

PART II: GENERAL FINDINGS & KEY OUTPUTS

Study for enhancing accessibility to dispersedly located villages in the three hill districts under 'My Village-My Town Technical Assistance Project'



PART II: GENERAL FINDINGS & KEY OUTPUTS

8. Introduction

- 8.1 Given that Part I covers ‘Introduction and General Overview’, this Part II of the report presents general findings, followed by key outputs produced under this Study. Here in this Part II, maps are encompassed at its end in A4 size for convenience in reading the report for outputs and proposals; while all key outputs are produced in A3 size for better readability and provided in the separate volume of **Appendices of Key Outputs & Observations**. This will help sharing the outputs with the stakeholders and field offices conveniently and then using more efficiently. This volume forms an integral part of the main report and includes Master Database of disconnected villages and population, Tourism Maps, Upazila Maps, Case Study Union Maps, and observations from the Case Study Unions illustrated pictorially. The Study produces Tourism Maps and Upazila Maps also in A1 size to deliver with the Final Report as per the Contract Agreement.

9. Understanding from the Literature Review & Consultation

- 9.1 The Chittagong Hill Tracts (CHT) comprises of the three hill districts of Rangamati, Bandarban and Khagrachhari located in Chittagong Division in the south-east of Bangladesh. It has an area of 13,294 square kilometers, most of which is highland. The population is estimated at 1.6 million and ethnically and culturally very diverse. About half of the population belongs to 11 different ethnic tribal groups with distinct language, culture, justice systems and traditions, and the rest is predominantly Bengali (Muslims and Hindus). Buddhism, Islam and Christianity are the widely practiced religions. The CHT is geographically distinct from the most parts of the plain-land and is mostly characterized by very steep, rugged and mountainous terrain. It is a low-density area with a population of only 136/sq. km, in stark contrast to the rest of the country (968/sq. km). Most of the population lives in small scattered habitats, locally known as ‘Paras’, which are difficult to access, because of the hilly and sometimes remote terrain. The area’s remoteness, poor communication and unique socio-economic characteristics have made it difficult for providing basic social services to inhabitants residing in the CHT region. Moreover, the region suffered a 25-years’ conflict till the Peace Accord signed in 1997, which means that . the development in the region was slow in comparison to the plain land and/or temporarily abandoned from the mainstream development.
- 9.2 The very legacies are that illiteracy rates are high, access to health services is poor and most rural villages are inaccessible. While there is better awareness now about the benefits of education, access and quality issues remain high in the list of concerns. There are also security concerns, especially for girls who often must travel long distances to attend school. Health care centres in some cases remain located a long way from remote villages and there are transport challenges in reaching them. The challenges for children in particular are considerable, often exacerbated by: (i) lack of transport and high

transport costs; (ii) seasonal inaccessibility to hard-to-reach areas; (iii) weak communications systems; (iv) linguistic and cultural barriers; (v) shortage of teachers in hard-to-reach areas; and (vi) security-related concerns often due to remoteness and travel distances. Many children in the CHT live in an undulating terrain that is susceptible to landslides and can become dangerously slippery during the monsoon season. In Rangamati district, it is necessary for villagers to travel by boat to get their children to school or receive health care services. Similar difficulties are apparent in the other two CHT districts, where in some cases the nearest facilities such as markets and community clinic can take hours or even days to reach. The costs of consuming social services such as health care and education are also influenced by the costs of moving between the residence and the site of the service. Lowering the costs of access increase the demand for these social services. The CHT has water scarcity. Access to safe drinking water is a major concern, and women normally fetch water up the hill (with no stairs made with paved or hard surface) from a far distant Jhiri/stream (using a pathway created by walking) particularly in the dry season.

- 9.3 **Essential Travel & Transport:** Studies of the transport activities of rural households demonstrate that (1) subsistence agriculture is the dominant economic activity; (2) nearly 90 percent of household trips are pedestrian, moving on foot along paths and tracks to local places, and rarely traveling long distances from the village; (3) rural household members seldom leave the local area (only 0.6 percent of all trips), and (4) women shoulder a disproportionate share (roughly 65 percent of household time spent on transport and of weight carried). A significant portion of the tribal ethnic population practices Jhum cultivation, a form of crop rotation carried out by the use of slash and burn techniques. At the onset of the Jhum season, scores of families move to the Jhum areas, most of which are located far away from their Para home. The pattern of essential travel and transport are as follows:

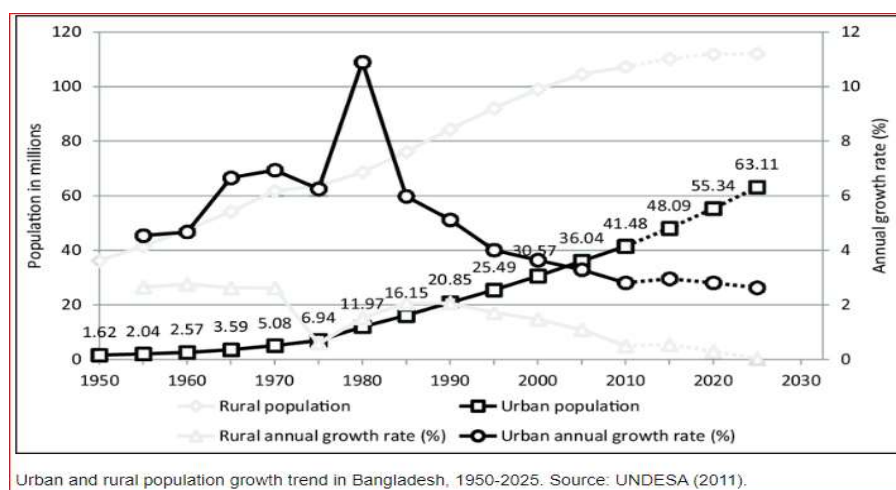
9.3.1 **Domestic tasks.** The primary tasks include collection of water and firewood, transport of small amounts of grain to and from a grinding mill, and social, leisure, and children's school travel. These trips are frequent (several per day), follow a regular pattern, and are almost always to nearby destinations. Seventy-five percent of the time spent on essential travel and transport is spent on domestic tasks.

9.3.2 **Agricultural production and marketing.** These trips are for purchasing of agricultural inputs, tillage, application of inputs to fields, weeding and other care of crops, harvest of crops, and marketing of surplus production. The frequency of such trips is high, but subject to considerable variation with the agricultural cycle. Most of these trips are to nearby destinations around household or Jhum field sometimes far away from the homestead. Eighteen percent of the time spent on essential travel and transport is spent on agricultural travel.

- 9.3.3 **Travel to local markets and paid employment.** People regularly travel to local markets to purchase household supplies, or for social interaction. Some persons travel back and forth to work daily. This category of frequent travel is only undertaken if the round-trip can be completed in a single day. Six percent of the time spent on essential travel and transport is market related.
- 9.3.4 **Travel to health facilities.** Infrequent and irregular at varying distances, less than 1 percent of the time spent on essential travel and transport is related to health services.
- 9.3.5 **Long distance travel.** Very infrequent trips, often for social services from Upazila HQ. Where available and accessible, normally use motorized transport of Chander Gari, Auto and motor bikes or multi-modal transport, and walking take few hours of the day. Time spent on long distance travel would amount to a fraction of a percent of the total time spent on essential travel and transport.
- 9.4 **Rural Connectivity:** Rural connectivity (for essential travel and transport) is a key component of rural development and contributes significantly to the socio-economic development of rural people by providing access to amenities like education, health, marketing, etc. Access to better health and education usually improves more rapidly along roads than elsewhere. A study in Thailand revealed that impact of roads was more on isolated areas that were brought into the mainstream. The area under cultivation and the intensity of land use increased significantly wherever access to market is improved (Moore, 1980).
- 9.5 According to Samanta, P. K. (2015), rural roads are the wealth of a nation, a tool for social inclusion, economic development and environmental sustainability. Rural roads link communities and their agricultural fields to the main transport system and markets. Thus, improving rural roads reduces transport cost and stimulates marketing. This results in increased production and productivity, crop diversification and increased profitability. The study of the effects of rural roads improvement in the Philippines revealed improved economic, social and human services indicators (USAID, 1978). The gross household income increased by 28 percent primarily due to cheaper and more reliable transport, cheaper farm inputs, higher farm gate prices and large share of major crops sold directly in markets.
- 9.6 Enhancement in rural connectivity increases non-farm employment, better access to education, health and farm management services, improved recreation facilities and information flows. The study by IFPRI of 129 villages in various parts of Bangladesh categorized the villages into two groups based on an aggregate index developed to reflect the ease and access of a village to various services such as markets, schools, banks and local administrative offices. Villages with better access were found to be significantly better off in a number of areas including agricultural production, household income, and wage income of landless labour, health and participation of women in the economy

(Ahmad and Hossain, 1990). It is found that access to all-weather roads in 15 villages in Ethiopia reduced the incidence of poverty by 6.7% (World Development Report of World Bank, 2008).

- 9.7 Enhancing the rural connectivity is therefore essential to prevent the rise in urban rural disparities in growth and development for the country as a whole and for the CHT area in particular. The country has been experiencing out-migration of rural poor to urban centres in search of employment and livelihood; and out-migration of the rich for quality education and standard living. The graph below shows a gradual increase in urban population with the decrease in trend in rural population. For the CHT, this is the educated and the well-off who moves to the urban centres with employment and/or for education of the children the most. The trend needs to be reversed with creation of modern civic facilities and opportunities in the rural Bangladesh, including in the rural CHT that ‘My Village My Town Project’ aims to achieve through extending the modern civic amenities in every villages of the country.



Graph 2: Rural & Urban Population Growth in Bangladesh

10. General Findings of the Study

- 10.1 Numerous studies have established the positive relationship between rural connectivity and development; such of rural roads provide vital links that foster effective access to a host of important social services and physical infrastructures. A multitude of benefits are attributed to rural road development, including increased agricultural production, better farm prices, growth of dairying, rural industrialization, better educational standards, and higher life expectancy resulting in balanced and faster development of rural areas. Rural road development enhances access to markets for both inputs and outputs through a reduction in transaction and trade cost (transport and logistics cost). The greater availability of inputs increases their use by farmers. Consequently, agricultural productivity can increase. Rural roads also allow producers to achieve additional productive opportunities, leading to rise in production. Studies on rural road development in several countries reported rise in male agricultural wages and aggregate crop indices

(Bangladesh), increase in the availability of food, the completion rates of primary school and the wages of agricultural workers (Vietnam), etc. These findings are substantiated by the findings of this Study in the three hill districts. Agricultural diversification, vegetable cultivation, and fruit gardening are evident along roads where connectivity is established with the main transport network.

- 10.2 Though banana, jackfruit, mango and pineapple grow in plenty in the CHT area with potential for drying and processing, the region has no food preservation and processing industry yet established. The ‘Pran Group’ has been promoting fruit gardening in the CHT region by purchasing fruits from the local growers, and/or establishing mango orchards but yet do not process the fruits locally in the producing districts or in the CHT region that could have created employment for the local people.



Picture 14: Vegetable garden along road side



Photo 15: Land converting to pineapple garden

- 10.3 ‘Jhum is perceived by the CHT tribal people as ‘Bazar or Hat’, where they grow fruits and subsistence crops including carpus for making of clothes. According to the findings from the Study and literature review, for protein, Jumma families were and are still dependent mostly on wild animals and natural fishes that are insufficient for a family and individual body requirement, and the intake is also not regular. Inadequate consumption is thus causing them suffer from protein deficiency and malnutrition varying across the ethnic groups. Chakmas are the better off, while Mro are the worst off. Lacking by alternative livelihood and then due to remoteness, high dependency on jhum cultivation is evident from the Study. It is understood that lack of access to market for day to day essential commodities has been made the tribal community residing in the hilly terrain highly dependent on jhum since time immortal.
- 10.4 A study by Jalan and Ravallion (2002) show that road density had a highly significant positive effect on consumption growth at the farm-household level in rural areas of Southern China from 1985 to 1990. Using household data in Ethiopia, Dercon and others (2008) find that the proximity of a road is a major factor in reducing poverty. Fan, Nyange, and Rao (2005) shows that each kilometer reduction in the distance to a public transportation facility reduces the probability of a household being poor by 0.22 to 0.33 percent in Uganda. This Study in the three hill districts observes that the prevalence of

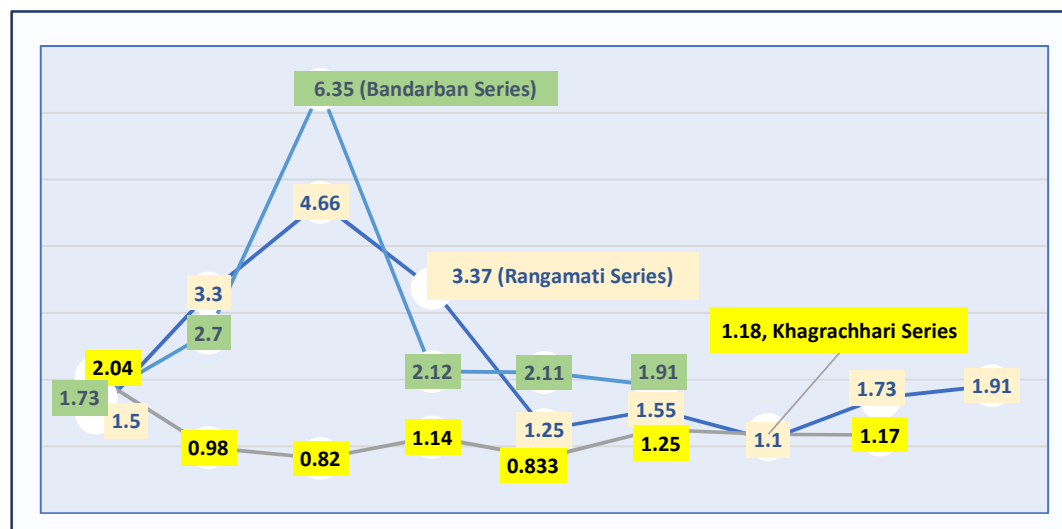
malnutrition, poverty and drop out of children is the highest in the remotest villages and among the poorest community.

- 10.5 According to this Study in the three hill districts of the CHT, the distance from the Upazila HQ varies from 2 km to 30 km or even more up to 45 km. Principal means of transport include road, road and walking trails, and multi-modal (road, waterways and walking trail) too. Traveling time ranges from one hour to hours depending on the location and remoteness of the villages (**Table 6 & Graph 3**). For example, villages of Kurukpata or Balipara (Alikadam), Sadhu Headman Para (Rowangchhari), Gelenga union (Ruma), Dochari Union (Naikongchhari), Andarmanik (Barkal), and Betling (Bagaichhari) are far from their Upazila HQs by 35 to 45 km. Until Alikadam to Bali Road built by the Army, people had to walk the whole distance; traditional boat was only used for few months of the year and for part of the distance from home to Upazila HQ. At the time of the Study, motor cycle and auto rickshaw were used to ply on the built road but was yet not open for public bus, fare (both trips 400 taka by Motor bike, 200 Taka by Auto) was expensive for the poor villagers who still walk the distance. Villagers have to reach one day before the hat day and stay over a night at Alikadam Upazila HQ. For Betling not being connected by all-weather road or waterways, villagers from the Betling have to stop over a night with the community walking their way to and from Masalong Bazar situated on Bagaihat -Sajek Road.

Table 6: Principal Communication Means & Avg. Travel Time from Upazila HQ

SL No	Upazila	Principal Means of Communication from Upazila HQ	Total Travel time from Upazila HQ	Average travel time from Upazila HQ
District: Rangamati				
1	Bagaichhari	Road, River+Road	30 min to 3 hrs.	1.5
2	Barkal	Road+River	1 hr. to 6 hrs.	3.3
3	Belaichhari	Road	1.5 hr. to 10 hrs.	4.66
4	Juraichhari	Road	1 hr. to 9 hrs.	3.37
5	Kaptai	Road	45 min to 2 hrs.	1.25
6	Kawkhali	Road	45 min to 2 hrs.	1.55
7	Langadu	Road, River/Lake+Road	1 hr to 2.75 hrs	1.1
8	Naniarchar	Road	45 min to 3 hrs	1.73
9	Rajasthali	Road, Road+walking trail	1 hr to 4 hrs	1.91
District: Khagrachhari				
1	Dighinala	Road+Walking trail	1 hr to 3 hrs	2.04
2	Guimara	Road, River + Road + Walking Trail	30 min to 3 hrs	0.98
3	Lakshmichhari	Road	30 min to 1 hrs	0.82
4	Mahalchhari	Road, Road+walking trail	20 min to 2.5 hrs	1.14
5	Manikchhari	Road	30 min to 1.5 hrs	0.833
6	Matiranga	Road, Road+walking trail	30 min to 2 hrs	1.25
7	Panchhari	Road, Road+Walking Trail	30 min to above 3 hrs	1.18
8	Ramgarh	Road, Road+Walking Trail	30 min to 3 hrs	1.17

District: Bandarban				
1	Alikadam	Road + Walking Trail	1 hr to 2.5 hrs	1.73
2	Lama	Road, Road + Walking Trail	2 hr to above 3 hrs	2.7
3	Naikongchari	Road, Road + Walking Trail	2 hr to 8 hrs	6.35
4	Rowangchhari	Road + Walking Trail	1.5 hr to 2.5 hrs	2.12
5	Ruma	Road, Road + Walking Trail	1 hr to 3 hrs	2.11
6	Thanchi	Road + Walking Trail	1 hr to 3 hrs	1.91



Graph 3: Avg. Travel Time from Upazila HQ in the three hill districts

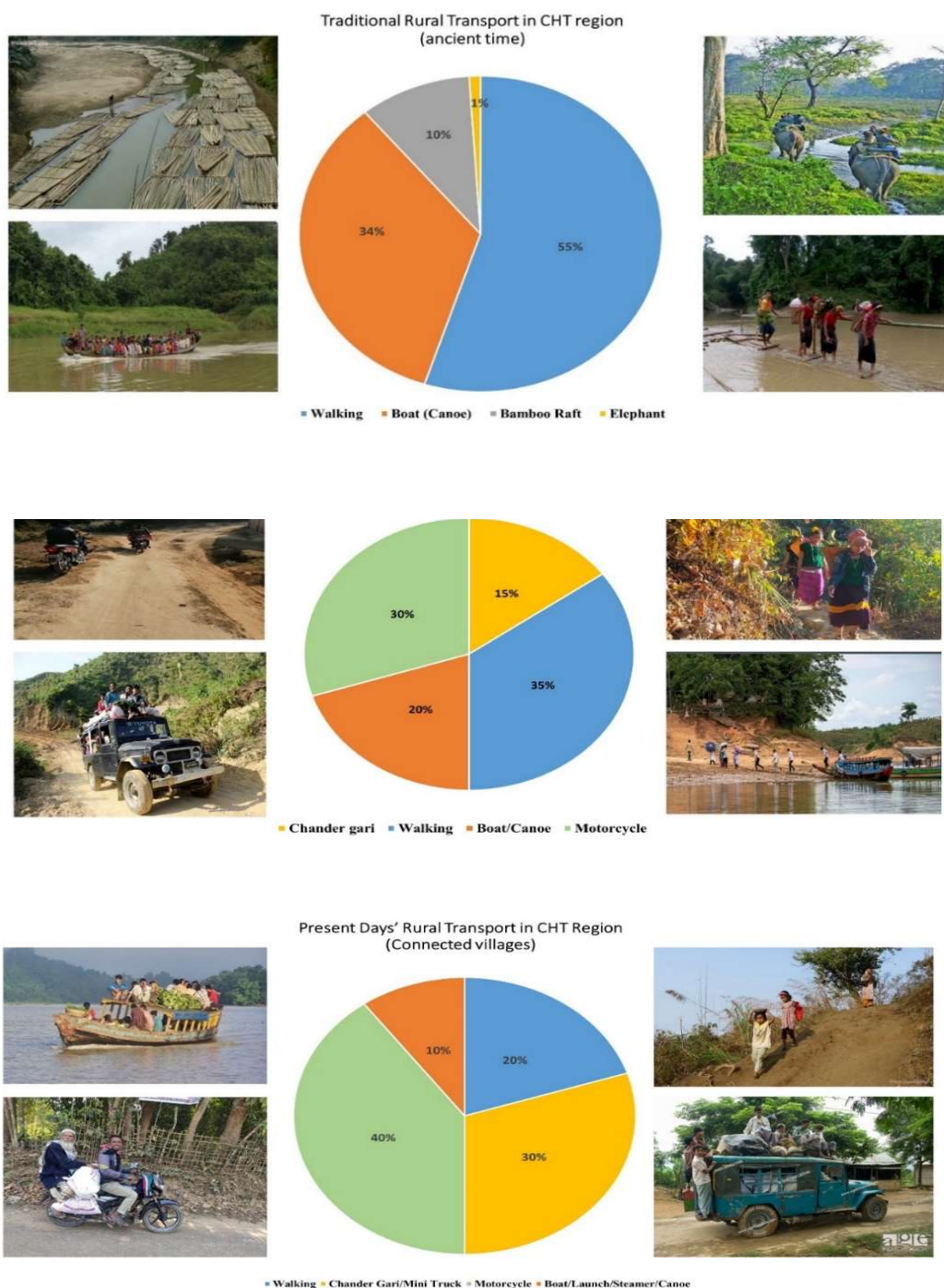
$$\text{Transport System} = f(\text{Transport Route}) + f(\text{Transport Mode})$$

11. Findings on Traditional Transport Communication in the CHT region

- 11.1 The overall performance of accessibility *vis-à-vis* transport system depends both on the condition of transport route and the transport mode(s) that ply on the route in a given situation. The below **Figure 3** prepared in three slides to portray the transport modes and their tentative share in percentages is derived based on the qualitative information gathered at stakeholder consultation meeting and through FGDs and KIIs. This is comprehended that walking (55%) and canoe boats (34%) were the most used transport modes in the ancient days; elephant (1%) was used by few only from the elite class for commuting inter- and intra- districts. This accessibility condition has been improved especially after the Peace Accord signed in 1997. Inter districts connectivity is established by paved highways and most Upazila HQs are also connected by paved road except three Upazilas (Barkal, Belaichhari and Juraichhari) connected by inland waterways with their District HQ. Given the connectivity, transport modes have also been changed but walking is still a dominating mode used by the poor and lower middle-income groups of both connected and disconnected villages. Motor cycle (40%) and Chander Gari (30%) are widely used by the connected villages, while motor cycle and Chander Gari also ply on the earthen road of the disconnected villages but passable in the dry season up to a certain

point. The **Figure 3** shows transport communication in three hill districts: traditional transport of ancient time and that of now in connected and disconnected villages in the CHT region.

Figure 3 showing Traditional Transport Communication in the CHT region



12. Findings on Major Crops grow in the CHT region

12.1 People in the Chittagong Hill Tracts primarily depend on agriculture for their livelihood. In the old days, there was only subsistence agriculture in the CHT region, called Jhum cultivation, but these days jhum land are being gradually converted to commercial agriculture of fruit gardens and vegetables that can earn higher cash income by selling out to the markets or vendors. Access to transport or proximity to the main transport network is a decisive factor in choosing crops for cultivation. The main crops grown in the villages and upazilas of the three hill districts are: Banana, Mango, Lychee, Pineapple, Papaya, Sugarcane, Jackfruit, Orange, ginger, turmeric, and vegetables. **Figure 4** below shows Major Crops produced in the three districts of the CHT region.

Figure 4: Major Crops Produced in the CHT districts



Source: Developed based on field observations and discussions under the "study for enhancing accessibility to the remotely located villages in the three hill districts, 2021"

12.2 The Chittagong Hill Tracts (CHT) has potential for agriculture development but this is a challenging hotspot for climate change which threatens sustainable agriculture development in the region. Here water scarcity is a major impediment to agriculture and to the improvement of people's lives and livelihoods. "Agriculture and development activities cannot continue without sufficient access to water. Stream and river water flow must be revived through reforestation," said Bohmong Circle Chief, U Chaw Prue.



Shifting Cultivation in the CHT

- 12.3 Jhuming or shifting cultivation, popularly known as Sweden cultivation or cultivation of slash and burn, is the most prevalent form of cultivation in the hill districts of Bangladesh. Jhuming is practiced on sloppy hills outside reserve forests. In this rain fed upland cultivation system, an area is entirely cleared of its vegetation by cutting and then burning the cut material in the dry season. During the peak jhum season of May to July, the hilly areas receive heavy high intensity rainfall. The cleared jhum plots are very susceptible to soil erosion during this time (Gafur et al. 2002). A study found that 41 tonnes/ha² of soil was lost through the jhum cultivation of a moderately steep to steeply sloping jhum field in one season (Gafur, et al. 2002). This suggests that the long-term effect of jhum cultivation is more damaging than previously presumed. Commenting on jhum cultivation practiced in the adjoining area of Mizoram, Northeast India, Lienzela (1997) called for the banning of shifting cultivation “to save Mizoram and her environment”. The situation in CHT is even more urgent due to the three times greater population pressure and the much shorter fallow periods. Back in 1965 the Canadian Forestal Survey Group (SRDI 1986) raised the alarm about rapidly decreasing fertility and yield decreases in jhum plots caused by the reduction in the fallow periods. They also reported increased landslides, soil erosion, nutrient depletion and the irreversible degradation of land, soil and environment. Since then these problems have increased as the population density has increased from 29 km² in 1961 (BBS 1993) to 96 km² in 2000 (Gain 2000).
- 12.4 The settlers (mainly from in-migration from the plain areas) are introducing plain land cultivation techniques on the hill slopes. They practice deep ploughing (spading), and grow tuber crops like potato, aroids, ginger, and turmeric along the slopes rather than along the contours, a pattern of cropping that is very susceptible to soil erosion. The jhum system results in severe losses of soil and essential plant nutrients by erosion each year. Assuming 2.5% of the CHT’s land is under jhum each year, it has been estimated that nearly one million tonnes of soil, containing several tonnes of nutrients, is lost from the jhum cultivated areas of CHT each year. There is a need to bring changes in the traditional system and also monitoring of the land use pattern. Enhancing rural connectivity should not make agricultural development unsustainable and threaten ecosystem and wild life.

13. Key Outputs of the Study

- 13.1 The Study for the three hills districts of Rangamati, Khagrachhari and Bandarban produces the following major outputs: (1) Database of disconnected village and population which consists of a long list of roads and riverine routes/inland waterways, (2) Upazila maps illustrating disconnected villages and population in A4, A3 and A1 sizes, (3) Case study union maps showing the core network and proposed priority routes in A4 and A3 sizes, (4) Observations from the case study unions picturing the actual conditions of the visited routes/roads and pathways, and (5) Tourism maps for the three hill districts showing the potential tourism spots and the proposed link in establishing connectivity that promotes tourism in the region in A1 and A3 sizes. These major outputs are provided in a separate volume of **Appendices of Key Outputs & Observations** consolidated at the CHT, District and Upazila levels for ease in use with better readability.
- 13.2 The database is reviewed and updated working together with the LGI representatives and LGED upazila technical staff at the stakeholder consultation meeting held at each upazila. This participatory approach and meetings were instrumental to review and update the disconnected village database union-wise invariably for each upazila and also to identify the priority sub-projects of transport infrastructure (such as road, inland waterway and structures), and then mapping the disconnected villages and population in presence of respective union representatives (chairman and members) and upazila engineering team conversant with the area and sub-projects. Field observations from the 23 case study unions, Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) were helpful to validation/authenticity check of the sub-projects and on-site feasibility study.



- 13.3 **Output 1. Disconnected Village Database:** Priority sub-projects in the Database are organized in a tabular form by district and upazilas and provided in **Appendix-1** in the volume of **Appendices of Key Outputs & Observations**. The first is Rangamati district, followed by Khagrachhari and Bandarban. Each district has priority list of sub-projects by Upazilas and Unions. The priority list of non-gazetted (No ID) roads are compiled at the CHT level and provided in a separate Table with qualifying road type in a Tabular

form too. The criteria used for prioritization can be seen in the **Approach & Methodology Section** of the Part I of the Main Report, and then also in the volume of Appendices. The priority is ranked in a scale of 1-3, where 1 =the highest priority and 3= the lowest priority.

- 13.4 354 Km Upazila road, 299 km Union road, 917 km Village Road Type and 345 km Village Road Type B are identified as priority need for development of which 840 km is non-gazetted No ID roads. Of the total 2756 km, 1380 km belong to Priority 1, 826 km to Priority 2 and 550 km to Priority 3 category. Below **Table 7, Graph 4** present the priority needs by the three hill (CHT) districts.

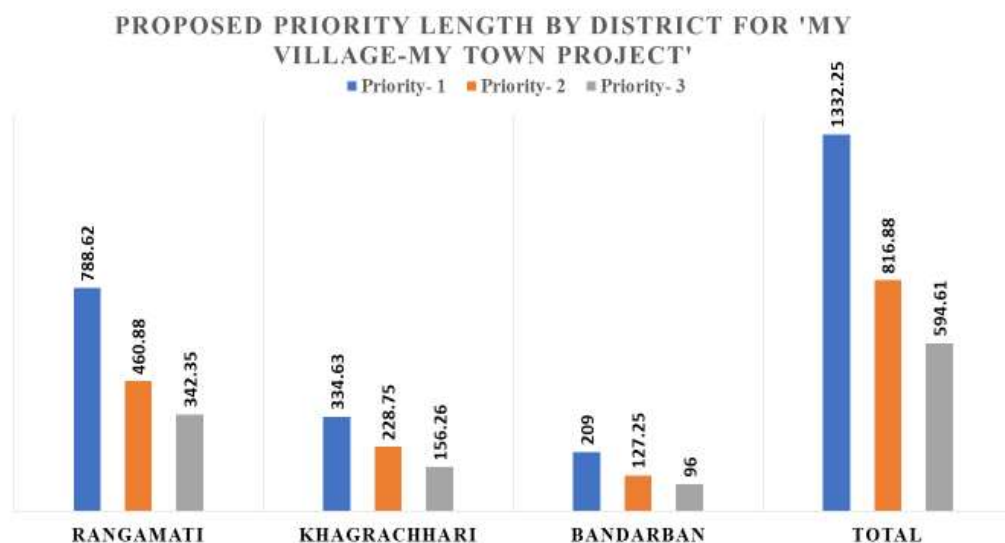


Table 7: Priority Length by Road Type by District

Hill Districts	Total Priority Length KM under MVMT (as of March 2022)				
	Upazila Road	Union Road	Village Road A	Village Road B	No ID
Rangamati	315.56*	245.41	404.36	286.58	294.00
Khagrachhari	34.00	29.54	446.20	25.50	173.90
Bandarban	2.50	18.00	55.00	22.25	347.50
Total	354	299	917	345	840

13.5 Priority Routes for Inland Waterways: The Study identified following riverine routes that need dredging on priority:

- (1) Shuvolonga Khal in Juraichhari Upazila need dredging to start at the Karnafuli River up to Juraichhari Sadar. Now the Khal remains navigable by the speed boat for only 9 months.
- (2) Mainee River in Langadu Upazila need dredging to connect with the CO Tila point. The passage in between CO Tila and Mainee are not navigable throughout the year.
- (3) Kattoli Beel in Langadu Upazila need dredging.
- (4) Karnafuli River from Barkal to Choto Harina of Rangamati need dredging.

13.6 In general, the ghats are not in good condition of the inland waterways in the three-hill districts. In facilitating the safe use of waterways, the following 15 (Fifteen) ghats in total are identified to be developed or improved on priority as listed in **Table 8** below:

Table 8: List of Ghats need Dredging in the three hill (CHT) districts

SL	Upazila	Union	River Way	Ghat
1	Langadu	Bhasanya Adam	Kaptai Lake	Monas Para Ghat
2		Bagachattar		CO Tila Ghat
3		Langadu	Mainee River	Langadu Launch Ghat
4		Maineemukh		Maineemukh Bazar Ghat
5	Barkal	Shuvolong	Karnafuli River	Shuvolong Bazar Ghat
6				Naraichhari Saw Mill Ghat
7				Kadam Tila Ghat
8	Bagaichhari	Sajek	Kassalong River	Voachhari Ghat
9		Belaichhari	Khal	Belaichhari Launch
10	Juraichhari	Juraichhari	Shuvolonga Khal	Juraichhari Bazar Ghat
11	Naniarchar	Burighat	Kaptai Lake	Kheda Mollah Ghat
12				10 No. Tila Ghat
13				8 No. Tila Ghat
14	Thanchi	Remakri	Sangu River	Bara Modwok Ghat
15				Chhota Modwok Ghat

13.7 Output 2. District Tourism Maps: The Study produces three ‘Tourism Maps’ in A1 & A3 sizes for the three hill districts showing the proposed priority roads and connecting tourism spots. This output in A4 size is presented in **Appendix-2** of the Part II, while this output in A3 size is included in the volume of Appendices. Potential tourism spots or avenues to be developed new under the MVMT project are shown in the Maps:

- Eco-park development in Manikchhari Upazila of Khagrachhari District. Road connecting the Eco-park are identified and mapped. Development of other facilities and infrastructure are provided in the conceptual framework.
- Landmark Tower in Sita Pahar of Kaptai Upazila of Rangamati District including hanging bridge on the Karnafuli River
- Lake tourism connecting the waterways of Barkal-Langadu-Belaichhari Upazilas of Rangamati District. An observation tower in the Kaktali Beel of Langadu

upazila and another in Belaichhari Upazila can be built for rest and recreation with food and accommodation facilities.

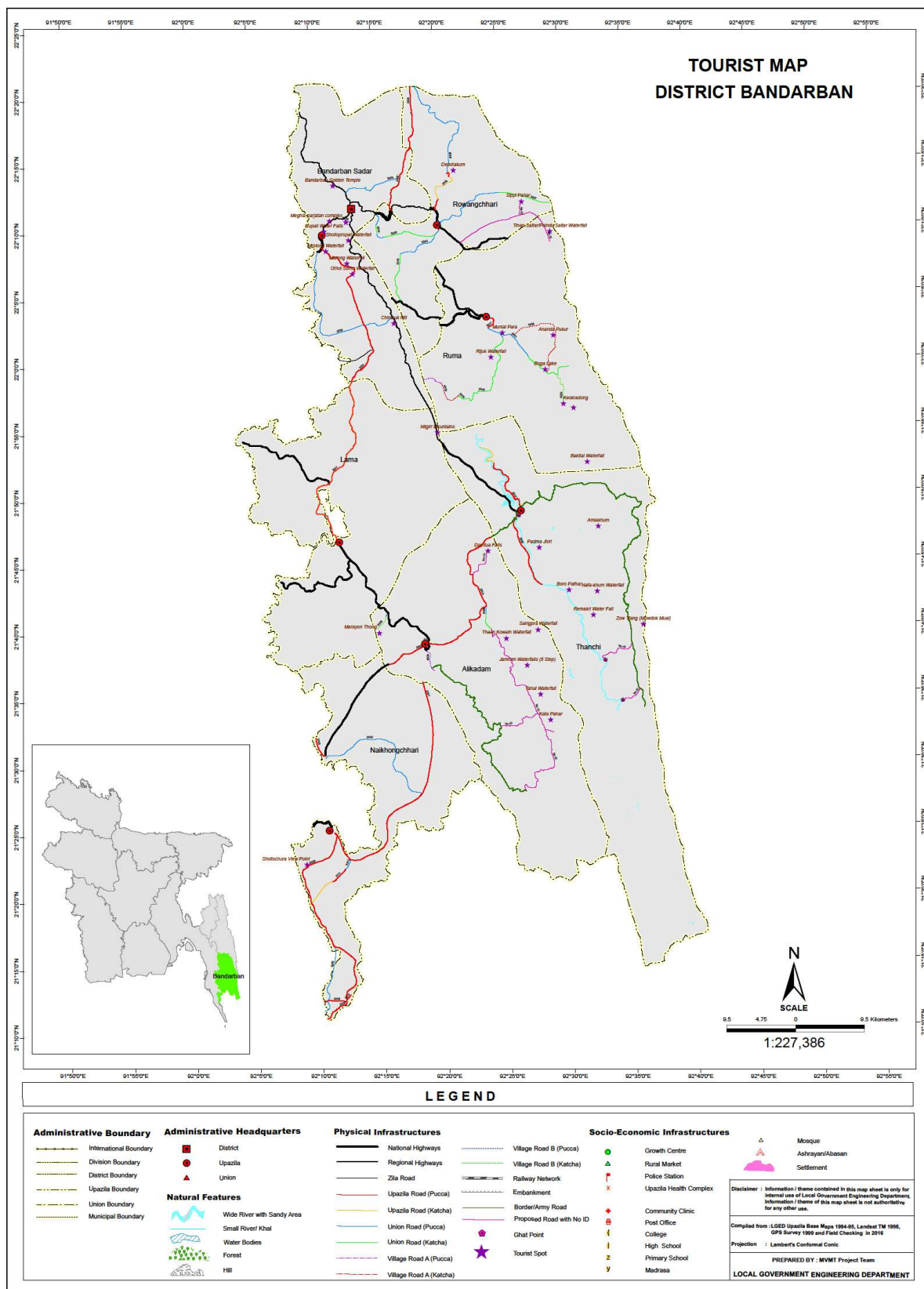
- 13.8 75 Km length are identified for development on priority under the MVMT project in facilitating tourism development. It is believed that development of new tourist spots and their connecting roads will attract more tourists and help in tourism development in the region. The details on the proposed tourism sub-projects are provided under the Thematic Design Section in the PART III of the Report.
- 13.9 **Output 3. Upazila Maps illustrating Disconnected Villages & Population:** This output of the Study is provided in three Appendices: **Appendix-3** contains 9 (nine) Upazila Maps of Rangamati District, **Appendix-4** contains 8 (eight) Upazila maps of Khagrachhari District and **Appendix-5** contains 6 (six) Upazila maps of Bandarban District. These Upazila maps are also prepared in A1 size showing mainly the proposed roads and inland waterways and illustrating disconnected villages and population. Other features include Upazila HQ, Union HQ, and Growth Centres, important markets, Government Primary Schools (GPS), highway roads, upazila roads and rural roads up to Village Road B. The proposed non-gazetted No ID roads are also shown in the maps writing No ID on the alignment.
- 13.10 **Output 4. Case Study Union Maps:** The case study union maps are provided in **Appendix-6, Appendix-7 and Appendix-8** of Part II of the report, organized by district, upazilas and unions. The first is Rangamati district (Appendix-5) followed by Khagrachhari (Appendix-6) and Bandarban (Appendix-7). There are 23 case study unions, one from each Upazilas except Sadar Upazilas: 9 (nine) unions of Rangamati district, 8 (eight) unions of Khagrachhari and 6 (six) unions of Bandarban. The volume of Appendices of Key Outputs & Observations also has the Output 4 produced in A3 Size.
- 13.11 **Output 5. Observations from Case Study Unions:** Many of the priority sub-projects of the case study unions identified for development under the MVMT project were visited during the field work. The observations from the case study unions are pictorially presented in A4 size in **Appendix-9** of the Part II and then in A3 size in the volume of **Appendices of Key Outputs & Observations**. This illustrates the existing surface condition, challenges and feasibility condition of visited road and structures in the 23 case study unions.

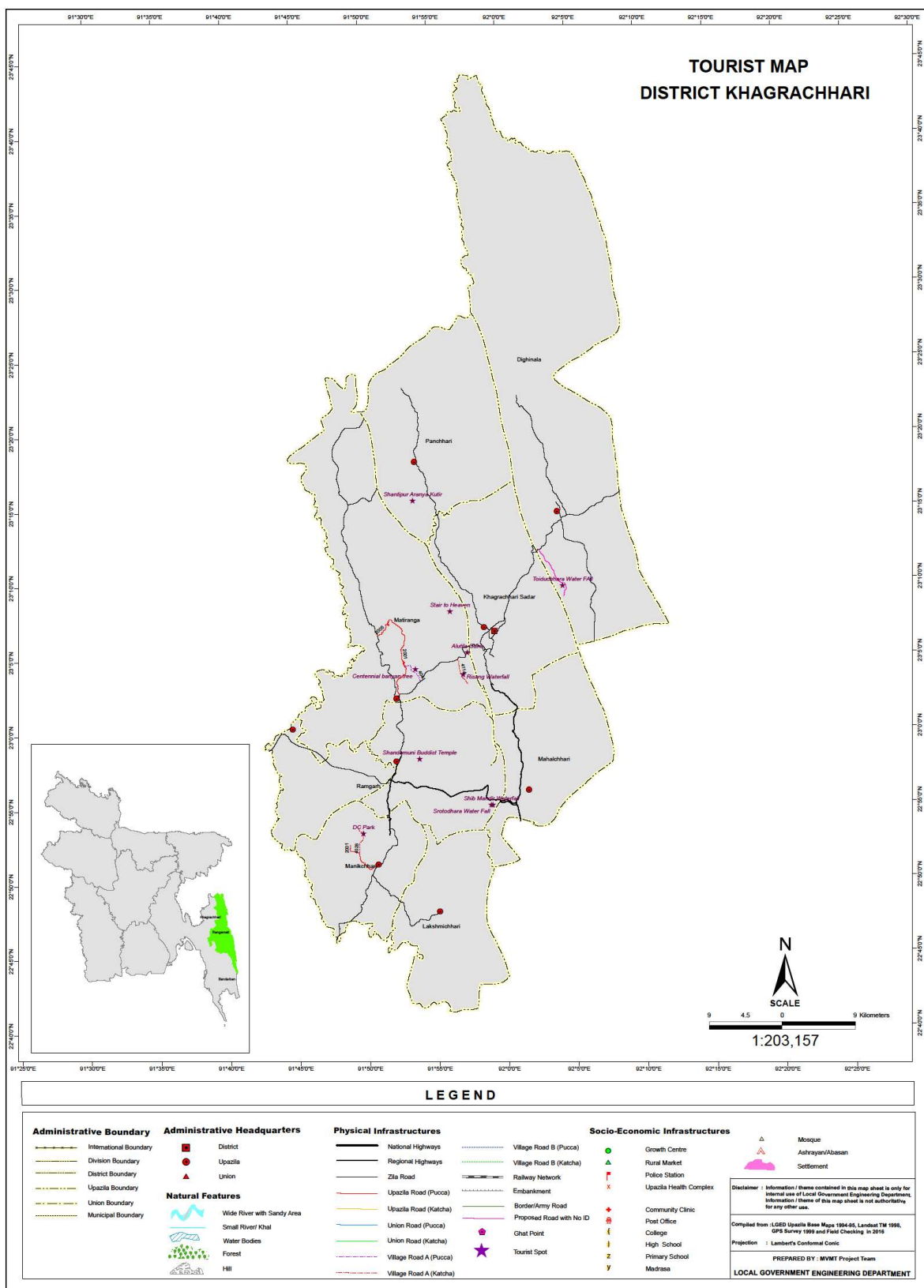
Appendix-2

Output 2: District Tourism Maps

Rangamati, Khagrachhari & Bandarban Districts







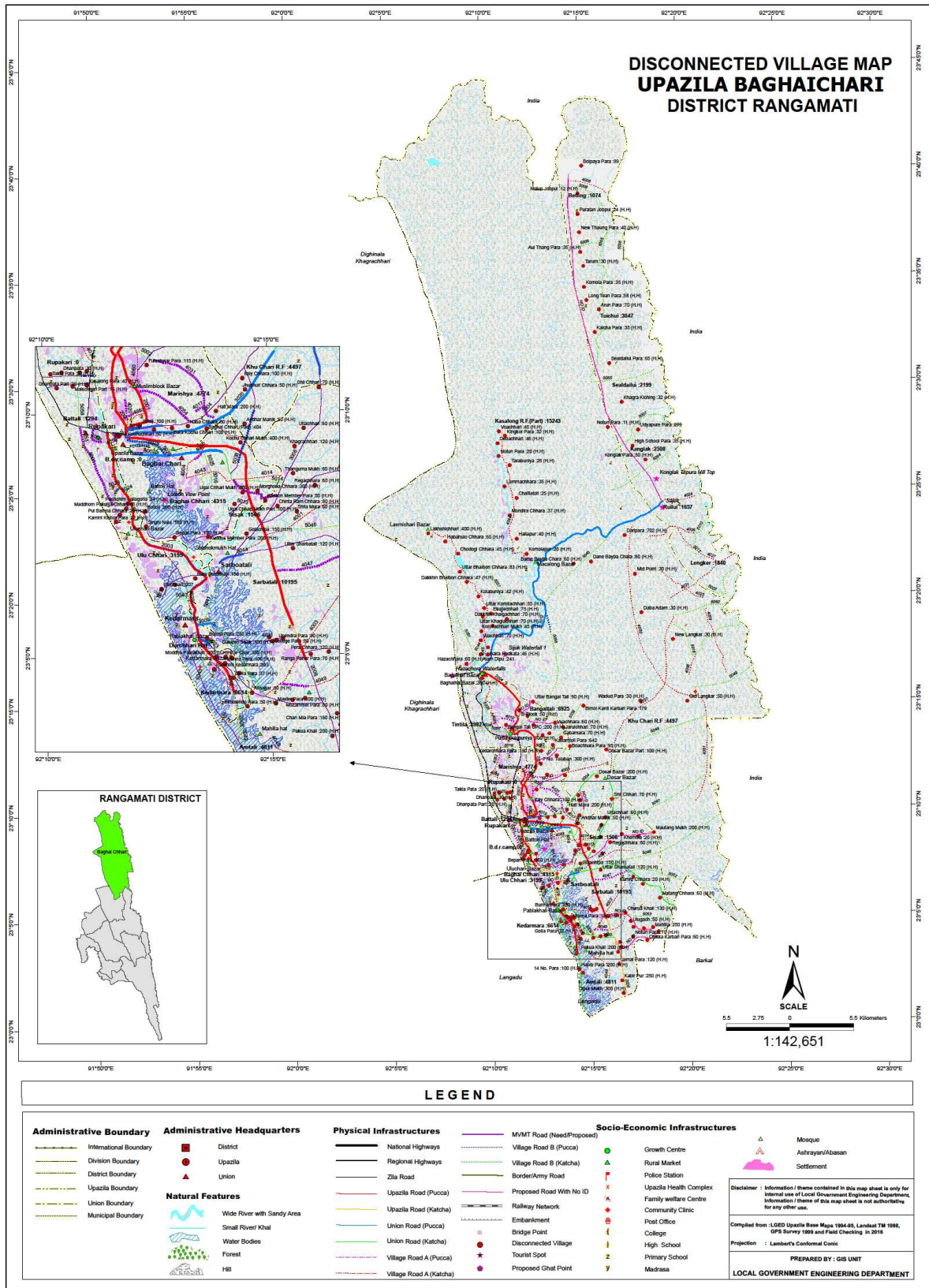
Appendix-3

Output 3: Upazila Maps Illustrating Disconnected Villages & Populations

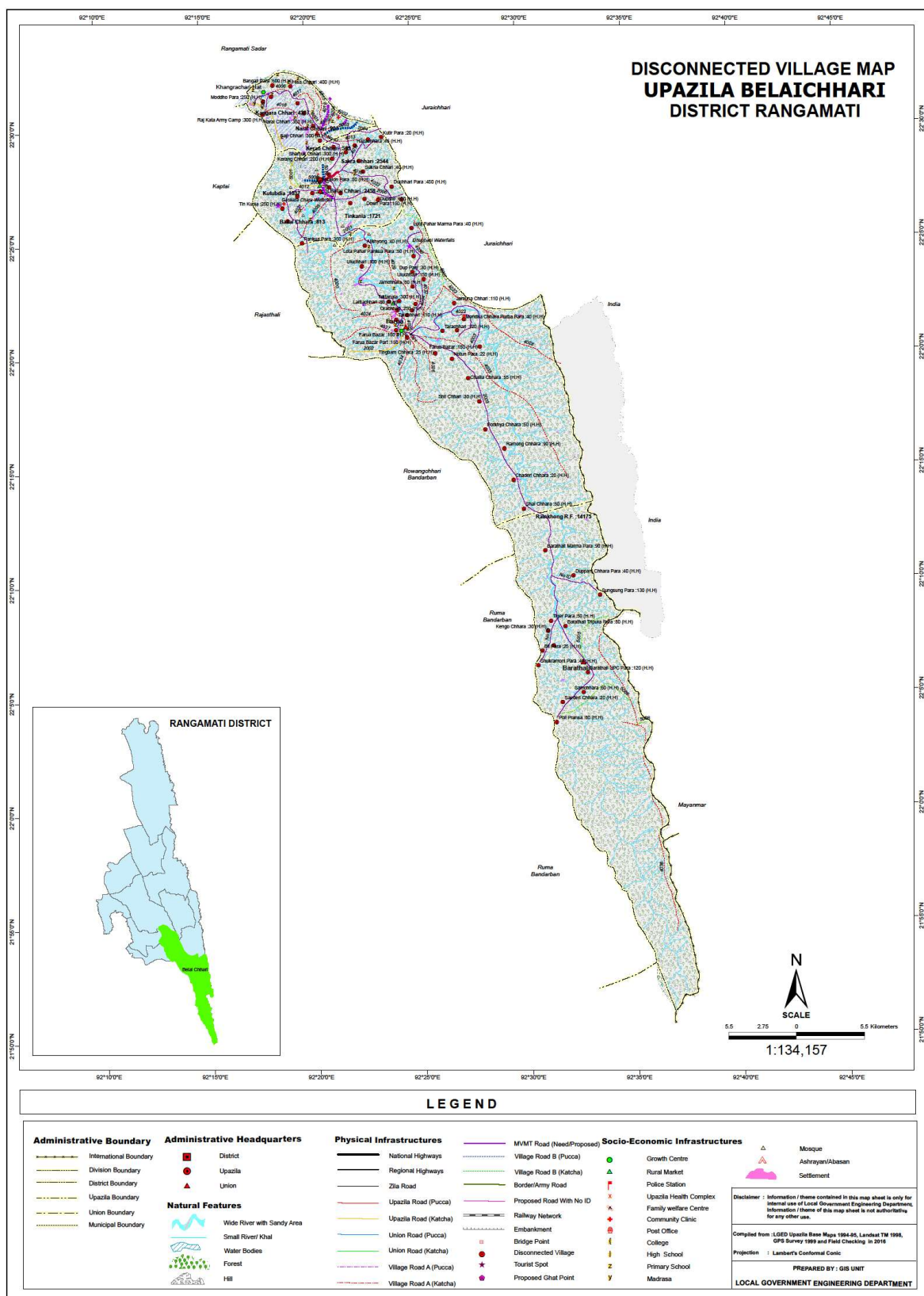
District: Rangamati

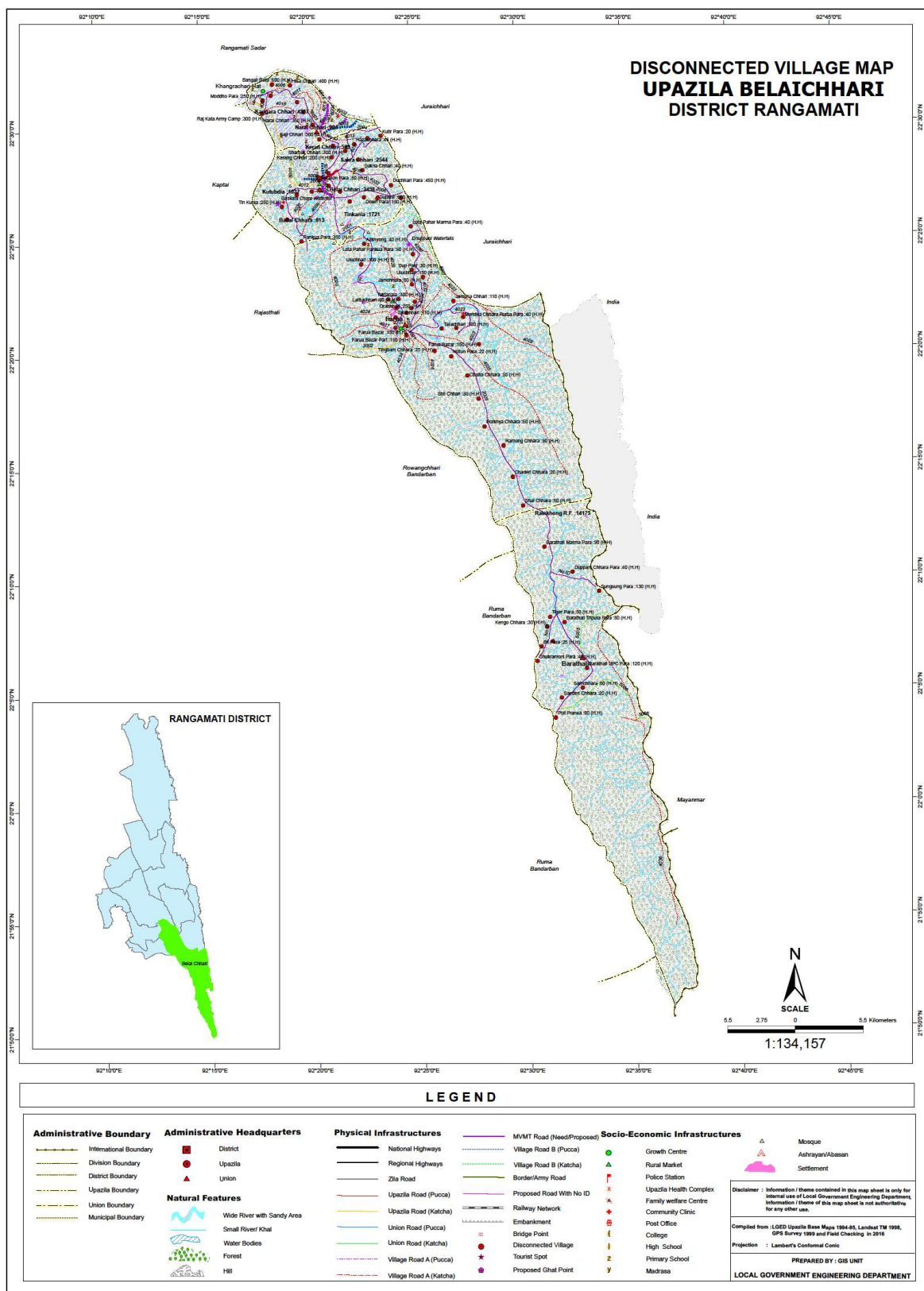


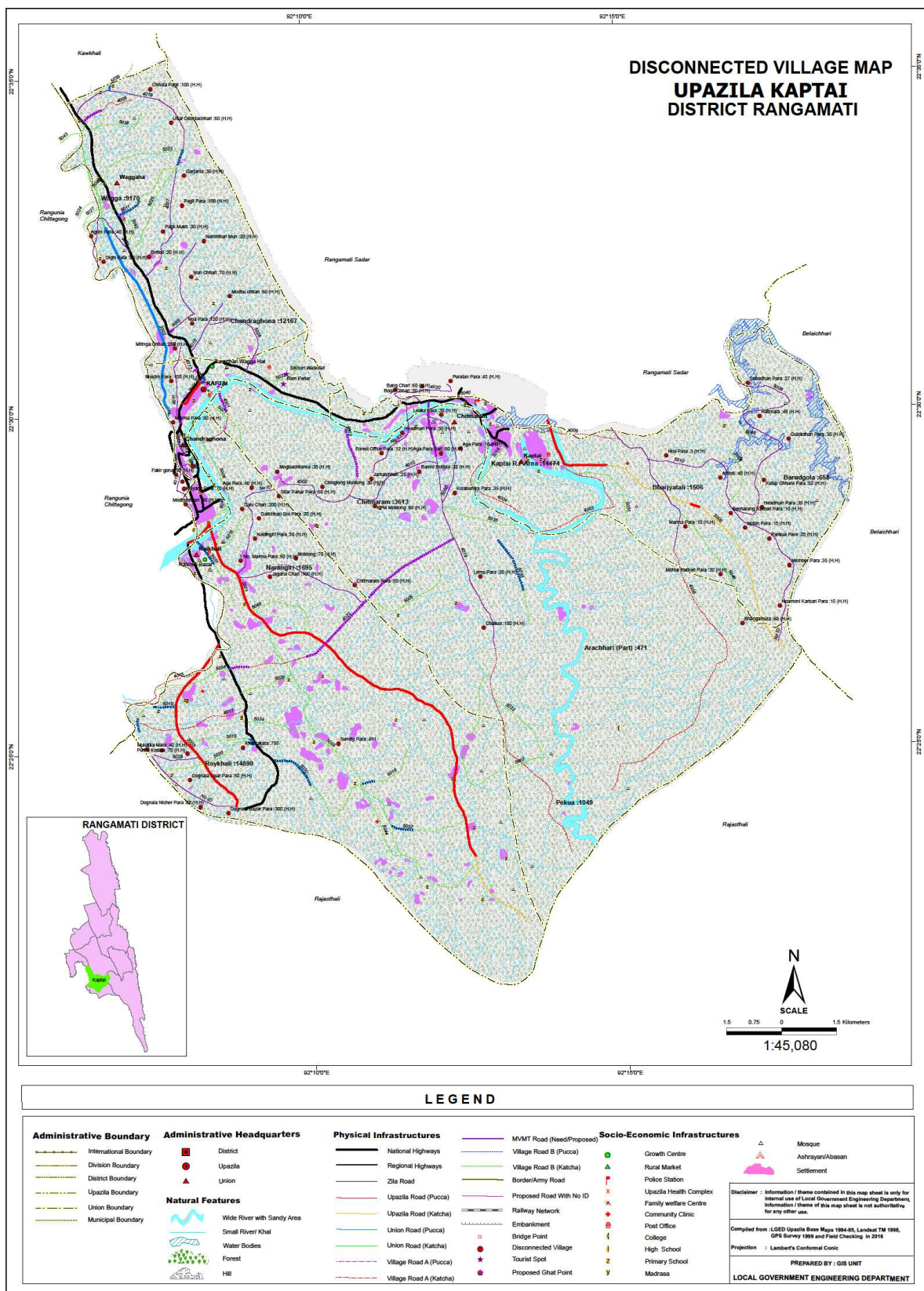
**PART II: STUDY FOR ENHANCING ACCESSIBILITY TO DISPERSEDLY LOCATED VILLAGES IN THREE HILL DISTRICTS
UNDER MY VILLAGE MY TOWN TECHNICAL ASSISTANCE PROJECT**

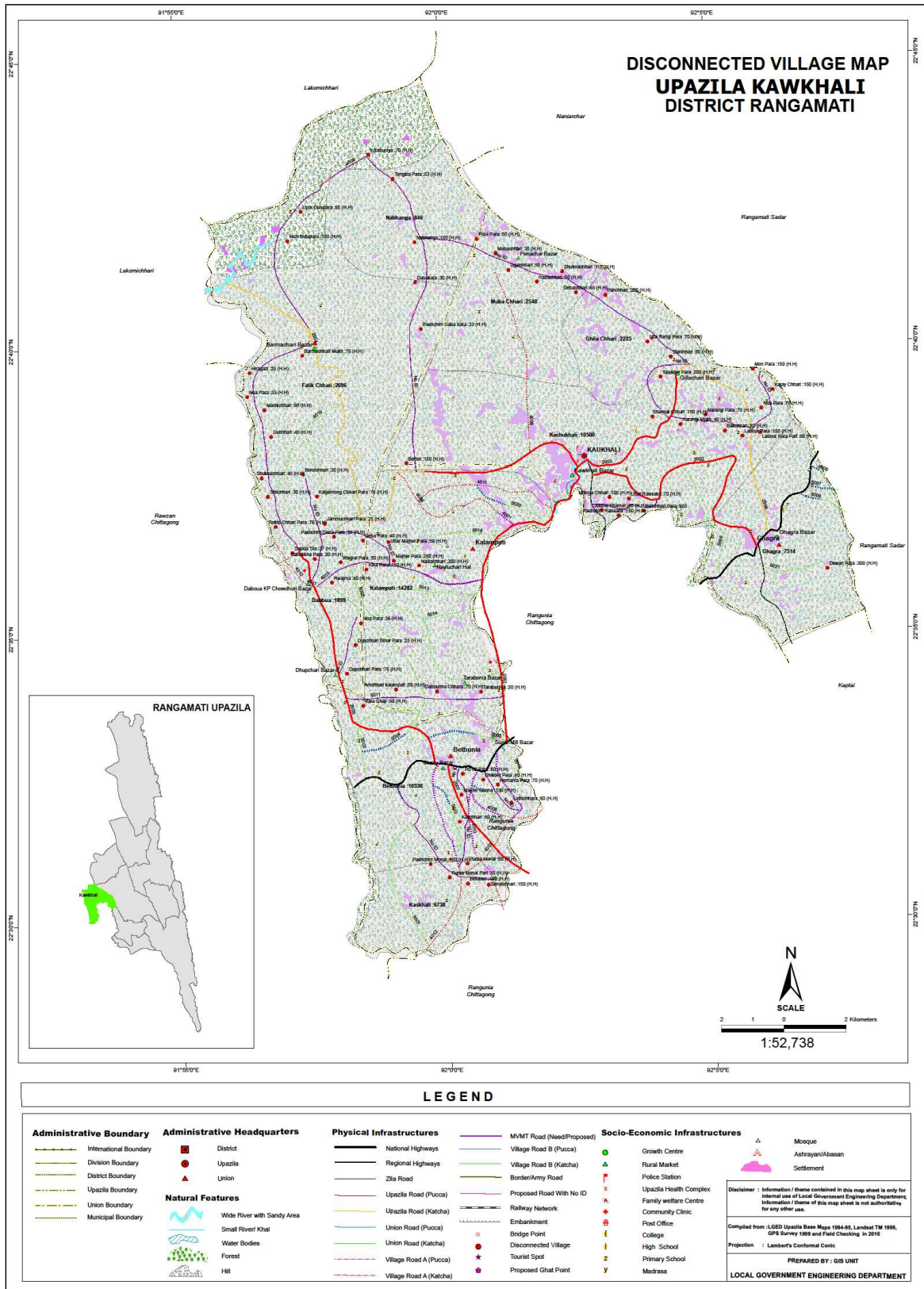












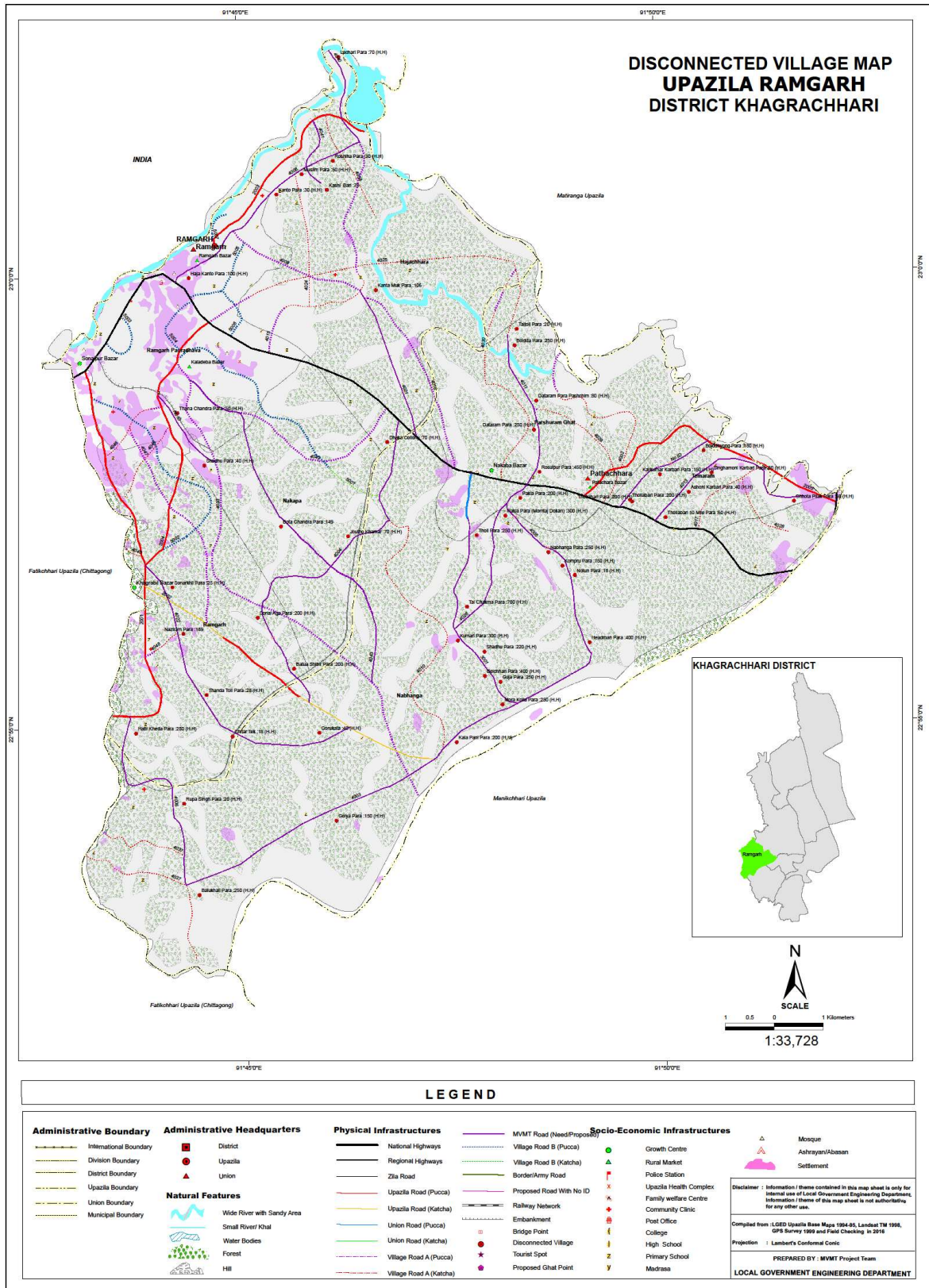


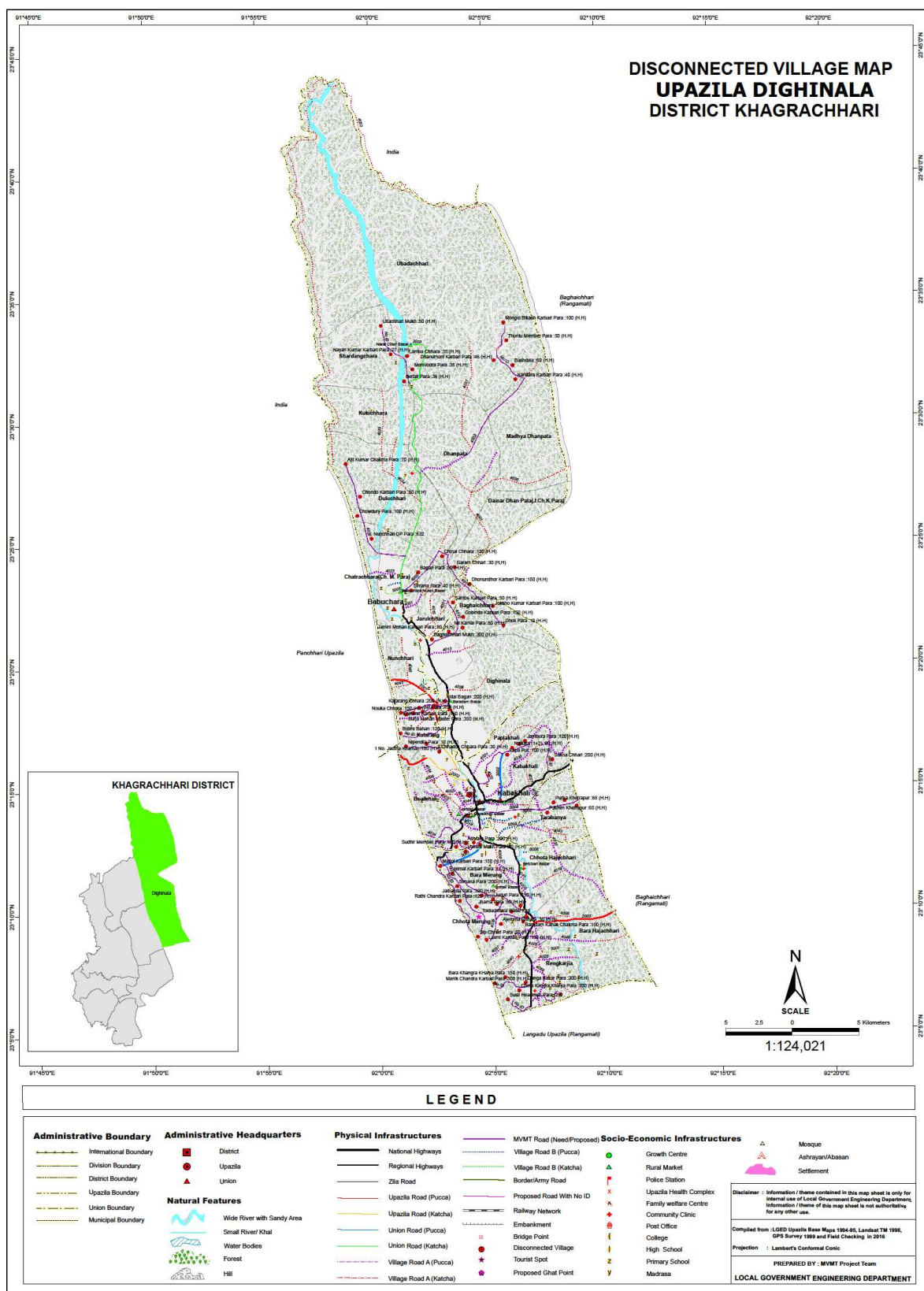


Appendix-4

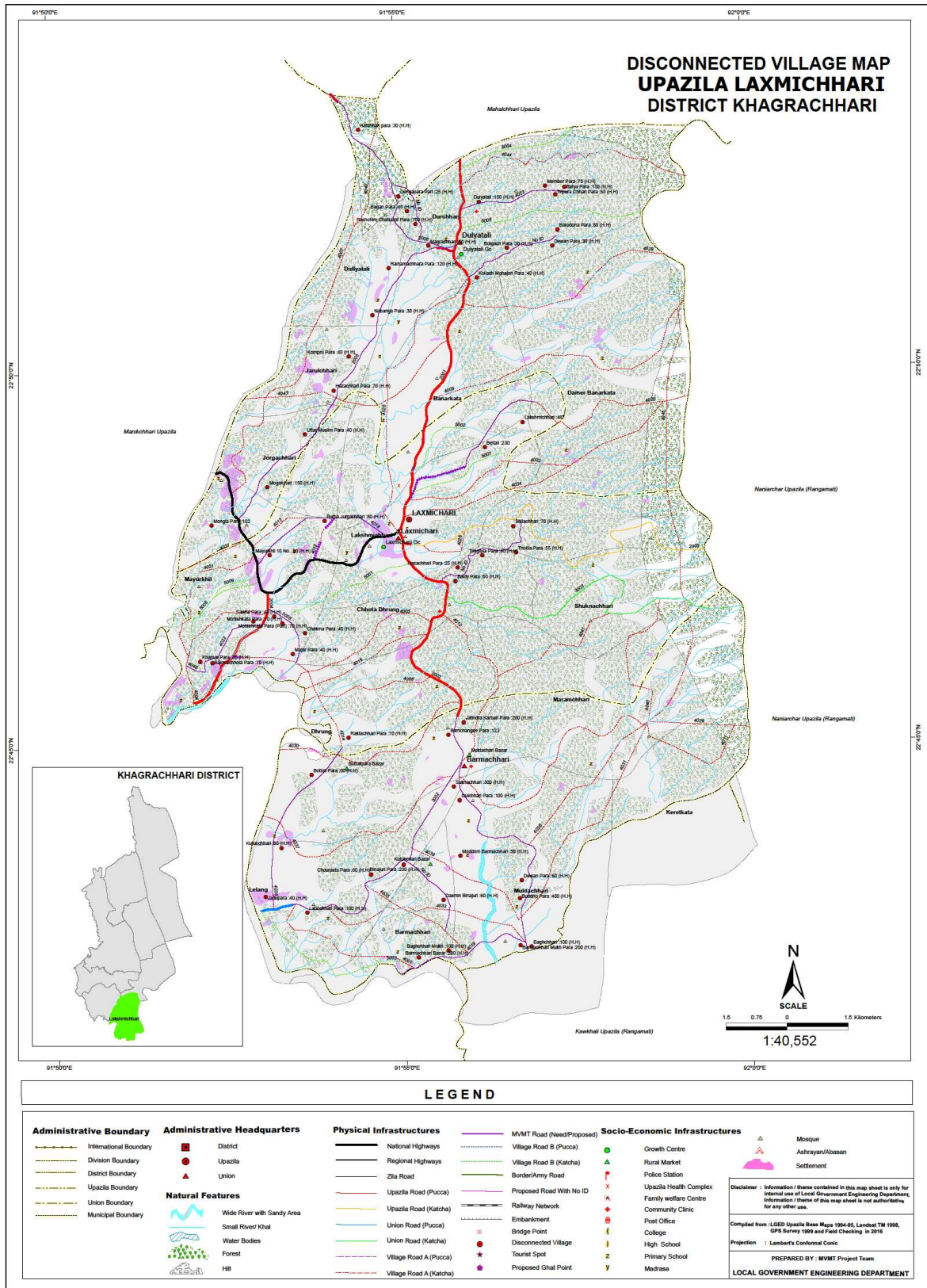
Output 3: Upazila Maps Illustrating Disconnected Villages & Populations

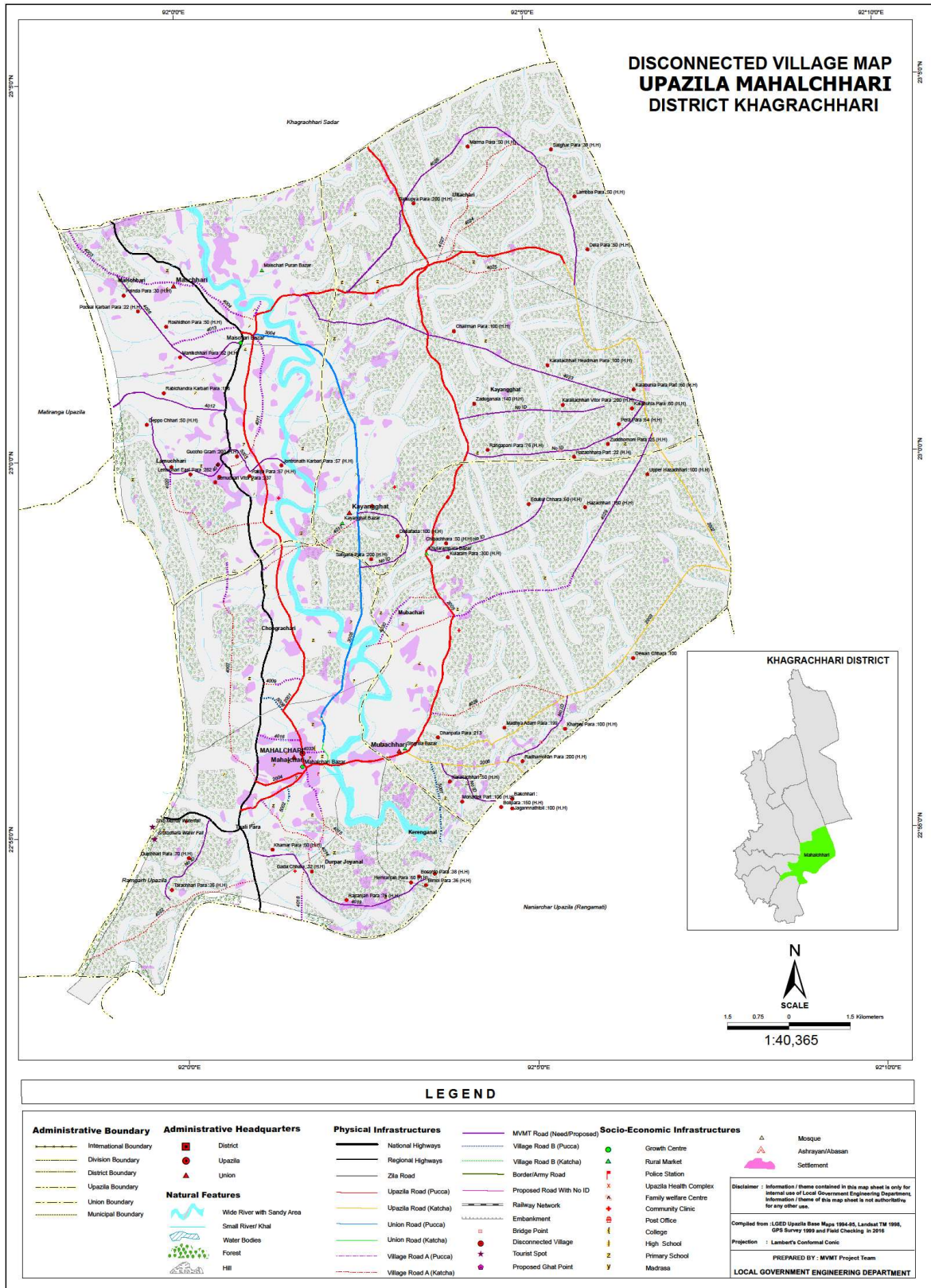
District: Khagrachhari

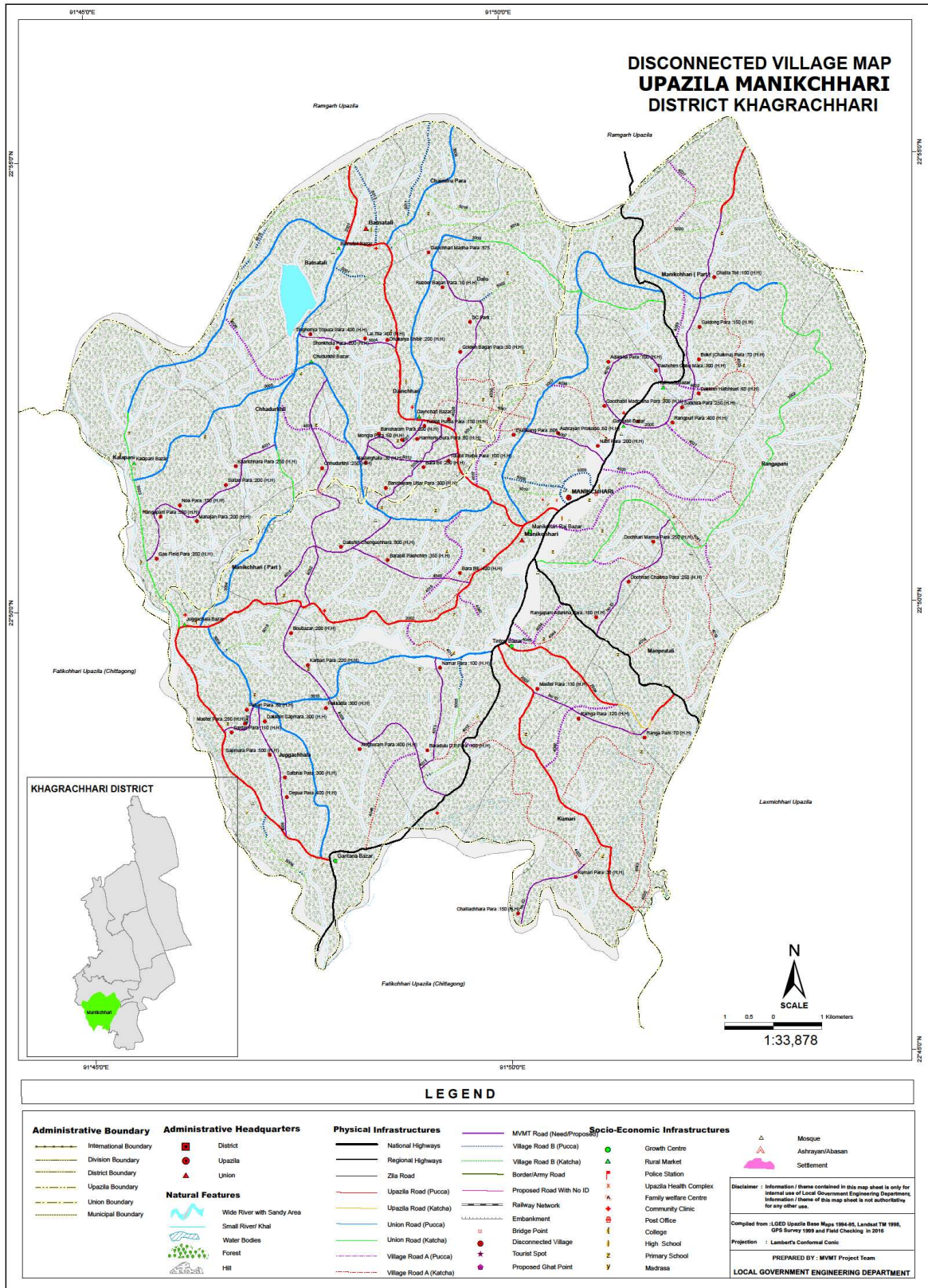


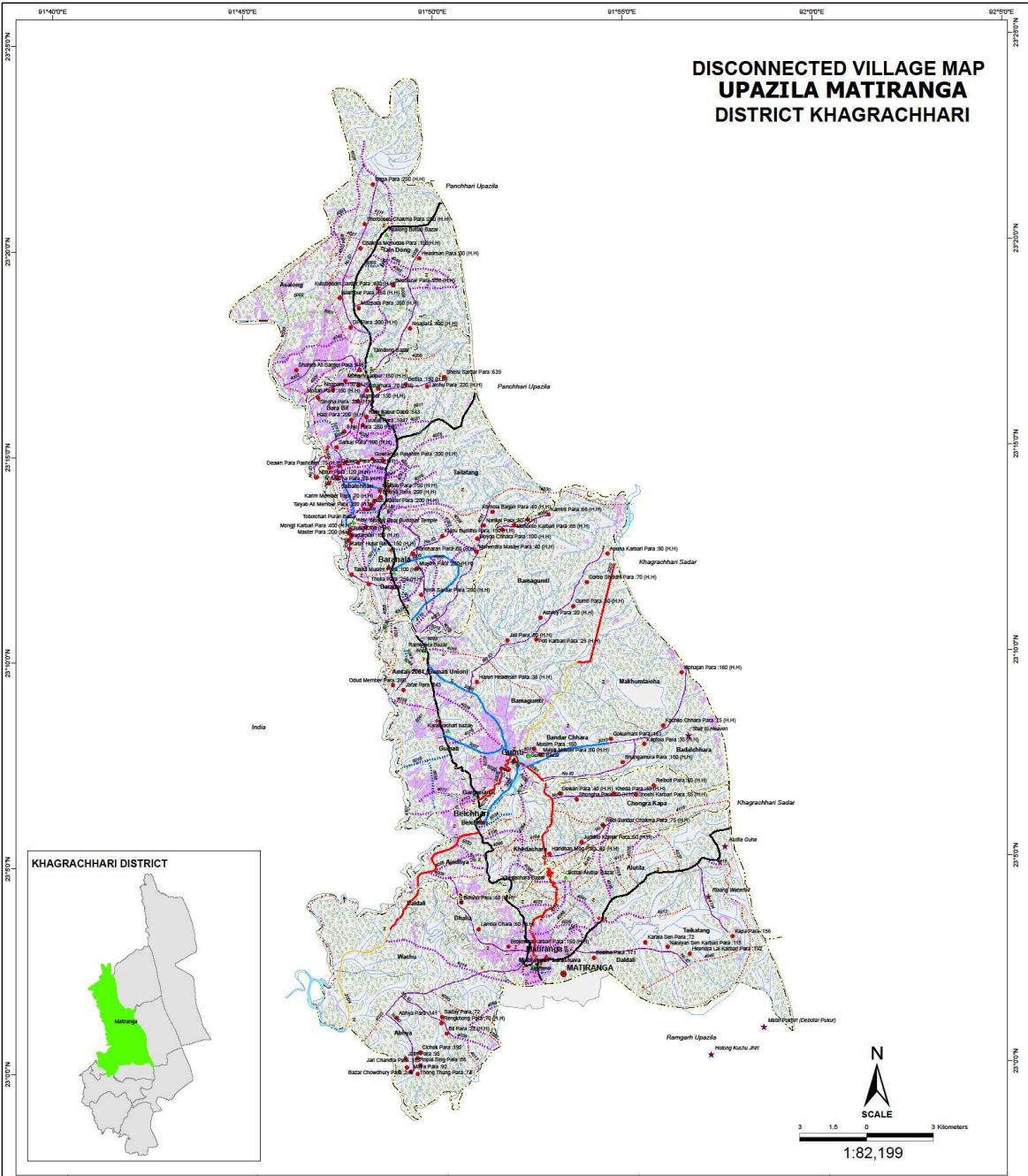


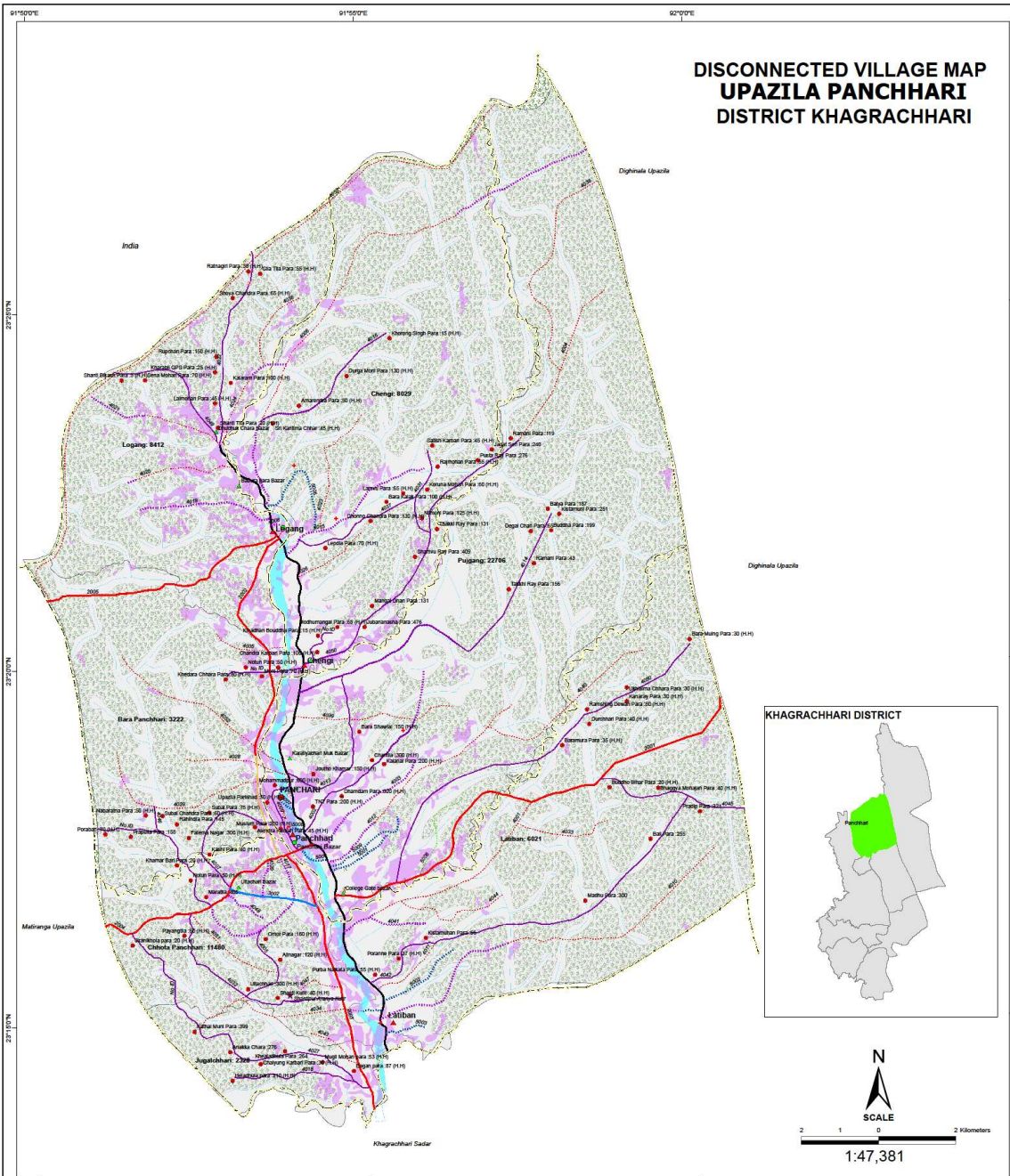








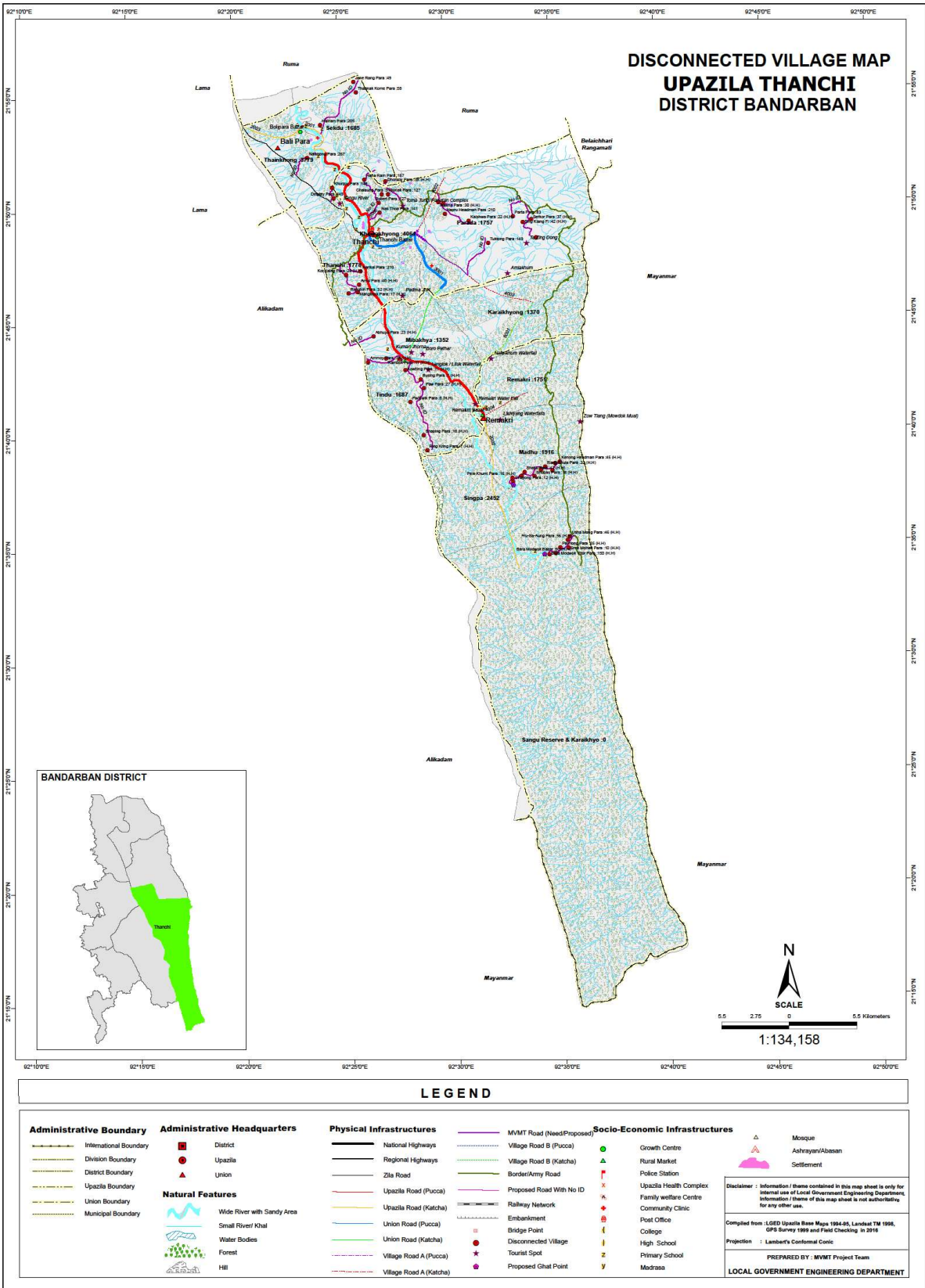




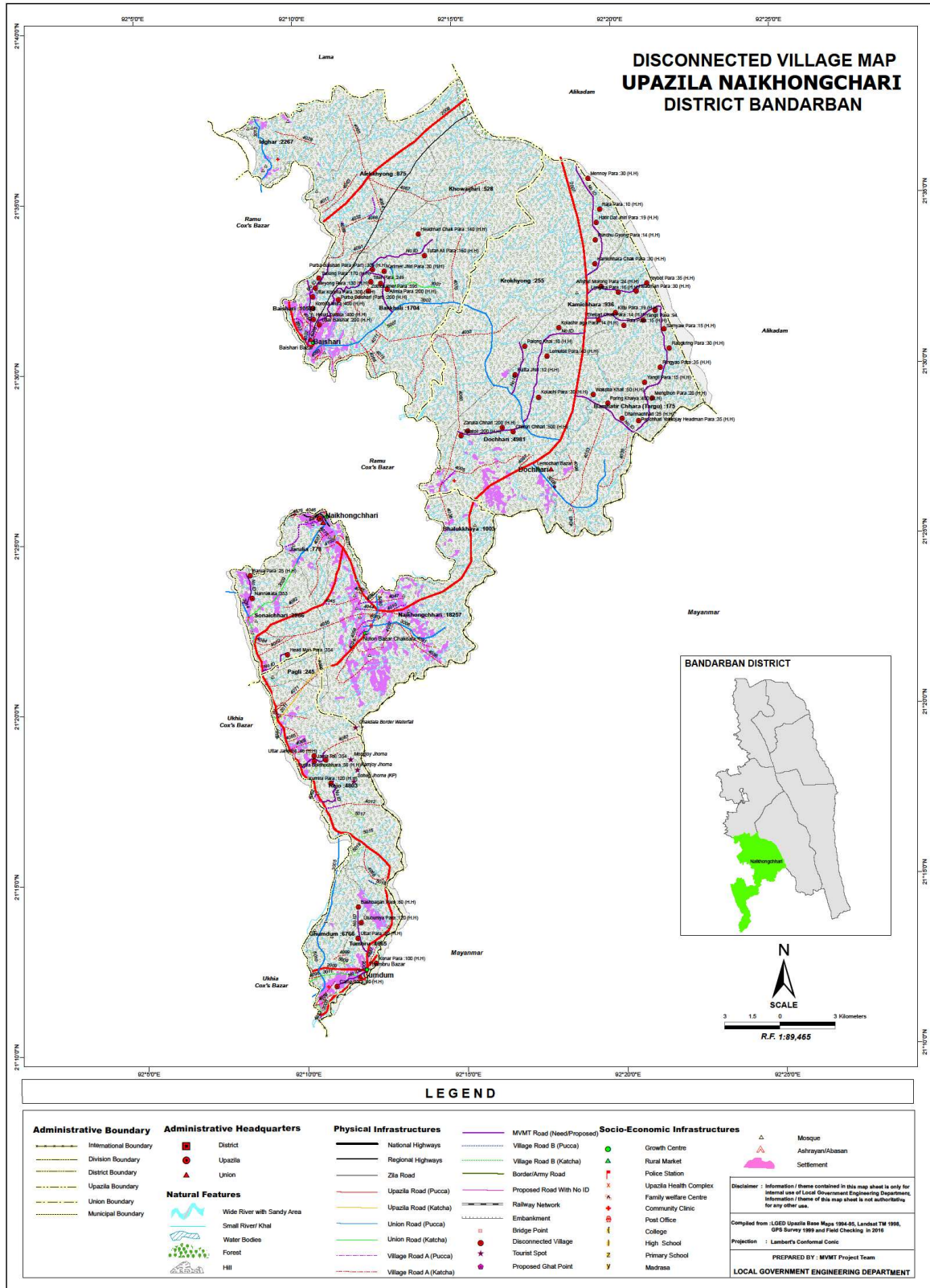
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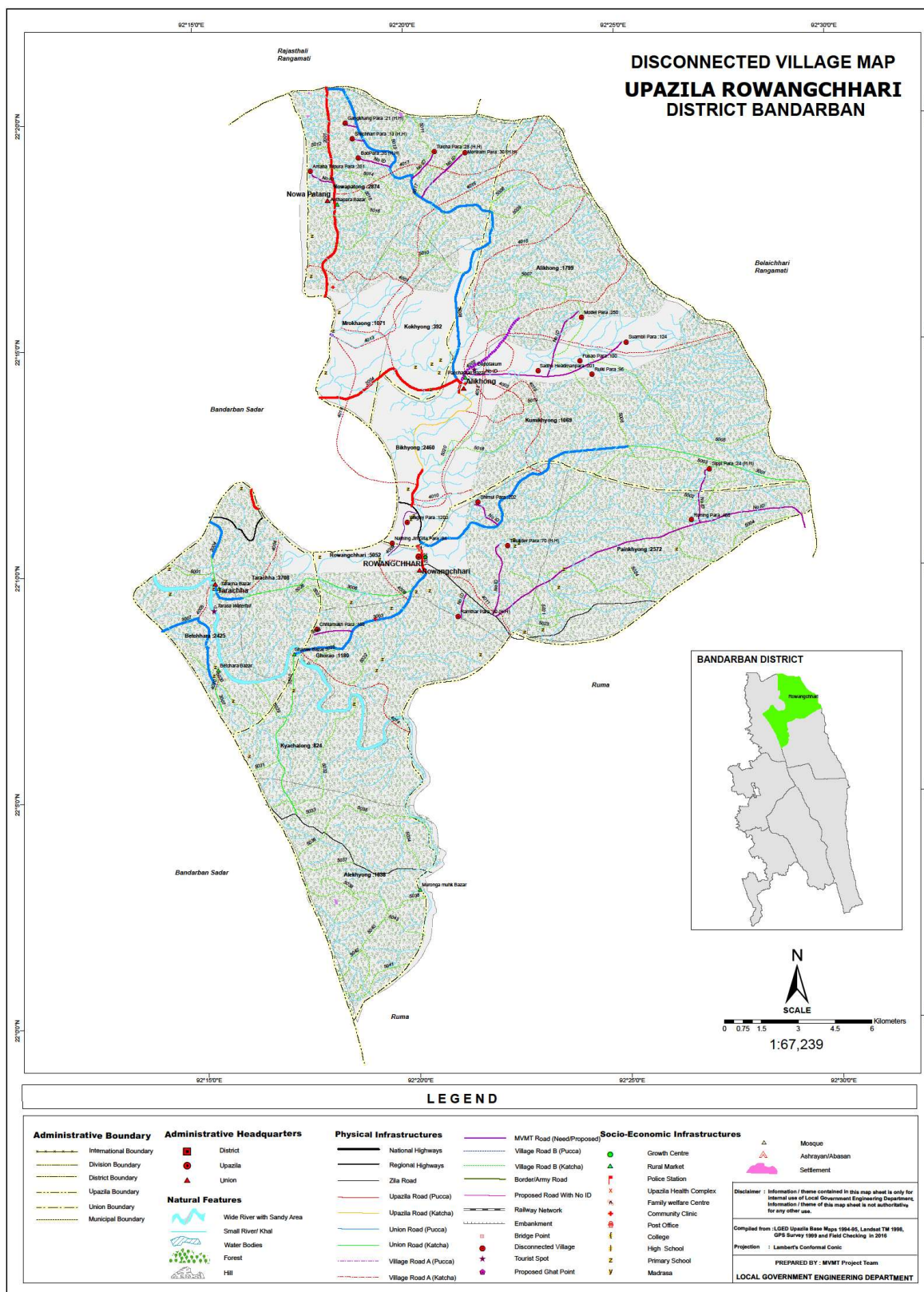
Output 3: Upazila Maps Illustrating Disconnected Villages & Populations

District: Bandarban







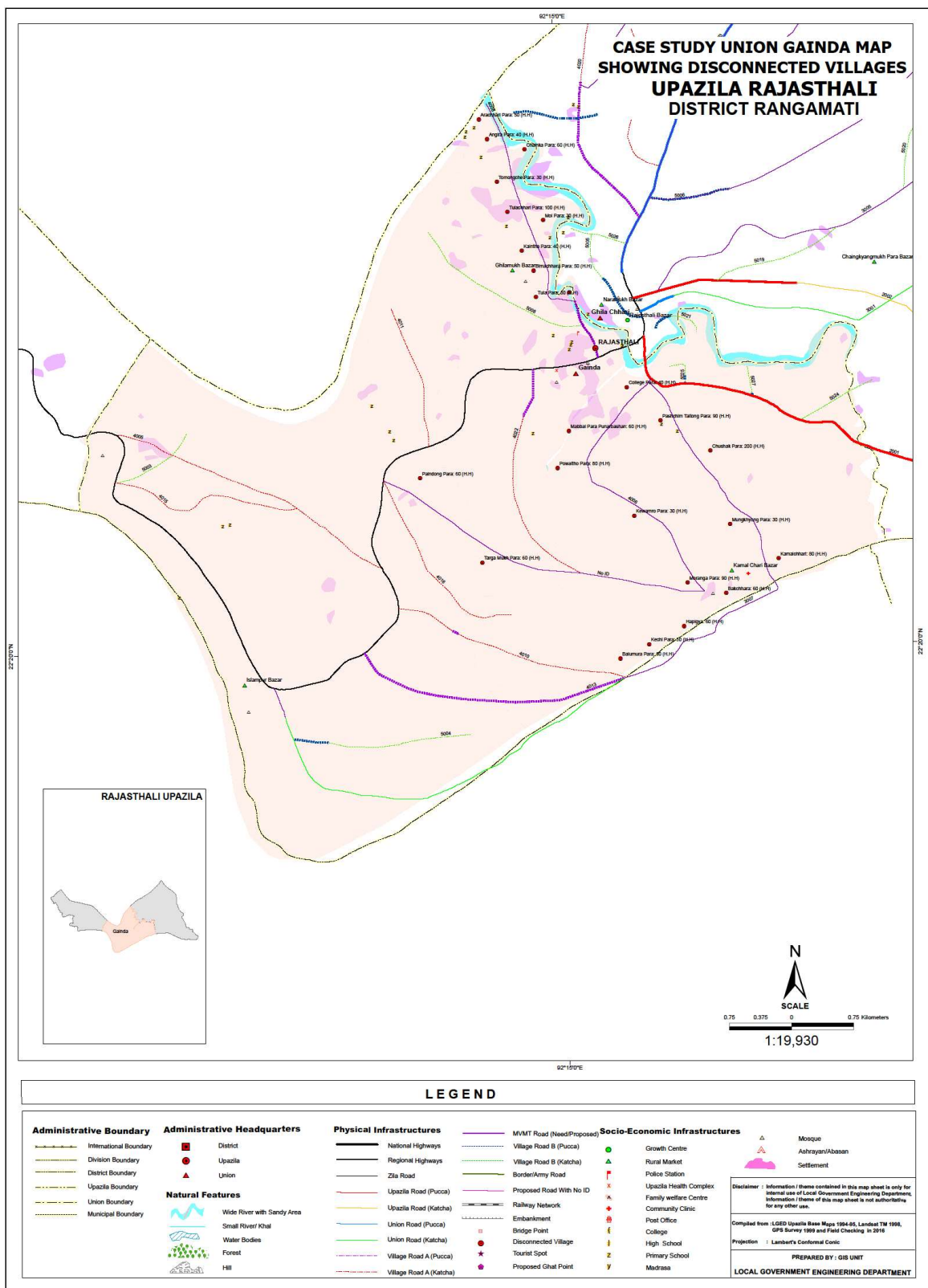


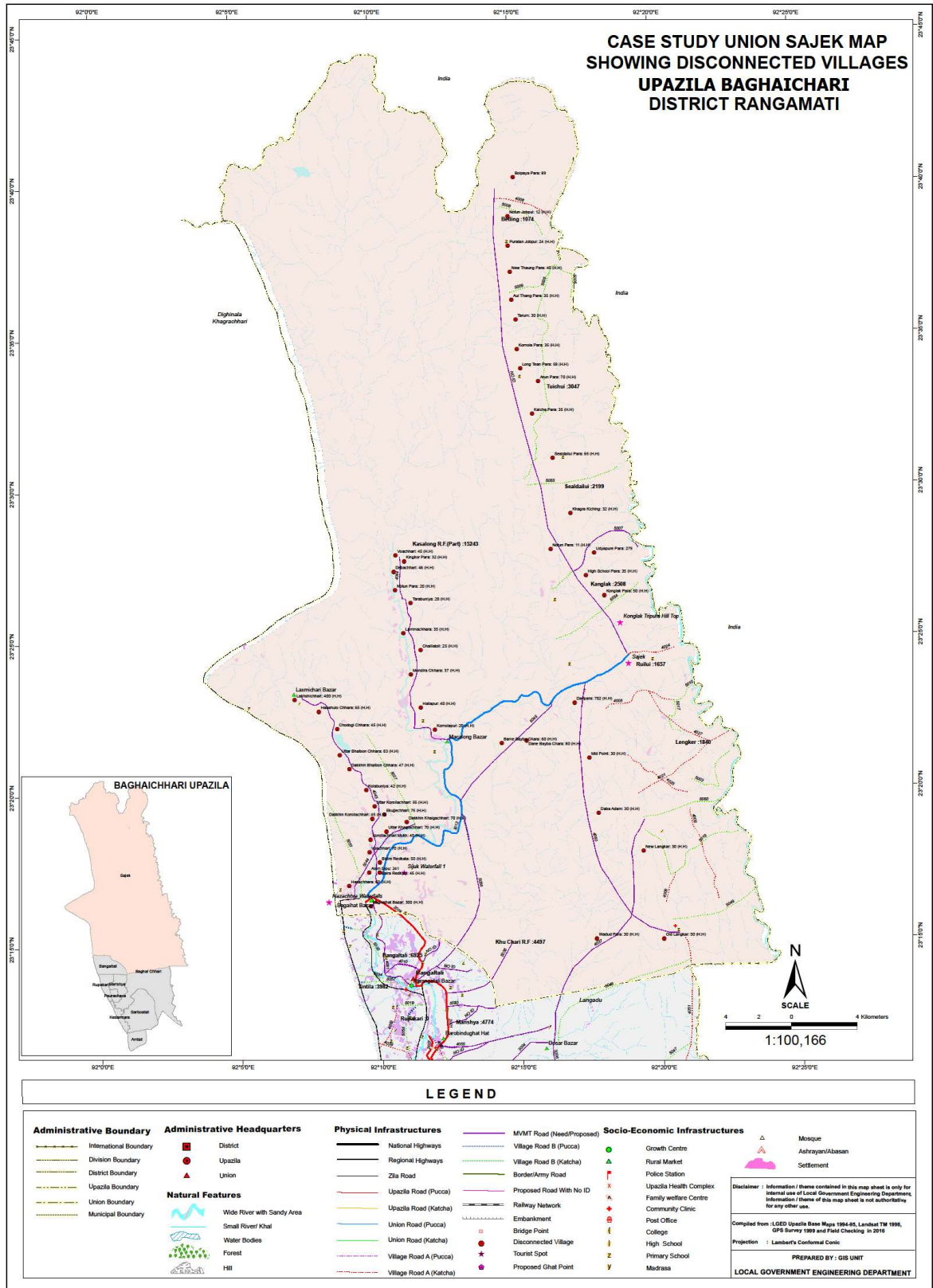


Appendix-6

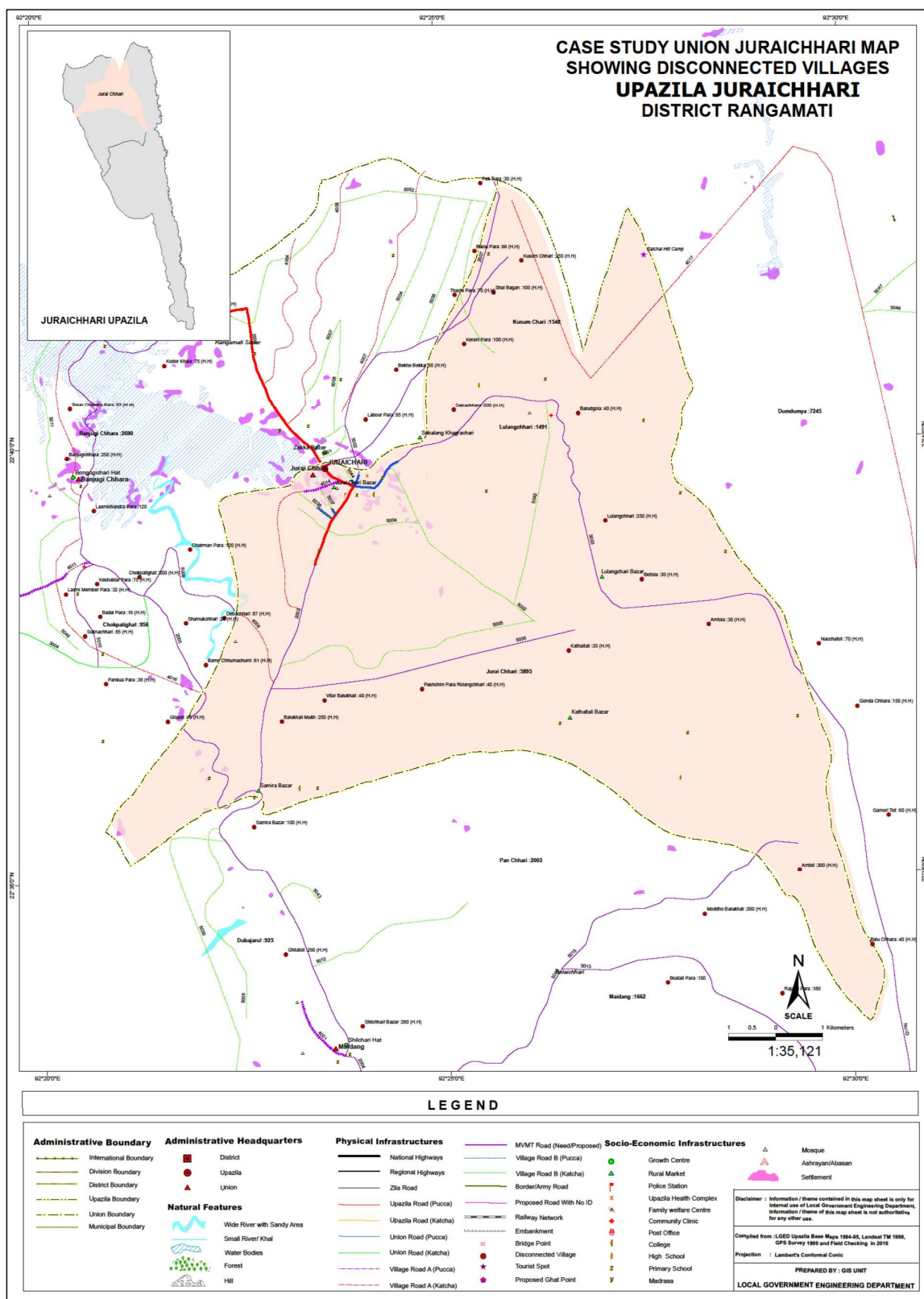
Output 4: Case Study Union Maps

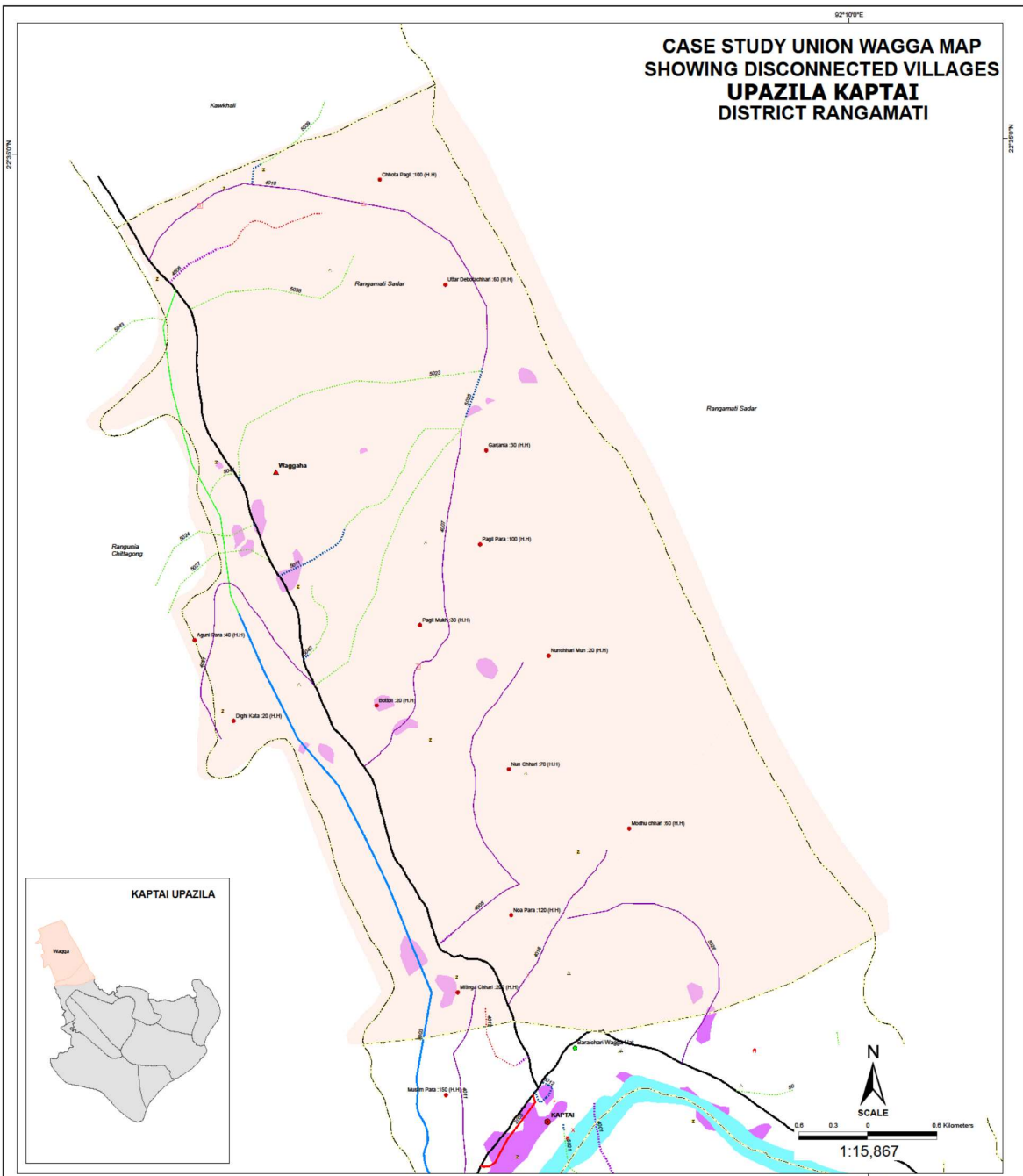
District: Rangamati

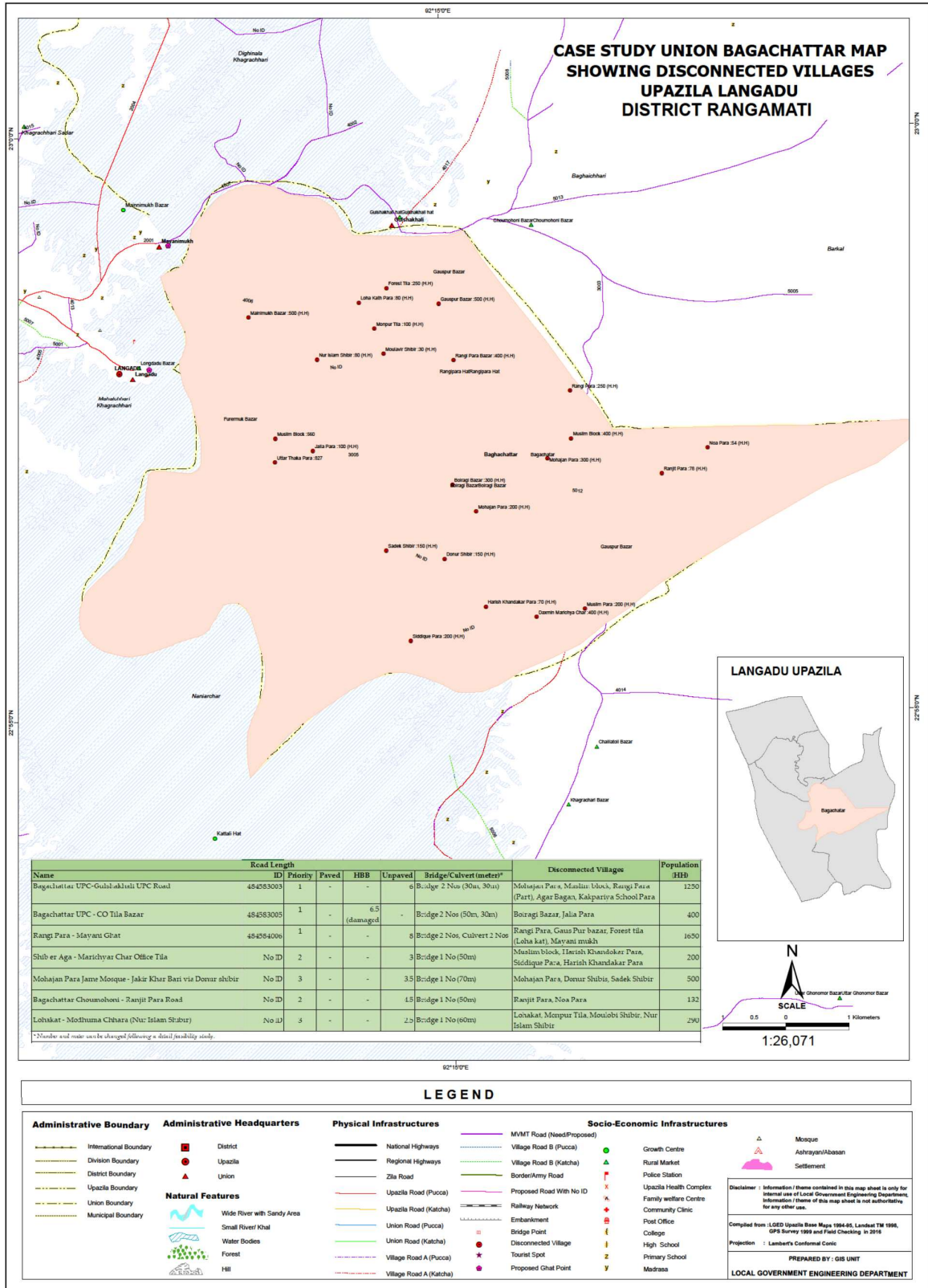


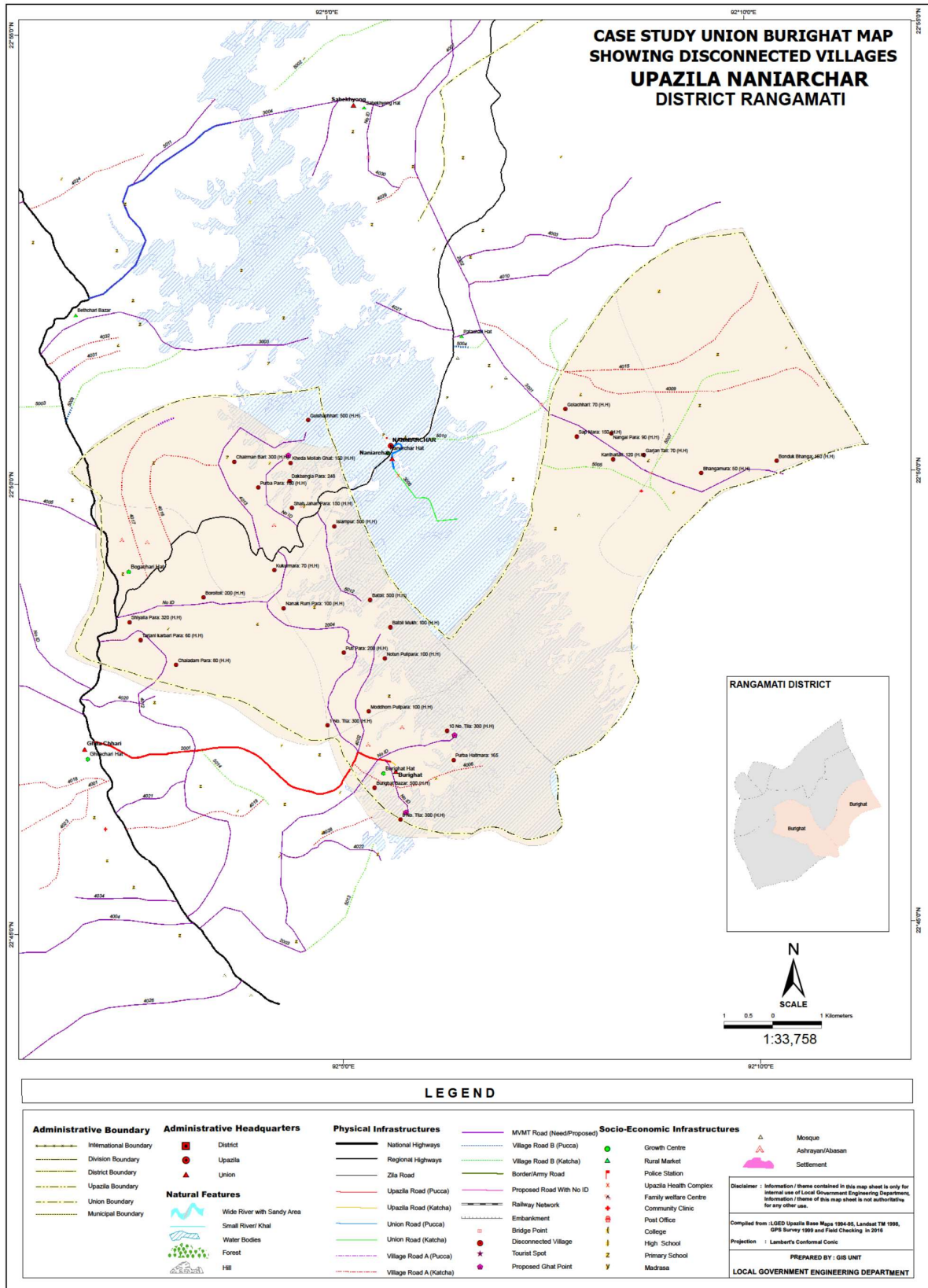








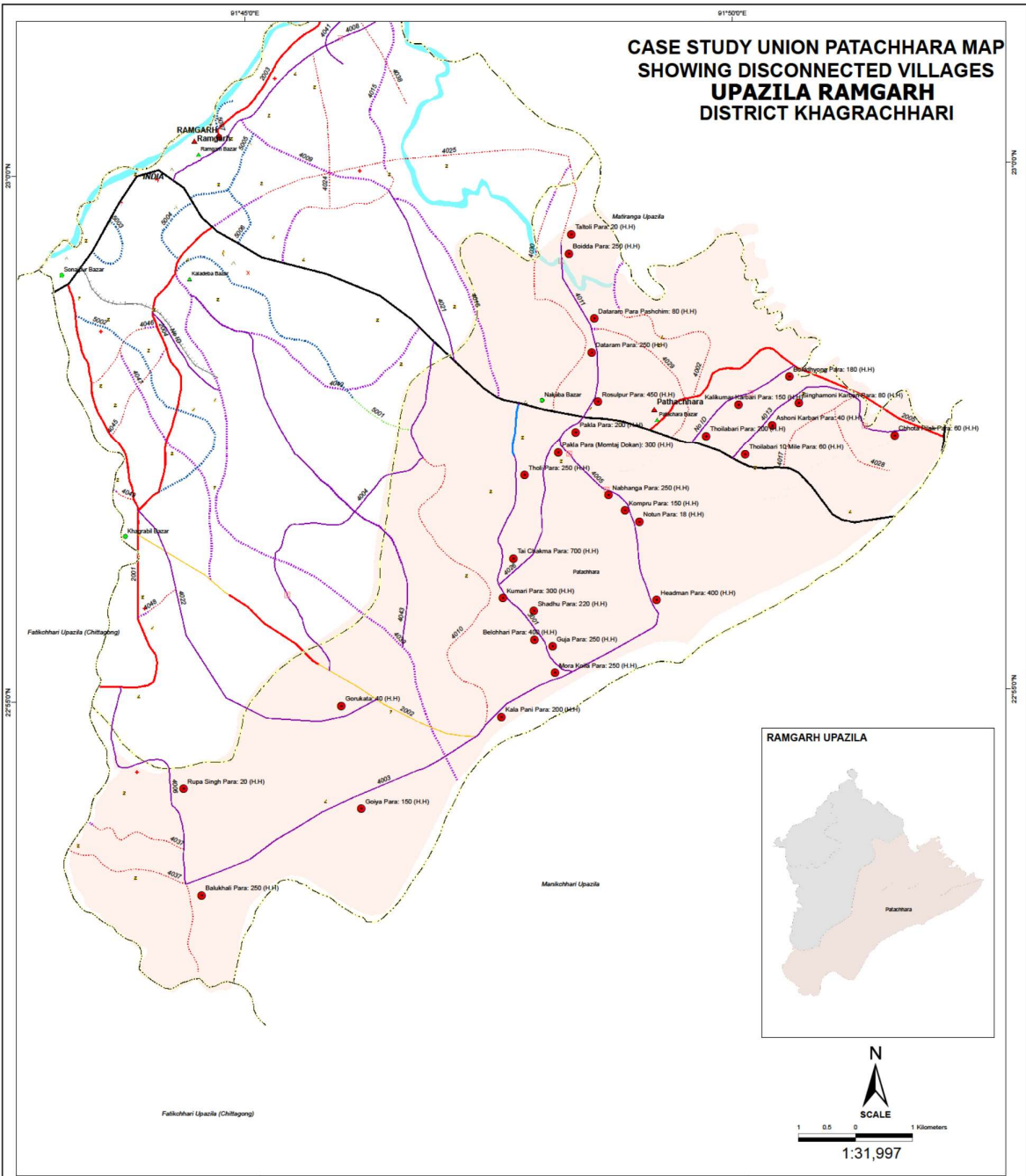




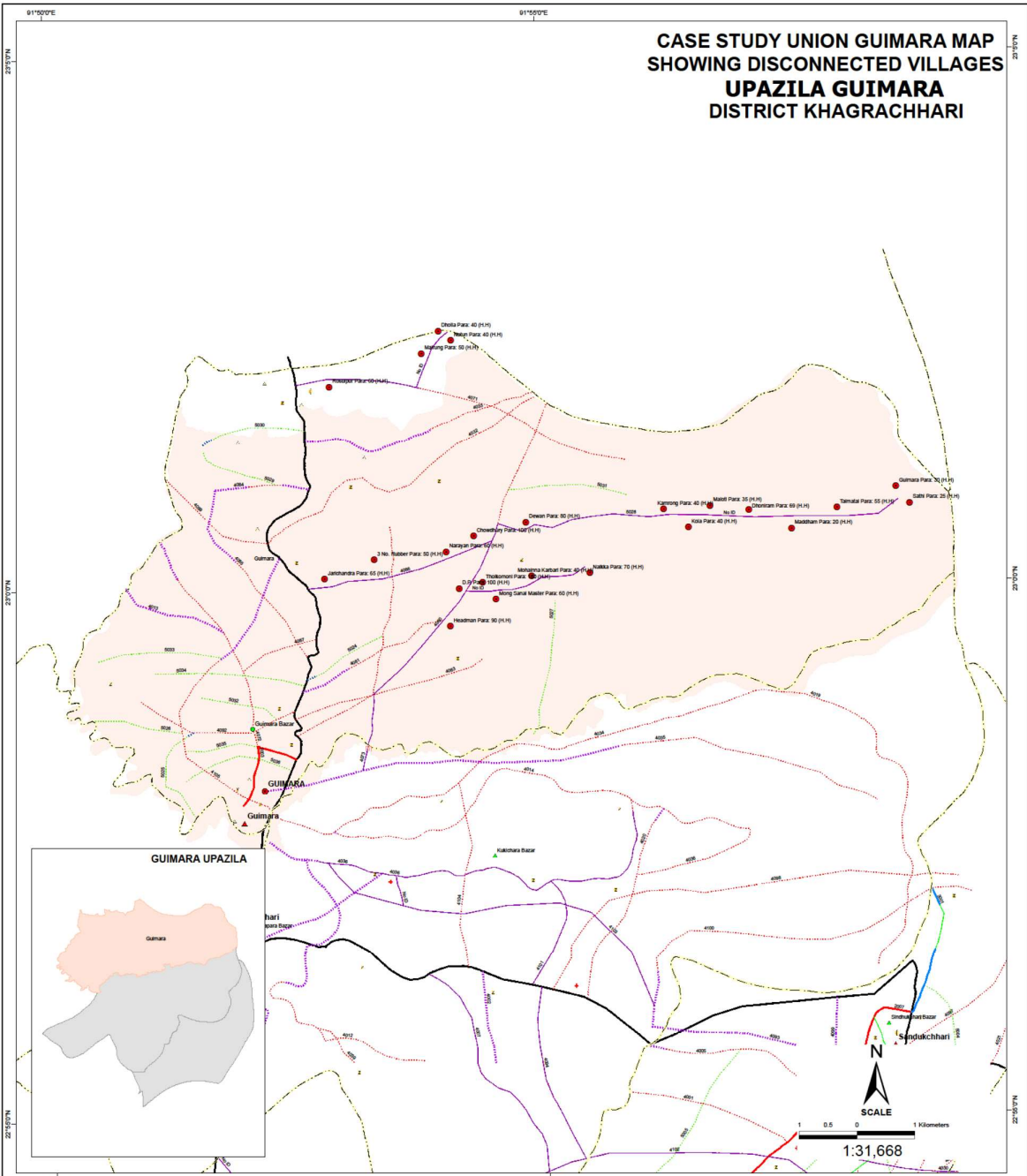
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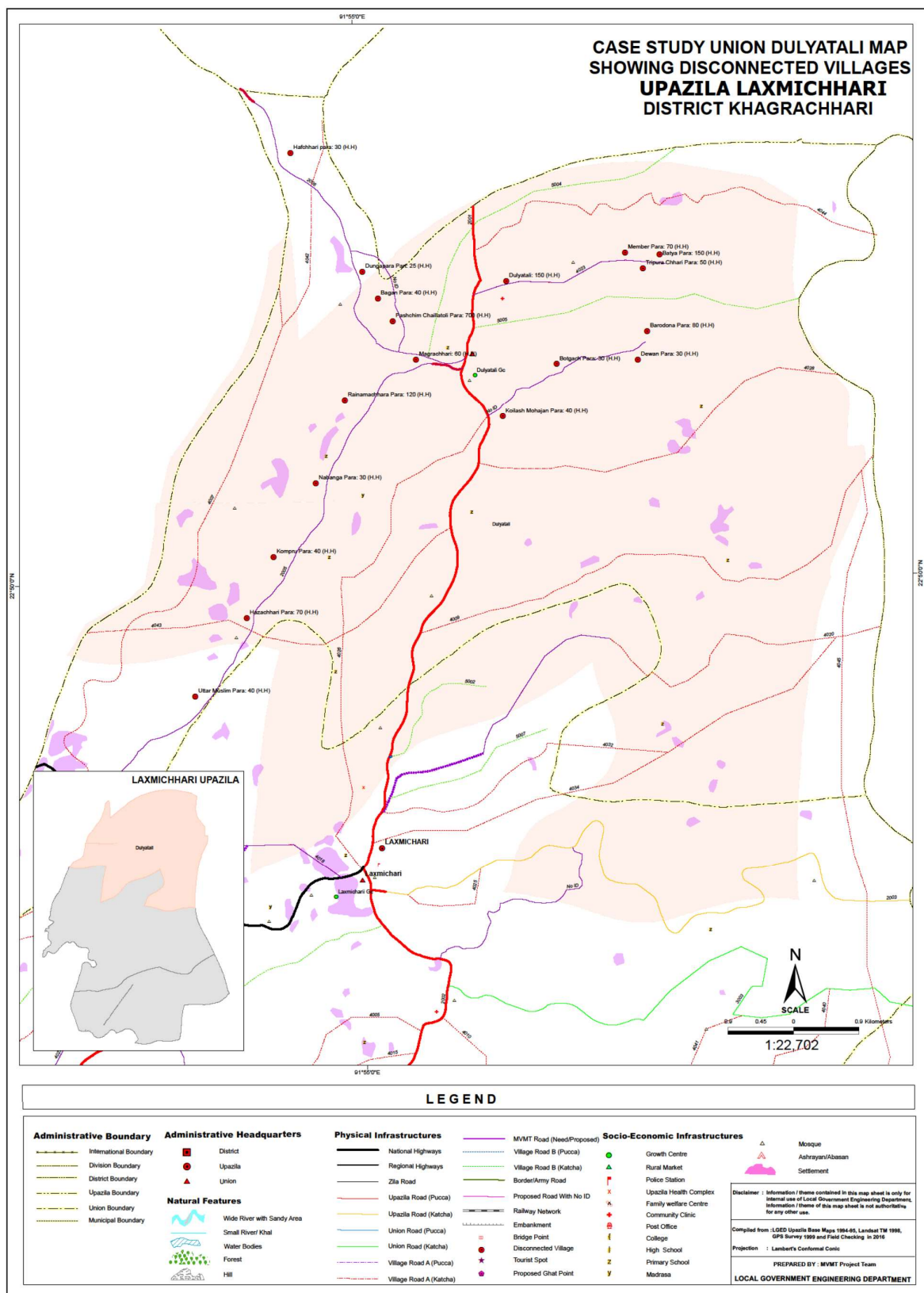
Output 4: Case Study Union Maps

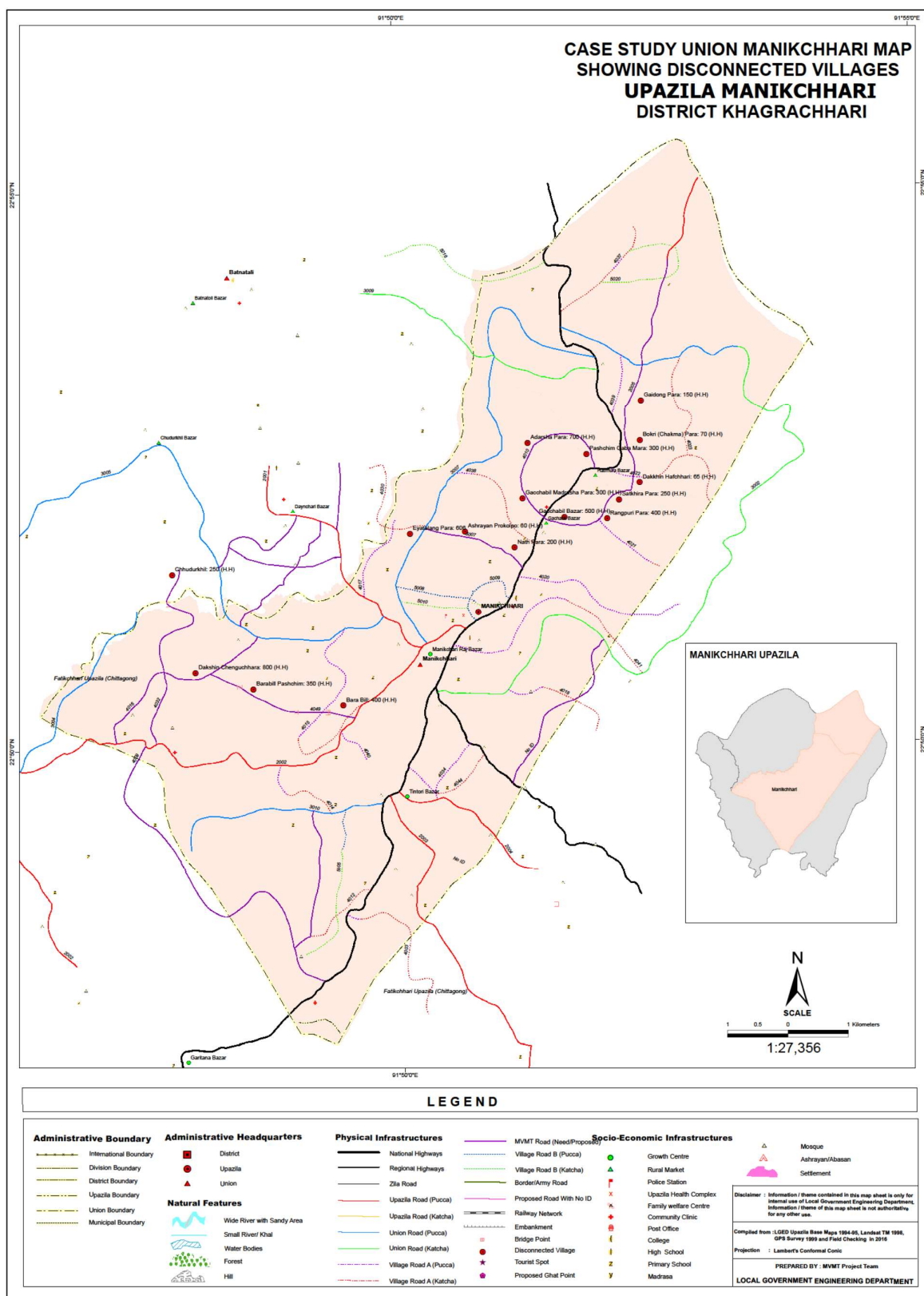
District: Khagrachhari



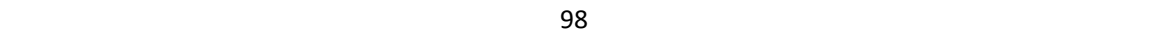








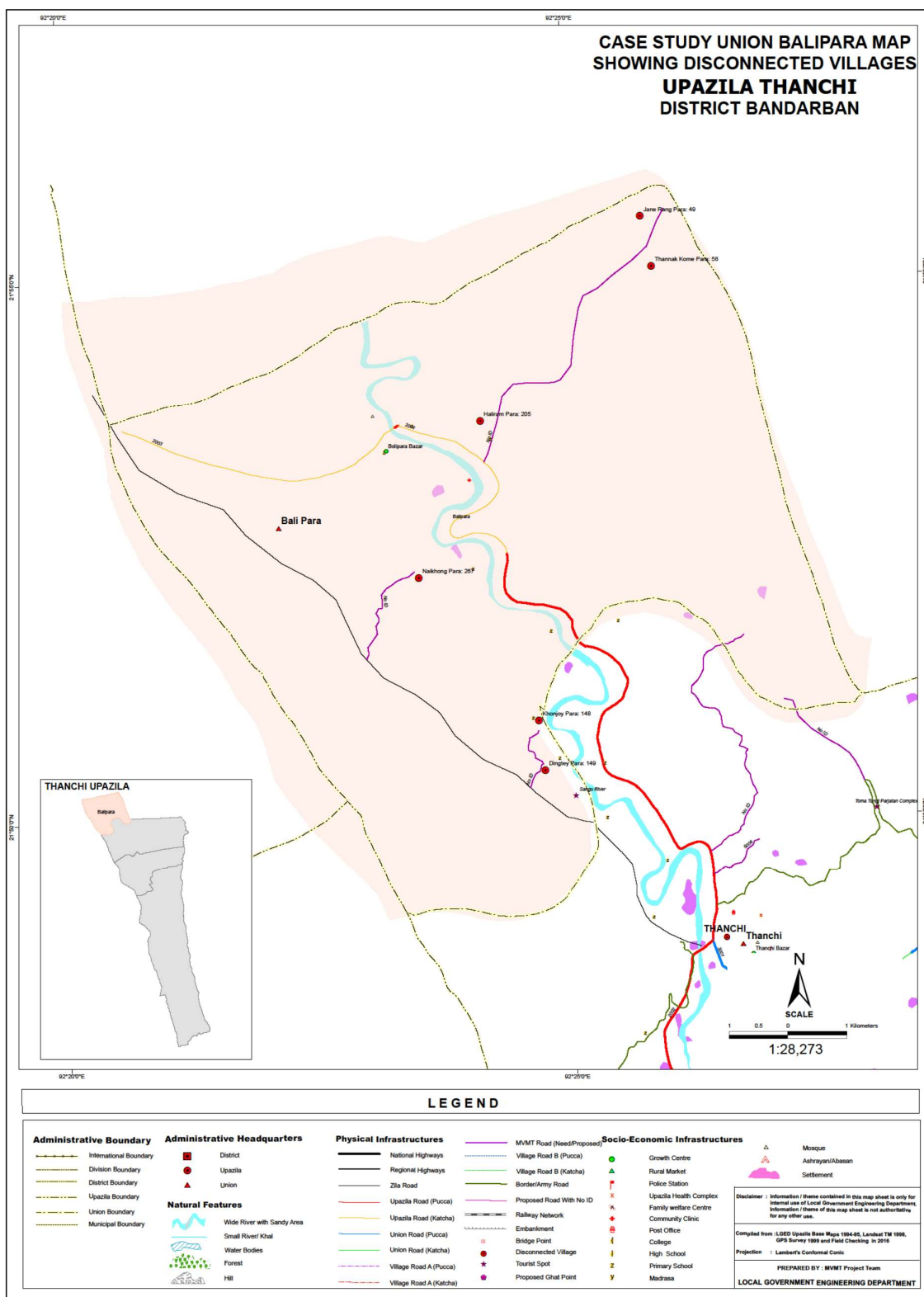




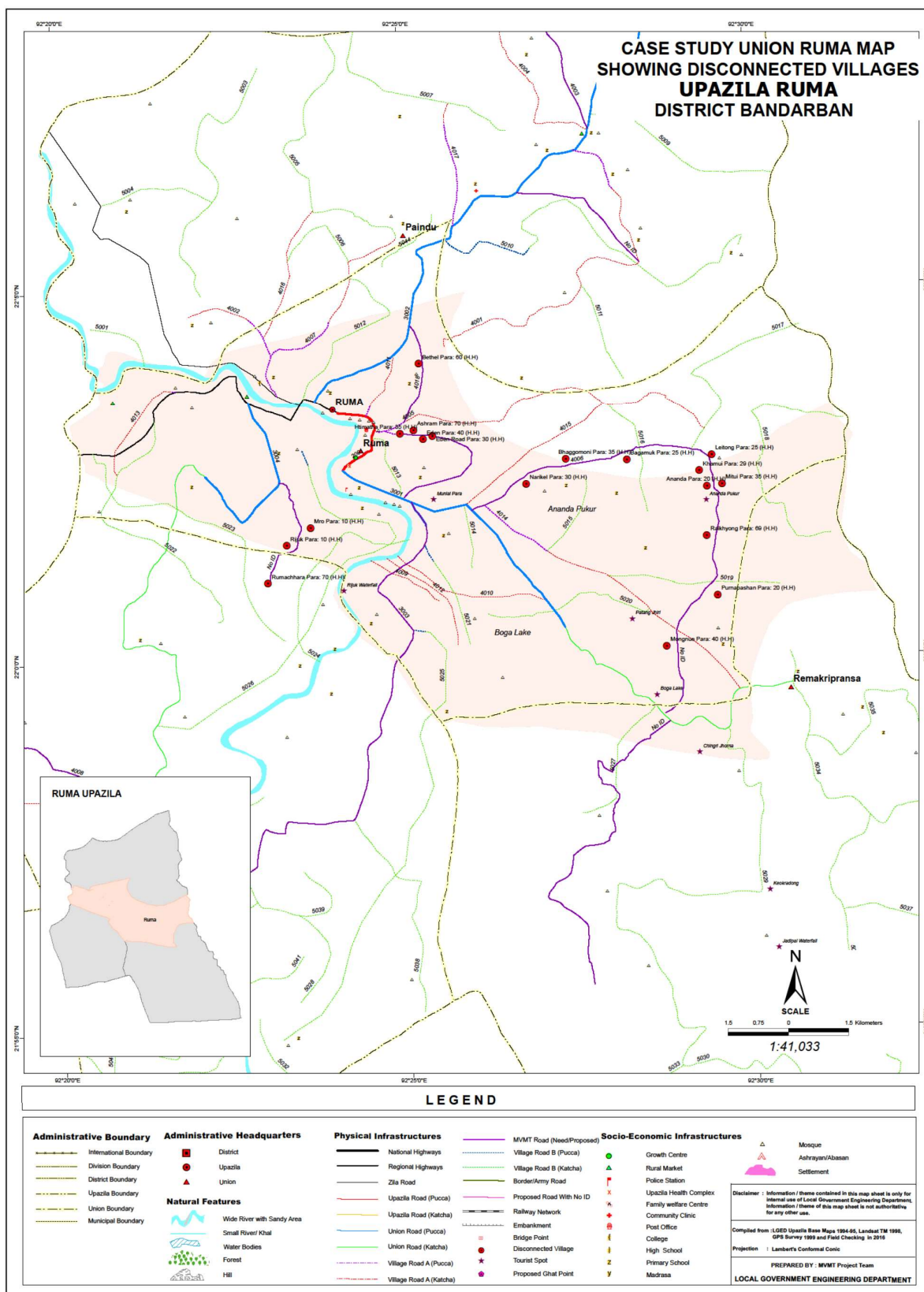
Appendix-8

Output 4: Case Study Union Maps

District: Bandarban







Appendix-9

Output 5: Observations from 23 Case Study Unions Rangamati, Khagrachhari & Bandarban Districts

Output 5: Observations from the 23 Case Study Unions Rangamati District

1. Bagaichhari Upazila, Rangamati District

Road ID: 484074037, Sajek BOP- Old Lenker connecting road via new lenker road



Connecting 6 villages with a population of 1344 (240 households)

Road ID: 484074044, Machalong Bazar – Bhuachari.



Connecting 10 villages with a population of 1836 (328 households)

3. Belaichhari Upazila, Rangamati District

Road ID:484292006, Belaichhari GC - Shilchari GC via Dhupshil & Shalbagan Road (Belaichhari Part). Upazila Belaichhari.



4. Juraichhari Upazila, Rangamati District

Juraichhari UPC Dumdumya UPC via Lulang Chari & Chalka Para. Juraichhari Upazila, Rangamati, Priority 1 Road, ID: 484473003



7 (seven) villages with a population of 3328 (1070 households) are connected with Upazila HQ. Agricultural products are carried to the Lulang Bazar and Juraichhari Sadar using this road.

5. Kawkhali Upazila, Rangamati District

Road ID: 484254003, Nallia Chari - Dabbua Road.



Connecting 5 villages with a population of 8058 (790 Households)

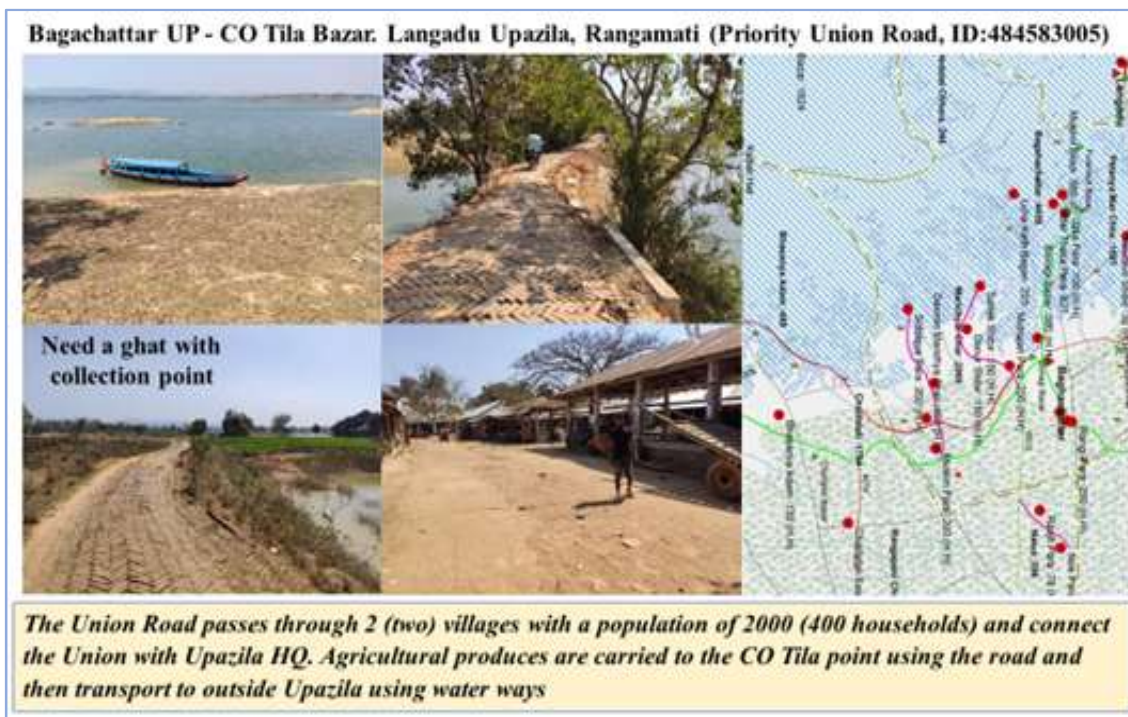


Road ID: 484255011, Betbunia Kala kaji Para Bridge - Sugarmill road



Connecting 4 villages with a population of 1150 (230 Households)

6. Langadu Upazila, Rangamati District



Mohajan Para Jame Mosque - Jakir Karbari via Donur Shibir, Priority No ID Road, Langadu Upazila, Rangamati



Bagachattar Choumohoni - Ranjit Para Road, ID: 454585012, Bagachattar Union, Langadu Upazila, Rangamati.



4.5 Km road connecting 2 (two) Paras with a population of 660 living in 132 HHs and mango orchard and agricultural land. A 50 meter bridge is a need.

Rangi Para - Mayani Ghat Road, ID: 484584006, Bagachattar Union, Langadu Upazila, Rangamati



7. Naniarchar Upazila, Rangamati District

Road ID:484752004, Burighat(GC) - RHD Road via Nanakrum Road, Naniarchar Upazila, Rangamati. Road Length- 7 Km Unpaved.



4 villages with a population of 4757 (670 households) are connected with Upazila HQ. Agricultural produces (Pine-Apple) are carried to Chittagong and Dhaka using this road

Nanakrum - Shiallachari via Boroitoli(No ID). Naniarchar Upazila, Rangamati.



Link road to ID-484752004 is connecting 3 villages with a population of 420 households

Road ID: 484754013, Kukur Mara Police Camp - Gulshachari Road. Naniarchar Upazila, Rangamati. Road Length: 5 Km.



8. Rajasthali Upazila, Rangamati District

Road ID: 484783007, Rajasthali College - Balumara via Komol Chari. Rajasthali Upazila, Rangamati.



Connecting 8 villages with a population of 3315 (650 Households)

Road ID:484254006, Gairda UPC Office - Moronga Para, Rajasthali Upazila, Rangamati.



Connecting 4 villages with a population of 1071 (210 Households)



9. Kaptai Upazila, Rangamati District

Narangiri 2 no bridge - Shitar Pahar via Daluchari (No ID), Kaptai Upazila, Rangamati.



Connecting 6 villages with a population of 2150 (430 Households)



**Bagaichhari Mukh (Anando Bazar) - Gobinda Karbari Para via Nilkamal Karbari Para.
Dighinala Upazila, Khagrachhari, Priority Village Road, ID: 446434012**



Connecting 5 villages of 3500 population living in 640 households with school and college and markets.

2. Guimara Upazila, Khagrachhari District

Road ID: 446634080, Ramsu Bazar - Naikka Para via DP Para. Guimara Upazila, Khagrachhari.



Connecting 6 Villages
with a population of
2760 (460 Households)

Road ID:446634086 & 5028, Jari Chandra Para - Sathi Para via Dewan Para, Guimara Upazila, Rangamati.



Connecting 13 villages
with a population of
4104 (684 households)

3. Lakshmichhari Upazila, Khagrachhari District

Koilash Mohajan Para - Barodona Para via Botgach Para (No ID), Laxmichhari Upazila, Khagrachhari.



4 villages with a
population of 1100 (250
households) are
connected with Upazila
HQ.

Magrachhari bridge - Dunga Para via Paschim Chaillatoli (No ID), Laxmichhari Upazila, Khagrachhari.



Connecting 3 villages with a population of 534



4. Mahalchhari Upazila, Khagrachhari District

Korollachhari (Mahachhari- Naniarchar Road) - Ramani mohon bagan (BoliPara) via Korollachhari Football ground (No ID), Mahalchhari Upazila, Khagrachhari.



Connecting 6 villages with a population of 5250 (750 Households)

Milonpur Banabihar - Khamar Para via Radhamon Bazar (No ID), Mahalchhari Upazila, Khagrachhari.



Connecting 2 villages with a population of 2100 (300 Households)

5. Manikchhari Upazila, Khagrachhari District

Road ID: 446674032 & 4016, Changuchhara – Chadurkhil, Manikchhari Upazila, Khagrachhari.



2 villages with a population of 2745 (450 households) are connected with Upazila HQ.

Road ID: 446673005, Gaccha bil - Dulla toli via chailla toli Hafchhari. Manikchhari Upazila, Khagrachhari.



Connecting 7 villages with a population of 9510 (1510 Households) and creating a road connectivity with Laxmichhari Upazila.



6. Matiranga Upazila, Khagrachhari District

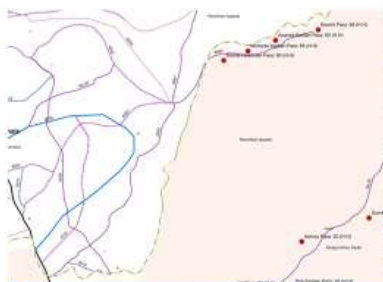
Harun Headman Para Abur Dokan - Apurno Para GPS via Jali Para Poti Karbari Para (No ID). Matiranga Upazila, Khagrachhari.



Connecting 7 villages with a population of 1666 (362 Households).



Road ID: 446704062 + 446704060, Ramshira Bazar - Anondo Karbari Para via Mohendro Master Para. Matiranga Upazila, Khagrachhari.



5 villages with a population of 1520 (331 households) are connected with Upazila HQ.



7. Panchhari Upazila, Khagrachhari District

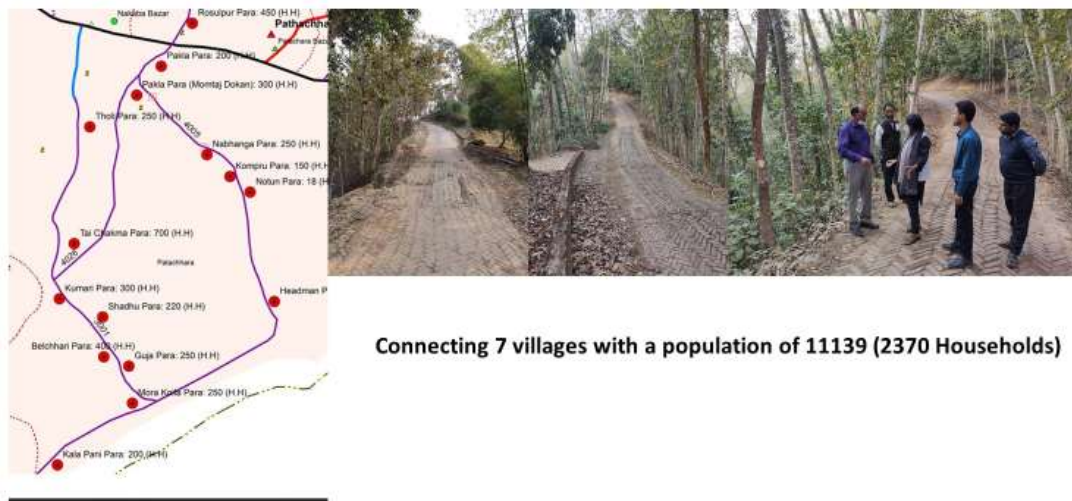
Road ID: 446774050, Mirzatila - Boromuung Para via Ramshing Para. Panchhari Upazila, Khagrachhari.



6 villages with a population of 1152 (245 households) are connected with Upazila HQ.

8. Ramgarh Upazila, Khagrachhari District

Road ID: 446803001, Nakapa Bazar - Batnatoli UP Office via Taichakma and Kumari. Ramgarh Upazila, Khagrachhari.



Road ID: 446804026, Pakla Para - Tai Chakma Para. Ramgarh Upazila, Khagrachhari.



Observations from the 23 Case Study Unions

Bandarban District

1. Lama Upazila, Bandarban District

Road ID: 403515052, Shaperghara-Laillarmar para Road. Lama Upazila, Bandarban.



Lailarmar para village with a population of 552 (Bengali Muslim community) connected with Upazila HQ through this road. This is a single connection to Upazila via Union parishad.



Road ID: 403515052, Shaperghara-Laillarmar para Road. Lama Upazila, Bandarban.



The alignment was susceptible to erosion and the river has changed its course and is changing during rainy season. The new alignment, from school to mosque that is being used proposed under the study.

3. Rowangchhari Upazila, Bandarban District

1. Bandarban to Rowangchhari RHD Road to Nothing Giri Para Road via Wagay Para Cluster Village. (Priority 1 Road, ID 4009)

Output of the Study 04
Priority Roads to connecting
the Disconnected Villages

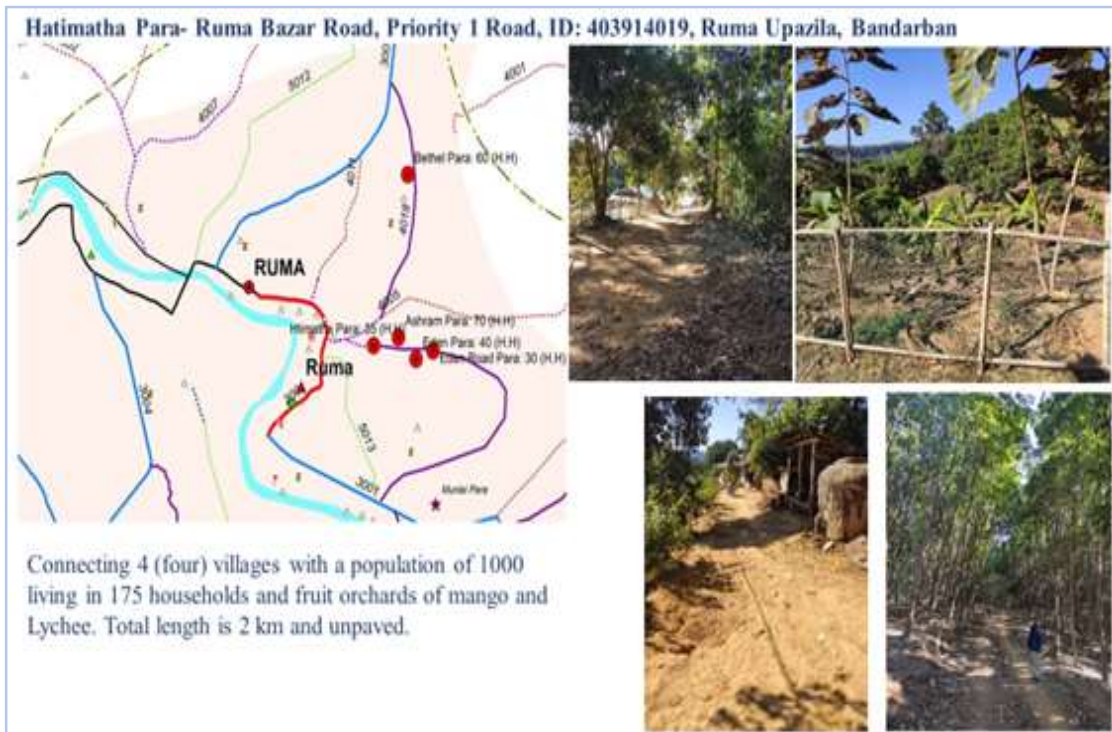


2 Kacchaptali to Lokri Tripura para Road via Sadhu Headman para Road in Alikong Union under Rowangchhari Upazila (Priority Road 1, New Road with no ID)

Output of the Study 04
Priority Roads to connecting
the Disconnected Villages



4. Ruma Upazila, Bandarban District



5. Naikhongchhari Upazila, Bandarban District

Baishari-Duchori HBB brick filling-Tulatuli via Chikonchori (No ID), Naikhongchhari, Bandarban.



6. Thanchi Upazila, Bandarban District

