



দুধনৈ মহাবিদ্যালয়

Dudhnoi College

Estd:1972



Geography Department Project Certificate and Sample Report



CERTIFICATE

This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr..... *Amit Kumar Das*

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the subject Geography to be held in *December, 2021*

Teacher in charge

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Head of Department

HCC
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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr. *Anjuma Patgiri*

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the subject Geography to be held in *December, 2021*

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr... *Anjumani Daimary*.....

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr. *Amuesha Basak*

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the subject Geography to be held in *December, 2021*

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr. *Bhriju Kumar Rabha*

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the subject Geography to be held in *December, 2021*.

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr Brajesh Ranjan Rabha

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. 3rd Semester (Honours) Final Examination of the subject Geography to be held in December, 2021.

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CERTIFICATE

This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr... *Samanti Sunduk*.....

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc... *3rd Semester (Honours) Final*..... Examination of the subject Geography to be held in ... *December, 2021*.....

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr *Divanta Rabha*

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the subject Geography to be held in *December, 2021*

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by
Ms/Mr. *Dipika Basfore*

It is a result of his/her own observations and is permitted to submit in the
B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the
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CERTIFICATE

This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr Hirok Tyoti Rabha

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr. Jintu Basumatary

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CERTIFICATE

This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr. *Tubkaraj Nath*

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the subject Geography to be held in *December, 2021*.

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr. *Junerbirth M Sangma*

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CERTIFICATE

This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by
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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr... *Syoti Bhattacharjee*

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr Kailash Nebari

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by
Ms/Mr. *Leniya Marak*

It is a result of his/her own observations and is permitted to submit in the
B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the
subject Geography to be held in *December, 2021*.

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by
Ms/Mr. *Mery Khakhalary*

It is a result of his/her own observations and is permitted to submit in the
B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the
subject Geography to be held in *December, 2021*

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr. *Mitali Das*

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the subject Geography to be held in *December, 2021*

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr *Newton Basumatary*

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the subject Geography to be held in *December, 2021*.

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by
✓
Ms/Mr... *Nobita Koch*.....

It is a result of his/her own observations and is permitted to submit in the
✓
B.A./B.Sc. *3rd Semester (Honours) Final*..... Examination of the
subject Geography to be held in *December, 2021*.....

Teacher in charge

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr *Preetam Bhoumick*

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the subject Geography to be held in *December, 2021*.

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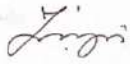


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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr. Pritom Rabha

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by
Ms/Mr. *Priyanka Chetry*

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CERTIFICATE


This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr Pulakjyoti Daimary

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Teacher in charge


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CERTIFICATE

This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr Putul Rabha

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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by Ms/Mr. Rupjyoti Bodo

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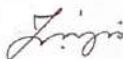


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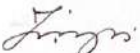


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This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by
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It is a result of his/her own observations and is permitted to submit in the
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**"PROSPECTS OF ECO-TOURISM IN CHAKRASHILA WILDLIFE SANCTUARY AND
DHEER BEEL", CHAPARIN, DHUBRI DISTRICT OF ASSAM.**



A FIELD SURVEY REPORT SUBMITTED AS A PART OF PARTIAL FULFILMENT FOR PRACTICAL PAPER-3026 IN SEMESTER-III OF B.A. /B.Sc. IN GEOGRAPHY (HONOURS) FINAL EXAMINATION, UNDER GAUHATI UNIVERSITY

SESSION-2021-22

Examined
12
22/10/22

SUBMITTED TO
DEPARTMENT OF GEOGRAPHY
DUDHNOI COLLEGE



SUBMITTED BY
Rupjyoti Bodo
RUPJYOTI BODO
3rd Semester, B.A. in Geography
Roll: UA-201-097 No.: 0233
Registration No.: 20021703 Year: 2020-21




CERTIFICATE


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ACKNOWLEDGEMENT

At the very outset let me express my gratitude to the teachers of the Department of Geography for the encouragement, guidance and assistance for the completion of the Field Report. Their valuable comments and suggestion and have helped me immensely in executing the field work and Field Report to its present form.

I would also like to express my gratitude to my friends of 3rd Semester Geography (Honours) and people of the study area for helping me in collecting primary and secondary data and for giving me valuable information.

All these data and information have helped me to carry on my Field Work. It would not have been possible for me in gathering the right type of information from the field survey. I therefore acknowledge everyone who has helped me in preparing this report as the final product of my study.

Date:

Rupinchi Bodo
Name of the student

CONTENTS

- i. CERTIFICATE
- ii. ACKNOWLEDGEMENT

- I. INTRODUCTION
 - 1.1 SIGNIFICANCE OF THE STUDY
 - 1.2 OBJECTIVE OF THE STUDY
 - 1.3 METHODOLOGY OF THE STUDY
 - 1.4 LIMITATION OF THE PRESENT DAY STUDY
 - 1.5 LOCATION OF THE STUDY AREA

2. PHYSICAL BACKGROUND OF THE STUDY AREA
 - 2.1 PHYSIOGRAPHY OF THE STUDY AREA
 - 2.2 CLIMATE, SOIL AND VEGETATION

3. RELEVANCE OF ECO-TOURISM AT CHAKRASHILA AND DHEER BEEL

4. FIELD DIARY OF PRESENT DAY STUDY

5. JOURNEY AND EXPERIENCE OF THE FIELD STUDY

6. SUMMARY AND CONCLUSION

7. PHOTO GALLERY

1. INTRODUCTION

To know the unknown and to see the unseen, man has a natural curiosity. To fulfill this curiosity; man has to travel from one place to other. Geography is a science that is today aerial differentiations according to Hartshorne. It deals with the interaction of man with natural environment which is especially variable. Hence it is through field observation a student of geography can acquired perfect knowledge of the leaving society their activities, culture, dress, habits and interaction among the different environment of the different parts of the earth. it is for these field study program has been incorporated in our academic curriculum. Field study has been regarded as a part of education. It is for these field study program has been incorporated in our academic curriculum Field study has been regarded as a part of education .It not help us to acquired firsthand knowledge of a different place, but it also helpful Administration of ideas and up gradation of nation and Globalization.

1.1 SIGNIFICANCE OF THE FIELD STUDY

Field study is an essential part of education for the fulfillment of our basic knowledge of different environment .In general one cannot acquire from classroom lecture or from available books in library. A subject like geography, have a wide scope concerns and Tradition of people etc. To acquired knowledge of all these practically in the field study is almost necessary for geography student. For the above purpose in mind with the B.A.III semester Student of Geography, Dudhnoi College, Decided to go for field study at "CHAKRASHILA WILDLIFE SANCTUARY AND DHEER BEEL" is located in the Dhubri District of western Assam.

1.2 OBJECTIVE OF THE FIELD STUDY

The Objectives for the preparation for this field report are:

1. To study the present status of Eco-tourism.
2. To visit the wildlife sanctuary physical.
3. To gather knowledge of Avifauna of Dheerbeel (wetland)
4. To know about the importance of wetland.
5. To know about the physical setting of this area.

1.3. METHODOLOGY

The report has been prepared with this following methodology:

- 1) Interpretation of the experience gathered through observation.
- 2) The report primarily based on the internet.

1.4 LIMITATION OF THE PRESENT DAY STUDY

- Every study has limitations.
- Clarifying the limitations of a study allows the reader to better understand under which conditions the results should be interpreted.
- Clear descriptions of limitations of a study also show that the researcher has a holistic understanding of his/her study. And this is something very positive

Common methodological limitations

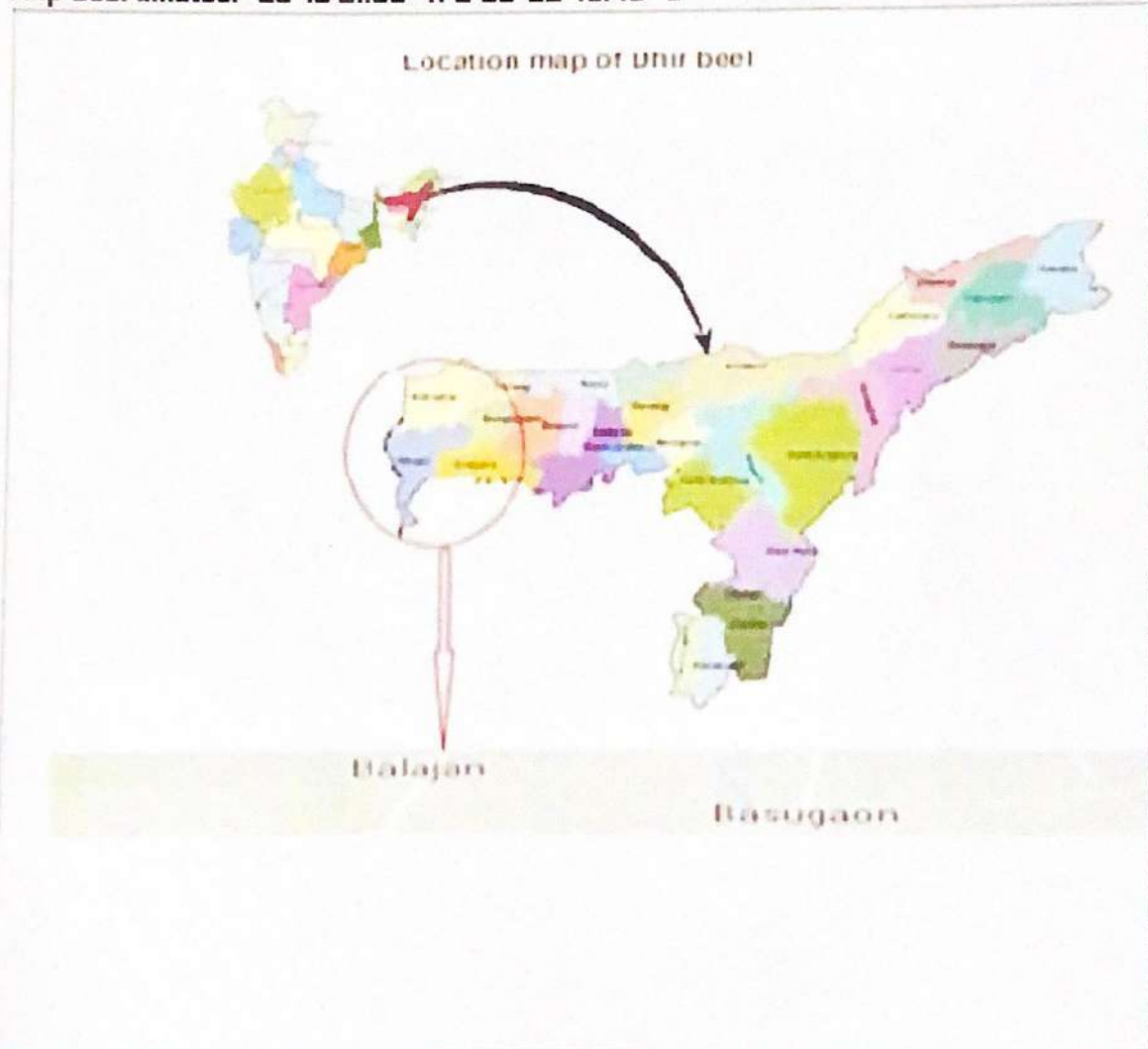
- Issues with samples and selection.
- Insufficient sample size for statistical measurements.
- Lack of previous research studies on the topic.
- Limited access to data.
- Time constraints.
- Conflicts arising from cultural bias and other personal issues.
- Identify the limitation(s)

1.5 LOCATION OF THE STUDY AREA

The Dhir Beel is located near Chapar in Dhubri district of Assam which is rich in Piscean fauna. The Beel is situated at latitude $26^{\circ}16'21.68''$ North and longitude $90^{\circ}22'46.40''$ East and covers an area of about 689 ha of land. On its north western side is Chakrashila Wildlife Sanctuary. It is connected with the river Brahmaputra by an 11km long channel called 'Dhir Dhara'. The Beel is under capture fishery and the leasee captures upto 6 quintals of fishes per day during peak season. The Beel is surrounded by village such as Pokhipara, Dhirghat, Alurbhui, Tintila, Chagalkhuti etc.

STUDY AREA

Map Coordinates:- $26^{\circ}16'21.68''$ N & $90^{\circ}22'46.40''$ E



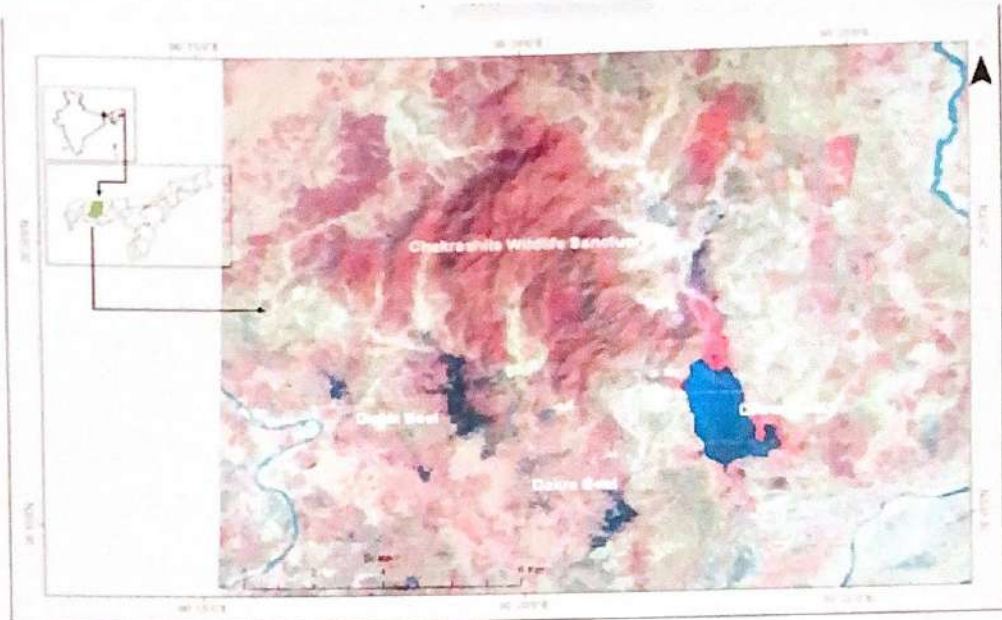


Fig. 1. Location of Dheer Beel, a freshwater lake, Chakrashila Wildlife Sanctuary, Dheer Beel, and Dakra Beel Assam, India

SATELITE IMAGE OF CHAKRASHILA WILDLIFE SANCTUARY AND DHEER BEEL

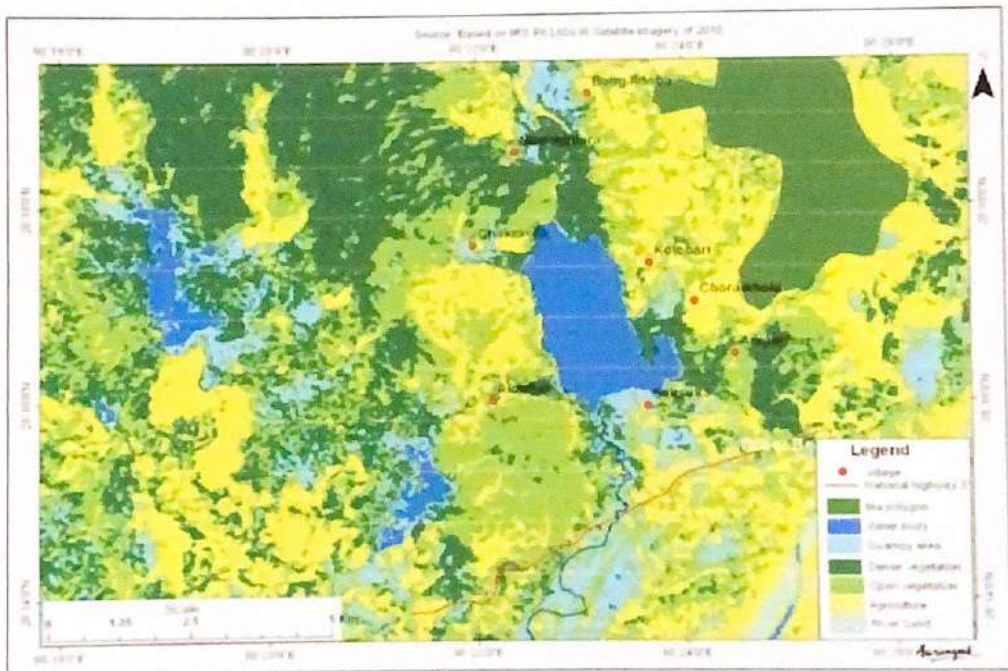


Fig. 2. Land use/land cover map of Dheer Beel and its surrounding area, Assam, India

2. PHYSICAL BACKGROUND OF THE STUDY AREA

The district is situated in the extreme south western part of the lower Brahmaputra valley of Assam with an area of 2,67,572 hectares. The district is characterised by almost flat topography but the eastern part has an undulating topography. The drainage system is dominated by the Brahmaputra river that flows through the district with a sharp south turn in the extreme west end of the district. The northern part is having a number of tributaries of the Brahmaputra namely Champabati, Gourang, Tipkai, Godadhar and Sonkosh which are perennial in nature, originate from Bhutan and flow into the Brahmaputra towards south. Among the southern tributaries, the Jinjiram originates from

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6. SUMMARY AND CONCLUSION:

The vegetation in the wetland and the surrounding hillsides has semi deciduous forests. Wetlands are not wastelands. In fact, these habitats have the highest productivity on earth and are extremely rich in bird and animal life. Wetlands are extremely important for birds, as these provide excellent habitat to birds for foraging, breeding, roosting, pre migratory requirements, migration, staging, over wintering and protection from predators. A large number of bird species are ecologically dependent on wetlands, at least at some stage of their life cycle. Waterfowl is one group of such birds which is predominant in this Dhir Beel.

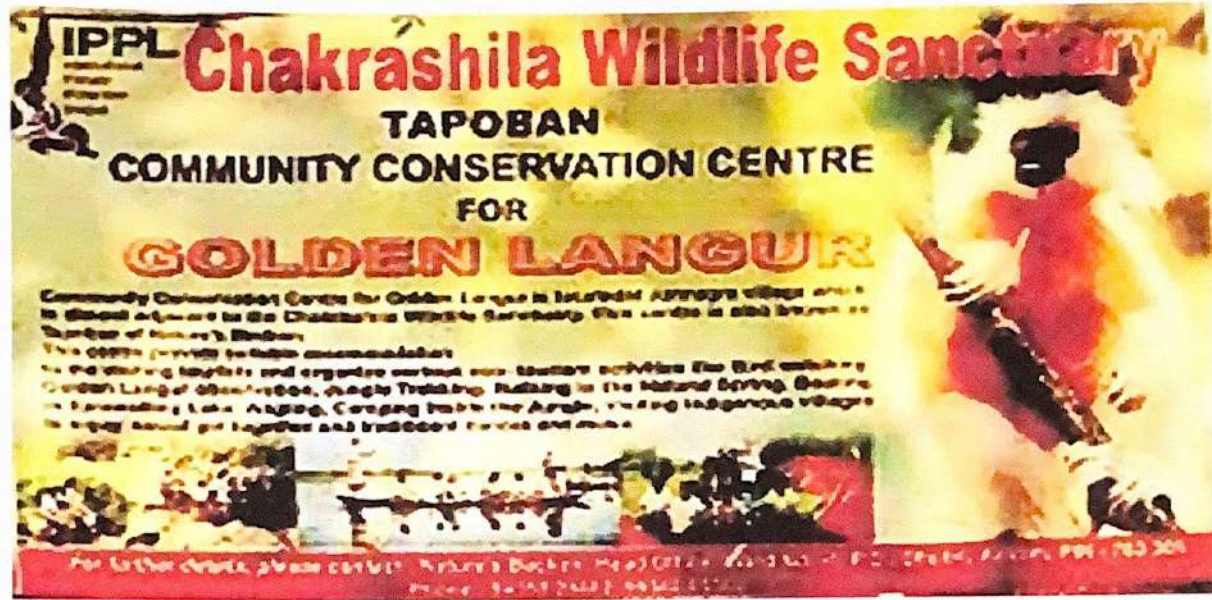
Presently Avian diversity of the beel has 17 families of resident and migratory birds and 22 species of Aquatic bird species. A number of mammals, reptiles and Amphibians are also found in an around the beel. The beel has 71 species of fishes and has greater prospects for Tourist Angling sports and also the length of the beel presents for Kayaking and other aquatic sports. And the entire area in an around the beel is quite beautiful for the tourism.

The communication and connectivity to the beel is very much in swift and easy to access. Some the problems found to be people of nearby area are not aware of tourism business. Beautification of the beel surrounding requires with proper policy. The lacking in proper tourism policy in Assam seems to be the major problems. The tourism policy is confined to certain National Parks and wildlife Sanctuaries and the reason behind these areas are untouched to tourism sector. For the betterment and ecotourism in these areas, the public need to be aware and a good host for the tourist as the public seems to be more unaware of their role in the development of the beel as a tourist spot. Local NGO must be given chance to run the tourist spot with public participation and with proper safeguarding to the area specific. Hence, a proper policy and the communication between the govt. and the public are required to promote tourism in the Dhir beel.

7. PHOTO GALLERY







IPPL Chakrashila Wildlife Sanctuary
TAPOBAN
COMMUNITY CONSERVATION CENTRE
FOR
GOLDEN LANGUR

Community Conservation Centre for Golden Langur is situated among village which is closely adjacent to the Chakrashila Wildlife Sanctuary. This centre is still known as "Sanctuary of Nature's Beauty".

The centre provides to help accommodation to the visiting tourists and organize various eco-tourism activities like Bird watching Golden Langur observation, Jungle Trekking, Rafting in the natural Spring, Boating in Panchaling Lake, Angkor, Carving into the Apsara, visiting indigenous villages to enjoy hand-painted and traditional dances etc.

For further details, please contact: Nature's Beauty, Near GATE 2, ROAD NO. 1, P.O. CHAKRA, DISTRICT, PIN-783 306.
 Phone: 94362 2422, 94362 2111.



**“PROSPECTS OF ECO-TOURISM IN CHAKRASHILA
WILDLIFE SANCTUARY AND DHEERBEEL”**



A FIELD SURVEY REPORT SUBMITTED AS A PART OF PARTIAL
FULFILMENT FOR PRACTICAL PAPER-3026 IN SEMESTER-III OF B.A./
B.Sc. IN GEOGRAPHY (HONOURS) FINAL EXAMINATION, UNDER
GAUHATI UNIVERSITY

SESSION-2021-22

*Examined
22/03/22*

SUBMITTED TO

**DEPARTMENT OF GEOGRAPHY
DUDHNOI COLLEGE**



SUBMITTED BY

NOBITA KOCH

3rd Semester, B.A. in Geography

Roll: UA-201-097 No.: 0183

Registration No.: 20021649 Year: 2020-21

CONTENTS

- i. CERTIFICATE
- ii. ACKNOWLEDGEMENT

- I. INTRODUCTION
 - 1.1 SIGNIFICANCE OF THE STUDY
 - 1.2 OBJECTIVE OF THE STUDY
 - 1.3 METHODOLOGY OF THE STUDY
 - 1.4 LIMITATION OF THE PRESENT DAY STUDY
 - 1.5 LOCATION OF THE STUDY AREA

2. PHYSICAL BACKGROUND OF THE STUDY AREA
 - 2.1 PHYSIOGRAPHY OF THE STUDY AREA
 - 2.2 CLIMATE, SOIL AND VEGETATION

3. RELEVANCE OF ECO-TOURISM AT CHAKRASHILA AND DHEER BEEL

4. FIELD DIARY OF PRESENT DAY STUDY

5. JOURNEY AND EXPERIENCE OF THE FIELD STUDY

6. SUMMARY AND CONCLUSION

7. PHOTO GALLERY



CERTIFICATE

This is to certify that a Project Report entitled "Prospects of Eco-Tourism in Chakrasila Wildlife Sanctuary and Dheer Beel" has been successfully carried out by
Ms/Mr. *Nobita Koch*

It is a result of his/her own observations and is permitted to submit in the
B.A./B.Sc. *3rd Semester (Honours) Final* Examination of the
subject Geography to be held in *December, 2021*

Teacher in charge

Lizim
(*Linsu Limungpi*)
Assistant Professor
Department of Geography
Dudhnoi College

Head of Department

Hc
(Dr. Hem Chandra Kalita)
Associate Professor
Department of Geography
Dudhnoi College

ACKNOWLEDGEMENT

At the very outset let me express my gratitude to the teachers of the Department of Geography for the encouragement, guidance and assistance for the completion of the Field Report. Their valuable comments and suggestion and have helped me immensely in executing the field work and Field Report to its present form.

I would also like to express my gratitude to my friends of 3rd Semester Geography (Honours) and people of the study area for helping me in collecting primary and secondary data and for giving me valuable information.

All these data and information have helped me to carry on my Field Work. It would not have been possible for me in gathering the right type of information from the field survey. I therefore acknowledge everyone who has helped me in preparing this report as the final product of my study.

Date:- 23/3/22

Name of the student

Nobita Koch

I. INTRODUCTION

To know the unknown and to see the unseen, man has a natural curiosity. To fulfill this curiosity, man has to travel from one place to other. Geography is a science that is today aerial differentiations according to Hartshorne. It deals with the interaction of man with natural environment which is especially variable. Hence it is through field observation a student of geography can acquired perfect knowledge of the leaving society their activities, culture, dress, habits and interaction among the different environment of the different parts of the earth. it is for these field study program has been incorporated in our academic curriculum. Field study has been regarded as a part of education. It is for these field study program has been incorporated in our academic curriculum Field study has been regarded as a part of education .It not help us to acquired firsthand knowledge of a different place, but it also helpful Administration of ideas and up gradation of nation and Globalization.

1.1 SIGNIFICANCE OF THE FIELD STUDY

Field study is an essential part of education for the fulfillment of our basic knowledge of different environment .In general one cannot acquire from classroom lecture or from available books in library. A subject like geography, have a wide scope concerns and Tradition of people etc. To acquired knowledge of all these practically in the field study is almost necessary for geography student. For the above purpose in mind with the B.A.III semester Student of Geography, Dudhnoi College, Decided to go for field study at "CHAKRASHILA WILDLIFE SANCTUARY AND DHEER BEEL" is located in the Dhubri District of western Assam.

1.2 OBJECTIVE OF THE FIELD STUDY

The Objectives for the preparation for this field report are:

1. To study the present status of Eco-tourism.
2. To visit the wildlife sanctuary physical.
3. To gather knowledge of Avifauna of Dheerbeel (wetland)
4. To know about the importance of wetland.
5. To know about the physical setting of this area.

1.3. METHODOLOGY

The report has been prepared with this following methodology:

- 1) Interpretation of the experience gathered through observation.
- 2) The report primarily based on the internet.

1.4 LIMITATION OF THE PRESENT DAY STUDY

- Every study has limitations.
- Clarifying the limitations of a study allows the reader to better understand under which conditions the results should be interpreted.
- Clear descriptions of limitations of a study also show that the researcher has a holistic understanding of his/her study. And this is something very positive

Common methodological limitations

- Issues with samples and selection.
- Insufficient sample size for statistical measurements.
- Lack of previous research studies on the topic.
- Limited access to data.
- Time constraints.
- Conflicts arising from cultural bias and other personal issues.
- Identify the limitation(s)

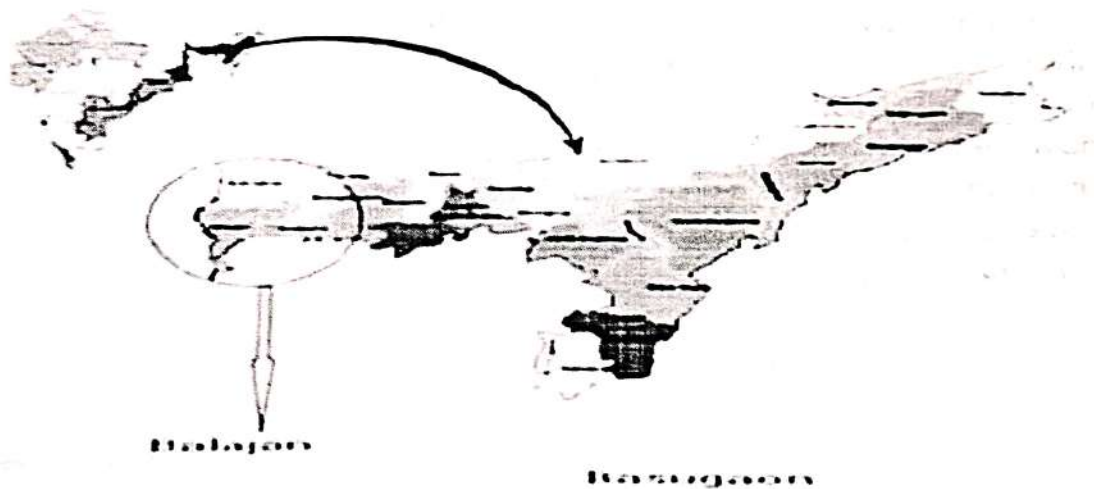
1.5 LOCATION OF THE STUDY AREA

The Dhir Beel is located near Chapar in Dhubri district of Assam which is rich in Piscean fauna. The Beel is situated at latitude $26^{\circ}16'21.68''$ North and longitude $90^{\circ}22'46.40''$ East and covers an area of about 689 ha of land. On its north western side is Chakrashila Wildlife Sanctuary. It is connected with the river Brahmaputra by an 11km long channel called 'Dhir Dhara'. The Beel is under capture fishery and the leasee captures upto 6 quintals of fishes per day during peak season. The Beel is surrounded by village such as Pokhipara, Dhirghat, Alurbhui, Tintila, Chagalkhuti etc.

STUDY AREA

Map Coordinates:- $26^{\circ}16'21.68''$ N & $90^{\circ}22'46.40''$ E

Location map of Dhir Beel



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The district is situated in the extreme south western part of the lower Brahmaputra valley of Assam with an area of 2,67,572 hectares. The district is characterised by almost flat topography but the eastern part has an undulating topography. The drainage system is dominated by the Brahmaputra river that flows through the district with a sharp south turn in the extreme west end of the district. The northern part is having a number of tributaries of the Brahmaputra namely Champabati, Gourang, Tipkai, Godadhar and Sonkosh which are perennial in nature. They originate from Bhutan and flow into the Brahmaputra towards south. Among the southern tributaries, the Jinjiram originates from

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PLANTS: Chakrashila Wildlife Sanctuary has rich vegetation with different species of plants and grasses. The forest is of semi-evergreen type. Some of the plant species found there are- Sal tree, Bogiopoma, Amari, Moj, Paroli, Himolu, Gomari, Hilikha, etc.

3. RELEVANCE OF ECO-TOURISM AT CHAKRASHILA AND DHEER BEEL

The Term ecotourism refers to the ecologically important and beautiful places with its tourist based management and income. Tourism has now a very big industry and its importance are increasing if the area is resourceful with natural beauty and historic evidences. As per international ecotourism society, "Ecotourism is a responsible travel to natural areas which conserves the environment and improves the well being of the local people"

Ecotourism reduces the adverse effect of tourism on nature and environment. It maintains the ecological balance between human society and nature. Assam in Northeast India is the land of rivers and hills with large number National Parks, Wildlife Sanctuaries and Biosphere reserves. It has more than 950 wetlands known as beels are located nearby river Brahmaputra and Barak. The drainage system provides a huge biodiversity of Wildlife and landscape views on either bank of the rivers. Thus, it provides an ample opportunity for the people of Assam and its adjoining state for the Ecotourism.

Assam holds 3413 wetlands of various sizes ranging from 1 hectare to 700 hectares and covers a huge area around 1.01 lakh hectares . In Brahmaputra valley of Assam, the global hotspot regions have a diverse type of wetland ecosystem. Wetlands have a diverse ecosystem that is related to Aquatic organisms, birds, insects, butterfly and many other animals. Wetland serves as the water distribution system for these animals and plants. Also the landscape beauty and a comfortable ecology make wetlands as bright prospects for tourist spot.

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Surrounding of the Beel

The beel is surrounded by Chakrashila Wildlife Sanctuary in the West. In the North Chakrashila Forest reserve and in the South Arrearjhar Village is present. The forest is covered with deciduous tree cover. These provide the Dhir Beel a beautiful Landscape from the Eastern Part of the Beel. The Chakrashila hills give a very beautiful view to the Dhir beels Natural Scenic beauty

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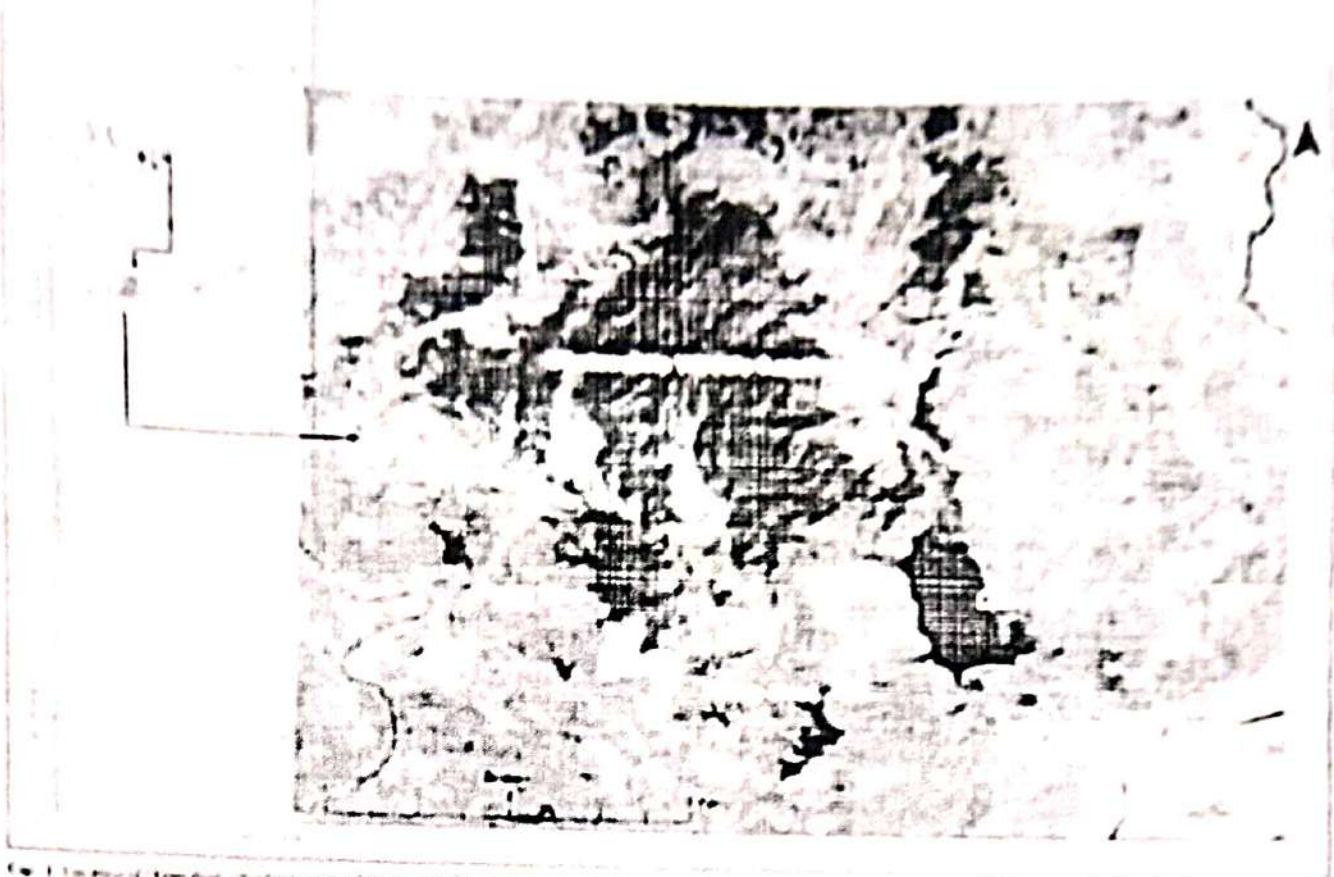
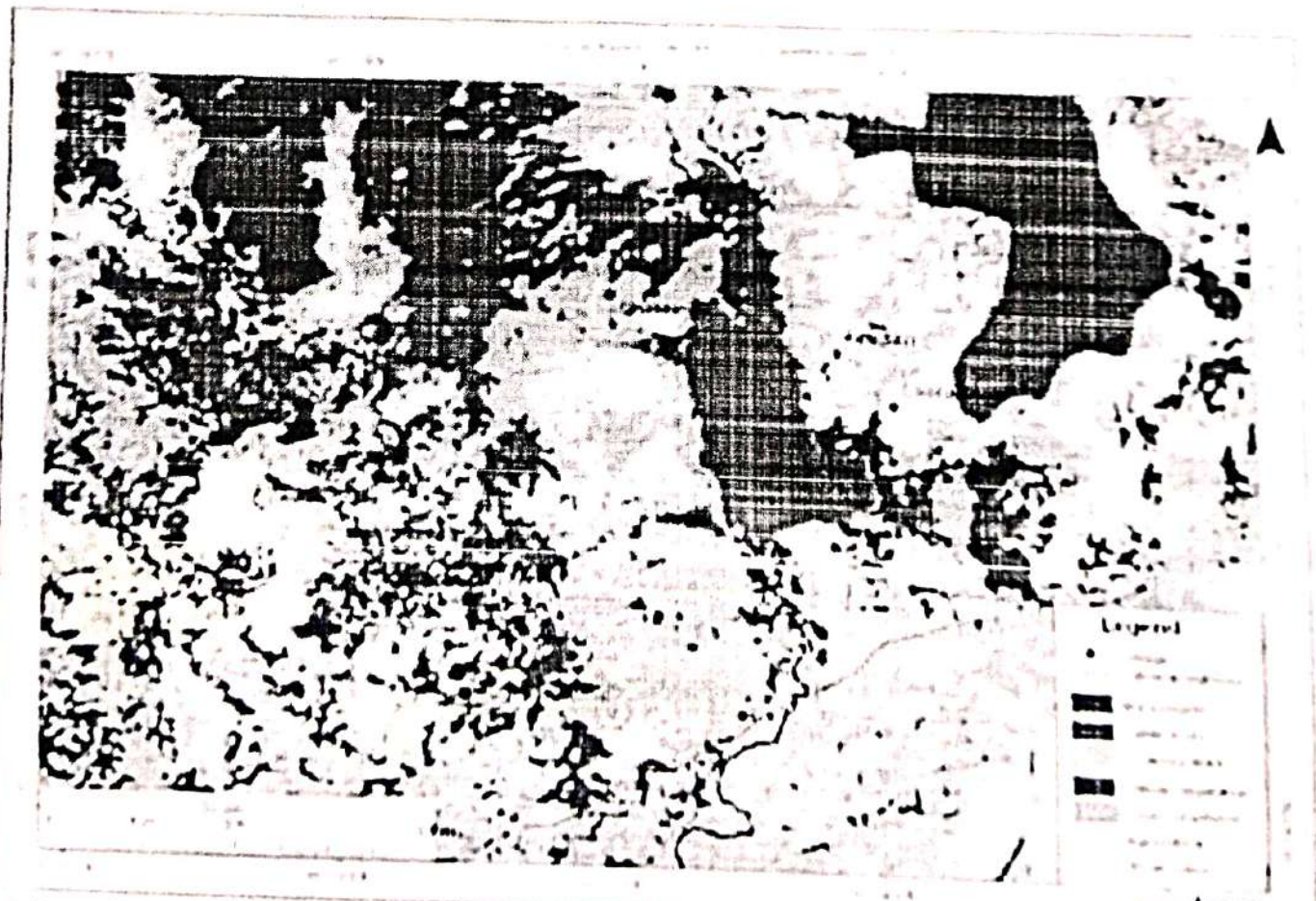
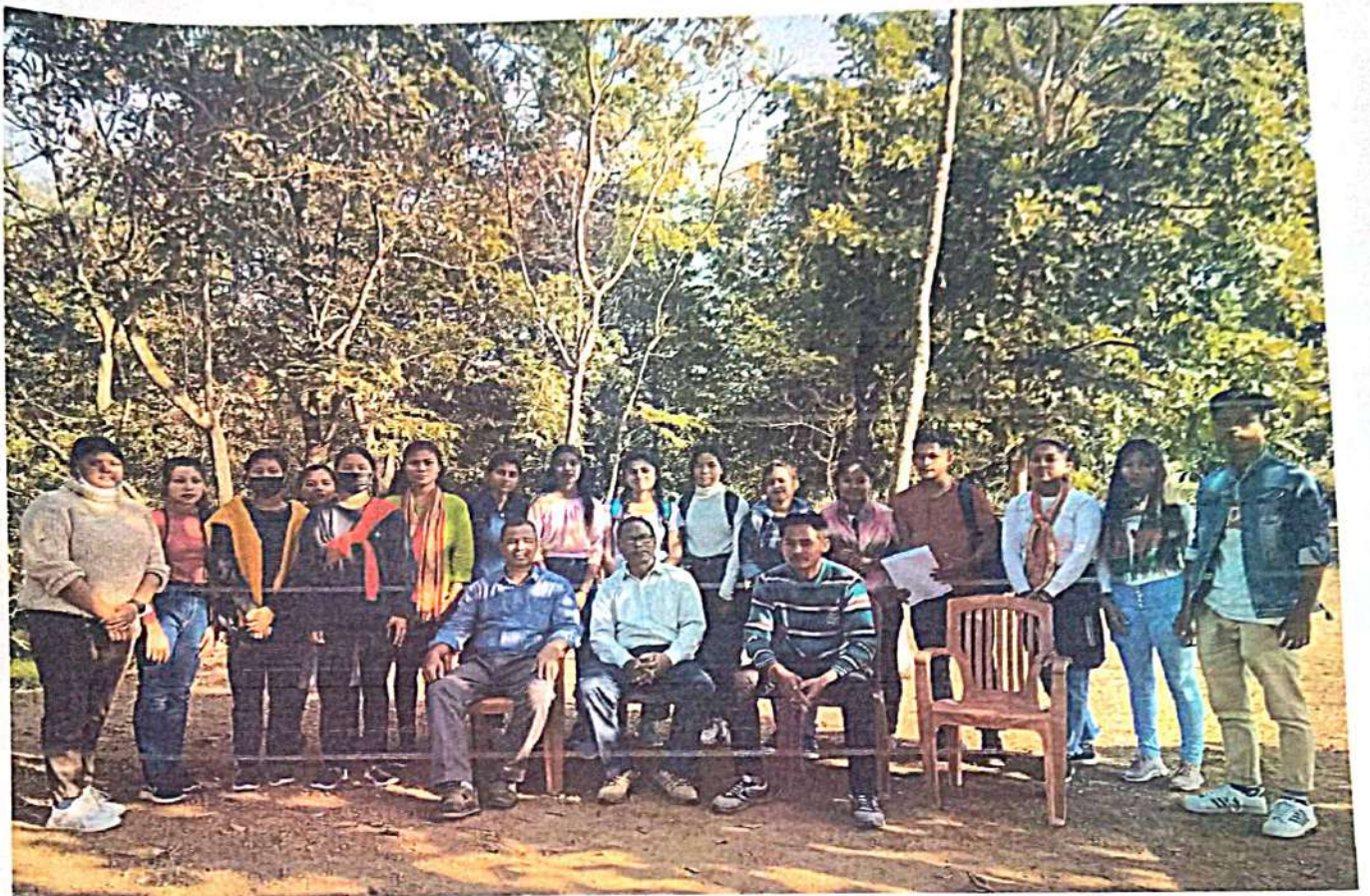


Fig. 1. The place of the study area in the state of Karnataka, India. (Scale: 1:100,000)

SATELITE IMAGE OF CHAKRASHILA WILDLIFE SANCTUARY AND DHEER BEEL





7 PHOTO GALLERY

Abhayaakuti
Jainnagra Pt I
Jainnagra Pt II
Sreegram Pt V
Sreegram Pt III
Chakrasila Pt II
Chakrasila Pt I
Tintoa
Alotiba
Dhirkad
Fairman
Chaga Khute
Areeghat Pt I
Barunifara Pt II
Barunifara Pt I
Satyapat
Batardol
Chapat
Kherda
Goshwangan
Majdara 02022





CERTIFICATE

This is to certify that a Field Report entitled "A Socio-Economic Survey of Khara-Lalpara Village of Dudhnoi, Goalpara, Assam" has been successfully carried out by Ms/Mr. Ankit Adhikary

It is a result of his/her own observations and is permitted to submit in the B A /B.Sc. 5th Semester (Honours) Final Examination of the subject Geography to be held in December, 2021

Teacher in charge

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(J. K. Rajbanshi)

Assistant Professor

Department of Geography

Dudhnoi College

Head of Department

Hem Chandra Kalita

(Dr. Hem Chandra Kalita)

Associate Professor

Department of Geography

Dudhnoi College



CERTIFICATE

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Ms/Mr Richa Rabha

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B.A./B.Sc. 5th Semester (Honours) Final Examination of the
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(K. K. Rajbongshi)
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Hem Chandra Kalita

(Dr. Hem Chandra Kalita)
Associate Professor
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This is to certify that a Field Report entitled "A Socio-Economic Survey of Khara-Lalpara Village of Dudhnoi, Goalpara, Assam" has been successfully carried out by
Ms/Mr. *Mrinali Rabha*

It is a result of his/her own observations and is permitted to submit in the
B.A./B.Sc. *5th Semester (Honours) Final* Examination of the
subject Geography to be held in *December, 2021*.

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(*K. K. Rajbongshi*)

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Head of Department

HCE
(Dr. Hem Chandra Kalita)

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Department of Geography
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CERTIFICATE

This is to certify that a Field Report entitled "A Socio-Economic Survey of Khara-Lalpara Village of Dudhnoi, Goalpara, Assam" has been successfully carried out by
Ms/Mr. *Manika Hazouary*

It is a result of his/her own observations and is permitted to submit in the
B.A./B.Sc. *5th Semester (Honours) Final* Examination of the
subject Geography to be held in *December, 2021.*

Teacher in charge

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(*K. Rabindri*)

Assistant Professor

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Head of Department

HCK

(Dr. Hem Chandra Kalita)

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Department of Geography

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CERTIFICATE

This is to certify that a Field Report entitled "A Socio-Economic Survey of Khara-Lalpara Village of Dudhnoi, Goalpara, Assam" has been successfully carried out by Ms/Mr Anjan Rabha

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Teacher in charge

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CERTIFICATE

This is to certify that a Field Report entitled "A Socio-Economic Survey of Khara-Lalpara Village of Dudhnoi, Goalpara, Assam" has been successfully carried out by Ms/Mr Pamilee Rabha

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. 5th Semester (Honours) Final Examination of the subject Geography to be held in December, 2021.

Teacher in charge

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H. C. Kalita

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CERTIFICATE

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Ms/Mr. Santana Rabha

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Teacher in charge

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(J. K. Rajbanshi)

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Department of Geography

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Head of Department

H.C. Kalita

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Associate Professor

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SOCIO ECONOMIC SURVEY OF KHARA LAL PARA

A FIELD STUDY SUBMITTED FOR THE PERCEL
FULLFILLMENT OF THE PAPER GGY-5026 OF
5TH SEMESTER HONOURS

DUDHNOI COLLEGE (2021-22)

Foreword
By

Submitted by —
Manika Hagowary.
B.A. 5th semester
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ACKNOWLEDGEMENT

At the very outset let me express my heartfelt thanks to teachers of the department of Geography for encouragement, guidance and assistance for the completion of the project work.

I would also like to express my gratitude to my friends and people of the surveyed village for helping me in collecting primary data and for giving me valuable information.

I hope this report will help to understand the socio economic aspect of Village area of Khana Lad Para.

Manika Hagowary.
Signature.

CONTENT

Certificate.

Acknowledgement

1. Introduction

- Location of the village.
- Short description of the village.
- Objectives.
- Methodology and data collection.

2. Environmental condition of the village.

- Climate
- Soil
- Vegetation.

3. Social status of the village.

4. Economic condition of the village.

5. Conclusion.

INTRODUCTION:

Socio Economic survey is a very development activity. In socio-economic we prepare demographic details household category wise, population reports, education status land holding and cropping pattern, lives stock details of village. Annual income and expending of families in the village the information regarding every family in the village can be retrieved in any manner required.

LOCATION:

Village — Khara Lad Para.

District — Goalpara.

Block — Kushkhawa.

Gaon Panchayat — Dakhnoi

Description of the village:-

The name of the village is Khara Lad Para. The people of the village are very kind and lovable. The houses of the village are mostly kutcha. The childrens of the village goes to government school.

OBJECTIVES :

1. To know about socio-economic condition of the village.
2. To access the social amenities of the people of the village.
3. To know the educational status of the villagers.
4. To know about water supply, electricity.
5. To know about the living standards of the village.

METHODOLOGY AND DATA COLLECTION:

- Primary data collection —
 - (a) Questionnaire.
 - (b) Observation
 - (c) Interview.

Questionnaire :

Group A : Village survey.

1. Location of village (latitude & longitude)
2. State, District, Block, Gaon Panchayat

3. (i) Total population of the village (M/F)

(ii) Total number of household.

4. Literacy rate (M/F)

5. Education Status of the village

(i) illiterate (ii) Primary

(iii) Secondary (iv) higher

(v) technical education.

6. Economic activities of villagers

(i) (number of families)

(i) Primary activities

(ii) Secondary activities

(iii) Tertiary activities.

7. Annual income — (i) Below — 20,000

(ii) 20,000 — 40,000 (iii) 40,000 — 80,000

(iv) 80,000 — 1,00,000 (v) above 1,20,000

8. House type — (i) Traditional.

(ii) Assam type houses

(iii) RCC.

9. Social amenities. — (i) Anganbadi

(ii) Primary school (iii) high school

(iv) higher secondary (v) number of PHC
rural hospital

(vi) Drinking water facilities.

(vii) Sanitation —

(i) Open (ii) Kutcha (iii) Pukka.

10. Transportation facilities.

(i) Road (ii) Railway.

collected by —

Manika Jagowaty

Roll No. — VA-191-097-0365

Class — B.A. 5th semester

Date — 09/03/2022

GROUP B: Household survey

1. (a) Location of the village (b) District / Block /
Gaon Panchayat)

2 (a) Number of Families

(b) House Number.

(c) Name of the head of the family

(d) Total members of the family (M/F)

3. Age structure — (a) Below 5

(b) 5 to 10

(c) 10 — 15

(d) above 20

4. Types of Family

- (a) Single Family
- (b) Joint Family.

5. Educational status of the Family —

- (i) Illiterate
- (ii) Primary
- (iii) Secondary
- (iv) Higher
- (v) Technical Education

6. Income Sources / Income from different sources (in Rupees)

- (a) Agriculture.
- (b) Industry
- (c) Secondary.
- (d) Tertiary sectors.

7. Income from different sources:

7. Total income of the Family.

8. Sources of Drinking water:

- (a) Government supply
- (b) Filter / Aquaganand.

9. Healthcare facilities: Government / Private

10. Electric connection is available or not collected by

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Observation:

The effectiveness of the field survey is associated with the surveyor's capability to collect information about the landscape through observation.

Thus the main purpose of field survey is to observe the characteristics and associations of geographic phenomena.

Interviews:

To deal with social issues, generally, informations are collected with personal interviews. Experience and knowledge of each individual relating to his environ as well as his own livings are nothing but information. If retrieved effectively, these experiences are the important source of information.

Environmental condition of the village:

Rural Environment study is the study of environmental aspects carried out in a rural area.

The houses of the village are mostly kutchha. Different types of trees are found in the houses of the village in khara. The trees like Jackfruit, Mango, Neem, curry plant etc. can be seen in the village. Vegetable gardens ^{are} also seen in some houses.

CLIMATE:

Climate means the average weather conditions of a given region over a long period of time. Climate includes both the normal, expected weather events, such as rain and snow and rare events such as tornadoes. Climate deals with all the meteorological elements like sphereic pressure, humidity, precipitation, temperature, wind etc and with the way they are

influenced by factors such as changes in latitude, altitude, distribution of conditions of continents and oceans and location of ocean currents.

SOIL :

The soil is a mixture of mechanical and chemical compounds of the materials which are found on the earth's surface. They consists of both organic and inorganic materials. The process of formation of soil is influenced by the physical and chemical characteristics of the parent rock, physiography, altitude, climatic condition and plants and animals of the surrounding areas.

Mainly two types of soils are available in the selected village in khara. Since the village plain areas, old alluvial soil is available in the plain areas of a) the village.

VEGETATION:

The total of an area, comprising one or more floral communities may be called vegetation.

There are some trees found with some evergreen characters. Some trees are such as Jackfruit, Mango, Neem etc. are found in this area.

SOCIAL STATUS OF THE VILLAGE:

Each village has its own dominant caste. Often the decisions they take serve their own interests. At the local level, each caste comprises a set of families, and it has been noticed that there is a close relationship between caste and kinship.

There are many tribes in the village like Bodo, Rabha, etc.

ECONOMIC CONDITION OF THE VILLAGE:

The economic development of rural areas indirectly depends on the rural population's living standard and socio-economic life conditions. The depopulation of rural areas, the outflow of skilled labor, underdeveloped or neglected transport infrastructure, the absence or lack of information and communication infrastructure etc.

Economic conditions of the village in Khara are poor condition. Most people of the village works as drivers, and cultivators. The economic conditions of the village are low, so they can not put afford their childrens in private school.

CONCLUSION:

Khara Lal Para village is a small village. It comes under district of Goalpara in Assam. Most people of the village work as drivers to earn their daily food. The houses are made by bamboo, soil etc. Most of the villagers have no basic amenities like good roads, schools and hospitals.

**SOCIO-ECONOMIC SURVEY AND HOUSEHOLD SURVEY OF
KHARA LALPARA VILLAGE.**



A FILED SURVEY REPORT SUBMITTED AS A PART OF
PARTIAL FULFILMENT FOR PRACTICAL PAPER-GGY-HC-
5026 IN B.A.(CBCS) 5TH SEMESTER IN GEOGRAPHY
(HONOURS) FINAL EXAMINATION.

UNDER GAUHATI UNIVERSITY

SUBMITTED TO
DEPT. OF GEOGRAPHY
DUDHNOI COLLEGE



Porimanda
Bliss

SUBMITTED BY-

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CONTENTS

* Certificate

* Acknowledgement

* INTRODUCTION

Chapter-1

1. Location of the study area

1.1 Objective of the study

1.2 Methodology of data collection

Chapter2

2. Physiography of the study area

2.1 Climate, rainfall, soil & Vegetation

2.2 Transport & Communication

Chapter3

3. Socio-Economic condition of the village

Chapter4

4. Summary & conclusion



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I wish to express my thanks to Dr.Hem Chandra Kalita sir who has guideded and given us suggestions about the fieldwork, without which this report would not been completed properly.

I want to express my deep gratitude and heartiest thanks to all my respondents along with the village people of khara lalpara who have spent their valuable time and provided me vital informations and sharing some private details pertaining to the study.

I also thankful to Prof. Birbal Bodo, KK Rajbongshi, Linso Timungpi, Samar medhi, Priyanka Rabha & Rashmi Sarkar for their helps in the completion of this report

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I. INTRODUCTION

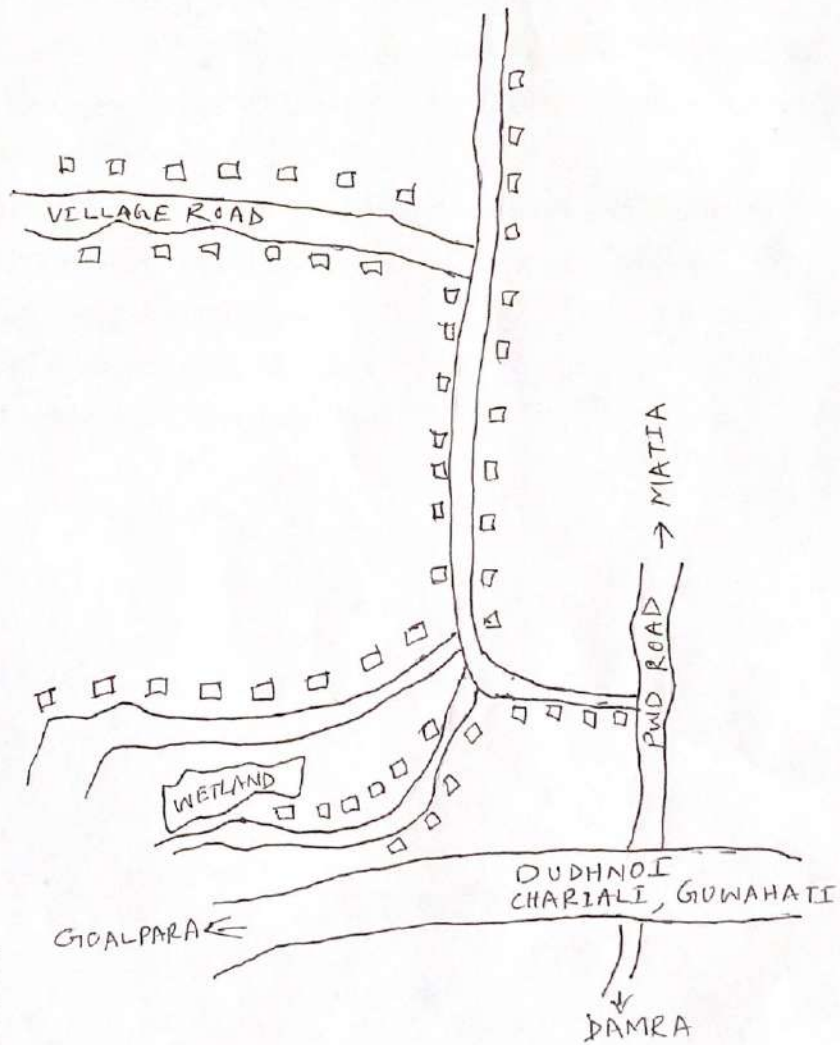
To know the unknown and to see the unseen, man has a natural curiosity. To fulfill this curiosity, man has to travel from one place to other. Geography is a science that is today aerial differentiations according to Hartshorne. It deals with the interaction of man with natural environment which is especially variable. Hence it is through field observation a student of geography can acquired perfect knowledge of the leaving society their activities, culture, dress, habits and interaction among the different environment of the different parts of the earth. it is for these field study program has been incorporated in our academic curriculum. Field study has been regarded as a part of education. It is for these field study program has been incorporated in our academic curriculum Field study has been regarded as a part of education .It not help us to acquired firsthand knowledge of a different place, but it also helpful Administration of ideas and up gradation of nation and Globalization.

Chapter-1

1.Geographical Location of the Study Area

Khara lal para village is located in Dudhnoi subdivision of Goalpara district in Assam , It is situated 3km away from sub district headquater Dudhnoi & 45 km away from district headquater Goalpara.The total geograhical area of the village is 276.1hectars.

SKETCH MAP OF KHARLALPARA VILLAGE



INDEX	
ROAD	≈
HOUSE	□ □
WETLAND	♡

1.1 Objectives of the study

The objectives for preparation for this field report are as follows:-

- (i) To know about socio-economic condition of the area.
- (ii) To access the social amenities of the people of the village.
- (iii) To know the educational status of the Village.

1.2 Methodology

Following are some geographical techniques which used to collected data regarding to the report are as follows:-

- (i) Questionnaire method
- (ii) Field observation Method
- (iii) Photography & Sketch method

Chapter2

2. Physiography of the study area

Physiographically, the area is occupied by plains. There are no hills and mountains near the village. A small wetland also exists in this village. Approximately 65% of the village area is covered by the paddy land.

2.1 Climate, Rainfall & vegetation:

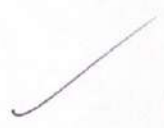
The climate in this village is moderate during the winter & Hot in Summer. Average annual temperature range between 21 degree centigrade.

Rain makes its first appearance in the month of April with occasional and irregular light showers and at times. Monsoon rainfall normally begins from the early part of the month of June.

Vegetation: The semi evergreen and mixed Deciduous vegetation are mainly found in the village. Specifically this area is not rich in flora and fauna.

2.2 Transportation and Communication:

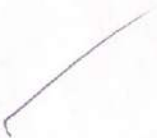
Transportation provides the link between villagers and nearby areas. There are medium transport facilities in the village.



Chapter-3

Socioeconomic condition of the village

Following points help us to understand the socio-economi condition of the village

- (i) Approximately 92.7% people are engaged in agricultural sector.
 - (ii) Remaining 6.3% villagers are associated with other sectors.
 - (iii) Some social facilities like School, hospitals, public health centre, drinking water facilities are not available in this village.
- 

Chapter4

Conclusion

It maybe conclude that kharalalpara village is surrounded by paddy land. The village is located in the remote area. There are lot's of Social, economic & infrastructural issues which faced by the villagers. Therefore, the village is still backward. Government should take some necessary steps or introduce some schemes for the overall development of the village.

GROUP B:- HOUSEHOLD SURVEY

- (1) (a) Location of the village
(b) District Block Gaon Panchayat
- (c) Number of Families (d) Total population of the Village
- (2) (a) House Number (b) Name of the head of the family
(b) Total members of the Family (Male/Female)
- (3) Age Structure:- (a) Below 5 (b) 5 to 10 (c) 10-15 (d) above 20
- (4) Types of Family: Single/Joint Family
- (5) Educational Status of the Family:- (a) Illiterate, (b) primary, (c) Secondary
(c) Higher, (d) Technical Graduate
- (6) Income Sources/Income from different sources in Rupees:-
(a) Agriculture, (a) Industry, (c) Secondary, (d) Technical graduate
- (7) Income from different sources:- (a) Agriculture,
- (8) Total Income of the Family
- (9) Sources of Drinking Water:- (a) Government Supply (b) Filter/Aquagrand
- (10) Healthcare Facilities:- a) Government (b) Private
- (11) Electric connection is (Available or not).

Collected by

Name- Nilakantha kalita

Roll No- UA-191-097-0395

Class- 5th Semester

Date- 09/03/2022

Preparation of questionnaire

Sand Mining in Dudhnoi river and its impact on agricultural fields

(A case study of Dudhnoi and Matia)

Questionary may be prepare to collect relevant information for the above mention title

A

- (1) Location of Dudhnoi river?
- (2) How many trucks or Dumpers ?
- (3) What is the amount of sand per truck or dumper (CFT) ?
- (4) Where to carries the sand ?
- (5) Whether it is public or private sector ?
- (6) What is the amount of sand mining per month ?
- (7) What is the amount of annual sand mining ?

B.

- (8) What is the value of sand per truck /dumper in rupees?
- (9) What is the value of sand mining per month in rupees?
- (10) What is the value of sand mining per annum?

C.

- (11) How many person engaged in a truck?
- (12) How many person are engaged in sand mining station?
- (13) How many sand mining station are there from Dudhnoi to matia?
- (14) Whether other vehicles also used to carry sand (tractor)?

D.

- (15) Whether excessive mining affect on water current?
- (16) Whether it effect on micro organism?
- (17) Whether it affect on agricultural productivity in nearby agricultural field?
- (18) Whether water saturation level is lower down on the agricultural field?



CERTIFICATE

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It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. 6th Semester (Honours) Final Examination of the subject Geography to be held in June, 2022

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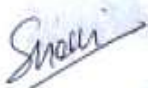


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out by Ms/Mr Ratul Basumatary

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This is to certify that a Project Report entitled "Sand Mining in Dudhnoi River-Its impact on Economy and Environment (A Case Study in Khara Village)" has been successfully carried out by Ms/Mr Monomati Rabha

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This is to certify that a Project Report entitled "Sand Mining in Dudhnoi River-Its impact on Economy and Environment (A Case Study in Khara Village)" has been successfully carried out by Ms/Mr Dhinaj Rabha

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SAND MINING IN DUDHNOI RIVER: IT'S IMPACT ON ECONOMY AND
ENVIRONMET

A CASE STUDY IN KHARA VILLAGE

A PROJECT REPORT SUBMITTED FOR PART FULFILLMENT OF PAPER 6026 OF 6th
SEMESTER, GEOGRAPHY, HONOURS, 2022.



SUBMITTED BY-

NAME: ANKIT ADHIKARY

CLASS: B.A. (CBCS) 6th SEMESTER (HONOURS)

EXAM ROLL NO: UA-191-097- 0211

REGISTRATION NO: 19022924 OF 2019-20

CONTENT

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ACKNOWLEDGEMENT

- CHAPTER-1 INTRODUCTION**
- 1.1 The Study Area
 - 1.2 Statement of the problem
 - 1.3 Objective of the study
 - 1.4 Research Questions
 - 1.5 Review of Literature
 - 1.6 Data & Methodology
 - 1.7 Significance of the study
 - 1.8 Organisation of the project work

CHAPTER-2 (2.1) PHYSICAL CONDITION OF THE AREA

- (i) Relief
 - (ii) Climate
 - (iii) Rainfall
 - (iv) Vegetation
 - (v) Soil
- 2.2 Economic Basis: A Short Description Of The area

CHAPTER-3 SAND MINING IN DUDHNOI RIVER

- 3.1 Sand Mining in Dudhnoi River:A Historical Perspective
- 3.2 Contribution of mining to economy of khara village
- 3.3 Impact of sand mining on(i) Flood,(ii) Water pollution,(iii)Biodiversity
And (iv)Agricultural productivity
- 3.4 Positive and Negative impact of sand mining from Dudhnoi River on Man and Environment

CHAPTER-4 SUMMARY AND CONCLUSION

REFERENCE AND BIBLIOGRAPHY



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ACKNOWLEDGEMENT

I wish to express my thanks to Dr. Hem Chandra Kalita sir who has guided and given us suggestions about the fieldwork, without which this report would not be completed properly.

I want to express my deep gratitude to the workers of mining centre and local people of the area who have spent their valuable time and provided me vital information and shared some private details pertaining to the study.

I also extend my thankfulness to Prof. Birbal Bodo, K.K Rajbongshi, Linso Timungpi, Samar Medhi, Rashmi Sarkar and Priyanka Rabha of Dept of Geography for their help in the completion of this report.

Trusted By

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Class: B.A (CBCS) 6th Semester

PREFACE

This project is about the “**SAND MINING IN DUDHNOI RIVER: IT’S IMPACT ON ECONOMY AND ENVIRONMENT**” specially field data and information were collected with the help of field observation in this village and information has been made in form of a project report.

The project report has been divided into 4 chapter:

The **chapter: : 1** of the report discuss about introduction of the problem, statement of the problem, objective of the study, research question questions, review of literature, data and methodology, significance, organization.

The **chapter: 2** of the report deals with physical condition of the area like relief, climate, rainfall, vegetation, soil. It also studied discussed about Economic basis : A short description of the area.

The **chapter: 3** deals with sand mining in Dudhnoi river, sand mining in Dudhnoi river: a historical perspective, contribution of mining to economy of khara village. This paper is also deals with the impact of sand mining on flood, water pollution, biodiversity and agricultural productivity. It also studied the positive and negative impact of sand mining from Dudhnoi river on man and environment.

The **chapter: 4** deals with the summary of the project and conclusion part.

Beside this **tables , locational map** of the area have also been incorporated in this project report.

In the reference section section the list of books ,articles, etc from where some certain ideas have been derived in preparing the report has been included along with the name of authors.

The shot photograph of the study area have been included in the form of photopleths. Apart from this at the end of the project the survey schedule cum questionnaire have been used in surveying has been placed.

All these serial and systematic arrangement have helped me in preparing this report as a final product otherwise it would have been impossible.

CHAPTER-1

1. INTRODUCTION OF THE PROBLEM

Sand is the finest or roughest broken parts of various rocks. The rocks of highlands such as hills and mountains are weathered by physical or anthropogenic agents. These weathered rocks are then somehow rolled down by running water through the small streams. While these broken rocks are transported to the valleys, they clash with each other and break into even smaller pieces. In this way the broken rocks become even smaller and ultimately they become finer to form sands. The heavier broken rocks are deposited at the immediate plain topography and the finest parts are transported by the river to distant portions of rivers and are deposited in layers making the river bed less deep. In older days at present have taken to pick up or remove the sands from the river bed for sell. As a result the rivers have become very deep and these have been some kinds of environment changes and have created various problems for the local people and the environment.

1.1 THE STUDY AREA

For studying the impact of sand mining on Economy and Environment, I have selected the topic "Sand Mining in Dudhnoi River: its impact on Economy and Environment". I have chosen a part of Dudhnoi River, where the rapid removal of sand from the Dudhnoi river bed has created lots of problems.

Khara village is located in Dudhnoi subdivision of Goalpara district in Assam. It is situated 3km away from sub district headquarter Dudhnoi & 45km away from district headquarter Goalpara. The total geographical area of the village is 276.1 hectare.

The Dudhnoi River has its source in the Meghalaya plateau. There is permanent water flow in this river in all the months of the year and meet the Krishnai River which at last meets the Brahmaputra River.

1.2 STATEMENT OF THE PROBLEM

In research, we have to select a problem either from physical or human geography. Statement of the problem can be said as the structure of the research project. It is established that the research topic is a problem related to society.

The Khara village of Goalpara district of Assam has been witnessing a rapid increasing in problems caused by picking up of sands from river bed especially from the Dudhnoi river bed. Removal of sand from river beds in Khara village increasing day by day and these situations have been becoming worse creating lots of problems for man and the natural

environment. No doubt the local people by picking up stands from the river bed have benefited in economic phase, but by ignoring the harm that he has causing to the environment , other people and other living beings he has been doing a great mistake.

The act of removal of sand from the river bed has been doing a great damage to properties of human beings and in some other waste to the natural environment.

An attempts has been made here to study:-

- (i) The positive impact of removal of sand from Dudhnoi river bed on man and environment.
- (ii) The negative impact of removal of sand from Dudhnoi river bed n man and environment.

1.3 OBJECTIVE OF THE STUDY

The objectives of the study are as follows:

- i. To study about the benefits of the local people from removing sand from river bed.
- ii. To study the benefits received by natural environment from removing sand from river bed.
- iii. To study about the effects of removal of sand from Dudhnoi river on people.
- iv. To know about the environmental conditions of the area
- v. To bring awareness among the local people about the negative effects of sand removal from river beds.

1.4 RESEARCH QUESTIONS

Research question is a statement that is in the form of questions. Research question should be specific; it should be broad or narrow. It must be answerable in a particular time. Research question is the primary organizing principle guiding to analyses a research problem.

In order to achieve the goal of the following research questions are formed –

- (i) What are the causes that have given rise to the rapid picking up of sand from Dudhnoi river bed?
- (ii) Where the sand supply and what is done with the sands?
- (iii) In what way is it helping the local people and the environment?

- (iv) In what way is it harming the local people and the natural environment?
- (v) What are the problems and prospects of removal sands from Dudhnoi river bed?
- (vi) How sand mining impact on agricultural productivity?
- (vii) Is sand mining cause flood?
- (viii) Is sand mining is the result of water pollution?

1.5 REVIEW OF LITERATURE

After writing the research question of the problem a review of literature work done on the topic is given. The review of literature (research work) means maintaining the work done by various scholar in different part of the world. A review of literature only related works on the topic is considered.

Many writer have turned their attention to deals with sand mining problem. They have tried to study the causes of different sand mining problems and their impacts on man and the natural environment. There are several international, national and regional published articles, case studies and report surrounding the effects and concerned of sand mining activities. There are also articles negating the unsustainable way of sand mining and why it should stop. On the other hand there are very less studies suggesting the extraction of sand mining all though attempts have been made to manage sand mining regulated and controlled method for long term extraction with compromising biodiversity. One such published hand book is done by **the Ministry of Natural Resources and Environment**, Dept of Irrigation and Drainage Malaysia.

Following scholars plays very important role to deals with sand mining and its impact on man and environment:-

- (i) Lawal P.O(2011) ,Effect of sand mining in Minna Emirate area of Nigeria on Stakeholders.
- (ii) R. Bhattacharya and Nilanjana (2021),Geomorphic Threshold and Sand Mining:A Geo-Environmental Study in Kangsabati River.
- (iii) R. Bhattacharya(2021) River mining and its Management: A Global Challenges, Damodar River, India
- (iv) P.Ghose and N.C. Jana(2021) Study of River sensitivity fo sustainable of sand quarrying activities in Damodar River, India.
- (v) Samar Medhi(2021) Understanding the Socio- Ecological Drivers of Sand mining and their Impact on Kulshi River, Assam.
- (vi) Sri Biswajit Das(2021) Mining plan in Dudhnoi River Sand Mahal No: 1, District : Goalpara.

1.6 DATA AND METHODOLOGY

For the preparation of the project report has been taken from two data sources. These are-

- (i) **Primary Data sources:** - For the project work have been collected through **observation**, through **survey schedules**, **questionnaires**, **personal visit** with local people on the field and through **interviews**.
- (ii) **Secondary Data sources:-** Secondary data like, supply record of sands, expenditure record etc. has been taken from record book and some information from the internet and other books dealing with environmental studies.

The project report has been prepared with the following methodology. The methodology is simple and applied in data collection , compilation analysis and and synthesis of the report. These includes-

- (i) Collection of primary data with the help of personal visit, interview of the local people and survey schedules and questionnaires.
- (ii) The survey schedule were processed through the compilation of data there from for different information and after the compilation the analysis is made to extract the important effects and causes for the environmental problems due to picking up sand from river bed.
- (iii) The compilation and analysis part has been represented through cartographic and statistical techniques.
- (iv) The findings were represented, in simple quantitative techniques and cartographic techniques of graphs and tables.

1.7 SIGNIFICANCE OF THE STUDY

The increasing demand for sand for various manufacturing purposes have given rise to the rapid removal of sand from the river bed of Dudhnoi. In some ways it is helping the local people to earn their living and control natural flood during rainy seasons. On the other hand, it is also harming the local people and the natural environment in some other way

Never the less, picking up of sand from the Dudhnoi river bed has creating lots of problems which have become a bit difficult to find out suitable solution which could remove those problems. **Problems like drinking water during winter months, disease in fishes of the water, ripe widening, lose of fertility, environmental pollution** etc. are some of the major problems that have emerge due to the picking up of sand from the Dudhnoi river bed.

1.8 ORGANISATION OF THE PROJECT WORK

The project has been organized in the following manner. The part-I deals with the introduction, study of the areas, statement of the problem, objective of the study, research

question, review of literature, data & methodology, significance of the study and organization of the work.

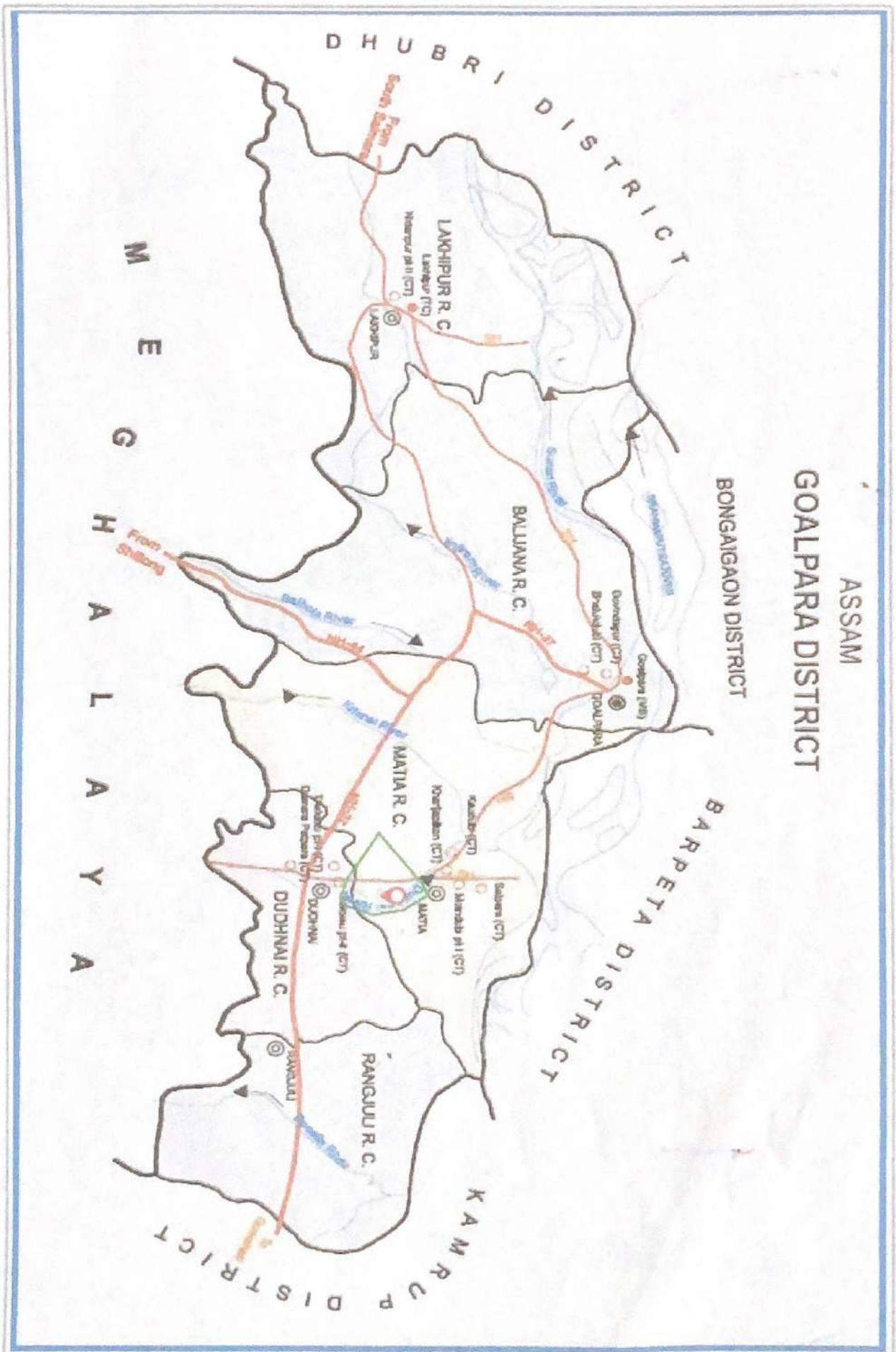
The part -2 deals with physical condition of the area like relief, climate, rainfall, vegetation and soil. The part- 2 is also deals studied the Economic Basis: A short Description of the Area.

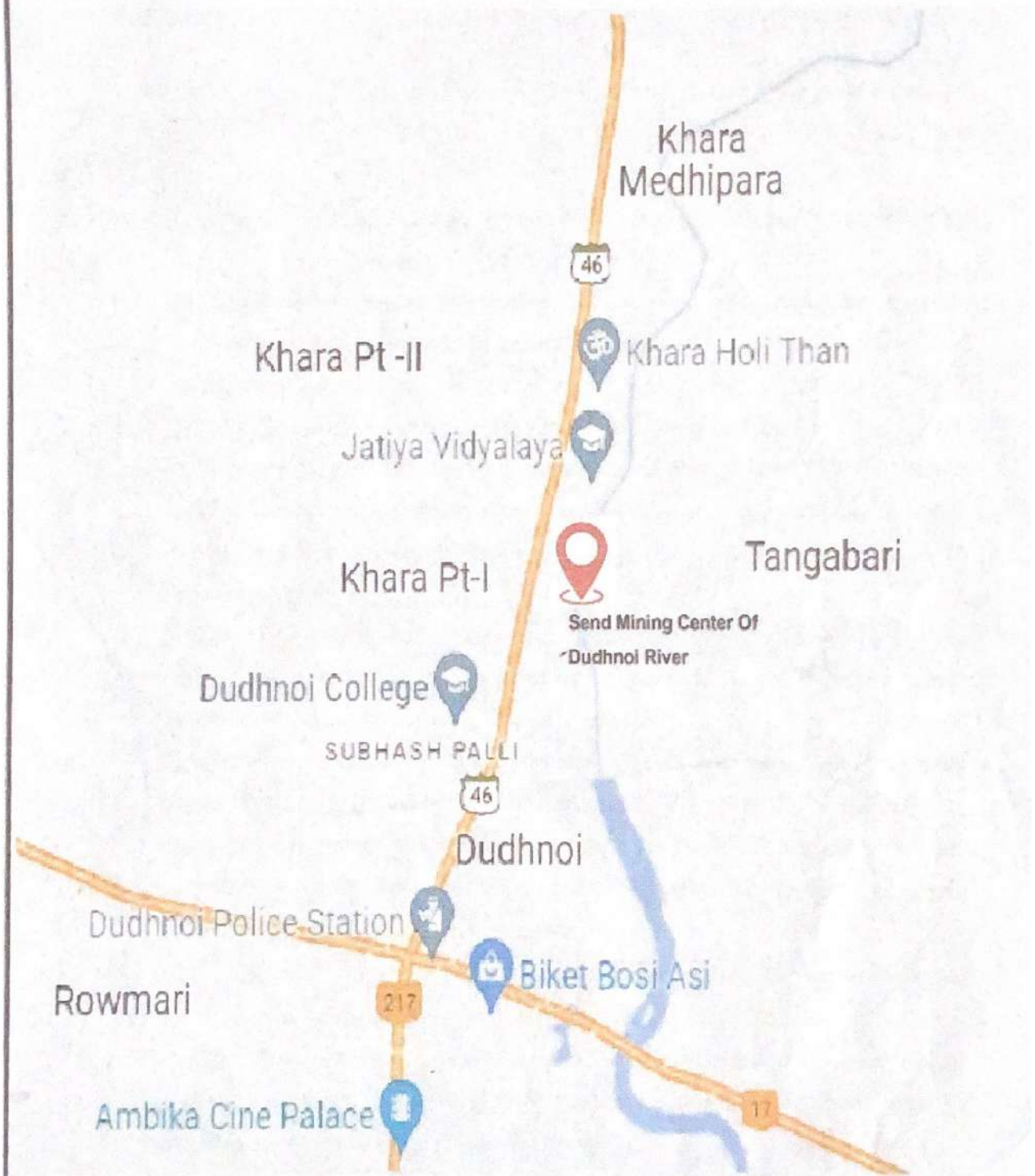
The part-3 which deals with sand mining in Dudhnoi River , historical perspective of sand mining in Dudhnoi River, Contribution of sand mining to economy of khara village. It also studied the impact of sand mining on flood, water pollution, biodiversity, and agricultural productivity and its positive and negative impact of sand mining from Dudhnoi River on man and Environment.

The part -4 which deals with the summary and conclusion of the project.



ASSAM
GOALPARA DISTRICT





CHAPTER-2

2.1 PHYSICAL CONDITIONS OF THE AREA

Physiographically, the area is occupied by plains. There is no hills and mountains near the village. A small wetland also have in this village. Approximately 65% of the village area covered by the paddy land.

The physical conditions of the area may understand through the help of some following factors –

- (i) **RELIEF**: Relief implies the measure of the elevations difference between adjacent high and low points in a land surface, as for example, hills tops and valley bottoms. In this area. No prime hilly areas are there in the village.
- (ii) **CLIMATE**: Climate means the average weather condition of a given region over a long period of time. Climate includes both the normal, expected weather events, such as rain and snow and rare events etc. The climate in this village is moderate during the winter and hot in summer. Average annual temperature range is 21 degree centigrade.
- (iii) **RAINFALL**: Rain is the amount of precipitation, in the form of rain(water from clouds), that descends on to the surface of the earth, where it is on land or water. In the study area, Rain makes it first appearance in the month of April and occasional and irregular lights showers and at times. Monsoon rainfall normally begins from the early part of the month of June. In khara village, rainfall is higher during the summer months and during winter it use to remain dry and cool. Here the rainfall is at an average of about 150 cm. The summer temperature ranges about 25C to 35C and the winter remains below 25C.
- (iv) **VEGETATION**: The area comprising one or more floral communities maybe called “vegetation”. Khara is very rich in natural vegetation such as sal, teak, gamari, sonaru jam, modar, gokul, bamboo ,banana, etc are common trees mainly found in the village. Apart from these there are also some trees found with the vergreen characters. Even during the driest months, these trees used to have leaves. Some of them are the jackfruits, nahor, mango, ahot etc. Some creepers and other soft stem plants are also commonly found in this area.
- (v) **SOIL**: The soil is the mixture of mechanical and chemical compounds of the material which are found on the earth surface. They consists of both organic and

inorganic materials. The process of formation of soil is influenced by the physical and chemical characteristics of the parent rock, physiography, altitude, climate condition and plants and animals of the surrounding areas.

Generally heavy rainfall, high relative humidity and high temperature causes rapid weathering of rock in the khara area. During the period of heavy rain these weathered materials and the other decomposed materials are carried down by the rain water through rivers and canals by the rain water through rivers and canals to the plain areas and are deposited with the spread of the flooded water.

2.2 ECONOMIC BASIS : A SHORT DESCRIPTION OF THE AREA

Socio Economic status is the social standing or class of an individual or group. It is often measured as a combination of education, income and occupation. Through the help of following information we can understand the socio economic conditions of the village khara:-

Khara is economically backward and no industries are established in the village. The people living in Kuchdhowa block are mostly tribal communities i.e- Rabha, Bodo whose are socio economically backward. The income, employment, borrowing capacity, literacy rate etc. are very low. To some extent it becomes very difficult to implement developmental schemes and to find out the proper beneficiaries of the scheme of the poverty alleviation programme for the removal of poverty/ Approximately 92.7% people are engaged with agricultural sectors. It is the primary source of income of the village. Rice is the staple food of khara. It is the mainstay of the economy of the people of khara village. Remaining 6.3% villagers are associated with other sectors like secondary (industry), tertiary sectors (service) etc. in the village, some basic facilities like hospitals, public health centres, drinking water facilities are not available in this area.

The socio economic condition of the village khara cannot be said to be good. There are some socio economic problems prevailing in this village which stand as a hurdle on the part of future socio-economic development. Some socio-economic problems are as follows:-

- (i) Low per capita income
- (ii) A large number of people dependence on agricultural sector.
- (iii) Inequality in wealth distribution
- (iv) Poor quality of Human capital

CHAPTER-3

SAND MINING IN DUDHNOI RIVER

There are few numbers of sand mining centres in Dudhnoi river. According to the people of khara village there are fifteen sand mining centres are established in Dudhnoi river but in khara village only four sand mining centres are located. Approximately 22 person of the village khara work in the mining centres. From the river, every day 18 trucks carrying sand from Dudhnoi river . income generated from sand mining per person per day RS= 400.

The broken rocks that are brought down by the river Dudhnoi, in course of time again brick them to even smaller pieces to formed sands. They are carried down by the following water and are deposited on the river bed at certain places. The volume of the water in the river increases during summer where the erosional and transportational activities become active. But during winter the volume of water decreases. There are some seasonal tributaries that supply water to the Dudhnoi river during summer months.

The river Dudhnoi has been provided many advantages to the local people from the past onwards. It has been helping the local people to transport goods and passagers to the local market places they have been using the Dudhnoi river for carrying logs, bundles of bamboos etc. by using rafts during the summer season

. 3.1 SAND MINING IN DUDHNOI RIVER:A HISTORICAL PERSPECTIVE

Sand mining in Dudhnoi river is a newly developed sector. Sand mining centres are established before 2015 in Dudhnoi river. There is not accurate date about the establishment of the centres. In the past the demand of sand was not that much. Sand was considered as a valueless thing. But at present it has great value. Now men are ready to fight for sand and such cases are going on . it just for the greed of money. At present sand is used for various purposes such as construction of houses, building, bridges, roads, for manufacturing bricks, used by glass factories as raw material and soon. So, there is a great demand of sand and sands have been supplied from one place to another places from where the demand of sand comes.

3.2 CONTRIBUTION OF SAND MINING TO ECONOMY OF KHARA VILLAGE

Sand mining is vital for Khara village. It is an important source for income. It contributes approximately 20% of the annual income for the villagers. There are lots of people engaged with sand mining. Every day each worker can earn 400 rupees from the mining centres. The job creation associated with sand mining in turn creates new tax revenues, especially on a local level. So, sand mining is a good way to create job opportunities to the people of Khara village.

Sand mining can have a positive impact in the form of job creation and employment, faster business opportunities for the surrounding communities and provide income for the village as a source of regional original revenue. Picking up of sand from the Dudhnoi river bed has also been helping the local people to earn their living. It was not active in the older days. But with the increase of demand of sand for various purposes picking up of sand has become quite active at present. The local people have been making tremendous profit by removing the sand from the river bed and by selling it. But have ignored that it has been causing harm to the people and the natural environment.

3.3 MEASURES TO REMOVE PROBLEM CAUSED BY RAPID PACKING UP OF SAND FROM RIVER BED

Man is mainly responsible for all the problems that have been caused due to the removal of sand from the Dudhnoi river bed. People have ignored the effect that they have been causing to the environment only to earn more money.

Here some of the measures are discussed below:-

- (i) District administration should be careful about such ill effects and also order some strict rules in order to save from the situation.
- (ii) By local people it would be decreased to some extent. They must be made much aware about its negative impact and follow some rule.
- (iii) The Forest Department and Disaster Management also come forward willingly in order to protect the environment and village people.
- (iv) The different NGOs such as local and national must be campaign awareness programme in order to understand the village inhabitants about its positive and negative impacts of removal of sand.

3.4 IMPACT OF SAND MINING ON :

(i) Flood

(ii) water pollution

(iii) Biodiversity

(iv) Agricultural productivity

IMPACT OF SAND MINING ON FLOOD

Floods are the most frequent type of natural disaster and occur when and over flow of water submerges land that is usually dry. Flood are often caused by heavy rainfall, rapid snowmelt or a storm surge from a tropical cycle. In khara village, a huge amount of sand was picked up from the river bed was quite little. There were frequent flood that kept the local people in trouble. They faced lots of issues in crossing the river or the agricultural practices that were destroyed by frequent flood. People were also seen to suffer from some kinds of water born disease after frequent floods.

After people took to picking up of sand from the river bed, all these problems were removed. People of this area are no more trouble by frequent floods. There cultivation also remain save during rainy season from floods. As the water used to remain less, there is no difficulty in crossing the river.

(ii) IMPACT OF SAND MINING ON WATER POLLUTION

Water pollution especially groundwater contamination due to mining operations intersect the water table the water table of the mining area. Large amounts of suspended solids are common in groundwater near the mining areas because of ore- washing and dumps. Oils or chemicals penetrates into the groundwater through mining mechines, changing the PH of water body, and causing serious pollution damage to the surrounding rivers and farmland. Due to oils which penetrate into the water from mechines fishes or other living species died due to the reaction of chemicals .The impact of mining on surface and groundwater is due to spill/tailing, erosion, sedimentation ,acid mine drainage, lowering of water table, subsidence, disturbance on hydrological cycle and rainfall.

The effect of sand mining is not only degrading the water quality of the river but also changing the physical quality of the river, such as river bank erosion, river bank slams, changing the river flow and addressing the river flow. The flow pattern of the river and river bed mining materials such as sand can cause balance disorder in the river bed material with the result of changes in the natural flow pattern of the river and the expanded movement of the base material.

(iii) IMPACT OF SAND MINING ON BIODIVERSITY

Sand mining is one of the most serious global problem which badly affect on the biodiversity. Biodiversity sustain human livelihoods and life itself. An estimated the 40% of the global economy is based on biological products and processes. As the biodiversity harbours a great amount of diversity with respect of species diversity, crop diversity etc. which provide a rich amount of well evolved system over the time and background support for rich resources, the mining is a destructive activity generated by human beings for proving strength and security to their living standard. The mining in the concerned zones provides raw materials in the form of crushers, gravels and stones, etc. for construction of various infrastructural activities. It results in the lost of biodiversity of both flora and fauna and physiographic features of the concerned region. After the sand mining operation is over, the sign of same lie for decades and maybe forever. It result is creation of so many environment related problems and health hazards. Sand mining poises serious and highly specific threats to biodiversity.

Poorly managed mining operation can pollute the environment and damaged the biodiversity that underpins economies, provides food , fuel, building material and fresh water and help to migrate the impact of climate change a natural disasters. Sand mining ia a neglected but serious environmental hazard affecting Dudhnoi river sand mining destroys environment and biodiversity, affect water security and causes and land erosion. In other words, it also destroy riverine, vegetation, cause erosion, water pollution sources and reduce the biodiversity of animals which may survive in the near by sand mining area. Due to sand mining various aquatic animals and some other micro- organism have lost their life

(iv) IMPACT OF SAND MINING ON AGRICULTURAL PRODUCTIVITY

Sand mining has a massive impact on agricultural productivity. For instance in the village of khara, when fields were productive they grew rice, chocolate and many vegetables etc. The monsoon season is the worst for the silted fields under normal circumstances. It may be estimated that mining activities lead to increase in agricultural cost of production cost of farming and eventually reduce agricultural productivity. Due to sand mining , water level of Dudhnoi river has been decreased .Therefore , many constraints faced by the farmers experiences some major problems like soil degradation, destruction of crops etc.

Excessive sand mining can alter the river bed ,force the river to change course, erode banks and lead to flooding. Other important problems that have been faced by the local people due to the picking up of sand from the river bed is that the fertility of soil of the agricultural land near the river has been increasing day by day. The soil has also become dry as the absorption capacity of the soil has increased. As a result good productions of crops cannot be expected. Due to this problems people have been living those lands fallow.

Based on field observation, interviews and measurements, sand mining is the major production for the low production of crops in the near by mining area. Sand mining has seriously effected the agricultural activities around the ridge. According to the local people of khara village, due to this mining activities crop production has been reduced by more than 45% approximately, grazing lands have been totaly destroyed and animals have migrated to areas with abundant food supply. In order to manage and remaining agricultural land as well as sand excavation in the area a comprehensive policy should be developed to make this activity ecologically sustainable.

3.5 POSITIVE IMPACT OF REMOVAL OF SAND FROM THE DUDHNOI RIVER ON MAN AND ENVIRONMENT

Picking up of sand was not a common activity in the past from the Dudhnoi River. Whatever amount of sand was pick up from the river bed was quite little. There are flood that kept the local people in trouble. They faced lots of travel in crossing the river or the agricultural practices that were done were destroyed by frequent floods. People were also seen so suffer from some kind of water born decrease after frequent floods.

After people took to picking up of sand from the river bed, all these problems were removed. People of this area are no more troubled by frequent floods. As the water use to remain less, there is no difficulty in crossing the river. Now the local people who used to remain jobless are able to remove the economic problem of the family with the money, they earn daily by picking up sand from the Dudhnoi river.

NEGATIVE IMPACT OF REMOVAL OF SAND ON MAN AND ENVIRONMENT

Negative impact of removal of sand from the Dudhnoi river bed is much more compared to its positive impact. People have been picking up sand from the river bed as much as profit they can possibly make. But they have ignored the effects they have been causing to themselves and to the natural environment by picking up sand in large quantity. No doubt the depth of the river has increased a lot and they controlled the flood situation in the summer season but the loose soils of the either bank of the river has been eroded away by the river during the rainy seasons. This kind of eroding loose soils from either bank of the river has resulted in lose of widening though it is flowing along a narrow channel. It has been occurred due to the rapid picking up of sand from the river bed.

Another problem that have been faced by the local people due to the picking up of sand from the river bed is that the fertility of soil of the agricultural land near the river has been increasing day by day . The soil has also become dry as the absorption capacity of the soil as increased .As a result good product ion of crops cannot be expected. Due to this problem people have been leaving those lands fallow.

The problem of drinking water has also been troubling the local people. It has been reported by the local people that the situation was not much in the past. But as soon as the depth of the river increase due to picking up of sand the ground water level has also gone down to some unexpected depths. As a result no depressed areas of the original depth use to remain filled up with water



CHAPTER-4

SUMMARY AND CONCLUSION

This report has been prepared to highlight the **“SAND MINING IN DUDHNOI RIVER: IT'S IMPACT ON ECONOMY AND ENVIRONMENT”** for this purpose I have concentrated my studies mainly on the Khara village which is situated in near the Dudhnoi river bank. In these sand mahals large amount of sands have been picked up from the Dudhnoi River and is supplied to different places for various purposes. This activity has been causing lots of problems to the people and to the natural environment. This project report tries to find out some solutions in solving the various problems cause due to picking up of sand from river bed.

This project has been systematically arranged within 4 chapters:

The Chapter 1 of the report discusses about the introduction to sand and also studied about the study area, statement of the problem, objectives of the study, research question, data base and methodology etc. to be studied.

The Chapter 2 of the report deals with brief account of the physiographic conditions like relief, climate, vegetation, rainfall and soils etc. to be studied. We also stated the economic basis: a short description of the area.

The Chapter 3 of the report which deals with the historical perspectives of sand mining in Dudhnoi River and we also studied about the contributions of sand mining to economy of Khara village. In this report we stated the impact of sand mining on flood, water pollution, biodiversity and agricultural productivity. We also stated the positive and negative impact of sand mining from Dudhnoi river on man and environment.

The last Chapter 4 that is discussed about summary of the project report and conclusion part. Besides by application of statistical, cartographic and mathematical methods some graphs, location maps and diagrams have been incorporated in the project report.

In the reference section, the list of books, articles etc. from where certain ideas have been derived in preparing the report have been included along with the name of the authors.

The photos of different places and objectives that have been taken at the time of field surveys have been included in the form of photo.

At the end of the project report the schedule cum-questionnaire that has been used in surveying has been placed. All these serial and systematic arrangement have helped me in preparing this report as a final product. Otherwise it would have been impossible.

CONCLUSION

The field survey that I have conducted in the khara village of Dudhnoi. The Dudhnoi is the main river that passes through all these villages and is providing great help to people living in the village. The living style of the villagers is very simple and mainly based on agriculture for their economy. Though people are hardworking for survive this villagers have taken some steps for which they are facing problems now. As for example, the people here never thought that one day the removal of sand from Dudhnoi river bed would create such a problematic situation. They themselves have to work together to solve these problems that have been caused due to rapid picking up of sand from the Dudhnoi river.

Following are the finding of the study:

- (i) Excessive sand mining destroy the aquatic ecosystem
- (ii) Excessive sand mining give short term economic benefit.
- (iii) It causes flood in the areas where there is no mining.

Following measures can be taken to check future damages causes by sand mining:

- (i) Sand mining should be permitted in systematic ways.
- (ii) Excessive mining should be stopped immediately

Mining maybe practices all along in river in systematic way but not only part and maintain uniform depth of the river

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Survey Schedule on sand Mining in Dudhnoi River: Its impact
On Economy and environment.
A case study in Khara Village.

General information:

1. Location of Dudhnoi:- LatitudeLongitude.....
2. Location of Khara Village:-
District.....Block..... Gaon Panchayat.....
3. Numbers of mining center in the river:
4. Number of mining center in khara Village:
5. Numbers of Trucks Carrying Sand from Dudhnoi river per day:-
6. Numbers of Trucks Carrying Sand from Khara Village:-
7. People engage in sand mining in Khara Village:-
8. Income generated from sand mining per person per day:- Rs.
9. Marketing of sands: Dudhnoi to other places- (i) (ii) (iii)

Household Survey:

10. Name of the head of the family:
11. Total numbers of family: Male Female.....
12. Age Structure : (i) 0-15 (ii) 15-60 Above 60.....
13. Educational Status :- (i) primary (ii) Secondary (iii) Higher
14. Annual income of the family: (i) Agriculture Rs..... (ii) Labour Rs.....(iii) Work in sand mining Rs.
15. Is sand mining reduce flood? *yes / no*
16. Weather Sand mining will effect on Agricultural field or not *yes / no*

Collected by:

Name:

Class:

Roll No:

PROJECT REPORT

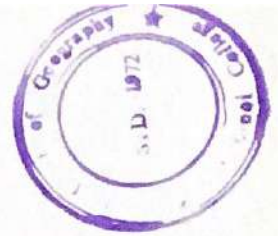
**SAND MINING ON DUDHNOI RIVER : ITS IMPACT ECONOMY AND
ENVIRONMENT**

(A CASE STUDY ON KHARA VILLEGE,DUDHNOI)



**A PROJECT REPORT SUBMITTED FOR PART FULFILMENT OF PAPER 6026 OF
6TH SEMISTER GEOGRAPHY HONOURS 2022**

SUBMITTED BY
NAME : SENGRIMCHI CH MARAK
CLASS : B.A 6TH SEMISTER
ROLL NO:- UA-191-097-0478
DUDHNOI COLLEGE



CERTIFICATE

This is to certify that a Project Report entitled "Sand Mining in Dudhnoi River-Its impact on Economy and Environment (A Case Study in Khara Village)" has been successfully carried out by Ms/Mr Sengrimeti Ch. Marak

It is a result of his/her own observations and is permitted to submit in the B.A./B.Sc. 6th Semester (Honours), Final Examination of the subject Geography to be held in June, 2022

Teacher in charge

Snehi
Samar Medhi
Assistant Professor
Department of Geography
Dudhnoi College

Head of Department

HCC
(Dr. Hem Chandra Kalita)
Associate Professor
Department of Geography
Dudhnoi College

ACKNOWLEDGEMENT

I would like to express my profound gratitude towards many individuals, as without their kind support, it would not be possible for me to complete this project report. I would like extend my sincere thanks to my teachers, who gave me the golden opportunity in enhancing my hidden capabilities.

Unfortunately, I addressed several difficulties in coordinating the activities of the project but I am highly indebted to our beloved HOD sir for his guidance and constant supervision, as well as for providing and also for his support in completing the project.

Secondly I would like to express my gratitude towards the local peoples of Khara village for being corporate with me while collecting data for completing this project and also thank my classmates for helping me with advices , suggestion towards the project.

Finally words are not sufficient to express my gratitude my cherished for supporting me without their encouragement and support I would have not reached this stage.

At last, I end up by thanking all who helped me in finalizing the project within the limited time frame.

Date

Signature

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Date

Signature

PREFACE

This project is about the sand minning I Dudhnoi River flowing through Khara village and its impact on economy and environment on the local people. The field data and information were collected through surveys and interpretation has been made in the form of project report.

For preparing the Project Report, we have visited the selected area during the suggested duration to avail the necessary information.

The project has been divided into 4 chapters to classify the collected information in systematic order-

It starts with the introduction of Sand mining and its area where it is has been practice, its objectives towards the area. The research questions, review of literatures, methodology and data used in collecting report.

Serially the second chapter chapter define the physiography of the area, its climate conditions, drainage , vegetation available at the area. Also refers the soil types of the selected area.

Next the historical establishment of Sand mining on Dudhnoi river, its economic contribution towards local peoples livelihood also impact of mining on flood, water pollution, biodiversity and agricultural productivity.

Towards the ending part the summary and conclusion of the project are shown.



CONTENT

The study

Introduction of chapter -1

1.1 statement of the problem

1.2 Objectives

1.3 Research questions

1.4 Review of literates

1.5 Data base and methodology

The –chapter-2

Introduction of study area

Physical basis

2.1 Physiography

Climate, drainage, vegetation and soil

2.2 Economic basis : A short description of in area

The chapter- 3

contribution of mining to economy of khara villege

3.1 Impact of sand mining on i Flood ii water pollution iii Biodiversity & iv Agriculture productivity.

The chapter-4

Summery and conclusion

Bibliography

CHAPTER 1: INTRODUCTION

Sand is the finest or roughest broken parts of various rocks. The rocks of highlands such as hills and mountains are weathered by physical or anthropogenic agents. These weathered rocks are then somehow rolled down by running water through the small streams. While these rocks are transported to the valleys, they crush with each other and break into even smaller pieces. In this way the broken rocks are deposited at the immediate plain topography and the finest parts are transported by the river to distant portions of rivers and are deposited layer making the river bed less deep. In olden days sand had less economic value also increased and at present are used for trading purposes. People at present have taken to pick up or remove the sands from the river bed for sell. As a result the rivers have become very deep and these have been some kind of environmental change and economic development for the local resident peoples.

Sand is possibly something you take for granted; it gets in your hair and your clothes and all over your food at the beach. But sand is also fascinating. Sandy beaches are dynamic: sand accumulates slowly over time, travels down the coast with longshore drift, is removed from the beach by large waves during storms, and can be redeposited back on the beach from offshore banks during calm periods. Sand is typically made mostly of varying amounts of material weathered from inland rocks (or seacliff material) and transported to the beach on the wind or in rivers, and/or shells and other hard parts precipitated out of the ocean water by marine organisms.

Sand therefore records processes at a variety of timescales. Looking closely at sand under a microscope, we can determine the mineral or organismal composition of the sand and determine where it originated, and what kind of rocks or organisms created the sand. For instance, look closely at these snapshots-under-the-microscope of sand samples below:

Aside from its origin, sand also contains clues about the history it has experienced, and the physical environment in which it currently resides. For instance, compare the amount of rounding in the sand samples below. The sand on the left is from a steep, small beach in Hawaii exposed to powerful winter ocean swells. Smashing into one another repeatedly has polished these sand grains, as they are tossed in the surf. The sand on the right is from a different beach in Big Sur, where a river cascading down the steep mountains backing the beach deposits freshly weathered grains of rock that have not traveled far and have yet to be rounded and smoothed.



1.1. Statement of the problem:

The Dudhnoi area of Goalpara rural district of Assam has been witnessing a rapid increase in problems caused by picking up of sands from river bed especially from the Dudhnoi river bed. Removal of sand from river beds in the Dudhnoi area has been increasing day by day and the situations have been becoming worse and worse creating lots of problems for man and the natural environment. No doubts the local people by picking up the sands from the river bed have benefited in economic phase ,but by ignoring the harm that has been causing to the environment, other people and the other living beings he has doing a great mistake. The act of sand mining from river beds has been doing.

1.2.Objectives of the study:

The study has the following objectives:

- (i) To study about the benefits of the local people from sand mining from river bed.
- (ii) To study the economic benefits of the peoples through sand mining.
- (iii) To study the impacts on environment from sand mining.
- (iv) To bring awareness among the local people about the positive and negative effects of sand mining from river beds.

1.3. Research questions:

In order to achieve the goal of the objectives the following research questions are formed:

- (i) What are the causes that given rise to the rapid sand mining practice in Dudhnoi river bed?
- (ii) Where are the sand supplied?
- (iii) How many dumper vehicles are engaged in it?
- (iv) What are the impact of sand mining on local peoples and its economy status?
- (v) How many families are engaged in sand mining?

1.4. Review of literature:

Research can be considered as the activity of discovering view knowledge about a particular subject. A particular research always attempt for finding out the hidden truth about a particular subject or problem. It is almost impossible to describe a particular concept ,so I order to achieve at a final concept or views ,the research used to depend on certain knowledge inherited from some other study materials that are directly or indirectly related to the research problem.

These are several international, national and regional published articles, case studies and reports surrounding the effects and concerns of sand mining activities. There are also articles negating the unsustainable way of sand mining and why it should be stop. On the other hand, there are very less studies suggesting the extraction of sand mining although attempts have been made to manage sand mining with regulated and controlled methods for long-term extraction without compromising biodiversity. One such published handbook is done by the

Ministry of National Resource and Environment, Department of Irrigation and Drainage
Malaysia.

Many scholars have turned their attention to deal with sand mining and its impacts on the particular areas. However such works has been done which are directly or indirectly related to natural environment. Some of information or commitment the scholars has given are mention below-

International:-

According to Ramade - a resource may be defined as a form of energy and/ or matter which is essential for the functioning of organism, populations and ecosystem.

National:-

According to Mumbai based environmentalist Sumaira Abdulali, founder of Awaaz, an NGO working on environment says that 'Along with climate change, sand mining has contributed much to the rising of sea level. Sand is a natural barrier and removing it will definitely accelerate the shore washing'.

1.5. Data base and methodology:

For the preparation of the project report help has been taken from two data sources. They are:

- (i) Primary Data Sources- For the project work many primary data have been collected through observations, questionnaires, personal visit in the field with teachers.
- (ii) Secondary Data Sources- The locational maps, some information from the internet and other books, supply records of sands etc.

Methodology: The research work will be based mainly on primary data and which are collected through direct personal investigation with the help of questionnaire prepared for the problem after much suggestion. And the necessary secondary data and reference are to be collected from different books, journals, Government office and from internal sources. The field work will be carried out in not less than 40% of the total population (in this case and sand mining area). The data are to be processed statistically with necessary illustrations and diagrams wherever assumed necessary.

Basically 'Methodology' the study of research methods or formally " a contextual framework for research a coherent and logical scheme based on views, beliefs, and values, that guides the choices researchers [or other uses] make. It composes the theoretical analysis of the body of methods and principles associated with a branch of knowledge such that the methodologies employed from differing disciplines vary depending on their historical development. This creates a continuum of methodologies that stretch across competing understandings of how knowledge realities are best understood. This Situates Methodologies Within Overarching Philosophies and Approaches.

Methodology may be Visualized as a Spectrum from a Predominantly Quantitative approaches .Although a methodology may eventually sit Specifically within one of these

Introduction of the study area:

For this project of sand mining and its impact of economic & environment on residing local peoples, I have choose a small part of Dudhnoi River with and selected a small village Khara. Dudhnoi a village in Kushdhowa Tehsil in Goalpara District of Assam State. It is located and surround by Fofol in the east, Lela in the west, Matia in the north and Damra in the south.

The Dudhnoi river is a sub-tributary of the Brahmaputra River in the Indian state of Assam. This river originates in the East - Garo Hills of Meghalaya and flow towards north and meets Krishnai River at Matia and flows as Mornoi River before its confluence with the Brahmaputra River.



approaches. Researches may blend approaches in answering their research objectives and so have methodologies that are multi method and or interdisciplinary .

In general a methodology proposes to provide solutions-therefore the same as a method instead a methodology offers a theoretical perspective for understanding which method , set of methods or best practices can be applied to the research questions at hand .

Methodology consists of four major types Based on methods for collections - Observational ,Experimental , Simulation ,and Derived.

5 key elements of methodology section of a research paper

1. Logic of inquiry (Qualitative or Quantitative)
2. Research setting and Participants
3. Methods and procedure of data collection
4. Method and procedure of data analysis
- 5 Ethical issues

The purpose of a Research methodology is to explain the reasoning behind your approach to your research you will need to support your collection methods , methods of analysis and other key points of your works .Think of it life writing a plan or an outline for you what you intend to do.

CHAPTER 2: PHYSICAL AND ECONOMIC BASIS OF STUDY AREA

2.1 Physical Basis

Physiography:

Geographically, Dudhnoi revenue circle extends between 90.52'E to 91.05'E longitude and 25.52'N to 26.10' N latitude with an area about 118sq km area with 67 renevue village. The Dudhnoi area is a small area situated at the Eastern part of Goalpara rural district. The Dudhnoi area consists of plain as well as foothill area. Dudhnoi assembly constituency is part of Guwahati (Lok Sabha constituency). Dudhnoi Legislative Assembly is reserved for Scheduled Tribes candidates only. The Headquarters of Rabha Hasong Autonomous Council (RHAC) is at Dudhnoi. There is also vegetation cover in many places containing valuable forest resources. It also contains drainages and some small water bodies. The main river in this area is the Dudhnoi. Here in this area the Dudhnoi river is considered to be the main river as it passed almost through the centre and its distance in the Dudhnoi area is much longer compared to the other rivers. The Dudhnoi River is a **sub-tributary of the Brahmaputra River** in the Indian state of Assam. The Dudhnoi river originates in the East Garo Hills of Meghalaya. There are also some small lakes and beels where the water use to remain throughout the year round. The village Khara is influenced physiographic conditions located at the North and south part of Dudhnoi.

Climate:

Climate means the average weather conditions of a given region over a long period of time. Climate includes both the normal, expected weather events, such as rain and snow and rare events such as tornadoes. Climate deals, with the methodological elements like spherical pressure, humidity, precipitation, temperature, wind, etc and with the way they are influenced by factors such as changes in latitude, longitude distribution of conditions of continents and ocean and location of ocean currents.

The climate of a location is affected by its latitude/longitude, terrain, altitude, and nearby water bodies and their currents. Climates can be classified according to the average and typical variables, most commonly temperature and precipitation. The most widely used classification scheme was the Köppen climate classification. The Thornthwaite system,^[3] in use since 1948, incorporates evapotranspiration along with temperature and precipitation information and is used in studying biological diversity and how climate change affects it. Finally, the Bergeron and Spatial Synoptic Classification systems focus on the origin of air masses that define the climate of a region.

The climate of Assam is typically '**Tropical Monsoon Rainforest Climate**', with high levels of humidity and heavy rainfall. People here enjoy a moderate climate all throughout the year, with warm summers and mild winters.

The climate in Dudhnoi is moderate during the winter and in summer, it is hot. Rain makes its first appearance in the month of April with occasional and irregular light showers and at times, heavy down pour is followed by cyclonic storm. This irregular rainfall continues up to the end of May. It occurs due to the influence of Northeaster wind. Monsoon rain normally begins from the early part of the month of June and heavy rain occurs in the district till the month of September. The maximum temperature is 33 degree Celsius during July and August, a minimum temperature falls up to 7 degree Celsius in the month of January. During 2002, rainfall in the district is 2,424.01 mm. About 80% of rainfall is from South-West monsoon.

Seasons	Months	Temperature
Summers	April to June	32 C- 38 C
Monsoon	July to September	26 C- 32 C
Winters	October to March	8 C- 20 C

Drainage:

Drainage is a natural or artificial removal of a surface water and sub-surface water from an area excess of water. The internal drainage of most agricultural soil is good enough to prevent severe water logging (anaerobic conditions that harm root growth) but many soils need artificial drainage to improve production or to manage water supplies.

The river starts from the East Garo hills of Meghalaya flows through Dudhnoi river meets Krishnai river at Matia . Then Mornoi river then confluence with the Brahmaputra river .From East Garo hills a huge amount of minerals are deposited in the Dudhnoi river basins.

Ground water occurs under water table conditions in the near surface aquifers in Older alluvium within fine sand and sandy clay at a maximum depth of about 20 mbgl. It also occurs under semi-confined to confined conditions in the deeper aquifer tapped by medium/heavy duty deep tube wells. In Younger alluvium, ground water occurs under unconfined conditions and is extracted by means of open wells and small diameter tube wells for both domestic and irrigation purposes.

Vegetation:

Vegetation is an assemblage of plant species and the ground cover they provide. It is a general term, without specific reference to particular taxa, life forms, structure, spatial extend, or any other specific botanical or geographic characteristics.

As Dudhnoi area falls under tropical monsoon climate belt, it is rich in natural vegetation. Sal, Gambri, Bamboo, Jam, Gokul, Rubber, Licchi, Banana etc are common trees mainly found in this villages. Besides there are also some trees found with evergreen characters like Mango, Jackfruits. Some creepers and other soft plants are also commonly found in this area.



Fig: Rubber tree.



Fig: Banana tree

Soil:

The soil is a mixture of mechanical and chemical compounds of the materials which are on the earth's surface. They consist of both organic and inorganic materials. The process of formation of soil is influenced by the physical and chemical characteristics of the parent rock, physiography, altitude, climate condition and plants and animals of the surrounding areas.

Soil consists of a solid phase of minerals and organic matter (the soil matrix), as well as a porous phase that holds gases (the soil atmosphere) and water (the soil solution).^{[1][2]} Accordingly, soil is a three-state system of solids, liquids, and gases.^[3] Soil is a product of several factors: the influence of climate, relief (elevation, orientation, and slope of terrain), organisms, and the soil's parent materials (original minerals) interacting over time.^[4] It continually undergoes development by way of numerous physical, chemical and biological processes, which include weathering with associated erosion. Given its complexity and strong internal connectedness, soil ecologists regard soil as an ecosystem.^[5]

Most soils have a dry bulk density (density of soil taking into account voids when dry) between 1.1 and 1.6 g/cm³, though the soil particle density is much higher, in the range of 2.6 to 2.7 g/cm³.^[6] Little of the soil of planet Earth is older than the Pleistocene and none is older than the Cenozoic,^[7] although fossilized soils are preserved from as far back as the Archean.^[8]

Soil acts as an engineering medium, a habitat for soil organisms, a recycling system for nutrients and organic wastes, a regulator of water quality, a modifier of atmospheric composition, and a medium for plant growth, making it a critically important provider of ecosystem services.^[10] Since soil has a tremendous range of available niches and habitats, it contains a prominent part of the Earth's genetic diversity. A gram of soil can contain billions of organisms, belonging to thousands of species, mostly microbial and largely still unexplored.^{[19][20]} Soil has a mean prokaryotic density of roughly 10⁸ organisms per gram,^[21] whereas the ocean has no more than 10⁷ prokaryotic organisms per milliliter (gram) of seawater.^[22] Organic carbon held in soil is eventually returned to the atmosphere through the process of respiration carried out by heterotrophic organisms, but a substantial part is retained in the soil in the form of soil organic matter; tillage usually increases the rate of soil respiration, leading to the depletion of soil organic matter.^[23] Since plant roots need oxygen, aeration is an important characteristic of soil. This ventilation can be accomplished via networks of

interconnected soil pores, which also absorb and hold rainwater making it readily available for uptake by plants. Since plants require a nearly continuous supply of water, but most regions receive sporadic rainfall, the water-holding capacity of soils is vital for plant survival.^[24]

Generally heavy rainfall, high relative humidity and high temperature causes rapid weathering rocks of Dudhnoi area. During the period weathering rocks of weathered materials and the other decomposed materials are carried down by the rain water through rivers and canals to the plain area and are deposited here with the spread of the Flooded water.

Mainly two types of soils are available in the selected village of Dudhnoi Khara. Since the village consists of plain area, old alluvial soil, red soil are available in the area of Khara village in Dudhnoi.

Soil are fine mixed, hyperthermic family of oxyaquic dystrochets.

2.2 Economic basis: A short description of the Area

Khara village is located in Dudhnoi subdivision of Goalpara district in Assam, India. It is situated 1.5 km away from sub-district headquarter Dudhnoi and 45 km away from district head-quarter Goalpara . As per 2009 stats, Dudhnoi is the gram panchayat of Khara.

The total geographical area of Khara village is 126.29 hectares . Khara has a total population of 1,526 peoples out of which value population is 765 while female population is 761. Literacy rate of Khara village is 76.02% out of which 79.87 % out of which 79.87 % males and 72.14% female are literate. There are about 349 houses in khara village.

Particulars	Total	Male	Female
Total population	1,526	765	761
Literate population	1,160	611	549
Illiterate population	366	154	212

CHAPTER 3: CONTRIBUTION OF MINING TO ECONOMY OF KHARA VILLAGE

Socio-economic of Khara village implies the social conditions and the economic conditions of a particular place on the earth's surface. The living standard of the people of a particular place mainly depends on the socio-economic status of the place. Places with favorable economic conditions are felt comfortable to live by the people.

The villager faces lots of problems which take away all their comforts and peace. The socio-economic conditions of the village Khara cannot be said to be much good. Although at present somehow economically they profitable through mining but if a deep thinking are made for the future environmental development it may cause many problems. Many people, male and female both are engaged in the mining, there daily life wages are running through these incomes. Basically the economic problems of the families are maintain with the money they earn daily picking up sand from the river and transport them to different places, also some engaged as dumper driver by which the sand are carried out.



3.1 IMPACT OF SAND MINING ON-

Flood- Khara basically a plain area situated near by the hilly neighboring state Meghalaya especially in the rainy season periodically occurs floods as the over flow of water in Dudhnoi river. As per report of 2004 & 2014 the Bongaigaon to Guwahati railway line through Goalpara, Krishnai and Dudhnoi railway stations laid in 2004 some feet above the lowland villages prevented the water flowing down from Garo hills of Meghalaya into the Brahmaputra river first during the monsoon of 2004 and then again in 2014, thus making Goalpara district a reservoir by inundating all villages in between the hills and track running parallel to it. Some 200 people were officially killed due to the devastation in 2004. Bodies were lined up at National Highway 31 from Bongaigaon to Guwahati. However, people learnt from the deluge and cut the railway track near Dudhnoi station during 2014 floods to allow the water flow into Brahmaputra river," said Mohammad Ashraf of Bollbola village, who lost his son and wife in the 2004 deluge. Though Goalpara district has not been largely affected by the 2017 floods that claimed some 83 lives mainly in upper and central Assam, the affected people can't forget the miseries brought to them by the massive floods of 2004 and 2014. Recalling the 2004 deluge, Hiteshwar Nath, a resident of Barvita village near Krishnai railway station said: "we went to a nearby bridge to see the water level over the main road. While it was at the ankle level when we reached, it came up to the level of hip within ten minutes and near the neck within twenty minutes. People had no time to prepare for their safety. The water got stuck in the high barrage of the railway track. Youth of the village saved a lot of people by ferrying them to safer places in boats. Government came only to provide some rice, pulses and oil. They did not come to our rescue during the emergency." Ramesh Nath (name changed) was one of the many enthusiastic youth who mobilized people to cut down the railway track at Khoirapara village near Dudhnoi railway station to let the flood waters flow into the Brahmaputra.

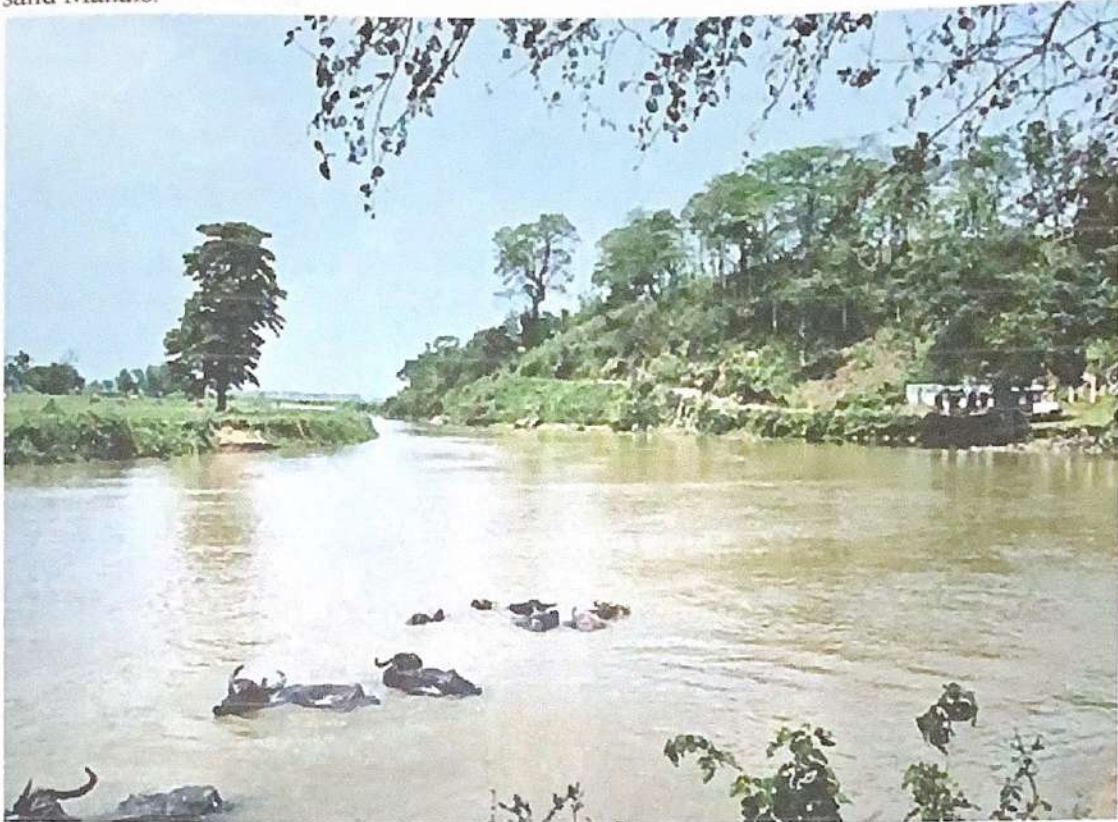


Fig : Flood affected.

Water pollution- Water pollution (or aquatic pollution) is the contamination of water bodies, usually as a result of human activities, so that it negatively affects its uses. Water pollution can be attributed to one of four sources: sewage discharges, industrial activities, agricultural activities, and urban runoff including stormwater. It can be grouped into surface water pollution (either fresh water pollution or marine pollution) or groundwater pollution. Sources of water pollution are either point sources or non-point sources. Point sources have one identifiable cause, such as a storm drain, a wastewater treatment plant or an oil spill. Non-point sources are more diffuse, such as agricultural runoff.^[4] Pollution is the result of the cumulative effect over time. Pollution may take the form of toxic substances (e.g., oil, metals, plastics, pesticides, persistent organic pollutants, industrial waste products), stressful conditions (e.g., changes of pH, hypoxia or anoxia, increased temperatures, excessive turbidity, unpleasant taste or odor, and changes of salinity), or pathogenic organisms. Contaminants may include organic and inorganic substances. Heat can also be a pollutant, and this is called thermal pollution. A common cause of thermal pollution is the use of water as a coolant by power plants and industrial manufacturer

The problem drinking water has also been troubling the local people. It has been reported by the local peoples that the situation was not much in the past. But as soon as the depth of the river increased due to picking up of sand, the ground water level has also gone down to some unexpected depths. As a result no depressed areas of the original depth use to remain filled up with water. The use of power pump sets for picking up of sand from the river bed has also been causing environments pollution. Power pump have been used in large numbers in the

sand Mahals.



Biodiversity- Among birds the most commonly found are the duck ,hen ,cocks ,kingfishers ,pigeon, sparrow, Indian Maina etc. Reptiles are also common in the forested areas of the village like water snakes, python of medium size etc. Lizards and chameleons' are also commonly found here.

Agricultural Productivity

The economy of Goalpara district is primarily agrarian as 90 percent of the population depends for their livelihood on agriculture. Paddy is the major crop. Other important crops include wheat, maize, oil seeds, pulses, cash crop like jute, vegetables etc. The district is also known for its production of areca nut and banana. A big market of banana has come up at Darangiri to which businessmen from all over India come. The agro climatic conditions of the district are conducive for various agricultural activities. Agriculture in the district is characterized by over dependence on rainfall, predominance of seasonal crops and traditional methods of cultivation

The photos of Different Places and objects that have been taken at the time of field surveys have been included in the form of photo plates . At the and of the project reports the schedule cum- questionnaire that have been used in surveying has been placed.

Some photos from Google have also been taken and a systematically put in this project .

All these serial and systematic arrangement have help me in preparing this project report as a final product .Otherwise it would have been impossible .

CHAPTER 4 SUMMARY AND CONCLUSION

The report has been made to show the effect of sand mining on Economy status Environmental issues on the local people of Khara Village .I have Choose the Khara Village to complete this report. In this Sand Mahals Large amount of sands have pick up from the Dudhnoi River and is supplied to different places for different purpose .There are many Advantages and Disadvantages Throughout this activity on local peoples and Environment of Khara Village .

This Project tries to find out the livelihood of local peoples in their daily life impact through Sand mining also Environmental Problems caused due to picking up of sand from riverbed.

This project has been Systematically into four Chapters.

The Chapter 1 of the report discussed about the introduction to sand and its removal from riverbed. Its Studies about the statement of the Problem ,Its Objectives ,Research Question ,Review of Literature , Data base and Methodologies.

Chapter 2: Deals with Physical basis of Physiography, Climate, Drainage ,Vegetation, And soil .Also Deals with Economic basis of a short description .

Chapter 3: Deals with a Historical Perspective ,Contribution Of Mining to Economy of Khara Village on the Local Peoples and Impact of Sand Mining on Flood ,Water Polution ,Biodiversity, and Agricultural Productivity

The last Chapter that is 4 Discuss about Survey Schedule Summary of the Project Report and the Conclusion Part .

Besides by the Application of Statistical ,Cartographic and Mathematical methods some graphs ,Location Maps and Diagrams have also been incorporated in the Project Report .

In the reference section, the list of books, multiples articles etc from where a certain ideas have been derive in preparing the report has been included along with the name of the authors.

CONCLUSION

According to professor, W.H.Ripatric , 'A project is a whole-hearted, prosperous purposeful activity proceeding in a social environment. A project from the point of view of students can be a purposeful learning activity involving practical problems planned and carried out in a real life manner to achieve specific goals. In other words project refers to a successful completion of a study.

The Field survey that I have Conducted in the Khara Village of Goalpara District .It is a small Village located Northern part of Dudhnoi .The Dudhnoi is the main river that passes through this village and is providing great help to the people living in this village. The living style of this villagers is very simple and mainly based on agriculture for their Economy .Through people are hardworking for survival this villagers have taken some steps for which they face both advantage and disadvantage. As for the Example ,the people here never thought that one day the removal of Sand from Dudhnoi river bed would create such a problematic situation. Themselves have to work together to solve this problems that have been caused due to repeat picking up of sand from the Dudhnoi riverbed .

Otherwise it has become quite impossible to stop the prevailing problems in this area.No,doubt, selling of Sands has become a profitable in the recent years .But he should not ignore the terms that it would cause to humanity and the natural environment. They have to work parallel. They Can pickup sand from the Dudhnoi river bed and sell it to buyers, but they should not cause any from to the other living creatures and the natural environment .Then only the prevailing problems would be decreased .
It was a wonderful and learning experience for me while working on this project. This project took me through the various phases of project development and gave me real insight into the world of economic and natural impacts .The joy of working and the thrill involved while tackling the various problems and challenges gave me a feel of developer industry. I enjoyed each and every bit of work I had put into this project.

Thus, this project was of immense benefit for me.

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