



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”

Doarabazar Upazila, Sunamganj



July, 2022

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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 are important for the concept of hard-to-reach villages.

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

Mauza 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 a strong social bond. Within a Mauza there could be more than one village.

Union Bangladesh has 3-tiers local government systems: 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 means in the Study the village pathway or access used for walking by commuters, in most cases does not have gazetted or established or commonly used alignment, and to the most, passable by bicycle or motorbike. These village trails are not passable by motorized jeeps or mini trucks or emergency service vehicles or not even any three-wheelers.

Unpaved Roads have no pavement or surface material. They are usually 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 that increase 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 disasters like floods and landslides in a sustainable way.

ABBREVIATIONS

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 the 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 the 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 its election manifesto 2018 titled ‘My Village-My Town’- Extension of Modern Civic Amenities in Every village. 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, the 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 the mandate of the 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 the implementation of the 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 the 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 the 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 a lot of challenges. These regions are -Haor, Beel, Hills, Chars, islands etc. The people residing in these regions have considerably low access to civic amenities compared to other villages of the country. Therefore, the study and plan development of improvement of rural connectivity is one of the important assignments of the technical assistance project. The project undertook an Upazila-based special study on the villages of these geographically sensitive regions that are mentioned before.

This report contains the rural connectivity status and priority plan of the **Doarabazar** Upazila of **Sunamganj** District.

1 DESCRIPTION OF THE UPAZILA

1.1 GEOGRAPHY AND DEMOGRAPHY

The geographical area of Doarabazar Upazila is 263.35 square kilometers and has 9 unions, 151 mauzas, and 308 villages. The Upazila is 27 km away from the district headquarters of Sylhet. Doarabazar is partly covered by 4 haors/ wetlands and there exist 3(Three) rivers flowing over the Upazila. The total population of Upazila is 228460 of which 112240 are male and 116220 females, the total number of households are 42693 and the average household size is 5.35 with a population density of 868 (as per population census 2011).

1.2 EDUCATION FEATURES

According to the information of the relevant local government offices, there are 59 government & 28 non-government primary schools in the Upazila. On the other hand, Doarabazar has 14 non-government with only government high schools, 1 private colleges, and 11 madrasahs. The literacy rate for the Upazila is 30.4% as per BBS 2011.

1.3 RURAL ROAD COMMUNICATIONS

Bangladesh scored in the rural accessibility index at around 87 percent among South Asian and some other African countries. Generally, the people of Bangladesh get all-weather within 2 kilometers adjacent to their living places. But the feature of rural road communications in Doarabazar Upazila is contrasted. There are many villages, disconnected from the developed paved road network that brings huge suffering for the people of the villages. The total rural road network of Doarabazar is 442.85 km and out of which, 200.80 km are paved and 242.05 km earthen.

1.4 AGRICULTURE, FOOD PRODUCTION, AND FISHERIES

Though the aggregate (coarse sand, stone chips & stone) business is the main source of income for the inhabitants, agriculture too has major importance for the economy of the people of Doarabazar. There are 69537 acres of arable land in Upazila. In the fiscal year 2010-11, the Rice production was 123, 665 & 10121 metric tons for Aus, Aman & Boro seasons respectively. The Upazila also produced 10 metric tons of Wheat, and 273 metric tons of Potato in the same fiscal year 2010-11. A notable quantity of vegetables is also produced here in this Upazila.

According to the BBS (2011) data, Doarabazar has 54292 Acre of haor, pond & dighee that produced huge metric tons of fish. There also exist 42 poultry farms.

All the agricultural products are adequate to meet the demand of the Upazila and surpluses are sold outside of Doarabazar.

1.5 GROWTH CENTRE AND HATBAZAR

Growth Centre and Rural Hatbazar are one of the main centers of the rural economy. Hatbazar is like the heart of the development of the rural economy. Rural Hatbazar plays a role in increasing production and creating employment impacting the supply chain of agriculture and non-agriculture products. There are 15 Hatbazar and 3 growth centers in Upazila. The structural

development of Hatbazar and its growth is pivotal to boosting the rural economy. Details of the growth center & Hatbazar of the Upazila have been attached in **Annexure-1**.

2 LOCATION OF THE UPAZILA

Doarabazar Upazila of Sylhet district in the North-Eastern part of the country. The location has been shown on the map. The Upazila is situated at the foothill of the Indian border and causes flash floods during monsoon coming from uphill Meghalaya where is Cherrapunji, the wettest place on earth, resulting in waterlogging within the haor basin. Flash floods induce severe impacts on both the built and the natural environment. The effects of flash floods can be catastrophic and show extensive diversity, ranging from damages to buildings and infrastructure to impacts on vegetation, human lives, and livestock.

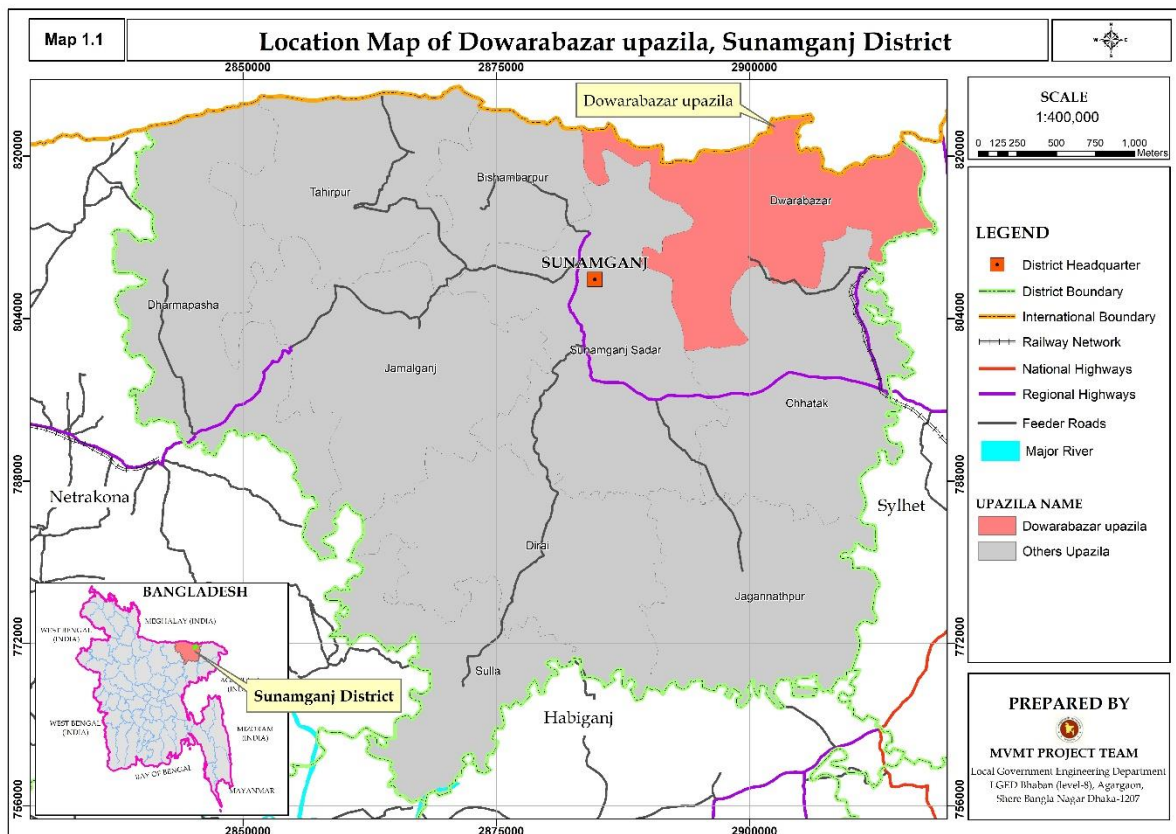


Figure 1: Upazila Location Map

3 APPROACH & METHODOLOGY

2.1 STUDY TEAM COMPOSITION

A team consisting of Senior Rural Road Infrastructure Specialist, Associate Rural Infrastructure Specialist, and Assistant Engineer engaged by the 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. A 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, and priority needs were identified and mapped working together with the LGI representatives and LGED technical team. LGED and LGI representatives surveyed each Upazila for the 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

2.2 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, the PMO team conducted the study in 50 Upazilas of Haor areas, and the rest of the Upazilas of Haor, Beel, Char, and Island areas are conducted by the 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 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.

2.3 DATABASE REVIEW AND ANALYSIS

The study applied both qualitative (e.g., focused group discussions and in-depth case study fieldwork) and quantitative (structured and semi-structured interviews) approaches and methods in reviewing and conducting fieldwork 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 fieldwork were:

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

- ❖ Review the Hard-to-reach village database at the ‘Stakeholder consultation meeting’ participated by local government representatives such as the 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, teachers, local farmers, traders, and students depending on 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 the MVMT project.
- ❖ Survey with GPS machine and Google apps in collecting Hard-to-reach village locations, landmarks, chainage at gaps, village road at sections vulnerable to land erosion damage, narrow existing width or sharp slope location.

2.4 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 a higher population and travel time get higher weightage;
- Priority is given to roads, ghats, and collection points that will facilitate agricultural diversification, reduce transportation costs, ensure a fair price and create a farm and non-farm employment and income;
- Priority is given to roads development and inland waterways dredging that will enable year-round mobility of the 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 with 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.

2.5 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 demands and local needs are reflected in the prioritization which was

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

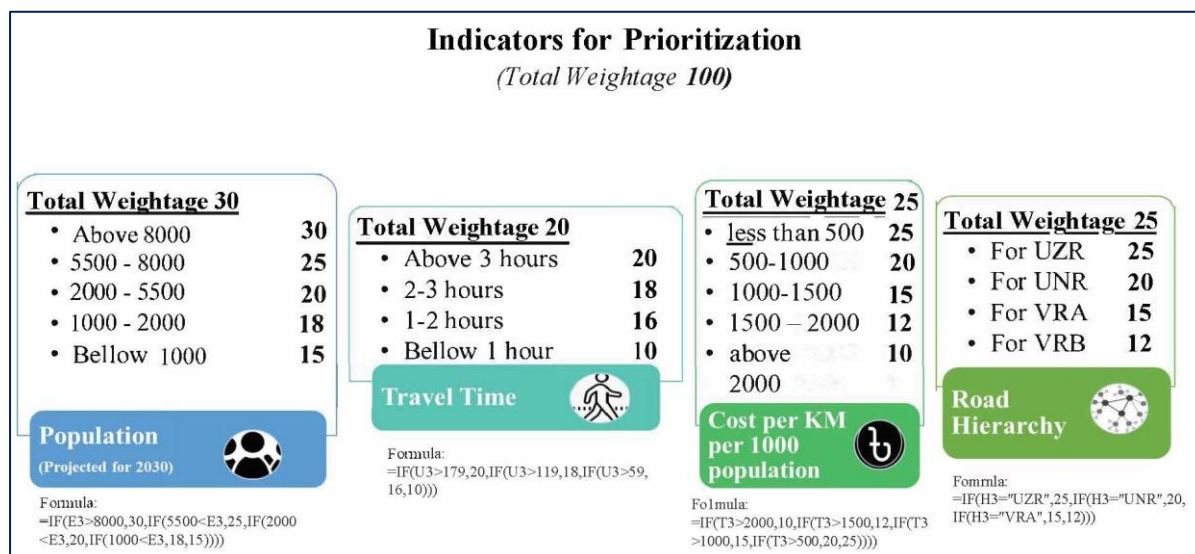


Figure 2: Prioritization indicators & their weightage values

2.6 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 the union Chairman and members who know the sub-project and are the best. This was not in scale but approximation was reached by triangulation. Then digitized on screen using GIS, 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.

2.7 WRAP UP MEETING

Wrap up the fieldwork 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.

2.8 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. The 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 staff.

2.9 NATIONAL WORKSHOP

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

4 DESCRIPTION OF WETLANDS

3.1 DISTRIBUTION OF THE HAORS/ WETLANDS

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

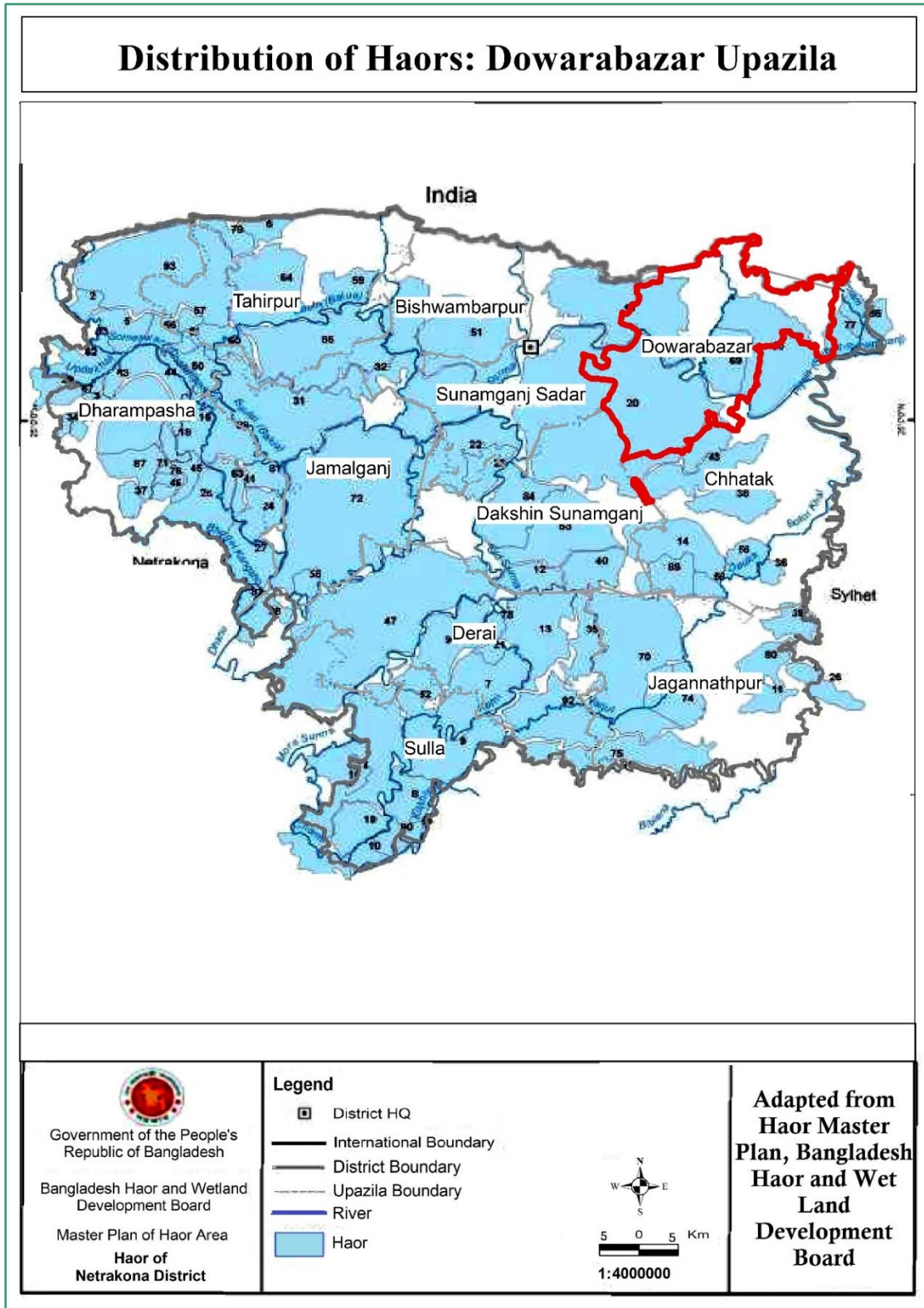


Figure 3: Haor Distribution Map

3.2 HAOR/ WETLAND CATEGORY

However, in the north of the Upazila, it is Foot Hill and other part is within floodplain range. Therefore, road or other infrastructure development in this Upazila does not have any major environmental consequences.

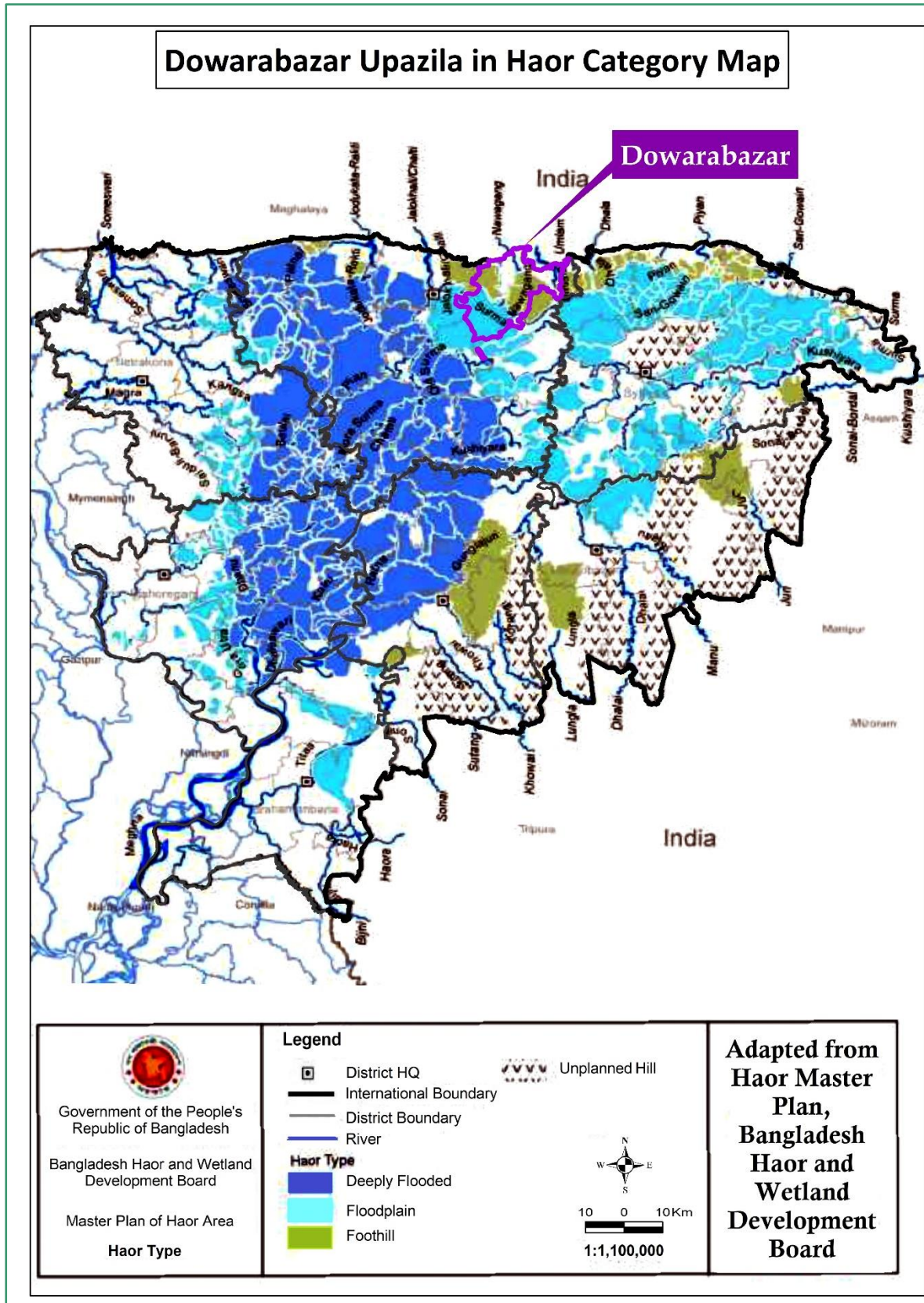


Figure 4: Haor Category Map.

3.3 BIO-ECOLOGICAL CHARACTERISTICS

The Bio-ecological characteristics map of the Upazila has been shown below. The map shows that it is mostly Himalayan Piedmont Plain in the north, the south-western part is Haor Basin & is partially a part of Sylhet Hills. Therefore, adequate openings for the road and road structures should be maintained in the relevant areas.

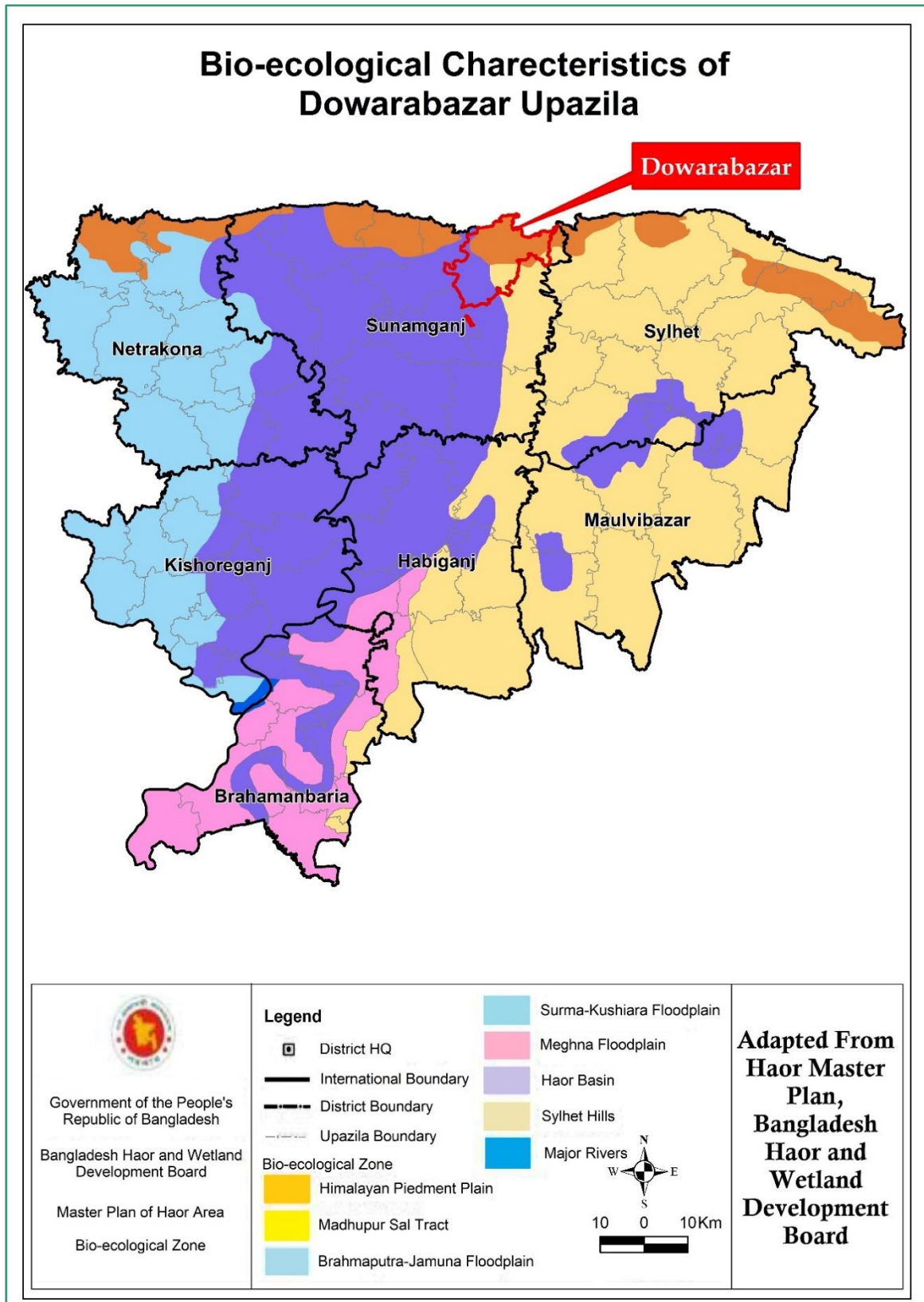


Figure 5: Bio Ecological Characteristics Map

5 RURAL ROAD CONNECTIVITY TO THE VILLAGES

4.1 SUMMARY OF THE VILLAGE CONNECTIVITY

The feature of rural road communications in Doarazar Upazila is contrasted. Out of 227 villages, 10 are disconnected from the developed paved road network which brings huge suffering for the people of those villages. The total rural road network of Doarabazar is 442.85 km and out of which, 200.80 km are paved and 242.05 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	Bangla Bazar	36	35	1
2	Bougla bazar	30	30	0
3	Duhalia	34	34	0
4	Lakshmipur	42	40	2
5	Mannargaon	36	34	2
6	Pandergaon	27	27	0
7	Surma	24	24	0
Total		230	225	5

4.2 VILLAGES AND THEIR CONNECTIVITY – UNION LEVEL

The consultant arranged a meeting at the Upazila conference room with and all the UP Chairman & their secretaries. The team interviewed a representative of each 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)	Disconnected Villages	Population 2021 (Based on BBS 2011)
Bangla Bazar	1	Aganroyergaon	598	Pekpara	2182
	2	Bamer Band	331		
	3	Banshtola	608		
	4	Baraiuri	778		
	5	Barakhala	1517		
	6	Bharua	420		
	7	Bhoalipara	569		
	8	Bighargaon	432		
	9	Bogajur	702		
	10	Chialipar	488		
	11	Chowdhury Para	926		
	12	Coloney	1506		
	13	Dhalia	1028		
	14	Dharmapur	435		
	15	Ghilatoli	1833		
	16	Islampur			
	17	Jahangirgaon	550		
	18	Jhaamgaon	1689		
	19	Kalaura	4064		
	20	Kiranpara	735		
	21	Kushiura	1341		
	22	Mirdharpara	775		
	23	Mularpar	967		
	24	Natun Banshtala	476		
	25	Paikpara	1650		
	26	Palai Chhara	1238		
	27	Palkapon	613		
	28	Puran Banshtala	701		
	29	Rajargaon	486		
	30	Rameshwargaon	810		
	31	Rangautigaon	676		
	32	Rauligaon	616		
	33	Ururgaon	1621		
	34	Uttar Baghmara	862		
	35	Uttar Ushingargaon	1761		
	Sub Total		33802		2182

Union	Sl. No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
Bougla bazar	1	Andairgaon	404		
	2	Ashirnagar	431		
	3	Bagahana	382		
	4	Baganbari	929		
	5	Baghmara	920		
	6	Bagula Bazar	745		
	7	Bahargaon	810		
	8	Balichara	815		
	9	Chamder	2		
	10	Champerghat	871		
	11	Chanderghat	391		
	12	Dharmapur Khaiajuri	799		
	13	Edukona	826		
	14	Erukhai	747		
	15	Feshkargaon	468		
	16	Gachhgara	808		
	17	Juanergaon			
	18	Kabirnagar	411		
	19	Kandagaon	441		
	20	Kanthalbari	1180		
	21	Khaiajuri	465		
	22	Mobarakpur			
	23	Mollapara	384		
	24	Napalkuti	374		
	25	Nawadar	386		
	26	Noyagaon	407		
	27	Rajapur	181		
	28	Salimnagar			
	29	Santipur			
		Sunachura	406		
	Sub Total		14983		
Duhalia	1	Angam	79		
	2	Anggang	598		
	3	Bade Goreshpur	1025		
	4	Beri	728		
	5	Bhabanipur	1272		
	6	Daksin Rajanpur	944		
	7	Dewan Nagar	706		
	8	Dharmapur	576		
	9	Dharmapur Kitta (Nalua)	484		
	10	Dhupakhai	466		
	11	Goarai	274		

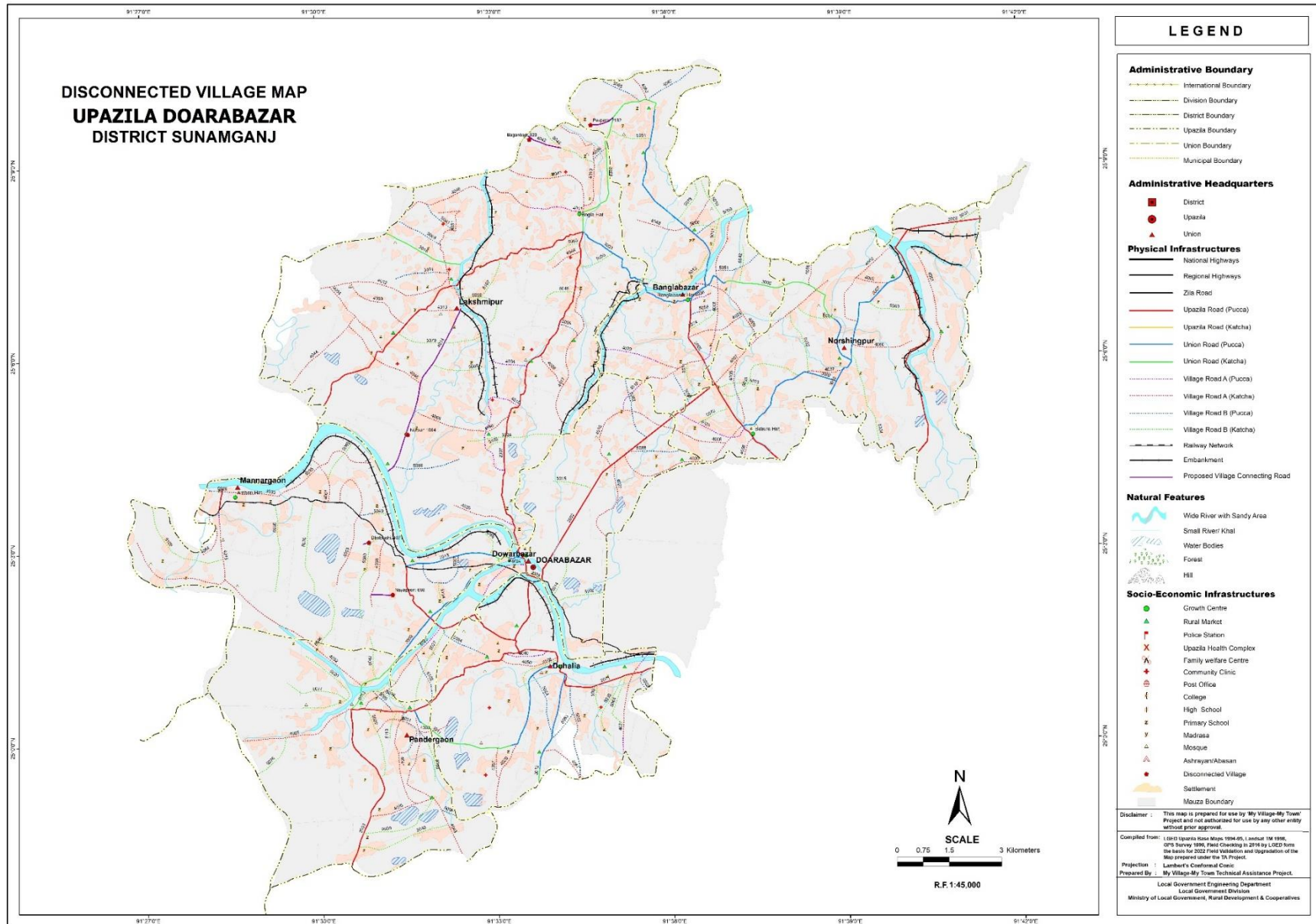
Union	Sl. No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
	12	Gureski	466		
	13	Hiranath	129		
	14	Jangalsree Kitta	179		
	15	Kanchanpur	968		
	16	Kandagaon	863		
	17	Kumarikandi	383		
	18	Kuralia	986		
	19	Menda	966		
	20	Niamatpur	324		
	21	Noyagaon	810		
	22	Pachim Jibanpur	1385		
	23	Paharpur	360		
	24	Panail	3623		
	25	Protabpur	1567		
	26	Rahugram	438		
	27	Rajanpur Kismat	637		
	28	Ramnagar	511		
	29	Rupram	97		
	30	Shibpur	1540		
	31	Ulura	424		
32	Ungam	233			
33	Uttar Haripur	411			
34	Uyam	191			
	Sub Total		24643		
Lakshmipur	1	Akilpur	405	Baganbari*	1064
	2	Anwarpur	361	Nurpur*	928
	3	Baktarpur	2008		
	4	Barakiya (Rashidnagar)			
	5	Betura (Noyagaon)	879		
	6	Bhangapara	1196		
	7	Bhujna	565		
	8	Chakirghat	781		
	9	Chaklapur	120		
	10	Chandanpur	433		
	11	Daulatpur	675		
	12	Deswarnagar	737		
	13	Dighirpar	231		
	14	Erukhai	2582		
	15	Fatepur	748		
	16	Idrispur	437		
	17	Islampur	359		
	18	Jamalpur	218		

Union	Sl. No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
	19	Jiragaon	1143		
	20	Kadamtali	518		
	21	Kalaiura	325		
	22	Kalikapur	350		
	23	Laxmipur	413		
	24	Matgaon	1780		
	25	Mirpur	715		
	26	Natun Baithakhai	437		
	27	Nayapara	772		
	28	Purbo Chandpur	952		
	29	Rahamatpur	362		
	30	Ramnagar			
	31	Ranabhumi	680		
	32	Rashrai	827		
	33	Sharifpur	2015		
	34	Shefaligaon	414		
	35	Sultanpur	401		
	36	Surigaon	737		
	37	Taradal	389		
	38	Telurakandi	1057		
39	Terakuri				
40	Uttar Solaimanpur	428			
Sub Total			27450		1992
Mannargaon	1	Ahamadnagar	318	Dholpushi	1071
	2	Ajampur	2018	Nayagaon	698
	3	Ajrafnagar	244		
	4	Ambari Bazar	472		
	5	Ambarigram	954		
	6	Aminpur	90		
	7	Ansafnagar	245		
	8	Badarpur	1039		
	9	Baderampur	601		
	10	Baghber (Bahadurpur)	735		
	11	Basantapur	1080		
	12	Bazargaon	432		
	13	Chandipur	2138		
	14	Dombanda	478		
	15	Durgapur	481		
	16	Edanpur	1089		
	17	Gonargaon	736		
	18	Gopalpur	1085		
	19	Hazarigaon	1308		

Union	Sl. No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
	20	Islampur	372		
	21	Jalalpur	1095		
	22	Jogirgaon	1266		
	23	Mannargaon	1692		
	24	Nichintapur	309		
	25	Paschim Alampur	473		
	26	Paschim Kamargaon	464		
	27	Pirijpur	788		
	28	Putipusi	486		
	29	Rampur	1425		
	30	Sreenathpur	423		
	31	Ulukandi	549		
	32	Uttar Dhanpur	690		
	33	Uttar Shaudergaon	696		
Sub Total			23421		1769
Pandergaon	1	Arshadnagar	174		
	2	Asafnagar	1029		
	3	Asaknagar	530		
	4	Bahadurpur (Part)	1241		
	5	Chengaia	1365		
	6	Dakshin Rajdarer	1073		
	7	Daukurkara	925		
	8	Dukrua	254		
	9	Gazinagar	463		
	10	Gupinagar	786		
	11	Hakiar Bazar (Patir Char)	1898		
	12	Haripadhanagar	583		
	13	Hossairgaon	478		
	14	Mastandergaon	142		
	15	Nalua	881		
	16	Natun krishnanagar	1207		
	17	Natun Nagar	1274		
	18	Paschim Pandergoan	1296		
	19	Puran Krishnanagar	664		
	20	Purba Pandergoan	1010		
	21	Radhangar	712		
	22	Raispur	267		
	23	Ratinagar	537		
	24	Shahebergaon	1301		
	25	Shaitnali	1403		
	26	Subal	2365		
	27	Uttar Rajdarar (Islamnaga)	655		

Union	Sl. No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
	Sub Total		24513		
Surma	1	Ajabpur	715		
	2	Alipur	1329		
	3	Baithakhai	479		
	4	Barakata			
	5	Barkatnagar	521		
	6	Batirgaon	1125		
	7	Gujaurra	634		
	8	Hasanbahar	446		
	9	Ialampur	414		
	10	Khagura	842		
	11	Khalajuri			
	12	Kouarghar	482		
	13	Mahabbatpur	382		
	14	Mamunpur	392		
	15	Marpai	474		
	16	Nandigram	533		
	17	Nurpur	1064		
	18	Paschim Tilagaon			
	19	Purbo Tilagaon	2034		
	20	Rajnagar	477		
	21	Rupnagar	1296		
	22	Shimultala	450		
	23	Tengra Haor	1376		
	24	Tengraghar Bazar			
	Sub Total		15465		

4.1 MAP OF HARD-TO-REACH VILLAGES & PROPOSED ROAD



6 DATA COLLECTION & ANALYSIS

The consultant team collected data from the field on Hard-to-Reach Villages. Data were collected from those villages including population, road alignment information (*type, length, condition*), travel time, a structure required on the alignment, potential Riverine routes that can be used for a multi-modal transport system etc. The data were then analyzed, categorized, and finally used to obtain a priority list along with a map (*Figure:5*) showing prioritized roads and Hard-to-Reach Villages. The proposed Riverine & road connectivity by the UE office have been discussed in this section.

5.1 PROPOSED ROADWAY FOR HARD-TO-REACH VILLAGES:

At present, roads are the most dominant mode of transportation. Most of the structures were built on the rivers to make road communication effective.

Table 3: 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)
442.85	200.80	242.05	15.25

5.1.1 PROPOSED ALL-WEATHER ROUTES:

There are 5 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 4: Proposed all-weather roads in the Upazila

Sl. No	Road Name	Road ID	Road Condition	Unpaved length (Km)
1	Peshkargaon community clinic-Edukona bazar road	690334042	All Weather	2.15
2	Dhulpushi-ira khali road	No ID	All Weather	1.7
3	Kamargaon-Noagaon village road	No ID	All Weather	1.4
4	Islampur-pakpara village road	No ID	All Weather	4
5	Laxmipur-Nurpur bazar	690334014	All Weather	6

5.1.2 PROPOSED ROAD FOR HARD-TO REACH VILLAGES HAVING NO ID:

There are 3 no ID 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 No ID roads in the Upazila

Sl. No	Road Name	Road ID	Road Condition	Unpaved length (Km)
1	Dhulpushi-ira khali road	No ID	All Weather	1.7
2	kamargaon-Noagaon village road	No ID	All Weather	1.4
3	Islampur-pakpara village road	No ID	All Weather	4

5.1.3 PRIORITY FOR ROAD DEVELOPMENT

Considering resources constraint, benefited a group of people, the 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 5: 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 the same score. In these cases, the minimum budget required for providing connectivity to thousands of people- will get more priority compared to more budget-required roads. The roads bearing ID will have higher priority than the roads without ID.

7 CONCLUSION & RECOMMENDATIONS

- Doarabazar Upazila is located within flash flood zone that covers almost 80-90% of its land area. Doarabazar is partly covered by 4 haors/ wetlands and there exist 3(Three) rivers flowing over the Upazila that dominate the ecosystem, and transport system of the Upazila. During monsoons, these Rivers carry a huge volume of flood water.
- 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 05 Hard-to-Reach Villages. To develop rural connectivity, there are proposals for both all-weather and 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, vulnerability is getting intense. The year 2022 has shown catastrophic flood that was not seen over the last 18 years (*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 Doarabazar Upazila in Sunamganj district is highly recommended.

ANNEXURE - 1

DETAILS OF GROWTH CENTER & HATBAZAR

Sl. NO.	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		
1	Dakshin Bongshikunda	Chapaiti bazar	HB	No	General Market	Wholesale	7	0	0.00	20	0.00	0.00	0.65	0	0
2	Dakshin Bongshikunda	Satur batan bazar	HB	No	General Market	Wholesale	7	0	0.00	50	0.00	0.00	0.25	0	0
3	Dakshin Sukhair	Rajapur bazar	HB	No	General Market	Wholesale	1	0	0.00	60	0.00	0.00	1.51	0	0
4	Dakshin Sukhair	Doulatpur Bazar	HB	No	General Market	Wholesale	7	0	0.00	15	0.00	0.00	2.17	0	0
5	Dakshin Sukhair	Ghulla bazar	HB	No	General Market	Wholesale	1	0	0.00	5	0.00	0.00	0.51	0	0
6	Dharmapasha	Dharmapasha bazar	GC	Yes	General Market	Both	1	0	0.00	220	1.20	0.50	2.00	0	0
7	Dharmapasha	Kanda para bazar	HB	No	General Market	Wholesale	7	0	0.00	15	0.00	0.00	0.35	0	0
8	Dharmapasha	Madhupur bazar	HB	No	General Market	Wholesale	7	0	0.00	50	0.00	0.00	2.10	0	0
9	Joysree	Joysree bazar	GC	Yes	General Market	Wholesale	2	87	1.46	120	0.05	2.06	1.35	226100	230000
10	Joysree	Shanbari bazar	HB	Yes	General Market	Wholesale	1	43	0.58	60	0.14	0.93	0.09	127000	30000
11	Paikorati	Badshaganj bazar	HB	Yes	General Market	Wholesale	1	123	1.32	150	0.25	2.21	1.02	172500	160000
12	Paikorati	Gastala bazar	HB	Yes	General Market	Wholesale	1	22	11.00	150	0.15	0.48	1.45	0	0
13	Paikorati	Paikarati bazar	HB	Yes	General Market	Wholesale	1	0	0.00	30	0.00	0.00	0.41	0	0
14	Paikorati	Sunay bazar	HB	No	General Market	Wholesale	1	0	0.00	5	0.00	0.00	0.21	0	0
15	Selborash	Mohishakanda bazar	HB	No	Special Market	Wholesale	7	0	0.00	10	0.00	0.00	0.25	0	0
16	Uttar Sukhair Rajapur	Golakpur bazar	GC	Yes	General Market	Wholesale	1	172	1.72	285	1.85	2.85	1.03	90000	75000

17	Uttar Sukhair Rajapur	Babupur (buliagonj) bazar	HB	No	General Market	Wholesale	1	0	0.00	45	0.00	0.00	0.45	0	0
18	Uttar Sukhair Rajapur	Sukhair bazar	HB	No	General Market	Wholesale	1	0	0.00	35	0.00	0.00	0.81	0	0

ANNEXURE - 2

PRIORITY LIST FOR ROAD DEVELOPMENT

SL No	Upazila	Connecting Union	Connecting Village	Village Population BBS 2011	Population 2021 (Based on BBS 2011)	Road Name	Road ID	Road Type	Road Type by Surface Condition	Total Road Length	Paved length (Km)	HBB Length (km)	Unpaved length (Km)	Total Road Length to be Developed	HBB + Unpaved in (km)	Approx. Cost of Road (Lac)	Structure/ Gap (Meter)	Cost of Structure (in Lac)	Total Cost (in lac) (Roads + Structures)	Population /KM	Tentative Budget/1000 Population (in lac)	Travel Time (in min)	Weightage for Population	Weightage for Travel Time	Weightage for Cost per 1000 Pop	Weightage for Road Type	Total Weightage	Priority
1	Doarabazar	Bangla Bazar	Pekpara	2182	2500	Islampur-pakpara village road	No ID	VRB	All Weather	4.00			4.00	4.00	4.00	480.00	0.00	0.00	480.00	625	192.00	60.00	20	16	25	12	73	1
2	Doarabazar	Lakshmipur	Baganbari	929	1064	peshkargaon community clinic-Edukona bazar road	690334042	VRA	All Weather	2.15			2.15	2.15	2.15	258.00	30.00	270.00	528.00	495	496.05	32.25	18	10	25	12	65	2
3	Doarabazar	Mannargaon	Dholpushi	1071	1227	Dhulpushi-ira khali road	No ID	VRB	All Weather	1.70			1.70	1.70	1.70	204.00	0.00	0.00	204.00	722	166.24	25.50	18	10	25	12	65	3
4	Doarabazar	Mannargaon	Nayagaon	698	800	kamargaon-Noagaon village road	No ID	VRB	All Weather	1.40			1.40	1.40	1.40	168.00	0.00	0.00	168.00	571	210.07	21.00	15	10	25	12	62	4
5	Doarabazar	Lakshmipur	Nurpur	810	928	Laxmipur-Nurpur bazar	690334014	VRA	All Weather	6.00			6.00	6.00	6.00	720.00	145.00	1305.00	2025.00	155	2181.95	90.00	15	16	10	12	53	5