Saltora Netaji
Centenary College

A Geographical Study on the Socio-Economic Condition of Bamnishala Village of Saltora Block, Bankura

FIELD STUDY

Submitted by

Piyush Maji

Sem - VI

UID - 20193119006

Department of Geography

Saltora Netaji Centenary College

Saltora, Bankura, W.B. -722 158

To Whom It May Concern

Certified that...... PIYUSH MAJI ...., a bona fide student of B.A./B.Sc. Hons. in Geography, bearing Bankura University UID no. 2019 311 900 6 ....has successfully completed his/her field work at...... BAMNISHALA , SALTORA, BANKURA, WEST BENGAL ....being cooperated and guided by the Department of Geography, Saltora Netaji Centenary College.

I wish him/her success in life.

Dr. Tushar Mandal
Assistant Professor & Head
Department of Geography

A geographical study on the socio-economic condition of Bamnishala village of Saltora block, Bankura

CONTENT

PREFACE

The present report entitled "Field survey Report of Bamnishala village area" deals with physical and socio economic set up of Bamnishala village in Saltora C.D. Block, which is administratively under the Bankura District of the state of West Bengal, India. The field report consists a special report on socio-economic circumstances of Saltora village Area.

The field report has been written in simple, lucid, clear and modern style, so that the readers can take maximum benefit from the report. Maps and Diagrams comprise the soul of any analysis or any subject of Geography. Keeping this axiom of mind, example use of maps and diagrams has been mode, this has made the subject interest, picture and diagrams are easy to learn.

Piyush Maji

Department of Geography
Saltora NetajiCentenary College
Saltora, Bankura
Date-02/05/2023

ACKNOWLEDGEMENT

Place : Saltora
Date : 02/05/2023

LOCATION MAP OF BAMNISHALA VILLAGE

JL NO - 98

### CD BLOCK - SALTORA, DIST. - BANKURA, STATE - WEST BENGAL
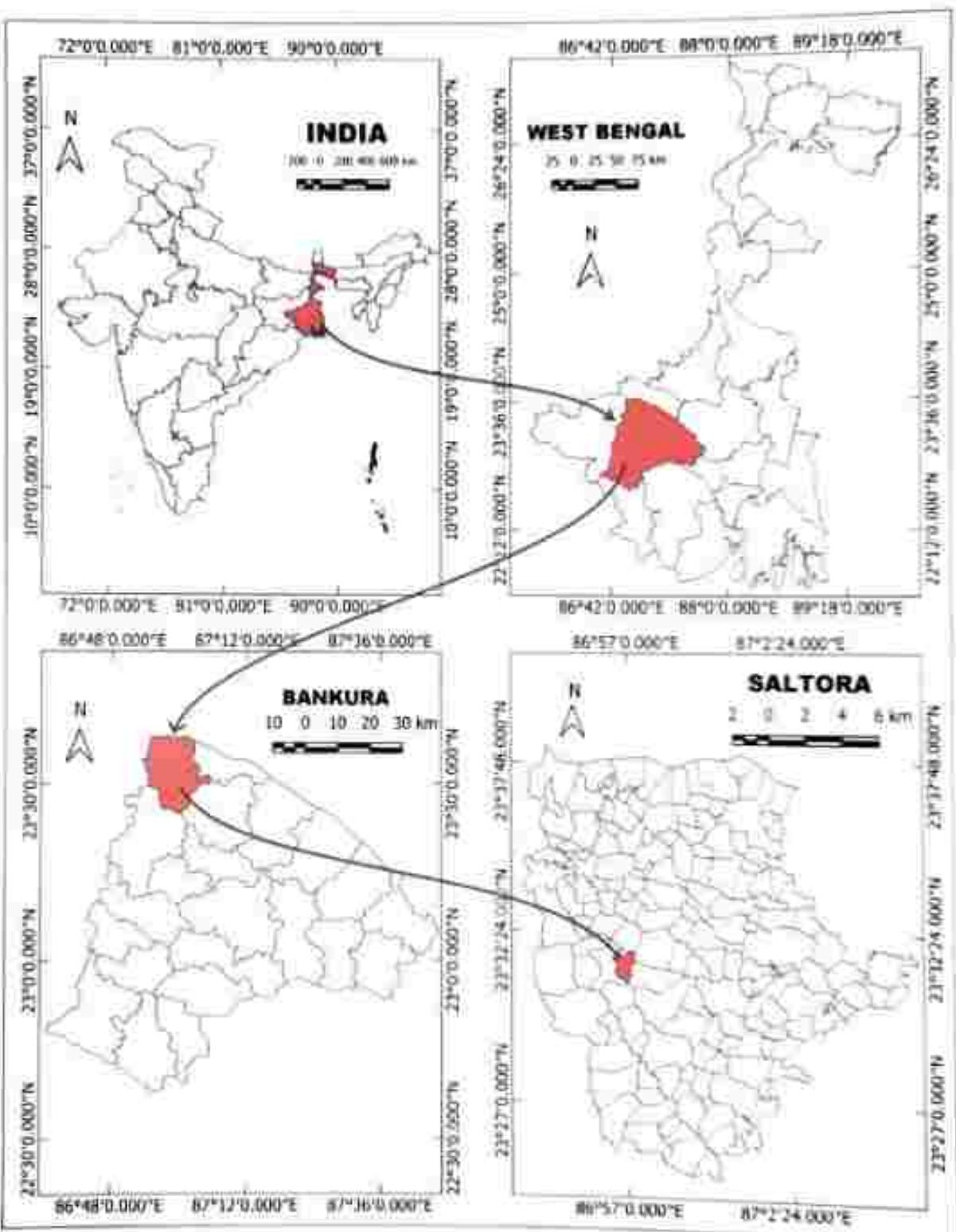
STANDARD FCC OF SALTORA CD BLOCK

DISTRICT - BANKURA, STATE - WEST BENGAL

PREPARED FROM:-Resourcesat-2,LISS-III

N

1 0 1 2 3 km
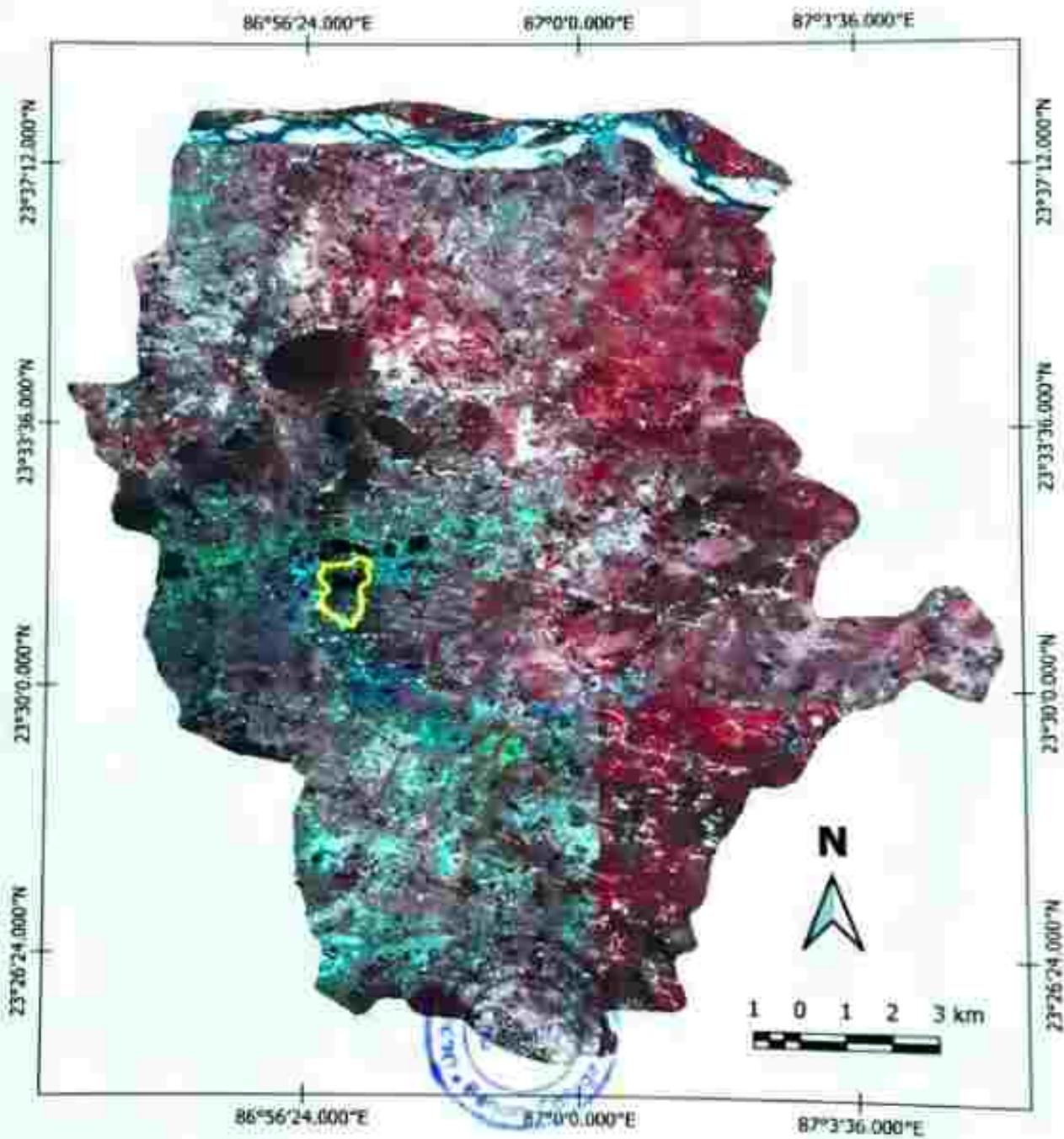
CHAPTER – 1

1.1 Introduction

Bamnishala is a tribal village belonging to Saltora block in Bankura district of West Bengal. It is a drought prone region. Some endemic animals are seen in this region such as Fox, Pig, Sleep, and cattle all these animals are specially observed here. The local variety of trees here Timber tree, teak tree, mahua(madhuca longifolia), palas, banyan tree and also tree are guava, hog, kul, Amloki (Phyllanthus emblica), and etc. Also various exotic plants are currently seen search as eucalyptus etc. the people here are very simple and hard working they have retained their old culture which is reflected in their various houses and activities. All in all this village is surrounded by greenery and carries the signature of picturesque village.

1.2 Objectives

- To assess the present socio-economic condition of the study area.
- To find out the major problems of the study area
- To put forward suitable planning strategies for the inclusive development of the study area.

1.3 Selection of the study area

Bamnishala is a tribal village belonging to the Bankura District of Saltora village. In This Saltora Block as per 2011, census the percentage of schedule caste is 30.19%. The percentage of schedule Tribe18.9% and general caste 50.1%. Among Saltola Block, Bamnishala village has the highest amount of scheduled caste. This is the reason why we have selected this village for the survey.

1.4 Data Source

- **Primary Source** : Field work and interview conducted (using suitable questionnaire) at the study area I.e. Bamnishala village of Sahora block, Bankura District, W. B.
- **Secondary Source** : Census of India-2011, District Statistical Handbook etc. Data collected from official websites. Apart from that, different other relevant data also have been collected from college library and internet.

1.5   Methodology

Simple and conventional methodologies have been used in the present study involving both qualitative and quantitative techniques. Microsoft Power point, MS Word, MS Paint etc. have been used to graphically present the data.

1.6 Limitation of the study

There are two main limitations of our survey work includes- time constraints and language (dialect) & communication problem. Due to limited time, we could not cover all the households in the study area the local people practices a particular kinds of dialect which is enriching but a little bit difficult to understand.

CHAPTER 2

PHYSICAL &CULTURAL ENVIRONMENT OF STUDY AREA

2.1 PHYSICAL ENVIRONMENT

2.1.1 LITHOLOGY :

The lithology of Saltora Block in Bankura District is characterized by a diverse range of rock formations. The region falls within the Chotanagpur Plateau, which is known for its geological significance. The following are the major lithological units found in Saltora Block:

❖ Gondwana Super Group: The Gondwana Super Group is the most prominent lithological unit in Saltora Block. It comprises sedimentary rocks that were formed during the Permian and Carboniferous periods. The Gondwana rocks in this region consist of sandstones, shales, conglomerates, and coal seams. These rocks were deposited in ancient river valleys, lakes, and swamps, indicating a history of fluvial and lacustrine environments.

❖ Rajmahal Trap: The Rajmahal Trap is another significant lithological unit found in the Saltora Block. It is a volcanic rock formation formed during the Late Cretaceous period. The Rajmahal Trap consists of basaltic lava flows, tuffs, and associated sediments. These rocks were erupted during the opening of the Indian subcontinent and are characterized by their dark color and fine-grained texture.

❖ Alluvium: Alluvial deposits are found along the river valleys and floodplains in Saltora Block. These deposits are composed of loose sediments such as sand, silt, clay, and gravel. Alluvium is formed by the erosion and deposition of materials transported by rivers, and it forms fertile soils that are suitable for agriculture.

❖ Laterite: Laterite is a type of residual soil that occurs in some parts of Saltora Block. It is formed through the weathering of underlying rocks in hot and humid climates. Laterite is typically reddish-brown in color and has a hard and compacted structure.

BANKURA

PHYSIOGRAPHY

N

0 4 8   16   24   32
Kilometers

Legend:
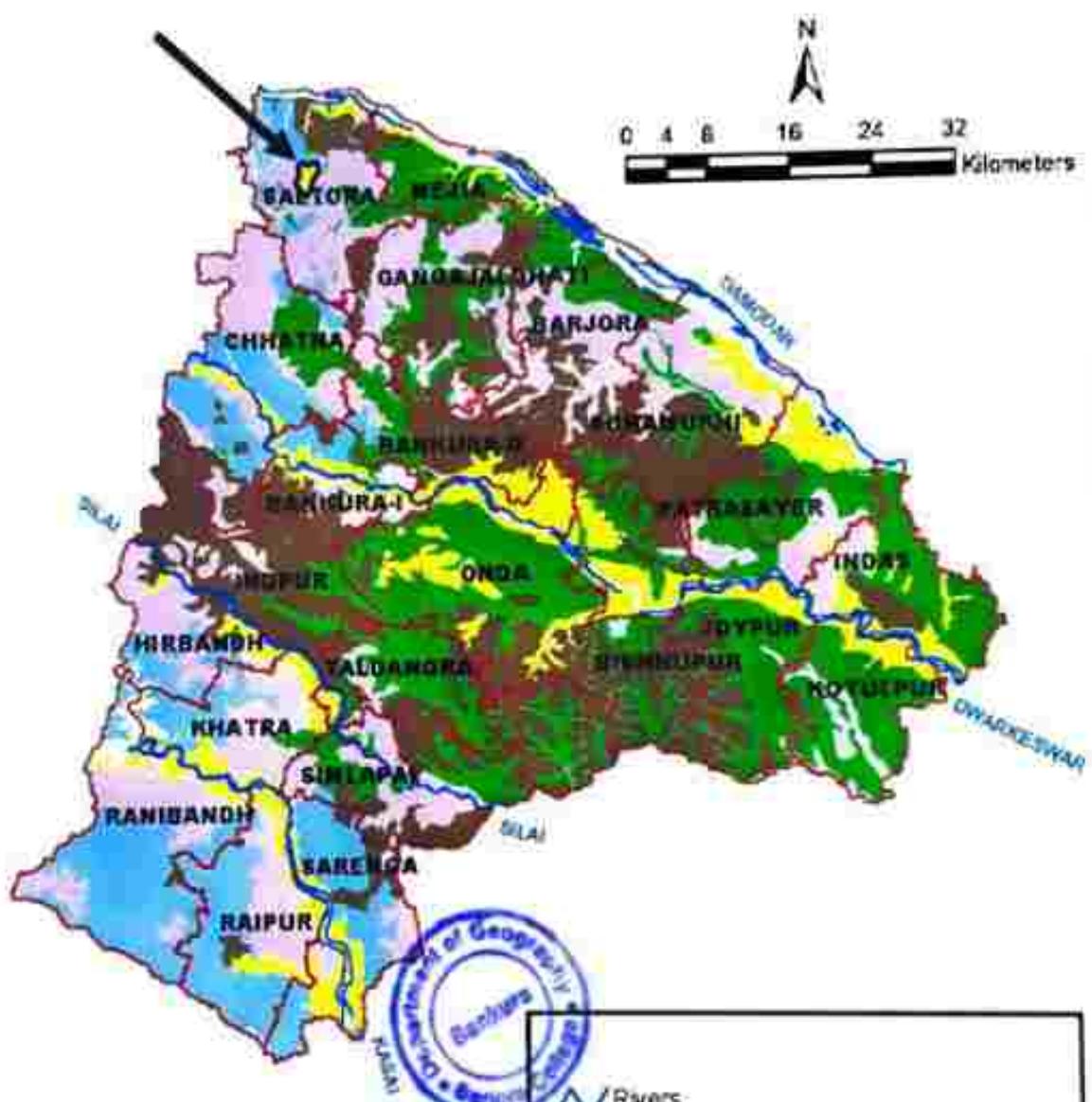
Rivers
Block Boundary

PHYSIOGRAPHY
- DISSECTED PLATEAU
- FLOOD PLAIN
- LOWER ALLUVIAL PLAIN
- RESIDUAL HILLOCKS & MOUNTS
- SETTLEMENT
- UPPER UNDULATING ALLUVIAL PLAIN

2.1.2 TOPOGRAPHY & SLOPE

❖ Varied Topography: Saltora Block encompasses a range of topographic features, including hills, plateaus, and valleys. These landforms contribute to the variation in slopes within the block. Some areas might have gentle slopes, while others may have steeper gradients.

❖ Hill Ranges: Saltora Block is home to several hill ranges, including the Baghmundi Hills, Raipur Hill, and portions of the Chota Nagpur Plateau. These hill ranges are likely to exhibit steeper slopes, particularly along their ridges and slopes.

❖ River Valleys: The presence of rivers like the Dwarakeswar and Kangsabati, along with their tributaries, has resulted in the formation of valleys. The slopes in these valleys tend to be relatively gentle compared to the hilly regions.

❖ Slope Stability: In areas with steeper slopes, soil erosion and slope instability can be a concern, particularly during heavy rainfall. Implementing appropriate soil conservation measures becomes essential to prevent soil erosion and maintain slope stability.

2.1.3 DRAINAGE

Saltora Block in Bankura District has a varied drainage condition, influenced by its topography and the presence of several rivers and water bodies in the region. Here are some key points about the drainage condition of Saltora Block.

❖ Rivers: Saltora Block is traversed by several rivers, including the Dwarakeswar River, Kangsabati River, and their tributaries. These rivers contribute significantly to the drainage system of the block.

❖ Water bodies: The block also contains various natural and man-made water bodies such as ponds, lakes, and reservoirs. These water bodies contribute to the local drainage network and serve as important water sources for irrigation and other purposes.

❖ Topography: Saltora Block features undulating topography with hills and valleys. The drainage pattern is influenced by the slopes and gradients of the land. Water generally flows from higher elevations towards lower areas, following the natural topographic gradients.

❖ Drainage infrastructure: There are drainage channels and canals constructed in some areas to regulate the flow of water and prevent water logging during the monsoon season. These drainage systems help in managing excess water and maintaining the overall drainage condition of the block.

BANKURA

SLOPE

N

| 0 | 4 | 8 | 16 | 24 | 32 |

Kilometers

Legend

- Level to nearly level-Very gently sloping
- Level to nearly level-Gently sloping
- Level to nearly level-Very gently sloping-Gently sloping
- Level to nearly level-Gently sloping-Very gently sloping
- Level to nearly level-Gently sloping-Moderately sloping
- Level to nearly level-Moderately sloping-Gently sloping
- Gently sloping-Moderately sloping
- Gently sloping-Moderately sloping-Level to nearly level
- Gently sloping-Moderately sloping-Very gently sloping
- River

SOURCE: ICAR – NATIONAL BUREAU OF SOIL SURVEY & LAND USE PLANNING

BANKURA

Drainage

N

0 4 8 16 24 32
Kilometers
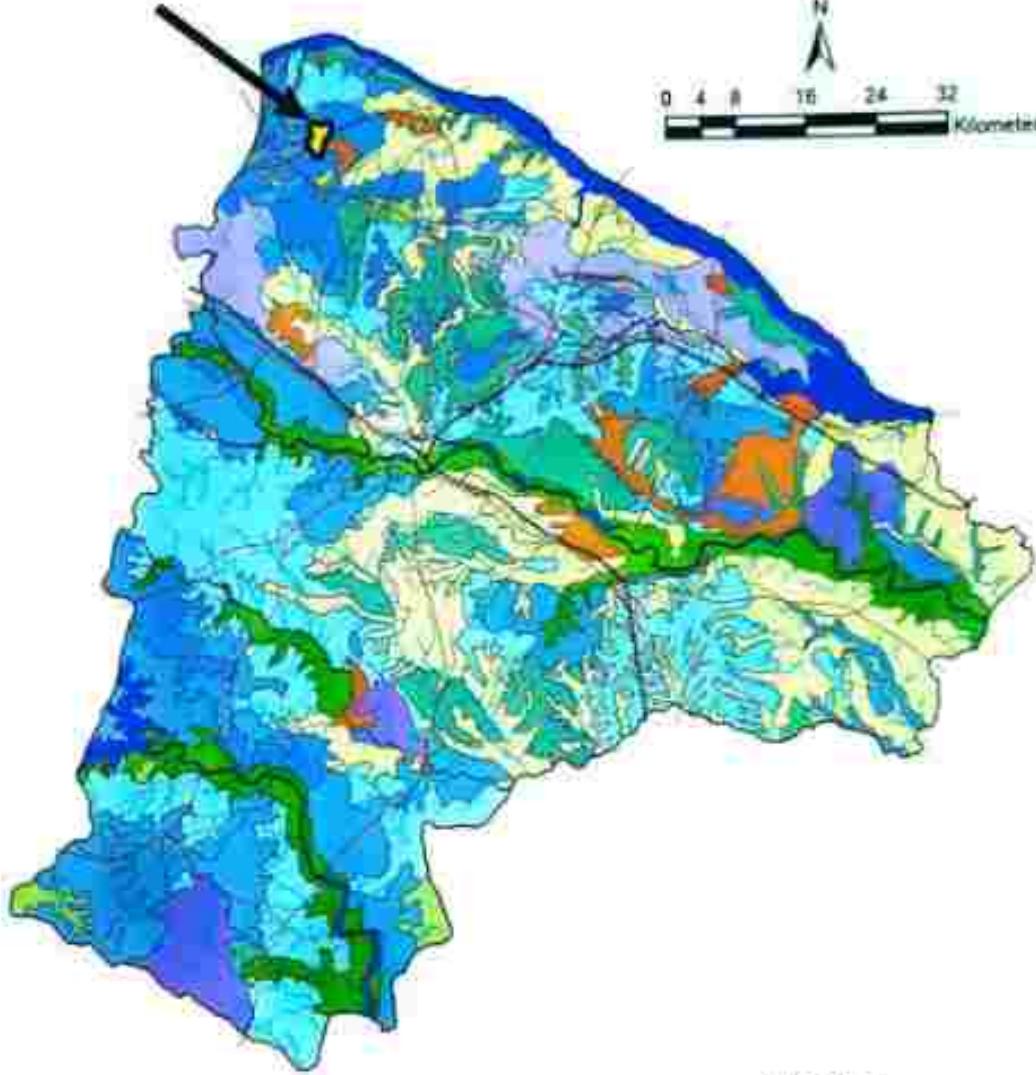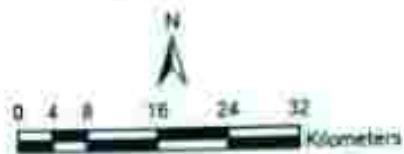
Legend

Poor-imperfect	Mod well-Well
Poor-Mod well	Well
Imperfect	Well-imperfect
Imperfect-Mod well	Excessive-Well
Imperfect-Well	River
Mod well-imperfect	

References

- District HQ
- Tehsil HQ
- District Boundary
- Tehsil Boundary
- Road
- Rivers
- Drainage
- Waterbodies

SOURCE: ICAR – NATIONAL BUREAU OF SOIL SURVEY & LAND USE PLANNING

2.1.4 CLIMATIC CONDITION

Saltora Block, located in Bankura District, experiences a climate that is characteristic of the region. Here is a note on the climate of Saltora Block:

❖ Tropical Monsoon Climate: Saltora Block falls under the influence of a tropical monsoon climate. It is characterized by distinct wet and dry seasons throughout the year.

❖ Summers: The summer season in Saltora Block, which generally extends from March to May, is hot and dry. Temperatures during this period can soar, with average maximum temperatures ranging from 35°C to 40°C (95°F to 104°F).

❖ Monsoon Season: The monsoon season in Saltora Block typically begins in June and lasts until September. During this period, the region receives the majority of its annual rainfall. The Southwest Monsoon brings moisture-laden winds from the Bay of Bengal, resulting in heavy rainfall. Average annual precipitation in Bankura District ranges from 1,200 to 1,500 millimeters.

❖ Winters: The winter season in Saltora Block spans from December to February. It is relatively mild and dry, with temperatures dropping to around 10°C to 15°C (50°F to 59°F) during the coldest months. Foggy conditions are not uncommon during the early mornings in winter.

❖ Extreme Events: Occasionally, Saltora Block may experience extreme weather events such as thunderstorms, cyclonic disturbances, or heat waves. These events can impact the local climate and have implications for agriculture and other aspects of life in the region.

2.1.5 SOIL CHARECTARISTIC

Saltora Block, situated in Bankura District, has a diverse range of soils that are characteristic of the region. Here is a note on the soil types found in Saltora Block:

❖ Red and Lateritic Soils: The dominant soil type in Saltora Block is red and lateritic soil. These soils are formed as a result of intense weathering of the underlying rocks, which are predominantly composed of granite and gneiss. Red soils are generally well-drained, moderately fertile, and have a reddish-brown to deep red color. They are suitable for a variety of agricultural crops.

❖ Alluvial Soils: Alluvial soils can be found along the riverbanks and in floodplain areas of Saltora Block. These soils are deposited by the rivers and are characterized by their high fertility and clayey texture. Alluvial soils are often used for growing paddy, as they retain moisture well.

❖ Sandy Soils: Sandy soils are present in certain parts of Saltora Block, especially in the hilly regions and areas with poor drainage. Sandy soils have larger particles, which result in good drainage but lower water-holding capacity. These soils can be less fertile but are suitable for certain types of crops that thrive in well-drained conditions.

❖ Black Soils: In some areas, particularly where the underlying rocks contain basalt, black soils can be found. These soils are rich in clay and organic matter, giving them good moisture retention capacity. Black soils are known for their high fertility and are suitable for growing crops like cotton, pulses, and oilseeds.

❖ Soil Conservation: Given the undulating topography and the prevalence of red and lateritic soils in Saltora Block, soil erosion can be a concern. Implementing soil conservation measures like contour plowing, terracing, and forestation is essential to prevent soil erosion and maintain soil health.

2.1.6 VEGETATION

Saltora Block in Bankura District showcases a diverse range of vegetation, influenced by its geographical features and climate. Here is a note on the vegetation of Saltora Block:

❖ Tropical Deciduous Forest: Saltora Block is primarily characterized by tropical deciduous forests. These forests consist of trees that shed their leaves during the dry season to conserve water. Common tree species include Sal (Shorearobusta), Mahua (Madhuca longifolia), Palash (Butea monosperma), Neem (Azadirachta indica), and Bamboo (Bambusoideae). These forests provide habitat to a variety of wildlife.

❖ Scrub Vegetation: In areas with rocky terrain or shallow soils, scrub vegetation or shrublands can be found. These areas are dominated by bushes, thorny plants, and grasses adapted to the local conditions. Scrub vegetation often serves as a transitional zone between forests and more open landscapes.

❖ Grasslands: Grasslands are scattered across Saltora Block, particularly in areas with open plains or meadows. These grasslands are characterized by a variety of grass species, which provide fodder for grazing animals. They also support a diverse range of herbaceous plants.

❖ Agricultural Land: Agriculture is a prominent land use in Saltora Block, and the vegetation is modified to accommodate various crops.

❖ Plantations: In some areas, particularly on private lands or designated forest plantations, commercial plantations of teak (Tectona grandis), eucalyptus (Eucalyptus spp.), and other fast-growing tree species can be found. These plantations serve the purpose of timber production and can contribute to the local economy.

2.2 CULTURAL ENVIRONMENT

2.2.1 Population Composition:

Bamnishala village is a Santhal village. The villagers share a strong bond and work together to maintain the village's social fabric.

2.2.2 Occupational Structure (Agriculture):

Agriculture forms the backbone of the economy in Bamnishala village. The majority of the villagers are engaged in farming and related activities. The fertile land surrounding the village supports the cultivation of a variety of crops, including rice, wheat, pulses, vegetables, and fruits. The farmers employ traditional farming methods and often work collectively during peak seasons like sowing and harvesting. In recent years, some farmers have also adopted modern techniques and practices to enhance agricultural productivity.

2.2.3 Religious Composition:

The religious composition of Bamnishala village reflects the diverse beliefs and faiths of its residents. The village is a melting pot of religious diversity, with people following different religions such as Hinduism, Islam, and Christianity. Festivals like Durga Puja, Eid, and Christmas are celebrated with great enthusiasm and are occasions for communal harmony and unity.

2.2.4 Education:

Education plays a significant role in Bamnishala village, with an increasing emphasis on providing quality education to the younger generation. The village has a primary school that caters to the educational needs of the children within the community. Efforts have been made by the government and local organizations to improve access to education, ensuring that every child has the opportunity to learn and grow.

2.2.5 Ethnic Culture:

Bamnishala village takes great pride in its ethnic culture, which is deeply rooted in the traditions, art forms, and customs of the indigenous communities. Folk music and dance performances are an integral part of the village's cultural fabric, with local artists showcasing their talent during festivals and social gatherings. Traditional attire, handicrafts, and cuisine also contribute to preserving the unique ethnic culture of Bamnishala.

CHAPTER 3: SOCIO – ECONOMIC SURVEY OF THE STUDY AREA

The study are is situated in socio-economically backward area which is not conducive for agriculture because of its unique physiology specifically for soil condition. Generally Laterite soil is abundant here which is not fertile enough for large scale fruitful cultivation.

3.1 POPULATION CHARACTERISTICS

TOTAL NO HOUSEHOLD

| YEAR	NO OF HOUSEHOLD
2011(CENSUS)	58
2023(TOTAL HOUSEHOLD)	72
2023(FIELD SURVEY)	55

Source : Saltora Village Panchayat samiti.

Census of India(2011)

Field survey on 02/05/2023

TOTAL NUMBER OF HOUSEHOLD	TOTAL NUMBER OF HOUSEHOLD SURVEYED	PERCENTAGE(%)
72	55	76.38

NUMBER OF HOUSEHOLD SURVEYED
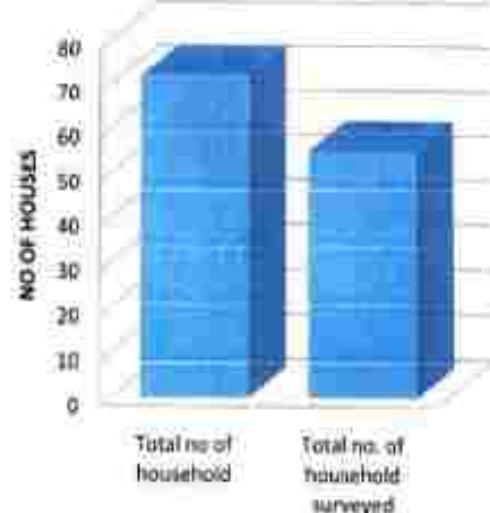
In the village of Bamnishala of Saltora CD Block at Bankura of West Bengal,there were 58 household in total as per 2011 census. Out of 72 total household 55household were surveyed on 02/05/2023 during the field work conducted by the Department of Geography Saltora Netaji Centenary College,Saltora, Bankura. In total there were 58(2011 census)household among which 72(2023 field survey)household were surveyed that means 76.38of the total household actually surveyed.

3.1.1 AGE AND SEX CHARACTERISTICS

TOTAL POPULATION : MALE AND FEMALE POPULATION

YEAR	MALE	FEMALE	TOTAL
2011(CENSUS)	154	153	307
2023(FIELD SURVEY)	125	112	237

Source:Census of India,2011
Field survey on 02/05/2023

As per 2011 census data govt.ofIndia,there were 307 people living in the village out of which 154 were male and 153 were female 237 were selected as sample during the field work conducted on 02/05/2023 among which 125 were male and 112 were female that means the sample population .

MALE FEMALE POPULATION OF BAMNISHALA VILLAGE
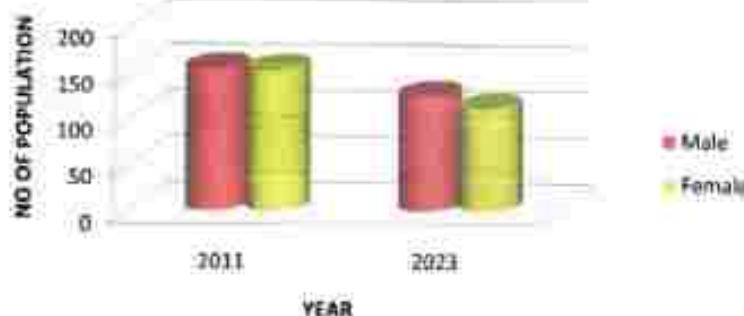
[SEX RATIO]

Year	Male	Female	Total	Sex Ratio
2011	168	157	325	934
2023	125	112	237	696

Source:Census of India(2011)

Field survey on 02/05/2023

As per the census Data of 2011 the sex ratio of Bankura Distract were the field survey . It is found that there were 125 male and 112 were female in case of Bamnishalavillage . It is found that as per census 2011 data the sex ratio was 934/1000an in the sample which was collected. It is being revealed that the sex ratio of Bamnishala village is 696/1000.

AGE -SEX RATIO OF BAMNISHALA VILLAGE

- 934
- 696

3.1.2 EDUCATION PROFILE

Education Level			
Category	Male	Female	Total
I - IV	7	4	11
V - VIII	16	22	38
MP	31	18	49
HS	0	4	4
Graduate	1	3	4
D.EL.ED	1		1
Post Graduate	0	0	0

Source:Field survey on 02/05/2023

This report examines the education levels in Bamnishala Village.The data revels a varied distribution of educational attainment among males and females. While primary and middle school education levels have relatively higher representation, there is a decline in the number of individuals attaining secondary education .The number of individuals with higher education .such as graduationand post graduation is limited .This highlight the need for efforts to promote and facilitate higher education opportunities with in the village.By investing in education and providing necessary support, Bamnishalavillage can empower its residents and contribute to overall community development.

MALE-FEMALE RATIO OF EDUCATION LEVEL
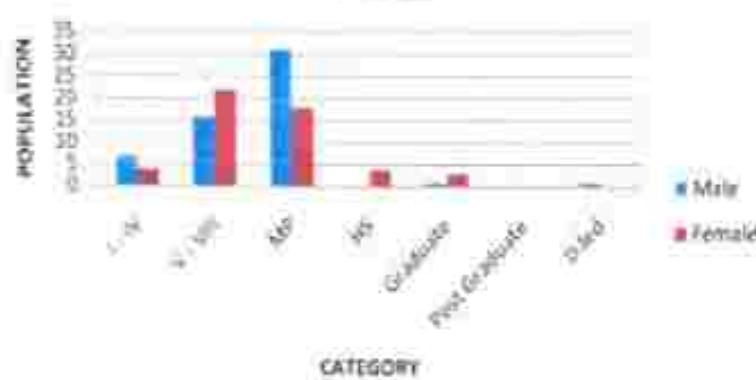
MALE FEMALE LITERACY RATE

Year	Literacy Rate (%)
2011	70.95%
2023	45

Year	Male	Female
2011	81%	60.44%
2023	13%	48%

Source: Census of India 2011;
Field survey on 02-03-2023.

From Census 2011 data, it is relevant that the literacy rate of Bankura district 70.95% this data was collected from census 2011. On the other hand through the filled survey it is found that the literacy rate of Hatinishala village is only 45%.

MALE FEMALE LITERACY RATE OF BAMNISHALA VILLAGE
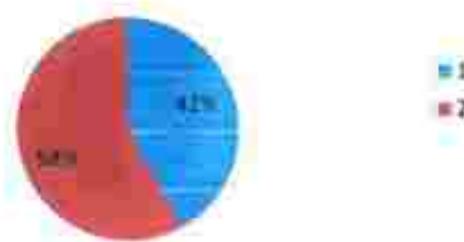
Female literacy rate of Bamnishala is 35% and 48%. These figures are much lower then the2011 literacy From the above information collected from field survey . It is observed that the maleand scenario of the study area is very poor in nature .But one promising feature of this village census figures of the district i.e, 81.00% and 60.44% respectively . It is inferred that the that here the literacy of female population is slightly higher than that of male population which is in contrastto all the Bankura District.

3.1.3 OCCUPATION CHARACTERISTICS

OCCUPATION PATTERN

Occupational Pattern			
Type of Occupation	Main Worker (%)	Male	Female
Cultivation	38.51	41	16
Agrilabour	31.08	31	15
Factory worker	10.14	13	2
Mason	20.27	30	
Service	0.68	1	
Household industry	0.00		
Professional worker	0.00		
Transport oriented	0.00		
Others	0.68	1	
	0.00		

Source: Field survey on 02/05/2023

The report analyzes the occupational pattern in Bamnishala Village, revealing a predominant reliance on agriculture, with cultivation and agricultural labor employing a significant portion of main workers. The data also shows the presence of factory workers and masons, indicating some level of industrial activity. However, there are gender disparities, with higher male participation in cultivation and agricultural labor. To promote economic diversity and address these disparities, efforts should focus on skill development, supporting non-agricultural sectors, and ensuring equal opportunities for both genders. This would contribute to sustainable development and improved livelihoods in the village.

3.2 Income status

INCOME	1-5000	5000-10000	10000-15000	15000 above
TOTAL MONTHLY INCOME	15	150	72	NIL

Source: Field survey on 02/05/2023

70 % of people in Bamnishala village earn less then 10000. 30 % out of 10-15 Thousand (source field survey 02/05/2023) from this we can say that most of the people living below the poverty line. Although stone crusher is increasing the income of the people here.

3.3 AGRICULTURE CHARACTERISTICS

80 % of the people in Bamnishala village are engaged in peddy cultivation and 20% are engaged in non agriculture activities. The soil of this village is generally cultivatedduring the monsoon season and some of the land is planted vegetables.

3.4 HOUSE TYPE

TYPES OF HOUSE

Types of houses	
Kachha	34
Pucca	3
Mixed	18
Total	55

Source: Field survey on 02/05/2023

Types of houses
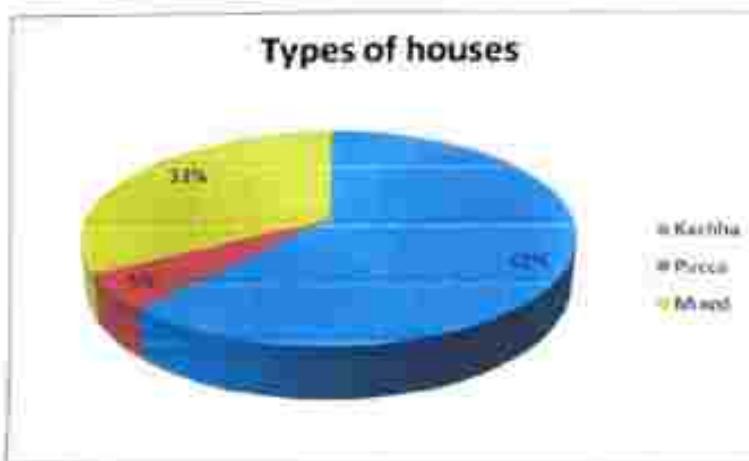
:Village The report examines the types of houses in Bamnishala Village, revealing a predominance of Kachha (temporary) houses, followed by a small number of Pucca (permanent) houses and Mixed construction houses. Kachha houses are made of locally available materials and require improvements in terms of durability and resilience. The presence of Pucca houses signifies the potential for more permanent and resilient housing solutions. The data suggests the

need for housing development interventions, including infrastructure improvement, housing up gradation, awareness and capacity building, and affordable housing solutions. Enhancing housing conditions and promoting safe and resilient construction practices are crucial for the well-being of the community in Bamnishala.

3.5 DRINKING WATER FACILITIES

A few tubewells provide drinking water to Bamnishala village But they don't drink tubewell water because iron powder comes out from tubewell water. Every person in the village fatches water from the well of the college campus and drinks its. Drinking water supply is not available during the summer and this is a drinking water crisis.

3.6 TRANSPORT AND COMMUNICATION

Bamnishala village does not have any difficulities in terms of communication or transport. Beacuse they are is Saltora Block next to Bamnishala village which has road connectivity and madhukunda also has train connectivity so there is not much difficulty in communication and there is ambulance system for hospital. This village has Toto or Bike as small vehicles so that they can reach their needs.

3.7 HEALTH STATUS

Major Diseases				
Disease Name	Male	Female	Children	Total
Fever	15	18		33
Ent	3	1		4
Cold	11	13		24
Headache	6	5		11
Skin				
Heart		2		2
Apendix	1			1
Stomach Ston	1			1

Source: Fieldsurvey on 02/05/2023

HEALTH STATUS OF BAMNISHALA VILLAGE
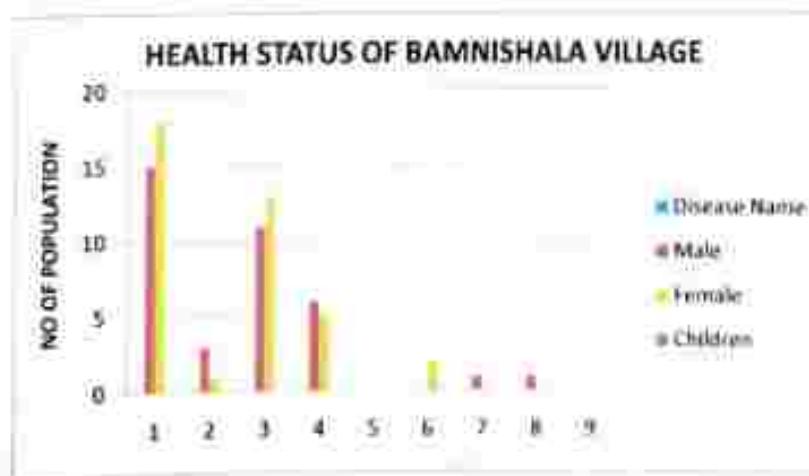
The report examines the major diseases prevalent in Bamnishala Village, highlighting the occurrence of fever, ENT infections, cold, headaches, skin diseases, heart ailments, appendicitis, and stomach stones among the villagers. Fever is the most common disease, followed by cold and headaches. ENT infections are relatively less prevalent, while skin diseases are not reported in the village. A few cases of heart ailments, appendicitis, and stomach stones were recorded, primarily among females. To address these health concerns, prioritizing healthcare services, promoting regular check-ups, and raising awareness about preventive measures are crucial. Hygiene practices, a healthy lifestyle, and education on disease prevention and management should be encouraged for the well-being of the community in Bamnishala Village.

3.8 SANITATION

There is no sanitation system here because no improved services this area and no sanitation planning has been developed in the entired village of saltora. Here usually the debris is dumped in the open without any arrangement and if there is large amount of debris it is burnt.

3.9 FUELS AND ELECTRICITY

Fuel	
Gas	2
Fire wood	53
Others	

FUEL USED IN KITCHEN

Source-:Field survey on 02/05/2023
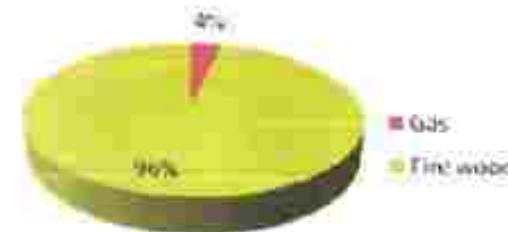
The report examines the types of cooking fuel used in Bamnishala Village, revealing a majority of households relying on firewood for cooking and a small number of households using gas. The prevalence of firewood as the primary cooking fuel highlights environmental concerns such as deforestation and indoor air pollution. The limited use of gas suggests potential challenges related to accessibility, affordability, or infrastructure. To address these challenges, promoting sustainable practices, improving access to clean cooking technologies, and raising awareness about the benefits of alternative cooking fuels are crucial. Efforts to provide affordable and clean cooking options can contribute to better health, environmental conservation, and the overall well-being of the community in Bamnishala Village.

3.10 NUMBER OF HOUSEHOLD WITH AMENITIES

Number of household with amenities	
Amenities	Total no of house hold
Electricity	29
Freeze	**
T.V.	**
Motorcycle	4
Water purifier	**
LPG	10
Induction	**
AC	**
Car	**
Solar Light	**
mobile phone	51
smart	17
keypaid	34
Internet	32
cycle	34
water Tank	**

Source: Field survey on 02/05/2023

The report examines the availability of amenities in households in Bamnishala Village. The data reveals that a moderate number of households have access to electricity, LPG for cooking, mobile phones, and bicycles. However, specific information on other amenities such as televisions, refrigerators, and water purifiers is not provided. Improving access to basic amenities and enhancing connectivity can lead to improved living standards and opportunities for the community in Bamnishala Village.

3.11 HOUSE BUILDING MATERIALS

House Building Materials				
Roof	Tin	18		
	Mud tile	37		
Wall	Brick	21		
	Mud	34		
Floor	Cement	12		
	Mud	43		

Source:Field survey on 02/05/2023

The report examines the house building materials used in Bamnishala Village. The data shows a mix of modern and traditional materials, with tin roofs, mud tiles, brick walls, mud walls, cement floors, and mud floors being prevalent. The use of locally sourced materials and consideration of factors such as climate and affordability are evident. Promoting sustainable construction practices and balancing modern conveniences with environmental considerations can contribute to resilient housing solutions in the village.

3.12 TYPES OF TREATMENT

Types of Treatment	
Homeopathic	3
Allopathic	51
Ayurbedik	1

Source:Field survey on 02/05/2023

Types of treatment

3.13 DOMESTIC ANIMALE

Domestic Animal	Number
Cow	75
Hen	109
Goat	81
Dog	1
Duck	1
Pig	2
Sheep	50
Buffalo	6

Source:Field survey on 02/05/2023

Domestic Animal
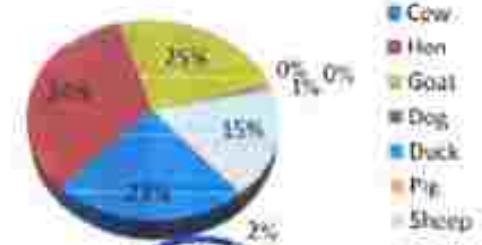
3.14 AMENITIES OF VILLAGE

Type	No	Distance
Post office	1	2 km
Hospital	1	2 km
Primary School	1	0 km
Electric Office	1	2 km
Market	1	2 km
High School	1	1.50 km
Bank	1	1 km
Police Station	1	1.50 km
College	1	1 km

Source: Field survey on 02/05/2023
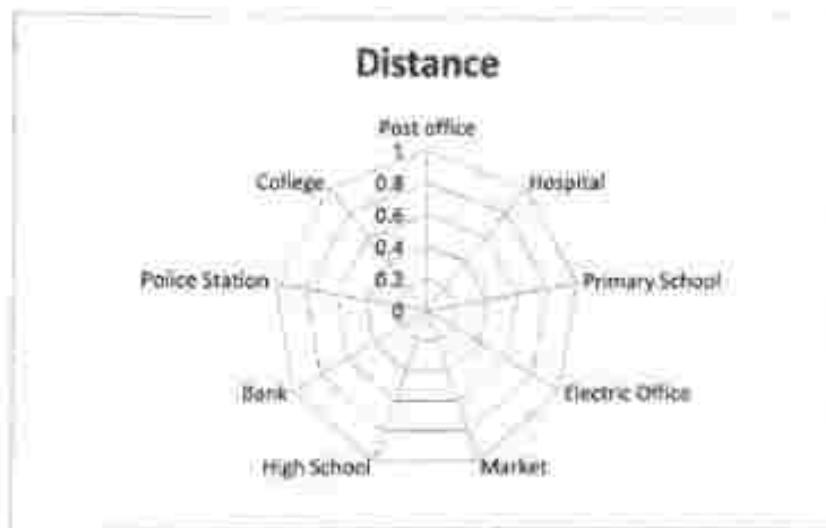
3.15 PERCEPTION OF THE RESPONDENT ON VERIOUS ASPECTS

A perception study was conducted among the selected samples regarding many relevant issues such as security, level of education, transport and communication system, health condition, employment status etc. which have shown the different types of perception of the villagers. Regarding the transport and communication system, the villagers are very much satisfied as this village is poorly connected with the block headquarters at Saltora . The only viable means of transport is Toto and bus. The respondents are very much dissatisfied with the level and status of employment. Large number of the respondents considers the level of perception as 'poor.

4. PROBLEMS& PROSPECTS:

4.1 MAJOR PROBLEMS

1. The villagers have to face a **major drinking water problems** as there are only two or three tubewell but the water quality is not good for drinking. The villagers have to depend on the well for drinking water. Apart from that this area is known to be an Arsenic affected area.

2. There are no large reservoir facilities for irrigation purposes.

3. Many of the household had no electricity.

4. Unemployment is a major issue as there is no major industry in the surrounding area. The Stone-crusher industry has stopped working for the last two years which was quite popular in the past.

5. Government projects or schemes are not being implemented properly.

6. Bamnishola village has brick kiln activity going on and soil is being mined for making brick due to which soil erosion increased.

4.2 SUGGESTION:-

1. Creation of new employment opportunities is the need of the hour.

2. Government projects such as provision of drinking water through pipe lines shall be made available at the earliest.

3. Different types of Skill-based vocational projects may be developed exclusively for the study area to counter employment problems.

4. Establishment of sub health center is needed.

5. Various social welfare programs to make local people aware on various social issues.

6. village brick kilns need to be managed more consciously so that the soil required for brick kilns is collected from a specific place instead of from there,so that soil is not taken from different place and the effect of soil erosion is not spread over the entire village.

7. The sanitation facilities of the study area needs more attention.

4.3 CONCLUSION:-

The present field project depicting the socio-economic condition of the study area bamnishola village have showcased poor condition in terms of economic prosperity and social status. Employment opportunity is poor, infrastructure are not sound, daily needs are not beings met. In the area, paddy is grown once a year and there are not many special crops due to water problems. Also from our survey work it is revealed that the region is very backward in terms of education too. Therefore, various forms of government scheme need to formulate and implement appropriate planning functions for development in the region, educational, socially and economically. Some difficulties have been faced by the surveyor during the survey, like shot time-span, lack of co-operation of the villagers etc.

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Questionnaire for Socio economic survey

1. Name and age of the respondent :

2. Name of the locality :   3. Native place :

4. Language :   5. Religion :   6. Cast:

7. Family members details:- total members: male: female:

Age	Below 5	5-15	15-25	25-35	35-45	45-60	Above 60
Male							
Female							

8. Educational details:-

Educational Level	I-IV	V-VIII	IX-X	H.S.	Graduation	Post Graduation	Technical	Others
Male								
Female								

9. Occupation:-

Types	Cultivation	Agri. Labour	Factory Worker	Businessman	Services	Household industry	Professional work	Transport Oriented	Others
Male									
Female									

10. Monthly income:-

Income	1-5000	5001-10000	10001-15000	15001-20000	20001-25000	25001-30000	Above 30001
Total Income							

11. Types of crop cultivated:-

Crops	Paddy	Wheat	Mustered	Other Food crops	Vegetables	Pulses	Flowers	Fruits	Others
Bigha									

12. Domestic animals :

Animals	Yes/no.	Numbers	Animals	Yes/no	Numbers
Cow			Dog		
Hen			Buffalo		
Goat					

13. Types of houses:

Types	Houses	Roof (materials)	Wall (materil)	Floor
Kaccha				
Pacca				
SemiPacca				

14. House - own/rented.   15. No. Of rooms:-   16. Storied:- 1/2/3

17. Drinking water facilities:- well / tube well / tap

18. Use of fuels:- LPG/fire woods/coal/LPG & cooking coal/others.

19. Transportation: private transport / public transport

20. Types of foods: vegetarian/ non vegetarian.

21. Types of latrines: kaccha/pucca/open-field/semi pucca.

22. Amenities of village.

Type	No.	Distance	Type	No.	Distance	Type	No	Distance
Post Office			Electric Office			Bank		
Hospital			Market			Police station		
Primary school			High school			College		

23. Amenities of household

Name of the amenities	Yes / no	Name of the amenities	Yes / no	Name of the amenities	Yes / no
Electricity		LPG connection		Mobile phone (smartphone/keypad phone)	
Freeze		Induction		Internet	
T.V.		Cooler/a.c.		Cycle	
Motor cycle		Car		Water tank	
Water purifier		Solar light			

24. No. Of mobile ph. & user :

25. Do you use water purifier of drink straight ? Yes/ No

If yes then what is the purification method ?_____

26. What is the source of water for household activities other than drinking ?_____

27. How do you manage your household waste ?_____

28. Health status:

Types of disease	Season	Male/female
Fever		
Ent		
Cold		
Headache		
Skin		
Heart		

29. Destination of treatment: - within village/outside of the village.

30. Type of treatment:- homeopathic/allopathic/homeopathic and allopathic/ayurbedic/others.

31. Types of doctors consuled: degree holding doctors/register medical person/quack.

32. Perception study of the area.

Subject of Perception	Excellent	Satisfaction	Needs Improvement	Poor
Security				
Level of Education				
Transport				
Road condition				
Health condition				
Employment				

33. Problems   1.

           2.

           3.

34. Solutions   1.

           2.

           3.

(Signature of the surveyor with date)

FIELD PHOTOGRAPH

HOUSE TYPE & TRADITIONAL WALL PAINTING

KITCHEN

# WATER SOURCES

AGRICULTURAL LAND
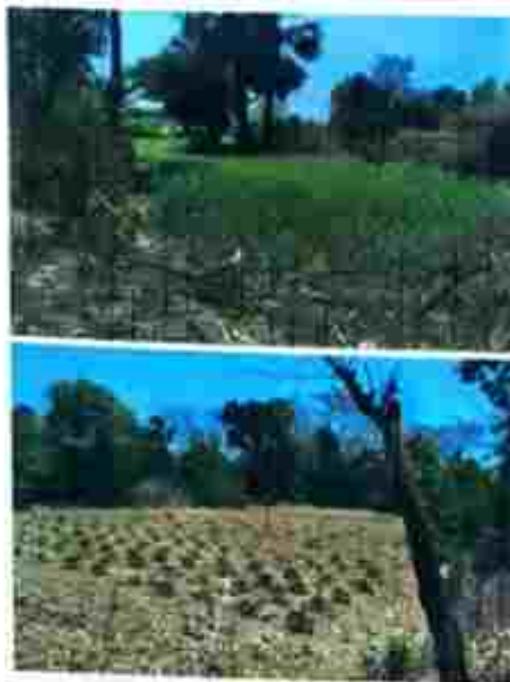
DOMESTIC ANIMALS

STONE CRUSHER INDUSTRY

TEMPORARY EMPLOYMENT BRICK FACTORY

SALTORA NETAJI CENTENARY COLLEGE

PROJECT WORK NAME : VARIOUS TYPES AND PATTERNS OF RURAL SETTLEMENT

NAME : BIPLAB MONDAL

SEM : 2nd

Department of Geography
Saltora Netaji Centenary College
P.O. Saltora, Dist. Bankura

ROLL NO : 625

UID NO : 1192200762

DEPARTMENT : GEOGRAPHY

2022-23

The various types and patterns of Rural Settlement

ভূমিকা (Introduction):- গ্রাম হল সাধারণত কৃষিকাজের উপর নির্ভরশীল জনবসতি। গ্রামে শস্য উৎপাদন, আচরণ, পশুপালন বনজ সম্পদ সংগ্রহ প্রভৃতি কার্যক্রমকে কেন্দ্র করে গ্রামীণ বসতি বা Rural Settlement গড়ে উঠেছে।

এই গ্রামীণ বসতি আকার নিরিখে বৃহতের মত নানা মেমন - প্রকৃতিকে গোষ্ঠীবদ্ধ অনুসারে বিচ্ছিন্ন বসতি গড়ে উঠতে পারে। গ্রামীণ বসতি গুলি বিভিন্ন প্রাথমিক স্তরে অর্থনৈতিক কার্যকলাপ (যেমন - কৃষি পশুচারণ, বনজ সম্পদ সংগ্রহ প্রভৃতি) দ্বারা গড়ে উঠি বলি য গ্রাম অঞ্চলে ভূমি ব্যবহারগত কয়েকটি বৈশিষ্ট্য রয়েছে। যেমন - কৃষিভূমি, প্রান্তর জলের উৎস উদ্ভিদের আবরণ প্রভৃতি।

অন্যদিকে ভন সুনেন এর মতে গ্রামীণ ভূমির ব্যবহার অঞ্চল গুলি বৃত্তাকার বলয়ের মতো যারকেন্দ্রে রয়েছে গ্রাম, জনবসতি, তার আশে সাক্সসনঘ্য অন্য কৃষি ও উৎপাদনের এলাকা সেই বলয়াকার বাইরে লোকের বলয়ে রয়েছে কাঠ এবং জ্বালানি উৎপাদন।

তারপরেও চাষ আবাদের বলয় অন্য সব ক্ষেত্রে পশুচারণ বলয়। সুতরাং গ্রামীণ বসতির প্রধানতম ভিত্তি হল কৃষিকাজ।

চিত্র-ভূমিরব্যবহারের বৈশিষ্ট্য

সংজ্ঞা (Definition):- কোনো অঞ্চলে যখন প্রাথমিক বা প্রথম পর্যায়ের কার্যকলাপের উপর নির্ভর করে অন্য কোনো সম্পদ সংগ্রহের উপকরণকে কেন্দ্র করে বিচ্ছিন্ন ভাবে কিংবা সংহতিক ভাবে মানুষ বসতি গড়ে তোলে তখন সেই বসতিকে গ্রামীণ বসতি বলে। এই গ্রামীণ বসতিগুলি

বিভিন্ন প্রাকৃতিক যেমন- ভূ প্রকৃতি, জলবায়ু, মৃত্তিকা প্রভৃতি এবং অর্থনৈতিক ও সাংস্কৃতিক (যেমন- সোনাসোর, সরকারি হস্তক্ষেপ প্রভৃতি? এর প্রভাবে গড়ে উঠতো। Types of Rural Settlement :

এই গ্রামীন বসতি গুলি আবার বসতির বিন্যাস কেমার্ড তা বিশিষ্ট না লোকবর্গ এর দ্বারা তিনটি ভাগে বিভক্ত তা বিশ্লেষণ নিম্নে আলোচনা করা হল-

● 1 রৈখিক বসতি (LINEAR SETTLEMENT):- একটি গ্রামের বাড়িগুলি সাধারনত কোনো রৈখিক বস্তুকে অনুসরন করে প্রসারিত হলে তাকে রৈখিক বসতি বলে। যেমন- সড়ক রেলপথ, নদী, খাল, প্রভৃতির ধারে ধারে গড়ে ওঠা বসতি হল রৈখিক বসতি।

উদাহরন:- হিমাচল প্রদেশের নার্বত অঞ্চল

বৈশিষ্ট্য:-1) এই ধরনের বসতি বাড়ি গুলি সাধারনত নির্দিষ্ট সরলরেখাস অবস্থান করে।

(ii) সমভূমি অঞ্চলে যেখানে নদী খাড়াখিক বাঁধ তৈরি করেছে, সেখানে এই ধরনের বসতি দেখা যায়।

চিত্র- রৈখিক বসতি

গড়ে উঠার কারন:- (i) বন্যা প্লাবিত অঞ্চলে রাস্তা উঁচু করে বাড়ি স্থর তৈরি করা হয়। এই সব অঞ্চলে রাস্তার নামে সারিবদ্ধ ভাবে রৈখিক বসতি গড়ে উঠে।

(ii) নদীপথকে বাহক হিসানে ব্যবহার করার জন্য নদী তীরবর্তী অঞ্চলে রৈখিক বসতি গড়ে উঠে।

(iii) অবস্থানকারীরা জল বিবার জন্য খাল নদী ইত্যাদি জলের উৎসকে কেন্দ্র করে রৈখিক বসতি গড়ে উঠে।

(iv) কিছু কিছু রাস্তা রেলপথের বা সড়ক পথকে এই নামে ব্যবসা বানিজ্য করার জন্য রৈখিক বসতি গড়ে উঠে।

ii) বিক্ষিপ্ত বসতি (DISPERSED SETTLEMENT):- কোনো বিভীন্ন অঞ্চলে বহু একক বাসগৃহ পরস্পর হতে অনেক দূর দূরে বিছিন্ন ভাবে অবস্থান করে গেলে গ্রামীন বসতিকে বিক্ষিপ্ত বসতি বা Dispersed settlement বলা হয়।

উদাহরণ: পার্বত্যাঞ্চলের নানা স্থানে বা কৃষি সমভূমির কৃষি অঞ্চলে বিচ্ছিন্নভাবে বসতির সৃষ্টি করা যায়।

বৈশিষ্ট্য: i) বিচ্ছিন্ন বসতির অন্তর্গত এক বা একাধিক ঘর, বাড়ি ভূমির মধ্যে দূরত্ব অনেক বেশি থাকে।

ii) বিচ্ছিন্ন বসতি সাধারণত চরমভাবাপন্ন প্রাকৃতিক পরিবেশে গড়ে ওঠে।

গড়ে ওঠার কারণ: i) বিচ্ছিন্ন বসতি বন্ধুর প্রাকৃতিক ভৌগোলিক পরিবেশে গড়ে ওঠে। বন্ধুর ভূ-প্রকৃতি যেমন- ভূমিকাঁপের ফলে চাষযুক্ত নয়। তেমনি প্রধান পোষা জোরা যোগ ব্যবস্থা গড়ে ওঠে না। সেখানে জনবসতি বিচ্ছিন্ন বসতি গড়ে ওঠে। ... ঘরের বসতি গড়ে ওঠে।

ii) কৃষি পর্যাপ্ততার ফলে, সমাজবদ্ধ ব্যক্তি প্রকৃতিতে ... ... ঘরের বসতি আলাদা দূরে বিছিন্নভাবে বসতিতে বাস করতে চায় বলে বিচ্ছিন্ন বসতি গড়ে ওঠে।

iii) সংযত জমি, কর্দমভূমি, উপকূলীয় লবণাক্ত ভূমি এবং তথ্যগত ভূমি প্রকৃতির ... আকর্ষে বন্ধুর ভূ-প্রকৃতিতে চাষবাস ... বিচ্ছিন্ন বসতি গড়ে ওঠে।

চিত্র- বিচ্ছিন্ন বসতি

iii) **সংঘবদ্ধ বসতি (Compact Settlement):** বহু পরিবার প্রকৃত বসবাসের ফলে বাস সমূহে গড়ে জমজম ঘর সান্নিধ্য জনবসতি সুখী প্রচুর এক গোষ্ঠীবদ্ধ বা সংঘবদ্ধ বসতি বলে।

উদাহরণ: জাপান, অ্যামেরিকা, চিন প্রভৃতি দেশে গোষ্ঠীবদ্ধ বসতি দেখা যায়।

বৈশিষ্ট্য: i) পাড়াগাঁয়ি ঘর বাড়িভূমির দূরত্ব খুবই কম।

ii) ঘর বাড়ি ভূমির অনুসারে ... ... ব্যবস্থা ঘনবসতি নির্দেশ্যের মধ্যে নিবিড় সামাজিক ও অর্থনৈতিক বন্ধন সৃষ্টি হবে।

চিত্র সংঘবদ্ধ বসতি

নদীতে গুলির কারণ :- ...

ⅰ) ...

ⅱ) ...

ⅲ) ...

ⅳ) ...

- **Patterns of Rural Settlement :-** ...

ⅰ) **Rectangular pattern** ...

প্রধানত প্রধান সড়কের সন্ধি (তথা) রাধাভুমি সমকোণ
ক্রমে মিলিত হয় এই বিরলের বসতির গুরি হয়। পাশাপার্শ্বি
স্তুত্বরাই, আলাদাকার এই ঈরলের বসতি সময়) করা যায়।

ⅱ) বৃত্তাকার বসতি (Circular):— সাধারণত জলের উৎসকে
কেন্দ্র করে তথবা বড়ো জলাশয়কে ঘিরে ধান সম্নিবিষ্ট
বসতি বৃত্তাকারে অবস্থান করে। ভূমিনিম্নের সন্নিধে নির্ভর
প্রানবসতি দক্ষিণ ভূবিষ্ট হইলে বিন্দাকৃতি প্রাপ্ত হয়

ⅲ) অর্ধবৃত্তাকার (Semi-circular):— নদীর
বাঁকে প্রায়শই অর্ধবৃত্তাকার তথাবিধ
বসতি গড়ে ওঠে। নদীর ঢালের
সুবিধাযুক্ত স্থানে গড়ে তথা বাসী গৃহ
সুখী কাছের দিকে বই বিরলের
বসতি গড়ে ওঠে।

ⅳ) L তলাকৃতি বসতি:— একটি রাস্তার

চিত্র বৃত্তাকার বসতি

লাভে অন্য ও একটি রাস্তা সমকোণে মিলিত হলে L তলাকৃতি
বিশিষ্ট বসতি গড়ে বসতি গড়ে ওঠে। এই ঈরলের বসতি
প্রধানত প্রধান ও অপ্রধান রাস্তার মধ্যে
সরি বর্ষ লাব অবস্থান করে।

স্তবকাও ভাবার একের দ্বারা প্রভাবিত
হয় তা যা রাস্তি সম্নিবিষ্ট দুটি নম
সড়কের সমকোণে যুক্ত হয়।

চিত্র- চতুরাকার বসতি

চিত্র + L তলাকৃতিবিশিষ্ট বসতি

Muhammad.
Department of Geography
Sahid Matangini College
P.O Gomra Dist Hooghly

উপসংহার:— উপরিক্ত আলোচনার মাধ্যমে গ্রামীণ প্রানবসতির
Type এর Pattern আলোচনা করা হল। এর উক্ত আলোচনার
দ্বারা বলা যায় যে প্রাকৃতিক তথ্যসাংস্কৃতিক এবং মানুষ্যকর্মজনিত
বিভিন্ন সময় জনবসতির এবং বিন্যাসে পরিবর্তী।

কৃতজ্ঞতা স্বীকার

আমাদের 'Types and Patterns of Rural Settlement' প্রকল্পটি সুষ্ঠুভাবে রূপায়ণের ক্ষেত্রে ভূগোল বিভাগের মাননীয় অধ্যক্ষ ড. তুষার মন্ডল মহাশয়, মাননীয় বুদ্ধদেব শীট মহাশয়, মাননীয় তাপস ভ্রামনিক মহাশয় সহ মাননীয়া ড. কৃষ্ণা বিশ্বাস মহাশয়া সর্বতোভাবে সাহায্য করেছেন তাই তাঁদের প্রতি আমি আন্তরিক কৃতজ্ঞতা প্রকাশ করি।

এছাড়াও আমি আরও কৃতজ্ঞতা জানাই আমার সহপাঠীদের যারা আমার প্রকল্পটি সম্পন্ন করতে অত্যন্তভাবে সাহায্য করেছে।

Department of Geography
Sarsuna Pataja Collegiate College
P.O. Ghoshe, Dist. Barasat

SALTORA NETAJI SENTEARY COLLEGE

STUDENT NAME — RIYA MONDAL

SUBJECT — GEOGRAPHY

COURSE TITLE — COMPUTER BASICS AND COMPUTER APPLICATIONS

COURSE CODE — SH/GEO 305/SEC - 1

SEMESTER — III

COURSE ID — 31015

UID NO — 21193119003

Department of Geography
Saltora Netaji Centenary College

STEPS FOR HISTOGRAM CONTRUCTION

STEP 1 :- The data range needs to be completly selected which has two variables. one shows the class, the other data shows the frequency in another column. the frequency has to be plotted on y-axis and class in x-axis.

step 2 :- After selecting the entire data. one has to click on insert tab in the main menubar. in case a higher version of ms. excel is used a histogram plotting but graph is on an icon is present by clicking on which the histogram graph is plotted in case of older version of ms excel one has to click on insert. then column and chose it.

step 3 : For the older version one has to select the bars by clicking on them. then right click on the bar. scroll down to format data series. After that one has to select series options and reduce the gap width too %.

step 4 :- In the format data series dialogue box one can change the colour of the bar, border colour, box dear style etc. it should be kept in mind that colours of the bars should be uniform.

step 5 : one can keep the colour bars hollow by selecting. no fill option, one should close the dialogue box after necessary changes.

step 6 :- one can tebe x and y axis and move the chart as has been discussed.

FREQUENCY POLYGON

step for constructiong frequency polygon and following curve

STEP-1 : The given data has to be fedin exel ion to columns. One column consisting of the groups on the class data and the other column consisting of frequency data. the frequency has to be ploted on 'Y' axis and the class on 'X' axis.

Step-2 : one has to select the entire data, then click on insert tab of the select the main menubar. then draw on histogram using the 2D column option.

step-3 : After the grath has appeared one has to right click on the chart area scroll to change chart type and select the line option and click on 'OK' for showing frequency polygon. In Order show a frequency polygon ion a close bounded form one has to click straight line shape on insert tab then on shapes option and select the straight line shape on both the ends of the frequency polygon ion M.S Excel 2007 on both the ends of th older versions. In newer version of ms excel one has to select the frequency polygon line then right click on it and scroll to format data series.

Jabberwandal.
Department of Geography
Satish Text Degree College
P.O.

OGIVE

Steps for generating and ogive

Step-1: Being given the class of data and their respective frequency values the data has to be fed into two seperate column side by side.

Step-2: In the third column the lower limit of the class data has to be entered and in the 4th column the upper limit of the class data has to be entered.

Step-3: 1 has to calculate the less than frequency values by adding the frequency data from top to but ton diagonally and then similarly compute a more than cumulative frequency value from button to top diagonally

Step-4: one has to select the lower limit column and more than cumulative frequency column together then click on insert and select the scatter plot option where markers and lines are both present

Step-5: write click on the chart area and scroll to select data option and a new series from the right side legend entries option and edit series dialouge box appear's in the x values be entered the upper limit column and in the y series values be entered less than cumulative frequency column and then click OK.

SORTING ALPHABETICALLY OR NUMERICALLY

STEP-1: Enter or feed the given data in the form of row and column as provided.

STEP-2: Select the desired column of numbers for sorting. In the home menu tab on the far right corner one should click on sort of filter button. As required one has to click on either largest to smallest for descending order and smallest to largest for ascending order. In case the data are in alphabetical form the sorting button would be clicked for A to z or z for instructions.

STEP-3: click on extend the selection in order to perseveres the association among data variables

STEP-4: click on sort.

STEPS FOR COMPUTATION OF MEAN

Step-1 :- open ms-Excel by clicking the icon on the monitor

Step-2 :- choose individual cells in a Excel Sheet on the enter the given data.

Step-3 :- At the end of the enter data. column right to equal to average. Double click on the top-up and select the data for reach the mean has to calculated.

Step-4 :- put a closing final bracket such that the formula ion complete and then click on enter button on the keyboard

STEPS FOR COMPUTATION OF MEDIAN

Step-1 :- open ms-Excel by clicking the icon on the monitor

Step-2 :- choose individual cells in a excel sheet on the enter the given data.

Step-3 :- At the end of the enter data column right to equal to median. double click on the top-up and select the data for which the median has be calculated.

Step-4 :- put a closing final bracket such that the formula is complete and then click on enter button on the keyboard.

STEPS FOR COMPUTAION OF MODE

Step-1 : Open ms-Excel by clicking the icon on the monitor.

Step-2 : choose individual cels in a excel sheet on the enter the given data.

Step-3 : At the end of the enter data column right to equal to mode. Double click the pop-up and select the data for which the mode has to be calculated.

Step-4 : put a closing first bracked such that the formula is complete and then clickon enter button on the keyboard.

§ STEPS FOR COMPUTATION STANDARD DEVIASION

Step-1 :- open ms excelby clicking the icon on the monitor.

Step-2 : choose individual cels in a excel sheet on the enter the given data.

Step-3 :- At the end the enter data column right equal to stDEv. Double click pop-up and select the data for which the s.D has to be calculated.

Step-4 :- put a closing first bracked such that the formlia is complete and then click on enter button on the keyboard.

MEAN FOR GROUP DATA

Step-1 : First write down the upper limit and lower limit of all the classes in two separate columns side by side.

Step-2 : In the next column write down the midpoints or mid values or classes marks of each of the class marks. this value can be obtained by averaging the highest and lowest values under every respective class.

Step-3 : the mid value for each class is multiplied with their respective frequencies for deriving the values of fx.

Step-4 : the sum of the fx as well as the frequencies are computed at the end of their respective columns.

Step-5 : The sum of the fx divided by the sum off will give the average or mean of the grouped data.

MEDIAN FOR GROUPED DATA

. In order calculate the median value of the grou daal. the following steps need to be followed.

STEP-1: where the classes and their frequencies are tabulated. the summation of the frequencies need to be eat calculated using = sum (ARRAY) enter. this will yield Y.

STEP-2: Besides the frequency table one has to calculate less than type cumulative frequency in the for all the classes one has to drag the entered summation formula till last value.

STEP-3: As median is the mid value one has to compute Y/2 and find out the position of the position of the median classwhich is just greater than the median value position.

STEP-4: we have to identify the values of L which is the lower value of the median classe. which is the cumulative frequency just before the median class, Wis the class size. the true frequency of the median class and writes the values.

STEP-5: one has to then insert the above values in the formula $[L + (Y/2) - c)/F)]$

MODE FOR GROUPED DATA

with the given grouped data one has to tabulate the class and their respective frequencies in two columns to calculate the mode.

STEP 1: following values are required first the modal class needs to be identified. the modal class is the one which has the highest frequencies. is the lower limit of the modal class, F_1 is the frequency of the modal class F_0 is the frequency of the class preceding the modal class. F_2 is the frequency of the class succeeding the modal class and it is the class size.

STEP: Following one has to then insert the above values in the formula $L + [(F_1 - F_0)/(2F_1 - F_0 - F_2)] \times h$ to

STANDARD DEVIATION FOR GROUP DATA

STEP - 1 : First write down the upper limit and lower limit of all the classes in two separate columns side by side

STEP - 2 : In the next column write down the midpoints or mid values or class marks of each by averaging the highest and lowest values under every respective class.

STEP - 3 : The mid value for each class is multiplied with their respective frequencies for deriving the values of fx. N is the sum of the frequencies. calculate the sum of fx and then $\sum(fx)^2$.

STEP - 4 : In the adjoining column use $SD = \sqrt{\frac{1}{N}(N \sum fx^2 - (\sum fx)^2)}$ the standard Deviation of the grouped data will be available.

CORRELATION AND REGRESSION

most commonly used technique for investigating the relation ship between to quantities of variables are correlation and regression. correlation quantifies the strength of the linear relationship between a pair of variables whereas regression expresses the relationship between a pair of variables in the form of an equation for example Inpatient attending and accident and emergency unit, correlation and regression can be used to determined the relationship between age and mortality level.

When investigating in a relationship between to variable the first step is to show the data through a graphical plot that is through scatter diagram. to the scatter plot a best fit line has to be drawn. the closer the points of the scatter plot lie near the best fit line the stronger is the relationship between the two variables. to quantify the strength of relationship a correlation co-efficient has to be calculated. for that one has to write = correl (one-1, one-2) and then enter on enter.

after selecting the two variables. the value obtey and to know as peansman's correlation coefficient the value of this ranges between -1 and +1. the value nearer to +1 signifies strong positive linear relationship, whereas -1 values signifies one strong relationship values close to '0' means very weak relationship.

The only difference between correlation and regression lies in the fact that regression analysis needs a dependent and independent varia. form the above mentioned example it can be state that age is an independent variable and mortality due to accident is a dependent variable in a regression scatter plot the best fit line is also, know as the regression line the equalion and is given by 'Y'= a+bx, where the coefficient 'a' axis and the gradient respectivity Another very important quantification on regression relationship of a analysis is generalion coefficient of determination (R²)

It is the proportion of the total variation in 'y' accounted for by the regression model. values of 'R' close to '1' mean's that the variability in 'y' is explained mostly by the regression model.

INTERPRITATION

The scatter diagram shows the correlation between total unemployment rate and literacy. Literacy rates which is independent variable is placed on 'x' axix, while total unemployment rates depends on literacy rates is placed in 'y' axix. the pattern of dots on the scatter diagram show a linear path from the bottom left hand corner to the top right. Show the correlation between the two variables is positive (+0.53) i.e high values of literacy rates are in general associated with high unemployment rates and low values of unemployment rate are associated with low literacy rate. the trend line indicates a medium positive between the two variables.

INTEPRITATION

The regression show the between total unemployment rate and literacy rates. literacy rates which is independent variable is placed 'x' axix while total unemployment rates depends on literacy rates is placed in 'y' axix the pattern of dots on the regression shows a linear path from the bottom left hand corner to the top right . show the regression between the two variable is positive i.e, high values of literacy rates are in general associated with high unemployment rates and low value of unemployment rate are associated with low literacy rate. the trend line indicates a weak positive between the two variables . here to square value is found (+0.08). which positive relationship two variables.

Calclate the mean on the busis of of the following data.

Yield of wheat in 1000 tons	Number of districts
10 - 20	35
20 - 30	82
30 - 40	43
40 - 50	211
50 - 60	78
60 - 70	52
70 - 80	171
80 - 90	67

SOLUTION

Yield of wheat in 1000 tons	number of districts (f)	Mid Point (X)	fx
10 - 20	35	15	525
20 - 30	82	25	2050
30 - 40	43	35	1505
40 - 50	211	45	9495
50 - 60	78	55	4290
60 - 70	52	65	3380
70 - 80	171	75	12825
80 - 90	67	85	5695
			$\sum fx$ 39765

before . Arithmetic mean $= \sum fx / \sum f$

$$= 39765 / 739$$

$$= 53.80920162$$

Calculate the mean on the basis of the following data

Yield of wheat in `000 tons	Number of districts
10-20	35
20-30	82
30-40	43
40-50	211
50-60	78
60-70	52
70-80	171
80-90	67

SOLUTION

Yield of wheat in `000 tons	Number of Districts (f)	mid point (x)	fx
10-20	35	15	525
20-30	82	25	2050
30-40	43	35	1505
40-50	211	45	9495
50-60	78	55	4290
60-70	52	65	3380
70-80	171	75	12825
80-90	67	85	5695
	Σf 739		Σfx 39765

Calculate the mode from the following data

Yield of wheat in 'ooo ten	Number of districts (f)
10-20	25
20-30	8.3
30-40	13
40-50	211
50-60	18
60-70	20
70-80	171
80-90	64

SOLUTION

There mode

$L + (d_1)/(d_1 + d_2) \times i$

$= 40 - (180)/(144 + 193) \times 10$

$= 45.581305 35$

where – L = Lower class boundary of the modal class = 39

d_1 = maximum (frequency) – Pre frequency of new class = (211-18)

d_2 = minimum frequency – last – frequency of the class (211 + 78) = 133

i = width of modal class = 10

MEAN, MEDIAN, MODE AND STANDARD DEVIATION OF TOTAL POPULATION, MALE AND FEMALE

SL No	District	Population 2011 (Provisional)		
		Total	male	female
1	Darjeeling	1842034	934796	907238
2	Jalpaiguri	3869675	1980068	1889607
3	cach bihar	2822780	1453690	1369190
4	Uttar Dinajpur	3000849	1550219	1150630
5	Dakshin Dinajpur	1670931	855219	815827
6	malda	3997970	2061593	1934377
7	murshidabad	7102430	3690505	3472825
8	Birbhum	3502387	1791017	1711370
9	Bardhaman	7723663	3975356	3748307
10	nadia	5066488	2555054	2513432
11	North 24 Parganas	10082852	5142138	4940714
12	Hoogly	5520389	2810100	2701989
13	Bankura	3596292	1810504	1755788
14	Purulia	2927965	1497658	1430300
15	Howrah	4841638	2502453	2330165
16	Kolkata	4486679	2362662	2124017
17	South 24 Parganas	8153176	4182758	3970418
18	Paschim Medinipur	5943300	3032630	2910670
19	Purba Medinipur	5094238	2631091	2463144
	MEAN	4807795.579	2469869.579	2337913
	MEDIAN	4486679	2362662	2124017
	MODE	# N/A	# N/A	# N/A
	STANDARD DEVIATION	2223379.267	1140490.368	1083221.135

SOLUTION

yield of wheat in 000 toons	number of districts (f)	CUMULATIVE FREQUENCY	
		LESS THAN TYPE	MORE THAN TYPE
10-20	85	35	739
20-30	82	117	713
30-40	43	160	631
40-50	211	371	420
50-60	78	449	342
60-70	52	501	200
70-80	171	672	230
80-90	67	739	67

$$\text{the median} = L + (((N/2) - F)/f) * i$$
$$= 40((((739/2 - 160)/211) * 10$$
$$= 49.928409995$$

[where, L = Lower boundary of the median class = 40

N = Total no of the frequency class = 739

F = cumulative frequency is up to the lower boundary of median class = 160

f = absolute frequency of the median class = 211

i = interval of the median class = 10]

1. Draw a histogram on the basis of the following data.

Yield of wheat in '000 tons	Number of district
10 - 20	17
20 - 30	82
30 - 40	43
40 - 50	211
50 - 60	78
60 - 70	42
70 - 80	171
80 - 90	67

HISTOGRAM
SHOWING THE YIELD OF WHEAT PRODUCTION (IN '000 TONS) OF DISTRICTS
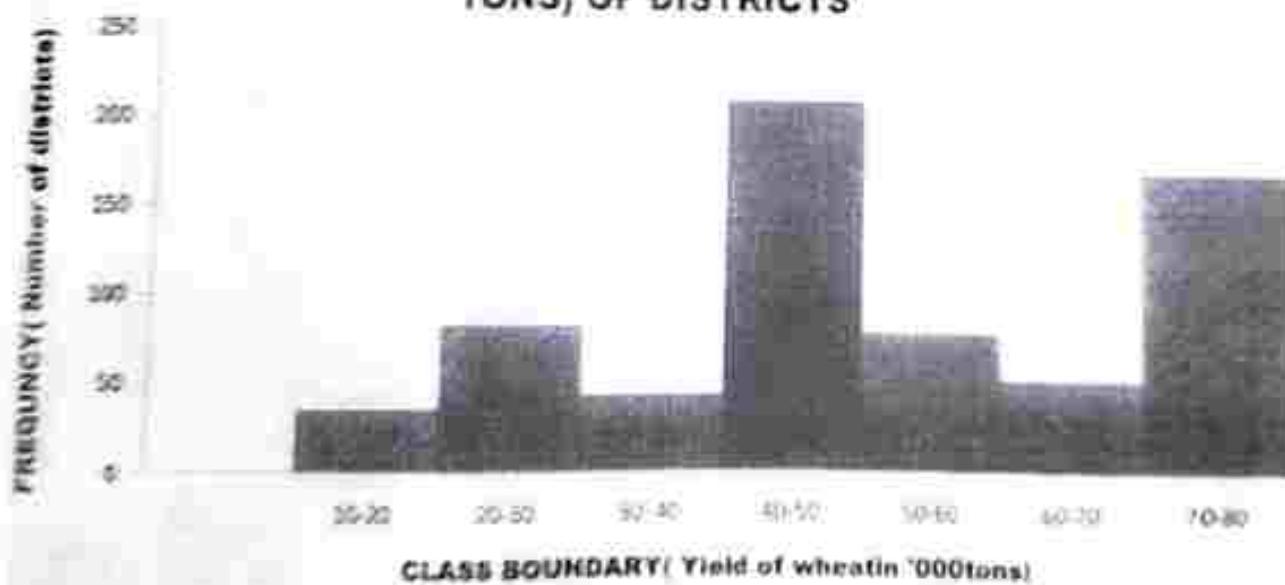
Department of Geography
Sahara Parui Pragnara College

REGRESSION BETWEEN LITERACY RATES AND
TOTAL UNEMPLOYMENT RATES

$y = 0.098x + 68.77$
$R^2 = 0.281$

Series1
Linear (Series1)

TOTAL UNEMPLOYED RATES

LITERACY RATES

150   150   200   250
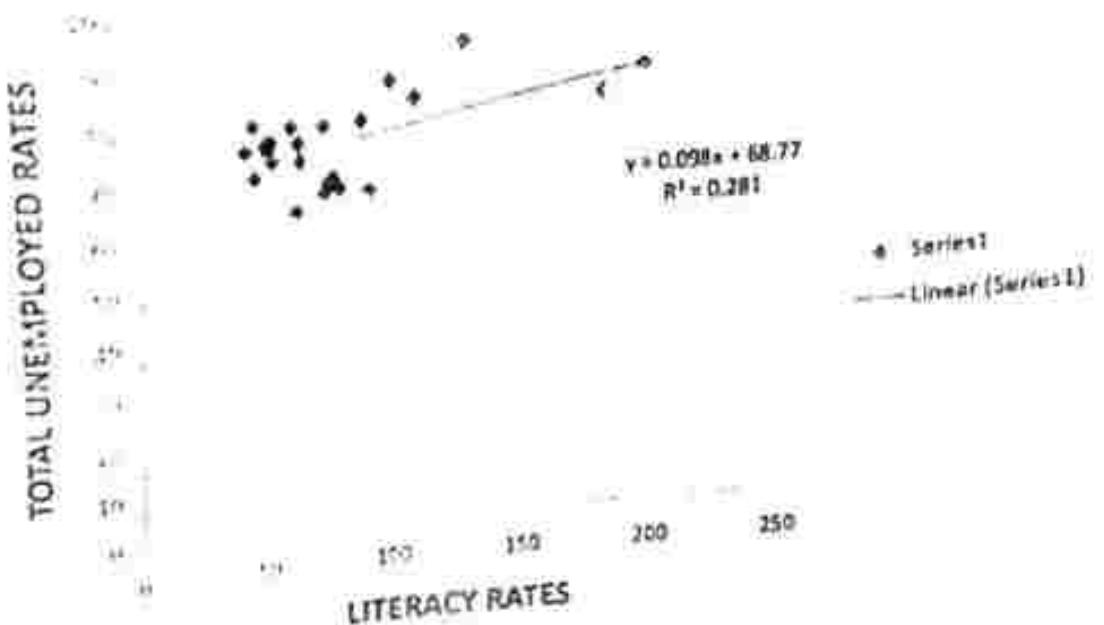
LINE GRAPH
SHOWING THE 3 YEARS MOVING AVERAGE OF SAHARANPUR
DISTRICT (1982 - 2011)
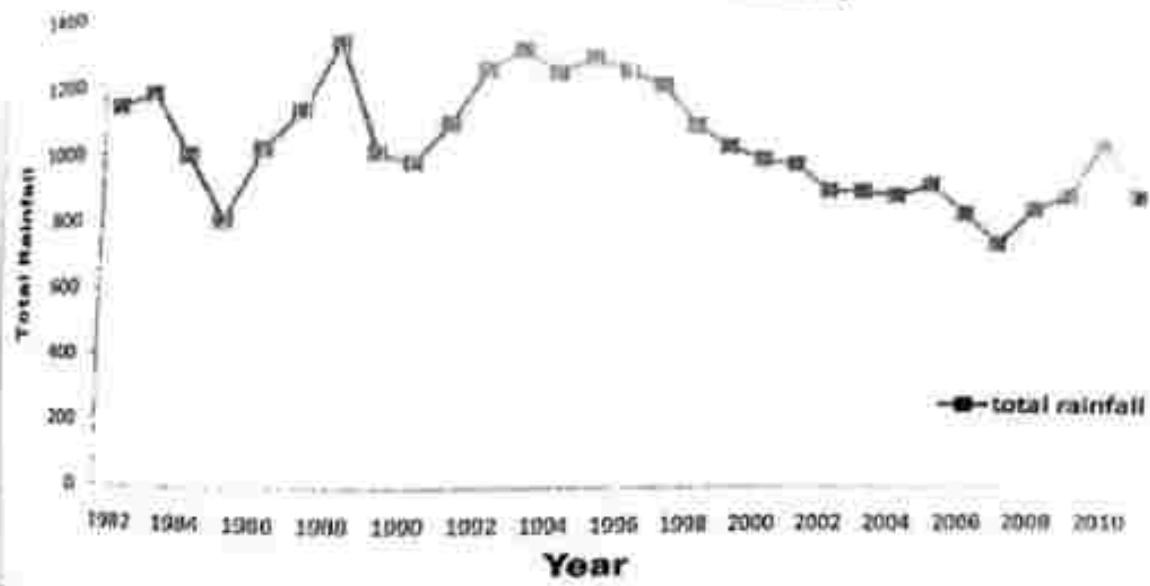
SCATTER PLOT SHOWING CORRELATION BETWEEN LITERACY RATES AND TOTAL UNEMPLOYMENT RATES
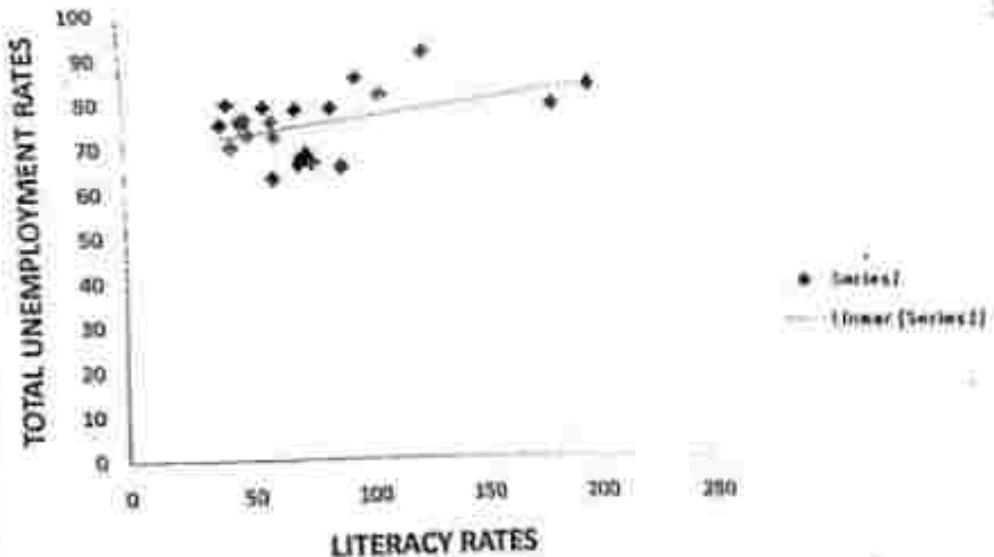
# SCATTER PLOT SHOWING CORRELATION BETWEEN LITERACY RATES AND TOTAL UNEMPLOYMENT RATES
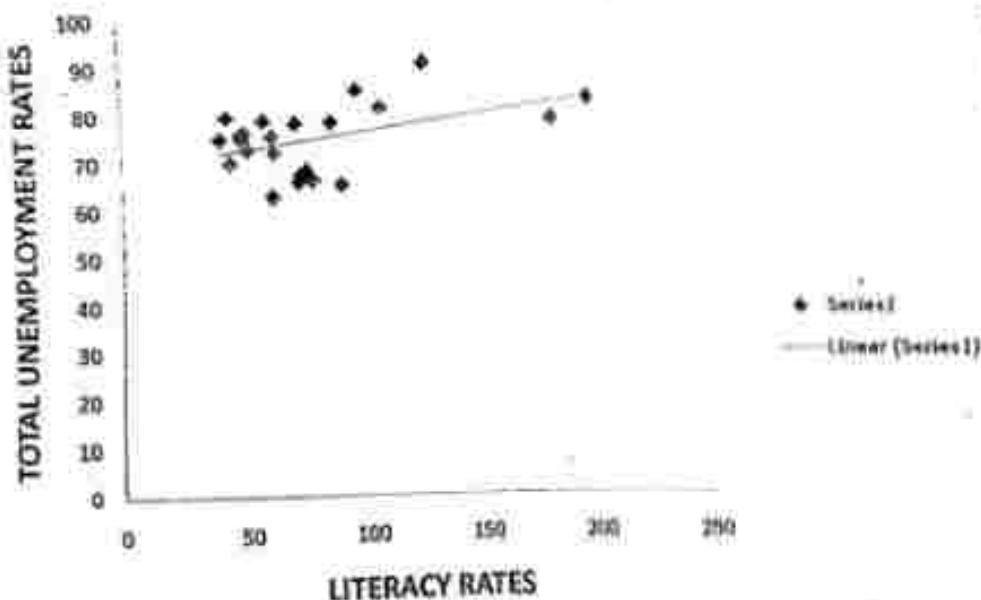
II. Draw a cumulative frequency polygon or ogive on the basis of the following data.

Yield of wheat in '000 tons	Number of districts
01-20	35
20-30	82
30-40	43
40-50	211
50-60	78
60-70	52
70-80	171
80-90	67

Solution

Yield of Wheat in '000 tons	Number of districts	CUMULATIVE FREQUENCY	
		LESS THAN TYPE	MORE THAN TYPE
01-20	35	35	739
20-30	82	117	713
30-40	43	160	631
40-50	211	371	420
50-60	78	449	342
60-70	52	501	290
70-80	171	572	238
80-90	67	739	67

OGIVE
SHOWING YIELD OF WHEAT PRODUCTION ('000 TONS) IN DISTRICTS

CLASS BOUNDARY (YIELD OF WHEAT '000 TONS)
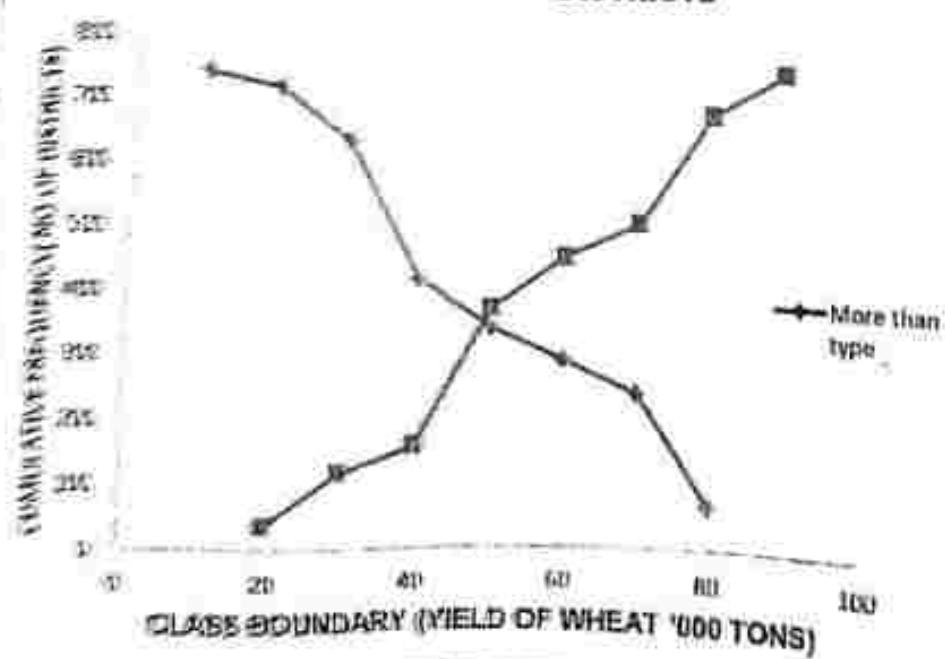
I. Draw a frequency polygon on the basis of the following data.

| Yield of wheat in '000 tons	Number of district
10-20	35
20-30	82
30-40	43
40-50	211
50-60	78
60-70	52
70-80	171
80-90	67

FREQUNCY POLYGON
SHOWING YIELD OF WHEAT PRODUCTION ('000 TONS) OF DISTRICTS
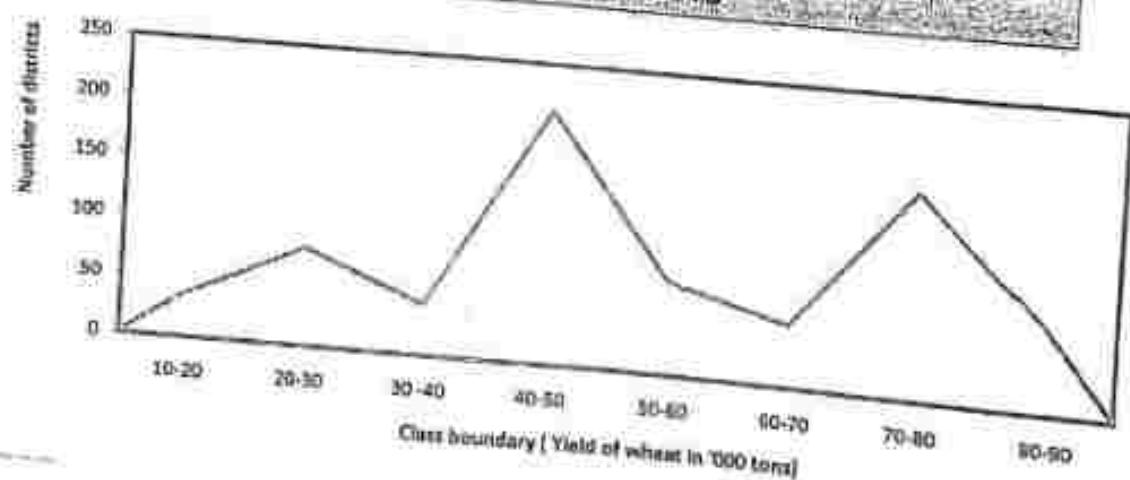
vi. Draw a frequency curve on the basis of the following data.

Yield of wheat in 000' tons	Number of districts
20-20	35
20-30	82
30-40	43
40-50	211
50-60	78
60-70	52
70-80	171
80-90	67

FREQUENCY CURVE
SHOWING YIELD OF WHEAT PRODUCTION('000 TONS) OF DISTRICTS
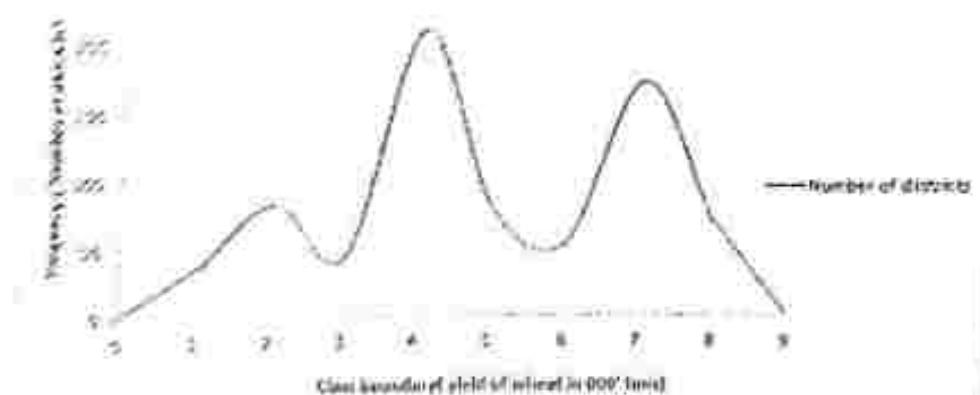
TINE GRAPH
SHOWING 5 YEARS MOVING AVERAGE OF SAHARANPUR
DISTRICT
(1982-2013)
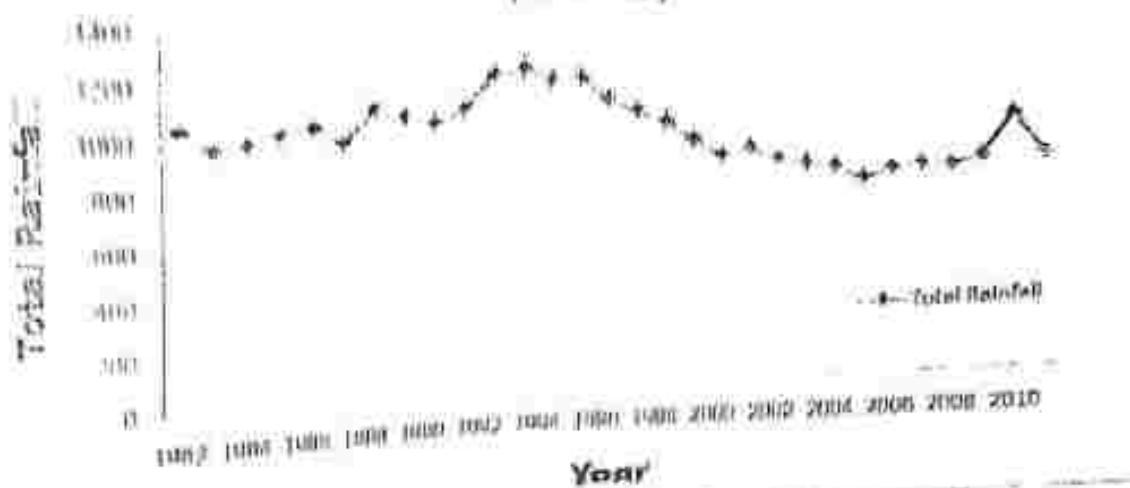
Total Rainfall

Year

Department of Geography
Sahini Patel Centenary College
...Saharanpur (Uttar Pradesh)

SALTORA NETAJI CENTENARY COLLEGE

ESTD-2000

INTERNAL ASSESSMENT-2022-23

NAME - SANCHITA KARMAKAR

ROLL - 97

SEMESTER - IV

SUBJECT - GEOGRAPHY (SEC-2)

CORSE ID - A1705

COURSE CODE - SH/GEO/405/SE

COURSE TITLE - GIS AND GPS

UID No. 211931130005

TOPIC

COMPONENTSOFGIS

Department of Geography
Saltora Netaji Centenary College
P.O-Saltora, Dist-Bankura

ভূমিকা : (Introduction) মানুষ আদিকাল থেকেই পৃথিবী ক্রমশঃ পরিবর্তিত ও
বিভিন্নভাবে মানুষের সাথে তাল মিলিয়ে পরিবর্তিত হয়ে চলেছে।
মানুষ পৃথিবীর কালের পরিক্রমায় আদিকাল থেকে কম্পিউটার যত কাছে করে
নেওয়ায় ভূমি বিভিন্ন পদ্ধতির সাহায্য নিল। নিচে কম সম্প্রদায়ের কে জন্য
আনুষ এক দিন ব্যস্ত নিরসন কালিকার করে কোনো এবং কম্পিউটার বা প্রকাশ
করার বিভিন্ন কার্যকর ঘটি যেই কখন মানুষের সকল সুরক্ষন বর্তমান সমস্যার
মানিয়ে সুচনা। সাম্প্রতিক তথ্যগীকরন প্রক্রিয়া ও শিক্ষার বিজ্ঞানের কালিকার
সকলেই তাঁরা বর্তমান সমস্যার দিকে এই চরম নিয়ে প্রধান করে।

GIS কার্যউপাদান (Component of GIS) :

প্রধান উপাদান। Buprough (১৯৮৬) - এর মতে GIS - এর তিনটি প্রধান উপাদান
প্রধান উপাদান। এগুলি হল —

    i) Computer hardware,
    ii) Application software modules,
    iii) Proper organizational context.
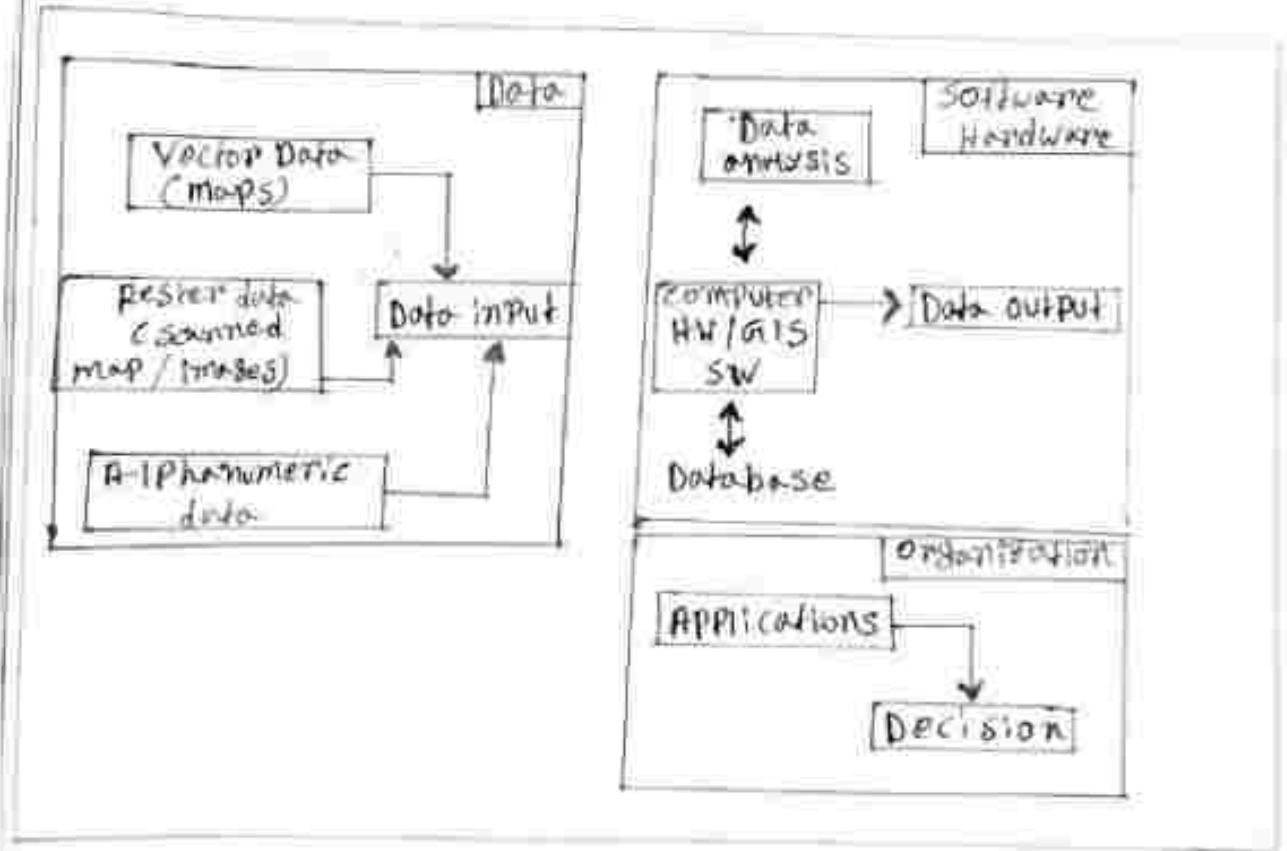
এগুলি ছাড়াও Data হল একটি অতি প্রয়োজনীয় উপাদান, যা নীচের
চিত্রে দেখানো হল —

Fig - Decision making GIS

GIS IN THE PLANNING PROCESS
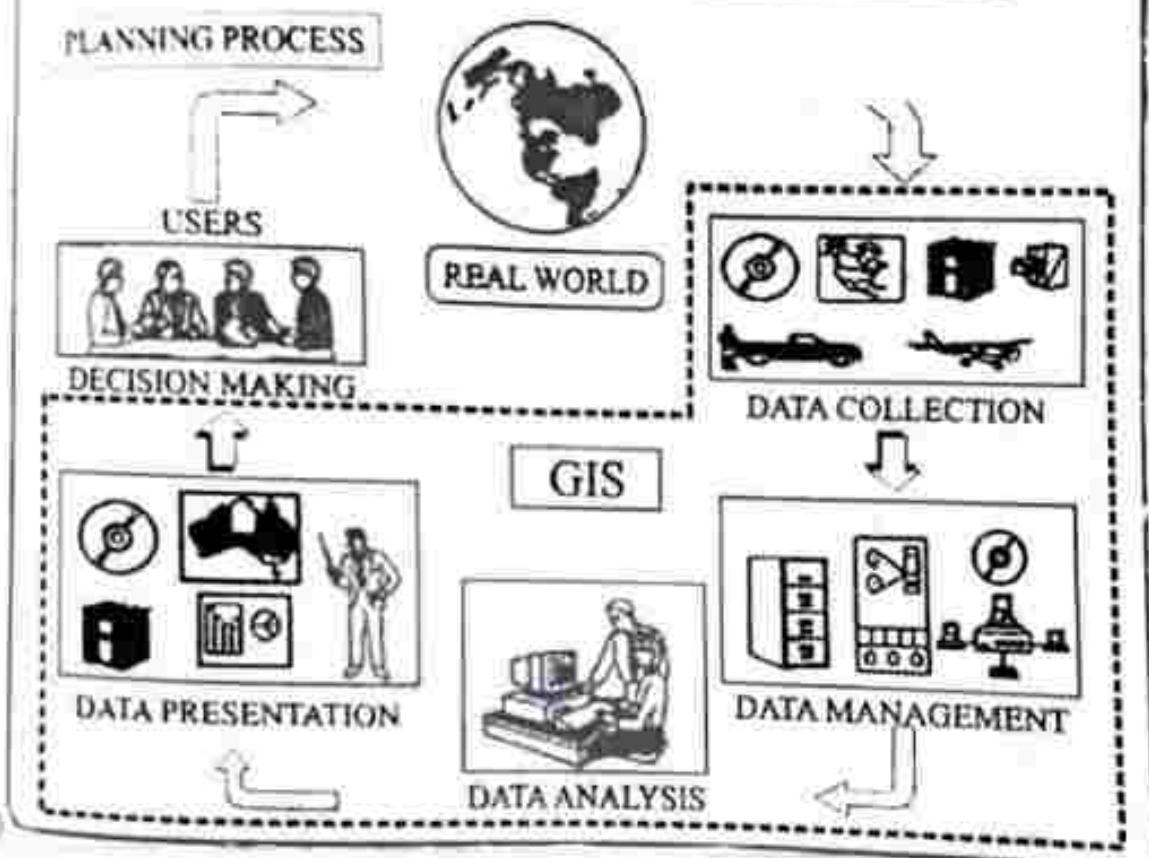
PLANNING PROCESS

USERS

REAL WORLD

DECISION MAKING

DATA COLLECTION

GIS

DATA PRESENTATION

DATA ANALYSIS

DATA MANAGEMENT

(a) Remote Sensing Technique :

(b) People Sensing Technique :

2) তথ্য সংরক্ষণ ও তথ্য পুনরুদ্ধার (Data storage and data Retrieval) :

প্রয়োজনে spatial ও non-spatial তথ্য বড় ... বা প্রয়োজন অনুযায়ী উপযুক্ত উপাত্ত ব্যাবহার বা Database management system ... নাম পারিবৃত্ত ।

৩. তথ্যের নিয়ন্ত্রণ ও বিশ্লেষণ (Data manipulation and Analysis):

এই — তথ্য সংগঠন ও সংগঠনের জন্য চিহ্নিত পদ্ধতি অনুসরণ করা হয় ।
a) পূর্বে সংগৃহীত সাথে সামঞ্জস্য সংগৃহীত করা,
b) GIS পদ্ধতিতে বিশ্লেষণের জন্য spatial ও non-spatial তথ্য ব্যাবহিত করে সংগৃহিত করাতী করা হয় ।

৪) তথ্যের সমাপন ও তথ্য উপস্থাপনা (Output and presentation):

spatial এবং Non-spatial বিশ্লেষণের ... spatial এবং Non-spatial বিশ্লেষণ করে প্রাপ্ত সমন্বিত ব্যাবহিত উপস্থাপন ও প্রদর্শন করা হয় । GIS পদ্ধতিতে তথ্যের ফল মানচিত্র, তালিকা, চিত্র, ওই ... তথ্য সংগঠন করা যায় । তথ্যের মানচিত্রিক বিশ্লেষণ ... বা ... এই সব বিভিন্ন বিশ্লেষণ করা হয় ওইসব ব্যবহারকারী নিজেও GIS তে প্রবেশ বিশ্লেষণ করে ।
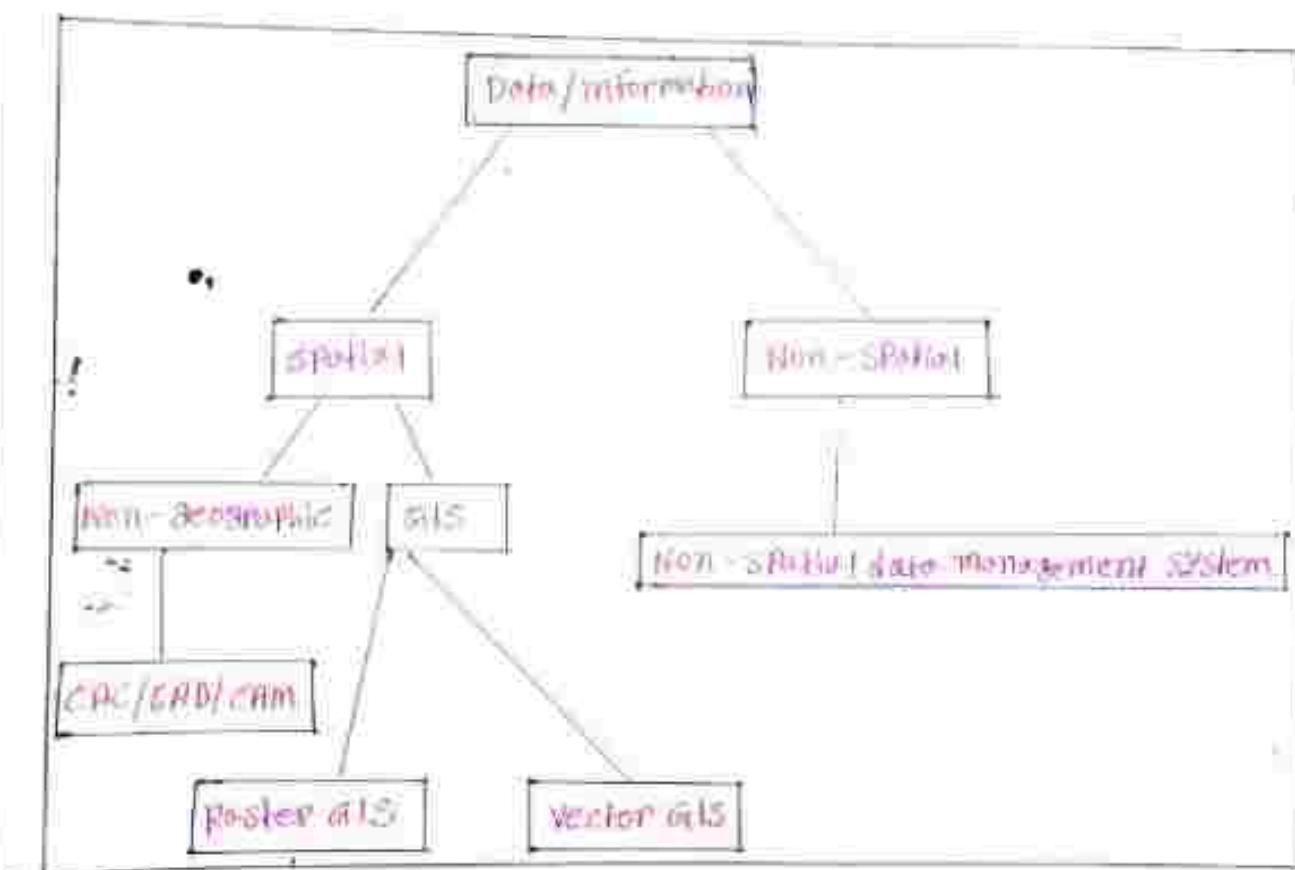
Fig : Flow Diagram of GIS Data manipulation and Analysis

GIS -এর Data দুই ধরনের হয়ে থাকে —
i) Geographic বা Spatial data
ii) Attribute বা Non spatial data

Spatial Data @ co-ordinate বা এর দ্বারা Geographic
Location বা এর ... দেখা হয় । এই Attribute দ্বারা Location

এর ... বিযুক্ত তথ্যসমূহ দেখা যায়। যেমন - শহরের, এলাকার পরিচিতি সাধারণ বিষয় - উৎপাদনের শক্তি ইত্যাদি। কোনো এলাকাকে কোন বিশিষ্ট এলাকা সাথে সাথে করে এই তার হয় - Address, zip code, district number এবং কোনো বিভাগের সাথে করে এই তার হয়।

Spatial Data - এর উৎস হিসাবে paper maps, charts এবং Drawing কে scan বা Digitize করা হয়। co-ordinate Data-কে GPS received বা Satellite Imagery র ভিতর দিয়ে সংগ্রহ করা হয়।

Attribut Data - এ উৎস হিসাবে Data Base, Work Flow, messaging এ কাজের computer system - এ Form কে সংগ্রহ করা হয় যা সম্পর্কিত কোনো common identifier দিয়ে GIS এর সাথে যুক্ত করা হয়।

Fig:- Data and GIS System

Reference :

বিভিন্ন জার্নাল ও বি. এস. এস. বহু ঃ ব্যবহারের তথ্য ঃ প্রযোজন
অংশ নেওয়া হয়েছে । এটি সামাজিক গবেষ্ণা তথ্যী নাগরিকদের ঃ করছে।