



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF LOCAL GOVERNMENT, RURAL DEVELOPMENT AND CO-OPERATIVES
Local Government Engineering Department (LGED)
Agargaon, Sher-E-Bangla Nagar, Dhaka-1207

Final Report on Study-03
‘My Village -My Town’ -Technical Assistance Project
“Feasibility Study for Rural Connectivity including Multi-Modal Transport
System in Char and Haor Areas”

Jaintapur, Sylhet



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GLOSSARY

Hard-to-reach Villages mean in the Study those villages that are not connected by any paved road with the respective Upazila HQ and/or Union Parishad, and to the nearest economic activity hub and social service centres. The following explanations is important for the concept of hard-to-reach villages.

- In haor areas, Village connected with submersible roads dry season and connected with riverine/haor routes in monsoon season has been considered as accessible and excluded from hard-to-reach villages.
- Within Upazila, Villages that needs a bridge to connect has not considered as hard-to-reach villages.
- In case of island Upazilas, villages that are accessible with paved roads from Upazila HQ has been considered as accessible and excluded from hard-to-reach villages.
- In case of villages that are connected with HBB (Herring-Bone-Bond) or Brick flat soling routes has been considered as hard-to-reach villages

Mauza is normally the geographical expression of a unit of landmass for revenue settlement and revenue collection, whereas, the village is a human settlement within a Mauza with strong social bond. Within a Mauza there could be more than one village.

Union Bangladesh has 3-tiers local government system: District, Upazila and Union. Union is the lowest level of local government below Upazila Parishad

Upazila Sub-District; the third level of government administration below division and District.

Hat Synonym of bazar or market

Walking Trail mean in the Study the village pathway or access used for walking by commuters, in the most cases do not have gazetted or established or commonly used alignment, and to the most, passable by bi-cycle or motor bike. These village trails are not passable by motorized jeep or mini truck or emergency service vehicle or not even by any three wheelers.

Unpaved Roads have no pavement or surface material. They are usually the earthen roads.

Vulnerability is the human dimension of risk that is defined as conditions determined by physical, social, economic, environmental, political, cultural and institutional factors or processes which increases the likelihood of an individual or a community to the impacts of shocks and hazards.

Climate-Resilience is expressed as the ability of a community to resist, absorb, adapt to and recover better from the impacts of disaster like flood and landslides in a sustainable way.

ABBREVIATION

ADB	– Asian Development Bank
BBS	– Bangladesh Bureau of Statistics
BC	– Bitumen Carpeting
DatEx	– Data Expert (Pvt.) Limited
DECL	– Delight Engineers and Construction Ltd.
DoE	– Department of Environment
DPHE	– Department of Public Health Engineering
DPP	– Development Project Proposal
FGD	– Focus Group Discussion
GIS	– Geographic Information System
GOB	– Government of Bangladesh
HBB	– Herring-Bone-Bond
HQ	– Headquarter
HTRV	– Hard-to-Reach Village
JV	– Joint Venture
KII	– Key Informant Interview
LGD	– Local Government Division
LGED	– Local Government Engineering Department
LGI	– Local Government Institute
MVMT	– My Village My Town
NGO	– Non-Government Organization
PD	– Project Director
PMO	– Project Management Office
RCC	– Reinforced Concrete
RHD	– Roads & Highways Department
SDGs	– Sustainable Development Goals
TA	– Technical Assistance Project
UE	– Upazila Engineer
UNDP	– United Nations Development Programme
UNO	– Upazila Nirbahi Officer
UNR	– Union Road
UP	– Union Parishad
UPZ	– Upazila Road
VRA	– Village Road A
VRB	– Village Road B

BACKGROUND

Context of the Project

The Government of Bangladesh made massive plans to ensure equitable development around the country. Under this development philosophy, the GoB requirements are to reduce rural-urban divide to foster developmental benefits for all citizens. As part of this, the government declared an election manifesto on the eve of the national parliament election 2018 uniting the theme **Bangladesh on the March Towards Prosperity** aiming at transforming Bangladesh into a developed nation by 2041. Under this, villages have been considered the basic unit of prosperity for building a developed nation.

This firm commitment was declared following the light of the philosophy of the Father of Nation Bangabandhu Sheikh Mujibur Rahman to build ‘Sonar Bangla’ (Golden Bangla) through inclusiveness, balanced and development for all.

Following the philosophy of the Father of the Nation, the government declared election manifesto 2018 titled ‘My Village-My Town’- Extension of Modern Civic Amenities in Every Villages. The Local Government Division under the Ministry of Local Government, Rural Development and Cooperatives has prepared a comprehensive work plan to make this election commitment a reality. The Local Government Division with its two agencies, Local Government Engineering Department (LGED) and Department of Public Health Engineering (DPHE) has undertaken a technical assistance project named ‘My Village-My Town’- Technical Assistance Project. Under this project, 36 studies and 30 guidelines are being developed on eight thematic components related to mandate of Local Government Division. The eight thematic components are Rural Communications, Growth Centre and Hat bazar, Rural Water Supply and Sanitation, Rural Waste Management, Community Space and Recreation Facilities, Upazila Masterplan, Rural Housing and Capacity building of Upazila and Union Parishad. Besides this, a coordination framework is being developed among the other ministries involved in implementation of My Village-My Town election manifesto. It is notable to mention that a coordination committee has been formed comprising 21 ministries to implement the program in a coordinated way under the leadership of the Minister of Local Government, Rural Development and Co-operatives.

Context of the Report

This report is a part of study of the component ‘Rural Connectivity’. Rural connectivity is the basic of all amenities in the villages. Rural connectivity works as the conduit that can supply a number of bare necessities such as access to market, health, education, employment etc. In general Bangladesh has remarkable progress in rural connectivity. Instead of this, a number of regions of the country are geographically sensitive where rural connectivity is not easy and has lot of challenges. These regions are -Haor, Beel, Hills, Chars, Islands etc. The people residing in these regions has considerably low access to civic amenities compared to other villages of the country. Therefore, study and plan development of improvement of rural connectivity is one of the important assignments of the technical assistance project. The project undertook Upazila based special study on the villages of these geographically sensitive regions that are mentioned before.

This report contains rural connectivity status and priority plan of the **Jaintapur** Upazila of **Sylhet** District.

1 DESCRIPTION OF THE UPAZILA

1.1 GEOGRAPHY AND DEMOGRAPHY

The geographical area of Jaintapurr Upazila is 266.11 square kilometers and has 6 Unions, 135 mouza and 174 villages. The Upazila is 41.3km away from District headquarters of Sylhet. Jaintapurr is partly covered by 18 haors and there exists 3 major rivers flowing over the Upazila known as Sari, Boro Gang & Kapna. The total population of the Upazila is 1,61,744 of which 80,769 are male and 80,975 female, total number of households are 27,719 and average household size is 5.8 with a population density of 608 (as per population census 2011).

1.2 EDUCATION FEATURES

According to the information of the relevant local government offices there are 41 govt. primary, 24 registered primary, 3 non-govt. primary, 128 NGO and 10 kindergarten schools in the Upazila. There also exists only one government secondary school, 13 non-government secondary schools, 1 school & college that operates jointly, 4 non-government colleges, and 24 madrashas in the Upazila. The students who attend these educational institutes from remote areas face difficulty to reach school because of poor road communications especially in the rainy season. The literacy rate for the Upazila is 38.8% as per BBS 2011.

1.3 RURAL ROAD COMMUNICATIONS

Bangladesh scored in the rural accessibility index at around 87 per cent among South Asian and some other Africa countries. Generally, the people of Bangladesh get all weather within 2 kilometers adjacent to their living places. But the feature of rural roads communications in Jaintapurr Upazila is contrasted. There are many villages, disconnected from the developed paved road network that brings huge sufferings for the people of the villages. The total rural road network of Jaintapurr is 407.38km and out of that, 92.28 km is paved and 315.10 km earthen.

1.4 AGRICULTURE, FOOD PRODUCTION AND FISHERIES

Though coal & aggregate is the main source of income here, agriculture has a major influence to the people of Jaintapurr. There 65,758 acres of arable land in the Upazila. In the fiscal year 2010-11 the Rice production was 12435, 24933 & 11500 metric tons for Aus, Aman & Boro seasons respectively. The Upazila also produced 37 metric tons of Wheat, 2 metric tons of Potato, 9 metric tons of Oilseed and 18.9 metric tons of Turmeric in the same fiscal year 2010-11.

According to the BBS (2010-11) data Jaintapurr has 34,598 Acre of haor, pond & dhighee that produced 1,300 metric tons of fishes. There also exists 119 poultry & 264 dairy farms.

1.5 GROWTH CENTRE AND HATBAZAR

Growth Centre and Rural Hatbazar is one of the main centres of the rural economy. Hatbazar is like the heart for the development of the rural economy. Rural hatbazar plays a role in increasing production and creating employment impacting on the supply chain of agriculture and non-agriculture products. There are 7 hatbazar and 4 growth centres in the Upazila. The structural development of hatbazar and growth is pivotal to boosting up the rural economy. A details of the growth center & hatbazar of the Upazila has been attached in the [Annexure-1](#).

3 APPROACH & METHODOLOGY

3.1 STUDY TEAM COMPOSITION

A team consisting of Senior Rural Road Infrastructure Specialist, Associate Rural Infrastructure Specialist, Assistant Engineer engaged by Project Management Office (PMO) conducted the study. On the other hand, A team consisting of Deputy Team Leader cum Rural Infrastructure Engineer, Junior GIS expert and Junior Engineer engaged by consulting firm (datEx & DECL JV) conducted the study. Participatory approach to review the database and identify priority transport infrastructure needs ('sub-projects') was instrumental. At the stakeholder consultation meeting held in each District, the database was reviewed, priority needs identified and mapped working together with the LGI representatives and LGED technical team. LGED and LGI representatives were surveyed each Upazila for collection of detailed observations and validations of the proposed priority needs.

Stakeholder Consultation Meeting

- Hard-to-reach Village Database and database of sub-projects reviewed
- Prioritization of sub-projects for each Upazila with LGI and LGED representatives
- Hard-to-reach villages and priority sub-projects mapped in the LGED GIS Map

3.2 STUDY AREA

The Study was conducted in 72 Upazilas of haor areas, 3 Upazilas of Beel areas, 8 Upazilas of Char areas, and 4 Upazilas of Island areas during the period from December 2021 to June 2022. Apart from this, PMO team conducted the study in 50 Upazilas of Haor areas and rest of the Upazilas of Haor, Beel, Char and Island areas are conducted by consulting firm team. The Upazila technical staff of LGED supported in organizing stakeholder consultation meetings and in database review and mapping the Hard-to-reach villages and population during this study period. They also supported in the field work and authentication check by visits to the sub-projects in their respective Upazila, and looking at the feasibility of some proposed sub-projects from technical, social and environmental perspectives.

3.3 DATABASE REVIEW AND ANALYSIS

The Study applied both qualitative (e.g., focused group discussions and in-depth case study field work) and quantitative (structured and semi structured interviews) approach and methods in reviewing and conducting field work in all the haor areas to understand the need and impact of rural accessibility in remote village contexts. The most applied methods in the reviewing and conducting field work were:

- Key Informants Interview (KII)
- Focus Group Discussion (FGD)
- Case Study for authentication check and individual sub-project feasibility study.

- ❖ Review Hard-to-reach village database at the ‘Stakeholder consultation meeting’ participating by local government representatives such as UP chairman and members, Upazila chairman, vice-chairman, and UNO.
- ❖ FGD and KII were conducted using a checklist. Composition in the FGD included local community people: male and female, teacher, local farmer, trader, and student depending on the availability.
- ❖ KIIs of Union Chairman, Upazila chairman, UNO male and female, and teacher depending on availability.
- ❖ Authentication and feasibility check by visits to the sub-projects reviewed and listed for the 40 selected case study Unions under MVMT project.
- ❖ Survey with GPS machine and Google apps in collecting Hard-to-reach village location, landmark, chainage at gaps, village road at section vulnerable to land erosion damage, narrow existing width or sharp slope location.

3.4 PRIORITIZATION CRITERIA OF SUB-PROJECTS

Prepare a priority list of sub-projects by Upazilas that includes gazette ID roads and non-gazette roads (No ID) with attributes like name and number of villages and population. The criteria used in the prioritization are described below.

- Population, travel time needed from the remotest villages to the Upazila HQ, road type and cost per km per 1000 population are the indicators weighted giving a value in a formula.
- Priority is given to single connection with no alternative transport road and multi-modal transport route to connecting the villages with Upazila HQ and Union Parishad, growth centre and important markets and social service centres; villages with higher number of population and travel time get higher weightage;
- Priority is given to roads, ghats and collection points that will facilitate agricultural diversification, reduce transportation cost, ensure fair price and create farm and non-farm employment and income;
- Priority is given to roads’ development and inland waterways dredging that will enable year-round mobility of general public and villagers in particular, health workers, teachers and students, and tourists to facilitate tourism development, quality education and better health service in the District and region;
- Special priority is given to sub-projects of roads, riverine routes/inland waterways that will mainstream deprived communities living in the hard-to-reach villages;
- Identified sub-projects more cost-effectiveness than others using per km per 1000 population cost for each sub-project;
- Every sub-project(s) is to be climate-resilient, sustainable and cost-effective.

3.5 WEIGHTAGE DISTRIBUTION FOR PRIORITIZATION

The approaches and methodologies of the Study for reviewing database and prioritization are synthesized in the diagrams below, noting that the proposed sub-projects of roads in the databases are prioritized based on weightage calculated on the set criteria (as shown in the diagram). People’s demand and local need are reflected in the prioritization which were

determined by the Study, working together with LGI representatives and LGED field level technical staff at the stakeholder consultation meetings held in each Upazila.

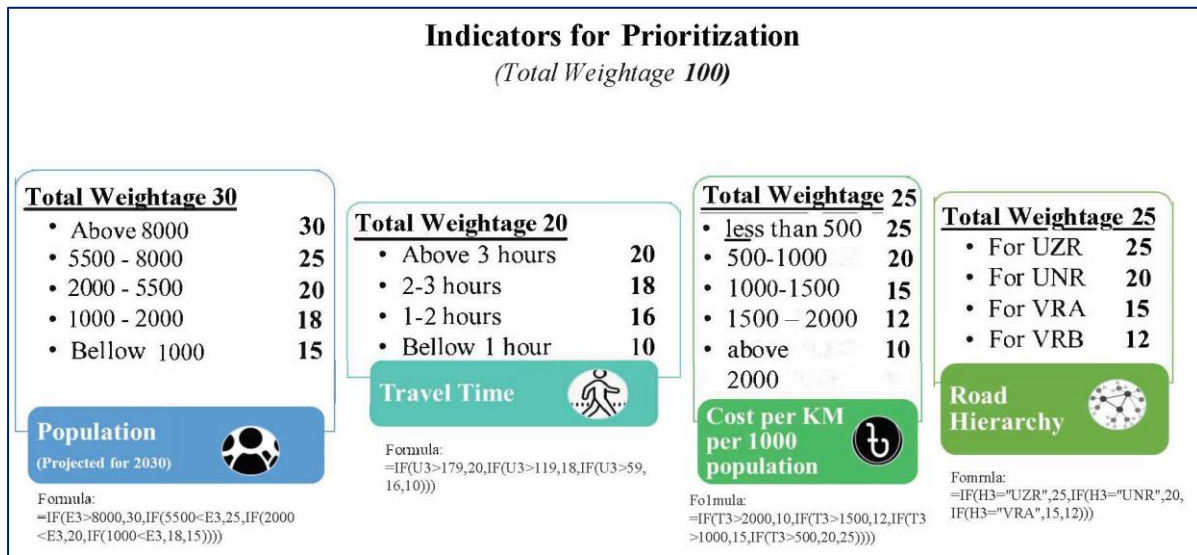


Figure 2: Prioritization indicators & their weightage values

3.6 MAPPING HARD-TO-REACH VILLAGES & POPULATION

- With the active support of LGED technical staff, first, draw every priority listed MVMT roads and Hard-to-reach villages on the LGED GIS map in presence of Union Chairman and members who knows the sub-project and area the best. This was not in scale but approximation was reached by triangulation. Then digitized on screen using GIS, and validate with Google map and checked with data and information on important features and points collected using GPS during field visits.
- There were challenges in deciding on starting node and/or zero chainage of the non-gazette (No ID) road, because not all non-gazette sub-projects were visited and surveyed by the Study team.

3.7 WRAP UP MEETING

Wrap up the field work progress at each District holding a meeting chaired by the Executive Engineer, LGED and participated by all Upazila engineers of the respective District. On completion of the fieldwork, this was conducted to share issues and updates to the District Executive Engineer for feedback and action, as necessary.

3.8 VALIDATION WORKSHOP

On completion of data analysis and drafting of the database and mapping, the Study outputs were shared with the respective Districts and Upazilas for final review. Later validation workshop was held at the respective District on the Draft Report to share and validate the findings. This was participated by the LGED Division, District and Upazila officials and technical staffs.

3.9 NATIONAL WORKSHOP

The Draft Report is finalized, incorporating comments received from the validation workshop, LGED head office staff and PMO office. A National Level workshop was held at LGED HQ for sharing and disseminating the results of the Study.

4 DESCRIPTION OF WETLANDS

4.1 DISTRIBUTION OF THE HAORS/ WETLANDS

The Upazila has a large portion of flash flood zone that covers almost 80-90% of its total area. The roads within the flood zone becomes inundated at monsoon, that requires an attention to take relevant measures during road construction and maintenance.

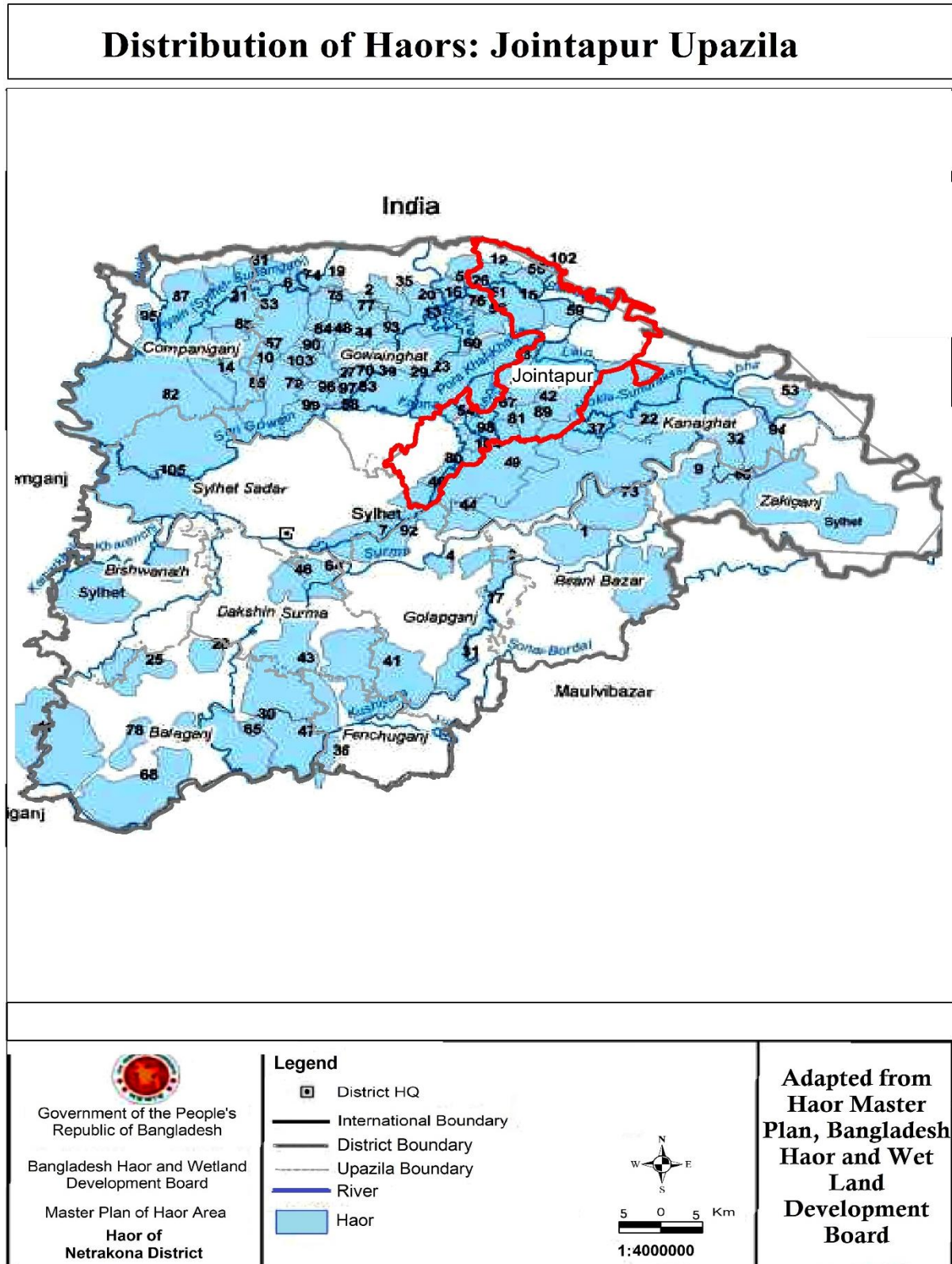


Figure 3: Haor Distribution Map

4.2 HAOR/ WETLAND CATEGORY

However, a small portion of the Upazila is Foot Hill, mostly flash flood zone. Therefore, road or other infrastructure development in this Upazila has major environmental consequences.

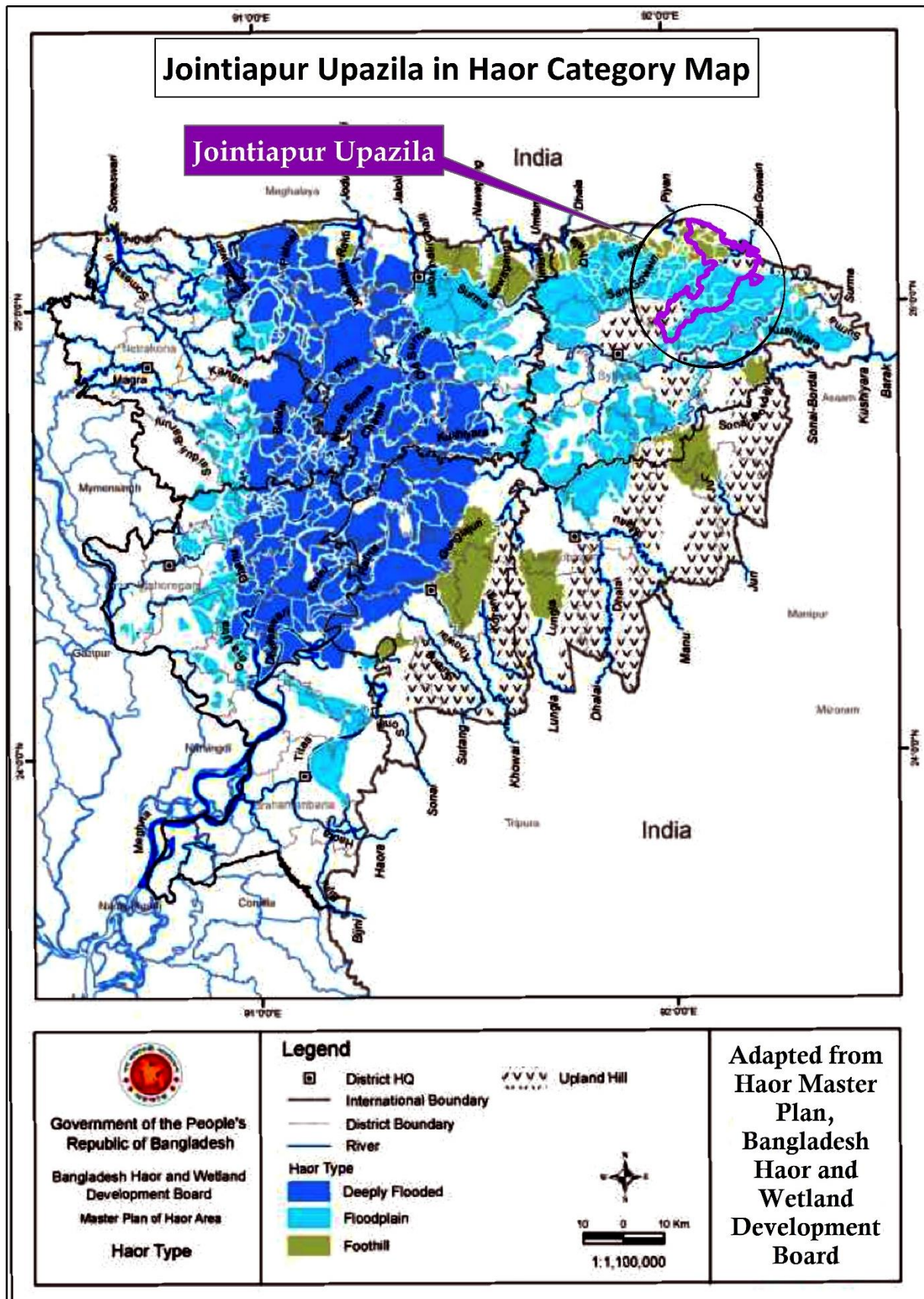


Figure 4: Haor Category Map.

4.3 BIO-ECOLOGICAL CHARACTERISTICS

The Bio-ecological characteristics map of the Upazila has been shown below. The map shows that-it is mostly Sylhet Hills & is partially a part of Himalayan Piedmont Plain. Therefore, adequate opening for the road and road structures should be maintained.

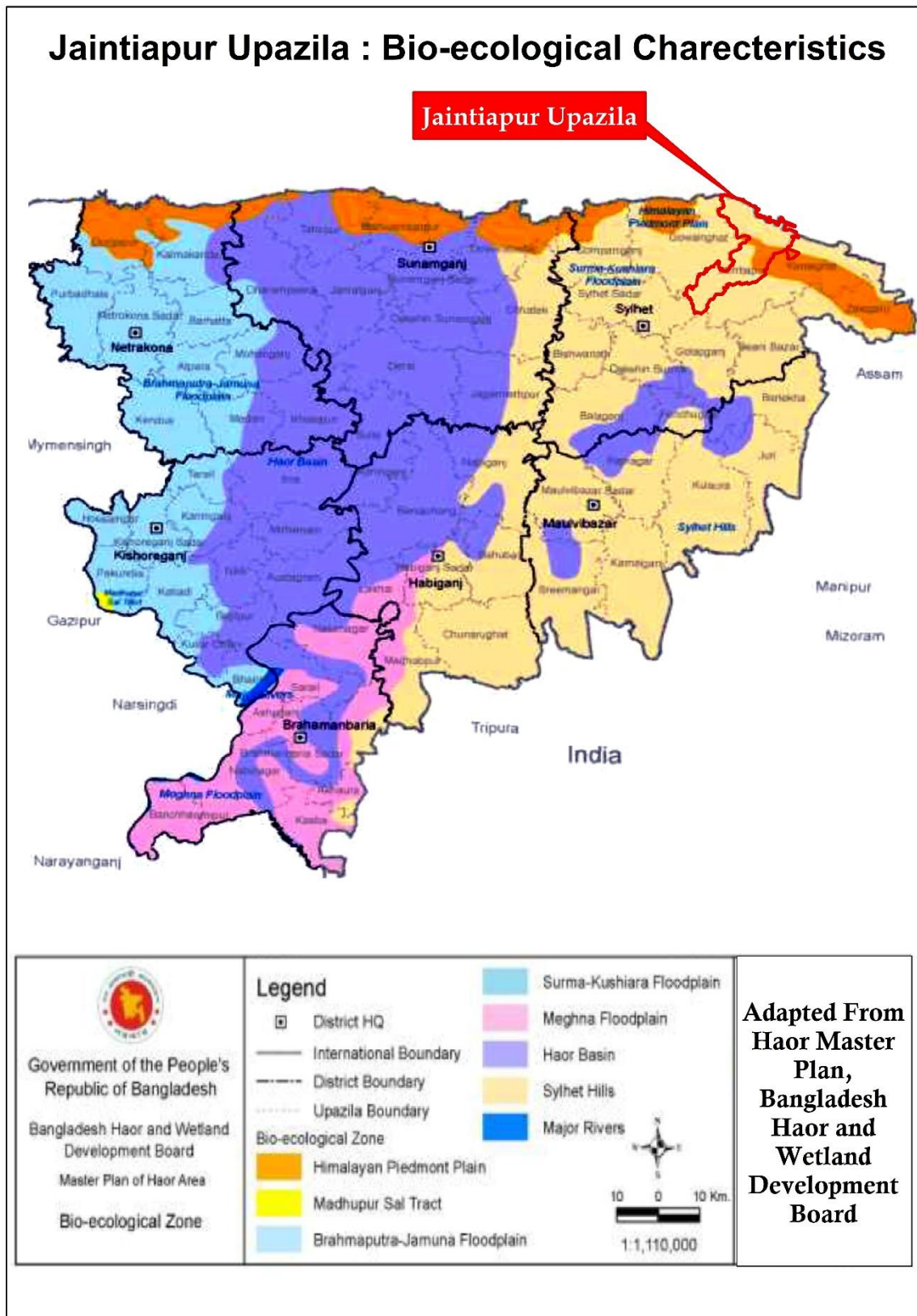


Figure 5: Bio Ecological Characteristics Map

5 RURAL ROAD CONNECTIVITY TO THE VILLAGES

5.1 SUMMARY OF THE VILLAGE CONNECTIVITY

Jaintapur is an Upazila with major haors. The rural road communication is quite poor here. Out of 181 villages 22 villages are disconnected from the developed paved road network that brings huge sufferings for the people of the villages. The total rural road network of Jaintapur is 407.38km and out of that, 92.28 km is paved and 315.10 km earthen.

Table 1: Total villages in the Unions and their connectivity

SL No	Union	No of Villages	Connected Villages	Hard-to-Reach Villages
1	Charikata	24	21	3
2	Chiknaghul	12	9	3
3	Darbasta	46	40	6
4	Fatehpur	22	19	3
5	Jaintapur	21	15	6
6	Nijpat	56	55	1
Total =		181	159	22

5.2 VILLAGES AND THEIR CONNECTIVITY – UNION LEVEL

The consultant arranged a meeting at Upazila conference room with and all the UP Chairmen & their secretaries. The team interviewed representative of each the Union and collected data about the HTRV.

Table 2: Union wise connected & Hard-to-Reach Villages and their population

Union	Sl. No	Connected Villages	Population 2021 (Based on BBS 2011)	Hard-to-Reach Villages	Population 2021 (Based on BBS 2011)
Charikata (24)	1			Vitrekhel Uttor	4285
	2			Thubang	
	3			Punjipara	
	Sub Total=		32701		4285
Chiknaghul (12)	1			Ghaterchoti	2292
	2			Ghaterchoti	1633
	3			Thakurer Mati	1833
	Sub Total=		24361		5758
Darbasta (46)	1	Bara Khala	603	Amirabaz	3067
	2	Bhaitgram	1908	Chhaterkhai	
	3	Bhitagram	559	Chutari Sengram	5335
	4	Bishnu Tek	699	Dakshin Kanjar	
	5	Chakta 1st Part	660	Hazari Sengram	
	6	Chakta 2nd Part	251	Uttar Kanjar	

Union	Sl. No	Connected Villages	Population 2021 (Based on BBS 2011)	Hard-to-Reach Villages	Population 2021 (Based on BBS 2011)
	7	Challain	2009		
	8	Chhaiya	913		
	9	Daiya	371		
	10	Dakshin Ruhilakandi	76		
	11	Darbasta	783		
	12	Dema	1265		
	13	Dighirpar	392		
	14	Duhal	198		
	15	Fandu	907		
	16	Furfura	980		
	17	Kargram	1694		
	18	Kholagram	538		
	19	Kurgram	734		
	20	Lama Mohail	1205		
	21	Mahalikhala	344		
	22	Manik Para	1112		
	23	Manik Para Khala	106		
	24	Motganj	818		
	25	Nurpur	792		
	26	Nurpur Band	51		
	27	Pakri	1016		
	28	Paschim Lakshmi Prasad	1304		
	29	Pashchim Gardana	157		
	30	Purba Gardana	4059		
	31	Purba Kharika Punji	585		
	32	Rani Faud	437		
	33	Rani Faud	1317		
	34	Sreekhel	896		
	35	Sukainpur	879		

Union	Sl. No	Connected Villages	Population 2021 (Based on BBS 2011)	Hard-to-Reach Villages	Population 2021 (Based on BBS 2011)
	36	Sutarigram	1098		
	37	Telijuri	701		
	38	Tengra	902		
	39	Uttar Kanjar	994		
	40	Uttar Mahail	1188		
	Sub Total=			35501	
Fatehpur (22)	1	Bhelo Para	670	Haripur	2080
	2	Chandghat	864	Kaitgram	471
	3	Dakshin Bagarkhal	842	Lama Shyampur	1878
	4	Dakshin Nayagram	644		
	5	Dalai Para	2505		
	6	Hemu Bhat Para	1087		
	7	Hemu Datta Para	791		
	8	Hemu Head Para	1581		
	9	Hemu Jowartul	615		
	10	Hemu Majartul	687		
	11	Hemu Majh Para	1406		
	12	Hemu Mokam Para	249		
	13	Hemu Namasudra Para	399		
	14	Pakhiteki	214		
	15	Panatuk	355		
	16	Paschim Bali Para	2741		
	17	Sikar Khan	1745		
	18	Upar Shyampur	1828		
	19	Uttar Bagarkhal	1114		
Sub Total=			20337		4429
Jaintapurr (21)	1	Bandarhati	479	Dultirpar	1188
	2	Bazar	543	Shewlatuk	
	3	Chunahati	405	Kendri	2643
	4	Jaspur	922	Kharubil	1059
	5	Kamlabari	1171	Vittrikhel	2974
	6	Kuli Para Jungle Hati	638	Birakhai	
	7	Lama Para	487		
	8	Majumdar Para	471		
	9	Masterhati	427		

Union	Sl. No	Connected Villages	Population 2021 (Based on BBS 2011)	Hard-to-Reach Villages	Population 2021 (Based on BBS 2011)
	10	Mauthihati	463		
	11	Murghati	172		
	12	Nijpat	213		
	13	Paniarahati	258		
	14	Toasihati	397		
	15	Ujaninagar	841		
			Sub Total=	7887	
Nijpat (56)	1	Ag Faud	1071	Harni Mayna Basti	331
	2	Asam Para	5452		
	3	Baga Bil	487		
	4	Bahirakhel	486		
	5	Baon Haor	378		
	6	Baragul/ Daudig	635		
	7	Baroghati	1047		
	8	Baurbhag Haor	38		
	9	Baurbhag Molli Faud	1006		
	10	Bhitargul Grant	104		
	11	Bhitrikhel Kanakhai	1047		
	12	Bhitrikhel Paschim Bhabe	341		
	13	Biaimara Haor	184		
	14	Birakhai	1158		
	15	Chailakhel	255		
	16	Chatlarpar	269		
	17	Dhupi	589		
	18	Dibi Haor	672		
	19	Digarail	1451		
	20	Dultirpar	843		
	21	Fulbari	365		
	22	Gatigam	533		
	23	Gauri Shankar	1361		
	24	Ghilatali	1408		
	25	Gofrajan	445		
	26	Guyabari	1493		
	27	Helirai	229		
	28	Indrajure	949		
	29	Kalinijbari	979		
	30	Kandi	1195		
	31	Kantakhal	377		

Union	Sl. No	Connected Villages	Population 2021 (Based on BBS 2011)	Hard-to-Reach Villages	Population 2021 (Based on BBS 2011)
	32	Kendri	2307		
	33	Kendri Haor	809		
	34	Kharu Bil	924		
	35	Kumarpara	378		
	36	Lakhaipur Pratham Kanda	2100		
	37	Lakhipur Dwitiya Kanda	647		
	38	Lakshmiprasad	880		
	39	Lamnigram	1589		
	40	Laxmiproshad Haor	617		
	41	Lutmail	473		
	42	Mokambari	921		
	43	Moyakhai	118		
	44	Muktapur	943		
	45	Naljuri	290		
	46	Nayakhel	1252		
	47	Noagram	634		
	48	Noyaghat	467		
	49	Paschimpara	912		
	50	Rupcheng	1670		
	51	Satigram	532		
	52	Seolartuk	194		
	53	Sreepur	38		
	54	Sreepur Pahar	621		
	55	Uttar Kamrengikhel	485		
Sub Total=			46648		331

5.3 MAP OF HARD-TO-REACH VILLAGES & PROPOSED ROADS

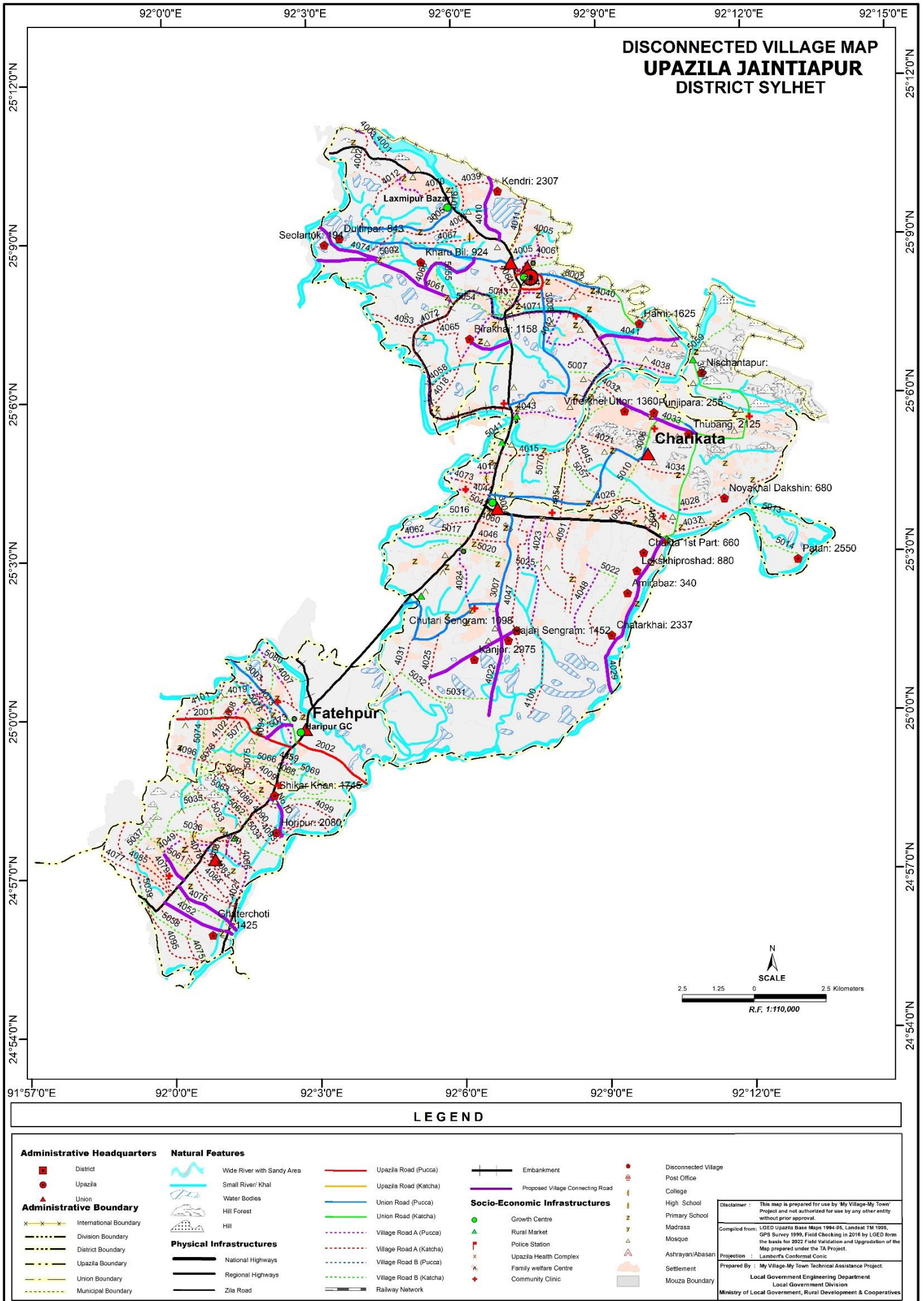


Figure 6: Upazila Map

6 CONSULTATION MEETING & FIELD VISIT

6.1 UPAZILA LEVEL MEETING

The consultant arranged a meeting at Upazila conference room with the support of the UE office, Jaintapurr that was participated by UNO, UE and all the UP Chairmen & their secretaries.



Figure 7: Upazila level Consultation Meeting

During the meeting, consultant team briefly discussed about the project and instructed the UP Chairmen and UE office for the database correction along with mapping procedure. The team worked on both the database and Upazila map and obtained the necessary outputs subsequently.

6.2 VISIT TO CASE STUDY UNION

The team visited ‘Darbasta’ the case study Unions in Jaintapurr Upazila. The consultant visited “Darbasta Kanaighat Rd - Satarkhai Vill. Rd” having the Road ID: 691534029. The road was selected for the site visit considering the beneficiary population, the recommendations of the UE Office as the road has a priority within the Union.

The consultant observed and collected necessary information for the study discussing inhabitants and UE office. Team recorded GPS data, interviewed road users and took photos of the alignment condition.

The length of this road is 5.81, having 2.75 km paved and 3.06 km earthen. The road connects 2 major villages of the Union named Amirabaz & Chatarkhai having total population of more than 4000.



Figure 8: Condition of the visited road alignment at Case Study Union



Figure 9: Condition of the visited road alignment at Case Study Union

7 DATA COLLECTION & ANALYSIS

The consultant collected data from the field on hard to reach/ Hard-to-Reach Villages. Data were collected of those villages including population, road alignment information (*type, length, condition*), travel time, structure required on the alignment, potential riverine routes that can be used for multi-modal transport system etc. The data then analyzed, categorized and finally used to obtain a priority list along with a map (*Figure:6*) showing prioritized roads and Hard-to-Reach Villages. The proposed riverine & road connectivity by the UE office have been discussed in this section.

7.1 PROPOSED RIVERINE ROUTES

As per actual field visit and data analysis from haor development board, Jaintapur Upazila is not deep haor area. It is partially foothill and mostly floodplain area. About three rivers have passed through Jaintapur Upazila. These are Sari, Boro Gang & Kapna rivers.

6 (six) riverine routes can be used as multi-modal transport system according to the information provided by the UE office, Jaintapur. The name of the riverine routes & the associated streams are as follows;

Table 3: Proposed riverine routes

Sl. No	Name of the Riverine Route	Name of the Stream	Type of the Stream	Types of Water Vehicle	Need of excavation (Yes/No)
1	Lalakhali – Dultirpar village	Boro Gang River	Perennial	Small Boat, Engine Boat, Trawler	Yes
2	Laxmipur – Dultirpar Village	Napit Khal	Intermittent (Apr - Nov)	Small Boat, Engine Boat	No
3	Sarukhel – Chater Khai Village	Singar Khal	Intermittent (Apr - Nov)	Small Boat, Engine Boat	No
4	Lalakhali – Birakhi Village	Sari River	Perennial	Small Boat, Engine Boat, Trawler, Cargo Ship	No
5	Darbost Bazar – Uttarmohail Village	Line Khal	Intermittent (Apr - Nov)	Small Boat, Engine Boat	No
6	Horipur Bazar – Kapnakandi Village	Kapna River	Perennial	Small Boat, Engine Boat, Trawler	No

7.2 PROPOSED ROADWAY FOR HARD-TO-REACH VILLAGES:

At present, roads are the most dominant mode of transportation. Most of the structures have already been built on the rivers/ khals to make the road communication effective. Yet, 3 (three) bridges are required to fulfil the purpose. A summary of the rural roads of Jaintapur Upazila is give below:

Table 4: Summary of the rural roads in the Upazila

Total Road Length of the Upazila (KM)	Paved Length (KM)	Unpaved Length (KM)	Length of unpaved roads of Hard-to-Reach Villages (KM)
407.38	92.28	315.10	52.77

7.2.1 PROPOSED ALL WEATHER ROUTES:

There are 9 all-weather roads proposed to connect the HTRV within the Upazila. The road name, ID, road condition and the length of the unpaved roads are as bellow;

Table 5: Proposed all weather roads in the Upazila

Sl. No	Road Name	Road ID	Road Condition	Unpaved length (Km)
1	Thubang Ghat - Kalasing Bazar via Balidara Rd	691534033	All Weather	4.05
2	RHD (Syl.-Tamabeel) Road - Chiknagaul Primary School - Thakurer Mati Road	691534050	All Weather	11.014
3	RHD (Syl.-Tamabeel) Road - Kendri Road.	691534010	All Weather	1.95
4	Darbasta Kanaighat Rd - Satarkhai Vill. Rd	691534029	All Weather	3.06
5	RHD (Syl.-Tamabeel) Road - Jafrapur Primary School - Brickfield	691534076	All Weather	2.65
6	Shikar Khan GPS - Kapnarpar Rd	No ID	All Weather	2
7	RHD (Syl.-Tamabeel) Road - Vittrikhel Bagorband - Birakhai	No ID	All Weather	3
8	RHD (Syl.-Tamabeel) Road - Ghatercoti Village Road.	691534052	All Weather	2.95
9	Lamashampur Road - Kaitgram Road	691535073	All Weather	2.95

7.2.2 PROPOSED SUBMERSIBLE ROUTES:

There are 6 submersible roads proposed to connect the HTRV within the Upazila. The road name, ID, road condition and the length of the unpaved roads are as bellow;

Table 6: Proposed submersible roads in the Upazila

Sl. No	Road Name	Road ID	Road Condition	Unpaved length (Km)
1	Mootgunja-Pabijuri Road	691534022	Submersible	3.51
2	Hajari Sengram - Chutari Sengram Vill. Rd	691534098	Submersible	2.48
3	Wapda Dyke (Baurbag) - Dultipar GPSI Road	691534061	Submersible	5.6
4	Dultirpar - Shewlatuk Village Road.	691534074	Submersible	2.805
5	Horney Viilage Road.	691534041	Submersible	2.5
6	Chikarkhal - Kharubil School Road.	691534066	Submersible	2.25

7.2.3 PROPOSED ROADS FOR HARD-TO-REACH VILLAGES HAVING NO ID:

There are 2 roads proposed to connect the HTRV within the Upazila that have no ID yet. The road name, ID and the length of the unpaved part are as bellow;

Table 7: Proposed roads for Hard-to-Reach Villages having No ID

Sl. No	Road Name	Road ID	Unpaved length (Km)
1	Shikar Khan GPS - Kapnarpar Rd	No ID	2
2	RHD (Syl.-Tamabeel) Road - Vittrikhel Bagorband - Birakhai	No ID	3

7.2.4 PRIORITY FOR ROAD DEVELOPMENT

Considering resources constraint, benefited group of people, time required to travel & road hierarchy, a priority list has been developed (Annexure-2) for the HTRV (Hard to Reach Villages). The priority score has been determined according to following

Table 8: Considered weightage values for the prioritization

Criteria	Weightage
Population	30
Travel Time	20
Cost per 1000 Population	25
Road Type	25
Total=	100

It has been observed that, there are a number of roads that bear same score. At these cases, the minimum budget required for providing connectivity to thousand people- will get more priority compared to more budget required roads. The roads bearing ID will have the higher priority than the roads without ID.

8 CONCLUSION & RECOMMENDATIONS

- Part of Jaintapurr Upazila is foothill of Meghalaya Mountains and part of the Upazila is floodplain zone. Three major rivers dominate the ecosystem, transport system of the Upazila. The rivers are Sari, Boro Gang & Kapna. Sari river originates at Meghalaya, India. During monsoon, these rivers carry huge volume of flood water from Khasi & Jainta hills. Though the Upazila has a number of rivers, riverine transport is available in this Upazila only during Apr – November and some can be used throughout the year. Heavy trawlers carrying stones, sand and other agricultural products are carried during monsoon. The rivers can supply irrigation water throughout the year but some of the river does not have enough water for riverine transportation except monsoon.
- As the Upazila is heavily flooded during monsoon, rural roads and structures are highly vulnerable in this Upazila.
- The Upazila has a total number of 22 Hard-to-Reach Villages. To develop rural connectivity, there are proposals for all weather as well as submersible roads. This report contains a list of roads with their priority. The priority has been determined based on Population, Travel Time, Cost per KM/1000 people & Road Hierarchy.
- This Upazila is highly vulnerable to disasters. Due to climate change, the vulnerability is getting intense. The year 2022 has shown catastrophic flood that was not seen over the last 18years (last in 2004 similar to 1998 & 1988). Therefore, it is highly recommended to study the road alignments before going for investment.
- Case by case design of roads in this Upazila considering different aspects such as exposure to floods, erosion etc. is highly recommended. A special study regarding the road and structure design of the Upazila Jaintapurr in Sylhet District is highly recommended.

ANNEXURE - 1

DETAILS OF GROWTH CENTER & HATBAZAR

Union	Market Name	Market Category (GC=Growth Center, HB=Hat Bazar)	Market Listed? (Yes/No)	Market Category (General/ Special/ Collection center)	Market Category (Wholesale/ Retail/both)	Hat Day	Chandina Viti (Number)	Chandina Viti (Land)	Chandina Viti (Shop)	Land Area (Acre)			Lease/ Khas Collection BDT (2020)	Lease/ Khas Collection BDT (2019)
										Toha	Khas	Private		
Charikata	Lalakhali bazar	HB	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0
Chikangul	Chiknaguli bazar	HB	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0
Darbasta	Darbosti bazar	GC	Yes	General Market	Both	2	6	1.35	143	0.13	1.69	0.00	1010200 0	1998000
Darbasta	Damri bazar	HB	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0
Darbasta	Khoril bazar	HB	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0
Darbasta	Sarighat bazar	HB	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0
Fatehpur	Haripur bazar	GC	Yes	General Market	Both	2	43	0.89	70	0.85	2.02	1.54	5555000	525000
Jaintapur	Asampara bazar	HB	Yes	General Market	Both	2	26	0.13	26	0.05	0.49	0.00	40000	36000
Jaintapur	2 no. Laxmipur bazar	GC	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0
Nijpat	Jaintapur bazar	GC	Yes	General Market	Both	2	105	1.57	105	1.40	3.90	0.47	3461000	3240000
Nijpat	Sarighat bazar	HB	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0

ANNEXURE - 2

PRIORITY LIST FOR ROAD DEVELOPMENT

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Priority	Connecting Union	Connecting Village	Population 2021 (Based on BBS 2011)	Road Name	Road ID	Road Type	Road Type by Surface Condition	Total Road Length (10+11+12)	Paved length (km)	HBB Length (km)	Unpaved length (km)	HBB + Unpaved (11+12) in (km)	Approx. Cost of Road (lac)	Structure/ Gap (meter)	Cost of Structure (in Lac)	Total Cost (in lac) (Roads + Structures)	Population /KM (4÷13)	Tentative Budget/1000 Population (in lac)	Travel Time (in min)	Weightage for Population	Weightage for Travel Time	Weightage for Cost per 1000 Population	Weightage for Road Type	Total Weightage (21+22+23+24)
1	Charikata	Vitrekhel Uttar, Thubang, Punjipara	4285	Thubang Ghat - Kalasing Bazar via Balidara Rd	691534033	VRA	All Weather	4.05			4.05	4.05	486	120	1080	1566	1058	365	61	20	16	25	15	76
2	Chiknaghul	Thakurer Mati	1833	RHD (Syl.-Tamabeel) Road - Chiknagaul Primary School - Thakurer Mati Road	691534050	VRA	All Weather	11.514	0.5		11.014	11.014	1321.68	6	54	1375.68	166	750	165	18	18	20	15	71
3	Darbasta	Hajari Sengram, Chutari Sengram, Kanjor	5335	Hajari Sengram - Chutari Sengram Vill. Rd	691534098	VRA	Submersible	2.95	0.47		2.48	2.48	446.4	5	45	491.4	2151	92	37	20	10	25	15	70
4	Darbasta	Hajari Sengram, Sutarigram, Kanjor	5335	Mootgunja-Pabijuri Road	691534022	VRA	Submersible	3.51			3.51	3.51	631.8	3	27	658.8	1520	123	53	20	10	25	15	70
5	Chiknaghul	Ghaterchoti	2292	RHD (Syl.-Tamabeel) Road - Jafrapur Primary School - Brickfield	691534076	VRA	All Weather	2.65			2.65	2.65	318	5.2	46.8	364.8	865	159	40	20	10	25	15	70
6	Darbasta	Amirabaz, Chatarkhai	3067	Darbasta Kanaighat Rd - Satarkhai Vill. Rd	691534029	VRA	All Weather	5.81	2.75		3.06	3.06	367.2	18	162	529.2	1002	173	46	20	10	25	15	70
7	Jointiapur	Kendri	2643	RHD (Syl.-Tamabeel) Road - Kendri Road.	691534010	VRA	All Weather	6.95		5	1.95	6.95	834	51.5	463.5	1297.5	380	491	29	20	10	25	15	70
8	Jointiapur	Dultirpar,Shewlatuk	1188	Wapda Dyke(Baurbag) - Dultirpar GPSI Road	691534061	VRA	Submersible	5.6			5.6	5.6	1008	3	27	1035	212	871	84	18	16	20	15	69
9	Chiknaghul	Ghaterchoti	1633	RHD (Syl.-Tamabeel) Road - Ghatercoti Village Road.	691534052	VRA	All Weather	2.95			2.95	2.95	354	4.8	43.2	397.2	553	243	44	18	10	25	15	68
10	Jointiapur	Dultirpar,Shewlatuk	1188	Dultirpar - Shewlatuk Village Road.	691534074	VRA	Submersible	2.805			2.805	2.805	504.9	5	45	549.9	424	463	42	18	10	25	15	68
11	Fatehpur	Lamashampur, Kaitgram	2691	Lamashampur Road - Kaitgram Road	691535073	VRB	All Weather	2.95			2.95	2.95	354	13	117	471	912	175	44	20	10	25	12	67
12	Jointiapur	Kharubil	1059	Chikarkhal - Kharubil School Road.	691534066	VRA	Submersible	2.25			2.25	2.25	405	85	765	1170	471	1105	34	18	10	15	15	58
13	Nizpart	Horney	379	Horney Viilage Road.	691534041	VRA	Submersible	2.5			2.5	2.5	450	75	675	1125	152	2966	38	15	10	10	15	50
14	Jointiapur	Vittrikhel, Birakhai	2974	RHD (Syl.-Tamabeel) Road - Vittrikhel Bagorband - Birakhai	No ID	VRB	All Weather	3			3	3	360		0	360	991	121	45	20	10	25	12	67
15	Fatehpur	Horipur	2383	Shikar Khan GPS - Kapnarpar Rd	No ID	VRB	All Weather	2			2	2	240	20	180	420	1192	176	30	20	10	25	12	67

*** Cost for Roads & Structures; (All Weather Rd= 120 lac/km, Submersible= 180 lac/km, Structure= 9 lac/m)

*** Weightage Values; (Population = 30, Travel Time= 20, Cost per1000 people= 25, Road Hierarchy= 25)