

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"

Zakiganj Upazila, 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 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 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 Minster 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 **Zakiganj** Upazila of **Sylhet** District.

1 DESCRIPTION OF THE UPAZILA

1.1 GEOGRAPHY AND DEMOGRAPHY

The geographical area of Zakiganj Upazila is 375.75 square kilometers and has 9 unions, 86 mauzas, and 353 villages. The Upazila is 74 km away from the district headquarters of Sylhet. Zakiganj is partly covered by 2 major haors/ wetlands and there exist 2(two) rivers flowing over the Upazila. The total population of Upazila is 237137 of which 117354 are male and 119783 females, the total number of households are 40548 and the average household size is 5.82 with a population density of 893 (as per population census 2011).

1.2 EDUCATION FEATURES

According to the information of the relevant local government offices, there are 107 government & 25 non-government primary schools in the Upazila. On the other hand, Zakiganj has 19 non-government with two government high schools, 1 government college, 3 private colleges, and 20 madrasahs. The literacy rate for the Upazila is 47.0% 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 Zakiganj 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 Zakiganj is 737.89 km and out of which, 218.21 km are paved and 519.68 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 Zakiganj. There are 10,151.14 hectares of arable land in Upazila. In the fiscal year 2010-11, the Rice production was 1012, 15548 & 2564 metric tons for Aus, Aman & Boro seasons respectively. The Upazila also produced 336 metric tons of Wheat, 422 metric tons of Potato, and 960 metric tons of Oil seed 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, Zakiganj has 6267.64 acres of haor, pond & dighee that produced 2162 metric tons of fish. There also exist 65 poultry & 20 dairy farms.

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

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 23 Hatbazar and 5 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

Zakiganj 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.

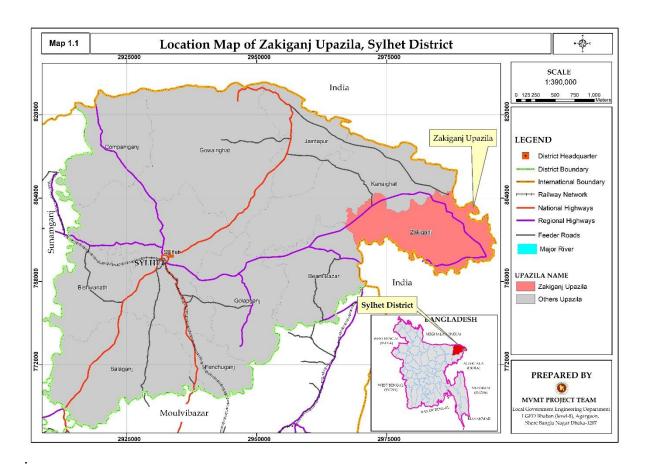


Figure 1: Upazila Location Map

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3 APPROACH & METHODOLOGY

3.1 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 together mapped working with representatives and LGED technical team. LGED

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

and LGI representatives surveyed each Upazila for the collection of detailed observations and validations of the proposed priority needs.

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, 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.

3.3 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.

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 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.

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 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.

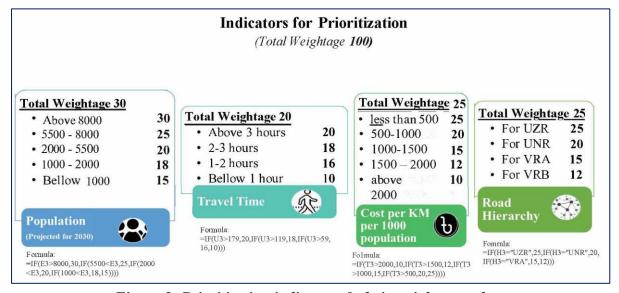


Figure 2: Prioritization indicators & their weightage values

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 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.

3.7 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.

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. 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.

3.9 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

4.1 DISTRIBUTION OF THE HAORS/WETLANDS

The Upazila has a large portion of flash flood zone that covers almost 60-70% 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.

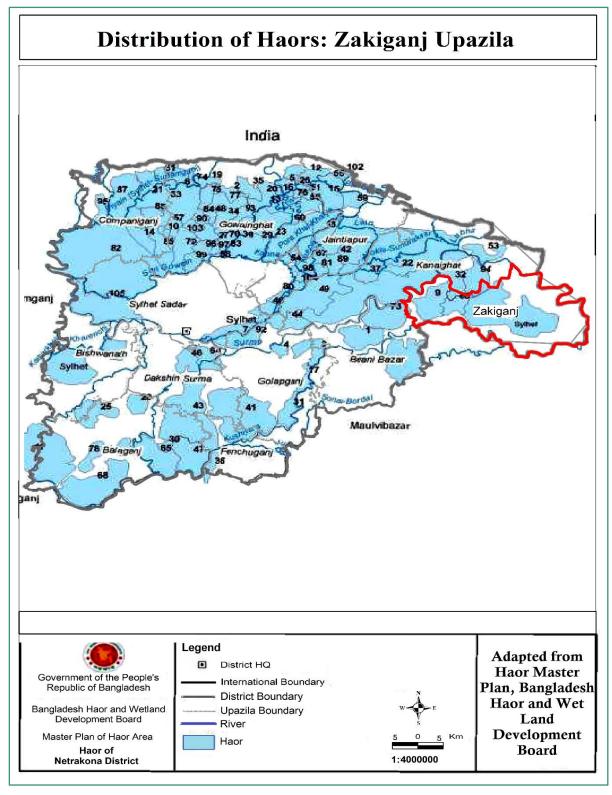


Figure 3: Haor Distribution Map

4.2 HAOR/ WETLAND CATEGORY

The haor areas of Zakiganj Upazila are under floodplain. Therefore, road or other infrastructure development in this Upazila does not have any major environmental consequences.

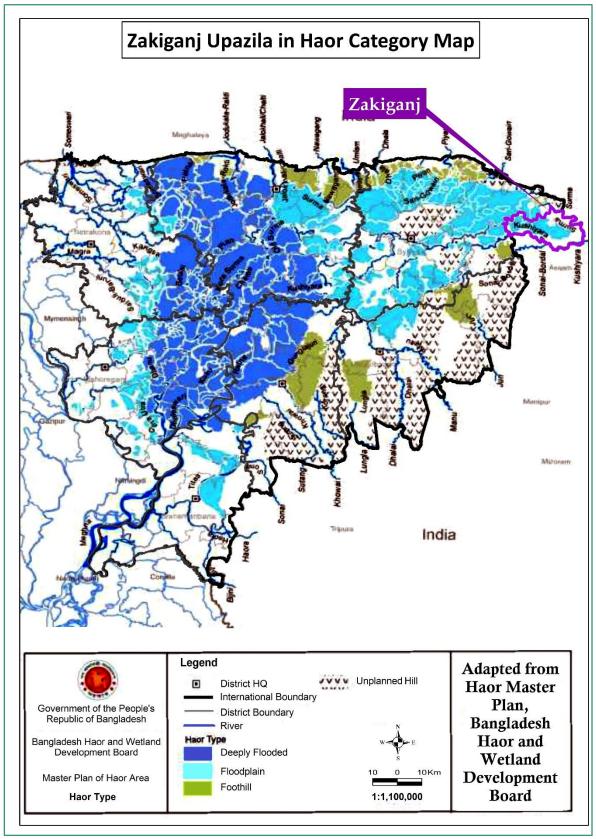


Figure 4: Haor Category Map.

4.3 BIO-ECOLOGICAL CHARACTERISTICS

The Bio-ecological characteristics map of the Upazila has been shown below. The map shows that more than half of the area is under Himalayan Piedmont Plain & other parts are under Sylhet Hills.

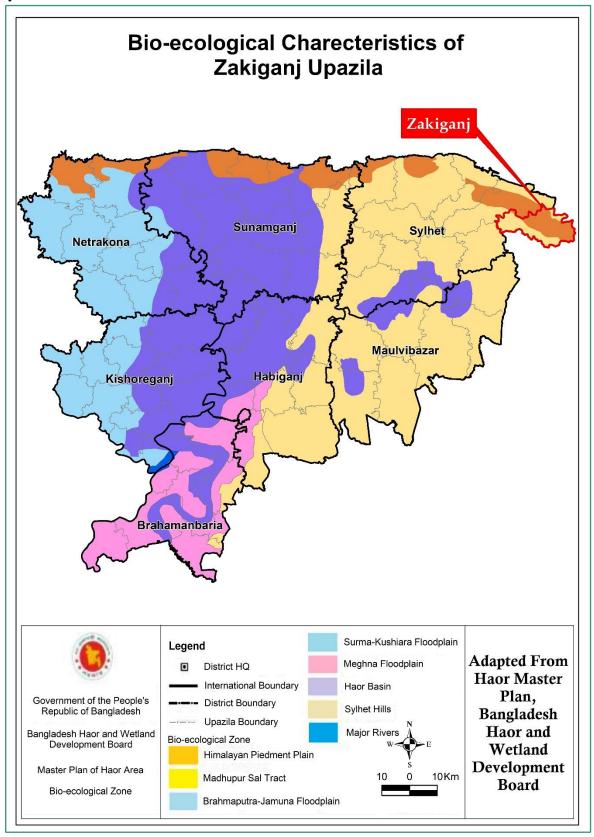


Figure 5: Bio Ecological Characteristics Map

5 RURAL ROAD CONNECTIVITY TO THE VILLAGES

5.1 SUMMARY OF THE VILLAGE CONNECTIVITY

The feature of rural road communications in Zakiganj Upazila is contrasted. Out of 256 villages, 23 are disconnected from the developed paved road network which brings huge suffering for the people of those villages. The total rural road network of Zakiganj is 737.89 km and out of which, 218.21 km are paved and 519.68 km earthen.

Table 1: Total villages in the unions and their connectivity

SL No	Union	No of Villages	Connected Villages	Disconnected Villages
1	Bara Thakuri	30	28	2
2	Barahal	30	24	6
3	Birasree	33	31	2
4	Kajalshar	20	19	1
5	Khas Kanakpur	20	18	2
6	Kholachhara	36	34	2
7	Manikpur	42	39	3
8	Sultanpur	45	44	1
9	Zakiganj	20	16	4
	Total	276	253	23

5.2 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)
	1	Amalshid	2085	Chandpur	434
	2	Anandapur	267	Daulatpur	477
	3	Bara Thakuri	2160		
	4	Baragati	1647		
	5	Bhagpara	574		
	6	Biabail (Part-2)	407		
	7	Chhoygory	170		
	8	Dariapur	1298		
	9	Dashgram	209		
	10	Debuttar	289		
	11	Dighaligram	521		
	12	Gardishpur	431		
ari	13	Hasitola	1193		
hak	14	Kachatail	505		
аТ	15	Kamargram	205		
Bara Thakuri	16	Kashir Chak	547		
	17	Kazapur	542		
	18	Kazi Para	557		
	19	Kharija	509		
	20	Mina Para	515		
	21	Mirzapur	2849		
	22	Rarigram	474		
	23	Salapur	913		
	24	Sonashor	1065		
	25	Sreekul	213		
	26	Tilgram	146		
	27	Uttarbhag	954		
	28	Uttarkul	1129		
	Sub Total		22374		911
	1	Akhab	124	Fatehpur	449
	2	Balitaka	2091	Kachua	1677
	3	Barakuli	1123	Khilgram	4054
ıal	4	Bataisail	1864	Maijgram	1611
Barahal	5	Bilbari	316	Nurnagar	1869
Ba	6	Chagli Bazar	246	Putijuri	508
	7	Garul	2180		
	8	Keshabpur	376		
	9	Kudalia	183		

Union	Sl.No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
	10	Kunagram	1330		
	11	Lohar Sangan	1270		
	12	Mahidpur	3623		
	13	Mantail	1184		
	14	Nayagram	671		
	15	Nidanpur	1126		
	16	Nijgram	1226		
	17	Pachali	186		
	18	Pail	440		
	19	Pali Para	393		
	20	Parchak	933		
	21	Premnagar	522		
	22	Purba Kaista Para	84		
	23	Samamkhani	1014		
	24	Uttar Khilgram	454		
	Sub Total		22959		10168
	1	Akakalyan	890	Dakshin Bipak	966
	2	Baligram	515	Purba Jamdhar	814
	3	Bara Chalia	731		
	4	Bara Pathar	1549		
	5	Barajani	372		
	6	Barkatpur	602		
	7	Dakshinband	1607		
	8	Dhalurpar	706		
	9	Dhirpur	216		
	10	Gadadhar	779		
	11	Goyergram	1420		
	12	Kandirband	217		
ree	13	Karimpur	527		
Birasree	14	Keshar Kapan	744		
Bi	15	Khalpar	645		
	16	Konarband	222		
	17	Konargaon	655		
	18	Lafarkona	1226		
	19	Liakatpur	681		
	20	Majargram	636		
	21	Muyakhali	801		
	22	Nankar	151		
	23	Paschim Jamdhar	1327		
	24	Piarpur	617		
	25	Pirojpur	869		
	26	Ragurashi	420		
	27	Sonapur	629		

Union	Sl.No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
	28	Swkra Kandi	514		
	29	Tingari	44		
	30	Ujirpur	1055		
	31	Uttar Bipak	1024		
	Sub Total		22391		1780
	1	Charigram	6443	Baraband	757
	2	Denargram	3160		
	3	Durga Baharpur	353		
	4	Ekanadhubad	834		
	5	Gotergram	1549		
	6	Jamalpur	1331		
	7	Jamurail	1036		
_	8	Jasha	671		
Kajalshar	9	Kajalshar	1083		
jals	10	Kamalpur	2016		
Kaj	11	Karaimura	326		
, ,	12	Mangolshar	563		
	13	Maricha	1720		
	14	Mujpur	370		
	15	Nayagram	1508		
	16	Nilambarpur	1907		
	17	Palashpur	1025		
	18	Roygram	617		
	19	Taher Pratappur	285		
	Sub Total		26797		757
	1	Chhattish	336	Balaramer Chak	1416
	2	Chinir Chak	203	Nagarkandi	678
	3	Gandarghar	630		
	4	Hani Gram	655		
	5	Hatidahar	1200		
	6	Inamoti	58		
H	7	Kaista Kapan	1436		
kpt	8	Lakshim Chak	198		
ana	9	Mamarkhali	938		
Khas Kanakpur	10	Maulvi Chak	1776		
has	11	Niagoal	1935		
Y	12	Noagram	1117		
	13	Paschim Khas Kanakpur	1735		
	14	Pukra	1416		
	15	Purba Khas Kanakpur	1786		
	16	Sajapur	872		
	17	Uttar Khas Kanakpur	413		
	18	Yor	800		

Union	Sl.No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
	Sub Total		17484		2094
	1	Band Tarapur	420	Ambari	490
	2	Bangram	548	Haldirpar	285
	3	Bhuyarmora	579		
	4	Chand Sreekona Noabbari	163		
	5	Dakshin Lohar Mahal	716		
	6	Degree	247		
	7	Dighirpar	2692		
	8	Doligaon	449		
	9	Dubrirpar	511		
	10	Garpur	160		
	11	Guglajur	461		
	12	Hamidpur	511		
	13	Islampur	483		
	14	Kadamtola	259		
	15	Kapna	1030		
ara	16	Khala Chhara	325		
hh	17	Khil Sadarpur	440		
Kholachhara	18	Lamargram	1341		
Kh	19	Madarkhal	2515		
	20	Mulikandi	831		
	21	Noagaon	215		
	22	Noagram	310		
	23	Paschim Beur	1224		
	24	Paschim Khala Chhara	220		
	25	Paschim Lohar Mahal	918		
	26	Purba Beur	1000		
	27	Purba Khala Chhara	383		
	28	Purbo Lohar Mahal	357		
	29	Sadarpur	321		
	30	Shait Showla	1027		
	31	Shekpara	519		
	32	Tarapur	337		
	33	Telikandi	393		
	34	Uttar Lohar Mahal	612		
	Sub Total		22517		775
	1	Balla	1596	Daudpur	1032
	2	Batpara	43	Nandersree	842
Manikpur	3	Brahmangram	700	Oashar	637
nik	4	Chandar Chak	300		
Ma	5	Dargah Baharpur (Part-1)	1818		
'	6	Dewan Chak	534		
	7	Dudher Chak	443		

Union	Sl.No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
	8	Ekapurba	345		
	9	Eolasar	1065		
	10	Fultola	1953		
	11	Harai Trilochan	312		
	12	Islampur	1055		
	13	Jarailtala	256		
	14	Jeapur	435		
	15	Kalakuta	842		
	16	Kandi	145		
	17	Kashara	1880		
	18	Kear Chandan	116		
	19	Konagram	588		
	20	Majir Chak	844		
	21	Maligram	1412		
	22	Mangalpur	102		
	23	Matargram	1602		
	24	Mohammadpur	564		
	25	Nayagram	1419		
	26	Nurpur	446		
	27	Pagliarpar	499		
	28	Parduna	323		
	29	Paschim Manikpur	800		
	30	Purba Manikpur	744		
	31	Purba Mansurpur	1381		
	32	Raghur Chak	525		
	33	Rasulpur	949		
	34	Shib Chak	430		
	35	Sirajpur	298		
	36	Suranandapur	1220		
	37	Topkhana	1294		
	38	Uttar mansurpur	494		
	39	Uttar Mansurpur	274		
	Sub Total		30046		2511
	1	Ajargram	344	Alongjuri	202
	2	Anandapur	811		
	3	Badajama	415		
ur	4	Bhaktipur	279		
Sultanpur	5	Bilpar	552		
Jult	6	Brahmangram Chak	394		
	7	Charigram	179		
	8	Chhayghari	446		
	9	Elabaj	1585		
	10	Elahat	483		

Union	Sl.No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
	11	Gachhua	1697		
	12	Gajkapan	254		
	13	Galaikandi	387		
	14	Gangajal	625		
	15	Ganipur	1690		
	16	Gazirkandi	159		
	17	Guabari	910		
	18	Halghat	294		
	19	Hazari Chak	140		
	20	Ichhapur	665		
	21	Islampur	228		
	22	Joyfarpur	268		
	23	Kandigram	197		
	24	Kangsha Barapati	550		
	25	Khachar Chak	1146		
	26	Khadiman	957		
	27	Majhband	311		
	28	Majli	1396		
	29	Mirzar Chak	587		
	30	Nalur Chak	247		
	31	Noagram	334		
	32	Paschim Gangajal	105		
	33	Pathan Chak	1136		
	34	Rahimpur	255		
	35	Sakhra	422		
	36	Satgauri	240		
	37	Sayedabad	1638		
	38	Shitaljori	324		
	39	Siraf Para	415		
	40	Sonargram	325		
	41	Subhanpur	68		
	42	Sultanpur	974		
	43	Tirashi	1029		
	44	Uttar Gangajal	399		
	Sub Total		25860		202
	1	Bakarshal	992	Anarashi	1045
	2	Chhaybaria	538	Hail	1045
nj	3	Dariabad	433	Rahimkhar Chak	989
Zakiganj	4	Fewa	96	Sarishakuri	552
Zak	5	Gadirashi	395		
	6	Husnabad	974		
	7	Lalgram	435		
	8	Manikpur	1523		

Union	Sl.No	Connected Villages	Population 2021 (Based on BBS 2011)	Disconnected Villages	Population 2021 (Based on BBS 2011)
	9	Mominpur	912		
	10	Paschimband	355		
	11	Rarai	782		
	12	Sanapat Chak	1183		
	13	Sarisha	261		
	14	Shimarband	190		
	15	Sultanpur	1556		
	16	Sundarer Chak	343		
	Sub Total		10968		3631

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

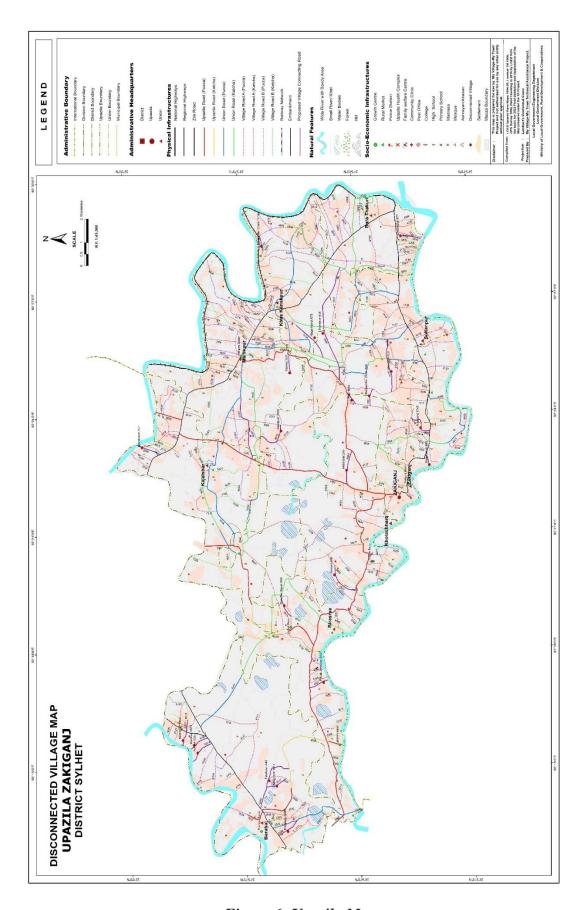


Figure 6: Upazila Map

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.

6.1 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)
737.89	218.21	519.68	62.30

6.1.1 Proposed All-Weather Routes:

There are 23 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 Type by Surface Condition	Unpaved length (km)
1	Gangajol-Rasulpur-Elongjuri Road.	691944033	All Weather	5
2	Zakiganj HQ- Ziro point Road- Ambari Jame Mosque- Duprirpar GPS	691944137	All Weather	2.5
3	Thana Bazar- Pathanchalk Road- Hail Islampur Road.	691944054	All Weather	0.55
4	Boloramer Chalk Kali Mondir Road	691945116	All Weather	3
5	R&H road to Barobond Road.	691945036	All Weather	2
6	Sonasha GPS (Noyabazar)- Gardispur GPS- Chandpur GPS- Tirashi GPS- Zakiganj HQ- Kaliganj GC Road (Tukerbazar Bridge)	691944057	All Weather	6.5
7	Vingir Bazar UZR- South Bipok Jame Mosque-Bipok RNGPS Road	691944166	All Weather	1.2
8	Zakiganj HQ- Kaliganj GC Road- (Rahimpuri Bridge Daskinpar)- Muslimpur- (Daudpur Kalibari) Eaulasar West jamee Mosque Fultoly Road.	691944079	All Weather	4.8
9	RHD Road- (Amolshid) Sarnigar- Kushiara Dyke road	691945101	All Weather	1

SL No	Road Name	Road ID	Road Type by Surface Condition	Unpaved length (km)
10	RHD Road- (Humaaira Community Center) Fatepur- Kashabpur- Shahgoli Busstand- Gucchgram- Laxmi bazar Road	691944040	All Weather	3
11	Hail Islampur- Kuchar Khal- Tirashi road	691944170	All Weather	3.75
12	Zakiganj GC- Atgram RHD Road- Lamargram- Holdirpar- (Sadarpur GPS)- Telikandi- Zakiganj GC- Kaliganj GC Road	691944085	All Weather	2
13	RHD Road- Kachua- Surma Dyke Road	691944154	All Weather	1.5
14	RHD Road- Shouth Khillogram Nobabi Jame Mosque Road.	691945098	All Weather	1.05
15	Maizgram Paccha road- Fotepur- Salik Member House	691945107	All Weather	1.12
16	Hatidohor- Nagarkandi- Mirjachac GPS Road.	691944075	All Weather	4
17	Zakiganj GC- Atgram RHD Road- (Abdur Rahman House)- Nandirsree- Mongolpur-Manikpur UP- Kajalshar UP Road.	691944043	All Weather	2.19
18	RHD Road- Nurnagar South road- Ghater Bazar- Dighirpar	691944101	All Weather	1.12
19	Zakiganj HQ- Kaliganj GC Road- Osar Hafizia Madrasha - Akapurba Masque- Shauth Road.	691945065	All Weather	0.65
20	Zakiganj HQ- (Ziro point) Road- East Jamdhor- (Kazi Abdul Khalik High School) Kushiara Dyike Road.	691944081	All Weather	1.2
21	RHD Road- Putizuri Road.	691945004	All Weather	2.05
22	Rahimkhar Chalk Mokam to Kata Khal Road. (Hosnabad Road)	691944097	All Weather	5
23	RHD Road- (Sobria GPS)- Sarisha Kuri Hazi Aziz mia house- Kushiara Dyke	691945081	All Weather	1.5

6.1.2 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 (<u>Annexure-2</u>) 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

- ➤ Zakiganj Upazila is located within the *Middle Meghna Flood Plain zone*. Zakiganj is partly covered by 2 major haors/ wetlands and there exist 2(two) 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 23 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 Zakiganj Upazila in Sylhet district is highly recommended.

ANNEXURE - 1

DETAILS OF GROWTH CENTER & HATBAZAR

		Market Category	Market	Market						Lan	d Area	(Acre)	I/	I/
Union	Union Market Name (GC=Gro Listed? (General/ Category Hat		Hat Day	Chandina Viti (Number)	Chandina Viti (Land)	Chandina Viti (Shop)	Toha	Khas	Private	Lease/ Khas Collectio n BDT (2020)	Lease/ Khas Collectio n BDT (2019)			
Bara Thakuri	Sharifgonj bazar	НВ	Yes	General Market	Both	2	10	6.00	10	10.0	0.23	0.40	123600	210000
Bara Thakuri	Kadur bazar	НВ	Yes	General Market	Wholesale	2	15	8.00	43	0.23	0.92	0.00	300	300
Bara Thakuri	Uttarkul bazar	НВ	Yes	General Market	Wholesale	2	0	0.00	0	0.00	0.23	0.00	0	0
Bara Thakuri	Bholanater bazar	НВ	Yes	General Market	Wholesale	2	0	0.00	0	0.00	0.16	0.11	160	0
Bara Thakuri	Naya bazar	НВ	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0
Bara Thakuri	Sonasar bazar	НВ	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0
Barahal	Shahgali bazar	GC	Yes	General Market	Both	7	175	1.40	450	0.10	2.57	0.50	3070000	2742000
Barahal	Ghater bazar	НВ	Yes	General Market	Wholesale	2	0	0.00	35	0.00	0.00	0.00	800	16950
Birasree	Madrasha bazar	НВ	Yes	Special Market	Wholesale	2	0	0.00	0	0.00	0.14	0.00	790000	657000
Birasree	Vingair bazar	GC	Yes	General Market	Wholesale	2	0	0.00	0	0.00	0.11	0.00	166510	171601
Birasree	Lakshmi bazar	GC	Yes	General Market	Wholesale	2	0	0.00	86	0.00	0.42	0.20	54701	75250
Birasree	Maiyakhali bazar	НВ	Yes	General Market	Wholesale	2	0	0.00	25	0.00	0.24	0.05	4630	3600
Birasree	Birosree union bazar	НВ	Yes	General Market	Wholesale	2	0	0.00	0	0.00	0.83	0.00	20295	15200
Birasree	Masum bazar	НВ	Yes	General Market	Wholesale	2	0	0.18	0	0.04	0.42	0.00	8880	8925
Birasree	Radhar bazar	НВ	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0
Birasree	Raghurashi bazar	НВ	No	0	0	0	0	0.00	0	0.00	0.00	0.00	0	0
Kajalshah	Ratangonj bazar	НВ	Yes	General Market	Both	2	58	0.13	41	0.00	0.51	0.00	18425	3500

		Market Category		Market						Lan	d Area	(Acre)	Logge/	Lease/
Union	Union Market Name (GC=Gro wth Warket Listed? (General/ Category Hat Category Wholesele/ Day (Wholesele/ Day)		Chandina Viti (Number)	Chandina Viti (Land)		Toha	Khas	Private	Lease/ Khas Collectio n BDT (2020)	Khas Collectio n BDT (2019)				
Kajalshah	Choudhury bazar	НВ	Yes	General Market	Wholesale	2	0	0.00	41	0.00	0.51	0.00	22200	20000
Kajalshah	Bairagir bazar	НВ	Yes	General Market	Wholesale	2	0	0.00	0	0.00	0.00	0.00	1500	2200
Kajalshah	Atgram bazar	НВ	Yes	General Market	Both	2	56	0.26	56	0.20	0.50	0.00	100000	110700
Kas Kanakpur	Munshi bazar	НВ	Yes	General Market	Wholesale	2	16	8.00	18	0.12	0.61	0.00	16000	5000
Kas Kanakpur	Kaskanakpur union bazar	НВ	Yes	General Market	Both	2	0	0.00	0	0.00	0.00	0.00	6500	4960
Kas Kanakpur	Haziganj bazar	НВ	Yes	General Market	Wholesale	0	0	0.00	0	0.00	0.39	0.00	160	0
Kholachhara	Eidgah bazar	GC	Yes	General Market	Wholesale	2	0	0.00	50	0.00	83.0 0	100.0	38200	32000
Kholachhara	Bhuiyer bazar	НВ	Yes	General Market	Wholesale	2	0	0.00	10	0.00	0.37	0.51	1800	4000
Manikpur	Kaliganj bazar	GC	Yes	General Market	Both	2	130	0.48	130	0.29	1.66	0.00	2481000	2382500
Sultanpur	Gangazal bazar	НВ	Yes	General Market	Wholesale	2	0	0.00	0	0.00	0.00	0.49	0	0
Zakiganj	Zakiganj bazar (m.a)	GC	Yes	General Market	Both	2	10	0.66	10	118. 00	134. 00	210.0 0	1498815	1498815
Zakiganj	Babur bazar	НВ	Yes	General Market	Both	2	0	0.00	82	0.00	127. 00	40.00	647000	582960
Zakiganj	Thana bazar	НВ	Yes	General Market	Wholesale	2	0	0.00	10	0.00	20.0	34.00	240	0

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 (10÷17)	Tentative Budget/1000 Population (in lac)	Fravel Time (in min)	Weightage for Population	Weightage for Travel Time	Weightage for Cost per 1000 Pop	Weightage for Road Type	Total Weightage	Priority
1	Zakiganj	Manikpur	Daudpur	1032	1182.426521	Zakiganj HQ- Kaliganj GC Road- (Rahimpuri Bridge Daskinpar)- Muslimpur- (Daudpur Kalibari) Eaulasar West jamee Mosque Fultoly Road.	691944079	VRA	All Weather	4.80			4.80	4.80	4.80	576.00	0.00	0.00	576.00	246	487.13	72.00	18	16	25	12	71	1
2	Zakiganj	Barahal	Khilgram	4054	4644.919688	RHD Road- Shouth Khillogram Nobabi Jame Mosque Road.	691945098	VRB	All Weather	1.05			1.05	1.05	1.05	126.00	0.00	0.00	126.00	4424	27.13	15.75	20	10	25	12	67	2
3	Zakiganj	Barahal	Nurnagar	1869	2141.429427	RHD Road- Nurnagar South road- Ghater Bazar- Dighirpar	691944101	VRA	All Weather	1.12			1.12	1.12	1.12	134.40	0.00	0.00	134.40	1912	62.76	16.80	20	10	25	12	67	3
4	Zakiganj	Zakiganj	Rahimkhar Chak	989	1133.15875	Rahimkhar Chalk Mokam to Kata Khal Road. (Hosnabad Road)	691944097	VRA	All Weather	5.80		0.80	5.00	5.80	5.80	696.00	0.00	0.00	696.00	195	614.21	87.00	18	16	20	12	66	4
5	Zakiganj	Zakiganj	Anarashi	1045	1197.321429	Thana Bazar- Pathanchalk Road- Hail Islampur Road.	691944054	VRA	All Weather	0.55			0.55	0.55	0.55	66.00	0.00	0.00	66.00	2177	55.12	8.25	18	10	25	12	65	5
6	Zakiganj	Barahal	Maijgram	1611	1845.822797	Maizgram Paccha road- Fotepur- Salik Member House	691945107	VRB	All Weather	1.12			1.12	1.12	1.12	134.40	0.00	0.00	134.40	1648	72.81	16.80	18	10	25	12	65	6
7	Zakiganj	Barahal	Kachua	1677	1921.443097	RHD Road- Kachua- Surma Dyke Road	691944154	VRA	All Weather	1.50			1.50	1.50	1.50	180.00	0.00	0.00	180.00	1281	93.68	22.50	18	10	25	12	65	7
8	Zakiganj	Birasree	Dakshin Bipak	966	1106.806221	Vingir Bazar UZR- South Bipok Jame Mosque-Bipok RNGPS Road	691944166	VRA	All Weather	1.20			1.20	1.20	1.20	144.00	0.00	0.00	144.00	922	130.10	18.00	18	10	25	12	65	8
9	Zakiganj	Khas Kanakpur	Balaramer Chak	1416	1622.399181	Boloramer Chalk Kali Mondir Road	691945116	VRB	All Weather	3.00			3.00	3.00	3.00	360.00	0.00	0.00	360.00	541	221.89	45.00	18	10	25	12	65	9
10	Zakiganj	Zakiganj	Hail	1045	1197.321429	Hail Islampur- Kuchar Khal- Tirashi road	691944170	VRA	All Weather	3.75			3.75	3.75	3.75	450.00	0.00	0.00	450.00	319	375.84	56.25	18	10	25	12	65	10
11	Zakiganj	Khas Kanakpur	Nagarkandi	678	776.8267263	Hatidohor- Nagarkandi- Mirjachac GPS Road.	691944075	VRA	All Weather	5.00	1.00		4.00	5.00	4.00	480.00	0.00	0.00	480.00	194	617.90	60.00	15	16	20	12	63	11
12	Zakiganj	Manikpur	Oashar	637	729.8504788	Zakiganj HQ- Kaliganj GC Road- Osar Hafizia Madrasha - Akapurba Masque-Shauth Road	691945065	VRB	All Weather	0.65			0.65	0.65	0.65	78.00	0.00	0.00	78.00	1123	106.87	9.75	15	10	25	12	62	12
13	Zakiganj	Birasree	Purba Jamdhar	814	932.6503764	Zakiganj HQ- (Ziro point) Road- East Jamdhor- (Kazi Abdul Khalik High School) Kushiara Dyike Road.	691944081	VRA	All Weather	1.70	0.50		1.20	1.70	1.20	144.00	0.00	0.00	144.00	777	154.40	18.00	15	10	25	12	62	13
14	Zakiganj	Bara Thakuri	Daulatpur	477	546.5285375	RHD Road- (Amolshid) Sarnigar- Kushiara Dyke road	691945101	VRB	All Weather	1.00			1.00	1.00	1.00	120.00	0.00	0.00	120.00	547	219.57	15.00	15	10	25	12	62	14
15	Zakiganj	Manikpur	Nandersree	842	964.7317161	Zakiganj GC- Atgram RHD Road- (Abdur Rahman House)- Nandirsree- Mongolpur- Manikpur UP- Kajalshar UP Road.	691944043	VRA	All Weather	3.01	0.82		2.19	3.01	2.19	262.80	0.00	0.00	262.80	441	272.41	32.85	15	10	25	12	62	15
16	Zakiganj	Kajalshar	Baraband	757	867.3419348	R&H road to Barobond Road.	691945036	VRB	All Weather	2.00			2.00	2.00	2.00	240.00	0.00	0.00	240.00	434	276.71	30.00	15	10	25	12	62	16
17	Zakiganj	Zakiganj	Sarishakuri	552	632.4606975	RHD Road- (Sobria GPS)- Sarisha Kuri Hazi Aziz mia house- Kushiara Dyke	691945081	VRB	All Weather	1.50			1.50	1.50	1.50	180.00	0.00	0.00	180.00	422	284.60	22.50	15	10	25	12	62	17

^{***} 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 per KM/1000 people= 25, Road Hierarchy= 25)

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 (10÷17)	Tentative Budget/1000 Population (in lac)		Weightage for Population	Weightage for Travel Time	Weightage for Cost per 1000 Pop	Weightage for Road Type	Total Weightage	Priority
18	Zakiganj	Barahal	Putijuri	508	582.0471636	RHD Road- Putizuri Road.	691945004	VRB	All Weather	2.05			2.05	2.05	2.05	246.00	0.00	0.00	246.00	284	422.65	30.75	15	10	25	12	62	18
19	Zakiganj	Kholachhara	Ambari	490	561.4234452	Zakiganj HQ- Ziro point Road- Ambari Jame Mosque- Duprirpar GPS	691944137	VRA	All Weather	2.50			2.50	2.50	2.50	300.00	0.00	0.00	300.00	225	534.36	37.50	15	10	20	12	57	19
20	Zakiganj	Kholachhara	Haldirpar	285	326.542208	Zakiganj GC- Atgram RHD Road- Lamargram- Holdirpar- (Sadarpur GPS)- Telikandi- Zakiganj GC- Kaliganj GC Road	691944085	VRA	All Weather	2.00			2.00	2.00	2.00	240.00	0.00	0.00	240.00	163	734.97	30.00	15	10	20	12	57	20
21	Zakiganj	Bara Thakuri	Chandpur	434	497.2607658	Sonasha GPS (Noyabazar)- Gardispur GPS- Chandpur GPS- Tirashi GPS- Zakiganj HQ- Kaliganj GC Road (Tukerbazar Bridge)	691944057	VRA	All Weather	8.50	2.00		6.50	8.50	6.50	780.00	0.00	0.00	780.00	77	1568.59	97.50	15	16	12	12	55	21
22	Zakiganj	Sultanpur	Alongjuri	202	231.4439509	Gangajol-Rasulpur-Elongjuri Road.	691944033	VRA	All Weather	5.00			5.00	5.00	5.00	600.00	0.00	0.00	600.00	46	2592.42	75.00	15	16	10	12	53	22
23	Zakiganj	Barahal	Fatehpur	449	514.4471978	RHD Road- (Humaaira Community Center) Fatepur- Kashabpur- Shahgoli Busstand- Gucchgram- Laxmi bazar Road	691944040	VRA	All Weather	3.50	0.50		3.00	3.50	3.00	360.00	25.00	225.00	585.00	171	1137.14	45.00	15	10	15	12	52	23

^{***} 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 per KM/1000 people= 25, Road Hierarchy= 25)