecting data of climate

INSTRUMENT SURVEY

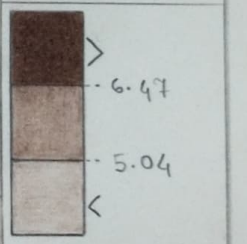
CONTOUR PLAN OF CHANDIPUR BEACH SIDE BY DUMPY LEVEL AND PRISMATIC COMPASS (COLLIMATION METHOD)

DATE :- 16/01/2020
TIME : 2:30 PM

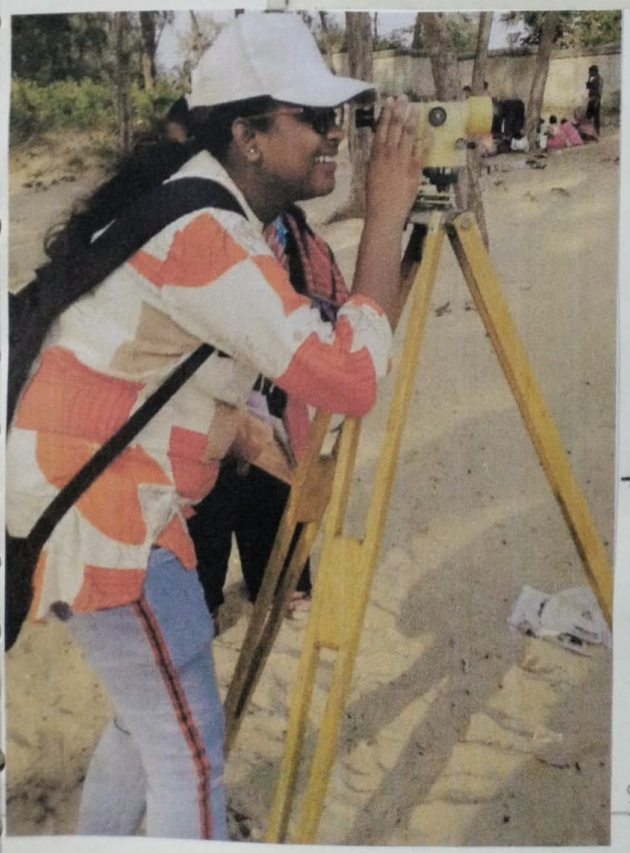
PLACE - Chandipur Beach side Ground
INSTRUMENT NO.- 2



LEGEND
(Reduced Level in metres)



Horizontal scale :- 1 cm = 3 mt.



→ DUMPY LEVEL SURVEY

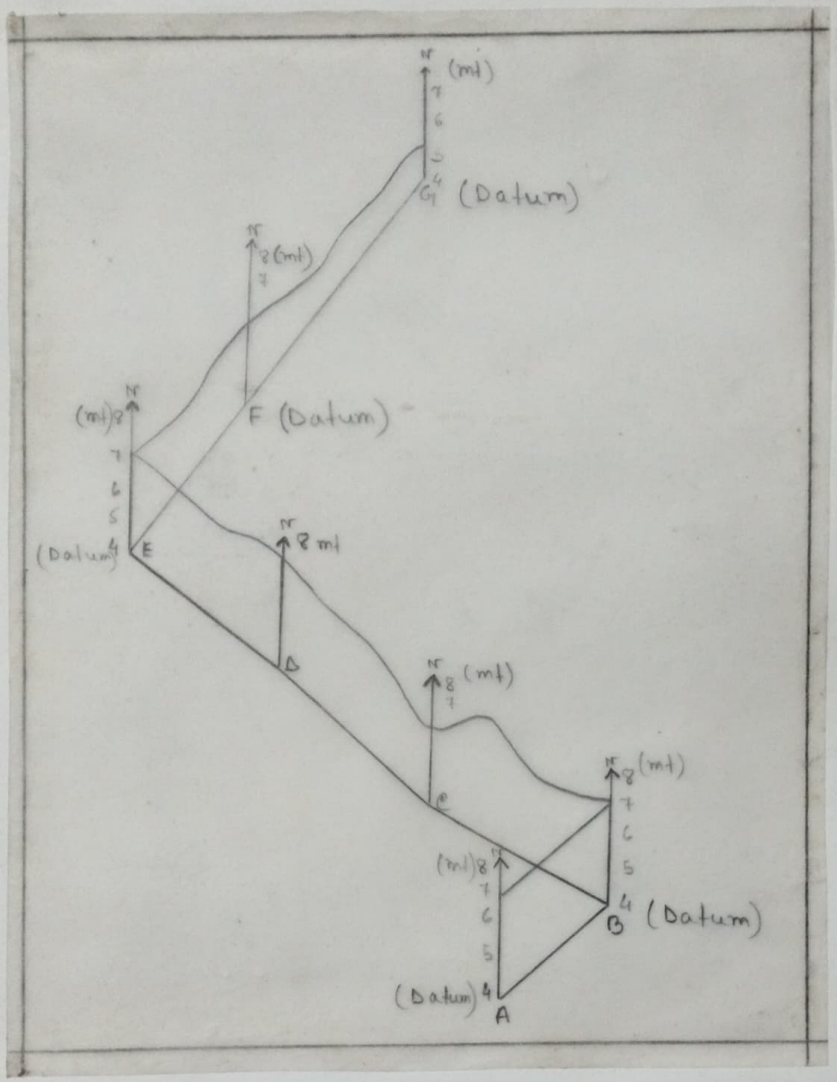
Source :- Instrument survey chandipur, 2020

LONGITUDINAL PROFILE ALONG A OPEN TRAVERSE

TIME :- 2:30 PM
DATE :- 16/01/2020

PLACE :- Chandipur Beach Side Ground

INSTRUMENT NO. - 2



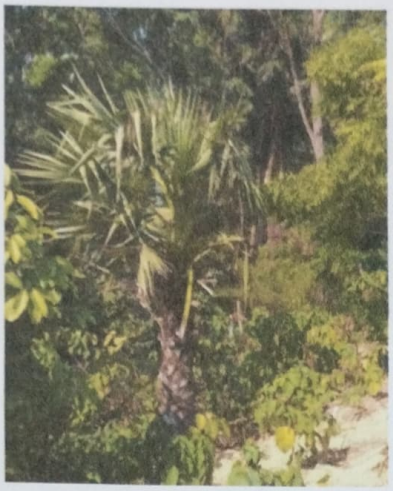
BM OF RL - 7
Datum - 4

Vertical scale :- 1 cm to 2 mts
Horizontal scale :- 1 cm to 5 mts
Source :- Road Survey

PRISMATIC COMPASS SURVEY

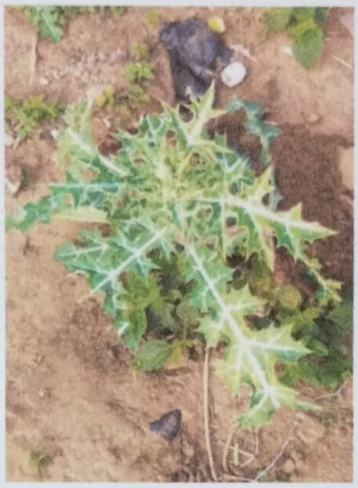
INSTRUMENT SURVEY

VEGETATION SURVEY



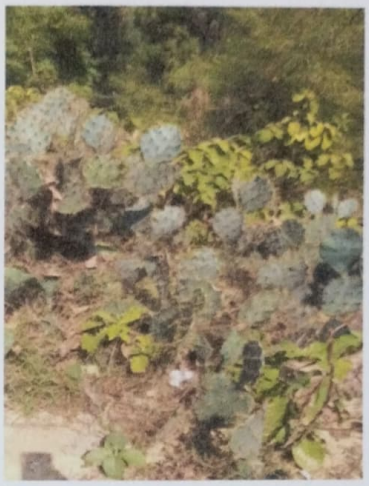
NAME: ASIAN PALMYRA PALM

SCIENTIFIC NAME:BORASSUS FLABELLIFER



NAME: MAXICAN PROCKLY POPPY

SCIENTIFIC NAME:ARGEMONE MAXICANA



NAME:WHEEL CACTUS

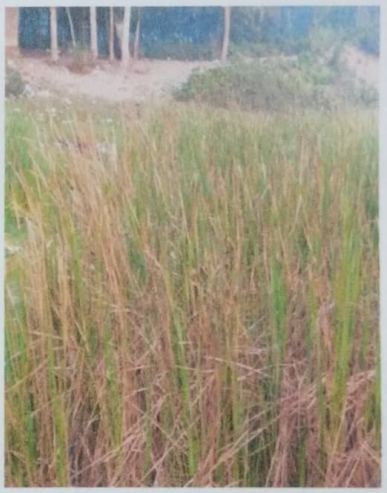
SCIENTIFIC NAME:OPUNTIA ROBUSTA

NAME:THATCH SCREWPINE

SCIENTIFIC NAME:PANDANUS TECTORIUS

NAME:KEYA TREE

SCIENTIFIC NAME:PANDANUS TECTORIUIS



NAME:SWAMP FERN

SCIENTIFIC NAME:ACROSTICHUM AUREUM

NAME: PINE TREE

SCIENTIFIC NAME:CASUARINA EQUISETIFOLIA

NAME:SOUTHERN SATTAIL

SCIENTIFIC NAME:TYPHA DOMINGANSIS

NAME:WEST INDIAN LANTANA

SCIENTIFIC NAME:LANTANA CAMARA

Source:- Secondary Survey 2020

SOIL TESTING

we have collected soil samples from two places to identify the characteristics of soil:

Sample - I

One sample of soil we have collected from Nilgiri area, which is 50 kms away from our study area.

Sample - II

This sample was collected from agriculture field near to sea beach within one kilometers area of sea beach.

Observation:

Soil testing	Date: 11.02.2020
Instrument NO:01	Place: Rammohan College Dept. of Geography

Sample - I/Result:

a) It is observed that this sample has 7 PH value.

b) The soil is neutral in nature.

Sample - II/Result:

a) It is observed the value is 8.

b) Soil sample is slightly alkaline.

Source:- Primary survey chandipur 2020.

FISHING SURVEY

We have interacted with the local fishermen during our field visit at chandipur. we have talked with 21 fishermen from the local area. most of the fishermen are from scheduled caste and schedule tribe community. Average ages of the fishermen were in between 30 to 60 years. Among them most of the fishermen were belonging within 50 to 60 years age group. If we focus on the average daily fish collection most of the fishes are collected in the months July, August and September. According to the fishermen during the pick season the collection of average are 20 kg per day and average daily income also increase in this pick season, they earn as high as Rs-10000 during this season.

If we separate them, religion wise, most of them are from the Hindu community and most of them are from the ST community in the caste structure in chandipur.

■ Table for Age group of Fishermen:-

Age Group	Number	(%) value
30-40	3	27%
40-50	5	46%
50-60	3	27%

■ Table for caste of Fishermen:-

caste	Fishermen	(%) value
General	2	18.18%
SC	3	27.27%
ST	6	54.55%

■ Table for Religion of Fishermen:-

Religion	number	(%) value
Hindu	9	81.82%
Muslim	2	18.18%

■ Table for Fish collection in kg:-

Months	collection (kg)
January	6
February	7
March	7
April	8
May	10
June	12
July	15
August	20
September	20
October	10
November	8
December	7

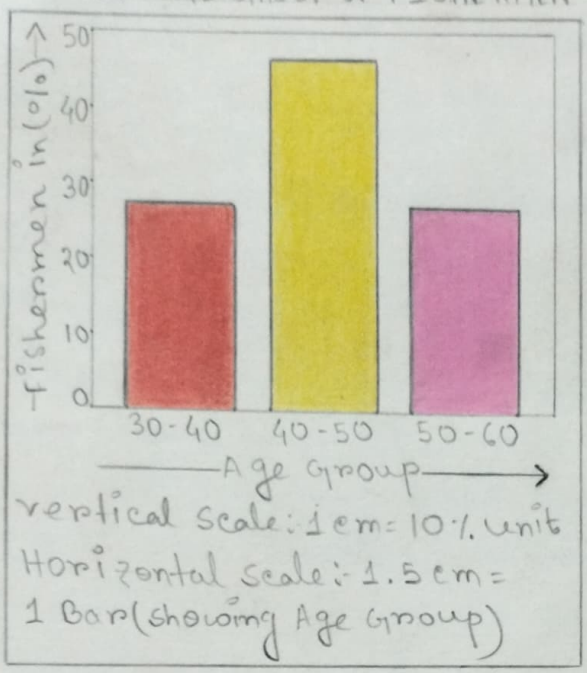
■ Table for Income of Fishermen:-

Months	Income (₹)
January	400
February	400
March	500
April	700
May	800
June	900
July	2000
August	10,000
September	10,000
October	4000
November	3000
December	2000

Source:- (Fishing survey chandipur 2020)

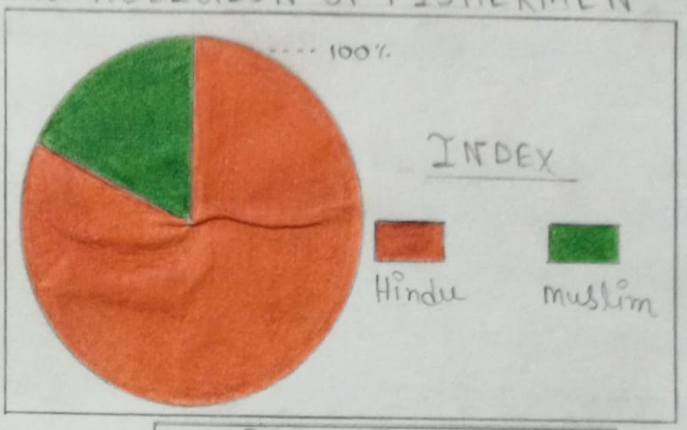
FISHING SURVEY

BARGRAPH SHOWING THE AGE GROUP OF FISHERMEN

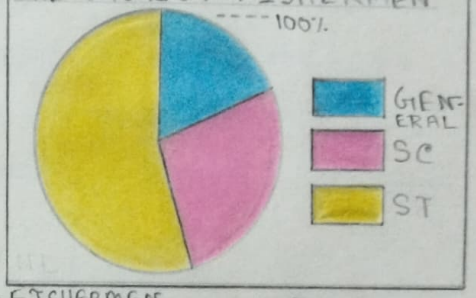


vertical scale: 1 cm = 10% unit
Horizontal scale: 1.5 cm = 1 Bar (showing Age Group)

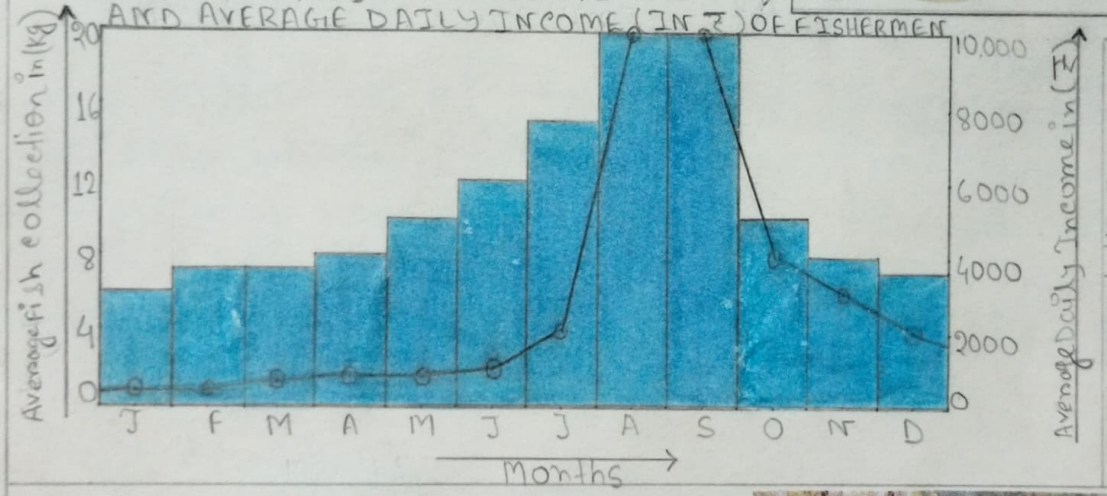
PIE GRAPH SHOWING THE RELIGION OF FISHERMEN



PIE GRAPH SHOWING THE CASTE OF FISHERMEN



HISTOGRAM WITH POLYGON SHOWING AVERAGE DAILY FISH COLLECTION (IN KG) AND AVERAGE DAILY INCOME (IN ₹) OF FISHERMEN



vertical Scale:- 1 cm = 4 kg AND 2000 ₹
Horizontal Scale: 1 cm = 1 month

INDEX
- Average Income
- Average Fish collection (kg)

FISHERMEN

FISHING SURVEY

FISHES

Source:- Fishing survey chandipur January 2020