FIELD REPORT

ON

SOCIO ECONOMIC CONDITIONS OF

SUNDARBAN PAKHIRALAYA

DEPARTMENT OF GEOGRAPHY

KURSEONG COLLEGE

Examined

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ON

SOCIO ECONOMIC CONDITIONS OF

SUNDARBAN PAKHIRALAYA

UNDER THE GUIDANCE OF

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&

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DEPARTMENT OF GEOGRAPHY

KURSEONG COLLEGE

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CERTIFICATE

This is to certify that Miss/~~Mr.~~ Barsha Thakur

Roll 2440243 No. 36965 of B.A. 4th Semester Geography Honours has prepared the field report on Socio-Economic Conditions of Pakhiralaya Village, Sundarban for the partial fulfillment of their syllabus.

He/She was a part of the survey team from 03/04/2024 to 07/04/2024 at Pakhiralaya Village, Sundarban and prepared this report himself/herself to the best of my knowledge.

The report may be placed before the examiner.

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Dr. Neelee K. C. Lepcha _____

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Finally, I would like to express my deep and sincere guidance to Dr Neelee K.C. Lepcha, Associate Proffessor and Head and Kamal Sarkar, Assistant Professor, Department of Geography for giving me this wonderful opportunity to conduct the survey and prepare report on socio-economic conditions of Pakhiralaya Village and for guiding all the way which has not only helped us to complete the work but also to gain knowledge and first hand experience about the process operating in Sundarbans, UNESCO world heritage site, for which I shall always be indebted.

I also take the opportunity to acknowledge our Principal, Dr Samir Bal for his constant support and giving us permission in the field trip. I am also thankful and fortunate to get constant encouragement and support from other faculties and the non-teaching staff to get support to complete the field trip. Last but not the least my gratitude goes for my family and all my friends for providing suggestions, support and constant guidance.

Thanking You

Name : Barsha Thakur.

PREFACE

The Indian Sundarbans form a part of the single largest halophytic system of the world. The tropical dry and wet climate of the region is influenced by seasonal monsoon winds and maritime actions of the Bay of Bengal. The Sundarban comprising of 19 communities development block [6 in North 24 Parganas and 13 in South 24 Parganas] is physiographically a deltaic plain, having an intricate networks of creeks. The area is remote in comparison to Kolkata, a leading metropolitan city of India and houses about 4 million people engaged in mono cropping and other minor occupations.

Pakhiralaya, the study area is one of the villages of Gosaba community development block lying in south Twenty-four Parganas District. An attempt has been made to study the socio-economic condition of the people of the study area on the basis of both primary and secondary data supplemented by both statistical and cartographical techniques.

The first chapter discusses about the introduction, objectives & methodology of the field report. The second chapter deals with the physical set up of the study area including administrative divisions, physiography, geology, drainage, climate, natural vegetation, fauna and soil. The third chapter explains about the social conditions like age sex composition, educational status, language, health, caste, religion, marital status, family status, social amenities and water supply. The fourth chapter discusses about the economic conditions of area like income, savings, expenditures, internet facilities, electricity, occupational status, fuel, household type, bank, crops grown, agricultural land and livestock related. The fifth chapter focuses on the problems of the area and lastly sixth chapter discusses the suggestions, recommendations and conclusion.

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EPARTMENT OF GEOGRAPHY
KURSEONG COLLEGE
GPS Map Camera
Pakhiralay, West Bengal, India
4RJF+F4W, Pakhiralay, West Bengal 743370, India
Lat 22.132544°
Long 88.822112°
05/04/24 09:15 AM GMT +05:30
Google

SURVEY TEAM

CHAPTER-1

1.1 INTRODUCTION

Socio-economic survey and analysis are an important aspect of any developmental activity. It forms a significant part of education to know the status of people of various societies. It is regarded as one of the most important sources of statistical data on educational status, land holding & cropping pattern, livestock details, types of economic activities, household and income as well as data of the status of housing, household characteristics & living conditions.

The field survey helps the student to study socio-economic condition of population and the relation between economy & social behaviour of the people. The main objective of the present survey was to collect data on population and socio-economic characteristics of households which will help in monitoring development performance of the study area. By conducting socio-economic surveys, the students gains knowledge about social, political and economic aspect of the area from where data was collected. The data helps visualising current scenario and the consequences of various ongoing programmes in the area.

1.2 OBJECTIVES

The main objectives of the present study are :

- To access the socio-economic condition of the people in the study area.
- To identify the major problem in the study area.
- To suggest necessary measures to mitigate the various problem in the study area.

1.3 METHODOLOGY

The present study has been done on the basis of primary & secondary data. The secondary data was collected from different government & non-government offices, books, journals etc. The primary data is collected from the field regarding socio-economic condition of Pakhiradaya. The household is the major unit of survey. There was seventy households. Random sampling method has been applied for survey & the interview & questionnaire survey was carried out to collect information regarding socio-economic condition of the people.

Different statistical techniques have been used to analyze the data after which it has been diagrammatically represented using different cartographic techniques such as pie graph, bar diagram, proportional circles, proportional divided circles, proportional cubes etc.

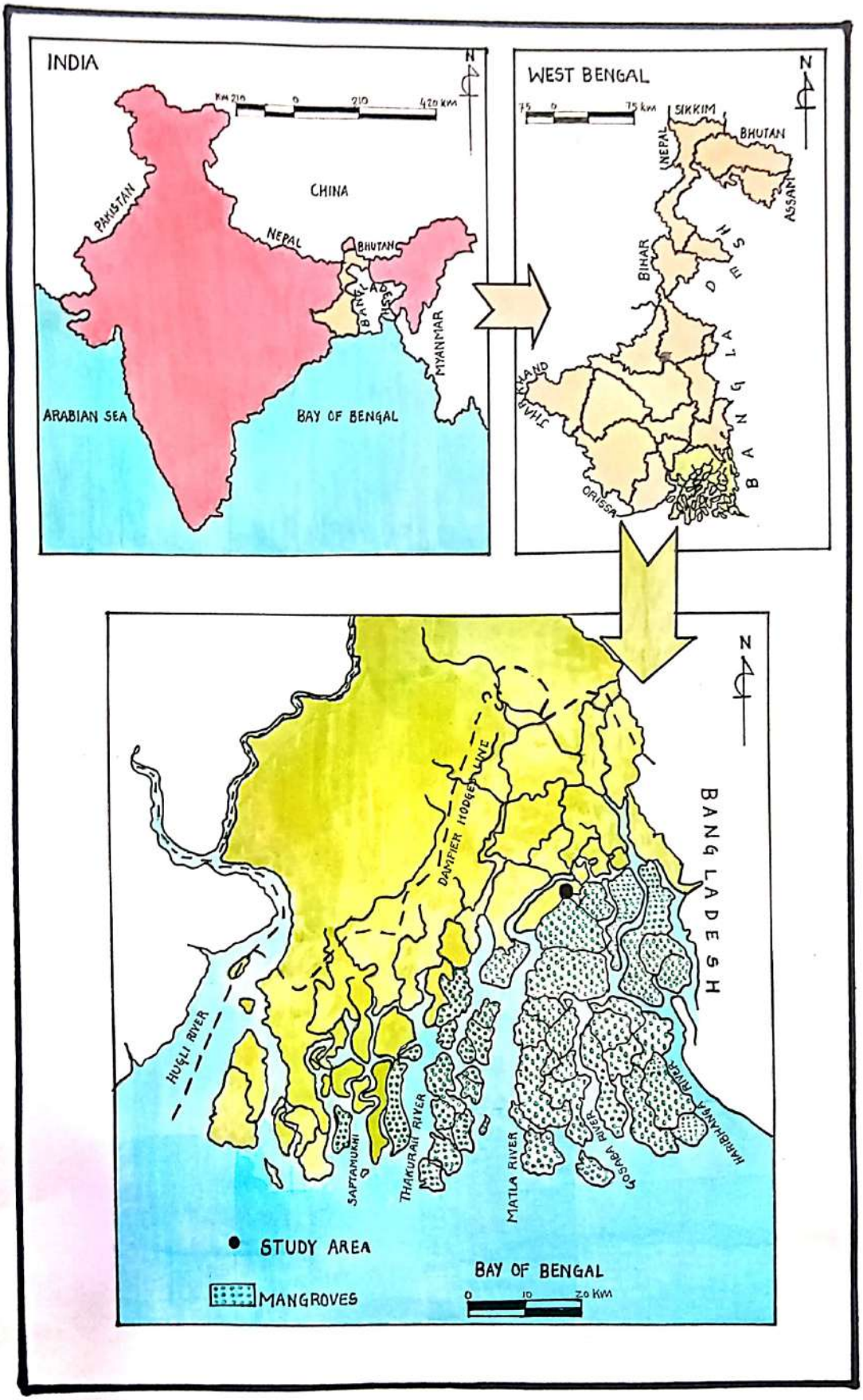
1.4 STUDY AREA

The Indian Sundarban forms a part of the single largest halophytic system of the world extending from 21°N - 22°30'N latitude and 88°E - 88°29'E longitude, it comprises of 102 islands in total of which 54 are inhabitated. The tropical dry and wet climate of the region is influenced by seasonal monsoon winds and maritime action of the Bay of Bengal. The coastal region experiences heavy rainfall and humid climate due to its proximity to the sea. The summer temperature ranges from 29°C to 38°C. A type of thunderstorm known as Norwester prevails then. Three major divisions of soils can be found in the Indian sundarban. These are: Fine salty clay in the northernmost part peaty deposit in the middle portion, and swampy area towards the coast with sandy clay and sand dunes. The Sundarban comprising of 19 community development blocks [6 in North 24 Parganas and 13 in South 24 Parganas] is physiographically a deltaic plain, having an intricate network of creeks. The area is remote in comparision to Kolkata, a leading metropolitan city of India and houses 4 million people engaged in monocropping & other minor occupation.

Pakhiralaya village is a part of Sundarban and it located exact opposite to the buffer area of Sundarban reserve forest and is only separated by a small tidal river namely Gomor river. The location of Pakhiralaya is 22°8'31"N latitude and 88°8'50"E longitude. It is bounded by the river Gomor to the east and River Durgaduani flows in the south west. The village has its unique beauty and is far from the noise of city. The name Pakhiralaya means "abode of birds" in Bengali, as it is home to variety of birds species. The nearest railway station is Canning and the nearest airport is Netaji Subash Chandra Bose International Airport, Kolkata.

FIGURE 1.1

LOCATION MAP OF THE STUDY AREA



CHAPTER-2

PHYSICAL SETUP OF SUNDARBANS

2.1 INTRODUCTION

Sundarbans, the largest single block of tidal halophytic, productive and contiguous mangrove forest in the world with a complex ecosystem is a world heritage site. It is spread over the two districts of North and South 24 Parganas in the state of West Bengal. The name Sundarbans can be literally translated as "beautiful forest" in the Bengali language (Sundar, "beautiful" and ban, "forest"). But the generally accepted view is the name derived from the Sundari trees that are found in Sundarbans in large numbers. Shared between two neighbouring countries, Bangladesh and India, the larger part (62%) is situated in the southwest corner of Bangladesh. To the south the forest meets the Bay of Bengal; to the east it is bordered by the Baleswar River and to the north there is a sharp interface with intensively cultivated land.

The Sundarbans landform have evolved over the millenia through natural and continual deposition of the weathered materials carried by the part of the deltaic plains of the three mighty rivers the Ganges, Brahmaputra and Meghna. The natural drainage in the upstream areas, other than the main river channels, is everywhere impeded by extensive embankments and polders.

The Sundarbans originally measured (about 200 years ago) about 16,700 km^2. Now it is dwindled into about 1/3 of the original size. The total land area today is 4143 km^2 (including exposed sandbars : 42 km^2) and the remaining water area of 1874 km^2 encompasses rivers, small streams and canals. The Sundarbans is frequently under threat from inundation and subsequent wetland loss.

Rivers in Sundarbans are meeting places of salt water and fresh water. Thus, it is a region of transition between the freshwater of the rivers originating from the Ganges and the saline water from the Bay of Bengal. The physiography is dominated by deltaic formations that includes innumerable drainage lines associated with surface and subaqueous levees, splays and tidal flats. There are also marginal marshes above mean tide level, tidal sandbars and islands with their networks of tidal channels, subaqueous distal bars and proto-delta clay and silt sediments. The slope varies from 0.9m - 2.11m above sea level.

2.2 ADMINISTRATIVE DIVISION

The Sundarbans is located between 21°32' to 22°40' North latitude and 88°05' to 89°00' East longitudes and the boundary is demarcated by the river Hooghly on the west, the Bay of Bengal on the south, the Ichamati-Kalindi-Raimongol Rivers on the east and by an imaginary line (Dampier & Hodge line) in the north (Banerjee 1998) It covers (34%) part of India as well as (66%) part of Bangladesh (Laksar M.R. 2003) The Sundarbans is the largest single tract of mangrove forest in the world. The forest was recognized as resources base about five centuries ago for its natural values and even today it is a viable resource base. The Sundarban region consists of 19 CD Blocks and 16 police stations of South and North 24 Parganas. The names of 19 CD Blocks of Sundarban are as follow :
Canning-I, Canning-II, Basanti, Gosaba, Kakdwip, Sagar, Patharpratima, Joynagar-I, Joynagar-II, Kutali, Mathurapur-I, Mathurapur-II, Haroa, Hasnabad, Sandesh Khali-I, Sandeshkhali-II, Namkhana, Minakhan, Hingalganj, Based on the political map of Sundarban, the area of Sundarban has been divided into 14 divisions. The total area of Sundarban which is present in India 9600 sq km.

2.3 PHYSIOGRAPHY

The area of Sundarbans is characterised by a low flat alluvial plain covered with mangrove swamps and marshes and is intersected by a large number of tidal rivers, esturies, creeks and saltwater courses. The rivers flow in southward direction with a funnel shaped opening in the Bay of Bengal. The Ganga-Brahmaputra, Meghna river system while draining through the deltaic alluvial plain on their course carries an estimated annual sediment load of 2-4 billion tons. The sediments is composed of sand, silt and clay. Sands settle at the confluence of rivers and the Bay of Bengal and formed river mouth bar. The intertidal zone of the river flood plain generally is densely forested, whereas, the supratidal zone is occupied by dwarf mangroves. [Das G. 2006]

The Sundarbans can be divided into four physiographic units such as levee, marshes, delta plain and islands.

THE LEVEES : The Hugli river is bounded by a strip of levees in the eastern side which are 8 meter higher than mean sea level. These levees are extended from the north to the south part of kakdwip It follows the meandering channel pattern of the river.

FIGURE 2.1 POLITICAL MAP OF INDIAN SUNDARDAN

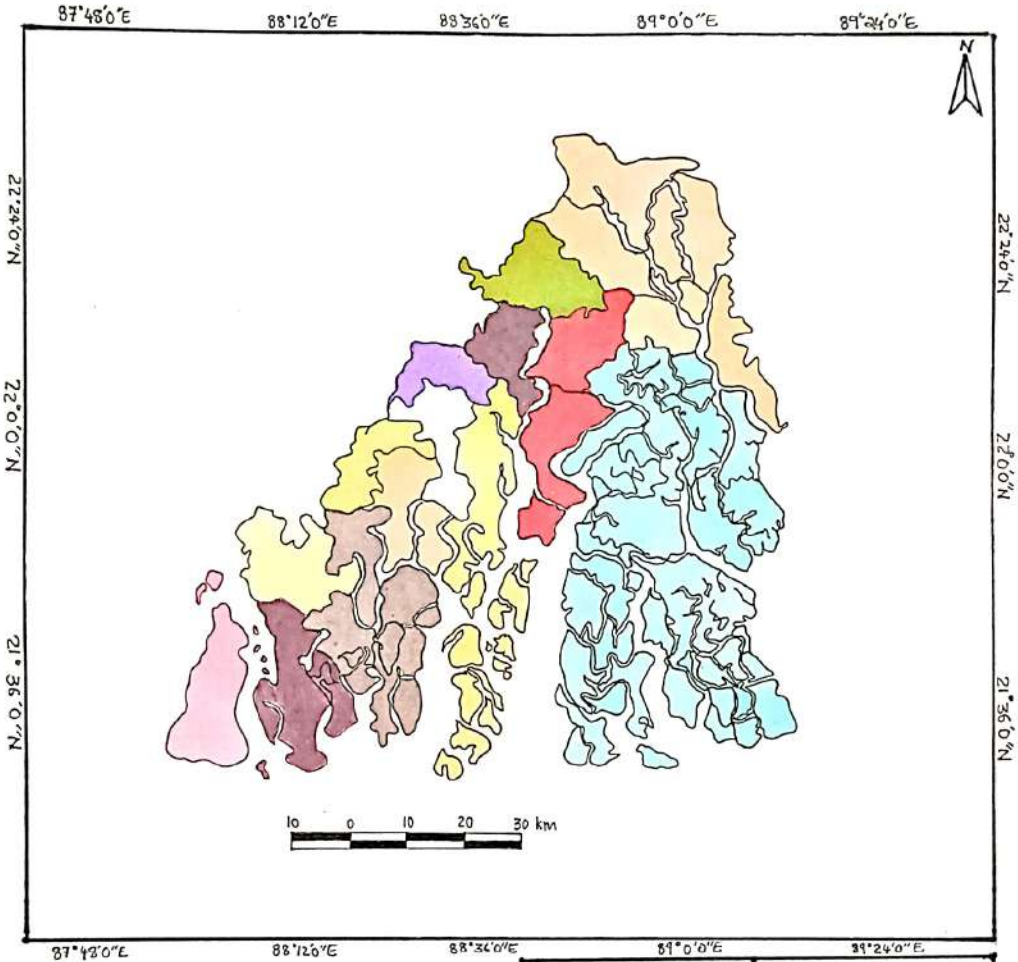
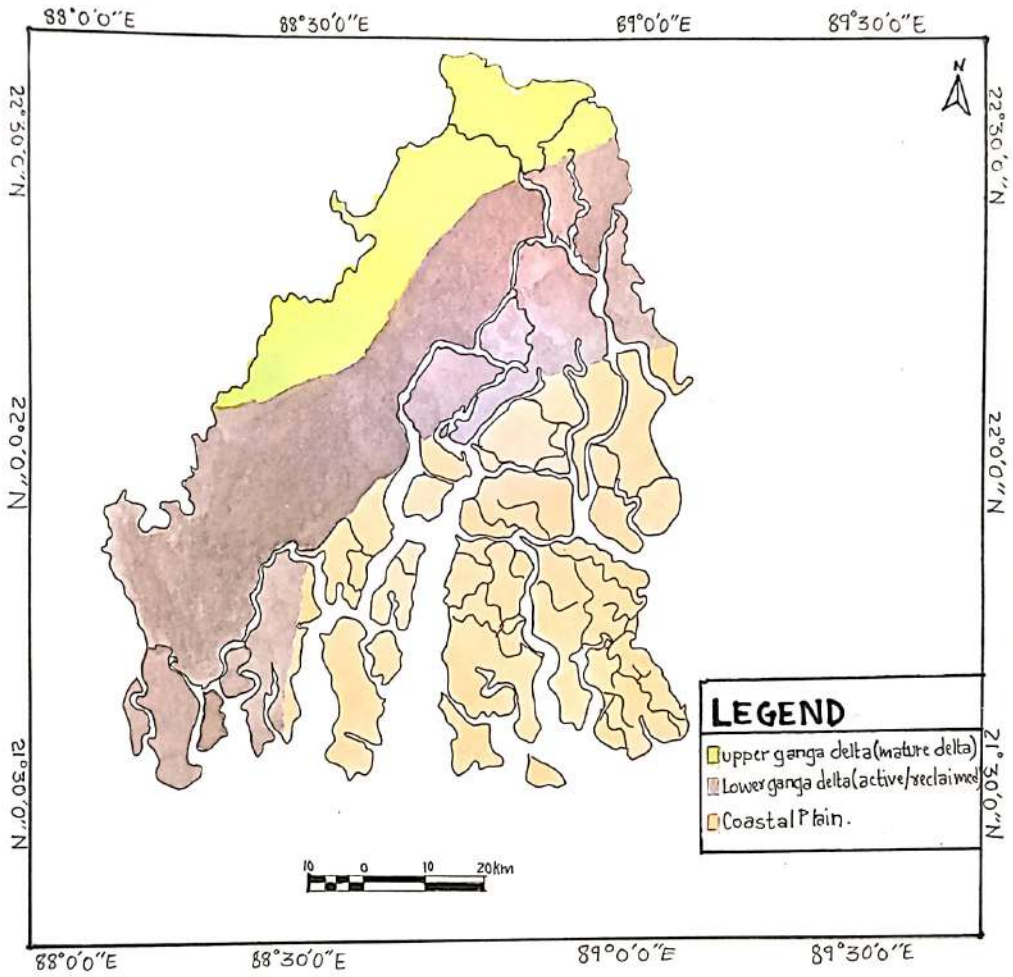


FIGURE 2.2 PHYSIOGRAPHY MAP OF INDIAN SUNDARBAN



THE MARSHES : In the bordering zones of the levees there are a number of low-lying marshy lands. These marshy lands are inundated mainly by the salty water of estuary. Many of the marshy lands are filled by alluvium soil for agriculture and settlement purpose.

THE DELTA PLAINS : The delta plains are situated on the eastern side of the levees of Hugli river and besides the levees of Malta and Bidhyadhari river. The average elevation of this extensive plain is 3-4 meter above the mean sea level. The plain is mostly used for the cultivation of jute and paddy.

ISLANDS : The Sundarbans is surrounded by numerous islands. Some of the notable islands are Khasimara, Ghoromara, lohachara, Sagar Island groups situated between the Hugli and Muriganga river. In the mouth of Saptamukhi river the Susni char, Lothian, Prentice, Heenrys and Frendrick islands are situated. The Halliday Island is located at the mouth of river Malta. Various other Islands of this area are Balucherry island, Bangaduni river, Dalhousie island and many other islands are formed in this area which are unnammed till date.

A physiographic map is used to define region and landforms into district regions. On the basis of this, Sundarbans can be divided into 3 physiographic divisions :

i. Upper Ganges delta, which accounts for 15.05% (155.11 sq. km) of the total area (6341.119811 sq. km).

ii. Lower Gangetic delta, also known as active or reclaimed Sundarban delta comprises of 49.51% (3144.67 sq. km) of the total area.

iii. Coastal plains which accounts for 35.37% (2241.33 sq. km) of the total area.

The Sundarbans is a mangrove area formed by delta confluence of the Ganges, Brahmaputra and Meghna rivers. It is the world's largest area of mangrove forest. The Sundarban delta is one of the most dynamic estuarine deltas of the world. consisting of the crisscrossed patterns of several rivers channels which bring with them tons of sediments from terrestrial sources. They also play a major role in eroding nature of the deltaic estuary. The geomorphic classification of the study area is based on landforms, sediment patterns, some other pattern factors, including geomorphic process and landcover is also considered. The whole study area is divided into four geomorphic classes :

A - alluvial.

B - mixed or transitional.

C - coastal.

d - marine.

The alluvial area is far from shoreline, the geomorphic units of the river Ganges. The coastal zone is the most extensive of the three geomorphic compartments. The major landforms observed in the coastal zone are : creek, mangrove, swamp, salt flat, mudflats, beach and dune complex. The lower delta plain is sensitive to change in the balance between hydrodynamic and riverine input and to change in relative sea level.

2.4 GEOLOGY

The geological history of the area began from the early Pleistocene, and this delta formation started from the tertiary period. The enormous quantity of sand, silt and other debris deposited are the main sources of delta formation of this region. The tract of the Sundarbans is of recent origin, raised by the deposition of sediments formed due to soil erosions in the Himalayas. The process has been accelerated by tides from the sea face. This delta began from near the mouth of Ganges, and with the extension southward the river adjusted their beds and continued to sea. The area is the result of extensive fluvio- marine deposits of the river Ganges and the Bay of Bengal and the character of the sediment is silty clay. The sub stratum consists of Quaternary Era sediments, mixed with marine salt deposits. Geologists have detected a southeastern slope, tilting of Bengal Basin during tertiary. Because of nontectonic movements during the 10^{th} - 12^{th} century AD, the Bengal Basin tilted eastward. Evidence from Bore hole indicates that western side is relatively stable, the southeastern corner of Sundarbans is an active sedimentary area and is subsiding.

2.5
DRAINAGE

The Ganges and its tributaries run throughout West Bengal which helps to irrigate the fertile deltaic region. The drainage infrastructure is poorly developed in the cultivated parts of Sundarbans. The Indian part of Sundarbans is estimated to be about 3483 km^2, of which about 1700 km^2 is occupied by water bodies in the forms of rivers, canals and creeks of width varying from a few metres to several kilometres. Sundarbans is a mangrove area in the delta formed by the confluence of the Ganges, Brahmaputra and Meghna rivers in the Bay of Bengal. The Sundarbans is intersected by a complex network of tidal waterways, mudflats and small islands of salt-tolera-nt mangrove forest. The interconnected network of waterways makes almost every corner of the forest accessible by boat.

The principal rivers of the Indian Sundarbans from west to east are Hoogly, Saptamukhi, Thakuran, Malta, Bidhyadhari, Gosaba and Gilla Raimongol; Malta and Bidhyadhari which runs in southwest directions are undoubtly the most important channels of the Indian sundarbans. Due to siltation in upstream region, both these regions are lacking sufficient fresh water connections. The confluence of this two river divides these core area of Sundarban Project Tiger from the buffer region. Saptamukhi is located in the extreme western part of the Sundarban and flows towards the Bay of Bengal through the mangrove transition zone on the west bank and lothian island wildlife sanctuary on the other side. It is connected to Hooghly river through Muriganga. Thakuran flows between Malta and Saptamukhi through the buffer region and is connected with Malta and Bidhyadhari. During hide tide, the entire area is flooded with brackish water, which mixes with fresh water from the inland rivers.

2.6
CLIMATE

The Sundarbans experiences humid sub-tropical climate with maritime influence. The weather is always moist with humid air that constantly blows from the Bay of Bengal. Temperature ranges from 28°C – 34.5°C in summer whereas winter temperature varies from 9.2°C – 26.2°C. Rainfall is heavy and humidity ranges from 70-80% due to nearness to Bay of Bengal. The mean annual rainfall varies from 180mm – 2790mm. 80% of the rainfall occurs during the monsoon between mid june and october. The weather is dry from October to mid-march, a period when evapotranspiration exceeds precipitation. Violent south-westerlies prevails from mid march to September causing storms along the shallow upper Bay of Bengal in May.

FIGURE 2.3 DRAINAGE OF INDIAN SUNDARBAN

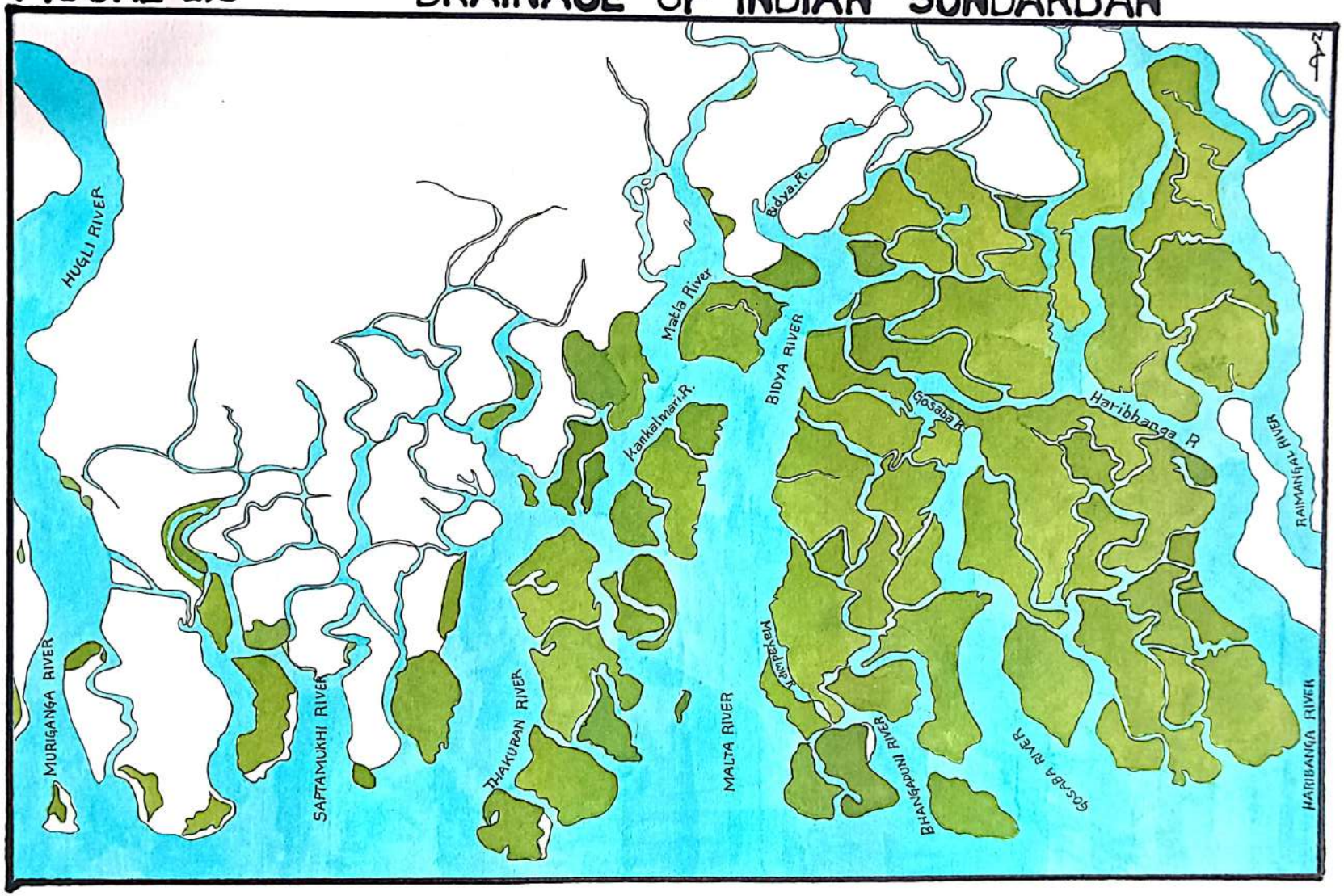
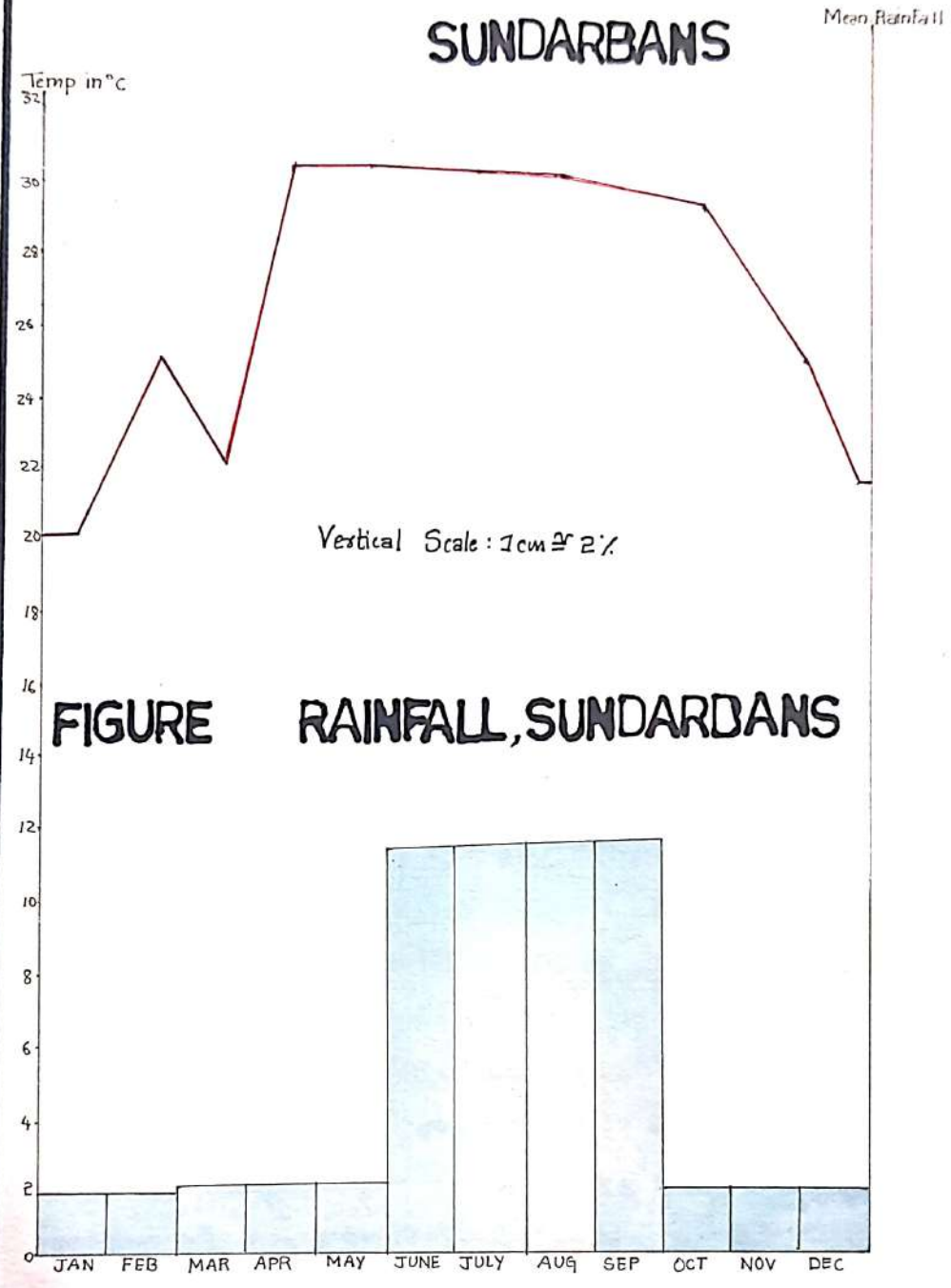


FIGURE MONTHLY TEMPERATURE SUNDARBANS



Vertical Scale : 1cm ≙ 2°C

FIGURE RAINFALL, SUNDARBANS

Vertical Scale: 1cm ≙ 250mm

LEGEND	
	Temp in °C
	mean rainfall

Source:

These sometimes, from october to November develop into devastating cyclones causing enormous loss of life and property.

Months	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Temp in °c	20	24.57	20.85	31.52	31.32	31.85	31.16	30.02	29.85	29.05	26.04	21.55

Rainfall in mm.	Total annual	Pre-monsoon (Mar, Apr, May)	Monsoon (Jun, Jl, Ag, Sep)	Post-Monsoon. (Oct, Nov, Dec, Jan)	Rainy Days
Minimum	1030.8	12	803.6	34.3	59
Maximum	2461.3	663.9	2070.1	604.3	105
Mean	1821.2	239.4	1355.0	226.8	84.4

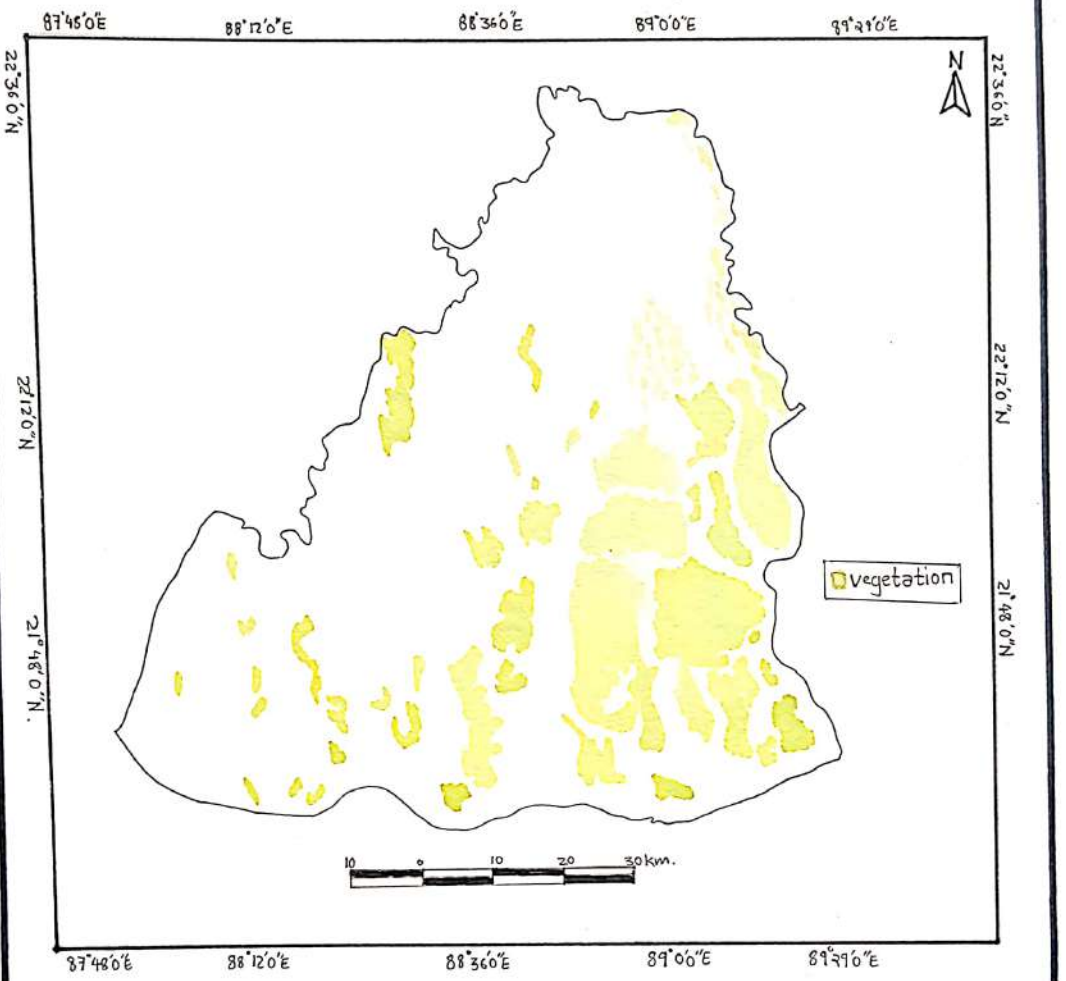
2.7

NATURAL VEGETATION

The natural vegetation of Sundarbans is largely of mangrove type and encompasses a variety of plants including trees, shrubs, grasses, epiphytes and lianas. Being mostly evergreen, they posess more or less similar physiological and structural adaptations. Most trees have pneumatophores for aerial respiratition. The prominent species is Sundari (Heritiera fomes), Gewa (Excoecaria agallocha), Goran (Ceriops decandra) and Keora (Sonneratia apetala). Prawn (1903) recorded 334 species of plants which include 35 legumes, 29 grasses, 19 sedges and 18 euphorbias. Of the 50 true mangrove plant species recorded, the Sundarbans alone contain 35. Almost all mangrove plant species are evergreen, dwarf, shrubby or tall trees, and grow gregariously without leaving any space on the floor.

Twenty-six of the fifty broad mangrove species found in the world grow well in the Sundarbans. The commonly identifiable vegetation types in the dense sundarbans mangrove forests are salt water mixed forest, mangrove shrubs, brakish water mixed forest, litoral forests, wet forests and wet alluvial grass forests.

FIGURE 2.5 VEGETATION MAP OF INDIAN SUNDARBAN



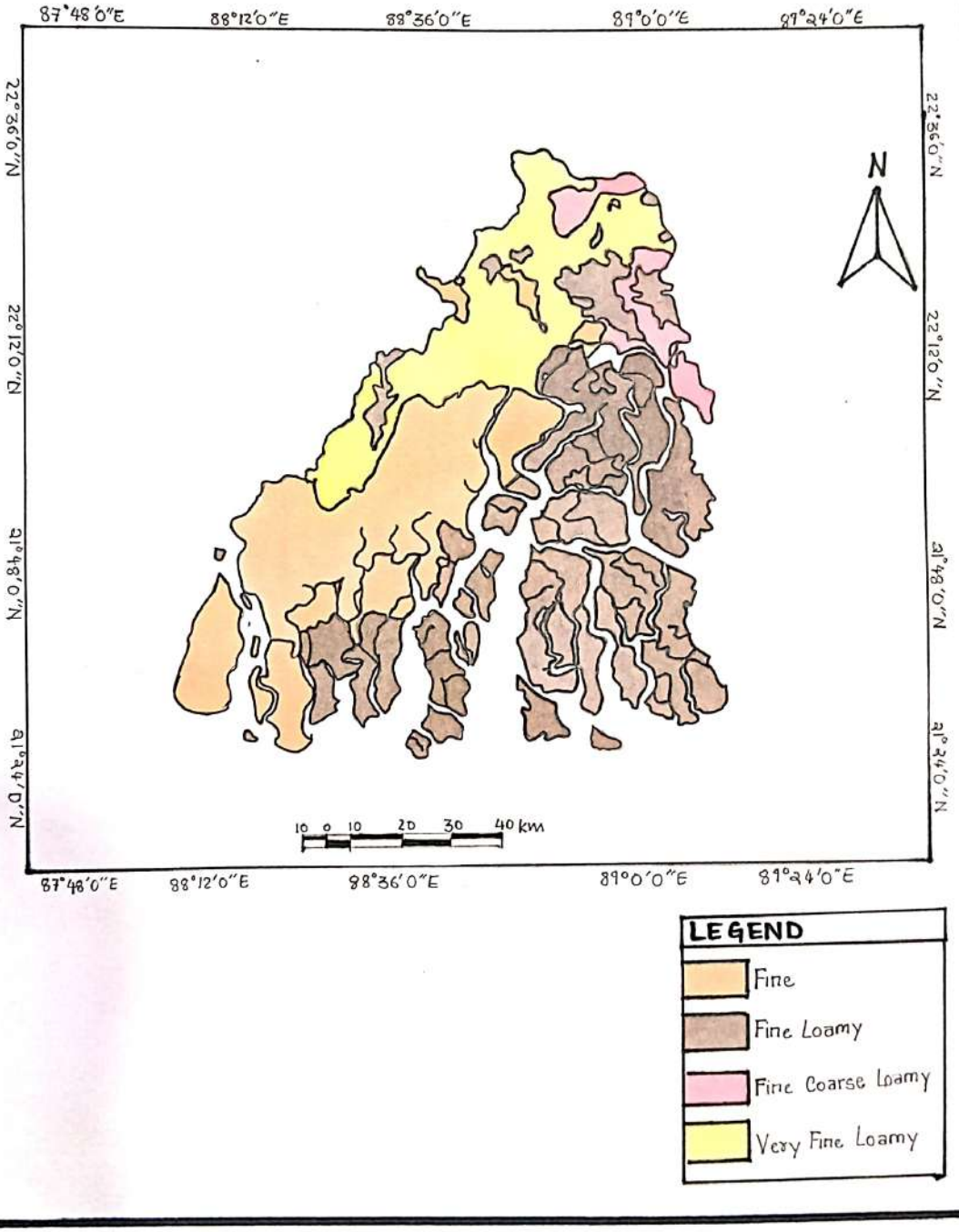
2.8 FAUNA

Being a very specialized environment, mangrove ecosystem of Sundarbans supports a wide assemblage of animal communities. It is a home to the Royal Bengal Tiger (Panthera tigris tigris). In addition to Royal Bengal Tiger, the fauna of Sundarbans comprises of 693 wildlife species, including 58 species of mammals, around 248 bird species, 59 reptiles, 8 amphibians, 210 white fish species, 24 shrimp species, 14 crab species, and 43 molluscs. Boars, spotted bears, raccoons and Rhesus squirrel monkeys are among the other animals. The Sundarbans is a home to venomous reptiles such as king Cobra, Banded krait, Russels viper and non-venomous snakes and several other species.

The Sundarbans provides a unique ecosystem and extensive habitats for wildlife. A human interface in the Sundarbans in terms of resource extraction and forest management has important effects on wildlife habitats and populations. Despite their status as an icon of India, Royal Bengal Tigers are endangered species. The largest population of Royal Bengal tiger lives in Sundarban National Park, in West Bengal, India. As human population increases, so does conflict between humans and tigers. Development and hunting have contributed to a reduction of the tigers natural prey- buffalo, deer, wild pig and other large mammals of the Sundarbans. Thus, humans have become targets of the hungry predators.

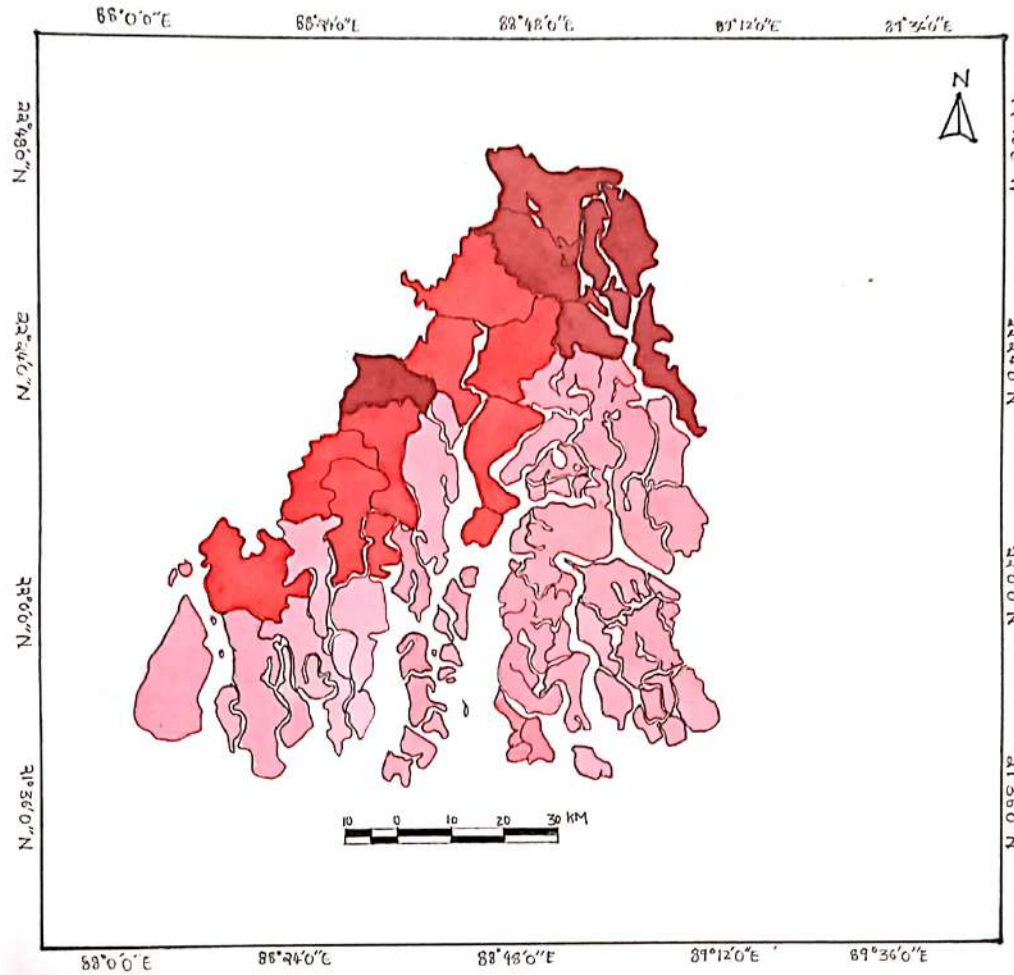
FIGURE 2.6

SOIL MAP OF INDIAN SUNDARBANS



FIGURE

POPULATION DENSITY MAP OF INDIAN SUNDARBANS

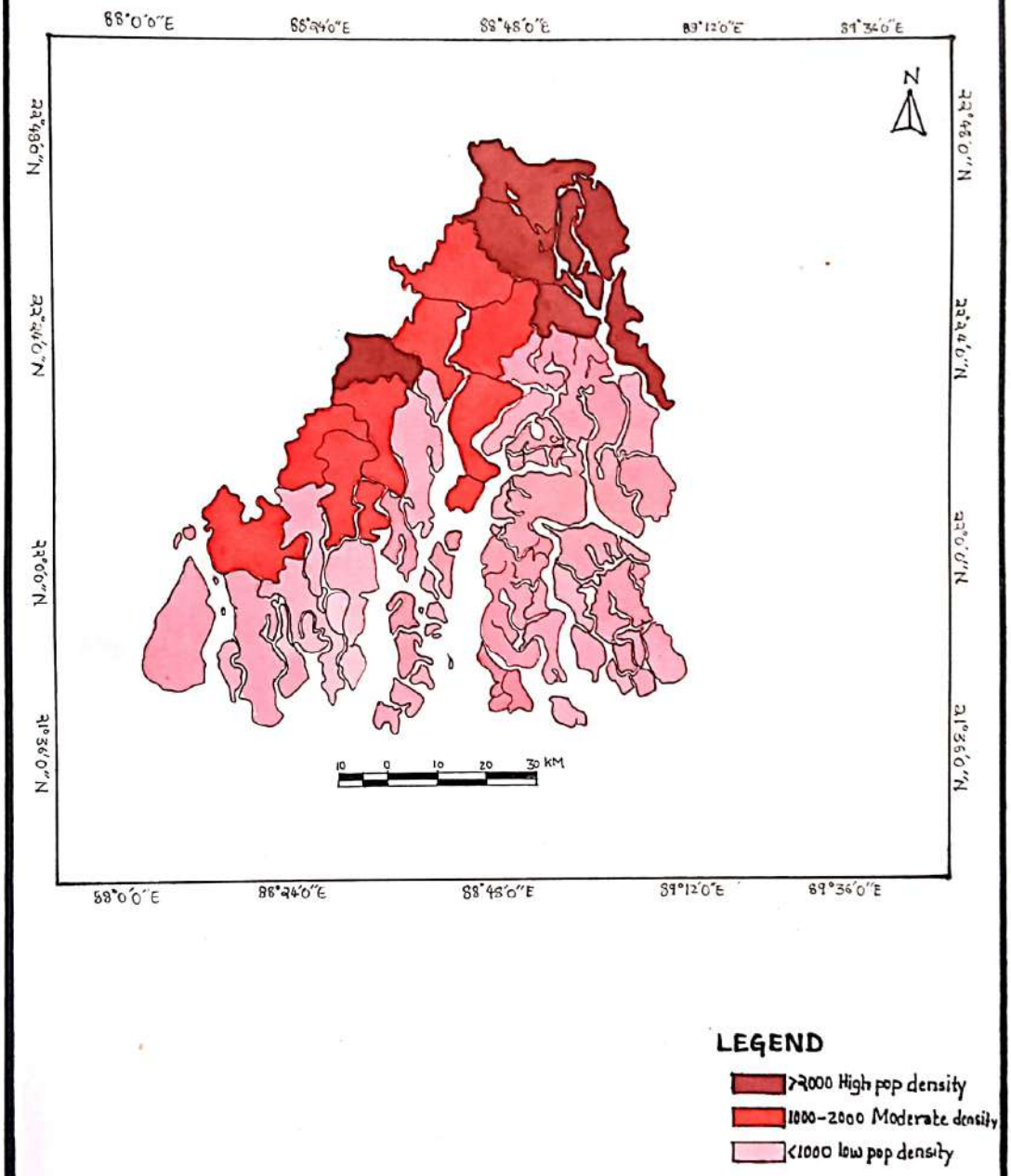


LEGEND

- >2000 High pop density
- 1000–2000 Moderate density
- <1000 low pop density

FIGURE

POPULATION DENSITY MAP OF INDIAN SUNDARBANS



2.11 CONCLUSION

Sundarbans, the single largest block of tidal halophytic mangrove forest which supports a large, biodiversity-rich unique-ecosystem, covers about one million hectares in the apex delta of Ganga and Brahmaputra. It lies to the south of the Tropic of Cancer and the area is bounded by Baleswar river on the east and Hugli river on the west. The soils of the mangrove forest here differ from inland soils in that they are subjected to the effects of salinity and water logging, which naturally affects the vegetation cover here. In some places, some soils are semi solid and poorly consolidated. The Sundarbans weather is always almost moist and with humid air blowing from the Bay of Bengal carrying almost 80% of humidity. It is a deltaic region formed by the confluence of the rivers. The mangrove ecosystem that prevails here occuring in between the terrestrial habitat and the sea in tropical and sub-tropical regions, mostly comprises of the Sundari trees that are found in abundance. Being a very specialized environment, mangrove ecosystem of Sundarbans supports a wide assemblage of animal communities.

CHAPTER-3

SOCIAL CONDITIONS OF PAKHIRALAYA

3.1 INTRODUCTION

Sundarbans, the largest tidal delta in West Bengal was formed ages ago in the flood plain of two large rivers, the Ganges and the Brahmaputra, emanating from the Himalayas. The Sundarbans, the worlds largest mangrove area in the delta formed by Ganges, Brahmaputra and Meghna rivers in the Bay of Bengal is a national park, biosphere reserve and tiger reserve in West Bengal, India. Pakhiralaya village is a part of Sundarbans and is located exact opposite to buffer area of Sundarban reserve forest. This village has its unique natural beauty and it is far from the noise of the city. But this area is suffering from backwardness and is one of the underdeveloped villages in Gosaba block.

Pakhiralaya village is located in Gosaba sub division of South-Twenty four-Parganas district in West Bengal, India. It is located at 6.9 km away from sub-district headquater Gosaba and 97.6 km away from district headquater Alipore. Canning is the nearest town to Pakhiralaya which is approximately 49 km away from Pakhiralaya. The total geographical area of village is 479.49 hectares. Pakhiralaya has a total population of 3,946 peoples, out of which male population is 2002, while female population is 1,944. Literacy rate of Pakhiralaya village is about 68.09 %. out of which 74.53% males and 61.47% females are literate. There are about 910 houses in Pakhiralaya district.

3.2 AGE SEX COMPOSITION

Age structure represents the proportion of population in each age group. Sex composition is the characteristics of sex ratio of the population of a defined geographical territory. Age composition is the characteristics of age structure of the population of a defined territory. Age and Sex composition is an important aspect of demographic studies.

Age and Sex composition of population is important for analysis of other population attributes. It is an important component for economic politics of populations. It enables the researchers and planners to analyze variations of socio-economic phenomena. Age composition portrays the trend of mortality, fertility, marital status, migration and helps in demographic analysis. The data on the population by age and sex provides health administrators and demographers input for the planning and implementations. The data on age and sex composition helps in analyzing production and consumption patterns of various goods and services. Fertility, Mortality, Migration determines the age sex structure of the population. The status of the women in the society greatly determines the sex ratio.

Table 3.1 Age Sex Composition, Pakhiralaya

Age Group	Male	Female	Male (%)	Female (%)
<4	5	2	1.84	0.74
5-9	9	12	3.31	4.41
10-14	9	11	3.31	4.04
15-19	12	5	4.41	1.84
20-24	17	17	6.25	6.25
25-29	10	3	3.68	4.78
30-34	14	7	5.15	2.75
35-39	9	18	3.31	6.62
40-44	14	16	5.15	5.88
45-49	6	9	2.21	3.31
50-54	15	4	5.51	1.47
55-59	7	3	2.57	1.10
60-64	6	7	2.21	2.57
65+	12	3	4.41	1.10
Total	145	127	53.32	46.34

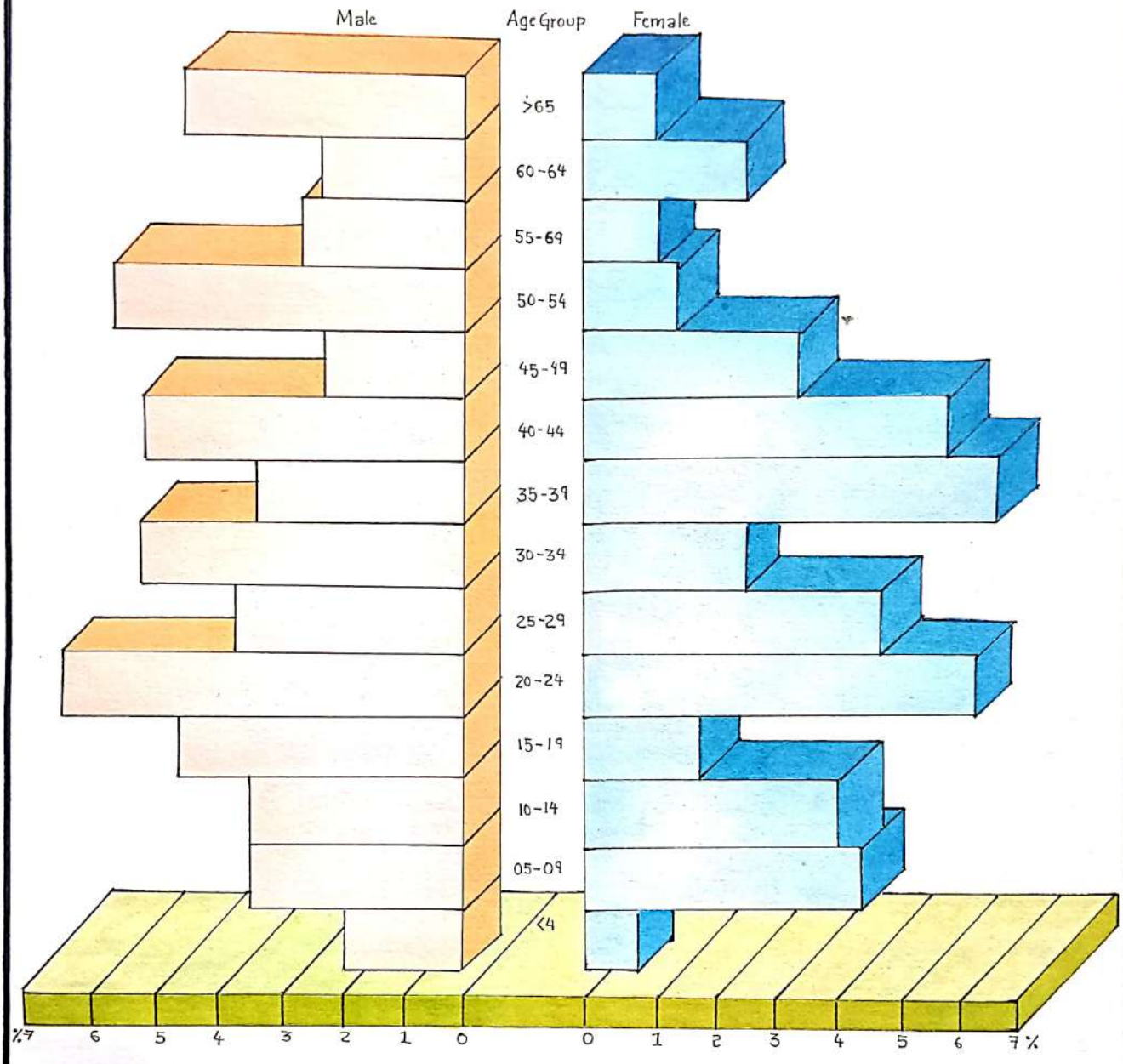
Source: Field Survey, 2024

The surveyed area has a total population of 272 out of which 145 are males and 127 are females. The age sex composition table of the surveyed area depicts that the percentage of male who are in group of 20-24 and 50-54 are higher among all the other groups with the percentage of 6.25% and 5.51% followed by the age group of 30-34 and 40-44, each comprising 5.51%. In contrast to this, the female with age group between 35-39 is relatively higher than other female age group, comprising a percentage of 6.62% followed by the female age group of 20-24 with the percentage of 6.25%. However, in as many as seven age group, the percentage of female is higher than male population. The lower percentage of female child age group <4 clearly states that in Pakhiralaya, a tiny village of Sundarban, the discrimination between male and female child is still prevelent in the surveyed area. On the other hand, the higher percentage of female in category of age group of 5-9, 10-14, 25-29, 35-39, 40-44, 45-49, 60-69 is because most of the male members of the family have moved outside to seek employement or works generally as forest workers, farmers, etc.

However, percentage of female is much more lower than the male in the category of <4, 15-19, 30-34, 50-54, 55-59 and >65. The major contributing factors for low percentage of females maybe early marriage, short span spacing of birth intervals, higher maternal mortality ratio and lack of attention towards maternal care. The higher percentage of male in the age group of >65 with the percentage of 4.41% clearly states that the surveyed area has higher dependency ratio which means that the number of people depending on the economic labour force is higher.

FIGURE 3.1 AGE SEX COMPOSITION

PAKHIRALAYA



HORIZONTAL SCALE : 1cm ≅ 1%

VERTICAL SCALE : 1cm ≅ 1 AGE GROUP

Source: Field Survey 2024

3.3 EDUCATIONAL STATUS

Educational or education is the cornerstone of human development, foresting personal growth, social mobility, and economic prosperity. It encompasses formal schooling, informal learning and skill development, empowering individuals to thrive in diverse contexts. Educational status refers to the current state of the education system within a community, including factors such as literacy rates, enrolment levels and educational attainment. Understanding educational status is crucial for assessing progress, identifying challanges and informing policy interventions aimed at promoting equitable and inclusive education. Disparities in education status such as, unequal access to schooling or varying levels of educational attainment, can perpetuate social inequalities and hinder overall development. By monitoring and addressing disparities in education status, communities can strive towards achieving universal access to quality education, fostering lifelong learning and promoting sustainable development. Higher the literacy rate, higher the rate of development of the area.

Table 3.2 Literacy rate, Pakhiralaya

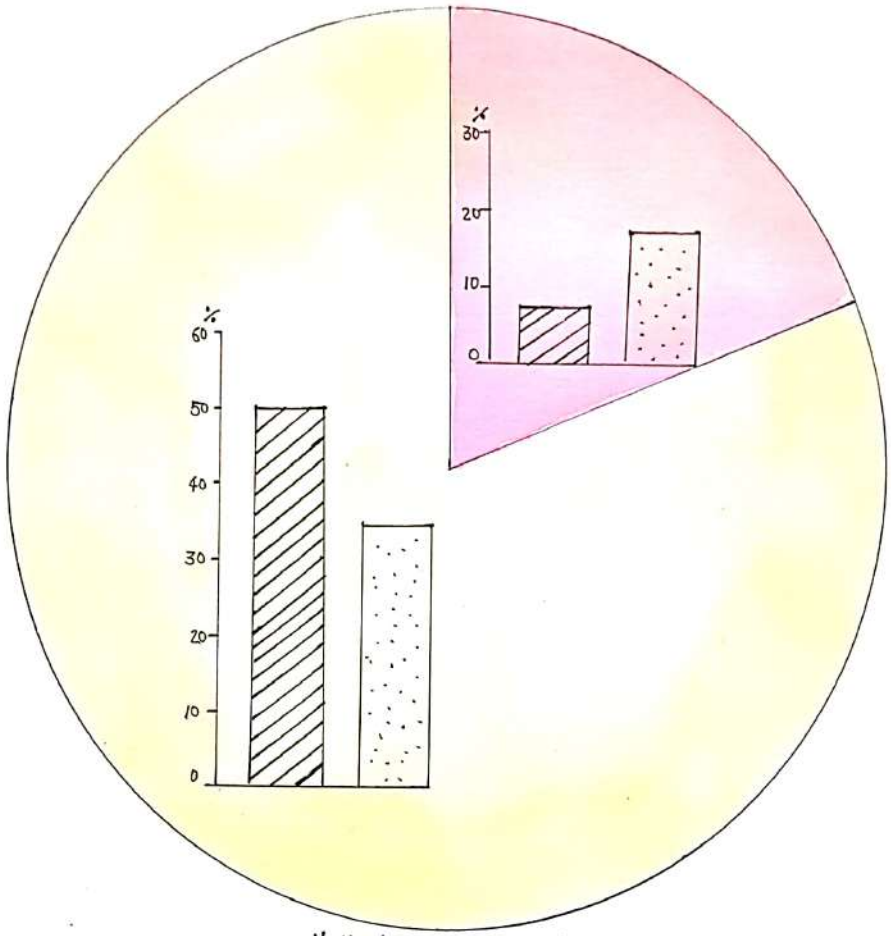
Category	Male	Percentage	Female	Percentage	Total	Total Percentage of Male & Female
Illiterates	20	7.35	32	11.76	52	19.12
Total literates	125	45.96	95	34.93	220	80.88
Total Population	145	53.31	127	46.69	272	100

Source: Field survey, 2024

The education status of the surveyed area indicates that 80.88% of the total population is literate and 19.12% are illetrate. Out of literate population, male and female accounts for 45.96% and 34.93% respectively. The percentage of male literacy is higher than female literacy. The contributing factors are the male dominated society which prefers educating men over women; poor families, due to monetary constraints prefers to send their sons to school and not their daughters; women in rural villages are not treatedly equally on par with men; women are still considered suitable to work only in households and female education is not considered as essential as the mentality of people has not yet changed in the surveyed area.

Out of illetrate population, male and female accounts for 7.35% and 11.76% respectively. Though the overall illetracy rate is lower, the number of persons persuing higher education is very low.

FIGURE 3.2 EDUCATIONAL STATUS OF PAKHIRALAYA



Vertical scale 1 cm = 10%.

LEGEND

- Illiterates
- Literates
- Male
- Female

Source: Field Survey 2024

3.3 EDUCATIONAL ATTAINMENT

Educational attainment refers to the highest and lowest level of education that an individual has completed. Eduational attainment nurtures individual social outcomes promoting active participation in society stability.

The data on educational attainment of the surveyed area reveals that out of total literate population only 0.74% has completed the Master's degree out of which there are no females pursuing higher education. Similarly, 2.27% of literate population in the surveyed area has completed the Bachelor degree with 1.84% of males and 0.73% of females. About 22.43% of total literate population has educational qualification of secondary level of which male and female accounts for 16.54% and 5.88% respectively. About 22.43% and 12.50% of total literate population has finished upper primary and primary out of which 10.29% and 5.88% are male and 14.70% and 6.62% are female. There are no persons pursuing any professional degree in the surveyed area. The illetrate population of the surveyed area are all aged person and new born babies.

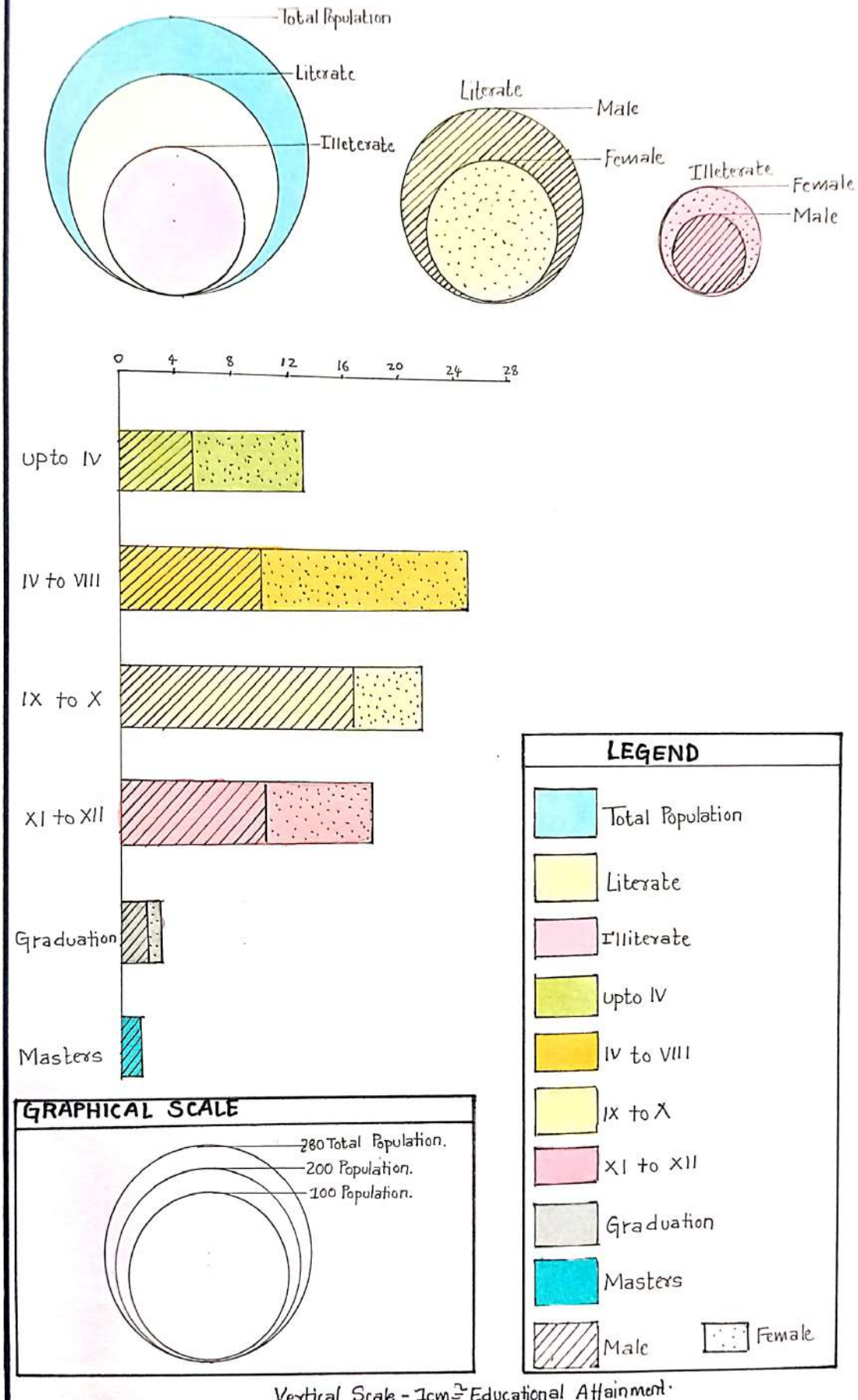
The literacy status has been displayed with gender wise variation where it is evident that most of the people are educated only at secondary and upper primary level. In secondary, the females literacy is dominant where as in graduation category, the male literacy is dominant.

Table 3.3 Educational Attainment, Pakhiralaya

Category	Male	Percentage	Female	Percentage	Total	Total Percentage of Male & Female
Illiterates	20	7.35	32	11.76	52	19.12
Up to IV (Primary)	16	5.88	18	6.62	34	12.50
IV-VIII (Upper-primary)	28	10.29	40	14.70	68	25.00
IX-X (Secondary)	45	16.54	16	5.88	61	23.43
XI-XII (Higher Secondary)	29	10.66	19	6.98	48	17.65
Graduation	5	1.84	2	0.73	7	2.57
Masters	2	0.74	0	0	2	0.74
Total illeterates	125	45.96	95	34.93	220	8088
Total Population	145	53.31	127	46.69	272	100

Source: Field Survey, 2024

FIGURE 3.3 EDUCATIONAL ATTAINMENT OF PAKHIRALAYA



Vertical Scale - 1cm = Educational Attainment.

Horizontal Scale - 1km = 4%

Source : Field Survey 2024

3.32 DISTANCE OF EDUCATIONAL INSTITUTIONS

Pakhiralaya is a village in Gosaba subdivision of South Twenty-four Parganas district in West Bengal. It is a part of Sundarbans and is located exact opposite to the buffer area of Sundarbans reserve forest. It is located at 6.9 km away from sub-district headquater Gosaba. Working population and students both commute on a daily basis for varying distance from home to school to workplace. Most students in the study area have the tendency to cover the distance of 1-5 km by foot with some owing to cycles, scooters or taxi occassionally. Hence, the data on distance have been presented to indicate the distance categorised covered by population. About 12.96%, 68.52% and 18.52% of the total students commute from home to educational institutions covering a distance of <1 km, 1-5 km and 5> km respectively.

Table 3.4 Distance from Educational Institutions

Distance	No. of students commuting to educational institutions (Private / Government)	% of total households
<1km	7	12.96
1km-5km	37	68.52
>5km	10	18.52
Total	54	100

Source: Field Survey 2024

3.4 LANGUAGE SPOKEN

Language is a system of communication using symbols, sounds or gestures to convey meaning. It is essential for human interaction, enabling us to express thoughts, emotions and ideas. Language varies wordlwide, reflecting cultural diversity and involving overtime.

Table 3.5 Language spoken, Pakhiralaya

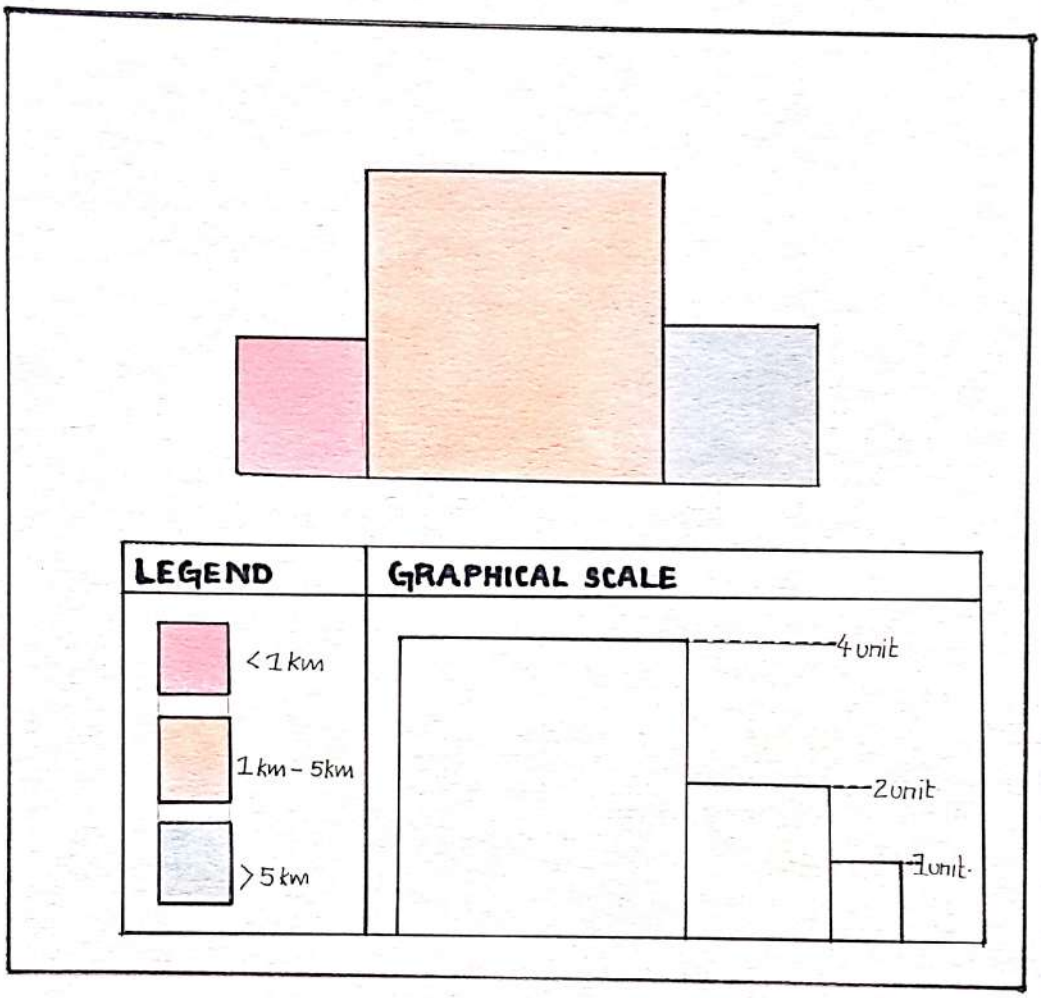
Category	Male	Female	Total	% of total households
Bengali & Hindi	33	16	21	30
Bengali	102	103	37	52.85
Bengali, Hindi & English	9	2	9	12.85
Bengali & English	—	5	2	2.85
Bengali & Tamil	1	1	1	1.45
Total	145	127	70	100

Source: Field Survey 2024.

The most common language spoken in the suaveyed area is Bengali. Bengali accounts for 52.85% Hindi (30%), Bengali and Tamil (1.45%), Bengali & english (2.85%).

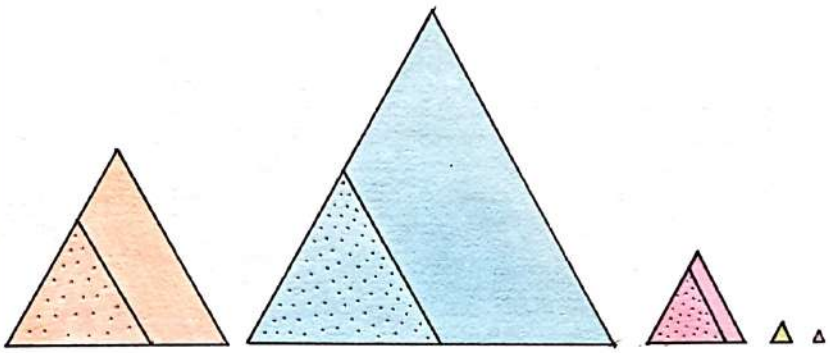
FIGURE 3.4

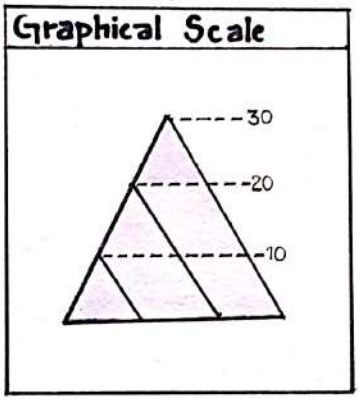
DISTANCE OF EDUCATIONAL INSTITUTION

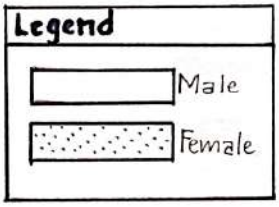


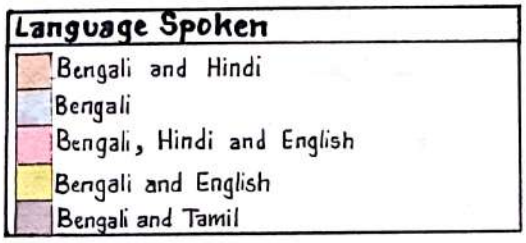
Source : Field Survey 2024

FIGURE 3.5 LANGUAGE SPOKEN PAKHIRALAYA









Source: Field Survey 2024

3.4 HEALTH

Health, according to the World Health Organization, is a state of complete physical, mental and social well being and not merely the absence of disease and infirmity. Health can be promoted by encouraging healthy activities such as regular physical exercise and adequete sleep and by reducing or avoiding unhealthy activity like stress.

Some factors affecting health are due to individual choices, such as weather to engage in a high-risk behaviour, while others are due to group choices, such as whether the society is arranged in a way that makes it easier or harder for people to get necessary healthcare services. Still other factors are beyond both individual and group choices, such as genetic disorders.

Table 3.6 Health Care Centres, Pakhiralaya

Healthcare Centres	No. of Households	% of total Households
PHC	1	1.43
Govt. Hospital	69	98.57
Total	70	100

Source: Field Survey 2024

Pakhiralaya is a part of Gosaba Island and the whole Gosaba Island has only one government hospital i.e Gosaba Rural Hospital which is located at about 7 km away from Pakhiralaya. But this hospital lacks good infrastructure, proper medical facilities and specialized physicians. The bed limit of this hospital is only 30 and thus, the doter - patient ratio is very high and the infrastructure is also adequete to provide good health care facilities. Private hospitals are also associated in Gosaba market nearby named Chokher Alo and Ma Durga Hospital but these have a record of poor performance in medical treatment. The patients with serious health issues have to travel almost 49km to reach canning or ocassionally the patients needed special care have to travel 97.6 km to reach kolkata to get better treatment. Most of the residents of the villages do not want to spend time and money to get better treatment due to low living standards

In the surveyed area, only 1.43% of the total households avail medical facilities from primary health care centres whereas 98.57% avails medical facilities from government hospitals.

Table 3.7 Distance from Health Centres

Distance	No. of households commuting to health institutions.	% of total households
<3km	1	1.43
3km – 7km	38	54.28
8km – 12km	26	37.14
>12km	5	7.14
Total	70	100

Source: Field Survey 2024

Out of the total surveyed households, 54.28% households commute a distance ranging from 3km to 7km to avail medical facilities from health institutions followed by 37.14% households with a distance varying from 8km to 12km.

FIGURE 3.6

HEALTH CARE CENTRES PAKHIRALAYA

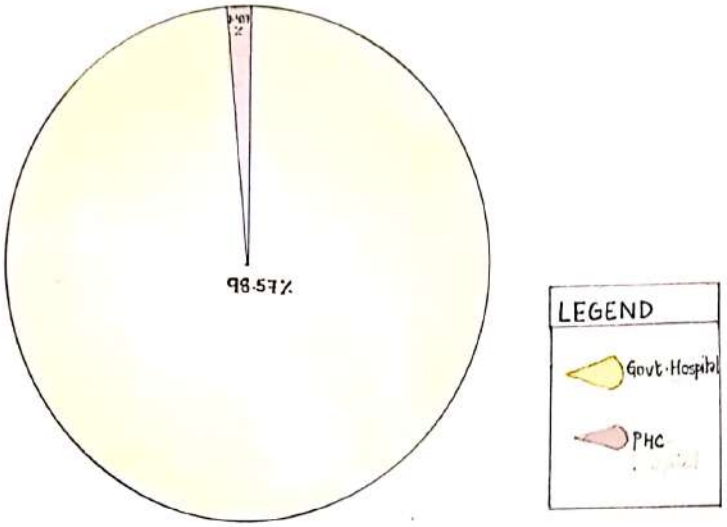


FIGURE 3.7 DISTANCE FROM HEALTH CENTRES

Vertical Scale - 1cm ≃ 10%.
Horizontal Scale - 2.5cm ≃ 4km

LEGEND
- < 3 km
- 3-7 km
- 8-12 km
- > 12 km

Source : Field Survey 2024

3.5 CASTE

Caste is a form of social stratification characterized by endogamy, hereditary transmission of a style of life which often include occupation, ritual status in a hierarchy and customary social interaction and exclusion based on cultural notions of purity and pollution. Traditional caste system have historically influenced social structures, occupations and relationships within communities. However, overtime socio, economic changes, education and modernizations have influenced the dynamics of caste, while caste identities may still play a role in certain aspects of life, especially in rural areas, where there is very little evidence of increased social mobility and inter caste interactions. A subject of much research by sociologists and anthropologists, the Hindu caste system is sometimes used as an analogical basis for the study of caste like social divisions existing outside Hinduism and India.

The Sundarbans, is home to a diverse population with various castes and religions. The distribution of caste categories in Pakhiralaya village has been presented to study the population composition belonging to different caste. The study constitutes all castes categories and show varied distribution of each caste. The data is hereby presented to give a detailed idea.

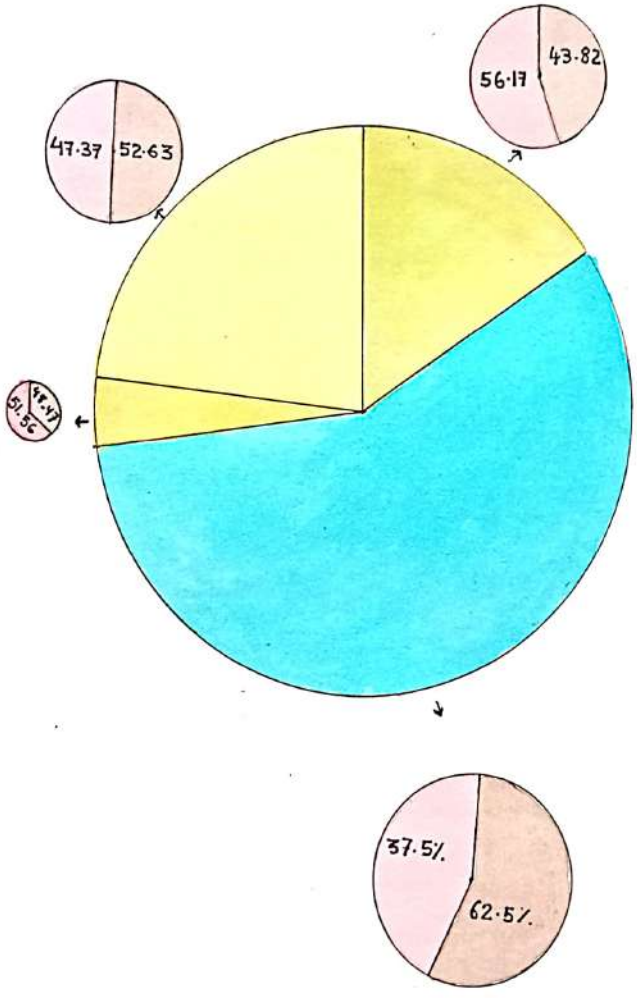
Table 3.8 Caste Composition, Pakhiralaya

Category	Male	Male %	Female	Female %	Total	Total %
General	18	6.62	20	7.35	38	13.97
SC	91	33.46	71	26.10	162	59.55
ST	3	1.10	5	1.84	8	2.94
OBC	33	12.13	31	11.40	64	23.53
Total	145	53.31	127	46.69	272	100

Source: Field Survey 2024.

The caste composition in the surveyed area is diverse and complex. After analysing the data. it is evident that Scheduled caste accounts for the highest percentage of total surveyed population. 59.55% followed by Other Backward classes, General and Scheduled Tribe with 23.53%, 13.97% and 2.94% respectively. It shows that area is mostly inherited by people belonging to scheduled caste, other backward classes and Gneral whereas Scheduled Tribe population comes under minority in the Surveyed area.

FIGURE 3.8 CASTE COMPOSITION PAKHIRALAYA



Source : Field Survey 2024

3.6 RELIGION

Religion is usually defined as socio-cultural system of designated behaviours and practices, morals, beliefs, worldviews, texts, sanctified places, prophecies, ethics or organizations, that generally relates humanity to supernatural, transcendental and spiritual elements. However there is no scholarly consensus over what precisely constitutes a religion.

Different religion may or may not contain various elements ranging from the divine, sacred things, faith, a supernatural being or same sort of ultimacy and transendence that will provide norms and power for the rest of life. Religious practices may include rituals, sermons, trances, initiations, funerary services, matrimonial services, meditation, prayers, music, art, dance, public services etc of different aspects of human culture religion have sacred histories and narratives, which may be preserved in sacred scriptures, and symbols and holy places, that aim mostly to give a meaning to life. Religions may contain symbolic stories, which are sometimes said by the followers to be true, that may also attempt to explain the origin of life, universe and other phenomena.

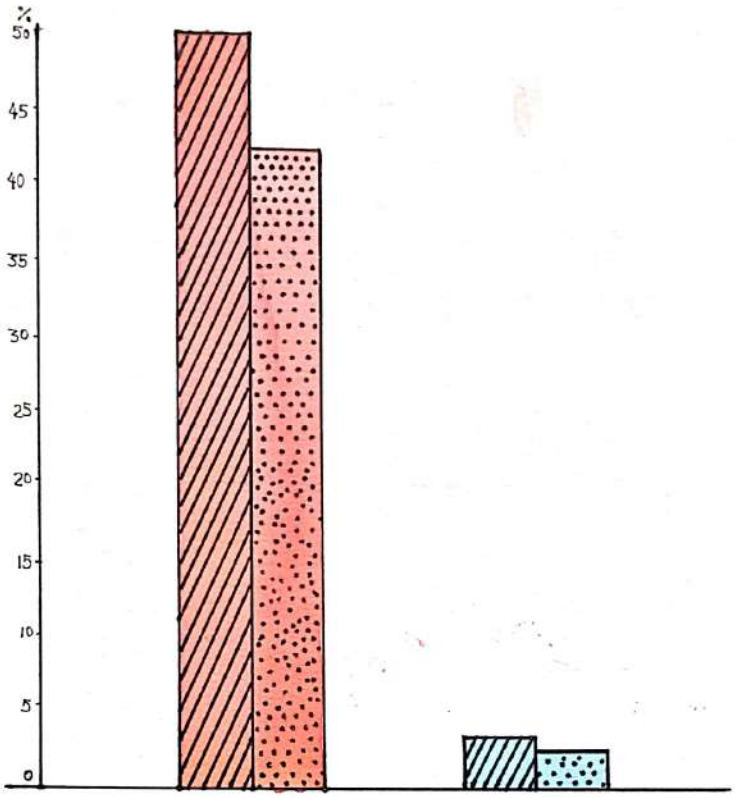
Table 3.9 Religious composition, Pakhiralaya

Category	Male	Male %	Female	Female %	Total	Total %
Hindu	135	49.63	120	44.12	255	93.75
Christianity	10	3.68	7	2.57	17	6.25
Total.	145	53.31	127	46.69	272	100

Source: Field Survey 2024

It is evident from the table that 93.75 % of the surveyed population are Hindu and out of which 49.63 % are males and 44.12 % are females. The remaining population is Christian which accounts for only 6.25 % of total surveyed population.

FIGURE 3.9 RELIGIOUS COMPOSITION PAKHIRALAYA



Vertical Scale 1cm ≅ 5%

LEGEND

- Male
- Female
- Hindu
- Christianity

Source: Field Survey 2024

3.7 MARITAL STATUS

Marital status refers to the personal status of each individual in relation to the marriage laws or customs of the country. It is the relationship status of an individual in terms of whether he or she forms a couple relationship with another person living in the same usual residence and the nature of that relationship.

There are several categories of marital status single, married, widowed, divorce, separated and in certain caste, registered patnership. Marital status structures the entire adult life coarse and influences psychological and physical well-being for both men and women.

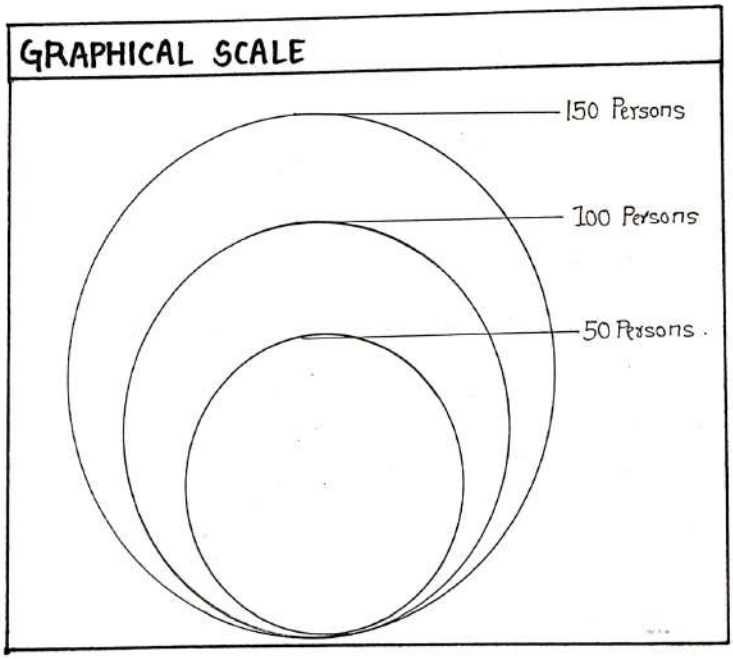
Table 3.10 Marital Status, Pakhiralaya

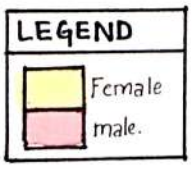
Category	Male	Male %	Female	Female %	Total	Total %
Married	91	33.46	92	33.82	183	67.28
Unmarried	54	19.85	31	11.40	85	31.25
Widow	—	—	4	1.47	4	1.47
Total	145	53.31	127	46.69	272	100

Source: Field Survey 2024

Out of total population surveyed, married persons (67.28%) are more than the unmarried persons (31.25%), where as widow accounts for only 1.47% of the total surveyed population. The percentage of married females (33.82%) in the surveyed area is slightly higher than married males (33.46%) whereas percentage of unmarried males (19.85%) is higher than the unmarried females (11.40%).

FIGURE 3.10 MARITAL STATUS PAKHIRALAYA





Source: Field Survey 2024

3.8 FAMILY STATUS

Family status refers to the composition and structure of household, with two primary types being joint and nuclear families. In a joint family, multiple generations, such as grandparents, parents and children, live together under one roof and share resources, responsibilities, and decision making. In contrast, a nuclear family consists of only parents and their children living together, typically in a separate household. Understanding family status provides insights into cultural norms, social dynamics, and household arrangements, shaping individuals experiences and relationships within their families and communities.

The provided data offers insights into the composition of households within the community. The majority of households, comprising 85.71% of the total, are nuclear families. This indicates that a significant production of household consists of parent and their children living togther in a separate household. In contrast, a smaller percentage of households, totalling 14.29% are joint families. Joint families involve multiple generations, such as, grandparent, parent, children living together under one roof and sharing resources, responsibilities and decision-making.

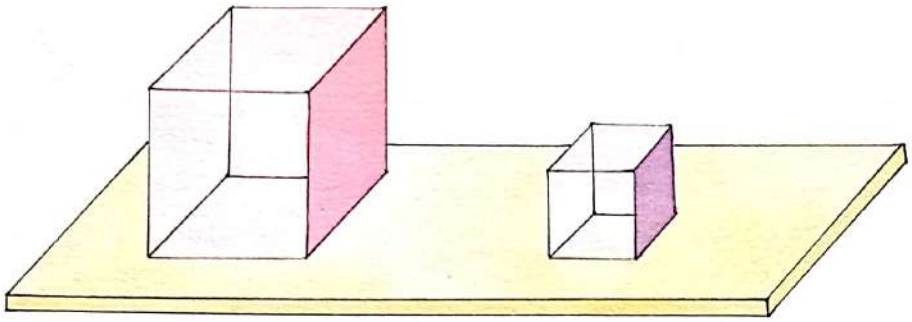
Table 3.11 Family Status, Pakhiralaya

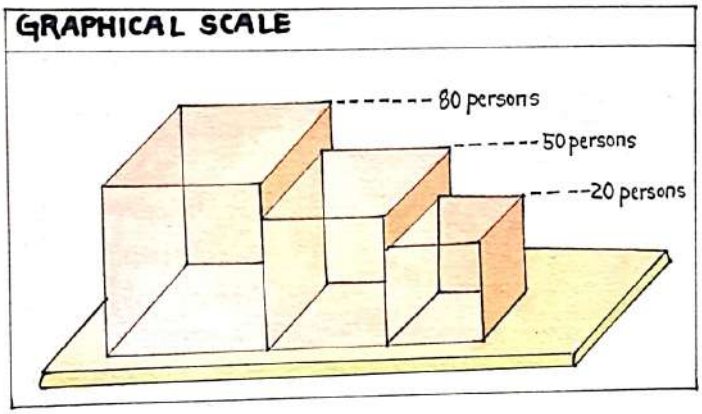
Category	Total	Percentage
Nuclear	60	85.71
Joint	10	14.29
Total	70	100

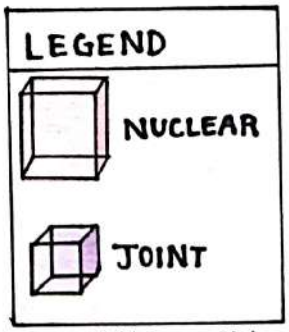
Source: Field Survey 2024

FIGURE 3.11

FAMILY STATUS
PAKHIRALAYA







Source : Field Survey 2024

3.9 SOCIAL AMENITIES

Man is a social being; he cannot survive in isolation. He needs basic various necessities to survive. Social Amenities may be facilities that are either man made or natural. Whether the necessities are natural or artificial/man-made, both are important for survival. Social amenities refers to any tangeble or intangible resources developed by humans or provided by nature. The basic social amenities that humans needs to survive in a society are food, clothing and shelter. Besides theseg amenities such as education, infrastructure, materialistic things such as T.V, refrigerator, phone etc is man made. Social amenities in contemporary times are supposed to be necessities or facilities without which a humanbeing cannot survive in a society.

Social Amenities also known as public amenities include places, buildings and infrastructures facilities. It plays a vital role in development of communication, intellectual and physical growth of the population. Social amenities prepares humanbeing in a society or community rather than alone, to experience the behaviour and interaction of persons forming group. Social amenities have become the most imp. facilities a human needs.

Table 3.12 Social Amenities, Pakhiralaya

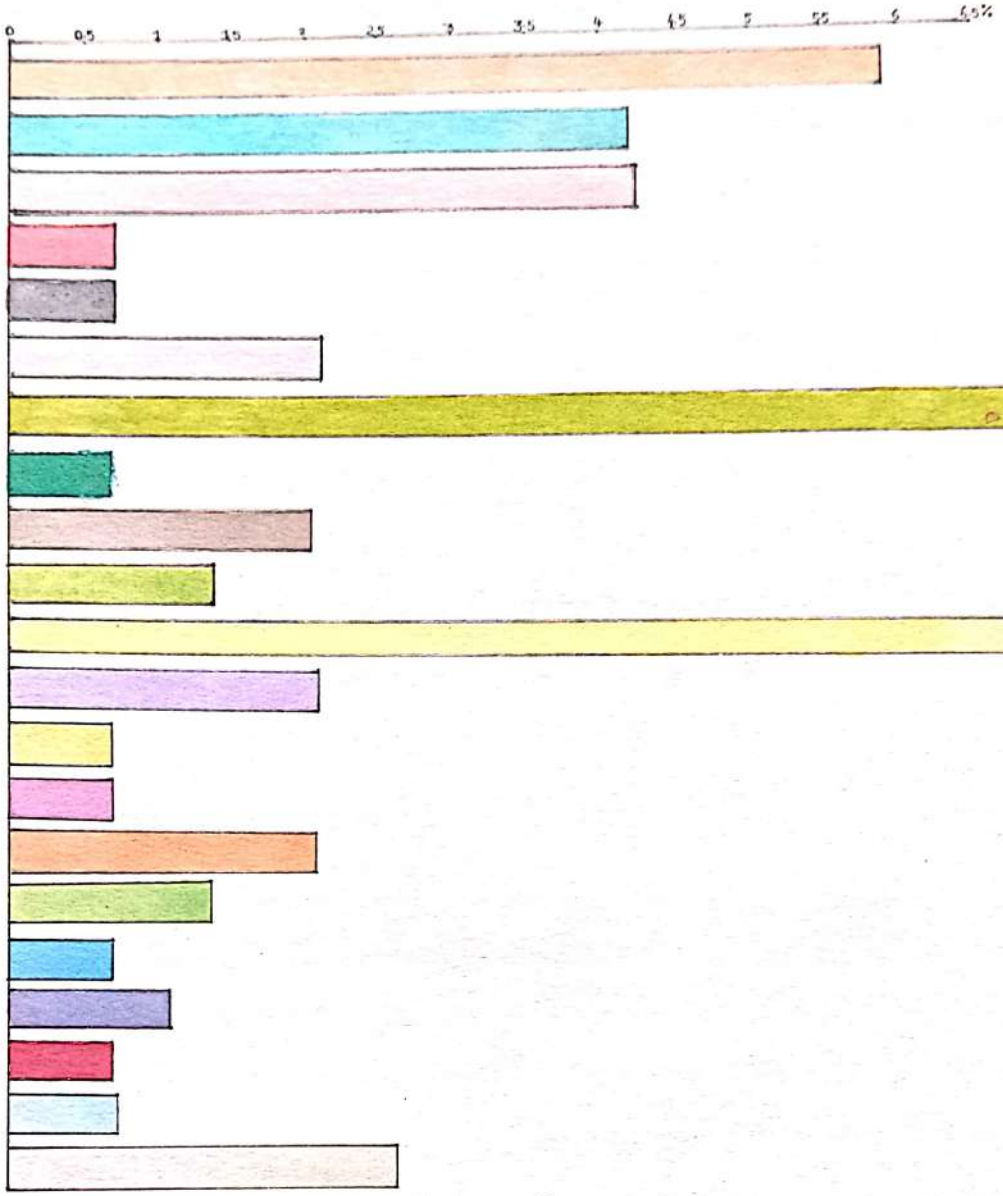
Assets.	No of households	% of Total household
Mobile Phone.	9	11.85
Tv, Mobile Phone, 2-wheelers.	5	8.50
Mobile Phone, cycles	6	8.57
Tv, refrigerator, mobile, (3-wheelers)	1	1.42
Tv, refrigerator, mobile, 2-wheelers.	1	1.42
Tv, refrigerator, mobile phones.	3	4.29
Mobile Phone, 2-wheelers.	10	14.28
Mobile Phone, 4-wheelers.	1	1.43
Tv, mobile, cycles.	3	4.29
Tv, refrigerator, mobile, cycles	2	2.85
Tv, mobile phone	10	14.28
cycles	3	4.28
mobile phone, others (3wheelers)	1	1.42
mobile, 2wheeler, cycles.	1	1.42
Tv, mobile, cycles.	3	4.29
Tv, refrigerator, mobile, 2-wheeler.	2	2.85
Refrigerator, mobile, microven, cycle	1	1.42
TV, Mobile, 3-wheelers.	2	2.45
Mobile phone, cycles.	1	1.42
Tv, mobile, 2wheeler, 4-wheeler.	1	1.42
Without any assets	4	5.45
Total.	70	100

Source: Field Survey 2024

The gradual advent of modern technology amenities can be noticed in the surveyed area of pakhiralaya village as some house possessed tv, mobile, etc.

The modern technology has, to some extend, succeeded in touching the lives of the people in the surveyed area of Pakhiralaya village as T.V and mobile phone and mobile phone and 2-wheelers accounted for 14.28% each of the total households. On the other hand, 11.85% of the total household possessed mobile phones. About 8.58% of the total household possessed T.V, mobile phone and cycles, followed by public mobile phone and cycles 8.57%, Tv, mobile phone and 2-wheelers 8.50%, Tv, refrigerator, mobile phone 4.60%, Cycles 4.28%, Tv, mobile phone, refrigerators and cycles 2.85%, Tv, mobile phone others (3-wheelers) 2.80% However, the use of modern application in the households of the surveyed area is very limited as the area is suffering from backwardness and is one of the underdeveloped villages in Gosaba block.

FIGURE 3.12 SOCIAL AMENITIES PAKHIRALAYA



Scale 1cm ≅ 0.5%

LEGEND

- Mobile Phone
- Television, mobile phone, 2-wheeler
- Mobile Phone, Cycles
- Television, Refrigerator, mobile phone, other 3-wheelers
- Television, Refrigerator, 2-wheeler
- Television, Refrigerator, mobile phone
- Mobile Phone, 2 wheelers.
- Mobile Phone, 4 wheelers.
- Television, Mobile Phone. cycles.
- Television, Refrigerator, Mobile Phone, Cycles.
- Television, Mobile Phone
- cycles
- mobile phone, others 3 wheelers
- mobile phone, 2 wheelers, cycles
- Television, mobile phone, cycles
- Television, refrigerator, mobile, 3 wheeler
- Television, oven, cycle, refrigerator.
- Television, other 3 wheelers, mobile phones
- Television, mobile phone, cycles
- Television, mobile phone, 2 wheeler, 4 wheeler
- without any asset

Source : Field Survey 2024.

3.10 WATER SUPPLY

Water is an extremely important part of our lives. People depend on water for drinking, cooking, washing, carrying away water and other domestic needs. Water supply system also meet requirements for public, commercial and industrial activities. In all cases, water must fulfill both quantity and quality requirements. A water supply system delivers water from sources to customers and provides services vital to function of an industrialized society and imp to emergency response and recovery after disastrous events.

Table 3.13 Source of Water, Pakhiralaya

Source	No of households	% of total households
Tubewell	8	11.85
Nearby Pond	19	27.14
Pipe line	41	58.37
Others	2	2.86
Total	70	100

Source: Field Survey 2024

A large number of residents in the surveyed area gets water through pipeline from PHE, which accounts for 58.37% of the total surveyed area. About 27.14% house holds collect water from nearby ponds and 11.85% households collect water through tubewell. Only 2.86% households have sources of water as other.

3.10.1 WATER COLLECTED FROM PONDS

Many households in the surveyed area collect water from the ponds as these households do not have water supply through pipeline. The residents walk for varying distances to collect water everyday. Data has been collected to find the varying distance covered by local resident of surveyed village. About 38.23% of total surveyed households cover a distance of <3km – 7km – 10 km each to collect water from ponds followed by a distance of 3km - 6km 17.65%. About 2.94% households walk a distance of 11km - 14km and >14km each to collect water from ponds

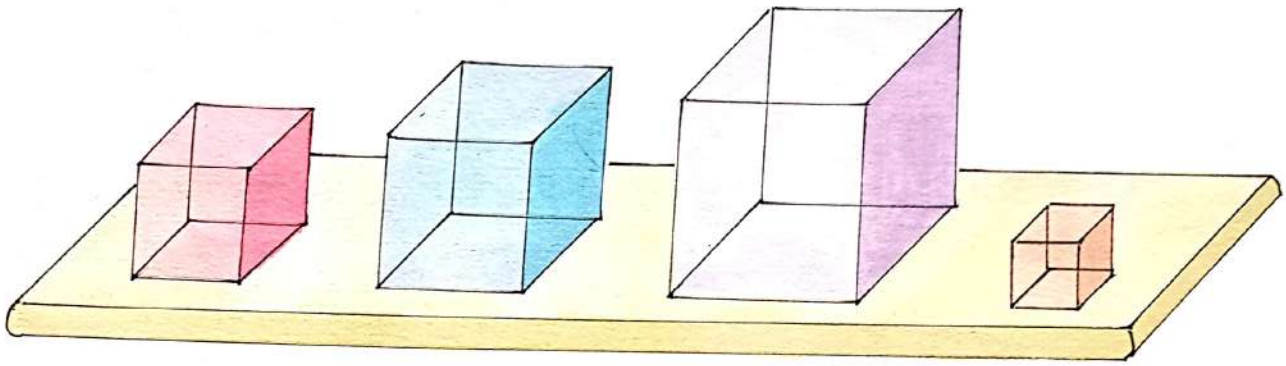
Table 3.14 Water Collected from Ponds

Distance	No of households	% of total households
<3km	13	38.23
3 - 6 km	6	17.65
7 - 10 km	13	38.23
11 - 14 km	1	2.94
>14km	1	2.94
Total	34	100

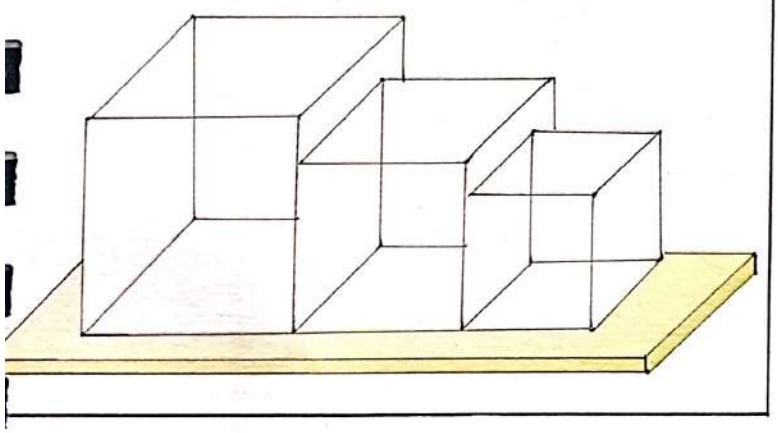
Source: Field Survey 2024

FIGURE 3.13

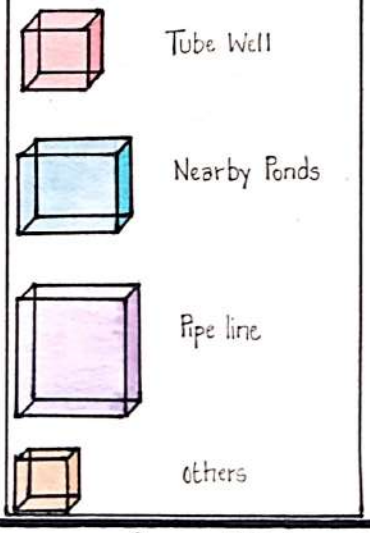
SOURCE OF WATER
PAKHIRALAYA



GRAPHICAL SCALE

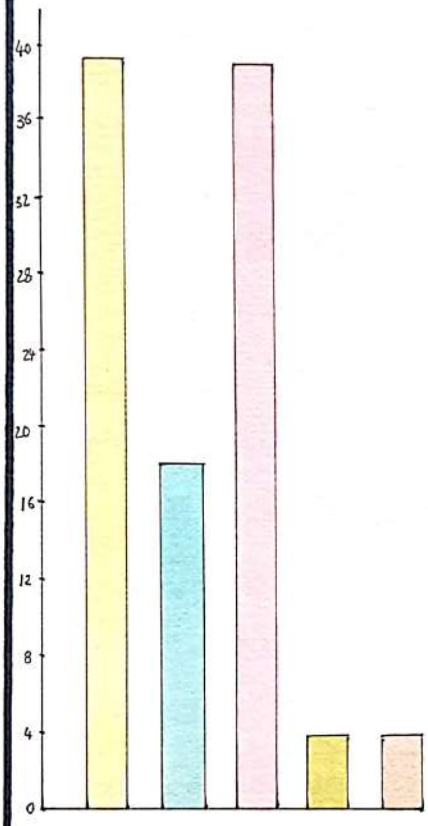


LEGEND



Source : Field Survey 2024

FIGURE 3.14 WATER COLLECTED FROM PONDS



1 cm ≅ 4 km

LEGEND

- < 3 km
- 3 - 6 km
- 7 - 10 km
- 11 - 14 km
- >14 km

Source : Field Survey 2024

3.11 CONCLUSION

The Surveyed area of Pakhiralaya village located in Gosaba Island had a total population of 272 out of which 145 are males and 127 are females. The percentage of male in the age group of 20-24 and 50-54 are higher among all the groups. The female with the age group between 35-39 is respectively higher than other female groups.

The educational status of the surveyed area indicates that 80.88% of the total population is literate and 19.12% are illetrate. Out of the literate population, male and female accounts for 45.96% and 34.93% respectively. The number of persons pursuing higher education is very low. Most of the people are educated only at secondary and upper primary level.

Pakhiralaya is a part of Gosaba Island and the whole Gosaba Island has only one Government hospital i.e Gosaba rural hospital which is located about 7 km away from Pakhiralaya. But this hospital lacks good infrastructure, proper medical facilities and specialized physicians.

The caste composition in the surveyed area is diverse and complex with 57.14% scheduled caste, 21.43% other backward classes, 18.57% General and 2.86% Scheduled Tribe population. 97.14% surveyed households are hindus and the remaining population is christian.

The modern technology has, to some extend, succeeded in touching the lives of the people in the surveyed area. However, the use of modern appliances in the household is very limited as the area is suffering from backwardness and is one of the under developed villages in Gosaba block.

A large number of residents in surveyed area gets water through pipeline from PHE, i.e 58.37% of the total households. About 27.14% collects water from nearby ponds. Many households in the surveyed area collects water from ponds because they dont have water supply from pipeline. The residents walk for varying distances to collect water every day.

CHAPTER-4

ECONOMIC CONDITIONS OF PAKHIRALAYA

4.1 INTRODUCTION

The Sundarbans are a network of tidal channels, rivers, and creeks. Some of these islands are mere swampy morasses, covered with low forest and scrub wood jungle, but those to the north, which are embanked, grow rich crop of rice, As one approaches the coast, the land gradually declines to an elevation throughout many hundred square miles ie scarsely raised above high-water mark. Life under the colonial and the post colonial day is not very different from the islands or its dwellers.

The population of these island has definately gone up by leaps and bounds yet infrastructurally they are still back in the fiftees. Most of these islands do not have electricity because they are inaccessible. In order to reach interior of some islands, one has to change boats some three or four time. Most of these islands have either mud jetties, or slimy, half cracked cemented ones. At the time of independence, all of the roads were mud roads, In the last 60 years, a few have been converted to concrete ones, and some other into brick roads. Thus during flooding and monsoon, the islands become very tricky. The local usually prefer building mud houses as its risky to spend money on concrete ones, for there is no guarentee, of it surviving for long time due to frequent flooding and erosion on these islands.

4.2 INCOME

Income refers to the money or earning that an individual or entity receives, typically on a regular basis or from various sources such as employment, investments or business activities. It can be in the form of wages, salaries, interests, dividents, rents or profits, Income is vital as it covers basic needs determining living standards, provides financial security, enhances quality of life, fasters economic growth, facilitates social mobility and reduces inequality.

The table given shows the average monthly income of 70 households of surveyed

area of Pakhiralaya village falling under different categories. The data represents the distribution of households based on their average monthly income. The majority of households (31.43%) fall in the income range of Rs 1000 - 6000 per month, followed by household (22.85%) earning between Rs 6000 - 10,000 per month. The data also shows that there is a gradual decrese in the percentage of households as the income bracket increases, with only a small percentage of household (2.85%) earning over Rs 22000 per month. Overall the data suggests that the majority of household falls into the lower to middle income brackets, with only a small percentage of households earning higher income.

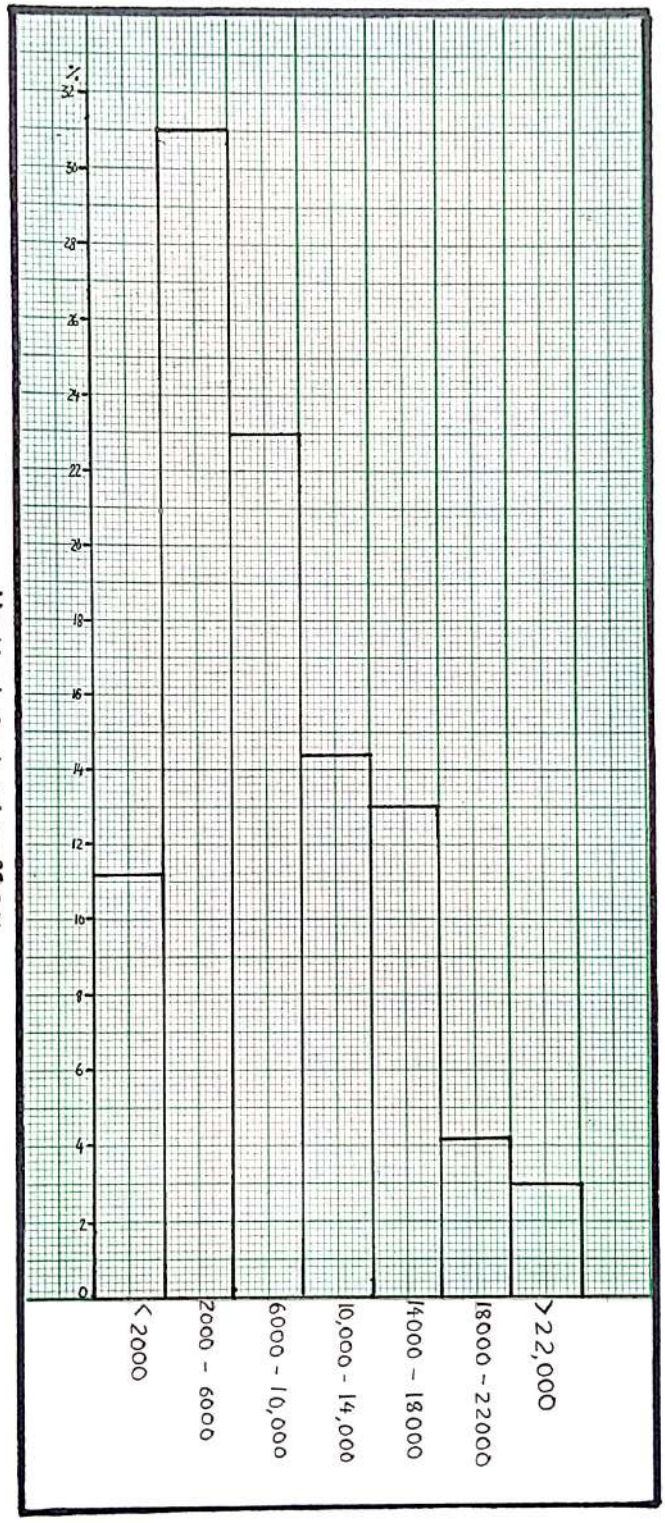
Table 4.1 Monthly Income, Pakhiralaya

Income in Rupees.	No. of households	% of total households
<2000	8	11.42
2000 - 6000	22	31.43
6000 - 10,000	16	22.85
10,000 - 14,000	10	14.29
14,000 - 18,000	9	12.85
18,000 - 20000	3	4.31
20,000 - 22,000	1	1.11
>22,000	1	2.85
Total	70	100

Source: Field Survey 2024

FIGURE 4:12 MONTHLY INCOME

PAKHIRALAYA



Source : Field survey 2024

4.3 SAVINGS

Monthly savings involves setting aside a portion of your income on a regular basis, typically each month. It's a smart financial habit that provides safety net for emergencies, helps achieve long term goals like buying a house or retiring comfortably and offers peace of mind knowing you have funds for unexpected expences or opportunities.

Table 4.2 Saving Status, Pakhiralaya

Saving Status	No of households	% of total households
Savings	25	35.70
No savings	45	64.30
Total	70	100

Source: Field Survey, 2024

Table 4.3 Monthly Savings, Pakhiralaya

Savings in Rupees	No. of households	% of total households
<500	8	32
500 - 1400	4	16
1400 - 2300	9	36
2300 - 3200	3	12
>3200	1	4
Total	25	100

Source: Field Survey, 2024

Out of the total surveyed area, 35.70% households save monthly with varying ranges and 64.30% have their savings nil. Majority of the households save Rs 1400-2300 permonth. 32% of household have monthly saving of less than Rs 500, 16% of household between Rs 500-Rs 1400 per month. 12% of household save between Rs 2300-3200 per month and only 4% of household have savings exceeding Rs 3200 per month.

The majority of households (68%) have monthly saving below 2300rps, indicating potential financial constraints or lower income level within the community. A smaller proportion of households (16%) falls within the middle saving bracket of Rs 500-1400, suggestion some level of financial stability and disposable income. The data also highlights a significant portion of household, 36% with saving between Rs 1400-2300 per month indicating a moderate level of financial security and the ability to save. However, there is limited representation of

FIGURE 4.2 SAVINGS STATUS PAKHIRALAYA

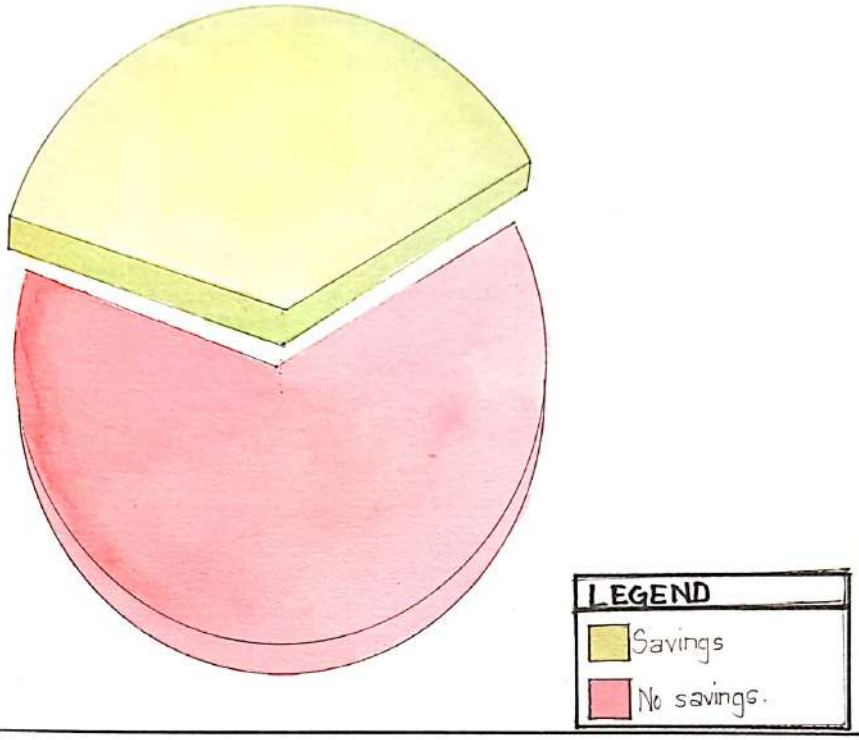
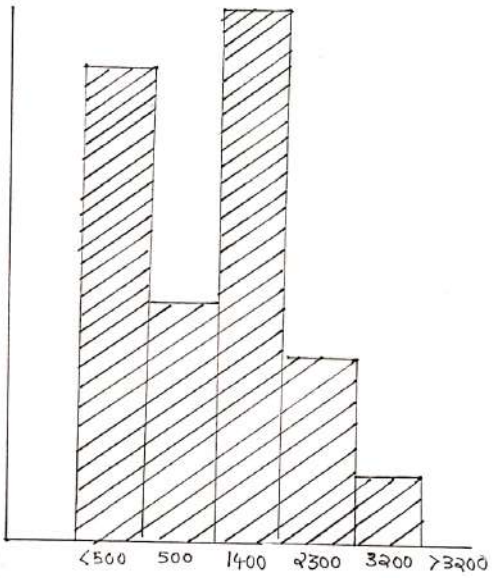


FIGURE 4.3 MONTHLY STATUS PAKHIRALAYA



Horizontal Scale : 1cm = Rs 900

Vertical Scale: 1cm = 6%

Source: Field Survey 2024

households with higher savings, with only 6% savings more than Rs 3200 per month indicating a smaller affulent segment within the community. Overall, the distribution of monthly savings suggests varying levels of financial well being within the surveyed area, with a notable proportion having relatively limited savings, while small proportion exhibit higher level of security.

4.4 EXPENDITURE

Average monthly expenditure refers to the total amount of money spent over the course of a month on various expenses such as bills, groceries, transportation, entertainment and other neccessities. Calculating and analysing average monthly expenditure is important for understanding one's financial habits, identifying areas of over spending and creating a budget to effectively manage finances. There's always a benefit of maintaining a balanced budget to achieve financial stability.

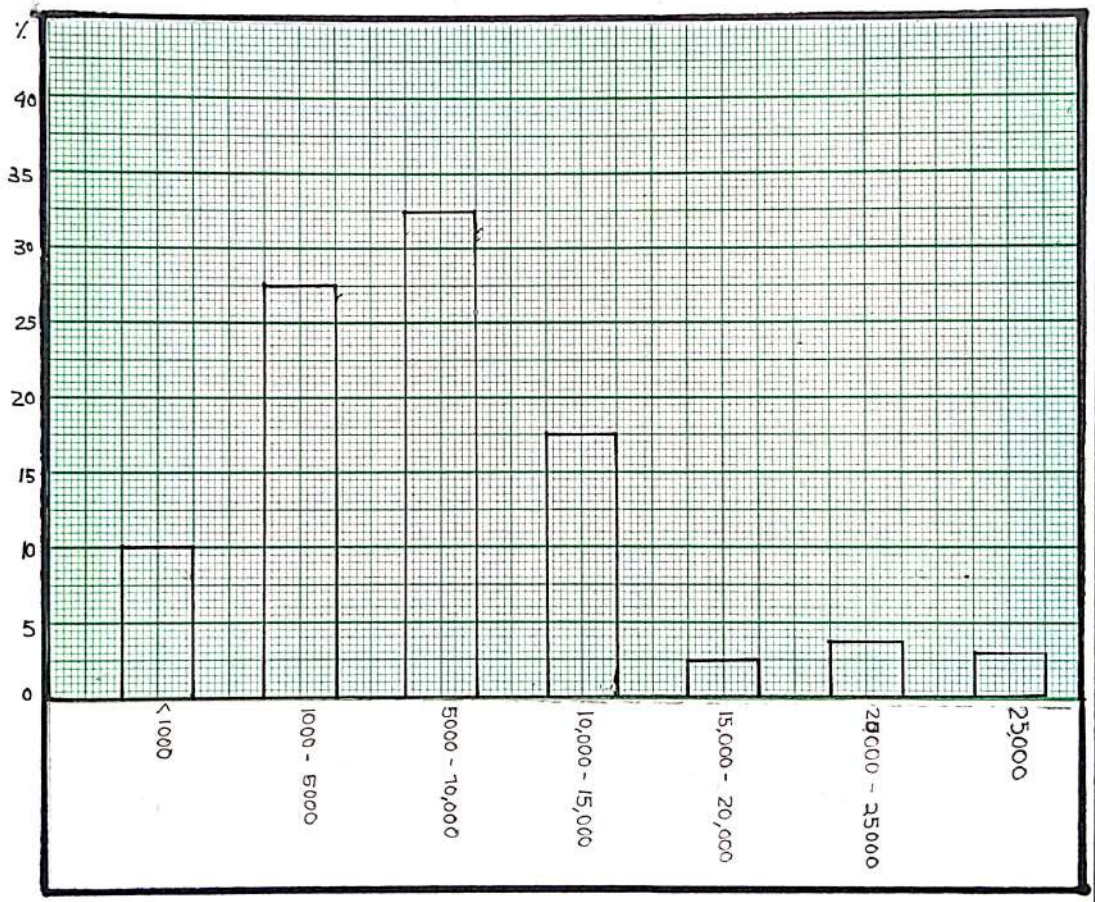
Table 4.4 Monthly Expenditure, Pakhiralaya

Expenditure in Rupees	No of households	% of total households
<1000	8	11.42
1000 – 5000	20	28.57
5000 – 10,000	25	35.71
10,000 – 15,000	11	15.71
15,000 – 20,000	1	1.42
20,000 – 25000	3	4.31
>25,000	2	2.85
Total	70	100

Source: Field Survey 2024

Based on the distribution of average monthly expenditure, it can be intepreted that the majority of households (35.71%) fall within category of Rs 5000 – 10,000 expenditure range followed by (28.57%) falling in the category of Rs 1000 – 5000 expenditure range. This suggests that the significant proportion have a moderate level of spending on a monthly basis. The data shows that there is small no. of households that enables users to (<1000) or very high (>25000) monthly expenditure. These extreme value indicates that there is some sort of variability in the spending habits of households, Overall, the distribution of average monthly expenditure suggests that there is a wide range of spending pattern among the surveyed households, with majority falling with a moderate range.

FIGURE 4.4 MONTHLY EXPENDITURE PAKHIRALAYA



Horizontal Scale: 1cm = Rs 500

Vertical Scale : 1cm = 5%

Source: Field Survey 2024

Examined

4.5 INTERNET FACILITY

Internet Facilities encompass a broad range of services and technologies that enables users to connect to the internet. These facilities include various types of connections such as broadband, fiber-optic and wireless, as well as infrastructure like routes, modems, and cables. Internet facilities play a crucial role in providing individuals, businesses and organisations with access to vast resources available on internet, including websites, email, online application, and digital media. With the continuous advancement of technology, internet facilities are constantly evolving to deliver faster specds, greater reliability and broader coverage, empowering users to stay connected and productive in todays digital age.

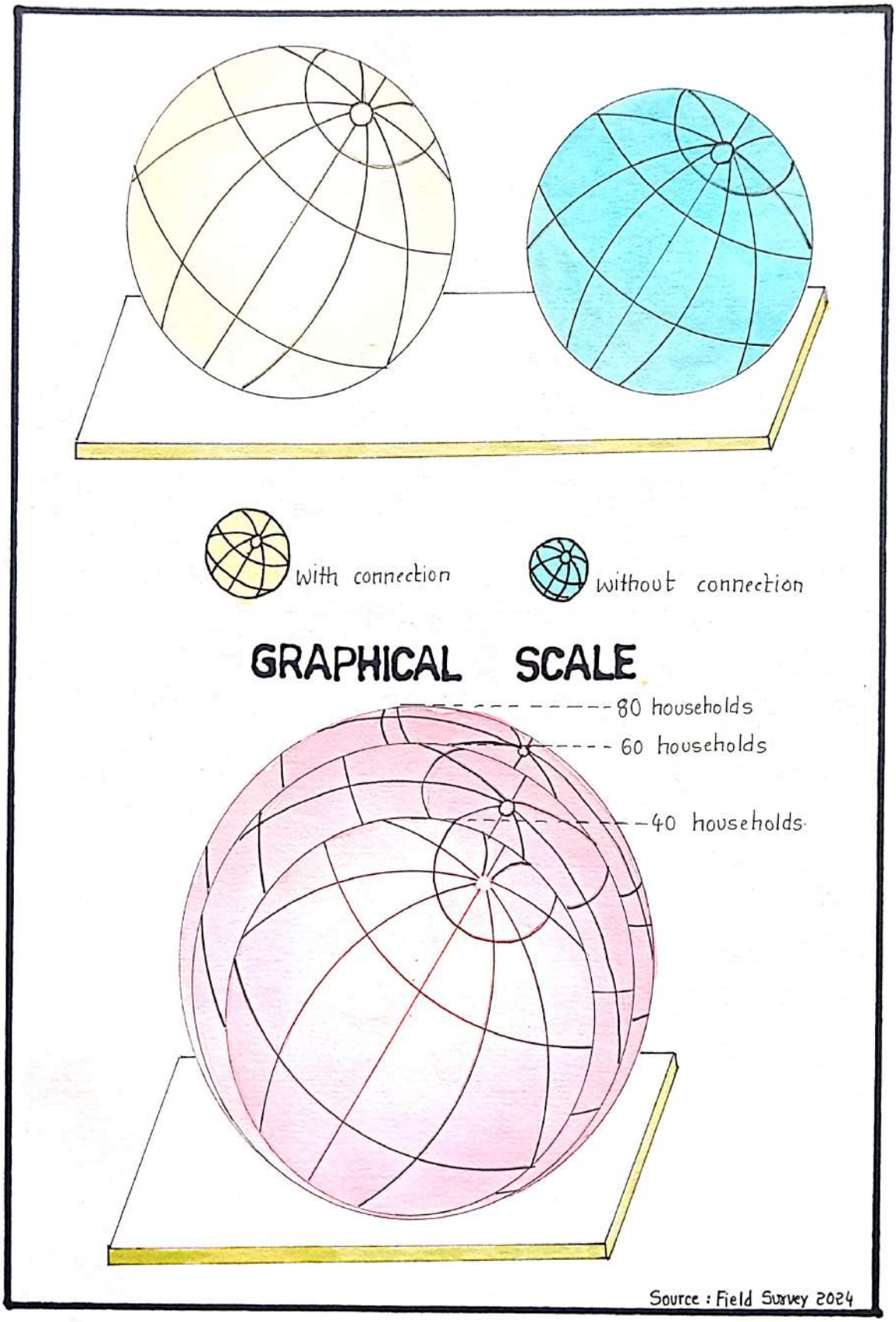
Table 4.5 Internet Facility, Pakhiralaya.

Internet Facility	No of households	% of total households
With connection	50	71.42
without connection	20	28.57
Total	70	100

Source: Field Survey 2024

Based on field survey data provided, it seems that the majority of households surveyed have internet facilities, accounting for 71.42% of the total. On the other hand, 28.57% households surveyed donot have internet facilities. This suggests a relatively high level of internet adoption within the surveyed area, possibly indicating a trend towards increasing connectivity and digital inclusion. However there is still a significant portion of household without internet access, which could be due to various factors such as affordability, infrastructure limitations, or personal choice.

FIGURE 4.5 INTERNET FACILITIES PAKHIRALAYA



4.6 ELECTRICITY

Electricity is the lifeblood of modern society, powering our homes, businesses and industries. It is a versatile form of energy that drives everything from lights and appliances to computers and manufacturing equipments. Since its discovery and harnessing, electricity has transformed the way we live, work and interact with the world around us. From enabling communication and transportation to revolutionizing healthcare and entertainment, electricity plays a fundamental role in almost every aspect of our daily lives. As technology continues to advance, electricity remains at the forefront, powering innovations that shape the future of humanity.

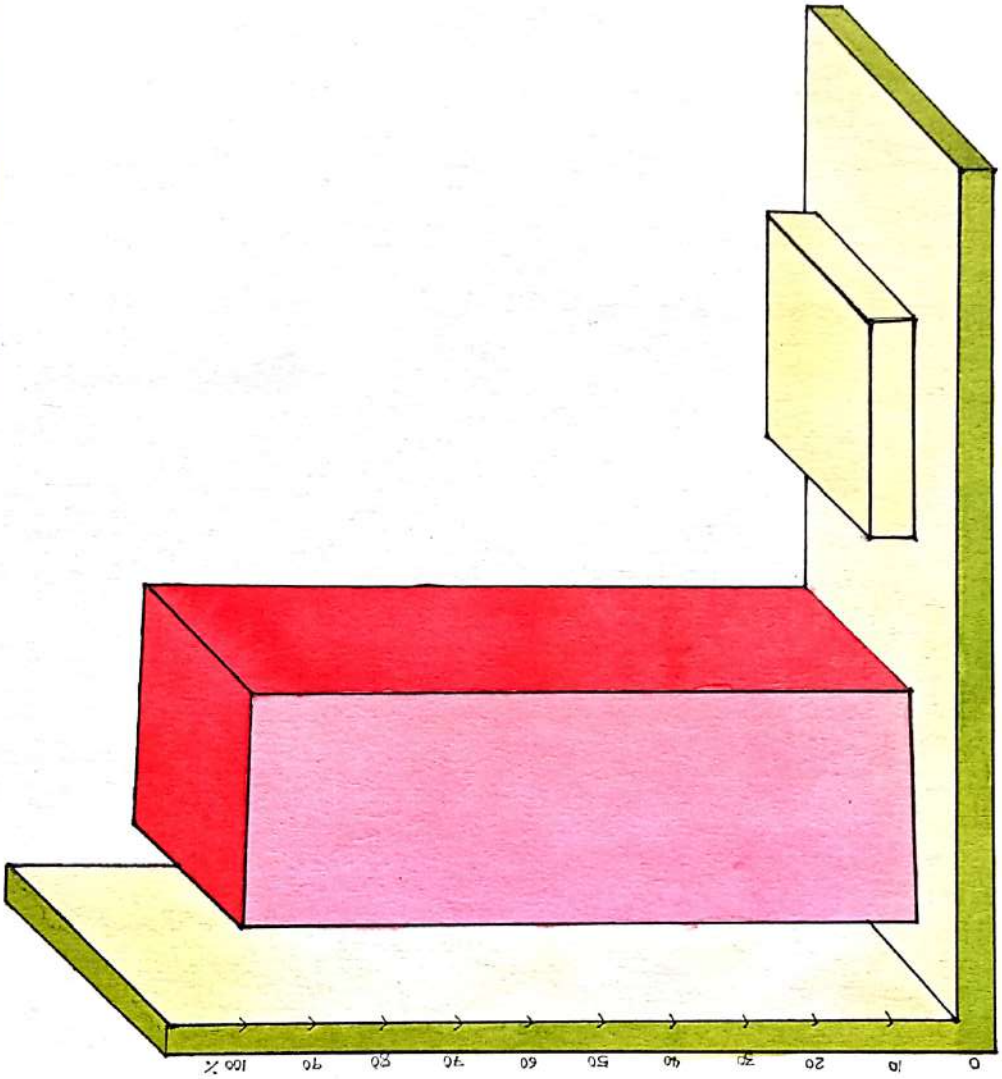
Table 4.6 Electricity, Pakhiralaya

Electricity	No of households	% of total households
with electricity	66	94.29
without electricity	4	5.71
Total	70	100

Source: Field Survey 2024

Based on the field survey data provided, it is evident that majority of households have access to electricity, with (94.29%) of household reporting having electricity. However, there is a small percentage (5.71%) of household without electricity. This indicates a relatively high level of electrification within the area, which is crucial for improving living standards, enabling access to modern amenities, and supporting economic development. This small % of household without electricity represents area that are underserved or may face challenges in accessing electricity infrastructure

FIGURE 4.6 ELECTRICITY, PAKHIRALAYA



Horizontal scale = 1cm ≅ 10%

LEGEND
- with electricity.
- without electricity.

Source : Field Survey 2024

4.6 OCCUPATIONAL STATUS

Occupational status is a fundamental measure of social standing that reflects the distribution of power, priviledge and prestige associated with positions in the occupational hierarchy and is a key socio economic status. It is an act of doing and accomplishing a selected activity or occupation that results from the dynamic transaction among the client, the context and the activity. Occupational activity must be also added to the factors influencing individual mobility with working and unemployed people as work-related activity and job searches potential reasons for increased travel. Occupational status often correlates nowadays with one's educational achievements. Those with more advanced degree generally hold more esteemed positions.

Table 4.7 Occupational Status, Pakhiralaya

SL NO.	Occupation	Total	% of total households
1	Farmer	64	54.70
2	Tour Operator	3	2.56
3	Driver	22	18.80
4	Labourer	5	4.27
5	Carpenter	5	4.27
6	Businessman	15	12.82
7	Bank Employee	1	0.86
8	Tailor	1	0.86
9	NGO Worker	1	0.86
	Total	117	100

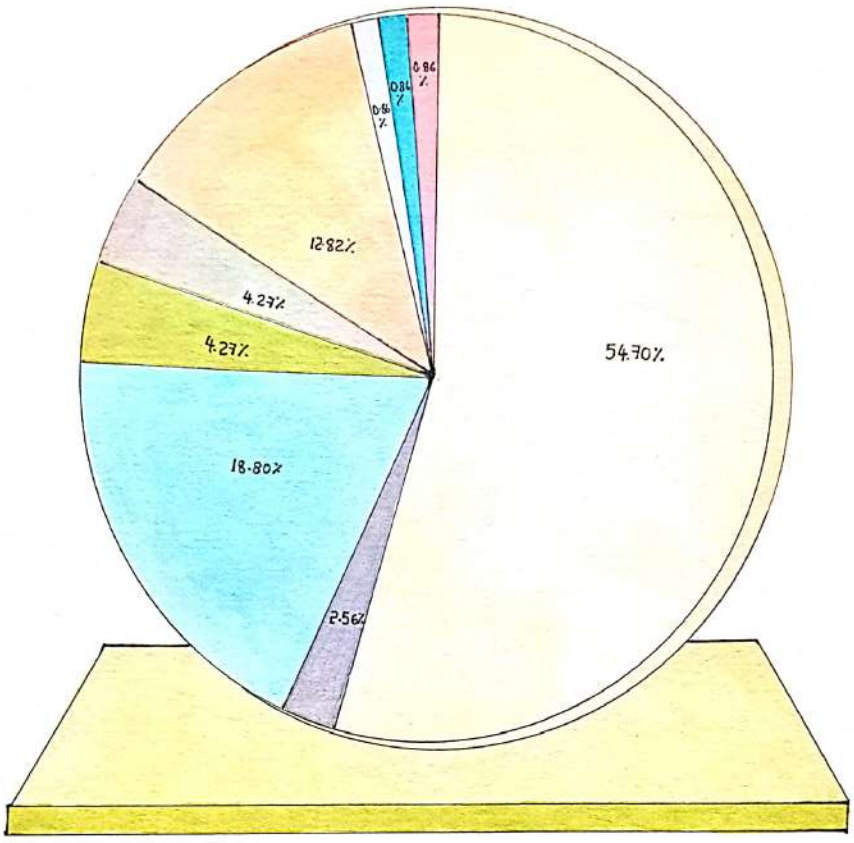
Source: Field Survey, 2024

Out of the total surveyed population in Pakhiralaya, farmers accounts for 54.70% followed by drivers (18.80%) and businessmen (12.82%). Labourers and carpenter accounts (4.27%) and tour operators accounts for (2.56%). The farmers of Pakhiralaya include crop cultivators, animal rearer, fishermen and prawn seed collector. Agriculture is the main occupation in Pakhiralaya. 47.92% household have their agricultural land ranging from 30 katha to 60 katha. In recent years, the area has stepped in progress from tourism point of view, as considerable percentage of people are engaged in hotel business (12.82%), drivers (18.80%). The people here are very less employed in government sectors.

FIGURE 4.7

OCCUPATIONAL STATUS

PAKHIRALAYA



LEGEND

- Farmers
- Tour Operator
- Driver
- Labourers
- Carpenters
- Businessman
- Bank Employee
- Tailor
- NGO Worker

Source : Field Survey 2024

4.7 FUEL

Fuel is a substance that is burnt to provide nuclear energy heat or power, Materials like coal, wood, oilgas can provide heat when burnt. It is any material that can be made to react with other substances so it releases thermal energy for work. The first known use of fuel was the combustion of woods or sticks by Homo erectus nearly two million years ago. The most imp. part of fuel in daily life is LPG which is used in industrial, commercial, agricultural and manufacturing applications at home. It can provide us heating with hot waters or power to cook our food, fuel for car. It even powers co-generations plants. Fuel is also regarded as an important vehicle in the journey towards a viable and clean energy code.

Table 48 Source of Fuel, Pakhiralaya

Source	No. of households	% of total households
LPG	14	20.00
Firewood	24	34.29
LPG and Firewood	32	45.71
Total	70	100

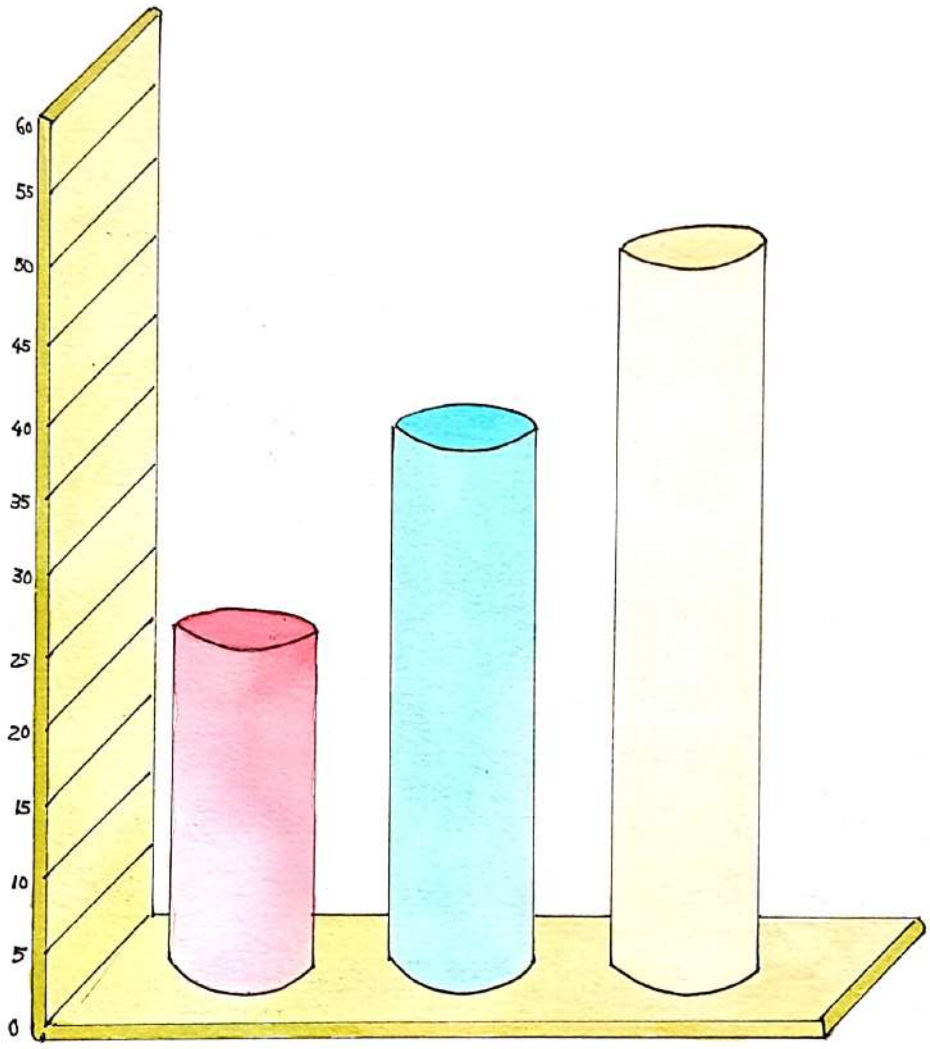
Source: Field Survey, 2024.

As the data denotes that the majority of the households use LPG and firewood with 45.71% followed by firewood 34.29% of total surveyed households. About 20% of household uses LPG as major source of fuel.

FIGURE 4.8

SOURCE OF FUEL

PAKHIRALAYA



Vertical Scale: 1cm ≙ 5%

LEGEND

- LPG
- Firewood
- LPG and Firewood

Source : Field Survey 2024

4.8 SETTLEMENT PATTERN

A settlement is a colony of any small community of people. A settlement pattern refers to the way buildings and houses are distributed in an area. Pattern of settlement is defined as the relationship between one house or building to another. The socio-cultural factors like caste structure or a functional need of people has a close bearing on its shape and size. The study of settlement is basic to human geography because the form of any settlement in any region reflects human relationship with environment. It is a place inhabited more or less permanently. The houses may be designed or redesigned, buildings maybe altered, functions may change but settlement continues in time and space.

Settlement patterns are influenced by price or land, available transportation, infrastructure, public policy initiatives and social and ecological processes that are not necessarily quantitative. The function of settlement helps to identify the ecological and social development of place understanding the processes undelaying the patterns or human settlement.

In the Surveyed area, some houses have clustered closely well connected with the metal roads and some houses have formed scattered with considerably larger agricultural land. However, there are no planned pattern for the construction of residential houses and the area shows erractic pattern of house.

4.9 HOUSEHOLD TYPE

A house is a building or structure designed for human habitation typically providing shelter, privacy and sence of belonging. It serves as a place where individuals or families live, sleep, eat and engage in various activities. House can vary greatly in size style, layout, and amenities ranging from small cottages to large mansions, can be found in urban, suburban or rural areas.

Table 4.9 House type, Pakhiralaya

House Type	No. of households	% of total households
Pucca	15	21.43
Semi-Pucca	34	48.57
Kutcha	21	30.00
Total	70	100

Source: Field Survey, 2024

Table 4.10 Roof Type, Pakhiralaya

Roof Type	No. of households	% of total households
Cemented	14	20
Tin	34	48.57
Asbestos	22	31.43
Total	70	100

Source: Field Survey, 2024

Table 4.11 Wall type, Pakhiralaya

Wall type	No. of households	% of total households
Concrete	38	54.28
Tin	14	20
Wood	13	18.57
others	5	7.14
Total	70	100

Source : Field survey 2024

Most of the residents have semi-pucca houses with 48.57% followed by kutcha, 30% and pucca 21.43%. Various building materials have been used for construction of houses, The physical factors have main impact on the construction of houses. Apart from this, climatic condition, landforms, soil types etc are other important factors that affect the construction of houses.

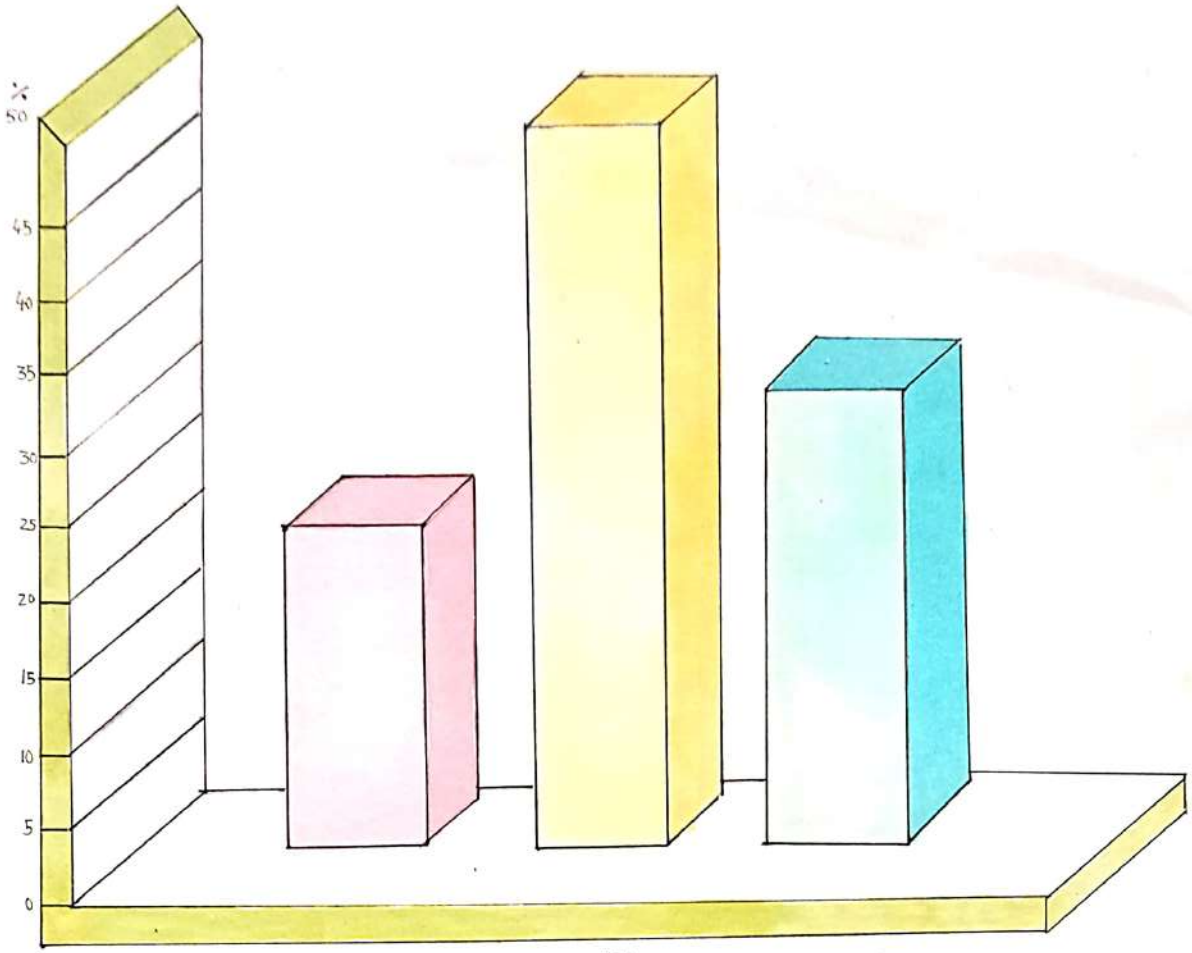
Roofs, which are the coverings of the top of the building, serves as protection against

rain, snow, sunlight, wind and extremes of temperature. About 48.57% of the houses have tinned roof (80.95%) followed by asbestos roof (31.43%), whereas 20% of the total surveyed houses have cemented roofs.

Walls are essential elements in any structure, serving as barrier that define and partition spaces while providing structural support or stability. The type of wall used depends upon factors like building's design, intended function, and aesthetic preferences. Understanding the different wall type is crucial for designing and constructing buildings that are safe, functional and visually appealing.

Based on the data provided from field survey, it appears that concrete is the most common wall type among the surveyed household, accounting for 54.28%. of the total, Tin and wood follow, with tin being used in 20% household and wood in 18.57%. Additionally, a smaller percentage of household (7.14%) have walls made of combination of wood and mud, categorised as others. This suggests predominance of durable and sturdy material like concrete, tin being popular, possibly reflecting a mix of affordability, availability, local building practices.

FIGURE HOUSE TYPE , PAKHIRALAYA



Scale 1cm ≅ 5%

LEGEND

- Pucca house
- Semi pucca
- Kutcha

FIGURE 4.10 ROOF TYPE, PAKHIRALAYA

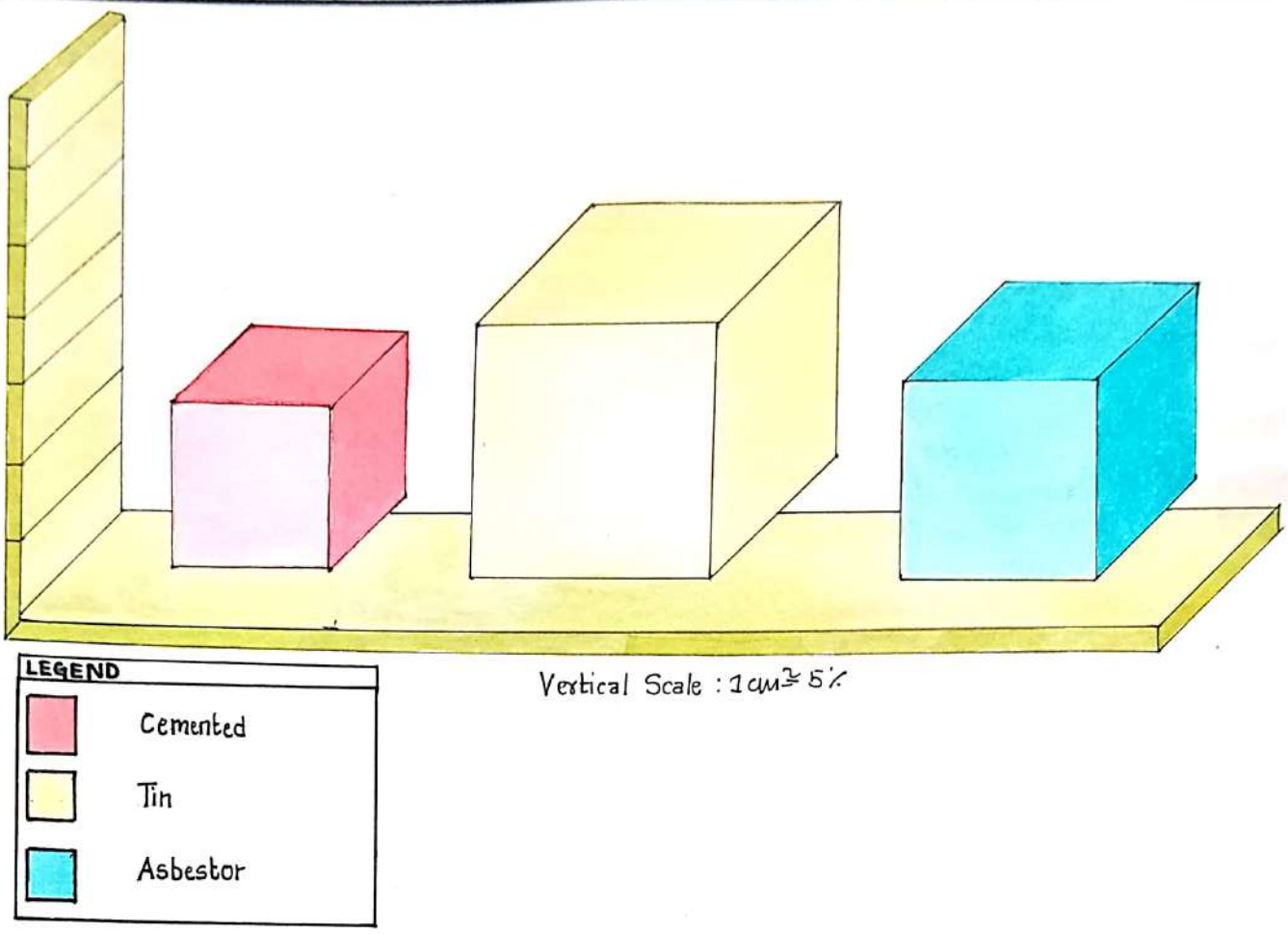
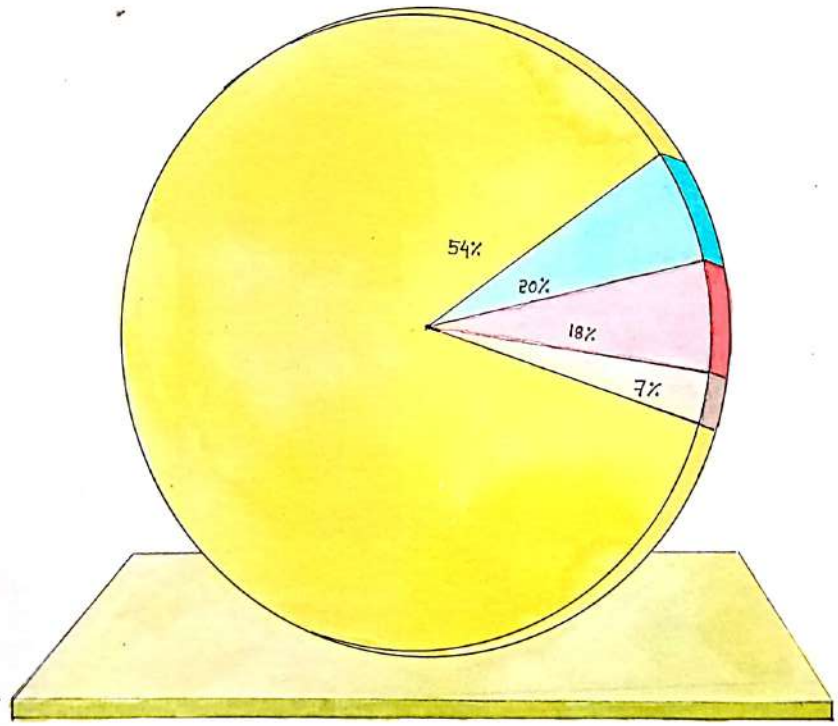
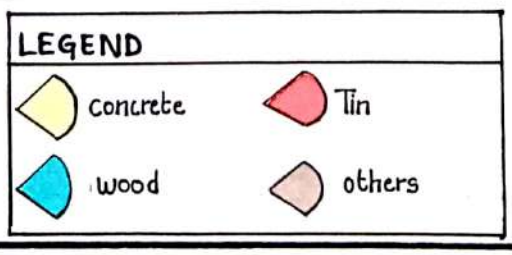


FIGURE 4.11 WALL TYPE, PAKHIRALAYA





Source : Field Survey 2024

4.10 HOUSE DESCRIPTION

Rooms are what make a house, the homey cosy feeling that everyone likes. There are so many different types of rooms in a house that serves different functions and various activities can be conducted by the family member accordingly. For example, living rooms refers to a spacious common room where the guests are seated when they arrive; kitchen for cooking meal and storage; bedroom for sleeping, relaxing, working and studying as well; toilets and bathrooms for excreting and cleaning. Balcony on the other hand serves to enlarge the living space and range of activities possible in a dweling without a garden or lawn whereas verandah helps shade home in summer and protect it from the elements in winter.

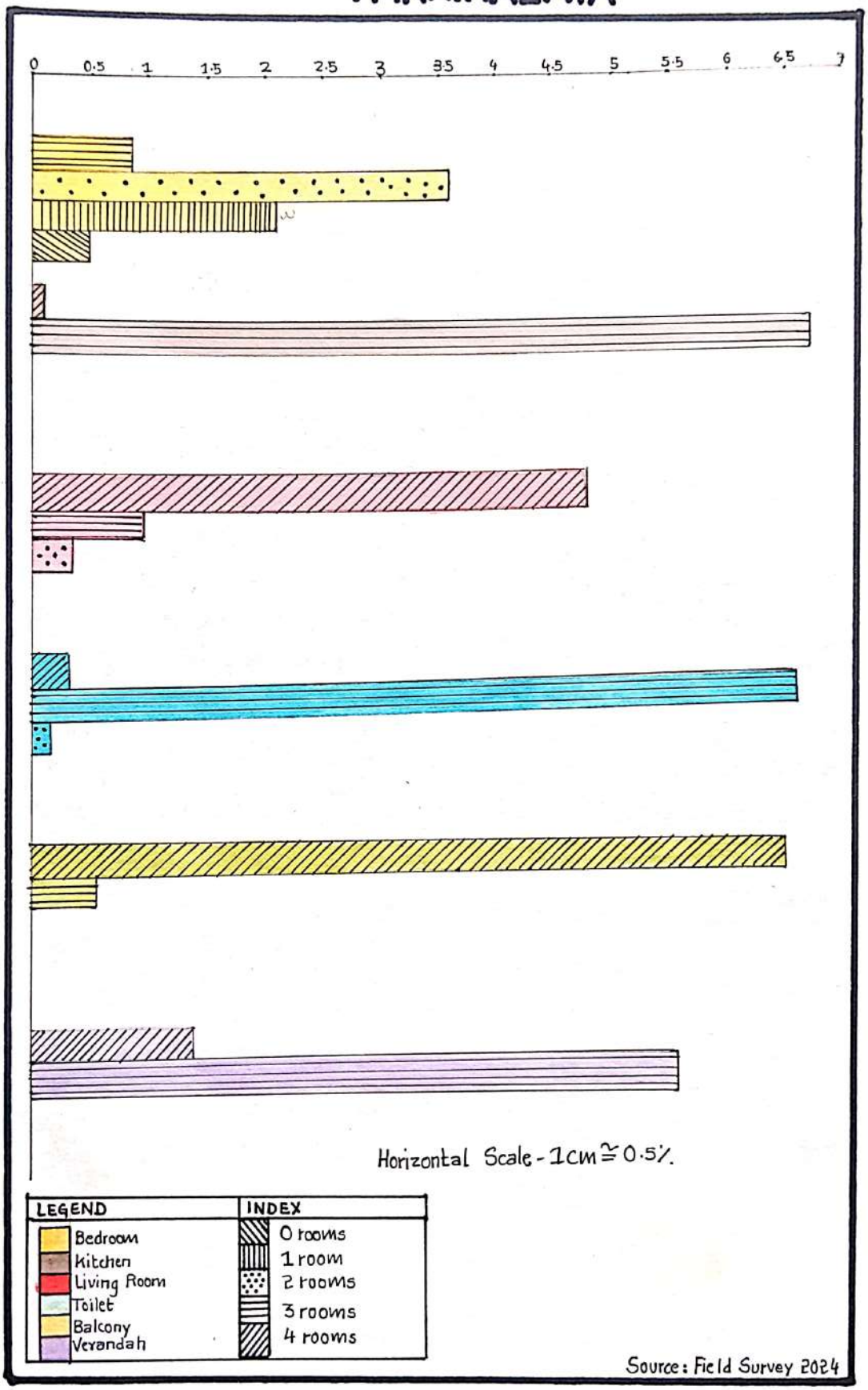
Table 4.12 House Description, Pakhiralaya

Description.	No of households					% of total households				
No. of rooms	0	1	2	3	4	0	1	2	3	4
Bedroom	—	8	36	21	5	—	11.43	51.43	30	7.14
Kitchen	1	69	—	—	—	1.43	98.57	—	—	—
Living Room	48	19	3	—	—	68.57	27.14	4.29	—	—
Toilet	3	66	1	—	—	4.28	94.29	1.43	—	—
Balcony	65	5	—	—	—	92.80	7.14	—	—	—
Verandah	14	56	—	—	—	20	80	—	—	—

Source: Field Survey, 2024

In the surveyed area, the percentage of household with two bedroom is highest (51.43%) followed by those with three bedrooms (30%), one bedroom (11.43%) and four bedroom (7.14%). About 98.57% of the households have a kitchen. With regards to living rooms, 68.57% household are without any living room. About 94.29% household have one toilet, 1.43% house have two toilets whereas 4.28% households are without any toilets. The households without any balcony and verandah accounts for 92.86% and 20% respectively. The survey on house description reveals that the inhabitants are economically weak as the houses are not well structured with only 4.28% household without any toilets, 92.86% without any balcony, 20% household without any verandah and 68.57% households without any living rooms.

FIGURE 4.12 HOUSE DESCRIPTION PAKHIRALAYA



Source : Field Survey 2024

4.11 BANK

Banking services mainly include accepting deposits, lending money, facilitating transactions, and offering various financial products like saving accounts, loans and credits card. Banking plays a crucial role in the economy by facilitating the flow of money and enabling economic activities.

Table 4.13 Bank Account, Pakhiralaya

Bank Account	No of households	% of total households
having Bank Account	66	94.29
Not having Bank Account	4	5.7
Total.	70	100

Source: Field Survey 2024

Table 4.14 Name of the Bank, Pakhiralaya

Name of the Bank	No of households	% of total households
SBI	32	48.69
CBI	24	36.36
Bandhan Bank	7	10.61
Combined (SBI-CBI)	3	4.55
Total.	66	100

Source: Field Survey 2024.

About 94.29% of the total surveyed households in Pakhiralaya have saving accounts in different banks out of which 48.49% have bank account in State Bank of India. 36.36% in Central Bank of India and 10.61% in Bandhan Bank. About 4.55% of the surveyed household have their account in both State bank of India and central bank of India, where as 5% household do not have any bank account. In the survey households, not a single household has taken any loan. The reason maybe due to the fact that the people here are not exposed or well aware of different facilities associated with these various banks.

FIGURE 4.13 BANK ACCOUNT, PAKHIRALAYA

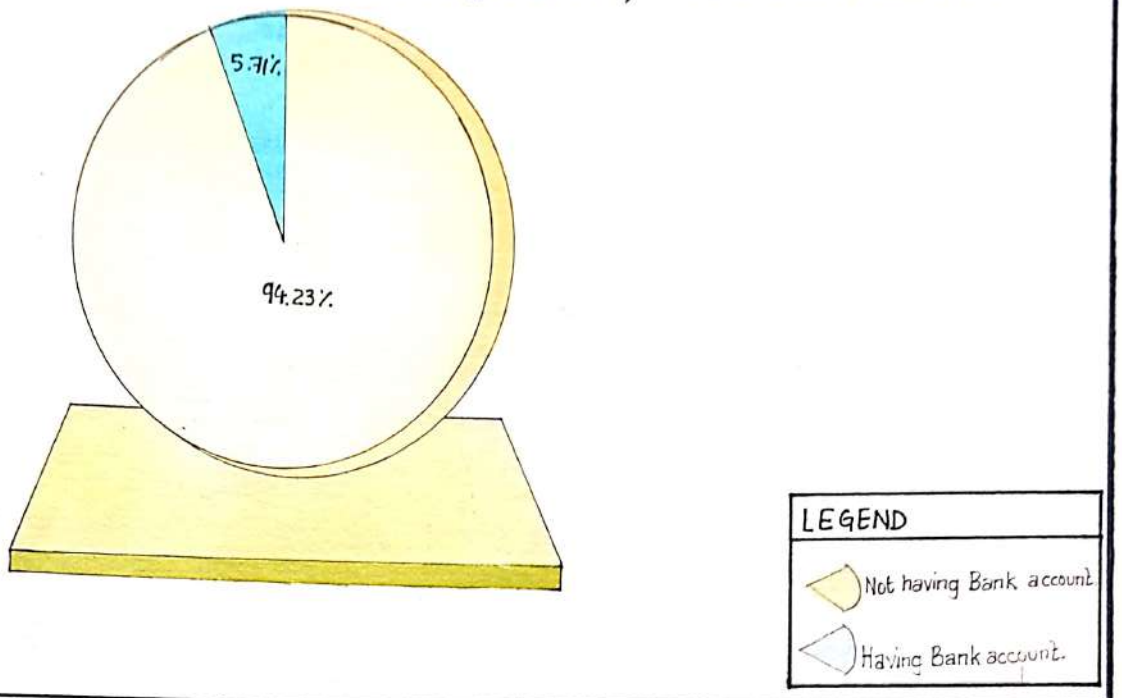
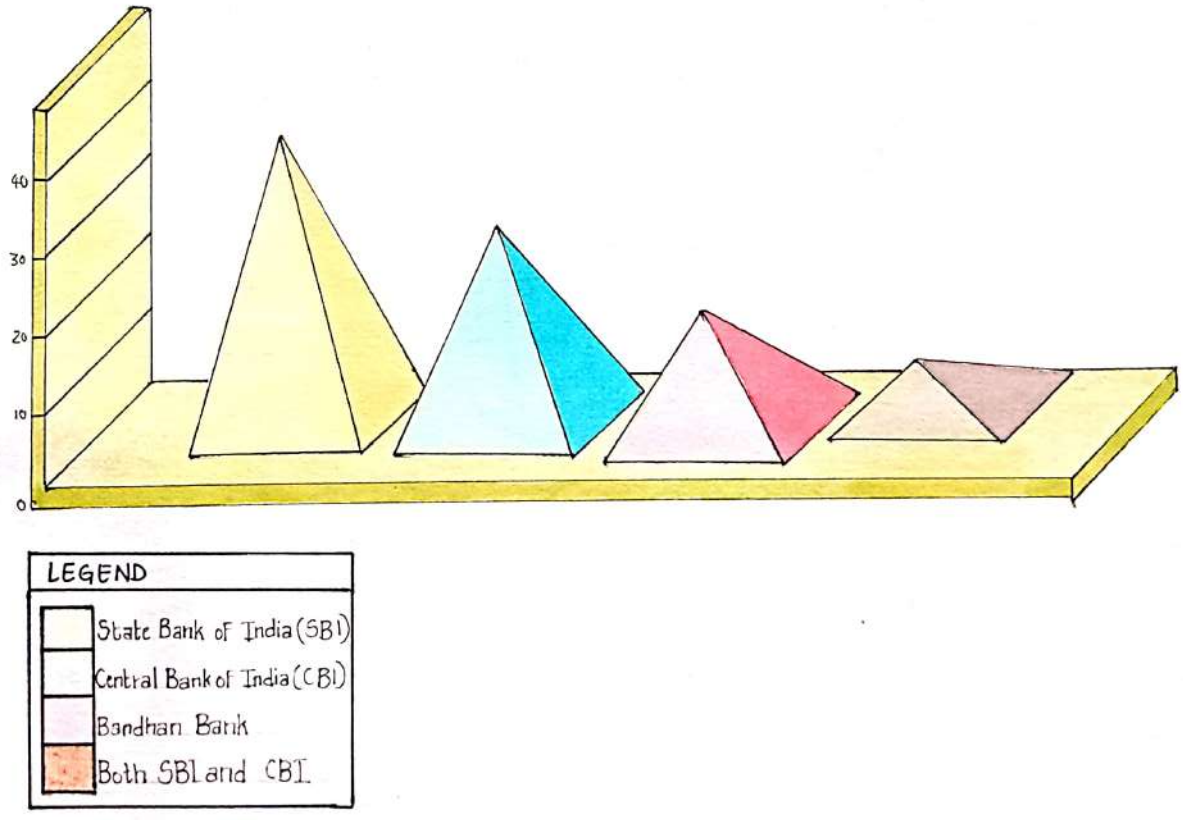


FIGURE 4.14 NAME OF THE BANK, PAKHIRALAYA



Source: Field Survey 2024

4.12 CROPS GROWN

A crop is a plant or plant product that can be grown and harvested for profit or subsistence. By use, crops fall into six categories :food crops, feed crops, fibre crops, oil crop, ornamental crops and industrial crop. Food crops, such as fruits and vegetables, are harvested for human consumption. Grains, such as corn, wheat and rice, are the world's most popular food crops. Food crops were the first crop to be harvested through agriculture. Agricultural development and the growth of civilization led to diversity of other types of crops.

Table 4.15 Types of crops grown, Pakhiralaya

Crops	No. of households	% of total households
Paddy	40	70.16
Potato, Tomato, Ladyfinger, Carrot	2	3.5
Paddy, wheat	2	3.5
Paddy, Potato	4	7.02
Paddy, Maize, Wheat	1	1.75
Wheat, Potato, Onion, Paddy	1	1.75
Paddy, Tomato, Onion, Chilli	1	1.75
Wheat, Potato	1	1.75
Tomato, Wheat, Potato, Pulses	1	1.75
Lady finger, Brinjal, Potato, Onion	1	1.75
Potato	1	1.75
Potato, Onion	1	1.75
Paddy, Potato, Onion	1	1.75
Total	57	100

Source: Field Survey 2024

Table 4.16 Types of Fertilizers Used, Pakhiralaya

Fertilizers Used	No of households	% of total households
Organic	21	30.00
Inorganic (Chemical)	31	44.28
Fertilizers not used	18	25.71
Total.	70	100

Source: Field Survey, 2024

Out of the total surveyed households, 70.16% grows paddy, 7.02% grows paddy and potato, 3.5% household grows each paddy, wheat, potato, tomato, lady finger and carrot. Each 1.75% grow paddy, maize and wheat; wheat potato and chilli; onion and pulses, lady finger, brinjal, potato and onion; rice potato onion; potato and onion; tomato, wheat, potato and onions. About 30% total surveyed household have organic fertilizers and 44.28% households use inorganic fertilisers in their agricultural field.

The main agricultural equipment used for cultivation in field include hand hoe and sickle for weeding, cultivating, and shaping plant row; spade for digging, turning soil and soil transplantation and pitchfork for lifting and moving hay, straw or other materials and tractors for ploughing and transporting the agricultural products.

FIGURE 4.15 TYPES OF CROPS GROWN PAKHIRALAYA

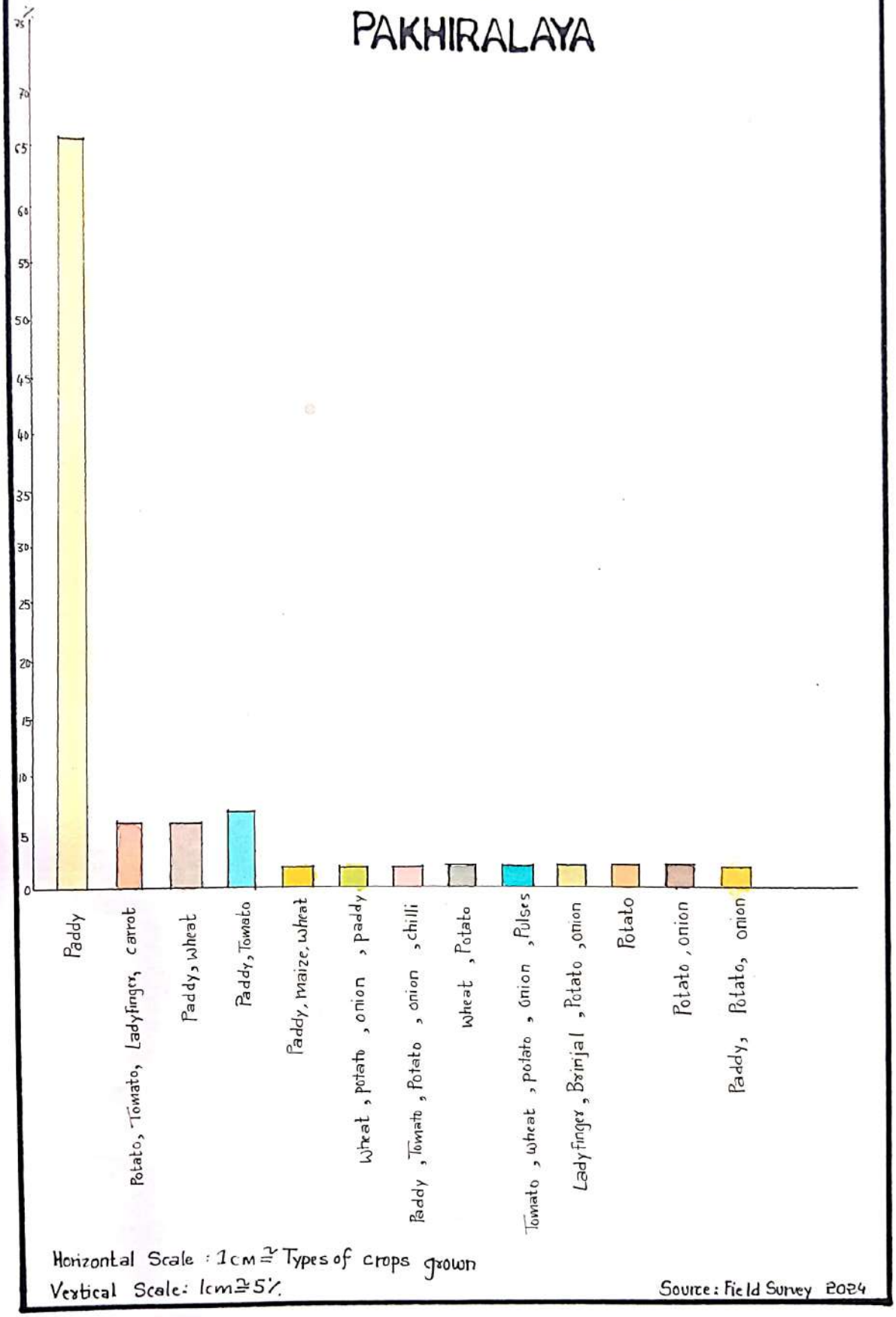
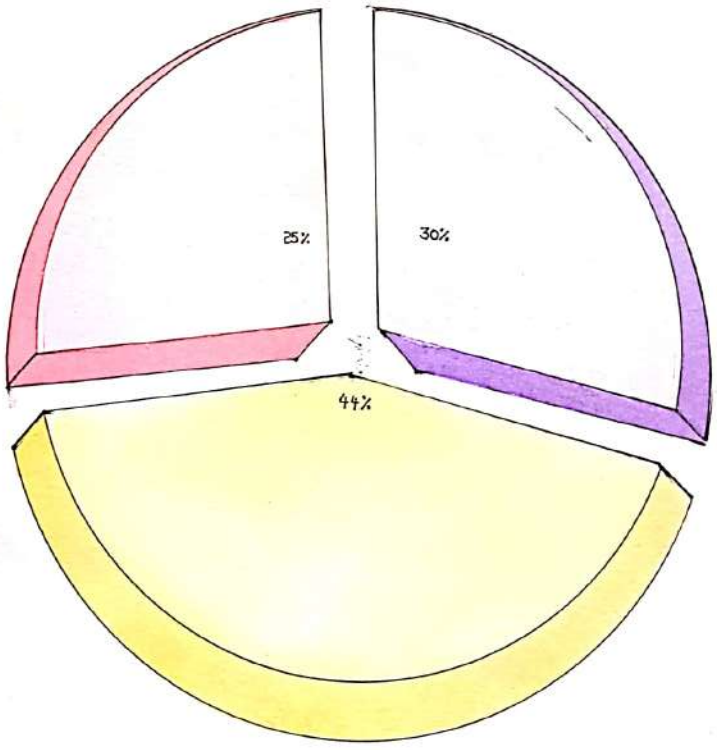


FIGURE 4.16 TYPES OF FERTILIZERS USED PAKHIRALAYA



Source : Field Survey 2024

4.13 AGRICULTURAL LAND

The total agricultural land owned refers to sum of all land used for agricultural purposes by an individual, organisation or government within a specified region or a country. This includes land use for crop cultivation, livestocks, grazing, orchards, vineyards and other agricultural activity. It is a crucial matrix for understanding the scale and productivity of agricultural operation within a given area.

Table 4.17 Status of Agricultural Land, Pakhiralaya

Category	No of households	% of total households
Having agricultural land	48	68.57
Not having agricultural land	22	31.43
Total.	70	100

Source : Field Survey 2024.

Table 4.18 Size of Agricultural Land, Pakhiralaya

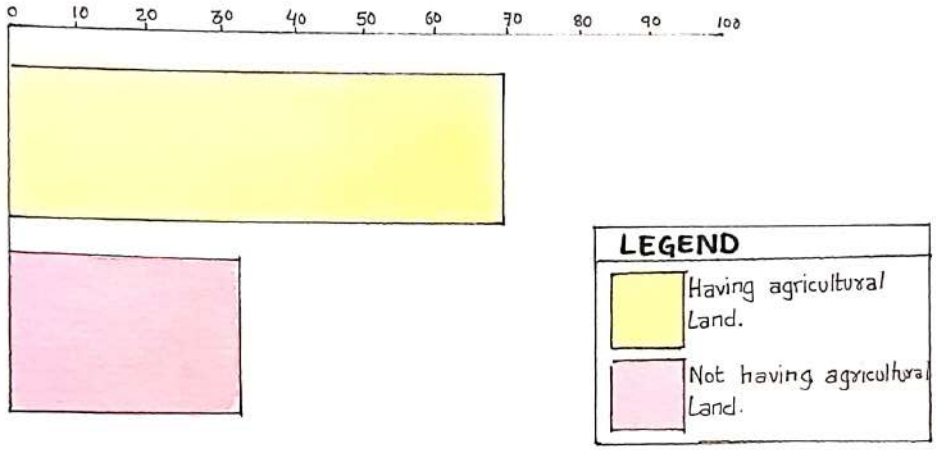
Agricultural Land in katha	No of households	% of total households
< 30	18	37.50
30 - 60	23	47.92
60 - 90	4	8.33
90 - 120	2	4.16
> 120	1	2.08
Total.	48	100

Source: Field Survey 2024

About 68.57% of the total surveyed household have agricultural land out of which 47.92% house have agricultural land ranging from 30-90 katha. 8.33% have 60 - 90 katha and 4.16% household have land ranging from 90 katha - 120 katha. About 37.05% household have agricultural land measuring less than 30 katha whereas 2.08% households have agricultural land measuring more than 120 katha. The status of owner ship of land as well as the size of agricultural land reveals that the area is agriculturally developed. The locals cultivate different types of crops especially paddy, wheat and different types of vegetables on the other hand they rear livestockes such as cow, hen, goat duck and fish on the other hand in their agricultural land.

FIGURE 4:17

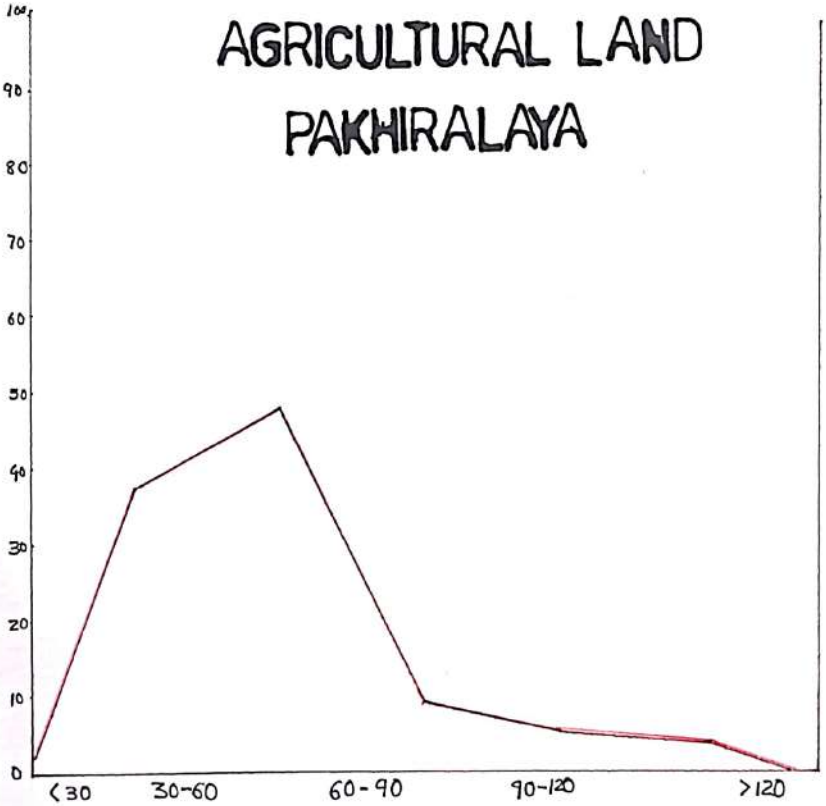
STATUS OF AGRICULTURAL LAND PAKHIRALAYA



Scale 1cm ≅ 10units

FIGURE 4:18

SIZE OF AGRICULTURAL LAND PAKHIRALAYA



Vertical Scale = 1cm ≅ 10%
Horizontal Scale = 1cm → 30 katha

Source: Field Survey 2024

4.14 LIVESTOCK REARED

The process of raising, feeding, breeding and taking care of domestic animals is called livestock or animal rearing. It is also called animal husbandry. The animals which produce useful products for humans are reared. Animals are reared for their meat, fibre, milk, eggs and other products.

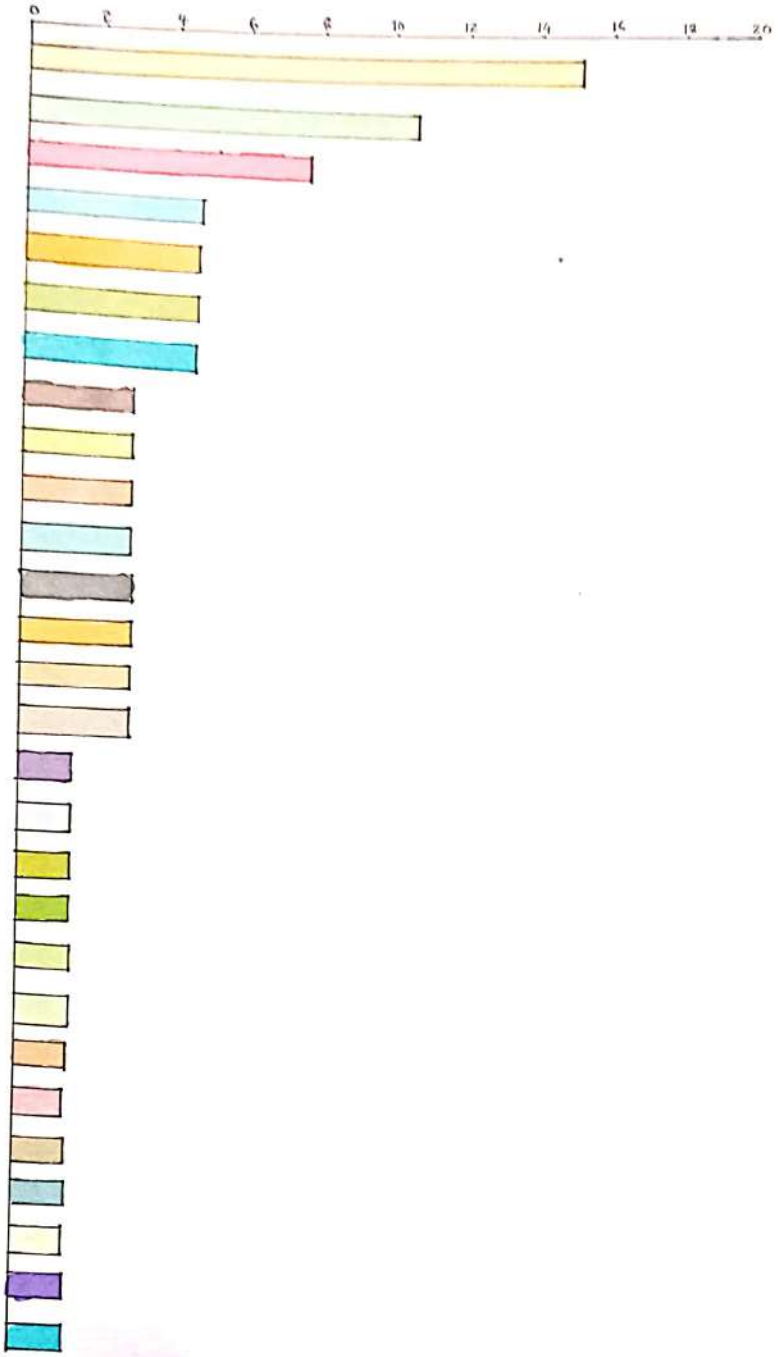
Table 4.19 Types of Livestock reared, Pakhiralaya

Livestock.	No of households	% of total households
Hen & Duck	11	17.19
Hen, Duck & Cow	3	4.69
Duck	2	3.13
Hen	7	10.94
Turkey	1	1.56
Cow	2	3.13
Cow, duck, hen & Fish	2	3.13
Cow, hen & sheep	3	4.69
Cow, hen & Fish	1	1.56
Hen, goat & sheep	2	3.13
Hen & sheep	1	1.56
Goat & Cow	2	3.13
Sheep	1	1.56
Goat & Sheep	1	1.56
Hen, goat & cow	2	3.13
Cow & Turkey	1	1.56
Goat	1	1.56
Cow & duck	1	3.13
Cow & Fish	2	1.56
Sheep, duck, hen & Fish	1	1.56
Sheep, Hen & Fish	3	4.69
Hen, goat & Fish	1	1.56
Hen, cow, fish & goat	2	3.13
Fish & sheep	1	1.56
Hen & goat	5	7.81
Hen & Cow	3	4.69
Buffalo & Cow	1	1.56
Hen & Fish	1	1.56
Total	64	100

Source: Field Survey 2024

In the surveyed area the animals reared are hen, duck, goat, turkey, cow, sheep, and fish and buffaloes. Hen and duck (17.19%) accounts highest percentage of animal reared in the area followed by hen (10.94%) and het, duck & goat; cow, hen & sheep; sheep, hen and fish; hen and cow accounting for 4.69%. These animals are reared for milk, meat, eggs.

GURES 4:19 TYPES OF LIVESTOCK REARED, PAKHIRALAYA



LEGEND

- Hen & duck.
- Hen, duck & cow.
- Duck
- Hen
- Turkey
- cow
- Cow, duck, hen & Fish
- Cow, hen & sheep
- Cow, hen & Fish
- Hen, goat & sheep
- Hen & sheep
- Goat & Cow
- Sheep
- Goat & sheep
- Hen, got, cow
- Cow & turkey
- Goat
- Cow & duck
- Cow, fish
- Sheep, duck, hen & Fish
- Sheep, hen & Fish
- Hen, goat & fish.
- Hen, cow, fish & goat.
- Fish & sheep
- Hen & goat
- Hen & cow
- Buffalo & cow
- Hen & Fish

Horizontal Scale: 1cm ≙ 2%.

Vertical Scale: 0.25cm ≙ Types of livestock reared

Source: Field Survey 2024

4.15 CONCLUSION

The islands of Sundarbans have definately gone up by leap and bounds yet infrastructurally they are back in fifties. Most of these islands do not have agriculture, electricity due to the fact they are highly inaccessible.

There is a gradual decrease in the % of household as the income bracket increases, with very few of them earning Rs 2200 per month. The majority of house falls into lower to middle income bracket, with only a small percentage of household earning higher income. About 35.70% household save monthly with varying range and 64.30% have nil savings. Majority of household have monthly saving below Rs 2300 indicating potential financial constraints or low income level within the community.

Majority of household surveyed have internet facilities with a smaller number of household earning over Rs 2200 per month. This suggests a relatively high level of internet adoption increasing connectivity and digital inclusion. Majority of houses surveyed has access to electricity.

The people here are very less employed in government sectors as very few people are educated at higher level. Farmers accounts for 54.70% followed by drivers 18.80% and businessmen 12.82%. Agriculture is the main occupation in the surveyed area. The major crops grown are paddy, potato, tomato, chillies etc. The animals reared are hen, ducks, goat, cow, fish etc. considerable % of people are engaged in hotel businesses and associated occupations.

Majority of household uses LPG and firewood as their main source of fuel. Most of the residents have semi-pucca houses with 48.57% followed by kutcha, 30% and pucca 21.43%. The inhabitants are economically weak without any bakony, verandah 68.57. and living rooms.

About 94.29% household in Pakhiralaya have savings account in different banks like State Bank of India, Central Bank and Bandhan Bank. Not a single household has taken any loan. The reason maybe due to the fact they are unaware of different facilities associated with these various banks.

CHAPTER-5

PROBLEMS

The main focus of our fieldwork, survey is to identify the issue that is a concern and focus it in a way that allows it to be studied in a systematic way. The primary data collected from the field survey reveals various problems faced by the Sundarbans in general and Pakhiralaya in particular.

1. UNEMPLOYMENT

Unemployment is one of the major problems in the Sundarbans region of West Bengal. Among the surveyed population in Pakhiralaya village about 56.98% population is unemployed which includes the dependents including students as well as older citizens. This can be attributed to several factors :

a. Limited Economic Opportunities : The region primarily relies on agriculture, fishing, and forestry, which may not provide enough employment opportunities for its growing population.

b. Environmental Challenges : The Sundarbans are susceptible to natural disasters like cyclones, flooding, which can distrupt livelihoods and infrastructure, leading to temporary or long-term unemployment.

c. Lack of Infrastructure : Inadequete transportation, communication, and basic amenities hinder economic development and job creation in this region.

d. Educational Constraints : Limited access to quality educational and vocational training can limit the skill set of the workforce, making it difficult to find employment beyond traditional sectors. In the surveyed area of Pakhiralaya, 19.12% of population are illebrate, out of which male and female illebracy rate is 7.25% and 11.76% respectively.

e. Conflict with wildlife : Human wildlife conflict, particularly with tigers, can pose risk to livelihood and deter investment in certain economic activities such as agriculture and ecotourism.

f. Social Issues : Issues like poverty, caste discrimination and gender inequality can forthur exacerbate unemployment rates in the region by restricting certain groups access to employment opportunities. The poverty of the surveyed area is well projected from the fact that 30% households are of Kutcha type and 48.57% household are semi-pucca type; 11.42% have monthly income less than Rs 2000 and maximum house have monthly income ranging from Rs 2000 - 6000.

2. SECURITY OF DRINKING WATER

In the Sundarban delta region of West Bengal (India), there is acute drinking water scarcity owing to mismanagement of ground water coupled with higher salinity of river water. Though Sundarbans region in the state of west bengal, India is one of the richest ecosystem in the world and a UNESCO world heritage site, in this region, there is acute scarcity of drinking water, and river water exibhits high and variable salinity. About 27.14% of surveyed household collects water from nearby ponds as they donot have PHE connection. 23% of household walks a distance of 7-10km, 2.44% household walks a distance of 11 - 14 km to collect water.

3. HOUSING PROBLEMS

Large population in Sundarban delta region of west bengal live in a mud house. About 30% of the surveyed households are kutcha type and 48.57% are semi-pucca type. People face several problems living in mud house : (a) damp wall due to soaking of water during rainy season, (b) mould due to moisture, (d) mould due to humid (e) excessive shrinkage crack.

4. LACK OF TRANSPORTATION

Region with improper transport system is unable to exploit natural resources and does not ensure proper distribution of available goods which are so necessary for better living and sustainable rural growth. The Indian sundarban is recognized as backward region in terms of transport and commonication with only 42 km of railway,

250 km of metalled road, and about 170 km of unpaved narrow road. The navigable rivers and creeks form the principle means of communication in Sundarban since long which are very risky especially during the monsoon and cyclonic storms.

5 LACK OF MAINTENANCE OF SOLAR ENERGY

In the Indian Sundarban, lack of maintainance has eclipsed the dream of solar energy. About two dozens solar assets lie abandoned on these islands. The village Pakhiralaya, remote village of Sundarban, West Bengal, India is one of the last islands of Sundarban before the bay of Bengal starts. Hence, grid connected electricity came as late as 2018. Before that, came solar microgrid, funded by West Bengal Renewal Energy Development Authority which was implemented by Tata power, with the latter celebrating the success even a decade after it was setup. According to West Bengal Renewable Energy Development Authority which said the problem started when some beneficiaries stopped the payment of monthly bills. Meanwhile, local residents daims that because of the plants decreased capacity, some shopkeepers switched to diesel generators.

6. FLOODING

The massive flooding triggred by the depression in the Bay of Bengal impacted the island of Sundarbans including Pakhiralaya that are still reeling from the devastation caused by cyclone Large swathes of agricultural land, fisheries, farming, houses, roads were under waist deep rivers. Rivers, canals, ponds, lakes have all merged with each other and appearing like large water. Every year multi-hazard risk in deltaic region of West Bengal are influenced by tropical cyclones, storms, tidal surge, embankment breaching, induced rainfall, salinization and erosion.

7. INADEQUETE HEALTH CARE FACILITY

Nearly 70% areas of Sundarbans have suffered from very poor healthcare infrastructure. Only six blocks namely, Canning-1, Kakdwip, Jaynagar-1, Patharpratima, Mathurapur-1, and

Mathurapur-II have relatively better healthcare facilities than rest of the Sundarbans. Pakhiralaya is a part of Gosaba Rural Hospital Island and the whole Gosaba Island has one govt. hospital i.e. Gosaba Rural Hospital located 7km away from Pakhiralaya. But this hospital lack good infrastructure, proper medical facilities and physicians. The bed limit is only 30 and thus, doctor-patient ratio is very high and infrastructure is inadequate to provide good healthcare. Private hospitals are also located in Gosaba namely Chokher Alo and Ma Durga hospital but these have a record of poor performance. The patient with serious health issue have to travel 49 km to reach Canning and special care have to travel 97.6 km to reach kolkata for better treatment. Most of the residents of the village donot want to spend time and money to get better treatment due to low living standards.

8. LACK OF EDUCATION

In south 24 Parganas district, a higher no. of students are enrolled in primary government aided schools. These schools are severely under staffed and have poor infrastructure. For higher studies, they have to travel for a considerably longer distance reach high school. In Pakhiralaya village, 68.52% household walk for a distance ranging 1km-5km and 18.52% households walk more than 5km everyday to reach school. Lack of education causes poverty by limiting employ ment opportunities, giving consistently low or no income, increasing health issues and leaving very little financial aid for the rescue.

9. IMPACT OF CYCLONE

People's life on southernmost islands revolves around land, water and forests. Although agriculture remains a source of livelihood for islanders, the brackishness of rivers make agriculture unsuitable and uncertain. Winter cultivation is virtually non-existent for want of fresh water. Poor families, especially those having very little or no land rely on marine resources such as fish, prawns, crabs. The forest is an important source of livelihood for poor families. Families frequently enter the forest in search of firewood, wood and honey

10 LACK OF INTERNET FACILITY

The sundarbans donot have mobile network, but it is very patchy, thus, some areas may have good coverage, others may have no signals at all. This is because of dense forest canopy and the remoteness of the region, which makes it difficult for mobile phone towers to provide a reliable signal. However, the situation is improving. In recent years, the government of India and Bangladesh have made efforts to expand mobile network coverage in the Sundarbans, and many area now have atleast some form of coverage. About 28.57% of the surveyed households have 2G mobile phones and thus are not able to use internet.

CHAPTER-6

SUGGESTIONS, RECOMMENDATIONS AND CONCLUSION.

6.1. SUGGESTIONS AND RECOMMENDATIONS.

Addressing the various challenges in the sundarbans in general and Pakhiralaya in particular would require comprehensive strategies that focus on improving infrastructure, expanding economic diversification, enhancing education and skill training and promoting sustainable livelihood that are resilient to environmental risks.

1. Addressing Unemployment : in the Sundarbans requires a comprehensive approach that considers the unique socio-economic and environmental context of the region. The following are some suggestions:

- Skills development programme : can be implemented with vocational training program according to the needs of local economy, focusing on sectors with potential growth such as tourism, agriculture, and eco-friendly industries.
- Promotion of sustainable livelihoods practices can be encouraged such as organic farming, honey production, handscraft and ecotourism initiatives that strengthens the natural resources and cultural heritage of the sundarbans.
- Microfinance and Entreprenureship support : should come from government that provide access to microfinance and entrepreneurship training to empower local training to start and expand small businesses, creating employment opportunities and stimulating economic growth.
- Community based Initiatives : should be taken by the village panchayat to facilitate the establishment of community based enterprises and cooperatives that enable collective ownership and management of resources, foresting entrepreneurship and collaboration among local stake holders.

2. Addressing water scarcity: in the Sundarbans, one of the largest mangrove forest, requires a multi-faced approach. Here are some suggestions:

- Rainwater Harvesting : should be implemented to collect and store water during the monsoon season for use during dry periods. In order to convert seawater into potable water, Desalination plants should be installed providing a sustainable source of fresh water for the local communities.
- Water Conservation : awareness campaigns should be launched to educate residents about water conservation practices, such as fixing leaks, using water efficient appliances

and minimizing water wastage.

•Investment in Infrastructure: projects should be done to improve water storage and distribution systems, including the construction of reservoirs, canals, pipelines.

3.Addressing Housing Problems : in the Sundarbans, a unique ecosystem, requires a multifaceted approach.

• Infrastructure Development: Access to basic amenities like clean water, sanitation, and healthcare should be improved to enhance the quality of life of the region.

• Ecologically sustainable solutions: should be developed that minimize impact on the fragile ecosystem such as elevated structures or those using sustainable materials like bamboo.

• Community Involvement: Local communities should be involved in the design and construction process to ensure cultural appropriateness and ownership of solutions.

• Disaster Preparedness: Resilient housing should be designed that can withstand natural disaster like cyclones and flood which are common in this region.

• Education and Awareness: programs should be prompted on sustainable living practices to mitigate human wildlife conflicts and preserve the delicate ecosystem.

4.Addressing lack of transportation: in the Sundarbans region requires creative solutions tailored to the unique environmental and geographic challanges of the region. Here are some suggestions:

• Introduction of waterway Transportation: Since the Sundarbans are intersected by numerous rivers and water channels, introducing waterway transportation, such as ferries, boats, or small ships, can provide an efficient means of travel between islands and mainland areas.

• Development of eco-friendly Boats: Promotion of the development and use of eco-friendly boats powered by solar energy or biofuels can help in minimizing environmental impact while ensuring reliable transportation system.

• Improvement of Existing Infrastructure: Upgrading of existing transportation infrastructure, such as jetties and docking facilities, can help to accomodate larger vessels and improve connectivity within the Sundarbans.

• Mobile Applications for booking: online platforms should be developed for booking transportation servises, allowing residents and tourists to access information about schedules, fares and availability more conviniently.

• Capacity Building and Training : Training programs and capacity building initiatives can be offered to local residents interested in starting or practising in transportation related business, including boat operation, maintainance and customer service.

5. Addressing lack of maintainance: in the Sundarbans requires a serious effort to ensure the sustainable management and preservation of this ecologically sensitive area. Here are some suggestions :

• Investment in Infrastructure : sufficient funding and resources should be allocated by the government for the construction, repair and maintenance of essential infrastructure such as embankments, jetties, trials, wildfire observation platforms, ensuring their functionality and safety for residents and tourists.

• Community engagement : Local communities should be engaged in maintaining activities through participatory approaches, that would rather empower them to take ownership of their surrounding and contribute to the upkeep of the infrastructure and natural habitats.

• Training and Capacity building : program should be provided to local residents, government staffs and volunteers on maintenance techniques, including infrastructure repair, waste management and habitat restoration, foresting skills development and knowledge transfer.

• Public Awareness Campaign : should be launched to educate residents and visitors about the importance of maintenance for preserving the Sundarban's ecological integrity, highligting the impacts of neglect and the benefits of careful and responsible management.

6. Addressing flooding: in the Sundarbans requires a combination of natural and engineered solutions to mitigate the impacts of inundation events. Here are some suggestions:

• Mangrove Reforestation : efforts should be expanded to reinforce natural coastal defences, as mangroves act as buffer against storm surges and tidal flooding, stabilizing shorelines and reducing erosion.

• Wetland restoration : Natural wetland area should be restored and conserved within the Sundarbans, including tidal flats and salt marshes, to enhance their capacity to absorb flood waters and reduce the severity of inundation.

• Elevated Infrastructure: such as road, bridges and buildings should be designed and constructed so as to minimize the risk of flood damage and ensure continuity of essential services during inundation events.

• Flood early warning systems : equipped with sensors, gauges, and communication networks to

monitor water levels and forecast flooding in advance, enabling timely evacuation and emergency responce.

·Integrated water Management : Adopt integrated water management approaches that balance the needs of water supply, agriculture, fisheries and biodiversity conservation while minimizing the risk of flooding and saltwater intrusion in the Sundarbans.

7. Improving health care facilities : in the Sundarbans is essential for addressing the healthcare needs of the local population. Here are some suggestions :

• Mobile Health Clinics : equipped with basic medical supplies and staffed by healthcare proffessionals should be deployed to reach remote areas within Sundarbans, providing essential healthcare services, including primary care, vaccination & maternal health services

·Community Health workers : from local communities can be recruited and trained to serve as frontline healthcare providers, conducting health screenings, promoting educational and health awareness.

·Strengthening Health Infrastructures : Investment in the construction of and renovation of healthcare facilities, including primary health centers, clinics, can improve access to qualify healthcare services for residents of Sundarbans.

·Emergency medical services : including ambulance networks and emergency responce team should be developed and implemented to provide rapid accessment to individuals in need of urgent medication, in accidents or natural disasters.

8. Improving education: in the Sundarbans is crucial for empowering communities, fostering socio economic development, and promoting environmental management. Here are some suggestions:

• Infrastructure Development: investment in the construction and renovation of schools, classroom and educational facilities in the Sundarbans from the side of the government can improve access to quality education for childrens and adult alike.

·Teacher Training Programs : comprehensive teacher training programs to enhance the pedagogical skills and subject knowledge of educators working in the Sundarbans, if provided will ensure high-quality instruction and student engagement.

• Community learning centers : or libraries should be established in villages and settlements through out the Sundarbans, providing access to books, computer, internet connectivity and educational resources for lifelong learning.

·Scholarship programs : and financial incentives should be established to support the education of disadvantaged students in Sundarbans, including child from low income family, ethnic minorities, and marginalised communities.

• Girls education initiatives: should be taken by the concerned authorities to promote girls education and gender equality in Sundarbans, including children from low age income, menstrual hygiene management programs to overcome cultural barriers and social norms.

• Patnership with NGOs and civil society: Partnership with non-governmental organizations (NGO's), civil society groups and philanthropic organizations should be encouraged to mobilize resources, expertise and community network for education initiatives in the Sundarbans

7. Addressing lack of internet facilities: in the Sundarbans, here are some suggestions to address the challange:

• Mobile internet Solutions: The feasibility of providing mobile internet services through cellular networks or satellite based solutions to cover remote area of the Sundarbans can be explored.

• Community Information systems: equipped with computers and internet access in central location can be established within the Sundarbans to facilitate access to residents.

• Offline Information Resources: such as libraries, educational materials and information kiosks that donot rely on internet connectivity can be developed to disseminate knowledge and information.

• Radio and Television Broadcasting: can be utilized to deliver important information, educational content and news update to residents who do not have internet access.

• Public wi-fi Hospots: can be installed in key locations such as market place, communities, government offices to provide limited internet access for essential tasks.

• ICT Training Programs: can be organized to improve digital literacy and empower residents to utilize resources effectively when available.

• Initiatives should be taken from the government to improve infrastructure and invest in expanding internet connectivity to underserved area like the Sundarbans.

6.2 CONCLUSION

The study of Pakhiralaya village located at Gosaba Island in the Sundarbans on the basis of primary and secondary data provides us the general idea about the socio-economic condition of the surveyed area. Agriculture is the main economic activity in Sundarbans to sustain basic livelihood of rural people. In recent decades, the nature of agriculture is gradually enhancing because of various natural as well as anthropogenic factors. The frequent occurance of climatic extremes over the Bay of Bengal has been directly or indirectly affected the agricultural system of the region. The area is suffering from backwardness and is underdeveloped village of Gosaba block.

Pakhiralaya, a Gosaba community development block works as a transit to the trips to Sajnekhali, Sudhanyakhali, Dobanki and Netidhopani and has many tourist lodges and resorts. Land prices have seen hikes after the advent of tourism in the area. The rural economy is thus changing owing to the advent of tourism. The construction of resort has deforested the area leading to loss of various birds which used to stay at Pakhiralaya and thus gave its name. While the young people opine that tourism is good because some are getting jobs based on tourism, the aged opine that cultural and social changes have comeup due to tourism. Devoured by the rivers, the earthen embankments of area have succumbed to the dashing of river water robbing the settlements. Once a forested stretch, some area of Pakhiralaya were reclaimed in the year 1969. Repeated embankment breaching has caused a settlement shift to interior locations. Ravaged by Aila, the agriculture of the site has been hit hard and people are burdened with shift in their occupations.

The major problems identified are unemployment, scarcity of drinking water, housing problems, lack of transportation, lack of maintenance, flooding, inadequete health care facilities, lack of education, impact of cyclone, lack of internet facility.

The region primarily relies on agriculture, fishing and forestry, which may not provide enough employment opportunities for its growing population. The Sundarbans are susceptible to natural disaster like cyclone and flooding, which frequently distrupts livelihood and infrastructure, leading to temporary or long term unemployment. Poverty can further exacerable unemployment rates in the

region by restricting certain groups access to employment opportunities.

In the Sundarban region of West Bengal (India), there is acute drinking water scarcity owing to mismanagement of ground water coupled with the high salinity of river water. Large population in Sundarban live in a mud house. About 30% of the house are kutcha type and 48.57% households are semi-pucca type. The Indian Sundarban is recognised as backward region in terms of transport and communication with only 42 km of railway, 250 km of metalled road, 170 km of unpaved narrow roads. The navigable rivers and creeks from the principal means of communication in Sundarbans since long which are very risky during monsoon and cyclonic storm.

In South 24 Parganas, a higher no. of students are enrolled in primary govt. aided schools. The schools are severely under staffed and have poor infrastructure. For higher studies, they have to travel considerably longer distance to reach the high school. Although agriculture remains a source of livelihood for the islanders, the brackishness of rivers makes agriculture unsuitable and uncertain. Winter cultivation is virtually non existent for want of fresh waters. The mobile network of Sundarban is very patchy having some area with good coverage and others with no signal at all due to the dense forest canopy and the remoteness of the region, which makes signals difficulty.

Addressing the various challenges in the Sundarbans in general and Pakhiralaya in particular world require comprehensive strategies that focus on improving infrastructure, expanding economic diversification, enhancing education and skill training and promoting sustainable livelihood that are resilient to environmental risks.

Recommendation for addressing unemployment can include skill development program, Microfinance and entrepreneurship support and community based initiative. Addressing water scarcity can include rainwater harvesting, water conservation and investment in infrastructure. Addressing housing problem can include infrastructure development, ecologically sustainable solutions, community involvement, disaster preparedness

and education and awareness. Addressing lack of transportation can include introduction of waterway transportation, development of ecofriendly boats, improvement of existing infrastructure, mobile application for booking and capacity building and training. Addressing lack of maintenance can include investment in infrastructure, community engagement, public awareness campaign. Addressing flooding can include mangrove reforestation, wetland restoration, elevated infrastructure, flood early warning system and integrated water management, improving healthcare facility can include mobile health clinics, community health workers, emergency medical helps. Addressing lack of internet facilities include mobile internet solutions, community information systems, offline information resources, radio and television broadcasting, public wifi hotspots and ICT training programs.

By implementing these suggestions and recommendation in collaboration with local communities, government agencies and non-governmental agencies it is possible to alleviate unemployment and poverty. address water scarcity, reduce vulnerability to flooding, improve access to quality education, enhance learning outcomes, empower individuals, mitigate the challenges posed by the lack of internet facilities and improve access to information and communication for residents.

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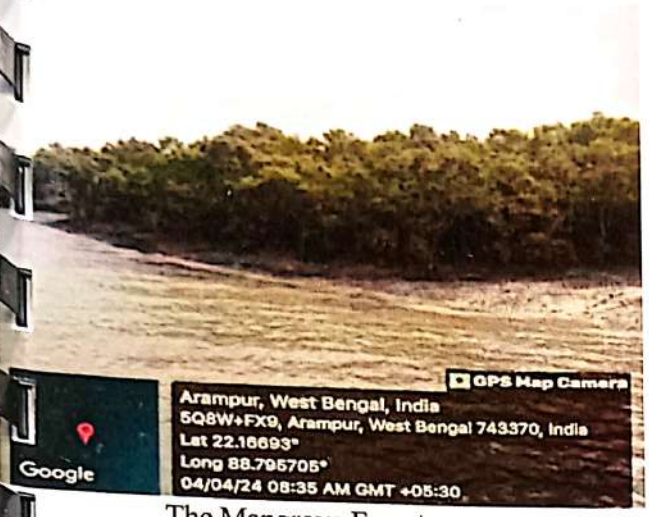
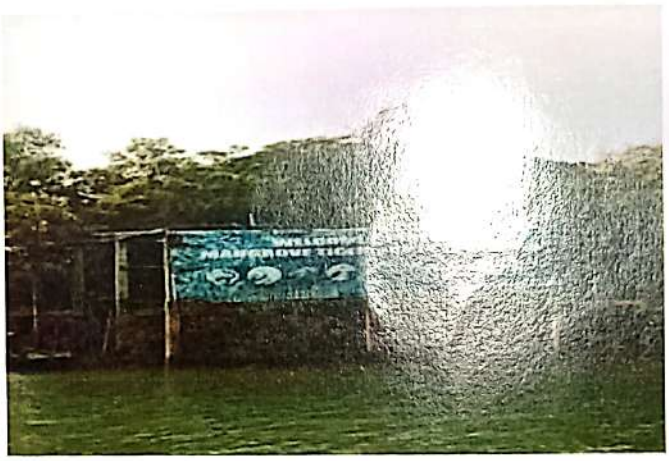


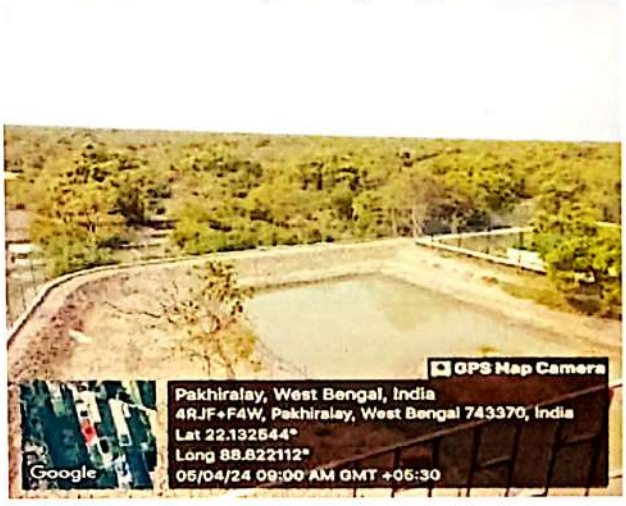
The Mangrove Forest

Breathing Roots (Pneumatophores)

Supporting Roots (Rhizophores)



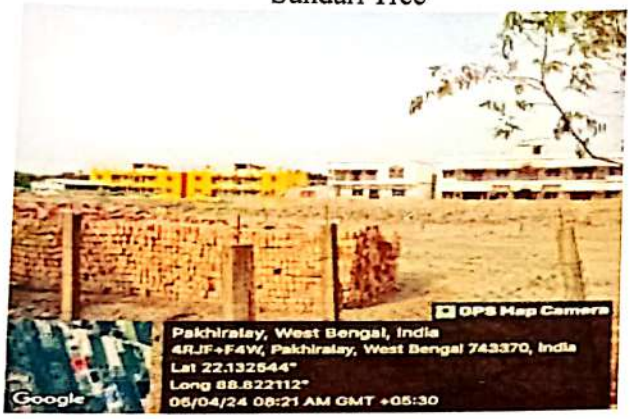
Mangrove Forest
The Home of Royal Bengal Tiger



Mangrove Interpretation Centre

Sundari Tree

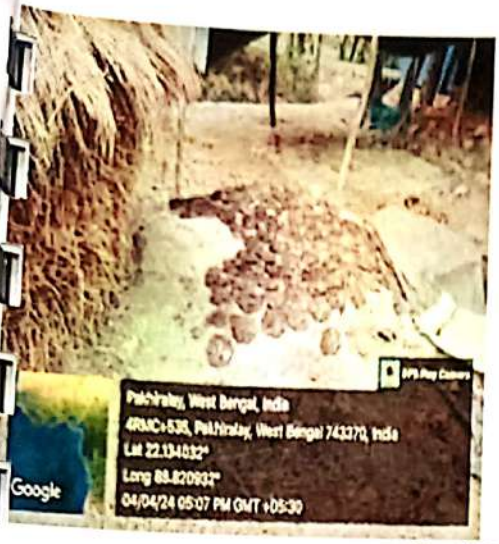
Garan Tree



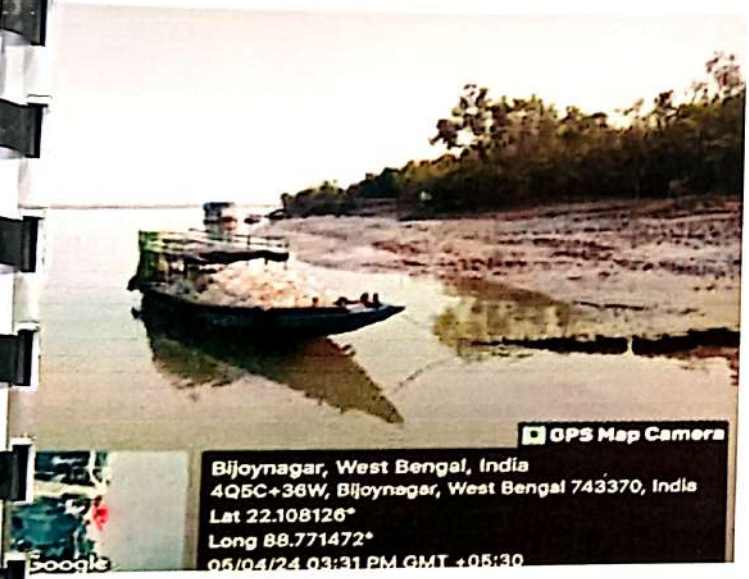
Recently Emerging Hotels in Pakhiralaya

Market Centre, Pakhiralaya

Metalled Roads joining different parts of village



Fuel Used: Gobar Cakes, Firewood, LPG



Water Supply from Jetties

Crops Grown (Potato, peas)

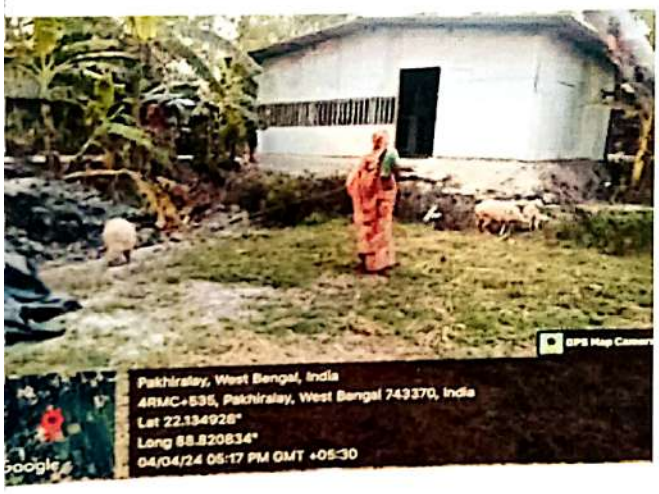
SURVEY TEAM

Temple

Kutcha House

Pucca House

Ducks Reared



Animals Reared

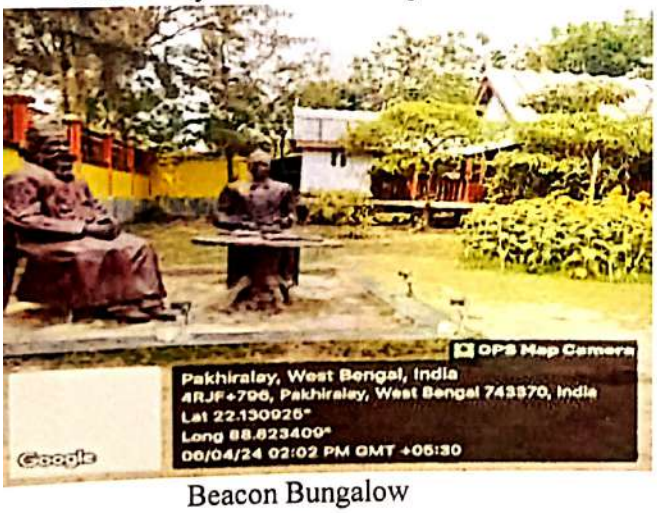
Fish Farming/Prawn Seed Farming

Primary Health Sub Centre, Pakhiralaya

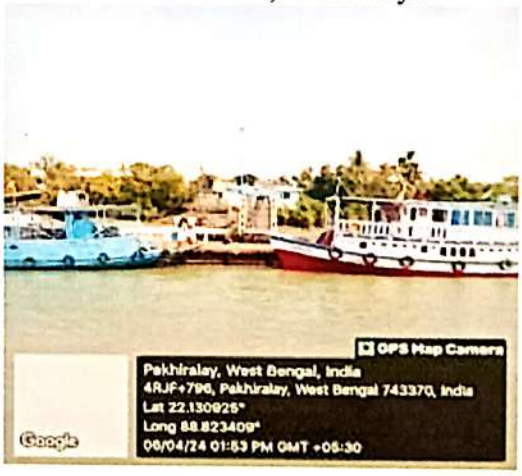
Pakhiralaya, Primary School

Community Solar Water Project

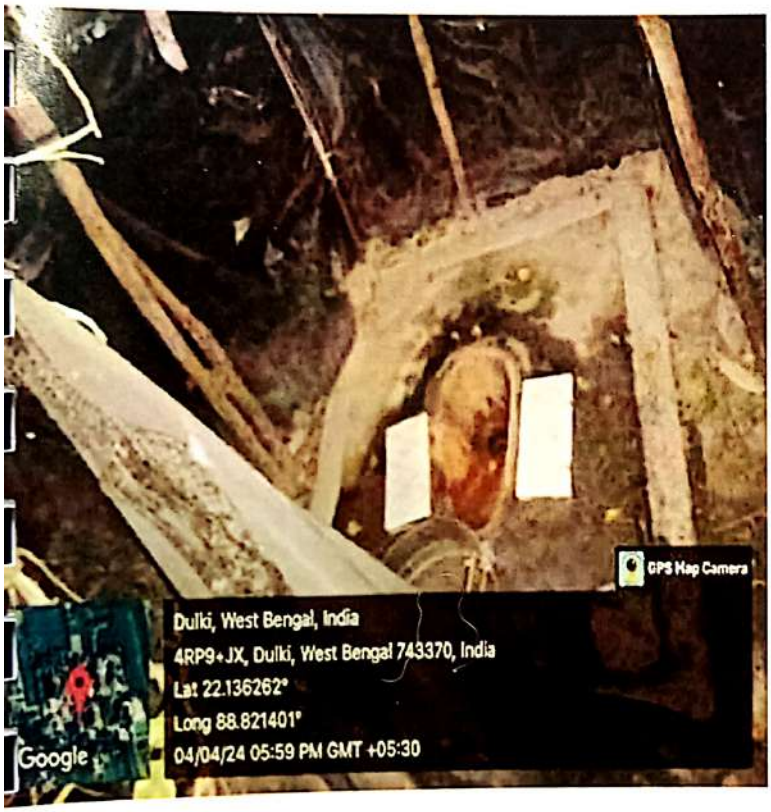
LPG Godown, Pakhiralaya

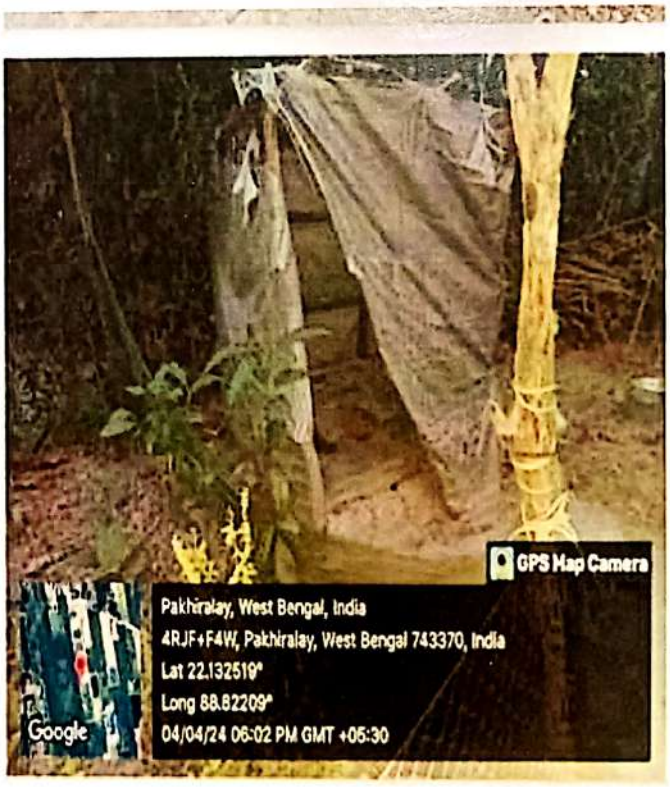


Beacon Bungalow
(Rabindranath Tagore Bunglow)



Water Transport





Sanitation Facility

SL NO.	NO. OF FAMILY MEMBER	NO OF FEMALES	NO. OF MALES	CASTE	RELIGION	NO. OF EARNING MEMBER
1	3	2	1	ST	CHRISTIAN	2
2	4	1	3	SC	HINDU	2
3	3	2	1	ST	CHRISTIAN	2
4	4	2	2	OBC	CHRISTIAN	1
5	3	1	2	SC	HINDU	1
6	3	1	2	OBC	CHRISTIAN	2
7	5	1	4	SC	HINDU	4
8	4	1	3	SC	HINDU	2
9	5	2	3	SC	HINDU	1
10	6	4	2	OBC	HINDU	2
11	4	3	1	SC	HINDU	2
12	2	1	1	ST	HINDU	1
13	3	2	1	GENERAL	HINDU	1
14	2	1	1	SC	HINDU	1
15	3	2	1	GENERAL	HINDU	1
16	3	2	1	SC	HINDU	1
17	5	3	2	OBC	HINDU	3
18	3	2	1	GENERAL	HINDU	2
19	4	1	3	GENERAL	HINDU	2
20	3	1	2	SC	HINDU	1
21	4	2	2	SC	HINDU	1
22	5	2	3	OBC	HINDU	2
23	3	1	2	OBC	HINDU	1
24	4	2	2	GENERAL	HINDU	2
25	4	2	2	SC	HINDU	1
26	5	4	1	SC	HINDU	2
27	4	1	3	SC	HINDU	1
28	3	1	2	SC	HINDU	2
29	4	3	1	SC	HINDU	1
30	4	2	2	SC	HINDU	1
31	4	2	2	SC	HINDU	1
32	4	1	3	SC	HINDU	2
33	2	1	1	SC	HINDU	1
34	4	2	2	GENERAL	HINDU	2
35	3	2	1	OBC	HINDU	1
36	4	2	2	OBC	HINDU	2
37	5	3	2	OBC	HINDU	2
38	4	2	2	OBC	HINDU	1
39	5	2	3	OBC	HINDU	2
40	6	3	3	SC	HINDU	3
41	3	1	2	SC	HINDU	1
42	4	1	3	SC	HINDU	2
43	2	1	1	OBC	HINDU	1
44	4	2	2	OBC	HINDU	1
45	5	2	3	SC	HINDU	2
46	4	2	2	SC	HINDU	3
47	4	1	3	SC	HINDU	1
48	3	2	1	SC	HINDU	1
49	3	1	2	SC	HINDU	1
50	9	5	4	SC	HINDU	4
51	3	3	0	GENERAL	HINDU	1
52	4	1	3	SC	HINDU	1
53	4	2	2	OBC	HINDU	1
54	4	2	2	OBC	HINDU	1
55	4	2	2	SC	HINDU	2

56	3	2	1	SC	HINDU	1
57	2	1	1	SC	HINDU	1
58	3	1	2	SC	HINDU	1
59	4	2	2	SC	HINDU	2
60	2	1	1	SC	HINDU	0
61	3	2	1	SC	HINDU	2
62	4	1	3	GENERAL	HINDU	1
63	4	2	2	SC	HINDU	4
64	5	3	2	SC	HINDU	4
65	5	2	3	GENERAL	HINDU	4
66	4	2	2	GENERAL	HINDU	1
67	4	2	2	GENERAL	HINDU	1
68	5	2	3	SC	HINDU	2
69	5	3	2	SC	HINDU	2
70	5	3	2	OBC	HINDU	1

SL.NO	MOTHER TONGUE	HOUSE TYPE	ROOF TYPE	WALL TYPE	NO OF ROOMS
1	BENGALI	KUTCHA	TIN	TIN	5
2	BENGALI	PUCCA	CEMENTED	CONCRETE	8
3	BENGALI	SEMI-PUCCA	TIN	CONCRETE	6
4	BENGALI	PUCCA	CEMENTED	CONCRETE	5
5	BENGALI	PUCCA	CEMENTED	CONCRETE	4
6	BENGALI	SEMI- PUCCA	ASBESTOS	CONCRETE	4
7	BENGALI	KUTCHA	TIN	TIN	3
8	BENGALI	KUTCHA	TIN	TIN	6
9	BENGALI	KUTCHA	ASBESTOS	WOOD	5
10	BENGALI	KUTCHA	ASBESTOS	WOOD	4
11	BENGALI	SEMI-PUCCA	TIN	CONCRETE	8
12	BENGALI	PUCCA	CEMENTED	CONCRETE	6
13	BENGALI	KUTCHA	TIN	TIN	4
14	BENGALI	PUCCA	TIN	CONCRETE	4
15	BENGALI	SEMI- PUCCA	TIN	TIN	4
16	BENGALI	KUTCHA	TIN	TIN	4
17	BENGALI	SEMI-PUCCA	CEMENTED	CONCRETE	5
18	BENGALI	SEMI-PUCCA	CEMENTED	CONCRETE	5
19	BENGALI	SEMI-PUCCA	ASBESTOS	CONCRETE	6
20	BENGALI	SEMI-PICCA	ASBESTOS	CONCRETE	4
21	BENGALI	KUTCHA	TIN	CONCRETE	4
22	BENGALI	SEMI-PUCCA	CEMENTED	CONCRETE	5
23	BENGALI	KUTCHA	TIN	TIN	2
24	BENGALI	KUTCHA	TIN	WOOD	5
25	BENGALI	SEMI-PUCCA	TIN	CONCRETE	3
26	BENGALI	KUTCHA	TIN	TIN/WOOD	4
27	BENGALI	KUTCHA	ASBESTOS	WOOD/MUD	5
28	BENGALI	SEMI-PUCCA	TIN	CONCRETE	5
29	BENGALI	KUTCHA	TIN	TIN/WOOD	4
30	BENGALI	KUTCHA	TIN	TIN	3
31	BENGALI	SEMI-PUCCA	TIN	CONCRETE	3
32	BENGALI	SEMI-PUCCA	TIN	CONCRETE	6
33	BENGALI	PUCCA	ASBESTOS	CONCRETE	4
34	BENGALI	SEMI-PUCCA	TIN	CONCRETE	6
35	BENGALI	SEMI-PUCCA	TIN	CONCRETE	7
36	BENGALI	SEMI-PUCCA	TIN	TIN	5
37	BENGALI	PUCCA	CEMENTED	CONCRETE	6
38	BENGALI	SEMI-PUCCA	ASBESTOS	CEMENTED/TIN	6
39	BENGALI	SEMI-PUCCA	TIN	TIN	5

40	BENGALI	SEMI-PUCCA	ASBESTOS	CONCRETE	3
41	BENGALI	SEMI-PUCCA	ASBESTOS	TIN	2
42	BENGALI	SEMI-PUCCA	ASBESTOS	CONCRETE	4
43	BENGALI	SEMI-PUCCA	ASBESTOS	CONCRETE	6
44	BENGALI	PUCCA	CEMENTED	CONCRETE	6
45	BENGALI	SEMI-PUCCA	TIN	CONCRETE	6
46	BENGALI	PUCCA	CEMENTED/ASBESTOS	CONCRETE	4
47	BENGALI	SEMI-PUCCA	ASBESTOS	WOOD/CEMENTED	5
48	BENGALI	KUTCHA	TIN	WOOD	4
49	BENGALI	SEMI-PUCCA	TIN	CONCRETE	6
50	BENGALI	KUTCHA	ASBESTOS	WOOD	4
51	BENGALI	KUTCHA	ASBESTOS	WOOD	5
52	BENGALI	SEMI-PUCCA	TIN	CEMENTED	4
53	BENGALI	PUCCA	ASBESTOS	CEMENTED	4
54	BENGALI	PUCCA	TIN	CONCRETE	4
55	BENGALI	PUCCA	CEMENTED	CONCRETE	3
56	BENGALI	KUTCHA	TIN	WOOD	4
57	BENGALI	SEMI-PUCCA	TIN	TIN/BRICK	4
58	BENGALI	SEMI-PUCCA	TIN	WOOD	5
59	BENGALI	PUCCA	CEMENTED	CONCRETE	6
60	BENGALI	KUTCHA	TIN	TIN	2
61	BENGALI	SEMI-PUCCA	TIN	CONCRETE	5
62	BENGALI	SEMI-PUCCA	CEMENTED	CONCRETE	6
63	BENGALI	SEMI-PUCCA	TIN	CONCRETE	6
64	BENGALI	SEMI-PUCCA	TIN	WOOD	7
65	BENGALI	KUTCHA	ASBESTOS	WOOD	4
66	BENGALI	KUTCHA	ASBESTOS	WOOD	5
67	BENGALI	KUCTCHA	ASBESTOS	WOOD	3
68	BENGALI	PUCCA	CEMENTED	CONCRETE	7
69	BENGALI	SEMI-PUCCA	CEMENTED	CONCRETE	5
70	BENGALI	SEMI-PUCCA	ASBESTOS	CONCRETE	5

SL.NO	TREATMENT DONE IN	SANITATION	DOMESTIC FUEL
1	GOVT. HOSPITAL	CONNECTED TO THE FIELD	FIREWOOD
2	"	PVT SEPTIC TANK	LPG, FIREWOOD
3	"	COMMUNITY TOILET	"
4	"	OPEN FIELD	LPG
5	"	PVT SEPTIC T5ANK	FIREWOOD
6	"	"	LPG, FIREWOOD
7	"	"	LPG, FIREWOOD
8	"	OPEN FIELD	FIREWOOD
9	"	CONNECTED TO THE FIELD	FIREWOOD
10	"	PVT] SEPTIC TANK	FIREWOOD
11	"	CONNECTED TO THE FIELD	LPG
12	"	PVT SEPTIC TANK	FIREWOOD
13	"	CONNECTED TO THE FIELD	"
14	"	"	"
15	"	"	LPG
16	"	PVT SEPTIC TANK	FIREWOOD
17	"	"	"
18	"	CONNECTED TO THE FIELD	"
19	"	OPEN FIELD	LPG, FIREWOOD
20	"	PVT SEPTIC TANK	LPG
21	"	CONNECTED TO THE FIELD	FIREWOOD
022	"	PVT SEPTIC TANK	LPG FIREWOOD
023	"	"	LPG
24	"	"	"
25	"	PVT SEPTIC TANK	LPG,FIREWOOD
26	"	"	LPG, FIREWOOD

27			
28	"	"	"
29	"	"	"
30	"	CONNECTED TO THE FIELD	FIREWOOD
31	"	"	LPG FIREWOOD
32	"	"	FIREWOOD
33	"	PVT SEPTIC TANK	LPG FIREWOOD
34	"	"	FIREWOOD
35	"	"	LPG, FIREWOOD
36	"	CONNECTED TO THE FIELD	"
37	"	"	"
38	"	"	"
39	"	PVT SEPTIC TANK	"
40	"	"	"
41	"	"	FIREWOOD
42	"	CONNECTED TO TE FIELD	LPG FIREWOOD
43	"	PVT SEPTIC TANK	LPG, FIREWOOD
44	"	"	LPG
45	"	CONNECTED TO THE FIELD	LPG
46	"	PVT SEPTIC TANK	LPG
47	"	"	LPG FIREWOOD
48	"	"	"
49	"	"	FIREWOOD
50	"	"	"
51	"	"	LPG FIREWOOD
52	"	"	FIREWOOD
53	"	"	LPG FIREWOOD
54	"	"	"
55	"	"	"
56	"	CONNECTED TO THE FIELD	FIREWOOD
57	"	"	LPG FIREWOOD
58	"	"	FIREWOOD
59	"	"	LPG FIREWOOD
60	"	PV T SEPTIC TANK	"
61	"	OPEN FIELD	"
62	"	PVT SEPTIC TANK	LPG
63	"	"	LPG FIREWOOD
64	"	"	LPG
65	"	"	"
66	"	"	LPG FIREWOOD
67	"	"	"
68	"	OPEN FIELD	FIREWOOD
69	"	PVT SEPTIC TANK	LPG
70	"	"	"
		CENTRALIZED	FIREWOOD

SL NO	SOURCE OF WATER	LIVESTOCK REARED
1	PHE	0
2	"	11CHICKEN, 2COW, FISH, 3GOATS
3	NEARBY PONDS	FISH, 15GOAT,1COW
4	TUBEWELL	0
5	PHE	0
6	TUBEWELL	FISH,15CHICKEN,12SHEEP
7	PHE	0
8	PHE	12CHICKEN. 2GOAT
9	PHE	9CHICKEN, 1COW
10	NEARBY PONDS	2COW,12CHICKEN
11	TUBEWELL	1BUFFALO,1COW

12	NEARBYPONDS	2COW,14GOAT
13	NEARBY PONDS	7GOAT,12CHICKEN
14	"	12CHICKEN,4GOAT,3COW
15	"	2COW,1TURKEY
16	"	8GOAT, 13CHICKEN
17	"	14CHICKEN, 3DUCK
18	PHE	4CHICKEN, 6GOAT
19	"	7CHICKEN, 1COW
20	"	4GOAT
21	"	1COW, 4DUCK
22	"	2GOAT,8CHICKEN
23	"	2COW, FISH
24	"	0
25	"	1CHICKEN, 3COW,5SHEEP, FISH
26	"	3SHEEP,6DUCK,2CHICKEN,FISH
27	"	1COW,30CHICKEN,5GOAT
28	"	5SHEEP, 3CHICKEN,FISH
29	"	FISH,2CHICKEN,3SHEEP
30	"	7CHICKEN, 3GOAT,FISH
31	"	1CHICKEN,FISH
32	"	2SHEEP,7CHICKEN,FISH
33	"	FISH, 2COW
34	TUBE WELL	10CHCKEN,9DUCK
35	PHE	3CHICKEN
36	"	6CHICKEN,9DUCK
37	"	6DUCK,9CHICKEN,6GOAT
38	"	8CHICKEN,2GOAT
39	NEARBY PONDS	6CHICKEN,3GOAT
40	PHE	13CHICKEN,3DUCK,6GOAT,1COW,FISH
41	"	4CHICKEN,8DUCK
42	"	6DUCK
43	NEARBY PONDS	6CHICKEN
44	"	1TURKEY
45	"	0
46	PHE	1COW
47	TUBE WELL	4COW,2DUCK,FISH
48	PHE	1COW,FISH
49	TUBEWELL	5COW,7HEN,6SHEEP
50	PHE	2COW,10DUCK,4GOAT,5CHICKEN
51	TUBEWELL	2COW,12CIHCKEN,FISH
52	PHE	10CICHKEN,6GOAT,3SHEEP
53	"	7CHICKEN,2SHEEP,9GOAT
54	"	6CHICKEN,2SHEEP
55	"	5GOAT,3CHICKEN
56	"	16CHICKEN,5GOAT
57	"	8CHICKEN
58	"	12CHICKEN,6DUCK
59	"	4CHICKEN
60	NEARBY PONDS	6CHICKEN
61	PHE	0
62	NEARBY PONDS	7GOAT,3COW
63	"	0
64	"	3CHICKEN
65	"	2SHEEP
66	"	3GOAT,2SHEEP
67	"	4COW,5SHEEP,2GOAT
68	TUBEWELL	2CHICKEN,2COW,2BUFFALO
69	NEARBYPONDS	14CHICKEN,3DUCK
70	PHE	2COW,10CHICKEN

Questionnaire for Geographical Excursion
Kurseong College

1. Name of the village:

2. Block name:

3. District:

4.House hold details:

Name	2. sex M/F	3. Age	4. GEN/SC/ST/OBC/OTHERS	5. Occupation	6. Religion	7. Married /Unmarried/ Widow	8. Age at marriage	9. Educational status	10. Local or Immigrant	11. household type Nuclear/joint	12. language read/write/speak
0.											

5. House type: pucca/kutcha/semi-pucca/others (specify):

6. Roof type: cemented/tin/asbestos/others (specify):

7. Wall type: concrete/tin/wood/others (specify):

8. No of Bed rooms ..... / Kitchen... /living room.... /toilet... / balcony... /verandah... /others (specify).....

9. No of livestock:

Sl. No.	Type	Quantity

10. What type of agricultural equipments is used? Mention their name and number.

Sl. No.	Name of the equipment	Number

11. What are the main sources of income? Mention details

Category of services: agriculture / fishing / prawn seed collectors / shrimp farmers / forest workers / business /service / fishing / industry/ tourism /construction (100days /cattle rearing / others(specify)

12. What are main sources of drinking water: tube well / nearby ponds / others(specify)

13. If water collected from ponds, how many kilometers do you walk to collect water from the pond:

14. No. of household assets: TV……/refrigerator……. /Geyser……. /Washing machine……. /Mobile phone……. /Microwave oven…… /two wheeler…… (no:) /four wheeler…….(no:) / boats…..(no:) others (mention the name and no.).……

15. Is there any Internet facility: yes/no.

16. What type of Fuel used for cooking: LPG/kerosene/firewood/electric/others (specify)

17. Electric connection: yes/no.

18.Is there any recreational facility: park/ playground / theater / club/ community hall/ others (specify)

19. Sanitation type: personal septic tank / centralized / directly connected to the field / open field / others (specify):

20. What type of medical facility availed by the local people: PHC_____(km)/Govt. Hospital_____(km) /Pvt. Hospital_____(km) /nursing home_____(km).

21. Type of agricultural fertilizers used: organic/inorganic(chemicals).

22. Average monthly income/weekly wage: (in Rs.....)

23. Average monthly expenditure:

Sl. No.	Items	Amount in Rs.
1.	Milk, Meat, Vegetables	
2.	Grocery	
3.	Education	
4.	Health	
5.	Transport	
6.	Household Maintenance	
7.	Livestock Maintenance	
8.	Fuel	
9.	Electricity	
10.	Recreation (mobile, TV, others)	
11.	Water	
12.	Fertilizer	
13.	Others (Specify)	

24. Is there any monthly/yearly savings in the family? If yes, then how much? (in Rs.....).

25. Total Agricultural land owned (Decimal/Katha/bigha):

26. Major crops grown:

Crops description	1st crop	2nd crop	3rd crop	4th crop	Others	
Name of the crops						
Total production in kg.(annually)						
Value in Rs. (annually)						
Growing season (mention the month)						

27. Distance of the nearest market (km):

28. Details of educational institution:

Educational institute	Primary school	High school	College	University	Technical colleges	Other institute
1.Govt/ private						
2. Distance in km						
3. Transport medium						
4.Boarding facility						
5.Mid-day-meal facility						

29. Any bank account: yes/no. If yes name of the bank:

30. Any loan taken from the bank: yes/no. If yes
    a. Amount taken:
    b. Name of the bank:
    c. Purpose:

31. Type of socio-economic problem faced by the local people: (Write few words):

a. _____

b. _____

c. _____

d. _____

e. _____

Name of the surveyor:
Mob No:

Date: