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OF  
BANGLADESH**

**MINISTRY OF LOCAL GOVERNMENT  
RURAL DEVELOPMENT AND CO-OPERATIVES**

**RURAL ROADS STUDY  
(US AID GRANT 388-0031)**

**VOLUME V**

**PHASE I REPORT  
DISTRICT PROFILE : SYLHET  
JULY 1978  
DRAFT**

**LOUIS BERGER INTERNATIONAL INC.  
EAST ORANGE, NEW JERSEY**

**RAHMAN & ASSOCIATES LTD.  
DACCA**

GOVERNMENT  
OF  
THE PEOPLE'S REPUBLIC OF BANGLADESH

MINISTRY OF LOCAL GOVERNMENT  
RURAL DEVELOPMENT AND CO-OPERATIVES

RURAL ROADS STUDY  
(US AID GRANT 388-0031)

PHASE I REPORT

DISTRICT PROFILE

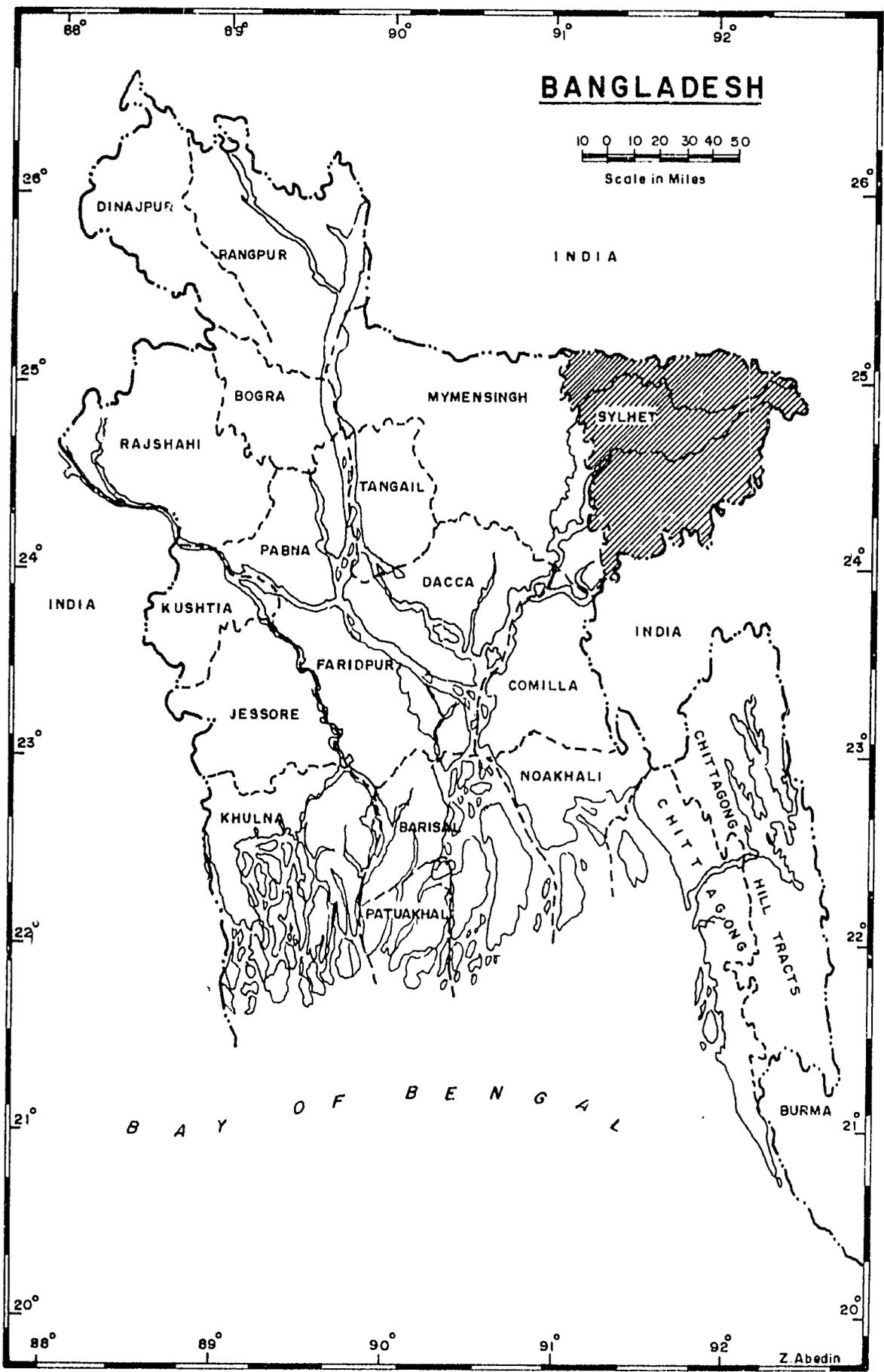
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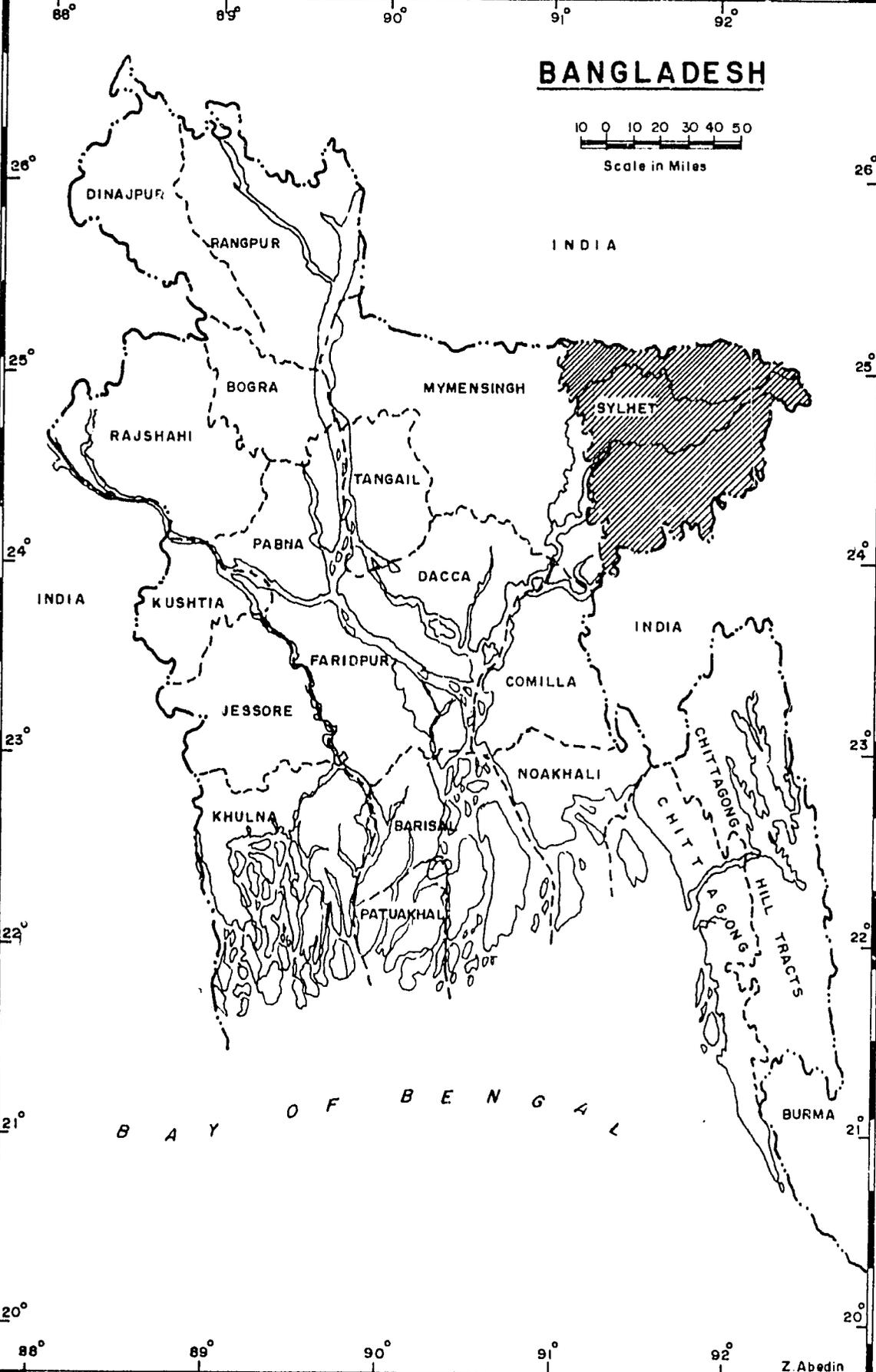
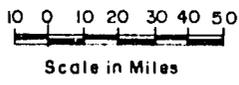
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East Orange New Jersey



# BANGLADESH



Z. Abedin

## PREFACE

In accordance with the terms of the contract under which this study is being conducted, this volume presents the district profile and our recommended rural road network for Sylhet District. Its organization and contents reflect the view of the consultant that the planning of rural roads must be considered as an integral part of a comprehensive rural development program.

Thus the volume starts with an examination of Sylhet's existing transportation network and deficiencies and proceeds to present a detailed profile of the physical, environmental, economic and social aspects of the district.

The concluding sections of the volume describe the consultant's approach in developing a rural road network including the initial road screening and the priority ranking of the roads. The volume ends with the presentation of the recommended rural road network for Sylhet under this project.

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## I. TRANSPORTATION

### A. External Communication

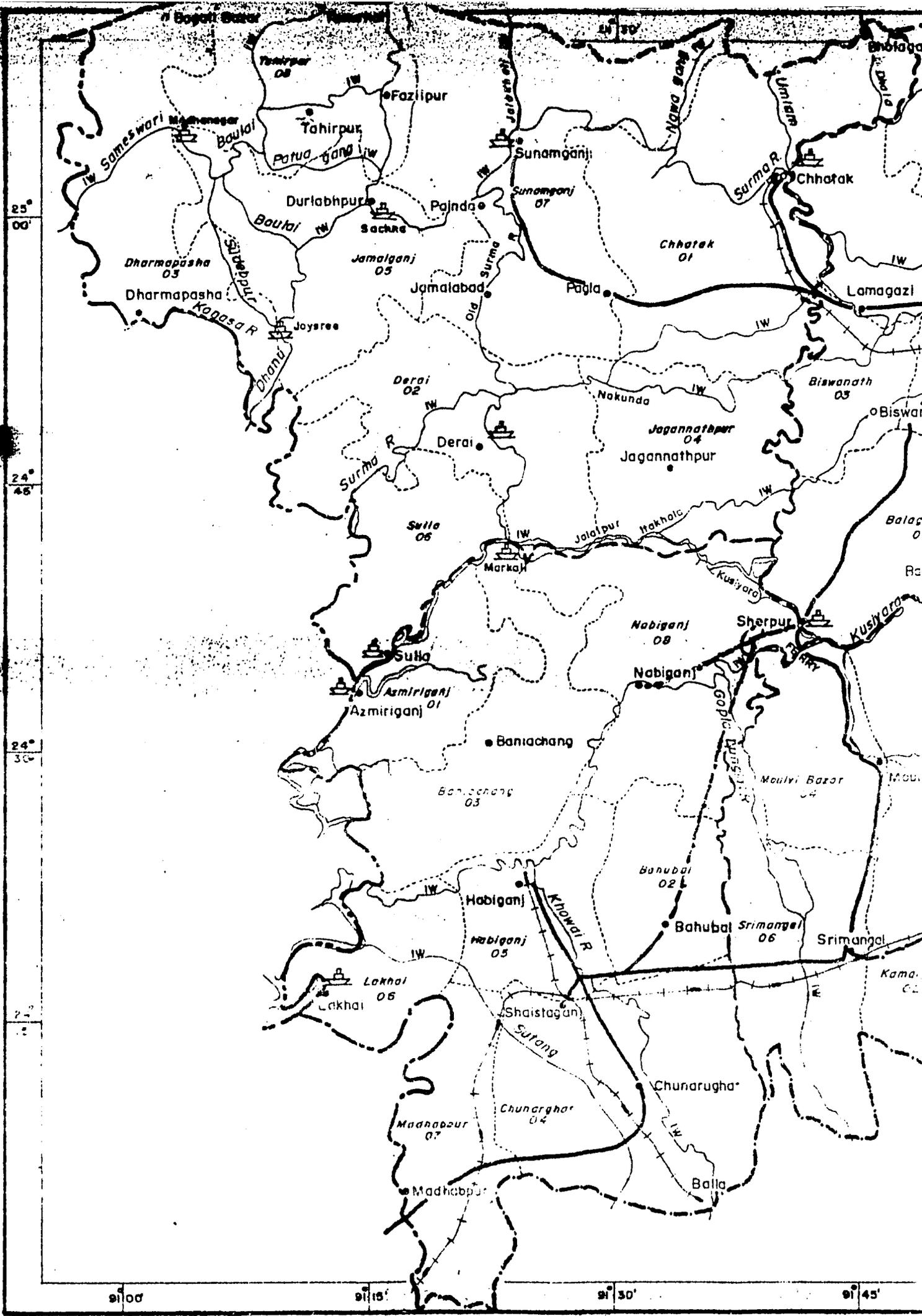
Since Sylhet is bounded by India on the north, east and south, the district's main communication links to the rest of the country are through the southwest and west. The major transportation route through the southwest is served by rail, road, launch and plane service.

The main Roads & Highways Directorate (R&H) route from Sylhet connects to the national Dacca-Chittagong highway at Comilla. Likewise, the main railway line from Sylhet meets the Dacca-Chittagong line at Akhaura in Comilla District. By water, Sylhet is connected through the southwest to Comilla and Dacca via the Surma and Kushiyara rivers. Additionally, Bangladesh Biman has four daily roundtrip flights connecting Sylhet to Dacca.

Transport communications with Mymensingh District, in the west, are not good and the only available transport connection is by launch.

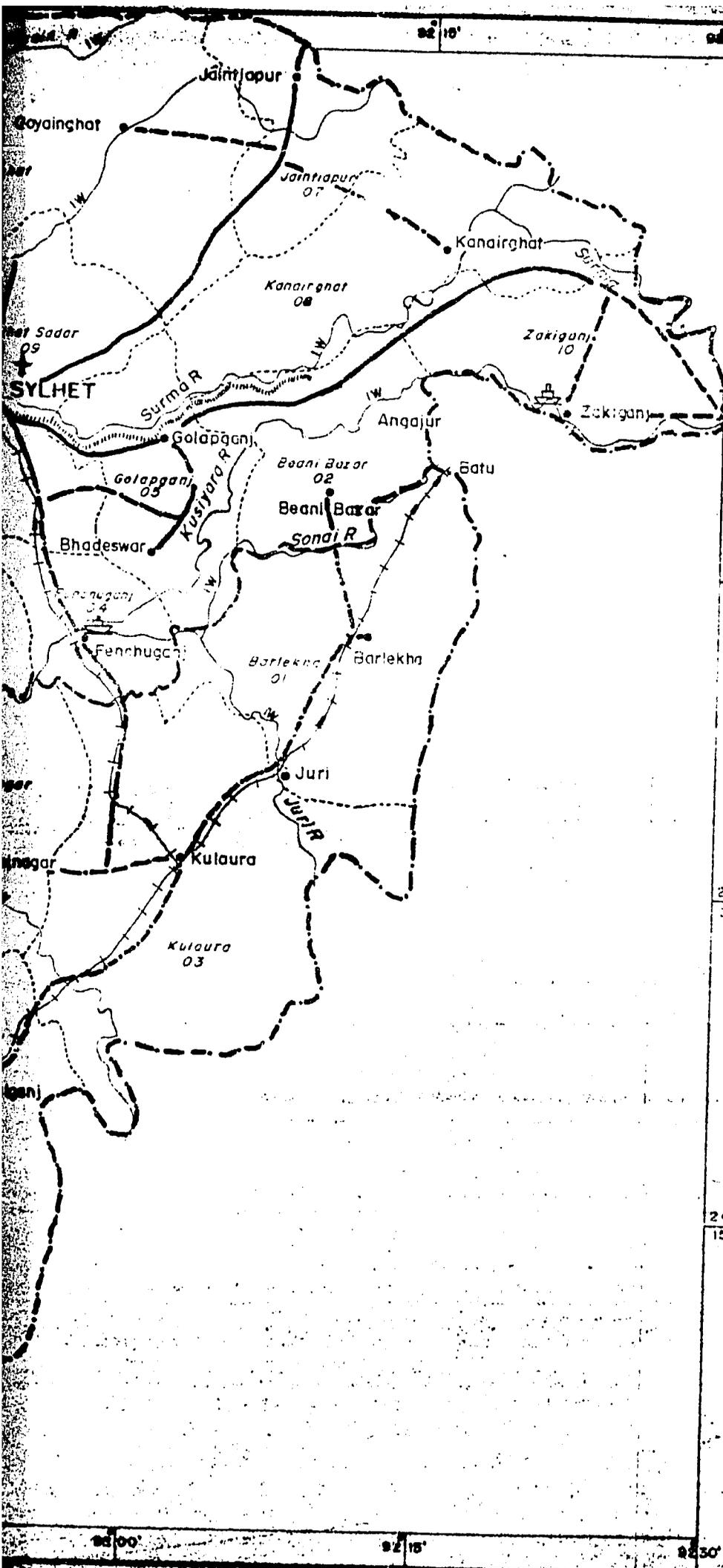
### B. Internal Communication

Transport connections within Sylhet District differ considerably, although all of the subdivision headquarters are connected to Sylhet Town by paved R&H roads (see Figure 1). Transportation from the subdivision headquarters to the thanas, however, varies greatly as is shown in the thana transport profiles in Table 1.





**DIST. SYLHET**



25°  
00'

24°  
45'

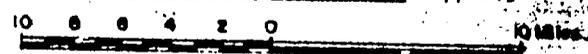
24°  
30'

24°  
15'

**LEGEND:**

- ROADS (R & H Paved) .....
- RAIL ROADS .....
- WATERWAYS .....
- MAJOR AIRPORT .....
- ALL WEATHER ROADS .....
- LAUNCH GHAT .....

Scale : 1 Inch = 8 Miles (Approx)



|  |             |
|--|-------------|
| GOVERNMENT OF<br>THE PEOPLE'S REPUBLIC OF BANGLADESH           |             |
| RURAL ROADS STUDY  |             |
| <b>TRANSPORTATION</b>  |             |
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| CHECKED: [Signature]   | APPROVED    |
| DATE   | DATE        |

THANA TRANSPORT PROFILE  
BEANIBAZAR SUBDIVISION

| THANA      | APPROX MILES OF ALL WEATHER ROAD HBB & PUGGA | VEHICLE ACCESS FROM THANA HQ TO R&H NETWORK | NUMBER OF REGULAR LAUNCH OR STEAMER ROUTES | NUMBER OF RAIL ROAD STATIONS | OTHER WATER TRANSPORT WITHIN THANA | MODE OF TRANSPORT TO SUBDIV. HEADQUARTERS. | MODE OF TRANSPORT TO DISTRICT HQ. |
|------------|--|---|--|------------------------------|------------------------------------|--|-----------------------------------|
| FENCHUGANJ | 8 Miles                                      | None  | 2  | 2                            | Boats in rainy season              | Rickshaw, Train<br>3/4 Hr.                 | Rickshaw, Train<br>3/4 Hr.        |
| BALAGANJ   | 19 Miles                                     | Sylhet-Dacca R&H Road                       | 2  | 0                            | Boats in rainy season              | Bus, Taxi<br>1 Hr                          | Bus, Taxi<br>1 Hr.                |
| BISWANATH  | 8 Miles                                      | Sylhet-Dacca R&H Road.                      | 0  | 1                            | Boats in rainy season              | Taxi, Bus<br>3/4 Hr.                       | Taxi, Bus<br>3/4 Hr.              |
| KOTWALI    | 63 Miles                                     | Sylhet-Dacca R&H Road.                      | 0  | 2                            | Boats in rainy season              | -  | -                                 |
| GOLAPGANJ  | 20 Miles                                     | Sylhet-Zakiganj R&H Road                    | 2  | 0                            | Boats in rainy season.             | Bus, Taxi<br>1/2 Hr.                       | Bus, Taxi<br>1/2 Hr.              |
| GOWAINGHAT | 22 Miles                                     | Paved Road Sylhet-Tamabil R&H Road          | 0  | 0                            | Boats in rainy season              | Bus, Taxi<br>1 1/2 Hrs.                    | Bus, Taxi<br>1 1/2 Hrs.           |
| JAINTIAPUR | 19 Miles                                     | Sylhet-Tamabil R&H Road                     | 0  | 0                            | Small boats in rainy season        | Bus, Taxi<br>1 Hr.                         | Bus, Taxi<br>1 Hr.                |
| KANAIGHAT  | 17 Miles                                     | Sylhet-Zakiganj R&H Road                    | 0  | 0                            | Boats in rainy season              | Bus, Rickshaw<br>2 Hrs.                    | Bus, Rickshaw<br>2 Hrs.           |
| ZAKIGANJ   | 12 Miles                                     | Sylhet-Zakiganj R&H Road                    | 1  | 0                            | Boats in rainy season              | Bus<br>3 1/2 Hrs.                          | Bus<br>3 1/2 Hrs.                 |
| BEANIBAZAR | 12 Miles                                     | Gravel road to Sylhet-Zakiganj R&H Road     | 2  | 0                            | Boats in rainy season              | Bus<br>2 1/2 Hrs.                          | Bus<br>2 1/2 Hrs.                 |

Table continued on the next page

TABLE I  
THANA TRANSPORT PROFILE (Continued)  
SUNAMGANJ SUBDIVISION

| THANA            | APPROX<br>MILES OF<br>ALL WLA-<br>THER ROAD<br>HBB & PUCCA | VEHICLE ACCESS<br>FROM THANA HQ<br>TO R&H NETWORK | NUMBER OF<br>REGULAR<br>LAUNCH OR<br>STEAMER<br>ROUTES | NUMBER OF<br>RAIL ROAD<br>STATIONS | OTHER WATER<br>TRANSPORT<br>WITHIN THANA | MODE OF<br>TRANSPORT<br>TO SUBDIV.<br>HEADQUAR-<br>TERS. | MODE OF<br>TRANSPORT<br>TO DIST-<br>RICT HQ. |
|------------------|--|---|--|------------------------------------|--|--|--|
| DHARMA-<br>PASHA | 1  | NONE  | 1  | 0                                  | Boats in<br>rainy<br>season              | On foot,<br>Launch<br>10 Hrs.                            | On foot,<br>Launch, Bus<br>13 Hrs.           |
| TAHIRPUR         | NONE   | NONE  | 0  | 0                                  | Boats in<br>rainy<br>season              | On foot,<br>Launch<br>6 Hrs.                             | On foot,<br>Launch, Bus<br>9 Hrs.            |
| JAMALGANJ        | 1  | NONE  | 2  | 0                                  | Boat in<br>rainy<br>season               | By Launch<br>2½ Hrs.                                     | Launch &<br>Bus<br>6 Hrs.                    |
| SUNAMGANJ        | 43   | Sylhet-<br>Sunamganj<br>R&H Road                  | 3  | 0                                  | Boats in<br>rainy<br>season              |  | Bus<br>3 Hrs.                                |
| CHHATAK          | 14   | Sylhet-<br>Sunamganj<br>R&H Road                  | 1  | 2                                  | Boats in<br>rainy<br>season              | Bus, Launch<br>Bus-2½ Hrs<br>Launch-4 Hrs                | Train, Bus<br>2 Hrs.                         |
| JAGANNATPUR      | NONE   | NONE  | 2  | 0                                  | Boats in<br>rainy<br>season              | On foot &<br>Bus<br>7 Hrs.                               | On foot,<br>Launch, Bus<br>4 Hrs.            |
| DERAI            | 0  | NONE  | 3  | 0                                  | Boats in<br>rainy<br>season              | Launch,<br>Bus<br>3½ Hrs.                                | Launch, Bus<br>6½ Hrs.                       |
| SULLA            | 0  | NONE  | 3  | 0                                  | Boats in<br>rainy<br>season              | On foot,<br>Launch, Bus<br>7 Hrs.                        | On foot,<br>Launch, Bus<br>6 Hrs.            |

Table continued on the next page

TABLE I  
THANA TRANSPORT PROFILE (continued)  
HABIGANJ SUBDIVISION

| THANA        | APPROX MILES OF ALL WEATHER ROAD HBB & PUCCA | VEHICLE ACCESS FROM THANA HQ TO R&H NETWORK | NUMBER OF REGULAR LAUNCH OR STEAMER ROUTES | NUMBER OF RAIL ROAD STATIONS | OTHER WATER TRANSPORT WITHIN THANA | MODE OF TRANSPORT TO SUBDIV. HEADQUARTERS. | MODE OF TRANSPORT TO DISTRICT HQ.     |
|--------------|--|---|--|------------------------------|------------------------------------|--|---------------------------------------|
| MADHABPUR    | 20   | Sylhet-Dacca R&H Road                       | 0  | 8                            | Boats in rainy season              | Bus<br>2½ Hrs.                             | Bus<br>6 Hrs.                         |
| CHUNARU-GHAT | 14   | Sylhet-Dacca R&H Road                       | 0  | 5                            | Boats in rainy season              | Bus, Train<br>1 Hr.                        | Bus, Train<br>5 Hrs.                  |
| BAHUBAL      | 18   | Sylhet-Dacca R&H Road                       | 0  | 3                            | Boats in rainy season              | Bus,<br>Taxi<br>1 Hr                       | Bus, Train<br>3 Hrs.                  |
| HABIGANJ     | 15   | Sylhet-Dacca R&H Road                       | 0  | 6                            | Boats in rainy season              |  | Bus, Train<br>4 Hrs.                  |
| LAKHAI       | 0  | NONE  | 2  | 0                            | Boats in rainy season              | On foot,<br>Boat<br>4 Hrs.                 | On foot,<br>Boat, train<br>8 Hrs.     |
| AZMIRIGANJ   | 0  | NONE  | 3  | 0                            | Boats in rainy season              | Launch,<br>Train, Bus<br>8 Hrs.            | Launch, Bus<br>6 Hrs.                 |
| BANIACHANG   | 0  | NONE  | 3  | 0                            | Boats in rainy season              | Jeep, Boat<br>& on foot<br>3 Hrs.          | On foot,<br>Launch &<br>Bus<br>7 Hrs. |
| NABIGANJ     | 3  | Sylhet-Dacca R&H Road                       | 2  | 0                            | Boats in rainy season              | On foot,<br>Boat<br>3 Hrs.                 | On foot<br>Bus, Boar<br>3 Hrs.        |

Table continued on the next page

TABLE I  
THANA TRANSPORT PROFILE (Continued)  
MOULVI BAZAR SUBDIVISION

| THANA       | APPROX. MILES OF ALL WEATHER ROAD HBB & PUCCA | VEHICLE ACCESS FROM THANA HQ TO R&H NETWORK      | NUMBER OF REGULAR LAUNCH OR STEAMER ROUTES | NUMBER OF RAIL ROAD STATIONS | OTHER WATER TRANSPORT WITHIN THANA | MODE OF TRANSPORT TO SUBDIV. HEADQUARTERS. | MODE OF TRANSPORT TO DISTRICT HQ.  |
|-------------|---|--|--|------------------------------|------------------------------------|--|------------------------------------|
| BARLEKHA    | 4   | Gravel road to Sylhet-Dacca R&H Road via Kulaura | 0  | 0                            | Boats in rainy season              | Train, Bus<br>2 Hrs.                       | Train<br>3 Hrs.                    |
| KULaura     | 5   | Sylhet-Dacca R&H Road.                           | 0  | 7                            | Boats in rainy season              | Bus<br>1 Hr.                               | Train<br>2 Hrs.                    |
| KAMAIGANJ   | 4   | Gravel Road to Sylhet-Dacca R&H Road.            | 0  | 2                            | Boats in rainy season              | Train, Bus<br>$\frac{1}{2}$ Hrs.           | Train<br>2 Hrs.                    |
| SREEMANJAL  | 16  | Sylhet-Dacca R&H Road                            | 0  | 2                            | Boats in rainy season              | Bus, Baby Taxi<br>1 Hr.                    | Train, Bus<br>2 $\frac{1}{2}$ Hrs. |
| MOULVIBAZAR | 23  | Sylhet-Dacca R&H Road                            | 2  | 0                            | Boats in rainy season              |  | Bus<br>1 $\frac{1}{2}$ Hrs.        |
| RAJNAGAR    | 3   | Sylhet-Dacca R&H Road                            | 2  | 0                            | Boats in rainy season              | Bus<br>$\frac{1}{2}$ Hr.                   | Bus<br>2 Hrs.                      |

Table 2 summarizes the existing thana transportation infrastructure at the subdivision level.

TABLE 2

| Subdivision  | Area Square miles | Approx miles all weather road | # of regular launch routes | # of Rail Stations |
|--------------|-------------------|-------------------------------|----------------------------|--------------------|
| Sylhet Sadar | 1,226             | 200                           | 9                          | 5                  |
| Sunamganj    | 1,445             | 59                            | 15                         | 2                  |
| Moulvi Bazar | 1,046             | 62                            | 4                          | 16                 |
| Habiganj     | 993               | 70                            | 10                         | 19                 |
| Total        | 4,710             | 391                           | 38                         | 42                 |

From Table 2 it is readily seen that transport communication is fairly good in Sylhet Sadar and Moulvi Bazar Subdivisions, relatively poor in Habiganj Subdivision and very poor in Sunamganj Subdivision.

Sunamganj subdivision, which is located in the haor area, has eight thanas, two of which have 97% of the subdivision's 59 miles of all weather roads. As shown in the thana transport profile six thanas depend entirely on launch service for outside communication. Sepecial problems develop during the dry season when the water subsides because vast areas of Sunamganj are left with virtually no means of transportation. The same problems beset the northern thanas of Habiganj (Lakhai, Azmiriganj, Baniachang, and Nabiganj) which are located in the haor

area. The four southern thanas of Habiganj, however, are located on the major transport corridor from Sylhet to Comilla and are well connected by road and rail service.

Likewise, Moulvi Bazar, which is the major tea plantation area, and Sylhet Sadar, the district headquarters, are fairly well connected by rail, road and waterway communication.

C. Roads

1. Number and Type

The Roads and Highways Directorate has approximately 460 miles of arterial roads under its jurisdiction in Sylhet. This consists of about 150 miles of paved roads and 310 miles of earth or gravel roads.

The District Council maintains an additional 506 miles of road, 80 miles of which are paved and the remaining 426 miles are earth.

The R&H roads have a nominal 12 foot wide carriage-way with varying shoulder widths. The embankment crests on the District Council roads vary from 8 to 15 feet.

There are also local earth roads under the jurisdiction of thana councils or union councils but these are principally earth tracks used by pedestrians. In addition, there are numerous earth roads on the tea plantations in the south and eastern part of the district but these are owned by the tea estates and are not open to the public.

On a comparative district basis, Sylhet has 4.8 miles of paved road for every 100,000 persons, which is below the national average of 9.2 miles. Per 100 square miles, the district also has 4.8 miles of road, and this is also less than the national average of 7.3 miles.

These statistics indicate that Sylhet has a fairly good road network, but this must be tempered by two factors: (1) only 20% of the roads are passable during the rainy season and (2) 25% of the thanas, mainly in Sunamganj and Habiganj Subdivisions have almost no paved roads. These two facts show that despite the district statistics much of Sylhet is lacking even a basic road network.

## 2. Major Routes

There are two principal road routes in Sylhet. The first starts in Sylhet Town and passes south through Sherpur and the tea growing thanas of Moulvi Bazar, Srimangal and Chunarghat before proceeding to Comilla and Dacca or Chittagong. The second principal road proceeds west from Sylhet Town and links the industrial center of Chhatak and Sunamganj Town.

The road going north from Sylhet Town to Jantiapur used to be the major trunk road connecting Shillong, but since partition the road only goes to the border at Tamabil and there is not much vehicular traffic. The other arterial road goes east from Sylhet Town passing through Golaganj to Angajur and Zakiganj.

The approximate distances of some of these road links are given below:

|                           |   |          |
|---------------------------|---|----------|
| Sylhet - Moulvi Bazar     | - | 36 Miles |
| Moulvi Bazar - Sreemangal | - | 14 Miles |
| Sreemangal - Shaistaganj  | - | 21 Miles |
| Shaistaganj - Madhabpur   | - | 28 Miles |
| Sylhet - Sunamganj        | - | 40 Miles |
| Sylhet - Jantiapur        | - | 26 Miles |
| Sylhet - Angajur          | - | 25 Miles |

The major road under construction in Sylhet is the planned R&H road from Sylhet Town passing through the industrial town of Fenchuganj and proceeding to Rajnagar, Moulvi Bazar, Habiganj and eventually Dacca.

Currently seven miles have been paved and no date has been set for completion. Two other R&H road proposals that have been approved and funded are the Sylhet-Sunamganj-Takerhat road and the Moulvi Bazar-Kulaura-Juri Road.

In addition the District Council has the following secondary roads under construction:

|                           |           |
|---------------------------|-----------|
| Sylhet-Sultanpur-Balaganj | 15 miles  |
| Biswanath-Jagannathpur    | 15 miles  |
| Atgram-Zakiganj           | 8 miles   |
| MoulviBazar-Shamshernagar | 12 miles  |
| Rajnagar-Indeswar         | 10 miles  |
| Mirpur-Putjury-Sherpur    | 26½ miles |

Most of these projects are only in the initial stages, however, and because of funding difficulties only a few miles are completed each year.

3. Ferry System

Along the existing R&H road from Sylhet to Comilla there are two ferry crossings, both are near Sherpur. There are also three ferry crossings on the Sylhet-Sunamganj road operated by the R&H Directorate. The District Council operates numerous smaller passenger ferries throughout Sylhet District.

4. Sources of Traffic

The total number of motor vehicles registered in Sylhet during 1976 was 7,058. (See Table 3 ). Based on national estimates, that only about 60% of the registered vehicles are actually on the road, the actual Sylhet vehicle population is probably around 4,300. The relatively high number of vehicles in Sylhet reflects the level of economic development that exists in the district.

TABLE 3  
NUMBER OF REGISTERED MOTOR VEHICLES

| Bus | Truck | Jeep | Taxi | Car | Auto Rickshaw | Motor Cycle | Truck Trailer |
|-----|-------|------|------|-----|---------------|-------------|---------------|
| 626 | 1255  | 618  | 106  | 966 | 935           | 1448        | 473           |

Based on a traffic count done for the Bangladesh Transport Survey in 1977, the main R&H road in the district from Sylhet to Brahmanbaria, averaged about 1,462 vehicles a day. Fifty percent of these vehicles were travelling within 10 miles of Sylhet Town and only 3% of the vehicles had destinations outside of Sylhet District. An interesting finding from this traffic count is that 56% (814) of the vehicles using the road were auto rickshaws .

D. Rail

1. Mileage and Routes

There are approximately 172 miles of meter gauge single track railway in Sylhet District. The general direction of the railway system is from the north and east towards the southwest connecting to Comilla, Dacca and Chittagong.

The major rail line starts at Chhatak and proceeds south through Sylhet Town, Fenchuganj, Kulaura, Srimangal and Shaistaganj before leaving the district at Harashpur . . . There are also two branch rail lines in Sylhet, one which leaves the main line at Kulaura and proceeds up to Shahbazpur and the other which connects Habiganj to Balla via Shaistaganj.

2. Railway Stations and Services

The trunk line from Sylhet to the Comilla border connecting to Dacca or Chittagong is served daily by three trains each way. These trains serve 28 stations along the route. The Sylhet to Chhatak line runs twice a day each way and serves 4 stations.

The branch line from Kulaura to Shahbazpur has three daily trains each way serving 5 stations. The branch line from Habiganj to Balla<sup>also</sup> has three daily trains each way and serves 11 stations.

### 3. Sources of Traffic

The main sources of passenger traffic are the major population centers in the district: Sylhet Town, Chhatak, Fenchuganj, Kulaura, Srimangal, Shaistaganj and Habiganj.

The principal freight sources are Chhatak (cement, paper, stone), Fenchuganj (fertilizer) and Srimangal and Shaistaganj (tea). In addition large quantities of grain and other commodities are carried by rail from Chittagong Port to Sylhet Town.

## E. Water

### 1. Waterway Network

Sylhet has approximately 460 miles of water routes. Waterway transport is an important mode for the district. It is particularly important for the western haor areas of Sunamganj and Habiganj Subdivisions because there are not any transportation alternatives.

The main waterways in the district according to the Bangladesh Inland Waterway Transport Authority (BIWTA) are classified in Table 4. Class I waterways are of national importance, Class II waterways are of regional importance and Class III waterways are of local importance.

TABLE 4  
CLASSIFICATION OF INDIAN WATERWAYS

| Class | Name of Waterways | Maximum vessel draught at low water |
|-------|-------------------|-------------------------------------|
| II    | Surma River       | 4' - 5'                             |
| II    | Nowa River        | 4' - 5'                             |
| II    | Dhanu River       | 4' - 5'                             |
| III   | Kushiyara River   | 4' - 5'                             |

The two most important rivers in the district are the Surma and the Kusiya. Together they form the headwaters of the Meghna and carry most of the waterway traffic in Sylhet. The Surma links Sylhet Town to Chhatak, Sunamganj and Sachna via the Nowa River. The Kusiya River serves Zakiganj, Fenchuganj, Balaganj, Sherpur, Markuli, Sulla and Azmiriganj before flowing into the Meghna above the important port of Bhairab Bazar.

Most of the traffic in the district, however, is not carried by launch but by country boat and these are able to sail on the numerous small rivers and throughout the haor area during the monsoon season.

## 2. Launch Ghats

Within the district there are many established launch ghats which provide passenger and cargo services (See Figure 1). The major launch ghats on the Surma Route are Sylhet Town, Chhatak, Sunamganj and Sachna. Along the Kusiya River are Zakiganj, Fenchuganj, Balaganj, Sherpur, Markuli, Sulla and Azmiriganj.

3. Major Routes

The major routes follow along the Class II and Class III waterways and link many areas of Sylhet to the districts of Mymensingh, Comilla and Dacca.

A list of the major waterway routes and their approximate mileage is given in Table 5.

TABLE 5  
MAJOR WATERWAY ROUTES AND DISTANCES

| Route                                  | Mileage   |
|--|-----------|
| 1. Sylhet-Chhatak                      | 36 miles  |
| 2. Chhatak-Sunamganj                   | 27 miles  |
| 3. Sunamganj-Sachna-Bhairab Bazar      | 113 miles |
| 4. Fenchuganj-Azmiriganj-Bhairab Bazar | 149 miles |
| 5. Sylhet-Dacca                        | 220 miles |
| 6. Fenchuganj-Dacca                    | 193 miles |

F. Air

There is an airport in Sylhet Town, and Bangladesh Biman serves the district with four flights daily to and from Dacca. There is also an airport in Shamsheernagar but commercial air service has been discontinued.

## II. GENERAL BACKGROUND

### A. History

The history of Sylhet was little known before the Hindu King Gaur Govinda's army was defeated by Muslims headed by the great saint Shah Jalal in 1303 A.D. Since then Sylhet was ruled by Muslims. The first Muslim ruler was Sikandar Shah who built a mosque in honour of the great saint. His remains were subsequently buried in a high spot adjacent to the mosque. The location has now become a place of pilgrimage. The district is also known by many as Jalalabad in the name of the saint.

During Akbar's time, Sylhet was under the control of rebellious Pathan chiefs. It came under Moghul rule when Islam Khan, sent by Jahangir from Delhi, defeated the Pathan chief in 1612.

East India Company's administration in Sylhet started in 1765. The first British resident administrator appointed for Sylhet was one Mr. Thackeray, the grand father of a famous novelist Mr. Thackeray. Sylhet became a district of the province of Assam; the Collector of Sylhet used to receive guidance with orders issued from Dacca and Calcutta. British rule in Sylhet started with the invasion of the Jaintia Parganas in 1774 and eventually with the annexation of these Parganas in 1835.

During the Muslim revolution of 1857, Sylhet was quite active. In December 1857, a party of freedom fighters from Chittagong entered the south of Sylhet and was pushing on through the Surma valley. The fighters were, however, overpowered by British army.

In 1947, a referendum was held for the Muslim-dominated contiguous region of Sylhet; and as a result the district became a part of Pakistan. But the Radcliff Award on territorial adjustments took away a major part of Karimganj subdivision and transferred to India. The present district territory is on the same basis.

#### B. Administration

The Deputy Commissioner heads the District Administration in all matters - general, revenue and development. He is assisted by three Additional Deputy Commissioners in the three major areas of activity. Subdivisional officers are the heads of Subdivisional Administration (composed of subdivision-based officials to look after general matters and developmental activity); and the subdivisional officers are responsible to the Deputy Commissioner. In developmental activities, the subdivisional officers are largely assisted by the Circle Officers (Development). All Ministries or Agencies dealing with developmental activity in the main sectors locate their officials in the district headquarters and also, in many cases, in subdivisional headquarters, rendering coordination feasible both at district and subdivision levels. Thana administration, lower down below

subdivisions, is conducted by a limited number of thana-based government officers and employees whose activities are mostly supervised and coordinated from the subdivisions.

Sylhet district has 4 subdivisions : Sylhet Sadar, Habiganj, Moulvi Bazar and Sunamganj. The district has 32 thanas, 318 unions and 9,195 villages. The Sadar subdivision has 10 thanas, Habiganj and Sunamganj 8 each and Moulvi Bazar 6 thanas.

### C. Area and Demography

The district has a total area of 4,783 square miles and as such is the second largest district - second to Chittagong Hill Tracts. It has a population of 4.76 million which is smaller in size than that of Rangpur; but the population is larger than in Faridpur and Patuakhali. The density in 1974 has been estimated at 995 per square mile which is slightly higher than Patuakhali's density (895). The low density is mainly because of the large area of land, as much as 205,360 acres, under forest. In 1974, Sylhet had only 2.7% population in the cities and towns while 97.3% of population lived in the villages. This situation is observed despite a rapid rate of growth in urban population compared to the growth of rural population during the intercensal period (1961-74). The relative rates of growth of such population are: 86.3% for urban population and 35.4% for rural population. The district had a tribal population of over 16,000 in 1974; these people are mainly of manipuri and khashia-jaintia origin.

Among subdivisions, Sylhet Sadar has the largest population (1.48 million), followed by Sunamganj (1.21 million). Habiganj and Moulvi Bazar subdivisions have nearly similar sizes of population (1.08 million and 0.99 million respectively). Large population concentrations above 200,00 are in Kotwali thana, Sunamganj thana, Chhatak thana and Kulaura thana, (ranging between 351,000 for Kotwali and 249,000 for Kulaura). The least populated thanas in the four subdivisions are: Azmiriganj in Habiganj subdivision (pop. approx. 62,000); Sullatana in Sunamganj subdivision (pop. approx. 57,000); Jaintipur in Sadar subdivision (pop. approx. 45,000); and Rajnagar in Moulvi Bazar subdivision (pop. approx. 25,000). In terms of density of population per square mile, Fenchuganj thana heads the list (with 2,346); medium-level densities (between 1,000 and 1,600 per square mile) are for these thanas: Habiganj (1,595); Kotwali (1,539); Biswanath (1,509); Golaganj (1,494); Beanibazar (1,413); Moulvi Bazar (1,304); Zakiganj (1,233); Nabiganj (1,133); Bahubal (1,121); Balaganj (1,115); Lakhai (1,048); Sunamganj (1,012); Chhatak (1,006). The lowest level of densities are observed for these thanas: Jamalganj (478); Gowainghat (559); Sullatana (570) and Jaintipur (576).

### III. PHYSICAL AND ENVIRONMENTAL FEATURES

#### A. Physical Geography

##### 1. Location

Sylhet, the largest of the four selected districts (4,785 sq.mi.), is located in the extreme northeast section of the country. It is bounded by Mymensingh District on the west, the Khasi and Jaintia Hills and Cachar District (Inida) on the north and east, on the south by Tripura State (Inida) and on the extreme Southwest by Comilla District. These boundaries correspond roughly to between  $23^{\circ} 13'$  north latitude and  $90^{\circ} 54'$  and  $92^{\circ} 30'$  east longitude.

##### 2. Topography

Sylhet District has the most variable topography of any of the four districts. The district occupies the lower portion of the valley of the Barak or Surma River. The central portion of the district is a flat plain only a few feet above sea level which is dotted over with huge, saucer-like depressions called haors. Haors are large, natural lakes, usually not very deep and which generally dry up during the winter. They are vast, turbulent stretches of water during the wet season. Most of the large haors, some of which have water year-round, are located in Sunamganj and Sylhet Sadar Subdivisions.

The broad Barak valley rises gently to the northeast border, and somewhat more abruptly to the north and south where hills are in evidence. The northern hills of Khasi and Jaintia are actually located outside of the district; however, some low hills of the outlying ranges (called tilas)

lie inside the border. These hills reach heights of over 200 feet and have the same east-west direction as the Himalayan system. The southern and southeastern areas of Sylhet are much hillier than the other areas. These hills, which reach heights of up to 1,100 feet, run generally north-south and are a continuation of the hills of the Chittagong Hill Tracts. High valleys lie between hills and fall gradually to the broad valley lying to their north.

### 3. Geology and Soils

#### a. Geology

Geologically, Sylhet is by far the most diverse of the four districts. Bordered on the north by the abrupt rise of the Shillong Plateau (Assam) with elevations of up to 4,000 feet (locally 6,000) and by the Tripura Hills on the south, the district exhibits evidences of many geologic periods and processes. The hills of the northern areas are little consolidated sandstones, siltstones, shales and unconsolidated sandy sediments. Folding has occurred and strata are steeply dipping. The ridges are simple anticlines with tips below the edge of the plain.

In the south, small areas of an old, deeply dissected level terrace rising 25 to 30 feet above the plain occur at the edges of hill ranges near Srimangal and Kamalganj and in other scattered locations.

The valleys and basins consist mainly of unconsolidated floodplain sediments. Some areas have been either uplifted or downwarped by earth movements as evidenced by numerous earthquake fissures filled with sand.

Sylhet District, like Rangpur, is in seismic zone 1 indicating that it is likely to be subject to earthquakes of highest intensity. Since the first recorded earthquake in 1548, the district has been struck four times, the latest coming in 1897 and causing 545 reported deaths in the district.

b. Soils

The western third of the district and generally the northern edge consist of acid basin clays. The bulk of the rest of the district, with the exception of the hill areas, consists mainly of grey floodplain soils and noncalcareous dark grey floodplain soils. The hill areas of the south and east central portions comprise generally grey piedmont soils in the lower elevations with brown hill soils evident in higher areas of the southern, east-central and northeastern portions of the district. Soil mapping units are outlined in Figure 2

B. Hydrology

1. Climate

The climate of Sylhet District is warm and humid. As with other areas of the country, lowest temperatures are in January followed by a rise to highest temperatures in May or June. During the monsoon season (July to October)

MAP INDEX

SOIL UNIT  
NUMBER

D E S C R I P T I O N

- 1 Predominantly heavy clays. Loams and sands near foot of hills and along piedmont rivers.
- 2 Mainly heavy loams and clays. Local areas of loamy ridge soils, raw silty alluvium and peat (in deep basin centers). Permeability mainly slow.
- 3 Predominantly heavy clays on both ridges and in basins.
- 4 Mainly noncalcareous dark grey floodplain soils, some grey floodplain soils.
- 7 **Grey piedmont soils.** Mainly light loams on higher parts, heavy loams on lower parts. compact ploughpan impedes internal drainage.
- 11a Brown hill Soils. Mainly deep, well drained loams. Locally sandy, shallow or rocky. Permeable. Drought in dry season. Deep red-brown terrace soils locally, mainly loamy.

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24° 45'

24° 30'

24° 15'

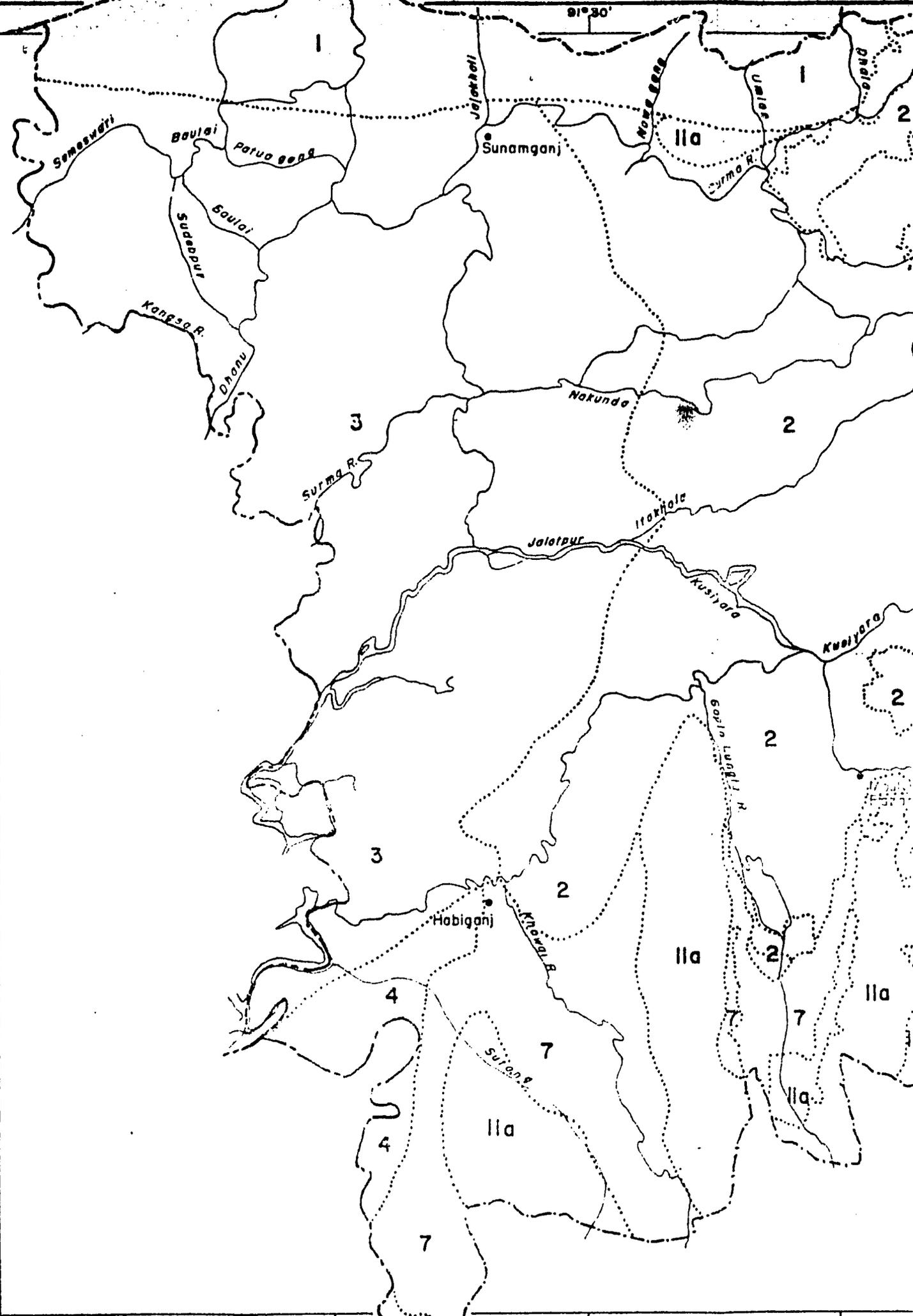
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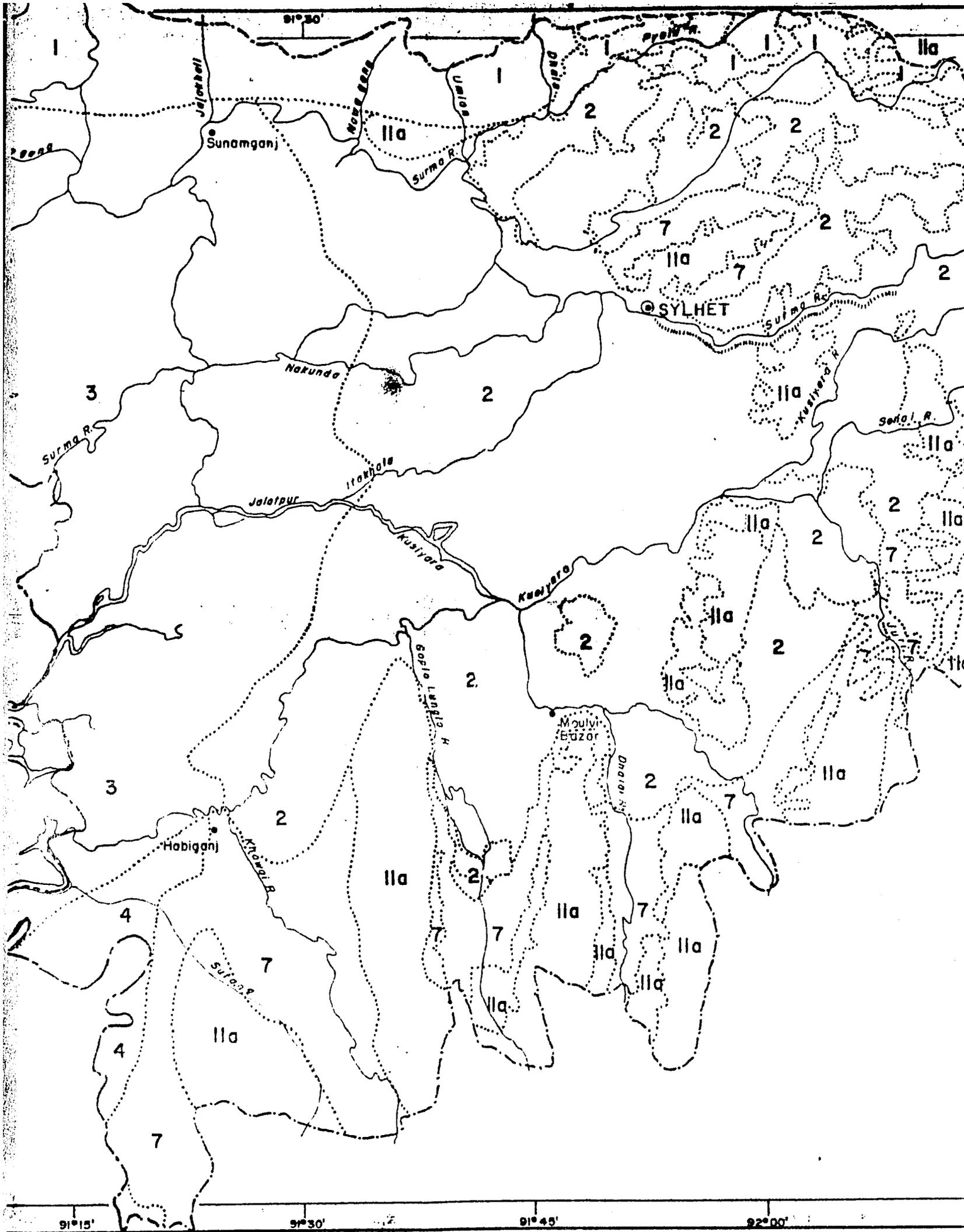
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91° 15'

91° 30'

91° 45'





91°30'

Sunamganj

SYLHET

Nakunda

Habiganj

Moulvi Bazar

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92°00'

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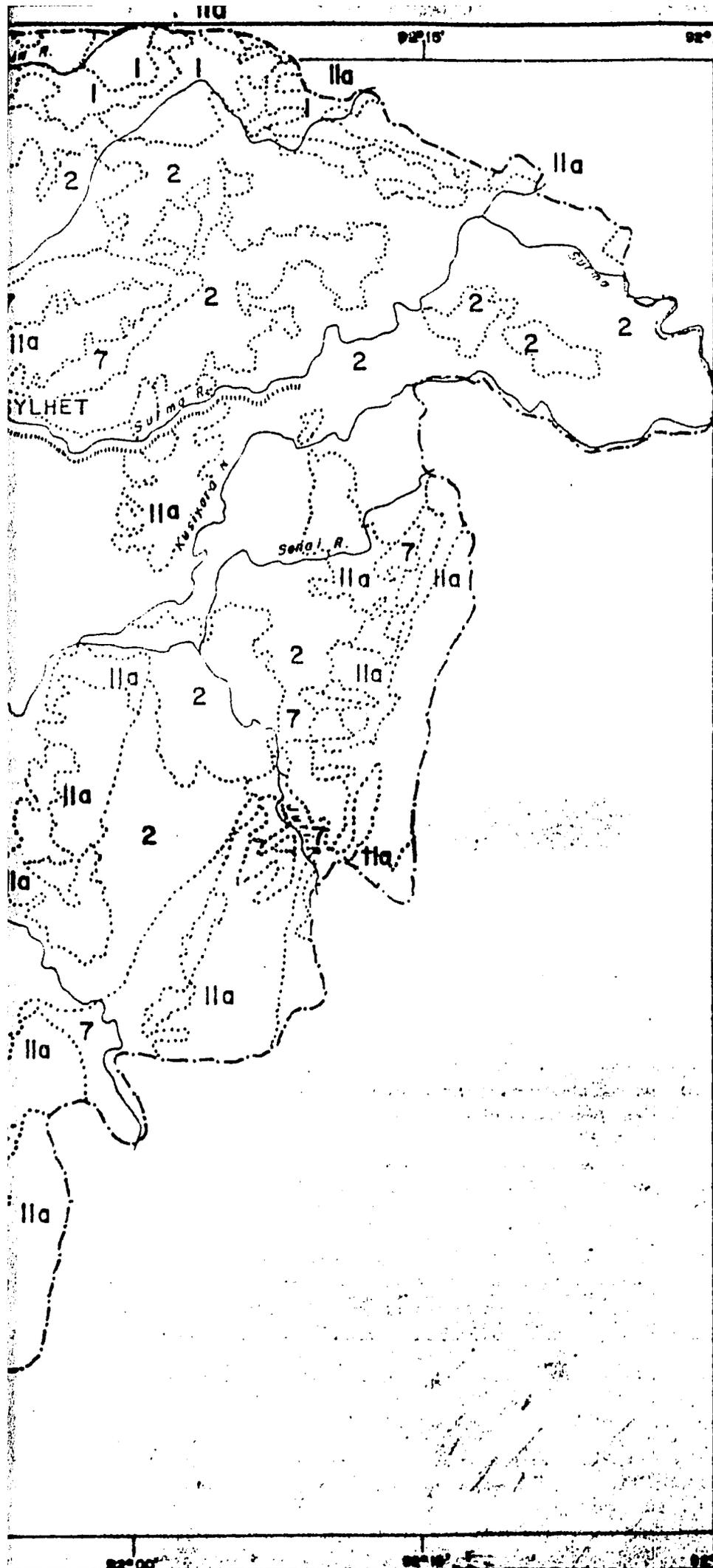
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DIST. SYLHET



25° 30'

24° 45'

24° 30'

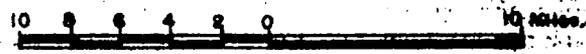
24° 15'

**LEGEND:**

- Division Boundary -----
- Dist. Boundary - - - - -
- Dist. Head Quarter ○
- Sub-Division Head Quarter ●
- Rivers
- Soil Unit Boundary ······
- Soil Unit Number 2

Sources: IDRD, 1972  
UNDP, 1971

Scale: 1 Inch = 8 Miles (Approx)



|   |              |
|---|--------------|
| GOVERNMENT OF<br>THE PEOPLE'S REPUBLIC OF BANGLADESH            |              |
| RURAL ROADS STUDY   |              |
| <b>SOILS</b>  |              |
| LOUIS BERGER INTERNATIONAL INC. AND<br>RAHMAN & ASSOCIATES LTD. |              |
| PREPARED: Reihan  | RECOMMENDED: |
| CHECKED: <i>g/s</i>   | APPROVED:    |
| DATE:   | DRG. NO.     |

temperatures drop slightly but generally remain steady. While a rise in temperature sometimes occurs after the monsoon season, temperatures usually fall gradually to the January low. The district experiences larger temperature variations (daily, seasonally and geographically) than any other district in the country. Mean annual daily temperature range varies from 18°F in the west and north to 22°F in the extreme southeast.

Rainfall in the district is by far the highest in the country. Like most of Bangladesh, annual rainfall occurs almost entirely in the monsoon season from July to October with a limited amount falling during the pre-monsoon period in May and June, often in the form of violent thunderstorms. Mean annual rainfall ranges from 90 inches in the south to more than 200 inches in the northeast. Even higher rainfall occurs in areas to the north of the district in India, some of which rank among the highest rainfall areas in the world.

Sylhet, owing to its distance from the Bay of Bengal, its heavy continental airmass influence and its topography, is not affected by cyclones, but high winds and sometimes hail, which accompany the violent thunderstorms in March-May and September, often cause damage to buildings and crops. Humidity in the district is extremely high and draught is rare.

## 2. Surface Water

The Barak or Surma River begins in the southern slopes of the Naga Hills in India and enters Bangladesh in Sylhet District. Near the border it divides itself into the principal rivers of the district, the Surma and the Kusiya.

The Surma River runs southwest to near Sylhet town where it changes course to a northwesterly direction. Near Chhatak it merges with the waters of the Piyain, Dhala and Umiyam Rivers and flows generally westerly to near Sunamganj, picking up the flows from the Nawaganj and Jalakhali enroute. Here the flow becomes southerly for a short period to near Painsa where the flow splits into two branches. The southern branch, the old Surma River, flows southerly, eventually meeting the Jalalpur River, the lower reaches of the Kusiya. From the junction of the Surma River with the Jalalpur, the river is named Kalni and flows into the Meghna River.

The Kusiya River forms a portion of the Bangladesh border with India near Zakiganj and flows southerly to its confluence with the Surma. Main tributaries along the route are the Juri and Dhalai. The Gopla Lunga, Khowai and Sutang Rivers flow into the Upper Meghna.

The normal net discharge of the Meghna River is estimated to be between 10 and 15 thousand cubic feet per second (mcs). Mean maximum flow is 377 mcs. Both measurements are for Bhairab Bazar. Reversal of flow under tidal influence prevents discharge measurement in the dry season.

The rivers of the district possess the characteristics of those generally found in flat, alluvial country. Current is slow and winding along muddy beds. Gradients are negligible and lines of drainage are often not well defined.

Haors, as stated earlier, provide a vast system of lakes in the district during and after the rainy season. There are 35 large haors in the district, some of which merge with one another. The most prominent are Saneer, Hail, Hakaluki, Dekar, Maker and Chayer Haors. Some 475 small haors are located within the district.

Flooding is normally a serious problem in Sylhet, having caused widespread damage on numerous occasions. Flooding is most serious when high runoff from the surrounding hills combines with high rainfall within the district. Serious floods occurred in 1781, 1785, 1787, 1793, 1795, 1850-52, 1893, 1902, 1929, and , more recently, in 1966, 1967, 1968 and 1974. Of the 4,785 sq. mi. in the district, 3,712 (78%) are normally flooded during the wet season. Of the 32 thanas in the district, the following 24 are usually affected by flooding:

Sylhet Sadar Subdivision; Balaganj, Beani Bazar, Biswanath, Fenchuganj, Golapganj, Goyainghat, Kanairghat, Sylhet Sadar, Zakiganj.

Sunamganj Subdivision; Chhatak, Derai, Dharmapasha, Jagannathpur, Jamalganj, Tahirpur, Sunamganj, Sulla.

Habiganj Subdivision; Bahubal, Baniachang, Chunarughat, Habiganj, Nabiganj.

Moulvi Bazar Subdivision; Kamalganj, Moulvi Bazar.

The higher areas of the north, east-central and southern hills are generally non-flooded hilly land. Lower elevations in the

southern and east-central areas are poorly drained level highlands either seasonally wet or shallowly flooded. The rest of the east central area is mixed shallowly and deeply flooded land with shallowly flooded land in the basins. The western half of the district is considered mainly deeply flooded land. Figure 3 illustrates district land levels in relation to flooding.

### 3. Ground Water

Sylhet District is fairly evenly divided in area between the Sylhet basin and southern Meghna basin hydrogeologic regions of the western and interior areas of the district, and the geologically complex areas which lie along the northern eastern and southern borders of the district. Few reliable data on ground water are available for either of these major hydrogeologic regions.

## C. Environmental Features

### 1. Flora

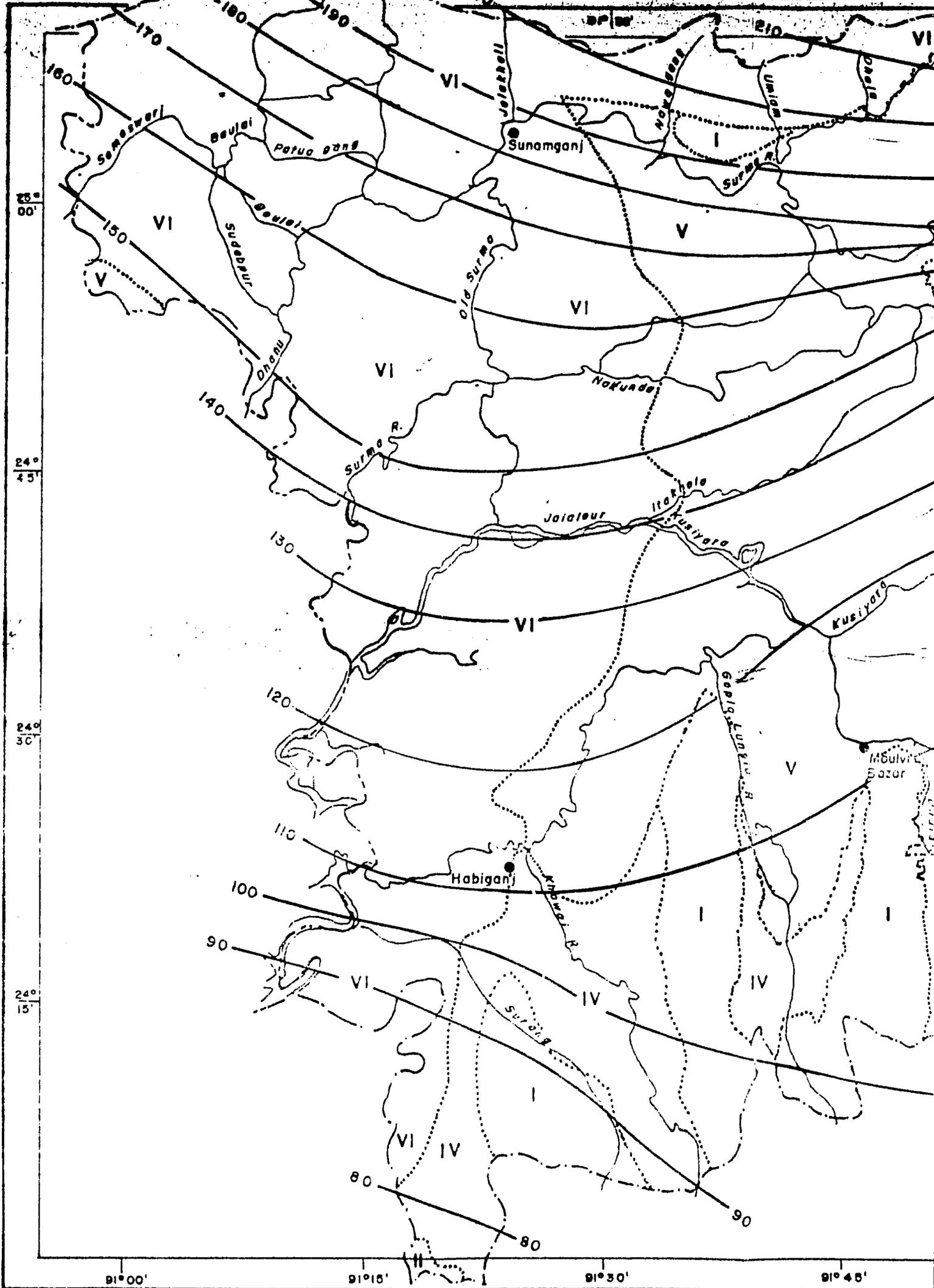
High rainfall, high humidity and diverse soil patterns and land forms combine to support a variety of plants in Sylhet District. Two basic groups of plants, aside from cultivated plants, exist in Sylhet; the forest related and non-forest related varieties. The forest related varieties include trees, lianas, ferns, reeds, grasses, canes and many other plants of the forests and jungles. Non-forest related varieties are dominated by aquatic varieties such as water lillies, water hyacinth (an exotic) and many others. A list of selected district fauna is included in the summary Volume Annex.

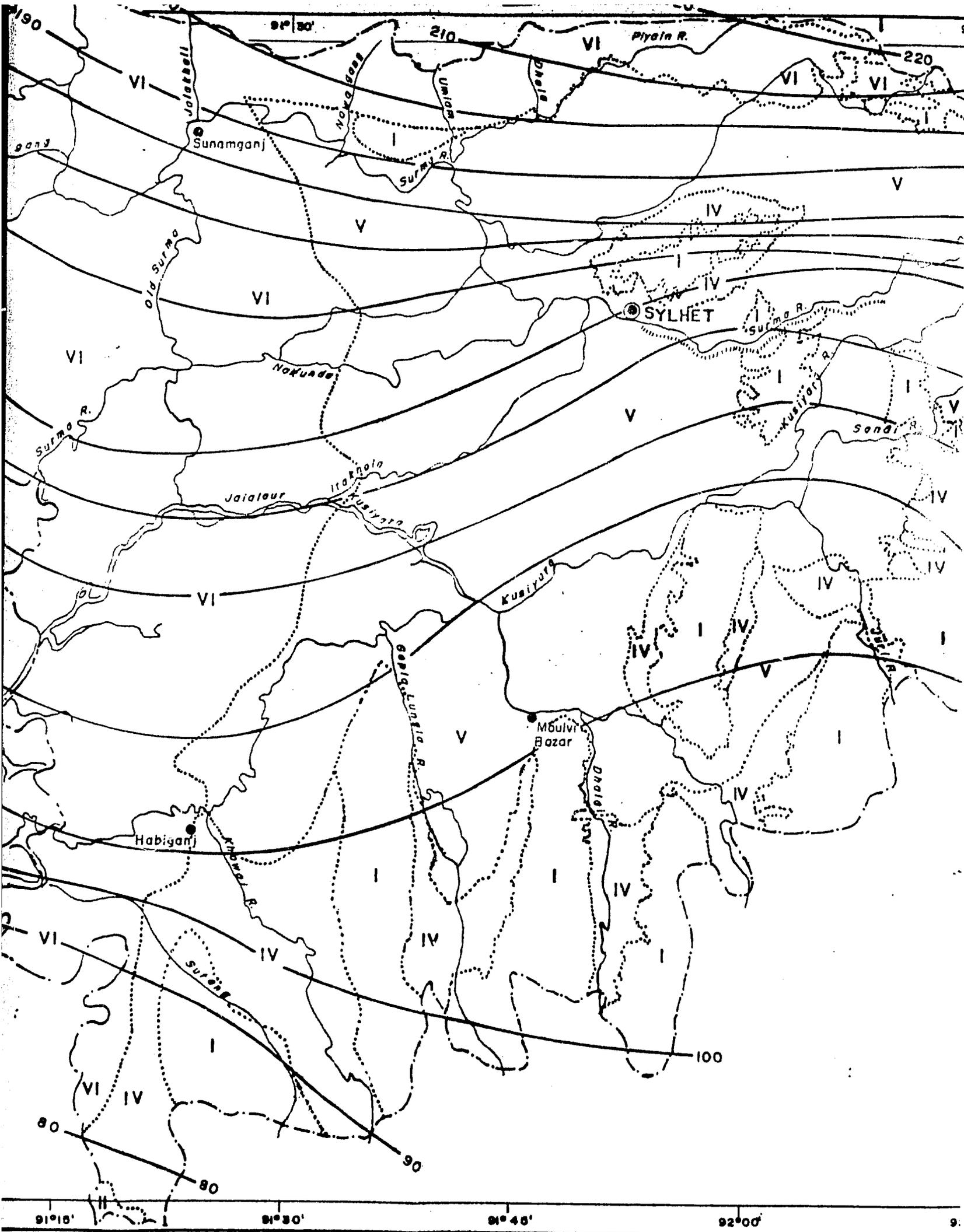
MAP INDEX

DRAINAGE UNIT  
NUMBER

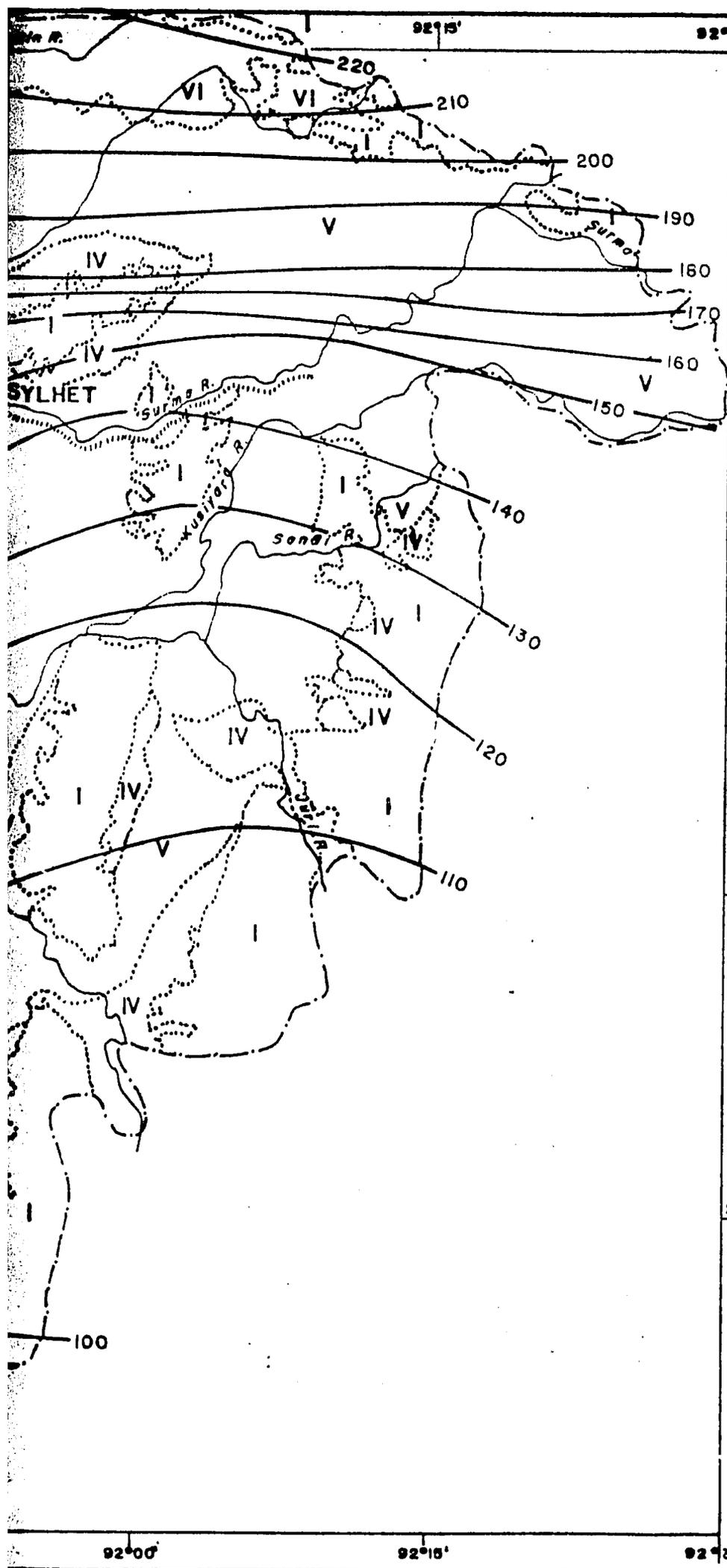
DESCRIPTION OF LAND LEVELS  
IN RELATION TO FLOODING

|    |   |
|----|---|
| I. | Willy land (non-flooded)                                  |
| IV | Mainly seasonally wet or<br>shallowly flooded land        |
| V  | Mainly seasonally wet/shallowly<br>flooded land in basins |
| VI | Mainly deeply flooded land                                |





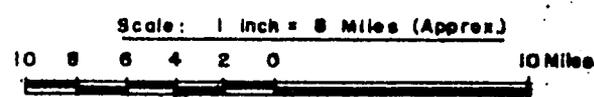
**DIST: SYLHET**



**LEGEND:**

- Division Boundary . . . . . - - - - -
- Dist. Boundary . . . . . - - - - -
- Dist. Head Quarter . . . . . ⊙
- Sub-Division Head Quarter . . . . . ●
- Rivers . . . . .
- Drainage Unit Boundary . . . . . - - - - -
- Drainage Unit Number . . . . . V
- Rainfall Isohyet in Mean Annual Inches . . . . . 150 — 150

Source : IBRD , 1972



|   |              |
|---|--------------|
| GOVERNMENT OF<br>THE PEOPLE'S REPUBLIC OF BANGLADESH            |              |
| RURAL ROADS STUDY   |              |
| <b>DRAINAGE WITH RAINFALL</b>                                   |              |
| LOUIS BERGER INTERNATIONAL INC. AND<br>RAHMAN & ASSOCIATES LTD. |              |
| PREPARED: Z. Abedin   | RECOMMENDED: |
| CHECKED: 9LB  | APPROVED:    |
| DATE:   | DRG. NO.     |

Total forested area in Sylhet is approximately 321 sq. mi., of which almost half (151 sq. mi.) is Reserved Forest, 45 sq. mi. are Acquired Forest, 97 sq. mi. are Unclassed State Forest, 8 sq. mi. are Khas Forests and 20 sq. mi. are Private Forest (Rashid, 1977).

The reserve forests of Sylhet are divided into four subdivisions: The Habiganj Subdivision contains the forests of Raghunandan Hill and parts of Tarap Hill, Satgaon-Dinajpur Hill and Uchail. Total forest area is about 48 sq. mi. In Moulvi Bazar Subdivision lie the forests of West Bhanugachha (Lawachers), Borshijhura, Bhattera, Harargaj and part of Patharia and Satgaon-Dinajpur Hill. Total area is approximately 84 sq. mi. Sylhet Sadar Subdivision contains the Tilagarh, Bateshor, Ranikai, Ratargal, Khadimnagar, Shari and Jaflong forests totalling about 8 sq. mi. In Sunamganj Subdivision are the Lourgarh and Dipchor forests with a total area of 3.3 sq. mi. Private and Unclassed State Forests generally adjoin these Reserved Forests.

Southern Sylhet forests, principally those in Habiganj and Moulvi Bazar Subdivisions, are tropical evergreen with a three story forest cover. The upper story is comprised of Garjan, Chapalish, Korci, Chundal, Raktan and Banderholla. The middle story has Chikrasi, Toon, Nagesher, Gamar, Rata and Gondori while the lowest story contains Jarul, Kanchon and bamboos. Common bamboos include Daral, Parua, Pecha, Daloo, Orah, Bazali, Kali, Mitenga and Muli. In the northern two subdivisions, Sylhet Sadar and Sunamganj the forests contain Hijal, Jam and Jarul Trees. Reeds and canes are also found.

The Department of Forest maintains three Recreation Parks in Sylhet District. One, Satchari, is located on Dacca-Sylhet Road between Madhabpur and Shaistaganj. The other two, Salutar and Tilagarsh, are located near Sylhet Town. These areas were established by Presidential Order No.23 titled "Bangladesh Wild Life (Preservation) Order, 1973". They are areas where wildlife is protected, but the public, especially the youth and urban people, are allowed entrance, with permission, for educational and recreational purposes.

## 2. Fauna

The presence of forests and aquatic habitat combine with other factors to yield a diversity of fauna in Sylhet which is unmatched by the other three districts. While the Wild Buffalo and Asian Bison which once inhabited the district are no longer found, elephants are occasionally sighted. They are now protected by law. The Barking Deer and Large Sambar are found, although the latter species is becoming rare. Wild Boar are still found along with numerous rodents, bats, reptiles, amphibians and some carnivores. Lists of mammals, reptiles and amphibians are given in the Summary Volume Annex.

Some 672 species of birds, the largest number of the four districts, are considered either resident, seasonal or likely to be found in the district (Rashid, 1967). Many common species are represented including grebes, pelicans, boobies, cormorants, herons, storks, ibises, ducks, geese, teal pochard, eagles, hawks, buzzards, vultures falcons, quail, cranes, rails, plovers, sandpipers, snipe, warblers, larks, martins, swallows,

woodpeckers, kingfishers, drongos, bulbuls and may others. The haor areas are important wintering areas for migratory waterfowl from throughout Eurasia. A list of district birds is given in the Summary Volume Annex.

Many fish species are to be found throughout the district especially during the wet season. Common edible fish harvested in the district include, among others, hilsa, roe, batcha, pufta, magur, kai, katla, chital, shoul and prawns. A complete list of fish species found in the four districts is included in the Summary Annex.

#### IV. AGRICULTURE

##### A. Land Utilization

Sylhet District has 2,039,000 acres of cultivable land of which 1,816,000 acres were used to raise crops in 1976. The ratio of cultivated land to cultivable land (cultivation intensity ratio) in Sylhet is 89.1%, which is very close to the national average of 88.9%. The cropping intensity ratio, which is an indication of the average number of crops grown annually per acre, is only 136.3. This ratio is the lowest in the Chittagong Division and among the lowest in Bangladesh.

The cropping pattern in Sylhet is severely constrained by the very deep flooding in the haor areas and the heavy and concentrated seasonal rainfall in other parts of the district. Hence, approximately 75% of the district is single cropped, 24% is double cropped and only 1% is triple cropped.

The cropping pattern in Sylhet generally follows a Boro-fallow rotation in the haor areas and a Broadcast (deep-water) Aman-fallow rotation on the lowland plains. Secondary land use is Aus and T. Aman in the higher areas and tea and pine-apples in the hill region.

The average farm size in Sylhet, based on the 1960 Agricultural Census was 2.5 acres and this is low compared to the national average of 3.5 acres per farm. Though the latest Agricultural Census data are not yet available the average farm size in Sylhet has probably decreased as a result of the rapid growth in population. A more detailed analysis of the 1960 district and national farm size data is given in Table 6.

TABLE 6  
NUMBER AND PERCENT OF FARM SIZE 1960

| Acres      |   | 0 - 0.5 | 0.5-2.4   | 2.5-4.9   | Over 5    | Total     |
|------------|---|---------|-----------|-----------|-----------|-----------|
| Sylhet     | # | 51,930  | 153,860   | 100,580   | 96,040    | 402,610   |
|            | % | 13      | 38        | 25        | 24        | 100       |
| Bangladesh | # | 802,630 | 2,367,250 | 1,615,020 | 1,354,580 | 6,139,480 |
|            | % | 13      | 39        | 26        | 22        | 100       |

B. Major Crops

Although Sylhet is famous for its tea gardens, rice is the most important crop grown in the district and it is the major subsistence crop. In 1975-76 rice was planted on 2,233,000 acres or roughly 90% of the total cropped acreage. The rice crop consists of the three main groups common in Bangladesh i.e. Aus (autumn rice), Aman ( Winter rice) and Boro (spring rice).

The Aman and the Boro rice are the major rice crops and together they usually produce about 80% of the district's rice total. (See Table 7)

TABLE 7  
SYLHET DISTRICT ACREAGE AND PRODUCTION OF RICE  
1975-76 AND 1976-77

| CROP               | No. of acres Sown (000) |         | Production tons (000) |         | % of district rice production |         |     |
|--------------------|-------------------------|---------|-----------------------|---------|-------------------------------|---------|-----|
|                    | 1975-76                 | 1976-77 | 1975-76               | 1976-77 | 1975-76                       | 1976-77 |     |
| Aus                | Local                   | 350     | 150                   | 124     | 34                            | 10      | 5   |
|                    | HYV                     | 119     | 50                    | 128     | 28                            | 11      | 4   |
|                    | Total                   | 469     | 200                   | 252     | 62                            | 21      | 9   |
| Trans-planted Aman | Local                   | 543     | 664                   | 277     | 345                           | 23      | 53  |
|                    | HYV                     | 67      | 26                    | 59      | 23                            | 5       | 4   |
|                    | Total                   | 610     | 690                   | 336     | 368                           | 28      | 57  |
| Broadcast          | Local                   | 501     | 218                   | 209     | 64                            | 17      | 10  |
|                    | HYV                     | 0       | 0                     | 0       | 0                             | 0       | 0   |
|                    | Total                   | 501     | 218                   | 209     | 64                            | 17      | 10  |
| Boro               | Local                   | 491     | 220                   | 255     | 81                            | 21      | 13  |
|                    | HYV                     | 160     | 80                    | 163     | 69                            | 13      | 11  |
|                    | Total                   | 651     | 300                   | 418     | 150                           | 34      | 24  |
| TOTAL              |                         | 2231    | 1408                  | 1215    | 644                           | 100     | 100 |

\* Note:- Major Flood in 1977  
Source: Bangladesh Bureau of Statistics.

The Aman crop is of two basic types. Broadcast (deep water) Aman is planted on roughly 20% of the district's rice acreage and predominates the lowland floodplain thanas of Habiganj, Moulvi Bazar and Sadar Subdivisions. The B. Aman crop is sown in April before the monsoon <sup>and</sup> during the flood season the plant is able to grow up to 4" a day to keep the head above the rising water level. The crop is then harvested in November and December.

B. Aman can be grown with lowland Aus or jute as a mixed crop and then left standing when the Aus or jute is harvested in July or August. This is only possible, however, in areas with slow rising flood waters. <sup>However</sup> most of the low lying areas in Sylhet experience rapid flooding and late receding of the

flood waters, which precludes the planting of a second crop.

The high areas of the thanas in Habiganj, Moulvi Bazar and Sadar Subdivisions are less flooded and therefore Transplanted Aman (soil paddy) is grown. In Sylhet, T. Aman usually accounts for 30% of the district's rice production. The crop is planted broadcast in seed beds or nurseries in June and July and then the seedlings are individually transplanted during the monsoon months of August and September. The harvesting takes place from the end of November through the middle of January.

Boro is the main rice crop in Sunamganj Subdivision and the three northern thanas of Habiganj Subdivision. It is planted on 33% of the district's rice acreage, generally in the haor area on either lowland, which remains wet or medium lowland, which can be irrigated by traditional devices. The Boro crop produces approximately 35% of Sylhet's rice and it accounts for 20% of the nation's Boro production. The crop is broadcast in seed beds during October, then the seedlings are transplanted in November and December and the crop is finally harvested during April and May.

Aus is planted on 20% of the Sylhet's rice acreage and it is almost always double cropped with T. Aman. Aus is primarily grown on the higher lands, especially in the thanas of Kamalgonj in Moulvi Bazar Subdivision and Chunarughat in Habiganj Subdivision. Since the floods are late and slow rising in these areas, the Aus which is planted in April and May, is allowed to mature and then harvested in July and August. In some lowland areas of Sylhet a different variety of Aus is grown. This crop is planted earlier, in February and March, but it is harvested later when the fields are flooded in August and September.

Sylhet has approximately 20% of its rice acreage planted in High Yielding Varieties. This is the lowest percentage among the districts in the Chittagong Division but nationally it ranks fairly high. The Boro crop has the largest percentage of HYV were followed by Aus and T. Aman. There is no HYV usage for B. Aman because of the rapid and deep flooding. According to local and district officials the HYV usage could increase significantly with improved irrigation, agricultural extension services and fertilizer distribution. The latter two are now seriously constrained by transportation problem in most of the district .

Tea is the most important cash crop in Sylhet District. In 1974-75, 99,000 acres were under tea cultivation mainly located in low hills of Moulvi Bazar Subdivision and the southern portion of Habiganj Subdivision. Sylhet has by far the largest number of tea estates in Bangladesh and the district produces 96% of the nation's total production ( See Table 3 ). Since tea is a multi-year crop which is planted on the entire estate there is little opportunity for raising other crops in these areas.

Jute is another cash crop grown in Sylhet and in 1974-75 it was planted on 15,000 acres. Jute is not as important a crop in Sylhet as it is in many districts and the district only produces 1% of the nation's total production. The crop is grown mainly on the highlands of Habiganj and Moulvi Bazar Subdivisions. Its planting is limited because of the unfruitable soil in much of Sunamganj and Sylhet Sadar Subdivisions.

TABLE 8  
SYLHET DISTRICT ACREAGE AND PRODUCTION OF  
CROPS 1974-75

| Crop       | No. of Acres sown (000) | Production tons(000) | % of National production |
|------------|-------------------------|----------------------|--------------------------|
| Foodgrain  | 1,989                   | 1,050                | 9                        |
| Jute       | 15                      | 46*                  | 1                        |
| Sugarcane  | 5                       | 95                   | 1                        |
| Oil Seeds  | 29                      | 8                    | 5                        |
| Tobacco    | 7                       | 2                    | 5                        |
| Pulse      | 3                       | 1                    | 0                        |
| Vegetables | 21                      | 79                   | 9                        |
| Fruits     | 30                      | 138                  | 10                       |
| Tea        | 99                      | 34                   | 96                       |

\* Jute Production in Bales

Almost all of the jute planted in Sylhet is white jute which can be grown on low lands. Hence the jute crop has to competes with B. Aman and low land Aus during the March and April planting season.

Oilseeds, particularly mustard, linseed, til (sesame) and groundnuts, are grown on 29,000 acres in Sylhet. Mustard is the most important oilseed and is grown as a rabi crop in both dry and marshy lands of Fenchuganj, Rajnagar and Balaganj thanas. The seed is sown in the dryland in November and in the marshy areas during December; both are harvested in March.

Linseed has a growing pattern similar to mustard and can be planted in the highlands or in the haor area. It is grown as a second crop after the Aman. However, til is grown almost exclusively as a garden crop and can be grown during either the summer or winter. The summer til is sown in February/March and harvested in May/June. The winter til is sown in August/September and harvested in November/December.

Vegetables are grown in almost all of Sylhet. In 1974-75 approximately 21,000 acres were under vegetable cultivation. Vegetables are grown in both the summer and the winter but are more abundant during the winter because of the favorable weather conditions. The most important vegetable is potato, which is grown in the thana of Kulaura and Shaistaganj. Other important vegetable crops in Sylhet are: gourds, pumpkins, cucumbers, beans, radishes brinjal (egg plant), and arums. All of these vegetables are grown on a small scale, usually around the farmer's homestead. In the thanas of Sulla, Derai and Azmiriganj the Bangladesh Rural Advancement Committee (BRAC) has encouraged very many vegetable gardens tended mostly by women in areas around villages.

Fruits are of major importance in Sylhet and the district produced 138,000 tons in 1974-75, which was 10% of the nation's total fruit production. Sylhet is particularly noted for its pineapples and oranges. Pineapples are grown on hill plantations in the thanas of Moulvi Bazar, Sreemangal and Barlekha,

and in the hilly areas of Beanibazar. Oranges come from the hilly area of Jaintiapur, especially Jafflong, and Chhatak thanas. Additional citrus fruits such as limes, lemons and pomelos are also produced in these areas. Other fruits grown in the district are papaya, bananas, jackfruits and mangoes.

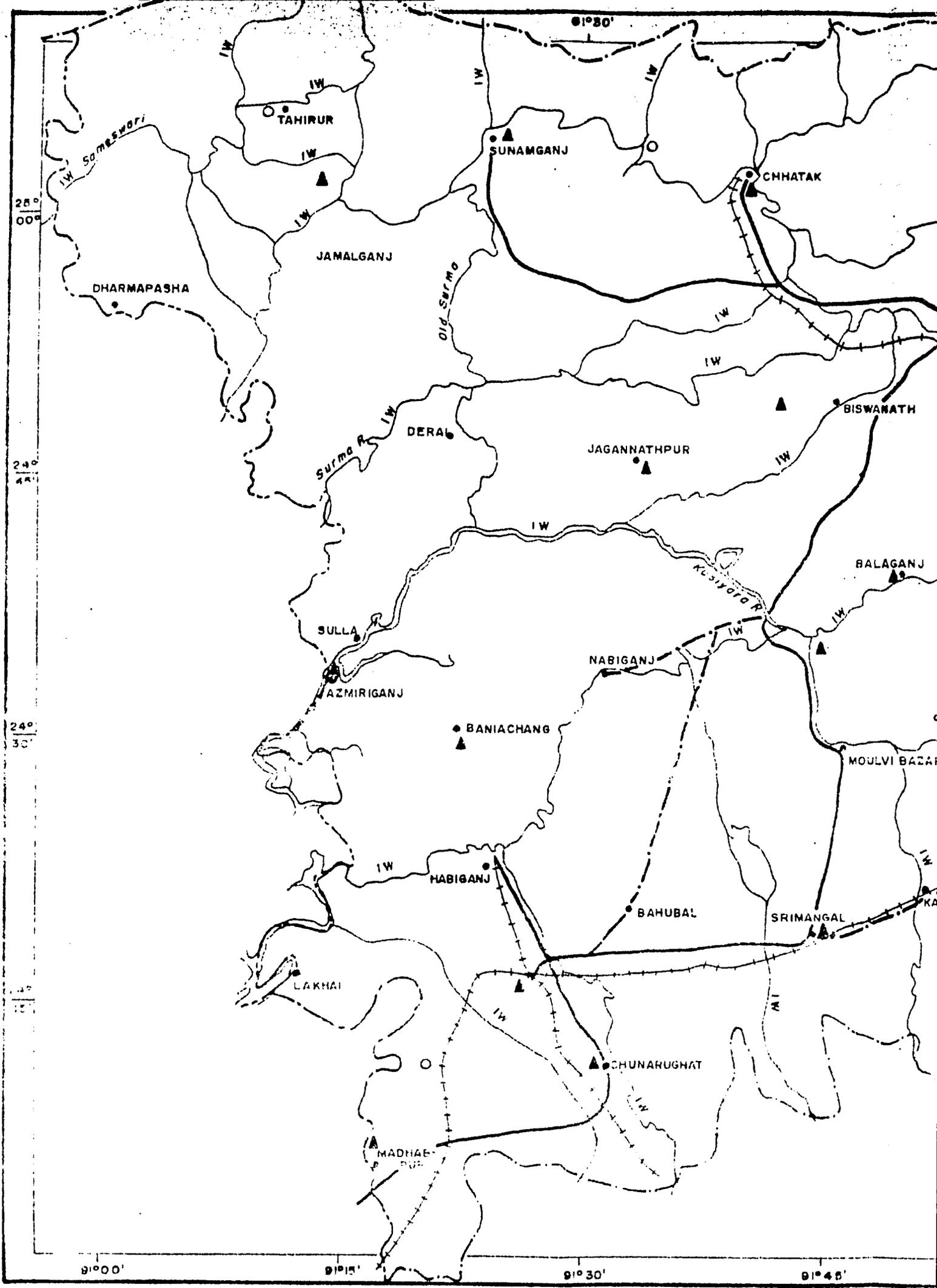
Sugarcane is planted on about 5,000 acres in Sylhet, mainly in the hilly areas in Moulvi Bazar Subdivision and in the southern part of Habiganj Subdivision. The crop is planted from December to February and harvested from November to March. The district acreage planted in sugarcane has been decreasing because the current yields are low. The sugarcane is used almost exclusively for making gur (local molasses) and Chunarughat Thana is particularly noted for this product.

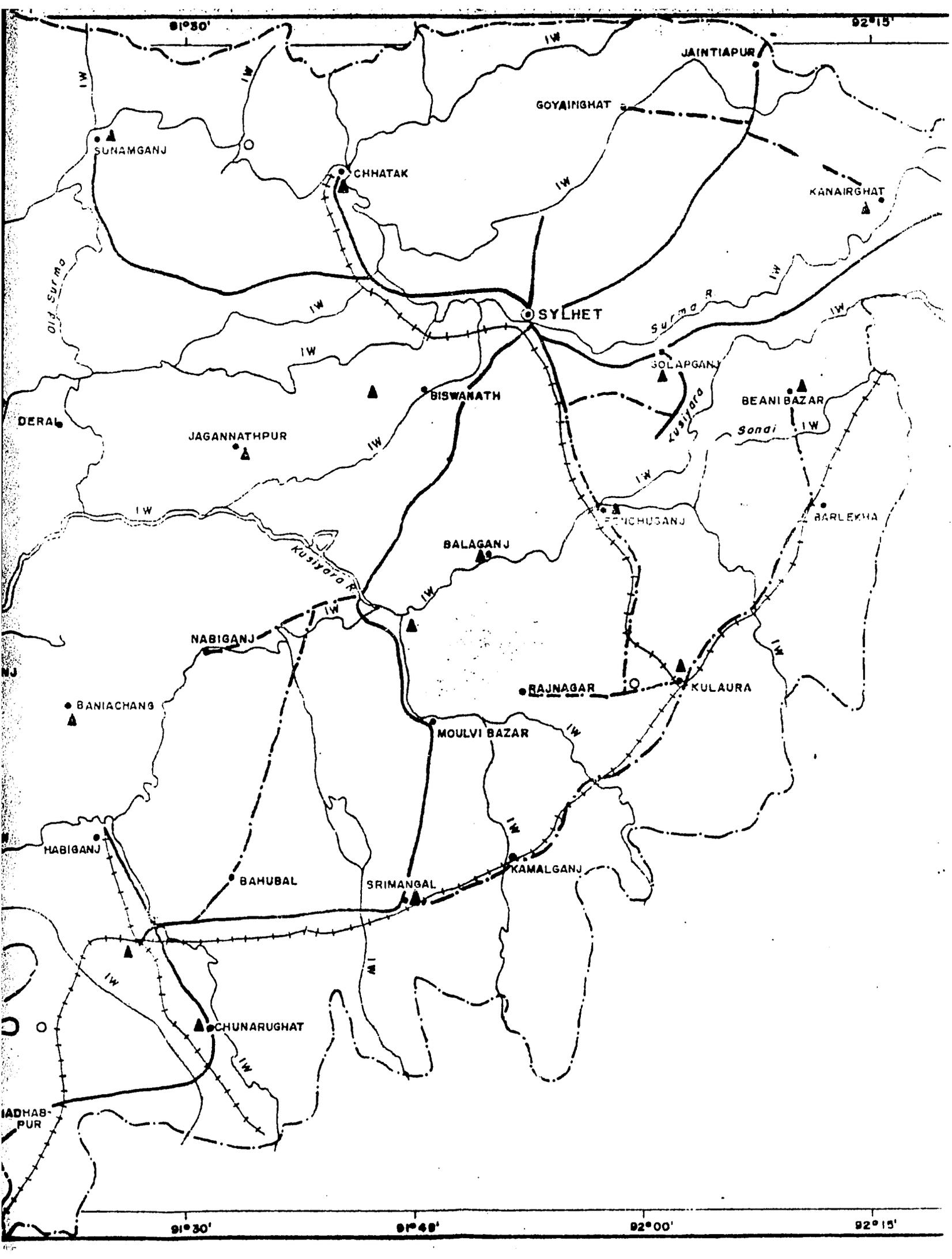
Two other crops of some importance in the district are betelnut grown by tribal groups in Zakiganj, Kanairghat and Jaintipur and tobacco, which is grown in scattered areas around the central flood plain region.

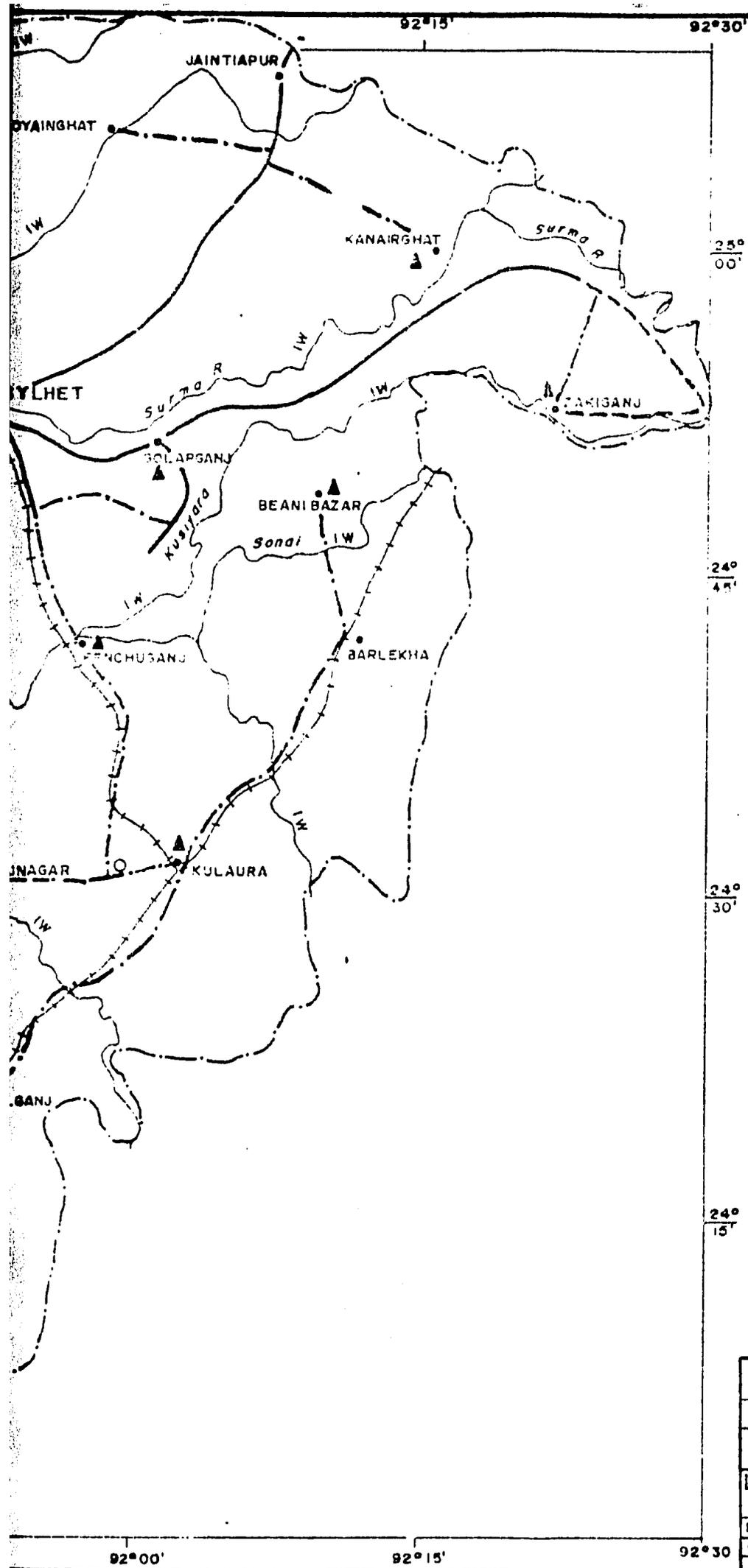
### C. Marketing

The hats and bazars in Bangladesh are probably the most important institutions in the country. They are the main and sometimes only source of consumer goods, agricultural inputs and outside information for the rural farmer. In addition, they are the main centers of local, commercial and social interaction.

Sylhet has 318 markets and these are classified by importance in Table 9. The major markets (Class A and B) are shown on the map in Figure 4. The many smaller local hats and bazars (Class C) have been omitted from this map.



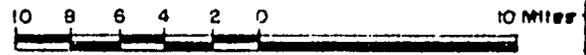




**LEGEND:**

- Roads (R & H Paved)
- All Weather Roads
- Rail Roads
- Waterways
- Primary Market (A)
- Secondary Market (B)
- Dist. Head Quarter D
- Thana Head Quarter

Scale : 1 inch = 9 Miles (Approx)



|   |             |
|---|-------------|
| GOVERNMENT OF<br>THE PEOPLE'S REPUBLIC OF BANGLADESH            |             |
| RURAL ROADS STUDY   |             |
| PRIM. & SEC. MARKETS  |             |
| LOUIS BERGER INTERNATIONAL INC. AND<br>RAHMAN & ASSOCIATES LTD. |             |
| PREPARED Rainar   | RECOMMENDED |
| CHECKED   | APPROVED    |
| DATE  | DRG. NO.    |

As indicated in Table 9, however, there are numerous local markets in Sylhet. Typically these markets are small and sit twice a week on the bank of a river or under a cluster of trees, but some are much larger. The population served by these markets is limited, generally within a radius of a few miles and the small amount of goods are usually brought by head/<sup>load</sup>or boat. The small marketable surplus of the farmers is then bought by regional traders (beparis and farias) who bring the commodities to a major market (Class A or Class B) by country boat or shoulder sling.

The major markets are owned by the Government Revenue Department and leased out to Izaradars, who collect market tolls. These markets vary in size but can cover up to 15 acres of land and include permanent stalls, godowns and often a rice mill. Other institutional facilities such as Post Office, Bank, Police Station and Telephone & Telegraph are also generally available. Some of these major markets specialize in one commodity. In Habiganj Subdivision, Azmiriganj is the principal fish market and general wholesale market for much of the haor area. Sunamganj and Fenchuganj are two other important wholesale markets in the district while Sraemangal in Moulvi Bazar subdivision is noted for bananas and pineapple.

TABLE 9  
SYNOPSIS OF HATS & BAZARS IN SYLHET DISTRICT

| Name of Sub-Division | Total No. of (1) "A" class Hats. | Total No. of (2) "B" Class of Hats. | Total No. of (3) "B" Class of Hats. | District Total |
|----------------------|----------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1. Sylhet Sadar      | 1                                | 6                                   | 162                                 | 169            |
| 2. Sunamganj         | 3                                | 4                                   | 47                                  | 54             |
| 3. Habiganj          | 1                                | 4                                   | 45                                  | 50             |
| 4. Moulvi Bazar      | 1                                | 3                                   | 41                                  | 45             |
| Total                | 6                                | 16                                  | 296                                 | 318            |

The bulk of the commodities in the major markets are sold to wholesalers but in addition, the markets operate as small retail markets. On hot days as many as 25 thousand or more people may visit the market to sell their produce and buy agricultural inputs and consumer goods.

From these markets, wholesalers arrange to transport the commodities to the other districts of Bangladesh. Most of the commodities sent from Sylhet go to Dacca, Comilla or Chittagong. Examples of the major agricultural commodity movements from Sylhet are shown in Table 10.

The marketing of tea follows a different process as 95% of the tea is shipped by rail directly to Chittagong, where it is auctioned for domestic consumption or exportation.

Transportation on the lack of it, is a major factor in the marketing pattern of Sylhet as only eight of the district's major (Class 'A' and 'B' ) markets are served by an all-weather road (see Figure 4). Some of these markets have rail service but most commodities are shipped to the markets by country boat and headload.

TABLE 10  
MAJOR AGRICULTURAL COMMODITIES SHIPPED FROM SYLHET  
(1972-73)

| Commodity  | Tonnage | Distination | Transport Mode |
|------------|---------|-------------|----------------|
| Tea        | 30,000  | Chittagong  | Rail           |
| Food Grain | 8,000   | Barisal     | Country Boat   |
| Food Grain | 3,000   | Chandpur    | Rail           |
| Food Grain | 11,000  | Chandpur    | Country Boat   |
| Food Grain | 6,000   | Chittagong  | Road           |
| Food Grain | 16,000  | Chittagong  | Rail           |
| Food Grain | 8,000   | Comilla     | Country Boat   |
| Food Grain | 2,000   | Dacca       | Rail           |
| Food Grain | 41,000  | Dacca       | Country Boat   |
| Food Grain | 8,000   | Noakhali    | Rail           |
| Food Grain | 5,000   | Noakhali    | Country Boat   |

Source: Bangladesh Transport Survey, 1974

In the haor area the farmers have a particularly difficult time in getting to the markets. There, the traders go by boat to the farmer's plot and buy the paddy at a very low price. Often the trader will buy the paddy at 40-45 Taka per maund and then sell the paddy in Sylhet Town, Dacca or Mymensingh for 80-90 Taka per maund.

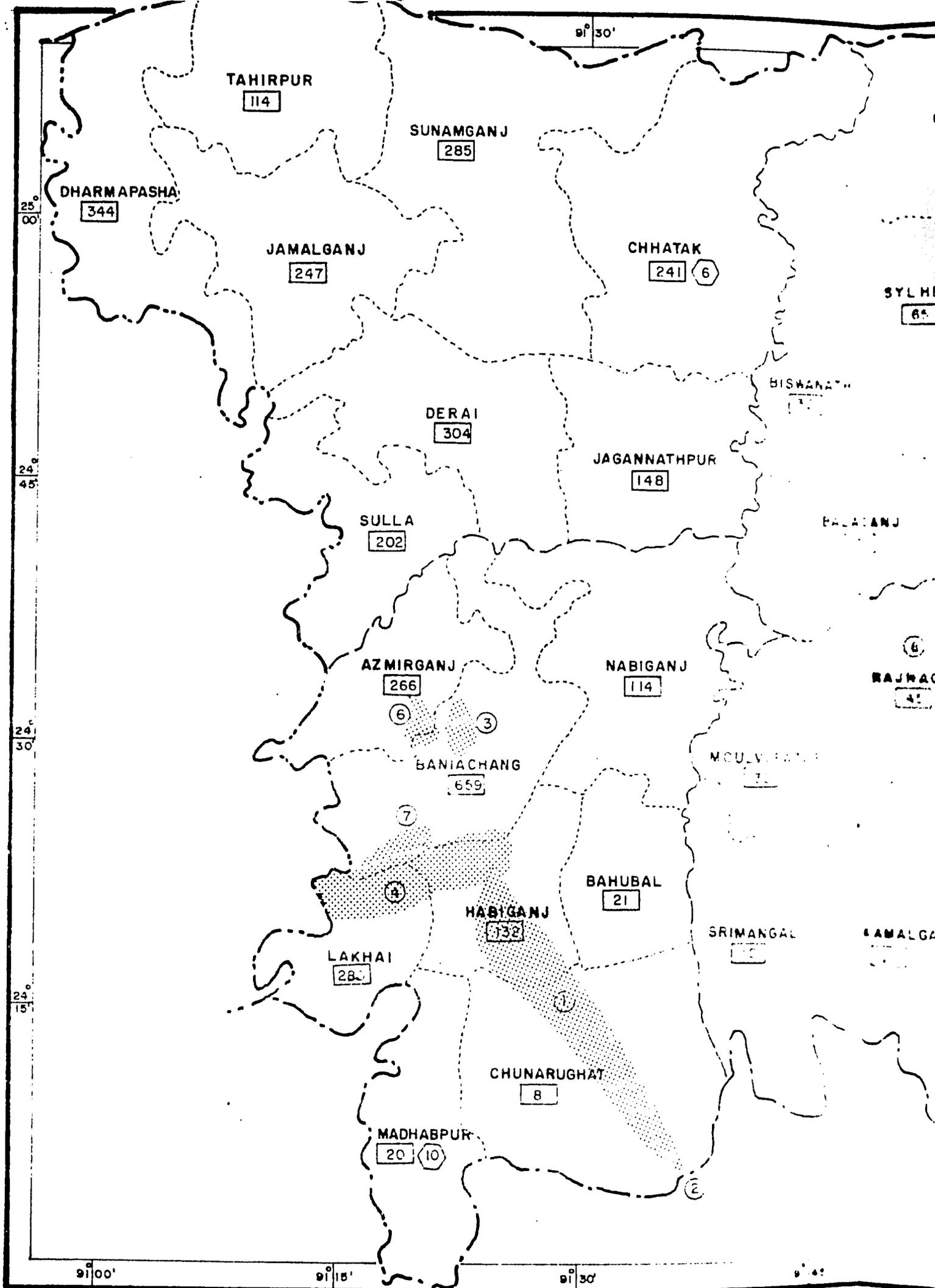
D. Agricultural Inputs

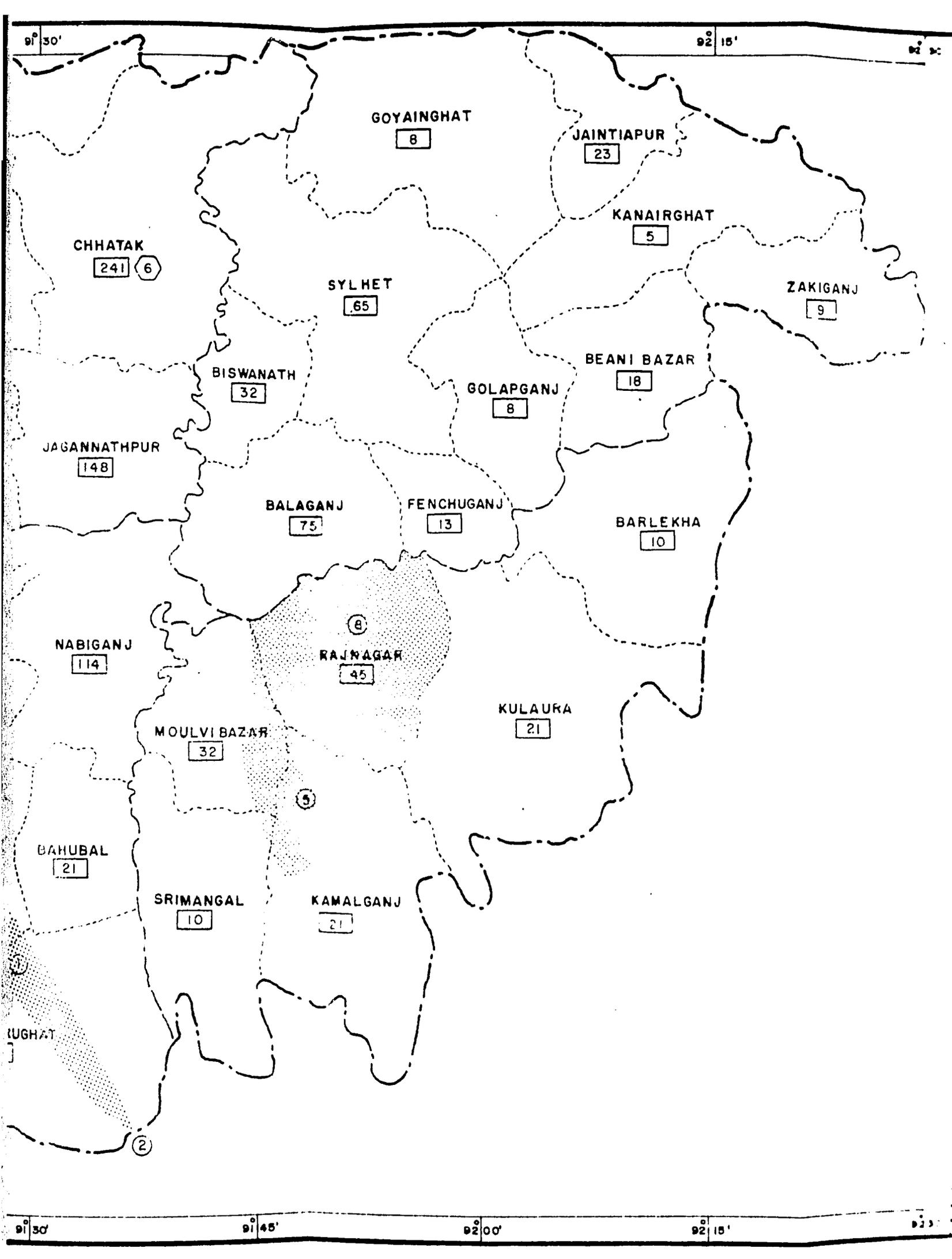
1. Irrigation and Flood Control

Water control, for flood protection, irrigation and drainage, is a primary problem in Sylhet. Currently there are various on going water control projects in the district and these are identified in Figure 5.

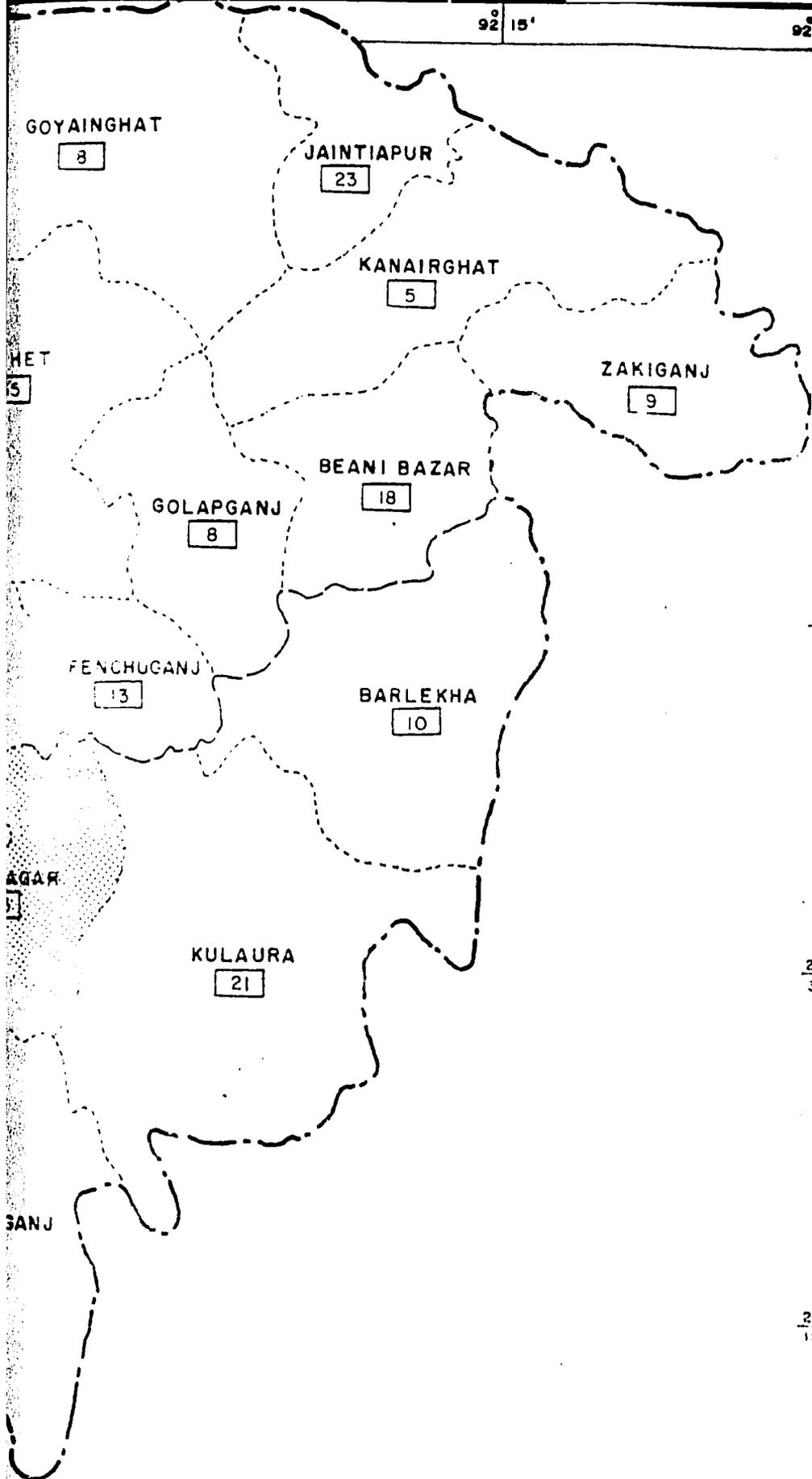
In Sadar Subdivision the Sari-goyain project upon completion will allow flood protection, drainage and irrigation of 13,300 acres of land in Jaintiapur and Goyainghat thanas. This project is well under way and should be completed within a few years. Flood Control projects are also underway in the thanas of : Zakiganj (600 acres); Golapganj and Beani Bazar (20,800 acres); and Kotwali and Golapganj (35,072 acres).

In Sunamganj Subdivision, a 21 mile embankment that will provide the Boro crop in Tahirpur with flood protection is 50% completed. In Sunamganj Town, a 10 mile embankment will provide flood control and drainage to 476 acres of land. In Habiganj Subdivision, flood control, drainage and irrigation projects are under way in the thanas of Chunarughat, Habiganj, Azmiriganj and Baniachang.





DIST. SYLHET



LEGEND

- Division Boundary . . . . . - - - - -
- Dist Boundary . . . . . - - - - -
- Sub-Division Boundary . . . . . - - - - -
- Thana Boundary . . . . . - - - - -
- Deep Tubewell . . . . . (10)
- Power Pump . . . . . (200)
- Khawai River Project . . . . . (1)
- Protective Work at Balla . . . . . (2)
- Re-Excavation of Jhingri Nadi . . . . . (3)
- Improvement of Khawai Out Fall . . . . . (4)
- Hall Haor (Investigation). . . . . (5)
- Hungerbanga Beel to Dattapur . . . . . (6)
- Embankment Along the Sutki Nadi . . . . . (7)
- Manu River Project . . . . . (8)

SCALE: 1 INCH = 8 MILES (APPROX.)



|   |             |
|---|-------------|
| GOVERNMENT OF<br>THE PEOPLE'S REPUBLIC OF BANGLADESH            |             |
| RURAL ROADS STUDY   |             |
| IRRIGATION & FLOOD CONTROL PROJECTS                             |             |
| LOUIS BERGER INTERNATIONAL INC. AND<br>RAHMAN & ASSOCIATES LTD. |             |
| PREPARED <i>Z. Abidin</i>                                       | RECOMMENDED |
| CHECKED <i>[Signature]</i>                                      | APPROVED    |
| DATE <i>[Signature]</i>   | DRG. NO.    |

92° 00'

92° 15'

92° 30'

24° 15'

24° 35'

25° 00'

92° 15'

92° 30'

In Moulvi Bazar Subdivision the Manu River Project located in Rajnagar and Moulvi Bazar thanas, consists of a 37 mile embankment and a 66 mile irrigation canal. Although 31 miles of embankment have been completed there is still much to be done before this project is completed.

According to government statistics Sylhet has the largest amount of land, 634,080 acres, under irrigation. However, only a small fraction of this is the result of large scale projects. Most of the land in Sylhet is irrigated by traditional methods, particularly by swing baskets and kends. District officials estimate that about 155,000 acres are irrigated by low lift power pumps and only about 640 acres from deep tubewells. (See Table 11.)

The total number of acres irrigated is based upon estimates of 41 acres irrigated per pump. This seems very high and judging from responses to local enquires little credence can be given to such figures. As shown in Table 11, the thanas that are in the haor area utilize 88% of the district's total number of pumps. This is because the main crop grown in these thanas is Boro rice, which needs irrigation during the dry season. Even so the number of pumps could be greatly increased in the haor area but distribution and maintenance is severely hampered by the almost total absence of transportation during the dry season.

TABLE 11  
INSTALLATION OF POWER PUMPS, DEEP TUBEWELLS  
AND SHALLOW TUBEWELLS AS ON 30-6-78

| THANA                                   | POWER PUMP ALLOTMENT | POWER PUMP IN USE | DEEP TUBEWELLS | SHALLOW TUBEWELLS |
|---|----------------------|-------------------|----------------|-------------------|
| <u>SADAR SUBDIVISION</u>                |                      |                   |                |                   |
| Fenchuganj                              | 30                   | 13                | -              | -                 |
| Balaganj                                | 80                   | 75                | -              | -                 |
| Biswanath                               | 46                   | 32                | -              | -                 |
| Kotwali                                 | 85                   | 65                | -              | -                 |
| Golapganj                               | 23                   | 16                | -              | -                 |
| Goayinghat                              | 7                    | 8                 | -              | -                 |
| Jaintiapur                              | 30                   | 23                | -              | -                 |
| Kanaighat                               | 7                    | 5                 | -              | -                 |
| Zakiganj                                | 18                   | 9                 | -              | -                 |
| Beanibazar                              | 40                   | 18                | -              | -                 |
| Sadar Subdi-<br>vision<br>Subtotal      | 366                  | 264               | 0              | 0                 |
| <u>MOULVIBAZAR SUBDIVISION</u>          |                      |                   |                |                   |
| Barlekha                                | 16                   | 10                | -              | -                 |
| Kulaura                                 | 25                   | 21                | -              | -                 |
| Sreemangal                              | 15                   | 10                | -              | -                 |
| Moulvi Bazar                            | 40                   | 32                | -              | -                 |
| Rajnagar                                | 53                   | 45                | -              | -                 |
| Kamalganj                               | 21                   | 21                | -              | -                 |
| Moulvibazar<br>Subdivision<br>Subtotal: | 170                  | 139               | 0              | 0                 |

Source: Thana Agriculture Officers.

Table continued on next page

TABLE (CONTINUED)

| THANA                           | POWER PUMP ALLOTMENT | POWER PUMP IN USE | DEEP TUBEWELLS | SHALLOW TUBEWELLS |
|---------------------------------|----------------------|-------------------|----------------|-------------------|
| <u>SUNAMGANJ SUBDIVISION</u>    |                      |                   |                |                   |
| Dharmapasha                     | 334                  | 344               | -              | -                 |
| Tahirpur                        | 135                  | 114               | -              | -                 |
| Jamalganj                       | 250                  | 247               | -              | -                 |
| Sunamganj                       | 285                  | 285               | -              | -                 |
| Chhatak                         | 237                  | 241               | 6              | -                 |
| Jagannathpur                    | 160                  | 148               | -              | -                 |
| Derai                           | 334                  | 304               | -              | -                 |
| Sulla                           | 210                  | 202               | -              | -                 |
| Sunamganj Subdivision Subtotal: | 1,945                | 1,885             | 6              | 0                 |
| <u>HABIGANJ SUBDIVISION</u>     |                      |                   |                |                   |
| Madhabpur                       | 30                   | 20                | 10             | -                 |
| Chunarughat                     | 15                   | 8                 | -              | -                 |
| Bahubal                         | 22                   | 21                | -              | -                 |
| Habiganj                        | 126                  | 132               | -              | -                 |
| Lakhai                          | 290                  | 280               | -              | -                 |
| Azmiriganj                      | 269                  | 266               | -              | -                 |
| Baniachang                      | 659                  | 659               | -              | -                 |
| Nabiganj                        | 125                  | 114               | -              | -                 |
| Habiganj Subdivision Subtotal:  | 1,536                | 3,788             | 10             | 0                 |
| District Total:                 | 4,017                | 3,788             | 16             | 0                 |

## 2. Fertilizer

Sylhet has one of the lowest per acre fertilizer usage among the districts of Bangladesh. It has an average of only 15 pounds used per acre compared with the national district average of 36 pounds per acre. Additionally, Sylhet uses only 3% of the country's fertilizer consumption despite the fact that it has 8% of the total cropped acreage in Bangladesh.

One of Bangladesh's three fertilizer factories in Fenchuganj but this produces only Ammonium Sulfate which is used in the tea gardens. Urea, and other fertilizers which are used for agricultural production, have to be sent from Chittagong by rail, to Shaistaganj, Sylhet Town and Chhatak. From these centralized locations the fertilizer is sent, mainly by country boat, to thana distribution centers.

Table 12 shows the fertilizer distribution figures for 1974-75 and for 1977-78 for each thana in Sylhet district. It can be seen from the table that there has been increased fertilizer use in the Boro growing areas of Sunamganj and Habiganj Subdivisions. This is the result of increased adoption of High Yielding Varieties. In the higher areas of Habiganj and Moulvi Bazar Subdivisions there is also a large usage of fertilizer and this is the result of HYV Aus and T. Aman crops.

The major problem in distributing the fertilizer to the thanas is transportation. Fertilizer has to be distributed for the Boro crop before December and for the Aus and Aman crops by February. This is at the time when the rivers are low and the interiors of many thanas in the haor areas, are only accessible by foot. This is a particular problem for the Bangladesh Agricultural Development Corporation (BADC) Office in Sylhet and for the farmers, because if the fertilizer does not reach the thanas in time, it is of little use.

TABLE 12  
DISTRIBUTION OF FERTILIZER(TONS)

| Name of Thana                  | 1974-75       | 1977-78       |
|--------------------------------|---------------|---------------|
| <u>Sadar Subdivision</u>       |               |               |
| Kotwali                        | 1,028         | 1,261         |
| Gowainghat                     | 32            | 81            |
| Balaganj                       | 165           | 57            |
| Biswanath                      | 382           | 481           |
| Fenchuganj                     | 73            | 136           |
| Golapganj                      | 277           | 336           |
| Jaintiapur                     | 75            | 64            |
| Kanaighat                      | 97            | 118           |
| Zakiganj                       | 128           | 168           |
| Beanibazar                     | 156           | 140           |
| <b>Sub-Total:</b>              | <b>2,423</b>  | <b>2,842</b>  |
| <u>Moulvibazar Subdivision</u> |               |               |
| Moulvibazar                    | 291           | 417           |
| Majnagar                       | 325           | 332           |
| Kulaura                        | 1,045         | 903           |
| Sreemongal                     | 387           | 531           |
| Kamalganj                      | 785           | 630           |
| Barlekha                       | 209           | 270           |
| <b>Sub-Total:</b>              | <b>3,042</b>  | <b>3,083</b>  |
| <u>Sunamganj Subdivision</u>   |               |               |
| Sunamganj                      | 512           | 750           |
| Chhatak                        | 452           | 826           |
| Jagannathpur                   | 85            | 260           |
| Tahirpur                       | 146           | 279           |
| Dharmapasha                    | 594           | 304           |
| Madhyanagar(Derai)             | 438           | 522           |
| Sulla                          | 775           | 732           |
| Jamalganj                      | 400           |               |
| <b>Sub-Total:</b>              | <b>3,402</b>  | <b>3,673</b>  |
| <u>Habiganj Subdivision</u>    |               |               |
| Habiganj                       | 887           | 1,531         |
| Madhabpur                      | 933           | 1,417         |
| Chunarughat                    | 776           | 995           |
| Bahubal                        | 527           | 405           |
| Baniachong                     | 1,275         | 1,380         |
| Nabiganj                       | 153           | 161           |
| Lakhai                         | 614           | 1,575         |
| Ajmiriganj                     | 841           | 1,800         |
| <b>Sub-Total:</b>              | <b>6,006</b>  | <b>9,264</b>  |
| <b>District Total:</b>         | <b>14,231</b> | <b>18,862</b> |

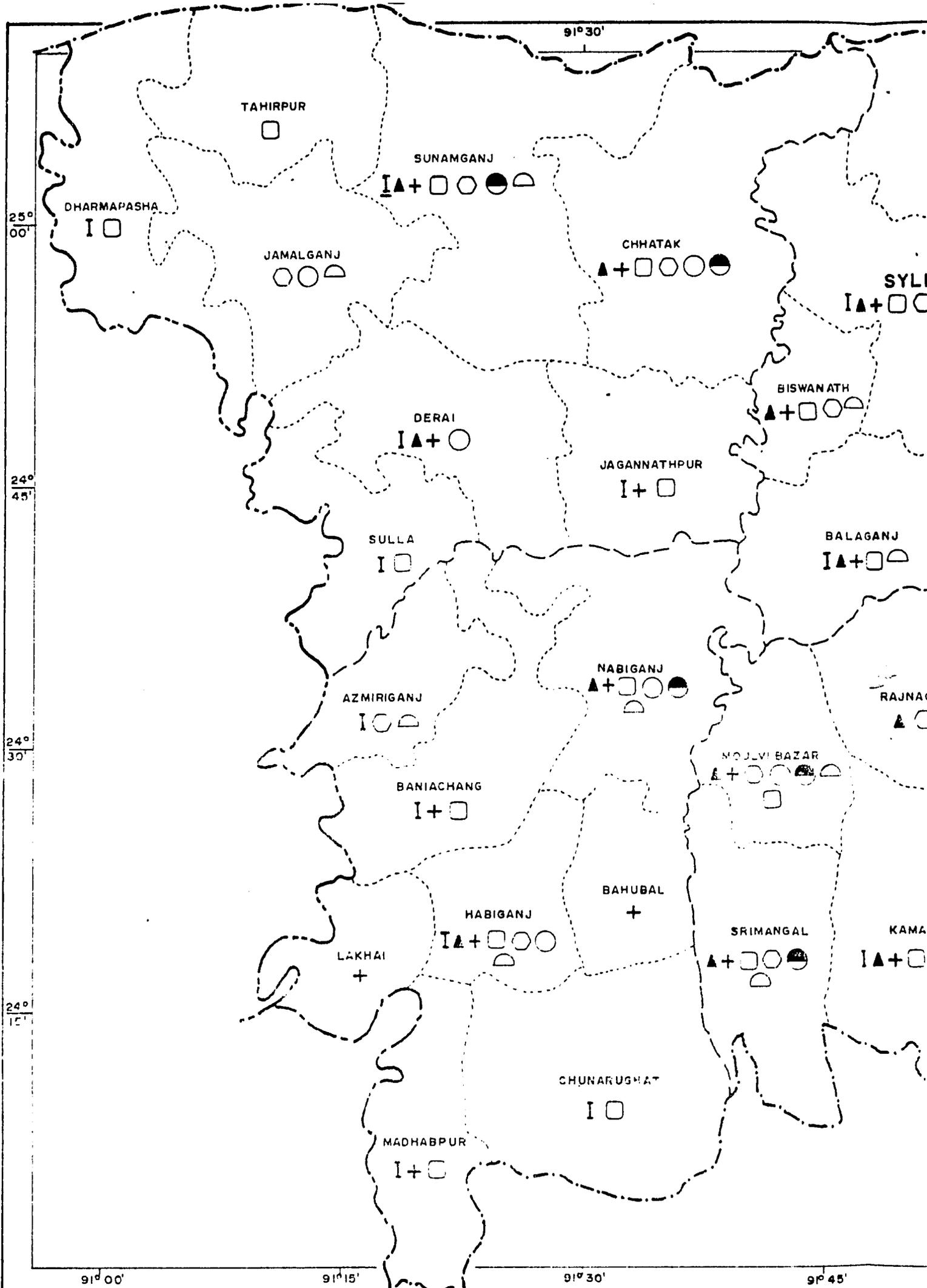
### 3. Credit.

Agricultural Credit is available to farmers in Sylhet from official and un-official sources. The un-official sources are the local money lenders, who often give credit at exorbitant rates. The official sources are: (1) the Bangladesh Jatiya Samabaya Bank (BJSB); (2) the Bangladesh Krishi Bank (BKB); (3) the Integrated Rural Development Program (IRDP); and recently (4) the Nationalized Commercial Banks (NCBS).

The government has made a strong effort to provide institutional credit to farmers. The BJSB and its affiliated cooperative banks disburse credit through a large network of cooperative organizations including Sugarcane Societies, Thana Central Cooperative Associations and Fishermen's Societies. No district disbursement figures are available for Sylhet but the bank an important source of credit.

The Bangladesh Krishi Bank has nine branch offices located in Sylhet Town, Sunamganj, Derai, Chhatak, Sachnabazar, Habiganj, Nabiganj, Moulvi Bazar and Kulaura (see Figure 6). Half of these branches are unprofitable and cannot even cover their operating expenses. A summary of their loan activity for 1973-74 and 1974-75 is given in Table 13.

The BKB traditionally has given medium and long term investment loans to larger farmers and although no specific information is available, it is assumed that most of the above loans were to large farmers. The table seems to support this assumption, as it can be observed that the total number of loans decreased from 1973-74 to 1974-75 but the total amount



91° 30'

TAHIRPUR  
□

SUNAMGANJ  
I ▲ + □ ○ ● ◐

25° 00'  
DHARMAPASHA  
I □

JAMALGANJ  
○ ○ ◐

CHHATAK  
▲ + □ ○ ● ◐

SYLHET  
I ▲ + □ ○

DERAI  
I ▲ + ○

BISWANATH  
▲ + □ ○ ◐

JAGANNATHPUR  
I + □

24° 45'

SULLA  
I □

BALAGANJ  
I ▲ + □ ◐

AZMIRIGANJ  
I ○ ◐

NABIGANJ  
▲ + □ ○ ● ◐

RAJNAGAR  
▲ ○

24° 30'

BANIACHANG  
I + □

MOULVI BAZAR  
▲ + □ ○ ● ◐

BAHUBAL  
+

HABIGANJ  
I ▲ + □ ○ ○

SRIMGAL  
▲ + □ ○ ● ◐

KAMARUP  
I ▲ + □

24° 15'

LAKHAI  
+

CHUNARUGHAT  
I □

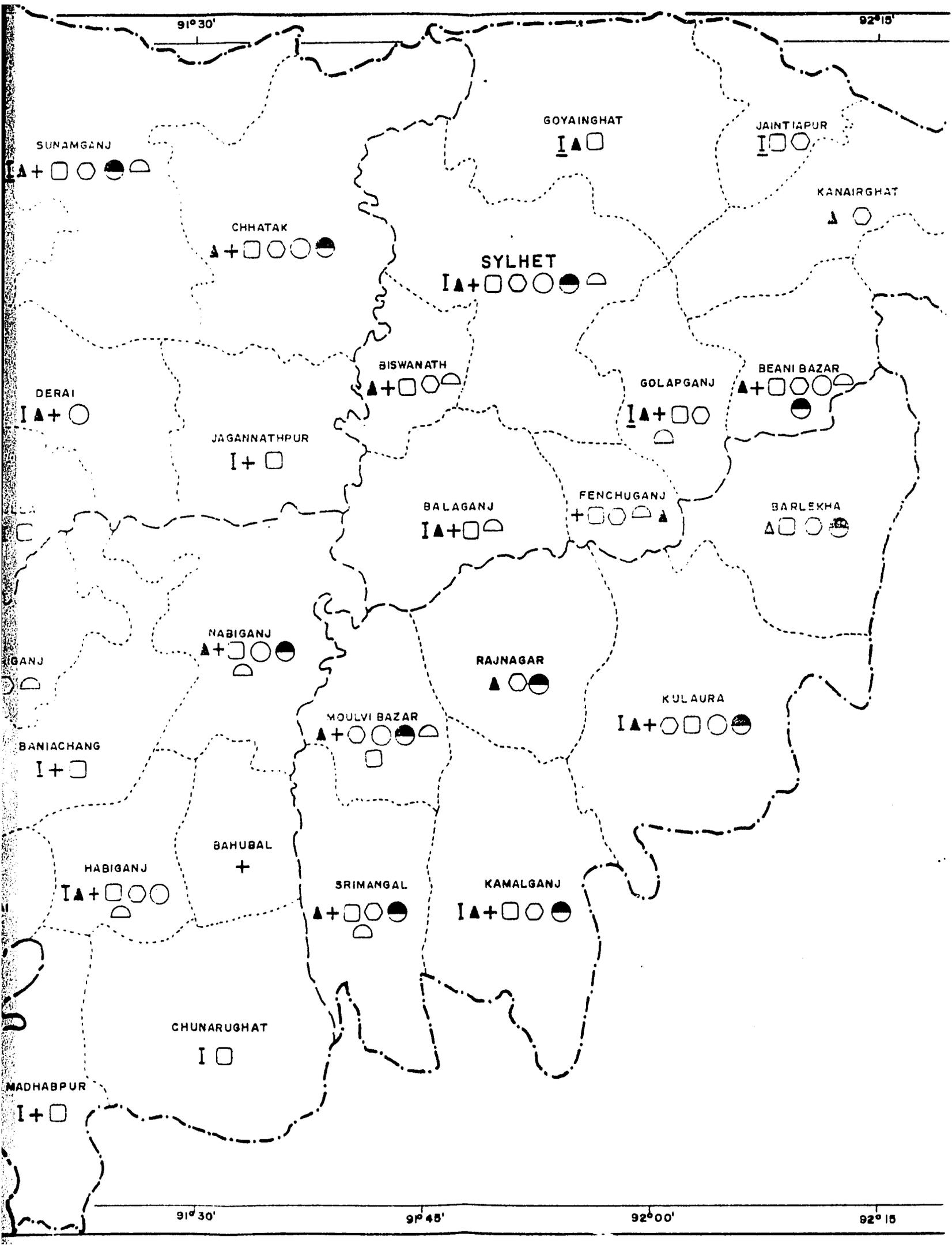
MADHABPUR  
I + □

91° 00'

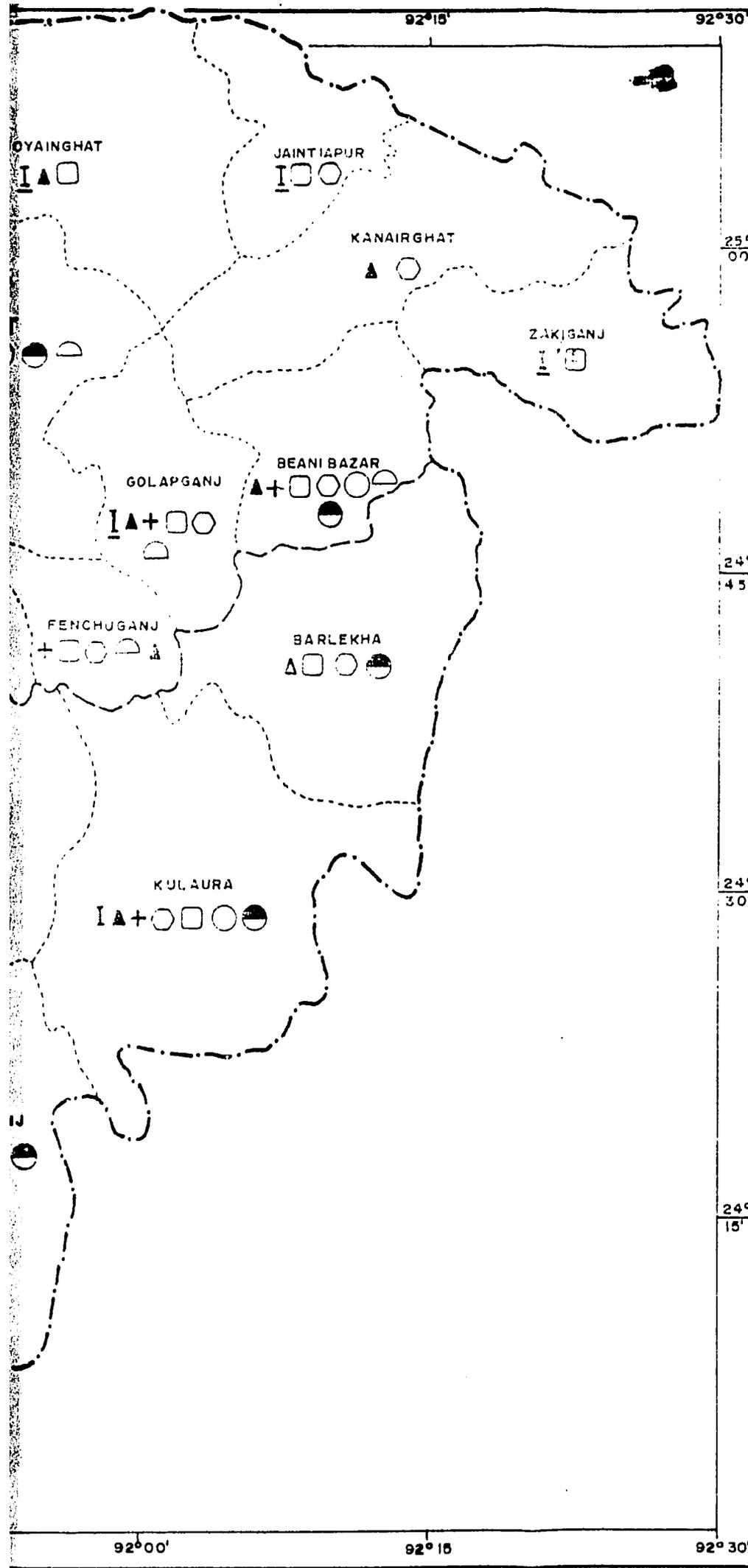
91° 15'

91° 30'

91° 45'



DIST. SYLHET



LEGEND:

- Division Boundary ..... ————
- Dist. Boundary ..... ————
- Sub-Division Boundary ..... ————
- Thana Boundary ..... - - - - -
- I.R.D.P. .... I
- Sonali Bank ..... ○
- Agrani Bank ..... ▲
- Janata Bank ..... +
- Rupali Bank ..... □
- Uttara Bank ..... ◐
- Pubali Bank ..... ◑
- Kristi Bank ..... ○
- Proposal 1977-78 ..... I

Scale : 1 Inch = 8 Miles (Approx.)



|   |              |
|---|--------------|
| GOVERNMENT OF<br>THE PEOPLE'S REPUBLIC OF BANGLADESH            |              |
| RURAL ROADS STUDY   |              |
| CREDIT OUTLETS  |              |
| LOUIS BERGER INTERNATIONAL INC. AND<br>RAHMAN & ASSOCIATES LTD. |              |
| PREPARED: Rajan   | RECOMMENDED: |
| CHECKED: <i>[Signature]</i>                                     | APPROVED:    |
| DATE:   | DRG. NO.:    |

92° 00'

92° 15'

92° 30'

24° 15'

24° 30'

24° 45'

25° 00'

loaned increased slightly. This is also reinforced by the fact that over 80% of the loans were made through the bank's main branch in Sylhet Town.

TABLE 13  
LOAN DISBURSED BY BANGLADESH KRISHI BANK, SYLHET  
(Amount in thousand Taka)

| Branch      | 1973-74     |        |                     | 1974-75     |        |                    |
|-------------|-------------|--------|---------------------|-------------|--------|--------------------|
|             | No. of Loan | Amount | Amount Out-standing | No. of Loan | Amount | Amount outstanding |
| Sylhet      | 466         | 12,124 | 42,959              | 943         | 20,554 | 45,881             |
| Sunamganj   | 2340        | 3,449  | 4,636               | 772         | 685    | 3,382              |
| Derai       | 1649        | 1,206  | 929                 | 441         | 626    | 2,360              |
| Chhatak     | -           | -      | -                   | 562         | 496    | 560                |
| Sachnabazar | -           | -      | -                   | 325         | 320    | -                  |
| Habiganj    | 1623        | 2,764  | 5,449               | 691         | 927    | 5,282              |
| Nabiganj    | -           | -      | -                   | 268         | 242    | -                  |
| Moulvibazar | 571         | 693    | 3,610               | 705         | 695    | 2,755              |
| Kulaura     | 246         | 208    | -                   | 386         | 407    | 1,696              |
| Total:      | 6,895       | 19,448 | 57,583              | 5067        | 24,978 | 61,916             |

There are Integrated Rural Development Programs (IRDPs) in thirteen thanas in Sylhet and five more thanas will be added in 1978. (see Figure 6). In addition to the education and training activities they also provide short term crop loans to their members (see Table 14).

TABLE 14  
IRDP LENDING 1973-1978

|                   | Year Started | Crop Loans Issued |                |           |                   | Total      |
|-------------------|--------------|-------------------|----------------|-----------|-------------------|------------|
|                   |              | Boro              | Aus/<br>B.Aman | T. Aman   | Wheat<br>Potatoes |            |
| Habiganj          | 1972-73      | 941,400           | 237,900        | 428,240   |                   | 1,607,540  |
| Balaganj          | 1972-73      | 1,222,300         | -              | 161,344   | 173,100           | 1,556,744  |
| Kotwali           | 1973-74      | 790,900           | 316,150        | -         | 70,200            | 1,177,250  |
| Kaulaura          | 1973-74      | 652,350           | 346,200        | 210,900   | 115,500           | 1,324,950  |
| Azmiriganj        | 1973-74      | 2,062,500         | 504,375        | -         | 200,000           | 2,766,875  |
| Jagannath-<br>pur | 1973-74      | 368,937           | 165,350        | 94,850    | -                 | 629,137    |
| Dharma<br>pasa    | 1973-74      | 1,050,800         | -              | 401,195   | 30,000            | 1,481,995  |
| Baniachang        | 1973-74      | 2,268,750         | 682,000        | -         | -                 | 2,950,750  |
| Derai             | 1975-76      | 600,000           | 276,400        | -         | -                 | 876,400    |
| Sulla             | 1975-76      | 1,600,000         | -              | -         | 250,000           | 1,850,000  |
| Madhabpur         | 1976-77      | 94,800            | -              | -         | 150,000           | 244,800    |
| Chunaru-<br>ghat  | 1976-77      | -                 | 191,500        | -         | 150,000           | 341,500    |
| Kamalganj         | 1976-77      | 50,000            | 80,000         | -         | -                 | 130,000    |
| Total             |              | 11,702,737        | 2,799,875      | 1,296,529 | 1,138,800         | 16,937,941 |

By far, the most money loaned has been for the Boro crop, followed by loans for Aus/B. Aman, T. Aman, and then wheat and potatoes. The loans are given at 17.5% interest and are to be used to purchase or rent agricultural inputs such as HYV seeds, fertilizer, pesticides and pumps. Unfortunately, many of these crop loans have not been repaid. This is not peculiar to the IRDP or Sylhet but is a long standing default problem that has plagued institutional lending throughout Bangladesh.

The latest government push to make credit available to the small farmer is the 100 Crore Agricultural Credit Program which was established in February 1977. The Bangladesh Krishi Bank and the Nationalized Commercial Banks were assigned specific unions in each district and were requested to disburse short term loans to small farmers at 11% interest.

No official results have been made available yet, but unofficial reports indicate that there are tremendous organizational problems in actually lending the money to the small farmers. Part of this stems from the excessive documentation that is required of the farmer and the rest is the result of an over-extended and undertrained bank staff.

In spite of these problems the government has decided to increase the program to 150 Crore annually. Unless these constraints are removed, though, only a small percentage of these funds will ever reach the small farmers.

E. Agricultural Potential

A district's potential for increasing agricultural production is largely a function of:

1. increasing the area under cultivation;
2. increasing the intensity of cropping; that is, the number of crops per year; and
3. increasing crop yields through the use of inputs such as fertilizer, irrigation, HYV seeds and credit.

As noted earlier, the cultivation intensity ratio in Sylhet is 89.1% which is about average for Bangladesh. Though there is some possibility of improving agricultural production by increasing the acreage under cultivation, this will not have a major effect on the district's production.

The cropping intensity ratio of the district is only 136.3 which is among the lowest in Bangladesh. Clearly there is much potential for improving this performance, but as mentioned earlier this requires water control i.e. flood protection, drainage and irrigation. Without major efforts in this direction, the introduction of new crops could only alter the current cropping pattern slightly.

According to the 1972 soil survey project sponsored by the FAO there is great potential for increasing the use of low lift pumps in many areas of Sylhet. In the haor area, Boro cultivation could be increased and High Yielding Varieties could be substituted for the currently planted local varieties.

In the central floodplain thanas of Sadar, Moulvi Bazar and Habiganj Subdivisions, flood protection and drainage as well as irrigation are needed. The lowlands could then be planted

in HYV Boro or Aus and the higher areas could be planted in HYV Aman.

Currently, the farmers are reluctant to invest in HYV crops because of the high risk of flooding. When the rains are heavy in the mountains of Assam, the rivers of Sylhet overflow their banks and ruin the fields. Most crops could withstand simple flooding but in Sylhet, the flood sweeps away everything in its path.

If the floods come early in Sylhet, as they did in March 1977, the Boro-crop can not be harvested and the Aus crop can not be sown. If the floodwaters rise too rapidly even the Deep-water Aman crop can be drowned. If the floodwaters recede too late, HYV Boro can not be planted.

With so much depending upon the vagueries of the weather, it is not surprising that the farmers are cautious. This fact, coupled with inadequate agricultural extension services, especially in the haor area, means that even though the district is potentially very rich, large increases in production will need major efforts.

V. OTHER ECONOMIC ACTIVITIES

A. Fisheries

The Sylhet district is rich in fisheries from the natural sources of the river-system of the Surma and Kusiara as well as the haors and beels of extensive areas. Such sources are supplemented by the development of tanks under public and private ownership and management. The number of fishermen is estimated at 800,000 producing annually about two million maunds of fish. The number of private tanks is known to be as large as 30,000; and natural fisheries are 3,000 units. The relevant information on the existing situation is shown in the table 15.

TABLE 15

|                                       |         |
|---------------------------------------|---------|
| Govt. Khas tanks (No.)                | 614     |
| District Council tanks (No.)          | 139     |
| Private tanks (No.)                   | 30,000  |
| Natural fisheries (No. units)         | 3,000   |
| Fishermen (No.)                       | 800,000 |
| Fishermen cooperatives (No.)          | 579     |
| Central Fishermen cooperatives<br>No. | 5       |

Production and Consumption: The summary position of production and consumption of fish in the district, as was obtained by our field survey team, is shown in the table 16.

(more)

TABLE 16

Production and Consumption of Fish:

|                               | M a u n d s    |
|-------------------------------|----------------|
| Total estimated production    | 2,000,000      |
| Imported from other districts | <u>100,000</u> |
|                               | 2,100,000      |
| Exported to other districts   | <u>600,000</u> |
| Available for consumption     | 1,500,000      |

The types of fish are mainly carp, boal, air etc. while the imported varieties are mostly hilsa from Comilla. Ajmiriganj is the largest dried fish supplying center for internal and external shipments. External shipments are mainly to Dacca, Comilla and Chittagong. In fact however, the fish exports (shipped to other districts) do not represent real surplus compared to reasonable requirements. Even assuming a consumption requirement of 2 Chhataks ( or 4 ounces) per capita per day, the total requirements of the district will come to 4 million maunds which is twice the amount of estimated annual production.

Marketing: On marketing of fish, preservation of quality in the process of transportation is very important. Hence the road system and other modes of transportation play a significant role. That role is again greatly strengthened by cold storage and ice plant facilities. As far as we could know, there are now 4 cold storage units (one in Shaistaganj and three in Sylhet town); but all these are being used for fruits and vegetables and not for fish. There is one Ice plant operating in Sylhet town; this is of some benefit to temporary preservation of fish.

Most of the fishery activities are conducted in the two subdivisions of Habiganj and Sunamganj. The important thanas producing fish are: (a) Habiganj: Habiganj Sadar, Ajmiriganj Nabiganj, Lakhai; (b) Sunamganj: Sunamganj Sadar, Jamalganj Tahirpur, Dharmapasha, Derai, Sulla, Jagannathpur. The most productive fishing season covers 4 months (December to March). Businessmen buy fish from local areas and transport it to important fish centers. There are very significant price differences between local markets and those leading markets; the price difference may range up to Taka 150 per maund. Fish landing centers are spread over a large number of thanas. Many of these centers serve also as wholesale and retail markets. The important fish centers along with market destinations are shown in the table 17.

T A B L E 17

| Fish Landing centers and Markets |             |                       |
|----------------------------------|-------------|-----------------------|
| Center                           | Thana       | Market destination    |
| " Kazir Bazar                    | Kotwali     | Sylhet town           |
| Tuker Bazar                      | "           | " "                   |
| Salutikar                        | Gowainghat  | " "                   |
| Sunamganj Bazar                  | Sunamganj   | 3 trucks to Sylhet    |
| Pagla                            | Sunamganj   | Sylhet                |
| Joykailash                       | Dharampasha | Mohanganj(Mymensingh) |
| * Dharampasha                    | "           | "                     |
| * Habiganj                       | Habiganj    | Local thana Markets   |
| * Shaistaganj                    | "           | "                     |
| Sutang                           | "           | Comilla               |
| Shajir Bazar                     | "           | "                     |

Table continued on next page

|                |              |                               |
|----------------|--------------|-------------------------------|
| * Markuli      | Baniachong   | Moulvi Bazar<br>(Comilla.)    |
| * Moulvi Bazar | Moulvi Bazar | Bhairab Bazar<br>(Mymensingh) |
| * Chhatak      | Chhatak      | Sylhet                        |
| * Sreemangal   | Sreemangal   | Kamalganj,<br>Moulvi Bazar    |
| Kulaura        | Kulaura      | Moulvi Bazar                  |
| * Baralekha    | Baralekha    | " "                           |

Note: Centers marked with asterisk (\*) also work as wholesale and retail fish markets. Road development will certainly improve the marketing conditions. Our field visits indicated a number of areas where fish is now carried by horse (e.g. Joysree to Dharmpasha, Dharmpasha to Mohanganj). Besides, the deficiencies of road in the haor areas are standing in the way of economic marketing, especially Sunamganj - Tahirpur, Sunamganj - Birampur (on the bank of Kardlar haor), Sunamganj-Lalpur (on the bank of Dakar haor).

Government activities in the fisheries subsector are known to be of 3 types as indicated below :

1. Fish Seed Multiplication - There are 4 Fish Seed Multiplication Farms for the production and distribution of fish fry. These are located in Moulvi Bazar, Shaistaganj Golapganj and Khadimnagar (Kotwali Thana).
2. Development and Management of Derelict Tanks - Four units are working at Kulaura, Sylhet, Golapganj and Sukair. They cover a total water area of about 1,097 acres.
3. Fish Nursery and Spawning - There are 3 Nursery Fish Farms to develop fish fry; and induced spawning of carp varieties of fish is known to be undertaken at 3 more stations. An addition, 4 Fish Sanctuary Schemes are also reported to be in operation.

4. General Activity - For general activity, 2 Unit Extension officers are working at Sylhet and Sunamganj while 2 Farm Managers are located in Moulvi Bazar and Sylhet Sadar.

B. LIVESTOCK AND ANIMAL HUSBANDRY

In the absence of Agricultural Census Statistics, it is not possible to examine the situation of livestock and animal husbandry in the district. Our field survey could not also get any reliable data on this. On the basis of published Statistics we have a general indication that total position of livestock in the district is much better than in Faridpur, although worse than in Rangpur and Patuakhali, the average per rural household is estimated as shown in the table 18 .

TABLE 18  
Average Number of Livestock per  
Rural Household

| District   | Total Livestock | Cattle | Buffalo | Goat | Sheep |
|------------|-----------------|--------|---------|------|-------|
| Sylhet     | 3.77            | 3.17   | 0.04    | 0.41 | 0.16  |
| Faridpur   | 2.55            | 1.87   | -       | 0.65 | 0.03  |
| Rangpur    | 4.42            | 2.84   | 0.06    | 1.46 | 0.06  |
| Patuakhali | 7.62            | 5.47   | 0.87    | 1.28 | -     |

Source: Bangladesh Bureau of Statistics

In respect of cattle, the position of Sylhet is better than that of Faridpur and Rangpur. Grazing opportunities in the district are relatively better than in the above two districts, especially because of large areas of natural forests.

Among government activities, we observe establishment and maintenance of cattle breeding farms at different stations. A duck farm has also been recently started in Sylhet. However, our impression is that developmental activity in the subsector of livestock and poultry is extremely limited in the whole district which implies a serious neglect of potential economic resources. In our field visits, we felt the general impact of this neglect. We could also feel that development of these potential resources along with other resources was suffering in many areas because of inadequacy of transportation facilities, especially of the road system. Deficiencies are known to be great in the Haor/Beel areas for which special attention is expected from the newly created Haor Development Board. This Board has not, however, begun to confront the problems of multi-dimensional development of the regions concerned.

### C. Natural Resources.

As far as known natural resources are concerned, Sylhet seems to be the best-endowed district but with poor development. Its natural resources are manifold ; these are represented mainly in (i) the types and qualities of soil suitable for high agricultural productivity in general and tea plantation in particular, (ii) the river-system of the Surma - Kusiara and the natural haors and beels providing the sources of sweet water fish production; (iii) the forest areas providing trees, timber and various types of grass and raw materials and natural gas providing rich foundations for modern large and medium industries.

Tea plantations are mostly in Moulvi Bazar and Habiganj subdivisions. Over 100,000 acres of land are under tea plantation, producing recently about 80.00 million pounds

of tea mostly for exports. Forest land covers about 197,000 acres encompassing extensive areas in the subdivisions of Moulvi Bazar, Habiganj and Sunamganj. The forests provide timber for construction (mainly of the types: Garjan, Chapalish, Koroi) and for industrial use like paper manufacture. Bamboos are also extensively found, both in forests and under private management. Among minerals, limestone is being utilized at the Chhatak Cement Factory and other small units of crushing stones and sand are abundant. Natural gas in vast quantities have been found in various regions of the district; and it is now being used in the manufacture of fertilizer (e. g. urea) and production of electricity. The deposits of natural gas has provided a big potential for many industrial uses including production of petrochemicals and synthetics. Hopes of finding oil and some new minerals are also reasonable for the geology of the region. The proven natural gas users in Kailash Tila, Rashidpur, Habiganj and Chhatak alone have been estimated at 2200 units of trillion standard cubic feet per day. The methane and ethane contents of the natural gas of these fields along with the proven reserves one shown in the table 19).

T A B L E 19

Reserves and Composition of Natural Gas

| <u>Gas Fields</u> | <u>Proven Reserves<br/>(Trillion SCFD)</u> | <u>Methane<br/>(% of volume)</u> | <u>Ethane<br/>(% of<br/>volume)</u> | <u>others<br/>(% of<br/>volume)</u> |
|-------------------|--|----------------------------------|-------------------------------------|-------------------------------------|
| Kailash Tila      | 380  | 95.70                            | 2.60                                | 1.70                                |
| Rashidpur         | 490  | 98.20                            | 1.20                                | 0.60                                |
| Habiganj          | 1,000                                      | 97.80                            | 1.50                                | 0.60                                |
| Chhatak           | 20   | 99.05                            | 0.24                                | 0.71                                |
| Sylhet (Haripur)  | 280  | 96.26                            | 1.99                                | 1.75                                |

Source: Bangladesh Energy Study; & Bangladesh Oil & Gas Corporation.

In the country, in addition to the gas fields of Sylhet, one major field is in Titas (Comilla) with the proven reserves of 380 trillion SCFD; and its composition is: methane 96.9%; ethane 1.8% and others 1.3%. The gas fields of Bakhrabad (Comilla) are known to have a proven reserve of 740 SCFD with lower methane content.

The pattern of production and uses of natural gas so far in the country is shown in table 20.

T . . B . L . E 20  
Production and Uses of Natural Gas in 1976  
(In million cubic feet)

|                |                 |
|----------------|-----------------|
| Production     | 31,339.6        |
| Uses :         |                 |
| I. Industries: |                 |
| Power          | 9,780.0         |
| Fertilizer     | 16,312.3        |
| Others         | 3,541.3         |
| II. Commercial | 310.4           |
| III. Domestic  | 589.9           |
| Total uses     | <u>30,533.9</u> |

Source: Bangladesh Oil and  
Gas Corporation.

#### D. Industry

As is noted above, Sylhet is not deficient in natural resources, large industries like the Fenchuganj Fertilizer Factory, Paper Pulp industries and Chhattak Cement Factory are instances of utilization of some natural resources. There is also one Textile Mill based on imported cotton. In addition the soil, terrain, moisture retention and climatic conditions of extensive regions have given rise to a large number tea plantations and a base for a major tea industry. Yet compared to available resources, development of large and medium manufacturing industries is limited; especially, the gaps in medium industry are quite large. In fact, industrial development of the district does not reflect a consistent process of utilization of available natural and other resources including labour with the logical linkages between large, medium and small industries.

Relatively speaking, small and Cottage industries have maintained some traditions of development in the district. One Survey Report indicates the existence of 1,005 units of small industry and 10,375 units of cottage industry and handicraft. The principal small industry groups are: Rice Mill (319); wheat and flour mill (100); bakeries(88); and others like umbrella-buff-making, wood work and lime stone crushing etc. Important among cottage industry groups are: Cane and bamboo work (1,600); shital pali (655); hand loom (1,733); and wood work (500). Among the above cottage industries, cane work and shital pati have acquired distinctive reputation of proverbial nature.

An appraisal by the Bangladesh Small and Cottage Industries Corporation has identified large prospects of development of new small and cottage industries in the following groups : (See Table 21).

TABLE 21  
COTTAGE AND PROCESSING INDUSTRIES

1. Fruit processing and canning
2. Various handloom products
3. Hotels and tourism
4. Light engineering workshops
5. Vehicles repair workshops
6. Fish-processing and drying
7. Ice factories
8. Drinks, beverages and ice-cream
9. Saw mill and wooden furniture
10. Silk and endi culture
11. Manipuri cloth wea-ving.

There is already a project of Industrial Town development in operation in Sylhet. An area of about 25 acres is known to have been properly developed and provided with facilities. There are 136 plots; out of them, 72 plots have been allotted for the setting up of various types of industries. Twelve industrial units have already been established and in operation; eight other units was almost completed for starting operation. Several factory-sheds are under construction. With various programs of assistance and policy-inducements, industrial entrepreneurs are likely to respond favourably for expansion of industrial activity, both in medium and small industry groups not only in the existing project but also in other areas. The industrial efforts in other areas will need more extensive regional and local planning. The road network, proposed by the consultant, will positively help this latter kind of planning industrial development in addition to facilitating the progress and operation of the planned Industrial Town.

The other important infrastructure facility needed by the process of industrial development is that of power. Supply of electricity does not appear to be adequate for promoting

more extensive and intensive efforts of exploiting the natural resources of the district to an optimum extent. Utilization of both industrial and agricultural potentialities will need expansion of electricity. At present, supply of electricity is restricted to about 50% of the member thanas, and in many cases restricted only to thana head quarters (wherever supply is available). Moulvi Bazar subdivision has the best supply of electricity while Sunamganj is the least electrified subdivision. The distribution of industry (or craft), mechanical workshop and electricity, by thana, is shown in the table 22.

TABLE 22  
DISTRIBUTION OF INDUSTRY (OR CRAFT),  
MECHANICAL WORKSHOP AND ELECTRICITY

| THANA<br>SUB: SYLHET S.D.D. | MECH.<br>REPAIR<br>SHOP        | INDUSTRY<br>OR<br>CRAFT   | ELECTRICITY   |
|-----------------------------|--------------------------------|---|---|
| 1. Gowain-ghat              | -                              | -   | -   |
| 2. Cotwali                  | One BADC<br>Power pump<br>shop | -   | Yes.<br>Thana H.Q.<br>& other towns                                 |
| 3. Biswanath                | One BADC<br>Power pump<br>shop | -   | Yes<br>Thana H.Q.<br>& lamakaji only                                |
| 4. Balaganj                 | One power<br>pump shop         | Rice mill   | Yes<br>Thana H.Q. &<br>Dewan bazar<br>muror bazar                   |
| 5. Fenchuganj               | One power<br>pump shop         | 1. F. Fac-<br>tory<br>2. Hasking<br>mill<br>3. Wheat<br>mill<br>4. Saw mill | Yes<br>Thana H.Q. &<br>Fenchuganj<br>market<br>F. Factory<br>market |

| THANA<br>SUB:SYLHET S/DAR | MECH.<br>REPAIR<br>SHOP   | INDUSTRY<br>OR<br>CRAFT                                 | ELECTRICITY   |
|---------------------------|---|---|---|
| 6. Golapganj              | One BADC<br>Power pump<br>shop  | 1.Pottery<br>2.Handloom<br>3.Rice mill                  | Yes<br>Thana H.Q.<br>and Golapganj<br>Fulbari         |
| 7. Bianibazar             | One BADC<br>power pump<br>shop  | Rice mill<br>(II Nos.)                                  | Yes<br>Thana H.Q.<br>only                             |
| 8. Zakiganj               | One TIP<br>workshop<br>under BADC   | -   | Yes<br>Thana H.Q.<br>only                             |
| 9. Kanaighat              | One power<br>pump shop  | Rice mill   | No;   |
| 10. Jaintiapur            | Yes   | Yes   | No;   |
| SUB:SUNAMGONJ             |   |   |   |
| 1. Chattak                | One BADC<br>workshop<br>1 Chatak<br>Cement<br>factory<br>workshop &<br>1 Rly.works-<br>shop | 1 paper<br>pulp mill<br>& chattak<br>cement<br>factory. | Thana H.Q.<br>Jardabazar<br>& Gobinda-<br>ganj market |
| 2. Taherpur               | 1 BADC<br>power pump<br>workshop  | Lime stone<br>Taker hat<br>Mining<br>project            | Tekerghat   |
| 3. Sulla                  | 1 BADC<br>workshop  | -   | -   |

| THANA<br>SUB: SUPAMGONJ | MECHANICAL<br>REPAIR<br>SHOP      | INDUSTRY<br>OR<br>CRAFT                             | ELECTRICITY   |
|-------------------------|-----------------------------------|---|---|
| 4. Jamalgonj            | 1 BADC<br>workshop                | Handloom<br>Cottage<br>industry in<br>vill. Kalipur |   |
| 5. Derai                | 1 BADC<br>power pumps<br>workshop | Handloom in<br>vill.<br>Ghagotia                    | Thana H.O.  |
| 6. Jagannathpur         | 1 BADC<br>workshop                | -   | -   |
| 7. Dharmapassa          | 1 BADC<br>workshop                |   |   |
| 8. Sunaganj             | 1 BADC<br>workshop                | Weaving<br>factory                                  | Thana H.O.<br>& pagla<br>bazar.   |
| SUB:MOULAVI<br>B.ZAR    |                                   |   |   |
| 1. Baralekha            | No                                | No  | Thana H.O.<br>Baralekha<br>&<br>Hajiganj  |
| 2. Kulaura              | T.I.P.<br>workshop<br>(B.A.D.C.)  | Tea<br>11-Union                                     | Thana H.O.<br>Kulaura,<br>Bramman-<br>bazar,<br>Rathgaon<br>Prithmpasa<br>etc.(e.i.<br>eleven out<br>of sixteen<br>Union) |

Table continued on next page

| THANA<br>SUB: HABIGANJ | MECHANICAL<br>REPAIR<br>SHOP                                | INDUSTRY<br>OR<br>CRAFT                      | ELECTRICITY                                      |
|------------------------|---|--|--|
| 4. LAKHAI              | no  | no   | no   |
| 5. CHUNARUGHAT         | Yes<br>Minor  | Yes.<br>Rice mill<br>& Tea<br>Industry       | Yes.<br>Thana H.Q.<br>Shaistaganj<br>Puran bazar |
| 6. Madhabpur           | Yes Thana<br>Pig Godown<br>and B.DC<br>workshop             | Yes,<br>Tea<br>Industry<br>and Rice<br>Mill. | Yes,<br>Nayapara<br>Gogodigps &<br>Mutala        |
| SUB:H.BIGANJ           |   |  |  |
| 1. Habiganj            | BADC<br>workshop<br>& others<br>at Habiganj<br>& Sariatganj | Cold<br>Storage                              | Thana H.Q. &<br>Saistaganj &<br>Shajibazar       |
| 2. Bahubal             | BADC<br>workshop  | Tea<br>Industry                              | Thana H.Q.<br>only                               |

Table continued on next page

| SUB: MOULAVI<br>BAZAR | MECHANICAL<br>REPAIR<br>SHOP               | INDUSTRY<br>OR<br>CRAFT | ELECTRICITY   |
|-----------------------|--|-------------------------|---|
| 3. Rajnagar           | T.I.P.<br>workshop<br>of BADC              | Tea<br>Industry         | Thana H.O.<br>and other<br>Town &<br>market                                     |
| 4. Moulavibazar       | T.I.P.<br>workshop<br>B.A.D.C.             | Tea<br>Industry         | Thana H.O.<br>and others  |
| 5. Srimangal          | One motor<br>Vehicle &<br>BADC<br>workshop | Tea<br>Industry         | Thana H.O.<br>3 Village<br>Bhairabgonj<br>bazar,<br>Sulgaon.                    |
| 6. Kamalganj          | T.I.P.<br>of B.A.D.C.<br>workshop          | Tea<br>Industry         | Thana H.O.<br>Shamsar-<br>nagar &<br>Munshibazar                                |
| SUB: HABIGANJ         |  |                         |   |
| 1. Ajmirigonj         | B.A.D.C.<br>workshop                       | - nil -                 | Yes.<br>Thana H.O.<br>and<br>Ajmirigonj<br>bazar and<br>Sharitnagar<br>village. |
| 2. Nabiganj           | nil  | Rice mill               | nil   |
| 3. Baniyachong        | BADC<br>workshop                           | Rice mill               | Yes<br>Thana H.O.<br>Baniyachong<br>Bara Bazar                                  |

### E. DEVELOPMENT PROGRAMS

As we observed in other district profiles, development planning in this country is, more or less, centralized in character. That results in an extremely difficult situation for identification of programs and projects planned and executed in a district, let alone the question of identification of such programs and projects lower down by subdivision and thanas. An analysis of the development/impact of the existing planning effort and the evolving future planning effort cannot therefore be attempted in the existing circumstances. It is only hoped that with the new emphasis on rural development and decentralization of institutional and other decision-making mechanisms, conditions will be considerably improved. We feel strongly that the benefits of development of rural roads, as recommended by the Consultant, can be fully visualized and evaluated only in the context of that expected district level and local level planning effort.

Meanwhile, however, we may refer to some general programs as the likely sources of development impact in certain limited areas of activity; and we may also indicate certain other identifiable projects, specifically producing some effects in some areas.

The activities related to general programs of development included in the Two Year Plan have partly mentioned in the discussion of fisheries and livestock subsectors (including establishment of poultry farms). Other activities are also likely to be benefiting some thanas or areas with the execution of the programs like IRDP, construction of Thana storage godowns, development of rural hats and bazars, Rural Development Project - I, rural development expansion program, training programs etc. In addition, there are usually some

construction activities of general nature like administrative building, low and middle income group residential flats etc. as well as thana health complexes, subdivisional hospitals, some schools and colleges etc.

Turning to identifiable district programs and projects, the major area is water development activity, largely represented in the river projects (Manu, Khowai etc.) and in the haor projects (Surma Baulai). These and transportation projects have been discussed in the relevant sections of the Profile. The important projects in other sectors, known to be in progress are listed in the table 23.

TABLE 23  
Some Projects in Progress

| Project Activity  | Year of Commencement | Expected year of completion |
|---|----------------------|-----------------------------|
| 1. Replanting of hill forest areas  | 1973                 | 1980                        |
| 2. Development forest education and training facilities                                   | 1973                 | 1980                        |
| 3. Development of pulp wood reed area and pulp wood plantation                            | 1978                 | 1982 to 1983                |
| 4. Development of recreational facilities in forest areas                                 | 1973                 | 1980                        |
| 5. Development of communication for the extraction of bamboo and pilot bamboo plantation. | 1978                 | 1983                        |
| 6. Sylhet Textile Mills   | 1977                 | 1980                        |
| 7. Ancillary cane development   | 1973                 | 1979                        |
| 8. B M R of Chattak Cement factory  | 1978                 | 1980                        |
| 9. Effluent treatment of pulp and paper mills   | 1978                 | 1981                        |

Table continued in next page

| Project Activity   | Year of Commencement | Expected year of completion |
|--|----------------------|-----------------------------|
| 10. Gas supply to Sylhet town  | 1977                 | 1979                        |
| 11. Sylhet tea estate gas supply   | 1978                 | 1980                        |
| 12. Atomic energy medical center in Sylhet   | 1970                 | 1979                        |
| 13. Broadcasting house   | 1972                 | 1981                        |
| 14. Expansion of technical institute, development of the government college, establishment of nurses training center, establishment of 50 bed hospital for tea garden workers in Srimangal expansion of the medical college etc. |                      | 1978 - 80                   |

The development impact of the various programs and projects in operation in the district is reflected in the Statistics of transportation of both natural resources, processed natural resources and manufactured products, as was recorded by the Bangladesh Transportation survey of 1974. This is indicated in the table 24

TABLE 24  
TRANSPORTATION OF RESOURCES/PRODUCTS  
OUTSIDE SYLHET

| Product | Unit(Ton) | Destination (other districts) | Means of Transportation |
|---------|-----------|-------------------------------|-------------------------|
| Cement  | 1,000     | Dacca                         | Mechanised vessel       |

Table continued on next page

| Product           | Unit (Ton) | Destination<br>(other districts) | Means of<br>Transporta-<br>tion |
|-------------------|------------|----------------------------------|---------------------------------|
| Stone and Shingle | 20,000     | Comilla                          | Rail                            |
| Stone and Shingle | 42,000     | Comilla                          | Mechanised<br>vessel            |
| Stone & Shingle   | 2,000      | Dacca                            | Rail                            |
| Stone & Shingle   | 93,000     | Dacca                            | Mechanised<br>vessel            |
| Stone & Shingle   | 149        | Dacca                            | Country<br>Boat                 |
| Stone & Shingle   | 6,000      | Mymensingh                       | Rail                            |
| Stone & Shingle   | 4,000      | Mymensingh                       | Country<br>Boat                 |
| Stone & Shingle   | 9,000      | Noakhali                         | Rail                            |
| Stone & Shingle   | 38,000     | Chittagong                       | Rail                            |
| Sand              | 5,000      | Dacca                            | Rail                            |
| Timber            | 2,000      | Dacca                            | Road                            |
| Timber            | 5,000      | Dacca                            | Country<br>Boat                 |
| Fertilizer        | 11,000     | Comilla                          | Rail                            |
| Fertilizer        | 3,000      | Comilla                          | Mechanised<br>vessel            |
| Fertilizer        | 5,000      | Narayanganj                      | Mechanised<br>vessel            |

Source: Bangladesh Transport Survey 1974

VI. SOCIO-ECONOMIC CHARACTERISTICS

A. Occupational Distribution

As for most of Bangladesh, the population of Sylhet District is primarily employed in agriculture.

Of the employed persons over age 10 (both males and females) 86.6% are engaged in agriculture, compared to a smaller 79.1% for Bangladesh as a whole. This category was followed by "production and transport" and "sales", which respectively employed 6.0% and 3.8% of the district's population. All the remaining census categories (services, professional/technical, clerical, and administrative/management) employed very small percentages of the population.

The occupational distribution for Sylhet is similar to the nation as a whole. The main difference is found in the somewhat larger percentage engaged in agriculture (see above) and the somewhat smaller percentage engaged in "production and transport" (6.0% for Sylhet; 11.2% for Bangladesh).

These occupational distribution statistics also show that only 4.5% of the persons in remunerative employment are women. Thus various home-based economic contributions of women, such as the processing of the agricultural harvest, are not reflected. However, the proportion of the employed population which are women is slightly higher for Sylhet than for the nation as a whole (3.8%) or than for any of the other three districts included in this study.

B. Agricultural Employment

The 1974 Census further breaks down the agriculturally employed population by categories related to land tenancy. These are shown in Table 25, which compares Sylhet with the rest of Bangladesh. The statistics combine both males and females.

TABLE 25  
DISTRIBUTION OF AGRICULTURALLY  
EMPLOYED PERSONS OVER AGE 10

|                       | Sylhet | Bangladesh |
|-----------------------|--------|------------|
| Owner Cultivators     | 33.5%  | 31.1%      |
| Owner-Sharecroppers   | 13.3%  | 13.2%      |
| Share-Croppers        | 3.3%   | 3.5%       |
| Agricultural Labor    | 21.5%  | 24.8%      |
| Unpaid Family Helpers | 28.3%  | 27.4%      |

The distribution of these categories for Sylhet does not differ greatly from that of the country as a whole.

However, an examination of the corresponding distribution for each subdivision shows that the distribution in different parts of the district is not the same. (See Table 26):

TABLE 26  
DISTRIBUTION OF AGRICULTURALLY EMPLOYED  
PERSONS OVER AGE 10 BY SUBDIVISION

| AGRICULTURAL<br>EMPLOYMENT<br>CATEGORY |        | SADAR<br>SYLHET | MOULVI<br>BAZAR | SUNAM<br>GANJ   | HABIGANJ        |
|--|--------|-----------------|-----------------|-----------------|-----------------|
| Owner<br>Cultivators                   | n<br>% | 109,772<br>32%  | 110,810<br>41%  | 102,323<br>31%  | 92,349<br>32%   |
| Owner-<br>Sharecropper                 | n<br>% | 50,093<br>15%   | 35,523<br>13%   | 43,526<br>13%   | 35,749<br>12%   |
| Sharecropper                           | n<br>% | 15,202<br>4%    | 8,513<br>3%     | 11,467<br>3%    | 5,489<br>2%     |
| Agricultural<br>Labor                  | n<br>% | 64,936<br>19%   | 43,520<br>16%   | 83,702<br>25%   | 74,556<br>26%   |
| Unpaid Family<br>Helper                | n<br>% | 101,285<br>3%   | 75,237<br>28%   | 94,437<br>28%   | 78,324<br>28%   |
| Total                                  | n<br>% | 341,288<br>100% | 273,603<br>100% | 335,455<br>100% | 286,467<br>100% |

The most striking variation is in the percentage of owner cultivators. The percentage is much higher in Moulvi Bazar (41%) than the other three subdivisions (31% and 32%). Or if the first two categories are combined to get total percentages of owners, Moulvi Bazar is still highest (54%) by a fairly wide margin.

The percentages of sharecroppers ( the combined second and third categories) are slightly higher in Sylhet Sadar and Moulvi Bazar (19% and 16%) than in Sunamganj and Habiganj (12% and 14%).

Moulvi Bazar has smaller percentages of the agricultural laboring group (16%), particularly than Sunamganj(25%) and Habiganj (26%).

In general , these figures imply that the major resource, land is more equitably distributed in Moulvi Bazar than in the other subdivisions, and that a smaller percentage of persons in that subdivision are primarily working the land of other persons. However, as detailed landholding statistics are not available, it is not possible to confirm this.

#### C. Level of Unemployment

A common indicator of the relative poverty or economic well being of an area is the proportion of persons unemployed or looking for work. Though reliable statistics of the degree of unemployment are not available even at the district level, some data from the 1974 Census may be presented as a rough relative measure of the unemployment situation. The limitations of these data will be noted later.

The 1974 Census published a statistical category at the district level enumerating those "looking for work". Converting this into a percentage of the total employed persons over age 10, we find a surprisingly low percentage of 2.5% looking for work in Bangladesh, and an even lower 1.6% for Sylhet. Although the census was taken before the major floods of 1974, the economy had not then recovered from the Liberation War of 1971. Thus a much higher unemployment figure would have been expected.

Unfortunately these statistics have such serious problems of definition that they cannot be taken as a reliable indicator of the number of persons not gainfully employed. The main problem is that these statistics do not reflect the great underemployment. A very large portion of the agricultural labor force is seasonally employed, perhaps working only 40%, 50%, or 60% of the days of the year. Some till their own or sharecropped land, but try to sell their labor when it is not required for their own crops. The number of rural "full-time jobs" is few.

In Sylhet, the haor areas present a striking example of this seasonality. After the floods have filled the haors, there is very little gainful employment available locally. No labor is required by the B. Aman crop; indeed nothing can be done to it during the flood. And because of the flooding of virtually all arable land, there is no available agricultural work. Therefore, many of the smaller farmers, laborers, and sharecroppers of the haor areas migrate to Comilla or other parts of Bangladesh for the period from May to September looking for other work.

It is possible that the small differences in the census "looking for work" statistics represent some relative differences in employment at the time the census was taken. But even the relative differences among the subdivisions may vary by season. The subdivision statistics show Maulvi Bazar as having a higher level of unemployment (3.3%) than the other subdivisions. Habiganj and 0.8%, and both Sylhet Sadar and Sunamganj Subdivisions had 1.1% of persons reported looking for work.

D. Land Ownership Patterns

A recent national survey, Report on the Hierarchy of Interests of Land in Bangladesh, has given the most reliable national picture to date of landholding and tenancy distribution. It shows a high degree of land polarization in the country. About 60% of the cultivable land area is owned by only 20% of the rural population. As much as 60% - 90% of the land is worked by persons other than the owner. And many families are landless or near landless.

Unfortunately such data is not now available for Sylhet District. Within several months, however, the first district level reports of the national Agricultural Census of 1977 will be published giving land distribution information for the district. In the absence of other systematic data, informal observations of district officials must be relied on.

It is clear that the same national trends of increasing fragmentation, decreasing farm size for the large majority of families, increasing landlessness, and increasing concentration of land in a smaller percentage of hands is occurring in Sylhet. The number of rural landowners has declined from 622,686 in 1951 and 532,432 in 1961, to 415,194 in 1974, a decrease of 33%. Over the same time the total population of the district increased 55%.

It is of interest to note that one thana of Sylhet has a special reputation concerning landholding. A large portion of the Bangladeshi's living abroad, and particularly in London, are from Sylhet. And of these, a large portion are from Jagannathpur Thana in Sunamganj Subdivision. Since much of their earnings are used in purchasing land locally, that thana apparently has a very high absentee ownership.

The distribution of landholdings is a matter of considerable importance in assessing the distribution of benefits from different rural development programs. Though the range of landholding sizes is rather less in Bangladesh than other countries, there is growing evidence that the benefits of many government development programs have gone disproportionately to the rather small number of middle and larger farmers. The middle farmers may own only four to ten acres, a small amount by Asian standards, but enough to produce a surplus and place them socially and economically in a position of local power. This phenomenon has been noted with the operation of the Thana Irrigation Program, fertilizer distribution, cooperative loans, and other programs.

The increasing number of rural landless is one of the major rural development problems in Bangladesh. Few solid programs have been developed other than the Rural Works Program and the Food for Works Program, which open economic opportunities specifically for this group. To develop effective programs, it will increasingly become important to know, not only the national or district trends, but also specific location of concentrations of landless households.

#### E. Famine Prone Areas

Though much of Sylhet District is deeply flooded in normal years, the district has occasionally had more serious and devastating floods, such as in 1966 and 1968. In some years if the timing of the floods is slightly earlier than usual, both the unharvested Boro crop and the just planted Aman crops may be destroyed. This occurred in 1977. Given the extreme isolation of individual villages in the haor areas and the striking poverty of some of those villages, one would expect that the extreme or untimely floods would be followed by famine.

However, there are few such reports of extreme famine in Sylhet. It appears that several traditions in the haor areas have the effect of reducing such famine. It is a tradition in many places that one season's rice crop will not be sold until the next season's crop is being harvested. Thus, a supply is on normally hand which can tide a landowning family through one or more crop seasons.

Furthermore, the years when the floods come a little early are a boon to poorer people. In order to salvage as much of their crop as possible, the larger landowners will offer laborers one half of the grain they can reap. However, if the flood comes before the Boro crop has matured, rich and poor alike will lose and poor persons may be forced to sell land.

In the past several years, there has also been some experimentation in the haor areas with rainy season Food for Works Programs, particularly designed to provide constructive local projects at a time when there are few other employment options. Presumably, this would help cushion the affect of such early floods on the poorer people who would be employed by such projects.

## VII. SOCIAL SERVICES

### A. Health Care/Medical Facilities

Sylhet has its share of the serious diseases of Bangladesh. There are occasional local outbreaks of cholera, due to the contamination of drinking water sources. Other intestinal diseases related to inadequate sanitation practices, such as dysentery and diarrhoea, are widespread and not uncommon causes of death. Parasites, such as round-worm and tape-worm, are also common.

The incidence of malaria is fairly high, both in the hills of Northern Sylhet and the low lying areas of Sunamganj Sub-division, but the number of deaths from malaria is no longer high.

There are two broad types of medical services found in Rangpur District and throughout most of Bangladesh. First, the medical treatment most commonly used in the rural areas consists of the services of many private practitioners scattered throughout the villages and markets. These are persons of very diverse education, training, skills, and medical traditions. They include "quack doctors", homeopathic doctors, kabiraj and hakims (practioners of traditional medicine), compounders, and medicine shop owners. Many of them practice only part time. Relatively few of the doctors who have received the five year M.B.B.S. degree from the medical colleges of Bangladesh - one of which is in Sylhet-- enter private practice in rural areas; most either enter salaried government service in one of the institutions discussed below or set

up private practice in urban areas.

The Civil Surgeon is the government officer posted to supervise the government medical services and facilities in the district. Though the number of employees and facilities under the Civil Surgeon is large and scattered, the number of such facilities is small compared to the population. The major medical facilities are centralized and some are outdated. The government has been trying simultaneously to decentralize the services to rural facilities and to upgrade the older centralized facilities and to upgrade the older centralized facilities found in the administrative towns.

The government medical facilities are primarily of three types: (1) Hospitals and specialized outdoor clinics located in the administrative headquarters towns; (2) thana level health facilities located near thana administrative centers; and (3) some sub-thana level family health centers. The major facilities are listed below for Sylhet based on the information in the Rangpur District Gazetteer (1970).

The government hospitals are listed in Table 27.

TABLE 27  
GOVERNMENT HOSPITALS IN SYLHET

| <u>T H A N A</u> | <u>TYPE OF HOSPITAL</u>      | <u>NO. OF BEDS.</u> |
|------------------|------------------------------|---------------------|
| Sylhet           | Medical College Hospital     | N.A.                |
| Sylhet           | Leprosy Hospital             | 80                  |
| Tillgarh         | T.B. Center & Hospital       | 26                  |
| Sylhet           | Infections Diseases Hospital | N.A.                |
| Habiganj         | Subdivisional Hospital       | } 174(Total)        |
| Sylhet           | Subdivisional Hospital       |                     |
| Sunamganj        | Subdivisional Hospital       |                     |
| Maulvibazar      | Subdivisional Hospital       |                     |
| Sylhet           | Jail Hospital                | N.A.                |
| Sylhet           | Police Hospital              | N.A.                |
| Kulaura          | Railway Hospital             | N.A.                |

The major thana level facilities which have been promoted since independence are the Thana Health Centers (THC). The government aims to have one THC in every thana within a few years. Where the Rural Health Centers were established during the Pakistan period, these facilities and services are being expanded to those of the THC. In other thanas, new facilities are being constructed. Unfortunately, systematic information by thana was not available on the progress in establishing THC's.

According to the Gazetteer, there were 26 thana dispensaries and 22 other rural dispensaries in Sylhet in the late 1960's.

In the third category, the government is trying to further decentralize health care services and better integrate them with family planning services. Within a five year period, it is hoped to have one Family Welfare Clinic, or Mother Child Health Center, in each union. Plans for accomplishing this in Sylhet are just getting underway.

#### B. Education

The educational system of the district consists of "government Schools" financially supported by the national government and "non-government Schools" organized and supported locally. The non-government schools receive only small annual grants-in-aid from the government to subsidize teacher's salaries. The presumption generally is that the quality of the government schools is better than the non-government schools, because of the greater reliability of financial support and closer supervision.

The summary statistics of these facilities for Sylhet District are shown in Table 28.

TABLE 28

PRIMARY SCHOOL ENROLLMENT BY THANA IN SYLHET DISTRICT

| THANA<br>NAME                      | No. of Students |                      | Total   | % of School age<br>Children atten-<br>ding School |
|------------------------------------|-----------------|----------------------|---------|---|
|                                    | Go't. Schools   | Non-Gov't<br>Schools |         |   |
| <u>SADAR<br/>SUBDIVISION</u>       |                 |                      |         |   |
| Kotwali                            | 37,200          | 300                  | 37,500  | 69%   |
| Balaganj                           | 23,400          | 2,300                | 25,700  | 64%   |
| Biswanath                          | 19,084          | 1,200                | 20,284  | 62%   |
| Gowainghat                         | 17,800          | 2,100                | 19,900  | 57%   |
| Fenchuganj                         | 6,425           | 250                  | 6,675   | 59%   |
| Jaintiapur                         | 5,350           | 375                  | 5,725   | 54%   |
| Golapganj                          | 26,480          | 1,650                | 28,130  | 68%   |
| Beanibazar                         | 16,650          | 1,740                | 18,390  | 67%   |
| Zakiganj                           | 10,900          | 520                  | 11,420  | 65%   |
| Kanaighat                          | 12,250          | 350                  | 12,600  | 53%   |
| <u>MOULVIBAZAR<br/>SUBDIVISION</u> |                 |                      |         |   |
| Moulvibazar                        | 24,570          | 4,800                | 29,370  | 67%   |
| Rajnagar                           | 19,500          | 3,200                | 22,700  | 57%   |
| Kulaura                            | 32,200          | 2,400                | 34,600  | 64%   |
| Kamalganj                          | 14,840          | 2,650                | 17,490  | 60%   |
| Srimangal                          | 12,060          | 6,200                | 18,260  | 68%   |
| Borlekha                           | 17,890          | 3,200                | 21,090  | 58%   |
| <u>HABIGANJ<br/>SUBDIVISION</u>    |                 |                      |         |   |
| Habiganj                           | 18,480          | 2,410                | 20,890  | 68%   |
| Nabiganj                           | 21,100          | 4,150                | 25,250  | 61%   |
| Baniyachong                        | 18,400          | 3,100                | 21,500  | 62%   |
| Chunarughat                        | 18,920          | 2,800                | 21,720  | 65%   |
| Bahubal                            | 11,485          | 2,100                | 13,585  | 59%   |
| Madhabpur                          | 18,385          | 3,400                | 21,785  | 62%   |
| Lakhai                             | 5,000           | 600                  | 5,600   | 56%   |
| Ajmiriganj                         | 5,880           | 1,250                | 7,130   | 60%   |
| <u>SUNAMGANJ<br/>SUBDIVISION</u>   |                 |                      |         |   |
| Sunamganj                          | 32,500          | 2,475                | 34,975  | 64%   |
| Chhatak                            | 26,500          | 2,350                | 28,850  | 58%   |
| Jamalganj                          | 15,200          | 2,200                | 17,400  | 51%   |
| Derai                              | 17,615          | 1,400                | 19,015  | 56%   |
| Jagannathpur                       | 17,850          | 3,300                | 21,150  | 61%   |
| Dharmapasha                        | 15,050          | 3,850                | 18,900  | 50%   |
| Tahirpur                           | 15,480          | 1,700                | 17,180  | 51%   |
| Sulla                              | 8,200           | 1,125                | 9,325   | 49%   |
| Total:                             | 562,644         | 71,445               | 634,089 |   |

At the primary school level, Sylhet District has 3160 government and 525 non-government schools with a total enrollment of 562,644 and 71,445 respectively.

The district has 321 secondary schools of which 237 are full high schools covering classes 6 to 10, and 83 are junior high schools covering classes 6-8. The district has 19 colleges. According to government officials, there also are 68 madrassahs, which receive a slight government subsidy.

The breakdown of these institutions by thana is shown in Table 29 .

TABLE 29  
EDUCATIONAL INSTITUTIONS BY THANA

| THANA NAME         | PRIMARY(1-5 YRS) |           | SECONDARY |      | College | Madrassah |
|--------------------|------------------|-----------|-----------|------|---------|-----------|
|                    | Gov't            | Non-Gov't | Jr.H.S.   | H.S. |         |           |
| <u>SADAR</u>       |                  |           |           |      |         |           |
| <u>SUBDIVISION</u> |                  |           |           |      |         |           |
| Kotwali            | 180              | 2         | 9         | 24   | 4       | 7         |
| Balaganj           | 137              | 15        | 4         | 10   | 1       | 0         |
| Biswanath          | 93               | 10        | 3         | 9    | 0       | 3         |
| Gowainghat         | 99               | 15        | 4         | 4    | 0       | 1         |
| Fenchuganj         | 32               | 2         | 1         | 6    | 1       | 0         |
| Jaintiapur         | 30               | 3         | 1         | 2    | 0       | 1         |
| Golapganj          | 129              | 12        | 4         | 10   | 1       | 5         |
| Beanibazar         | 109              | 12        | 4         | 14   | 1       | 3         |
| Zakiganj           | 103              | 4         | 0         | 6    | 0       | 3         |
| Kanaighat          | 87               | 3         | 5         | 4    | 0       | 5         |
| <u>SUBDIVISION</u> |                  |           |           |      |         |           |
| <u>MOULVIBAZAR</u> |                  |           |           |      |         |           |
| Moulvibazar        | 179              | 37        | 4         | 10   | 1       | 1         |
| Rajnagar           | 99               | 25        | 1         | 8    | 0       | 1         |
| Kulaura            | 158              | 19        | 6         | 12   | 1       | 4         |
| Kamalganj          | 79               | 16        | 3         | 5    | 1       | 1         |
| Srimangal          | 61               | 50        | 0         | 7    | 1       | 0         |
| Barlekha           | 98               | 23        | 1         | 9    | 0       | 4         |

Table continued on next page

TABLE (CONTINUED)

|                              | PRIMARY(1-5 YRS) |           | SECONDARY |      | College | Madrassah |
|------------------------------|------------------|-----------|-----------|------|---------|-----------|
|                              | Gov't            | Non-Gov't | JR.H.S.   | H.S. |         |           |
| <u>SUBDIVISION HABIGANJ</u>  |                  |           |           |      |         |           |
| Habiganj                     | 83               | 18        | 3         | 9    | 2       | 2         |
| Nabiganj                     | 143              | 29        | 1         | 5    | 0       | 5         |
| Baniyachong                  | 106              | 18        | 1         | 7    | 0       | 1         |
| Chunarughat                  | 105              | 16        | 3         | 8    | 1       | 4         |
| Bahubal                      | 70               | 14        | 0         | 4    | 0       | 2         |
| Madhabpur                    | 87               | 26        | 1         | 12   | 2       |           |
| Lakhai                       | 45               | 5         | 2         | 2    | 0       | 1         |
| Ajmiriganj                   | 41               | 10        | 3         | 2    | 0       | 0         |
| <u>SUBDIVISION SUNAMGANJ</u> |                  |           |           |      |         |           |
| Sunamganj                    | 171              | 21        | 7         | 12   | 1       | 1         |
| Chhattak                     | 164              | 21        | 2         | 9    | 2       | 5         |
| Jamalganj                    | 71               | 20        | 3         | 4    | 0       | 2         |
| Derai                        | 99               | 12        | 4         | 7    | 0       | 0         |
| Jagannathpur                 | 112              | 7         | 1         | 8    | 0       | 3         |
| Dharmapasha                  | 86               | 34        | 1         | 4    | 0       | 0         |
| Tahirpur                     | 59               | 16        | 0         | 3    | 0       | 1         |
| Sulla                        | 45               | 10        | 1         | 1    | 0       | 0         |
| Total                        | 3160             | 525       | 83        | 237  | 19      | 68        |

In addition to the above institutions, there are several small technical institutions: Sylhet Technical High School, Gupta's Commercial Institute (Sylhet), and the Supatala Weaving School (Beanibazar). There is also one major Technical Institute giving training at several levels in weaving, mechanical engineering, motor mechanics and woodwork.

Perhaps the most prestigious of the educational institutions is the Sylhet Medical College.

The literacy rates for all ages for Sylhet District (18.1% are somewhat below the national averages (20.2%). The district ranks 12th in literacy among the districts of Bangladesh, according to the 1974 Census. Its position has dropped from a rank of 9th in 1961, when the literacy rate was 16.1%, about the same as the national average.

Table 30 breaks down the literacy rate by age groups and sex. By looking at different age groups, we have a picture of how much literacy rates in Sylhet have changed over time. Thus, among the men age 55-64 who would have received most of their formal education during the years 1914-34, 27% are literate. Those in the 15-19 year age group, who would have had a more recent education between the years of 1959-74, have literacy rate of 41%.

TABLE 30  
PERCENT OF LITERACY IN SYLHET DISTRICT BY AGE AND  
SEX FOR ALL PERSONS OVER 5 YEARS (1974 CENSUS)

| Age Group          | Percent Literate |        |
|--------------------|------------------|--------|
|                    | Male             | Female |
| 5 - 9 years        | 16%              | 10%    |
| 10 - 14 years      | 38%              | 25%    |
| 15 - 19 years      | 41%              | 20%    |
| 20 - 24 years      | 42%              | 14%    |
| 25 - 34 years      | 33%              | 10%    |
| 35 - 44 years      | 28%              | 8%     |
| 45 - 54 years      | 28%              | 7%     |
| 55 - 64 years      | 27%              | 4%     |
| 65 years & over    | 25%              | 3%     |
| Total over 5 years | 30%              | 12%    |

By comparing men and women within each of the age groups, it can be seen that there is a substantially larger percentage of literate men than women in all age groups, except the youngest, who were only beginning their education.

Table 31 also shows that the gap in the literacy rates between men and women, though still quite substantial in the 10-19 year age groups, has been gradually declining. In the 55-64 year age group, the literacy of men is over 8 times that of women. In the 15-19 year age group, the rate of boys is about twice that of girls.

An examination of the unpublished subdivision level statistics shows differences of over 7% in the literacy rate of men and over 4% in the rates of women. These statistics are presented in Table 31 .

TABLE 31  
MALE AND FEMALE LITERACY RATES BY SUBDIVISION  
IN SYLHET DISTRICT, 1974

| SUBDIVISION  | % of Literate Persons |        |
|--------------|-----------------------|--------|
|              | Male                  | Female |
| Moulvibazar  | 34.1                  | 14.9   |
| Habiganj     | 26.6                  | 10.6   |
| Sunamganj    | 27.5                  | 11.5   |
| Sylhet Sadar | 32.0                  | 13.3   |

C. Food Procurement and Rationing.

Sylhet produces a major foodgrain surplus. Because of this the operation of the official distribution system of the Food Ministry in Sylhet takes on significance for other parts of

the country. This system has two parts: Procurement and Rationing.

The rationing system operates primarily to assure a steady supply of foodgrains and other basic foodstuffs (especially salt and edible oils) to urban residents and certain categories of persons living in rural areas who are entitled to purchase the rations at subsidized rates. One of the major categories includes government employees, including teachers in non-government schools. The other category includes 10-15% of very poor persons.

These persons purchase their rations monthly from designated union ration dealers. The ration dealers in turn lift their allotment from Local Storage Depots, or LSD's, located in different parts of the district. The rice or paddy has been procured within the district; other foodstuffs (oils, sugar, flour, wheat) have either been imported from abroad or procured elsewhere in Bangladesh.

Government food storage godowns (LSD's) are found in 19 thanas and have a total storage capacity of 732,000 maunds. At time of procurement, additional storage capacity may be obtained temporarily from private godowns, schools, or thana offices. The distribution of the government godowns is shown by thana in Table 32.

TABLE 32

GOVERNMENT FOOD STORAGE GODOWNS IN SYLHET BY THANA

| THANA NAME                     | EXISTING GODOWNS |                  | Additional Planned Godowns(500 tons each) |
|--------------------------------|------------------|------------------|---|
|                                | Number           | Capacity(Maunds) |   |
| <u>SADAR SUBDIVISION :</u>     |                  |                  |   |
| Sadar Kotwali                  | 5                | 89,000           |   |
| Fenchuganj                     | 1                | 19,500           | 2   |
| Balaganj                       | -                | -                | -   |
| Biswanath                      | -                | -                | -   |
| Gulapganj                      | 1                | 13,500           | 2   |
| Beanibazar                     | 1                | 13,500           | -   |
| Zakiganj                       | 2                | 27,000           | -   |
| Kanaighat                      | 2                | 27,000           | 1   |
| Jaintiapur                     | 3                | 40,500           | -   |
| Gowainghat                     | .                | -                | 2   |
| <u>SUBDIVISION HABIGANJ</u>    |                  |                  |   |
| Habiganj                       | 8                | 119,500          | -   |
| Chunarughat                    | -                | -                | -   |
| Madhabpur                      | 4                | 54,000           | -   |
| Bahubal                        | -                | -                | 3   |
| Lakhai                         | -                | -                | -   |
| Baniachong                     | -                | -                | 1   |
| Ajmiriganj                     | 1                | 13,500           | -   |
| Nabiganj                       | -                | -                | -   |
| <u>MOULVIBAZAR SUBDIVISION</u> |                  |                  |   |
| Moulvibazar                    | 5                | 57,500           | -   |
| Rajnagar                       | -                | -                | -   |
| Srimangal                      | 3                | 40,500           | -   |
| Talanganj                      | 4                | 34,000           | -   |
| Kulaura                        | 3                | 40,500           | 1   |
| Barlekha                       | "                | -                | 1   |
| <u>SUNAMGANJ SUBDIVISION</u>   |                  |                  |   |
| Sunamganj                      | 2                | 27,000           | -   |
| Chhatak                        | 3                | 40,500           | 1   |
| Jagannathpur                   | -                | -                | 2   |
| Jamalganj                      | 4                | -                | -   |
| Sulla                          | -                | -                | -   |
| Derai                          | 1                | 13,500           | -   |
| Tahirpur                       | -                | -                | 2   |
| Dharmapassa                    | 1                | 13,500           | 1   |
| Dist.Total:                    | 54               | 732,000          | 21  |

Note: Additional Planned construction would be under a World Bank or Government Scheme.

Source: District Controller of Food, Sylhet.

In addition to supplying the ration system in Sylhet and other parts of the country, the LSD's operated by the Food Ministry also supply the grain used in Food for Work Programs and grain distributed as relief in times of disaster.

The total local distribution of foodgrains from the LSD's for 1976-77 is shown by subdivision in Table 33 .

TABLE 33  
DISTRIBUTION OF FOODGRAINS IN SYLHET  
FROM FOOD STORAGE GODOWNS  
BY SUBDIVISION, 1976-77

| Subdivision Name | Foodgrain Distributed(Maunds) |         |         |
|------------------|-------------------------------|---------|---------|
|                  | Rice                          | Paddy   | Wheat   |
| Sylhet Sadar     | 369,481                       | 212,087 | 301,713 |
| Habiganj         | 110,623                       | 84,535  | 123,524 |
| Moulvi Bazar     | 135,996                       | 178,533 | 179,083 |
| Sunamganj        | 43,245                        | 79,820  | 105,525 |
| Total            | 659,345                       | 554,975 | 709,845 |

## VIII. SOCIAL DEVELOPMENT CONSIDERATIONS

### A. Character and Role of Local Leadership

The organizational structure of government development activity has, for many years, left only limited opportunities for the emergence of local leadership. The present government has been trying to reverse this trend and build up local institutions. According to present government policy, the thana (or Police Station) is the primary organizational and geographic unit for rural development efforts. In Sylhet these thanas vary in area from 41 to 288 square miles and in population from 45,469 to 350,971 (1974 Census).

But other development activity also exists or is planned for the lower level institutions : villages and unions.

At the village level, there are usually one or more informal councils, composed of several village leaders. The name and structure of these groups vary from place to place. In parts of Sylhet, <sup>they</sup> are referred to as "panchayat". They have no legal standing, but in many villages, they carry out important functions of a traditional nature. For example, they settle local disputes, including sensitive land disputes, enforce behavioural rules, build and care for the mosque or other religious institutions, and organize village defence committees. Generally they do not undertake the organization of development activities on their own initiative.

In some villages, the local leaders enjoy strong authority; in others the "traditional" institutions have become quite weak and unimportant. The leaders often inherit their position; but respected character, education and acquisition of

wealth also influence the selection of accepted authority. A new development-oriented form of leadership at the village level has emerged through agricultural cooperatives. Particularly in the thanas which have an Integrated Rural Development Program, there is an organizational structure designed for training that leadership and for providing contact with the thana-based officers representing different ministries and agencies. However, it has become a matter of national concern that the leaders of the village cooperatives are predominantly from the large farmer groups. Subsidized benefits intended primarily for the small farmer appear to be diverted from that purpose.

In many unions of the district, there are "swanirbhar", or self-reliant, villages. Some of these are apparently experimenting with "gram sakar" (village government) as a vehicle for rural development. However, none of these villages in Sylhet has achieved major national recognition, and the consultant is not aware of any evaluation of the program in the district.

The union level is the only level which has a locally elected government, the union parishad (UP). The union parishads are under the supervision of the Circle Officer (Development).

In the early 1960's, the union parishads were responsible for a good deal of local infrastructure planning and implementation. Many of the existing union council roads were built during that three or four year period. The resources for such development were allotted to the union (and thana) councils by the Government under the Rural Works Program; this was

supported by the sale proceeds of foodgrains and other surplus agricultural commodities obtained from the USA under P.L. 480, Title I.

Since that time the responsibilities, resources and powers of the union councils have suffered from decay until the recent revitalisation. Even now they have only very minor powers to tax their residents and are dependent almost completely on the changing policies of the central government for their ability to engage in significant development work. Some such funds for earthwork now come through the Food for Works Program. The Ministry of Local Government, Rural Development, and Cooperatives is also trying to rebuild the Rural Works Program. Unlike the Food for Works Program, it could also include some funds for bridges and structures, rather than only earthwork. Since the U.P. elections in 1977, the government has been trying to provide increasing financial support and training to the Union Parishads.

At the thana level, there is no elected local government body. However, <sup>during</sup> the past few years, thana councils consisting of the elected Chairman of the union councils have often informally operated. The thana councils are to be formally reconstituted in July 1978 and may eventually be directly elected. The details of their new responsibility are not yet clear, but it is expected that they will again have responsibility for various types of public works, such as road construction. The implementation of many roads in this Rural Roads Project will involve dealing with such thana councils who will hold ultimate responsibility for many of the proposed roads (except the District Council Roads). Though the thana council will work closely with various government development officers at the

thana level, it is unlikely that the local bodies will be given any real power over these central government officers.

One indicator of the degree of activity of the union and thana councils is whether or not they have prepared the thana and union plan books sent out last year by the Ministry of L.G., R.D. & Cooperative. This system of thana plans which was important in the early 1960's had fallen into disuse. The present government is trying to revive the plans as a part of its renewed emphasis on local government. The information received by the consultant from each of the Circle Officers on the status of the thana and union plans is shown in Table 34.

TABLE 34  
STATUS OF THANA AND UNION PLANS

| <u>T H A N A</u>         | <u>THANA PLAN</u>                                    | <u>UNION PLAN</u>                                     |
|--------------------------|--|---|
| <u>SADAR SUBDIVISION</u> |  |   |
| Gowainghat               | 50% complete   | 35%, 8 Union.   |
| Kotwali                  | 50% complete   | 5 Union completed & 13 Unions under preparation.      |
| Biswanath                | 80% done   | 80% done.   |
| Balaganj                 | 40% completed  | All the 14 Union Patisads started the work.           |
| Fenchuganj               | 5 years plan completed                               | All unions of this thana have completed 5 years plan. |
| Golapganj                | Yes, the thana plan book has already been completed. | 10% completed.  |
| Biani Bazar              | completed.   | 5 Union completed & 6 Unions are 50% completed.       |
| Zakiganj                 | completed  | 5 Union completed four began but not completed.       |
| Kanaighat                | 5 years plan completed                               | All U.P. of Kanaighat under preparation.              |
| Jaintiapur               | 50% complete   | 35% complete.   |

Table continued on next page.

TABLE (CONTINUED)

| <u>T H A N A</u>                | <u>THANA PLAN</u>                                   | <u>UNION PLAN</u>  |
|---------------------------------|---|--|
| <u>HABIGANJ SUBDIVISION</u>     |   |  |
| Azmiriganj                      | completed   | All 5 Union Parisad completed.                                       |
| Baniachang                      | completed   | U.P. No.1-4-completed;<br>5-10-40% completed<br>11-15-50% completed. |
| Lakhai                          | 80% completed                                       | Not started.   |
| Madhabpur                       | Completed   | Completed in all 10 UPS.   |
| Chunaroghat                     | N.A.  | N.A.   |
| Habiganj                        | Completed   | N.A.   |
| Bahubal                         | Completed   | 7 Union completed.   |
| Nabiganj                        | 75%   | 3 Union 25%, 2 Union 30%,<br>3 Union 60% 2 Union 40%                 |
| <u>MOULVIBAZAR SUBDIVISION:</u> |   |  |
| Moulvibazar                     | Yes   | 3 Union  |
| Sreemangal                      | Completed   | 3(thre) completed<br>6(six) completed.                               |
| Kamalganj                       | All completed                                       | All most completed.  |
| Rajnagar                        | Completed   | Rajnagar, Monsurnagar<br>completed.                                  |
| Kulaura                         | Completed   | 5 completed other 12 have<br>begun.                                  |
| Barlekha                        | Completed   | All Unions Completed.  |
| <u>SUNAMGANJ SUBDIVISION</u>    |   |  |
| Dharmapasa                      | All ready<br>started.                               | All started.   |
| Tahirpur                        | Not yet received<br>any plan book<br>from the Dept. | Not yet received.  |
| Jamalganj                       | Not yet received<br>any plan book<br>from L.G.R.D.  | Not yet received.  |
| Darai                           | 75% completed                                       | All 9 Unions completed.  |
| Sulla                           | 30% completed                                       | Nion No. 3 completed<br>Other 4- 10% completed.                      |
| Jagannathpur                    | 50% completed                                       | None.  |
| Sunamganj                       | Plan book not<br>yet received                       | None.  |
| Chattak                         | 75% work done                                       | All Unions have taken<br>up work.                                    |

At the thana level, primary development responsibilities are given to the various officers posted by different development ministries. These include the responsibilities for the development of agriculture, irrigation, education, health facilities, and cooperatives in the thana.

To a large degree, these officers are the powerful people in the thana as far as development activities are concerned. However, they are not local leaders in the sense that they are not permanent residents of the thana in which they serve. They are not selected by or accountable to the people of that thana. According to government policy, their tenure in any thana is limited to three years, and often they are transferred to another thana before that period ends. Their main responsibility and accountability are to the various government agencies which appoint and pay them, control their budgets and programs, and transfer them.

At the thana level, two other types of leadership should be noted. In the thanas where IRDP cooperatives are organized, the village cooperatives are federated at the thana level. Thus thana-wide annual elections are held for the three-year posts on the managing committee of the TCCA (Thana Central Cooperative Association).

The second type of thanawide leader that should be noted is the Member of Parliament. At present Parliament is inactive and the M.P.'s are not a force to consider. But parliamentary elections are planned for December 1978. In their constituency, the M.P. and their associates are often very powerful people. This is primarily because they

have the power to intervene at higher levels of government to influence decisions affecting the thana.

In summary, local leadership may now be in an important transition stage. The longstanding gaps in building institutions representing the people at different levels will not be quickly filled. Leaders of the new or revitalized institutions will not automatically have an awareness of development possibilities and needs. And it remains to be seen whether sufficient independent resources will be developed to make them important local forces for development. But the government has taken the first steps in this direction.

B. Role of Women

In rural Sylhet, the practice of purdah still restricts the social and economic roles of rural women, though the system is breaking down somewhat.

Strict maintenance of purdah involves considerable expense. Thus it is practised primarily by well-to-do households, for whom this becomes a matter of prestige. Poor or landless rural households usually can not afford the compound walls, separate guest rooms, household help, and other facilities required to maintain purdah.

Earlier, it was noted that that the literacy rates for women are considerably lower than for men. In the past it was generally considered a poor investment for a family to send daughters to school, unless all the sons had been educated. It was thought that sending (Muslim) girls to the Madrasha or Maktab

for Islamic religious education was a better preparation for marriage than the secular schools. But today, more girls are being sent to Primary schools and even high schools.

The economic role of the large majority of rural women has been primarily in or near the home. Except for destitute or very poor women, village women do not visit the hats and bazars. Few women have remunerative work outside the home. Very few were enumerated as seeking work or included in the census estimates of the economically active population or labor force.

However, in addition to child rearing, cooking, cleaning, finding fuel, and other household tasks, there are a number of productive economic activities carried out by women. Perhaps most significant is the processing of foodgrain, which is done in or near the compound by women of all rural classes. In some Sylhet villages, women have remunerative activities, such as growing vegetables, selling eggs, tending the cows and selling milk, weaving mats or baskets, and working in other household-based cottage industry. Among the very small landholding or tenant families who cannot practice purdah, women also work in the fields at the time of peak labor requirements.

During the past several years, there has been national movement to enlist the participation of women in rural development efforts. Expanded remunerative activities, such as making handicrafts, poultry farming and pisciculture have been actively promoted. Vegetable growing has been encouraged both to increase income and to improve the family diet. In some areas, women's cooperatives have been organized to achieve this. The

program of the private organization, BRAC (Bangladesh Rural Advancement Committee) has made noteworthy gains in these respects in the three thanas where they work in Sylhet: Azmiriganj, Sulla, and Derai. During the winter it is very common to see women caring for vegetable gardens outside the residential portions of the village.

In the past two years, women have also been actively recruited in some of the mass mobilization efforts under the Food for Work Program (FWP) and Swanirbhar (Self-reliance) programs. Previously, the earthworks involved in those programs were almost totally done by men.

Regarding health, the life span is considerably shorter for women than men. This may reflect a number of cultural factors:

1. Women often rise earlier and go to bed later than men.
2. Their diet is generally worse, because of the cultural tendency for women to wait to eat until their husband, children and dependents have been fed.
3. The average marriage age for women is very young, the youngest in Asian, and the first children are often born at an early age.
4. The method of cooking in rural areas means that women spend considerable time daily breathing smoke from chula fires.
5. The reluctance to take women far from the village implies that medical care for more serious illness or injury may not be sought or availed of as quickly as for men.

It is not expected that the construction of the proposed roads in Sylhet District will have a major immediate impact on these aspects of the lives of women. But there are a number of areas where an impact will be felt over time.

New roads will increase the mobility of people into and out from the area. Even assuming that primarily the men travel at first, this movement of people involves the dissemination of ideas as well. One of the urban ideas which has been noted to accompany new roads in other countries is a more favorable attitude toward the education of women.

To the extent that new roads improve the local agricultural economy and particularly open up more marketing options for farmers, it may be expected that women will benefit along with their families. Roads will open up new opportunities for establishing women's organizations and economic activities. But such benefits will not be automatic. They will occur only if the opportunities are actually taken.

The construction of the proposed road network will make travel in some parts of the district considerably easier. Though undoubtedly men will continue to use these facilities more than women for some time, the inconveniences that are now obstacles to women travelling in rural areas will have been considerably reduced.

Finally, the roads will not directly change most of the factors that affect the health of women. However, they will make many areas more accessible to the hospital facilities and family planning services of the district. And opportunities will be greater for women to use existing and expanding facilities for improved health and efficiency.

IX. DEVELOPMENT OF ROAD NETWORK

A. Introduction

The development of a road network in the rural areas of Sylhet, was carried out in five distinct steps:

1. establishing road and bridge design criteria;
2. soliciting road nominations from local officials;
3. preliminary screening of the nominated roads;
4. priority ranking of individual road segments; and
5. recommending integrated road networks for each district.

These steps are explained in detail in the Summary, Volume I of this report and only a brief synopsis is given in this volume.

B. Design Criteria

The design criteria for the class, section and geometric standards for the rural roads were adopted from the recommendations prepared by an ad hoc government committee for the Transport Survey Section of the Planning Commission of the Government. The road classes selected for rural road construction by the Planning Commission are Class IV and Class V. These are defined as follows:

- Class IV - Paved roads connecting subdivisional and thana headquarters and other principal growth centers.
- Class V - Earth roads connecting thana and union headquarters with secondary growth centers. Approximate two-way hourly traffic within 10 years of 20 passenger car equivalents.

C. Road Nominations By Local Officials

The consultant's team discussed rural road requirements of the district with local officials in Sylhet. A large meeting was held in Sylhet Town with the Deputy Commissioner, Subdivision Officers and district officers of government ministries.

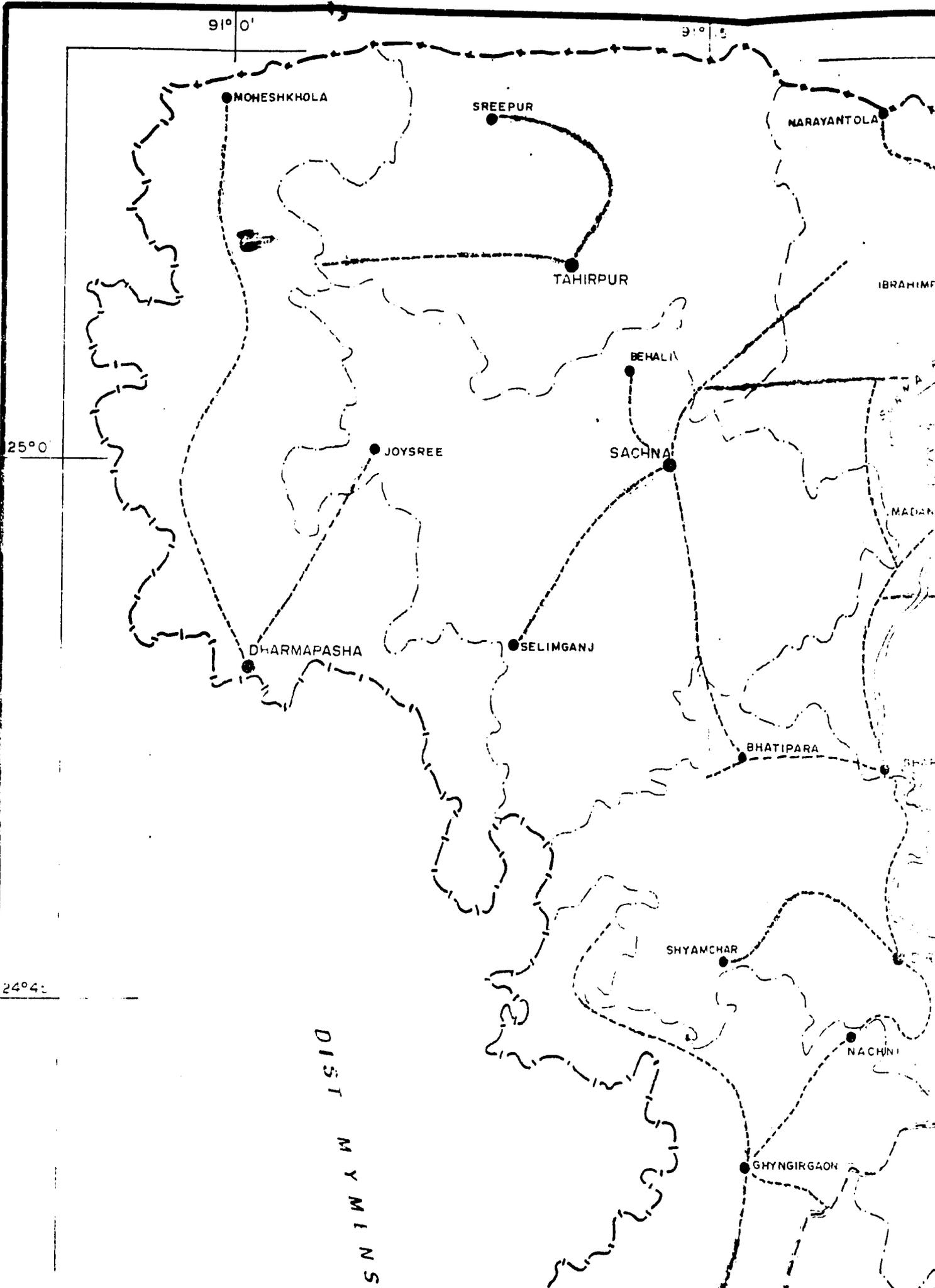
Subsequent meetings were held in Sunamganj, Habiganj, Moulvi Bazar and Sylhet Sadar with the Subdivision Officers, thana Circle Officers for Development and Agricultural Extension Officers.

Based on these meetings and questionnaires prepared by the consultant and completed by local officials, road nominations were received from thana, subdivision and district officials. In Sylhet District 943 miles of roads were nominated for rural road construction. These are listed in Table 35 and shown in Figure 7.

D. Preliminary Road Screening

The preliminary road screening in Sylhet was different from the other three districts examined for this study.

The priority roads nominated by the Deputy Commissioner, the District Engineer (Zilla Board) and the Subdivision Officers of Habiganj and Sunamganj were primarily in the western flood plain of Sylhet. This region, commonly called the haer area, is subjected to floods varying in depth from 10' to 15 feet for as long as six or seven months a year. In addition, in some areas the wind reach across the vast flooded area and wave action with reported crests up to eight feet.



91° 0'

91° 15'

25° 0'

24° 0'

DIST M Y M I N S

MOHESHKHOLA

SREEPUR

NARAYANTOLA

TAHIRPUR

IBRAHIM

BEHALIN

SACHNA

JOYSREE

DHARMAPASHA

SELIMGANJ

BHATIPARA

SHYAMCHAR

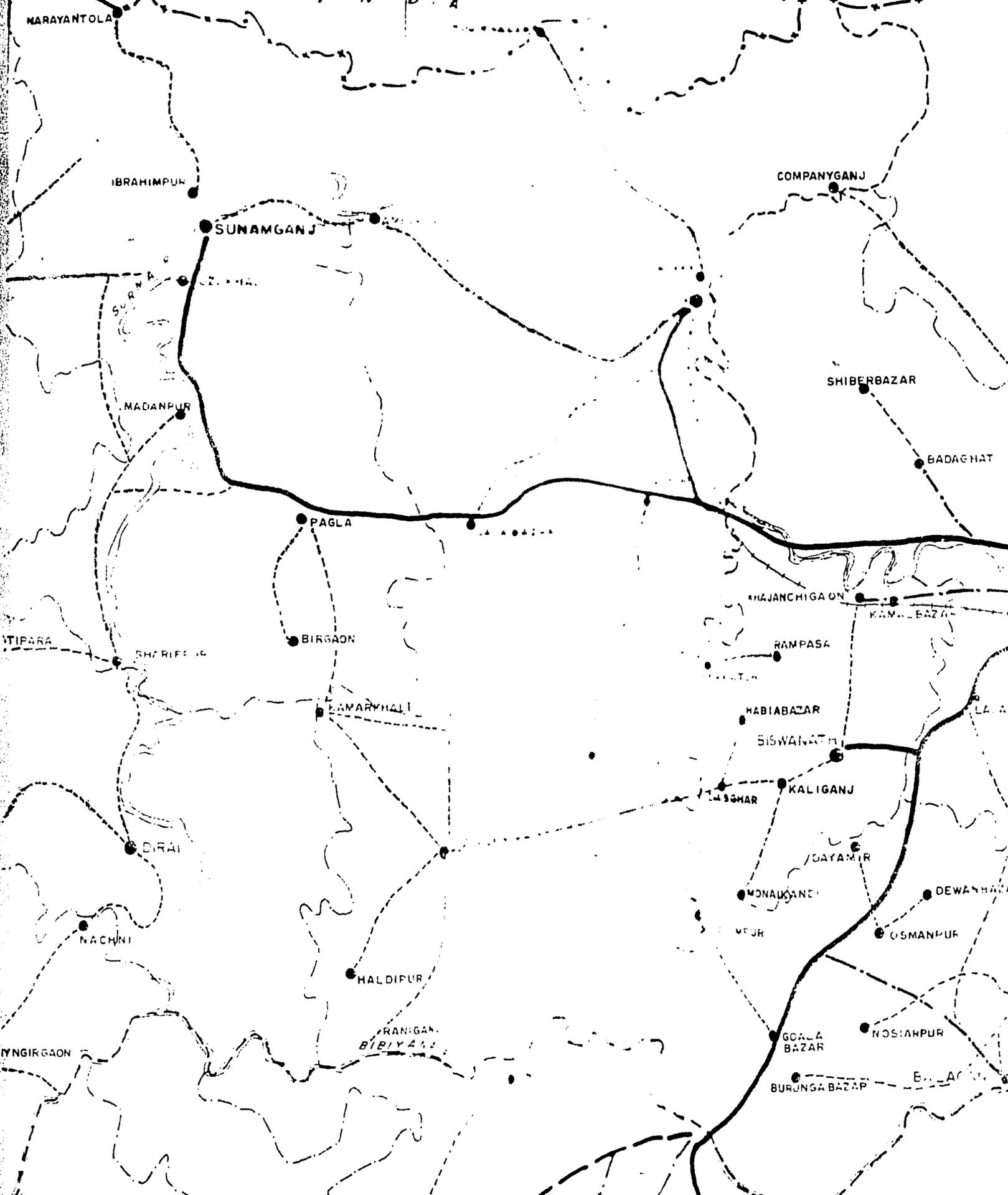
NACHNI

GHYNGIRGAON

91° 30'

91° 45'

I N D I A



MARAYANTOLA

IBRAHIMPUR

SUNAMGANJ

COMPANYGANJ

MADANPUR

SHIBERBAZAR

BADAGHAT

PAGLA

KHAJANCHIGAON

KAMALBAZAR

TIPARA

SHARIFFPUR

BIRGAON

RAMPASA

AMARVALLI

HABIABAZAR

BISWANATH

DIRAI

LAGGAR

KALIGANJ

DAYAMIR

NACHNI

MONAKANCHI

OSMANPUR

HALDIPUR

MEUR

DEWANHALLA

YNGIRGAON

FRANIGAN  
BIBIYANA

GOALA  
BAZAR

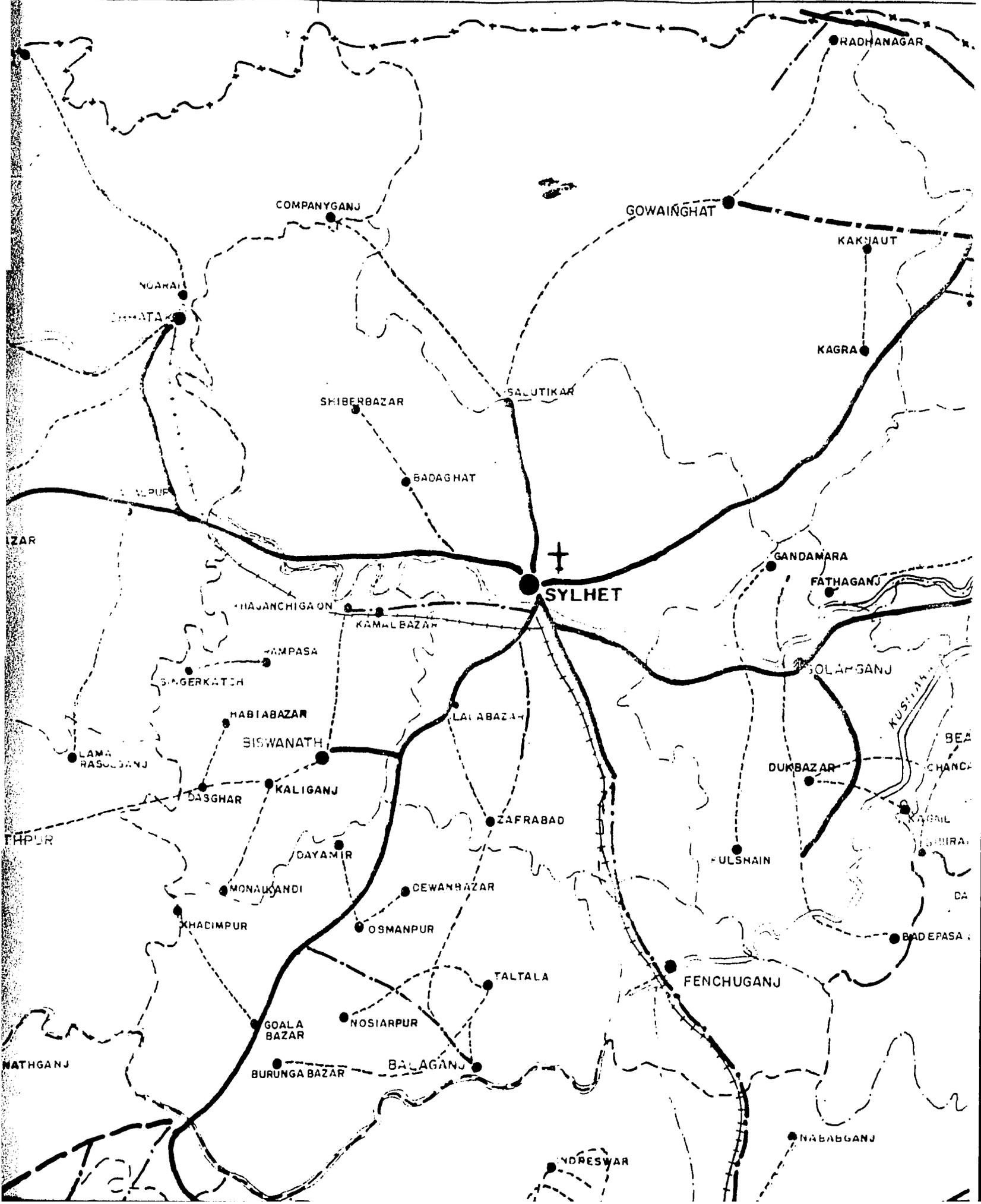
NOSIAHPUR

BURUNGA  
BAZAR

BARA

91° 45'

92° 0'



RADHANAGAR

COMPANYGANJ

GOWAINGHAT

KAKRAJAUT

NOARAI

SHAMATA

KAGRA

SHIBERBAZAR

SALUTIKAR

BADAGHAT

WELPUR

GANDAMARA

SYLHET

FATHAGANJ

HAJANCHIGAON

KAMALBAZAR

SOLAMGANJ

SINGERKATCH

MAMPASA

HABIABAZAR

LATABAZAR

LAMA  
RASULGANJ

BISWANATH

DUKBAZAR

DAGGAR

KALIGANJ

ZAFRABAD

THPUR

DAYAMIR

FULSHAIN

MONAKANDI

DEWANBAZAR

KHACIMPUR

OSMANPUR

TALTALA

FENCHUGANJ

GOALA  
BAZAR

NOSIARPUR

BEA  
CHANDA  
KAGAIL  
SIBIRAI  
DA

BURUNGA  
BAZAR

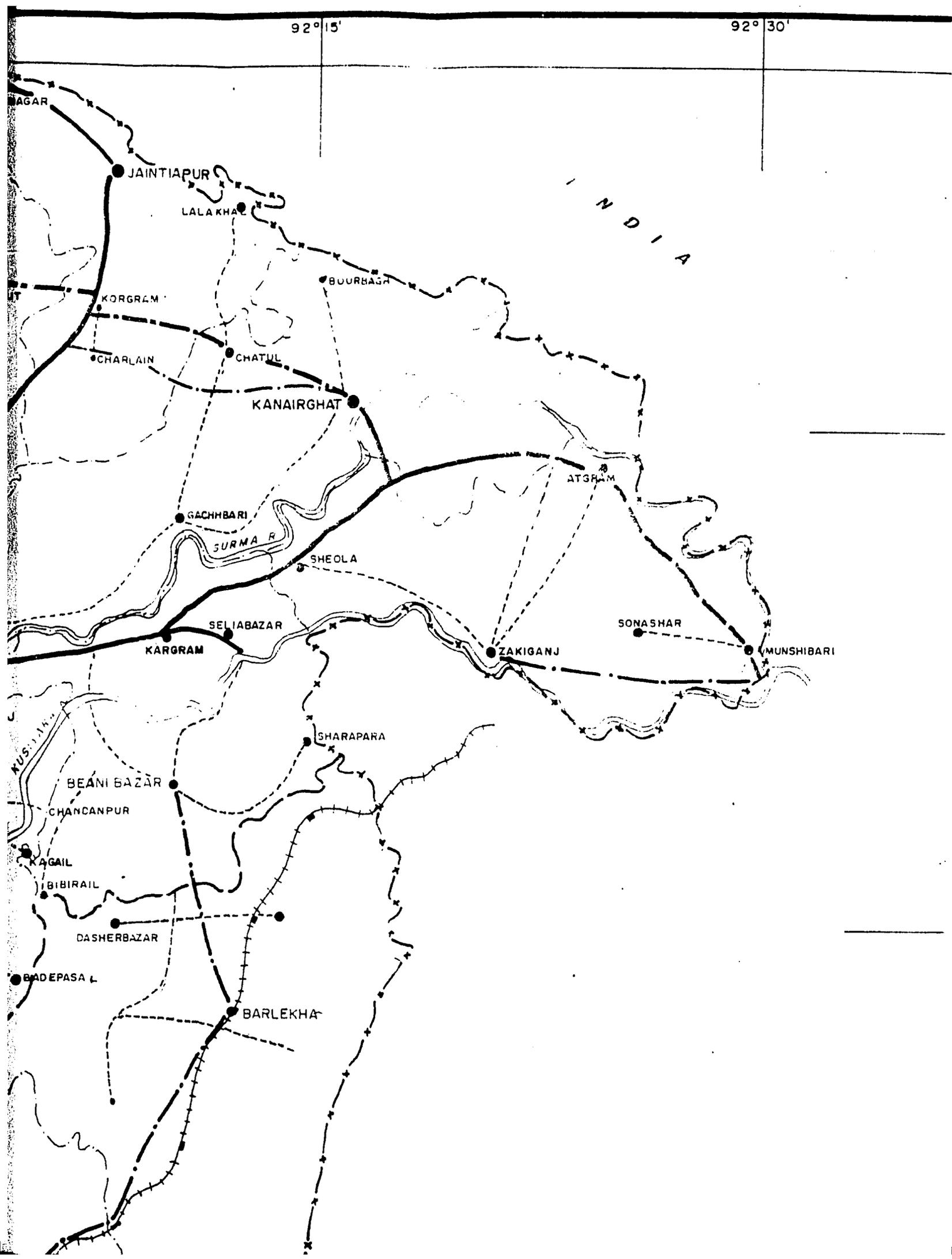
BALAGANJ

NABABGANJ

NDRESWAR

92° 15'

92° 30'



# DIST. SYLHET

25°0'

24°45'

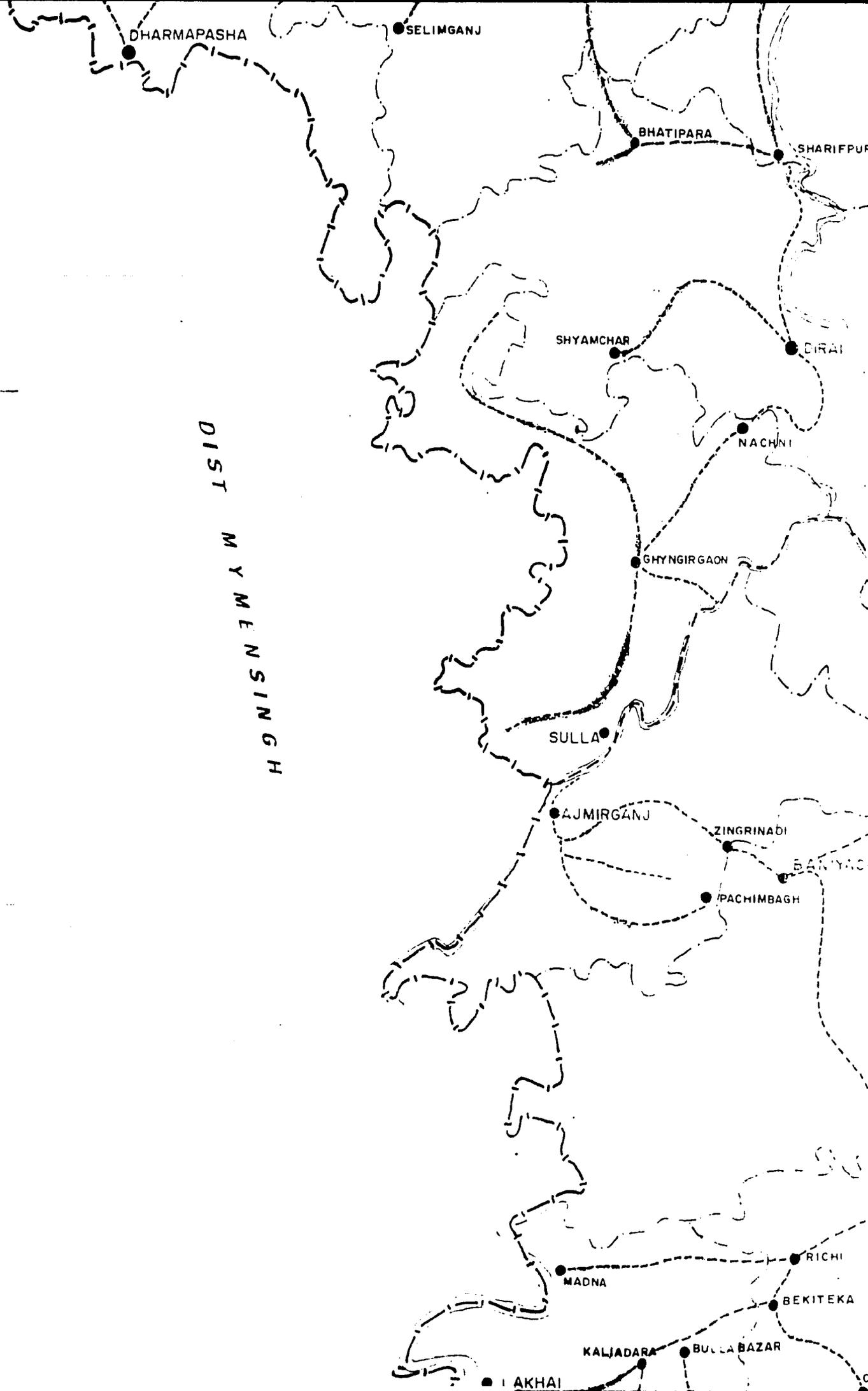
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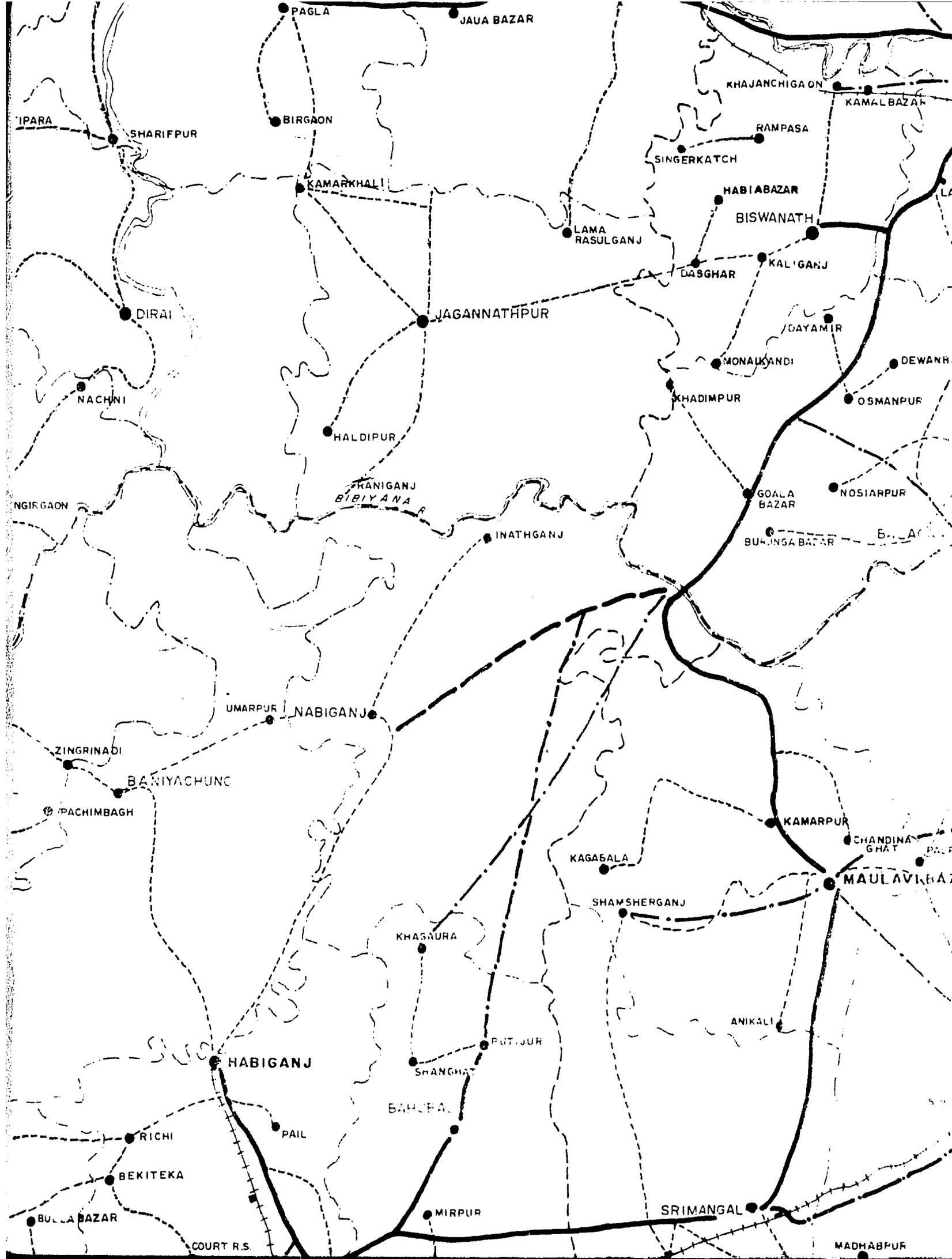
|                     |       |   |
|---------------------|-------|---|
| Roads (R & H) Paved | ..... |  |
| Rail Roads          | ..... |  |
| Waterways           | ..... |  |
| Major Airport       | ..... |  |
| Nominated Roads     | ..... |  |
| All-Weather Roads   | ..... |  |

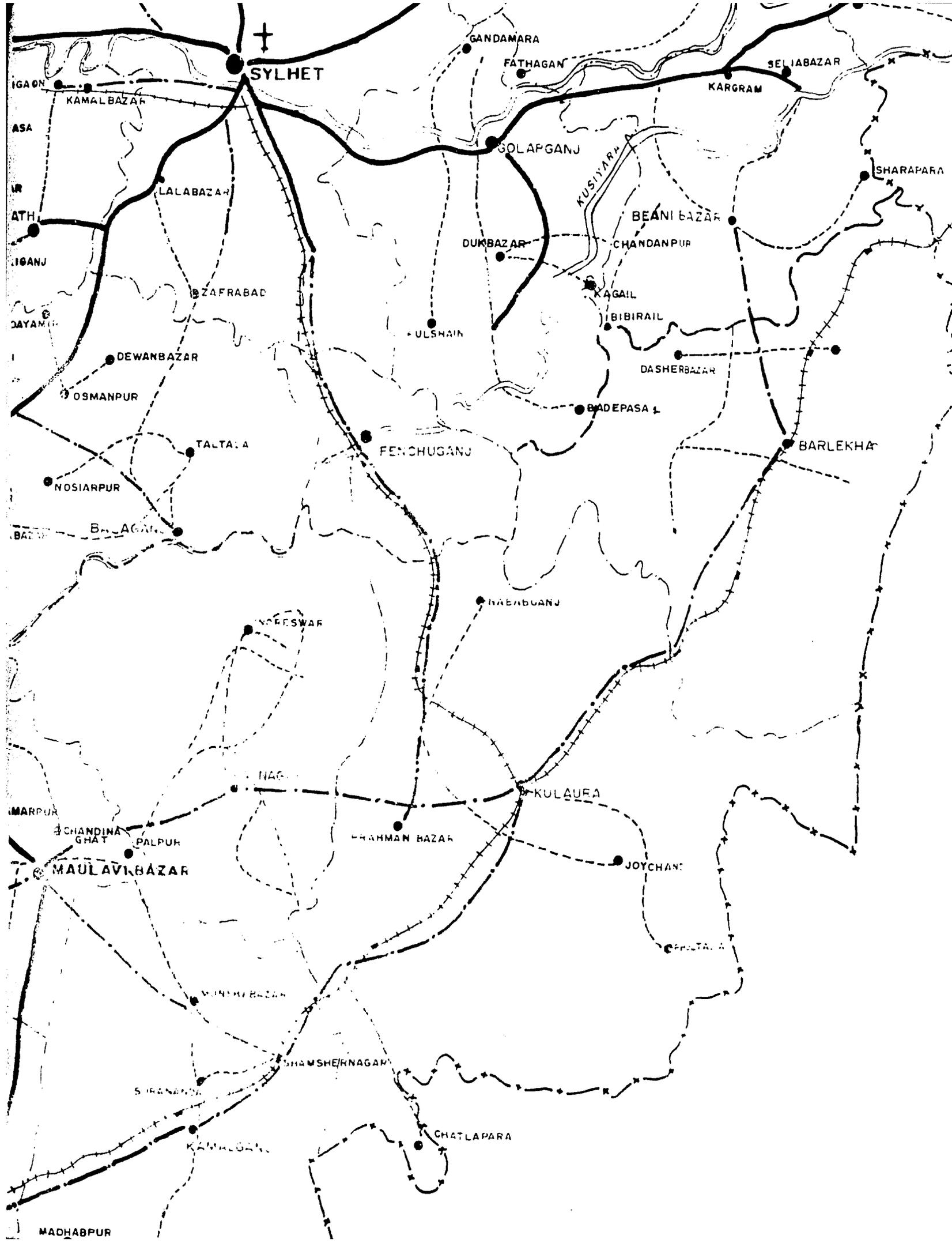
24°45'

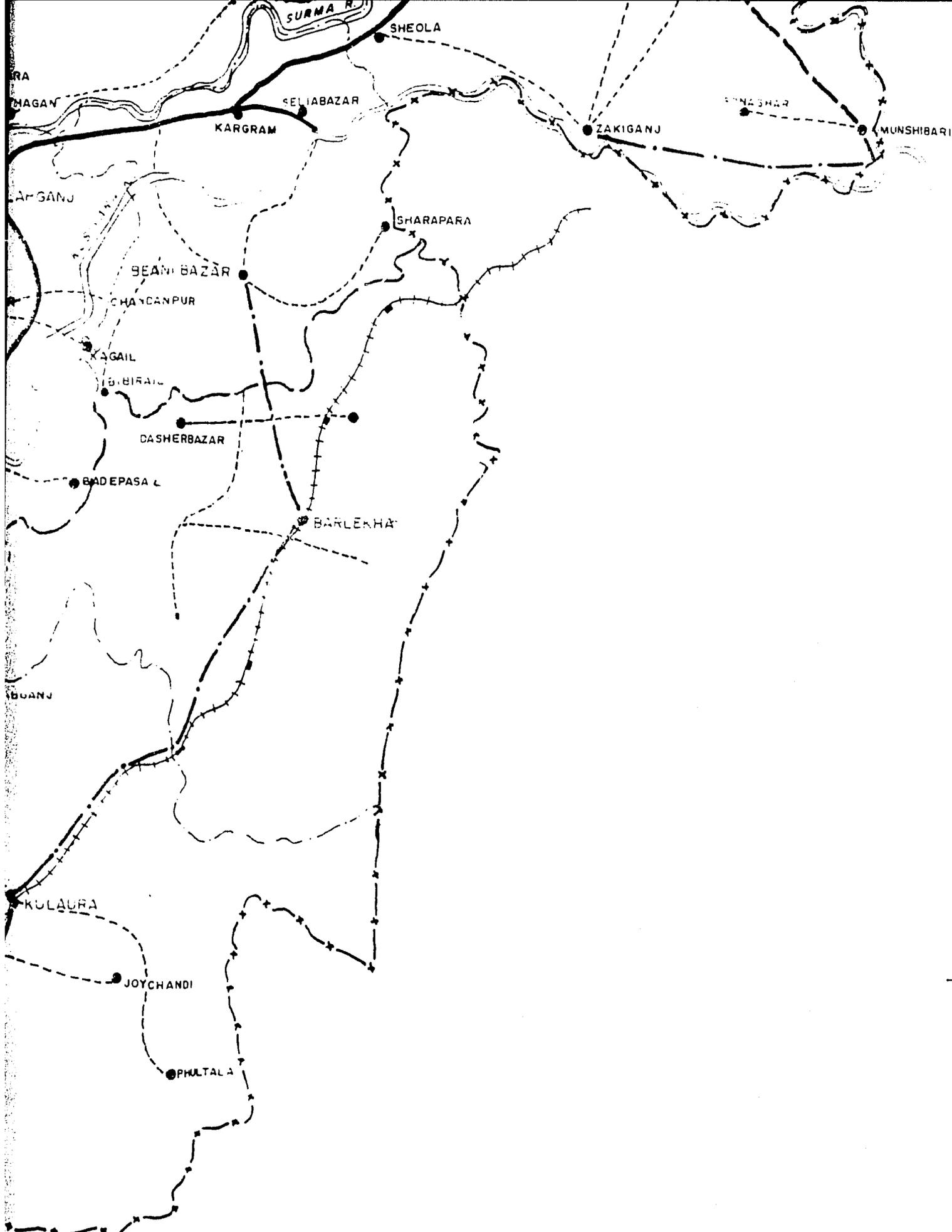
30'

DIST MYMENSINGH









24°45'



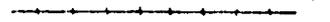
24°30'

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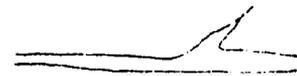
Roads (R & H) paved



Rail Roads



Waterways



Major Airport



Nominated Roads



All-Weather Roads



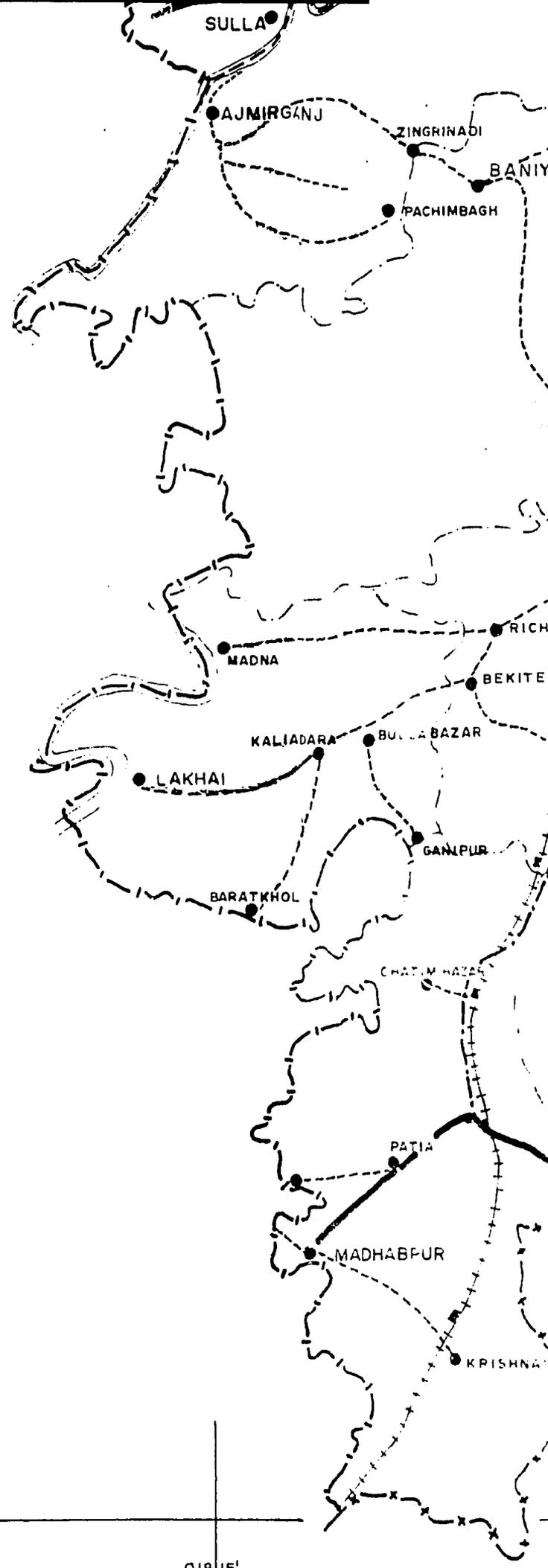
24°30'

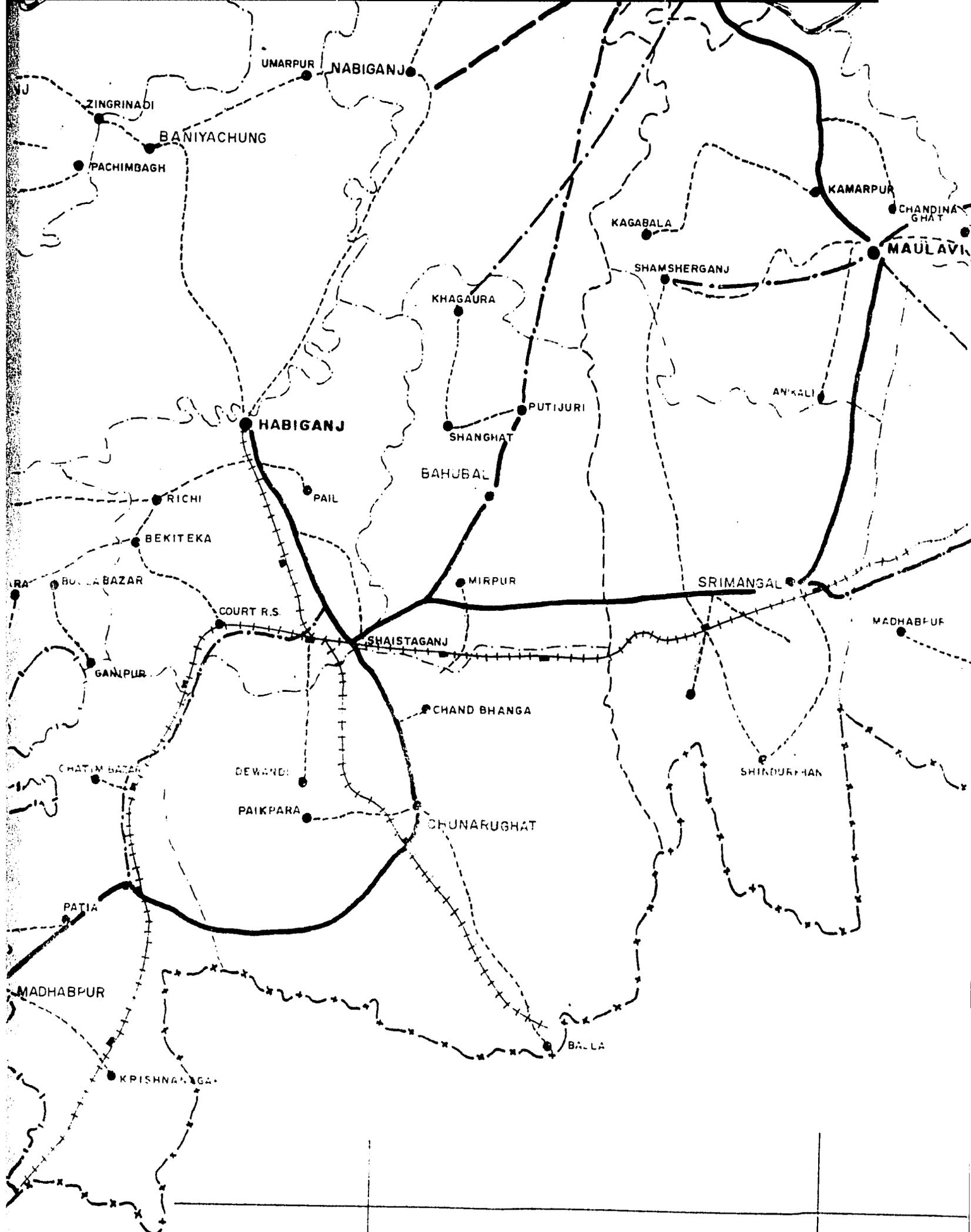
24°15'

24°0'

91° 0'

91° 15'





UMARPUR NABIGANJ

ZINGRINADI BANUYACHUNG

PACHIMBAGH

KAGABALA

KAMARPUR

CHANDINA GHAT

MAULAVI

KHAGAURA

SHAMSERGANJ

ANKALI

HABIGANJ

PUTIJURI

SHANGHAT

BAHUBAL

RICHI

PAIL

BEKITEKA

MIRPUR

SRIMANGAL

MADHABPUR

BULLA BAZAR

COURT R.S.

SHAISTAGANJ

CHAND BHANGA

SHINDURHAN

GANIPUR

DEWANDI

CHUNARUGHAT

CHATIM BAZAR

PAIKPARA

PATIA

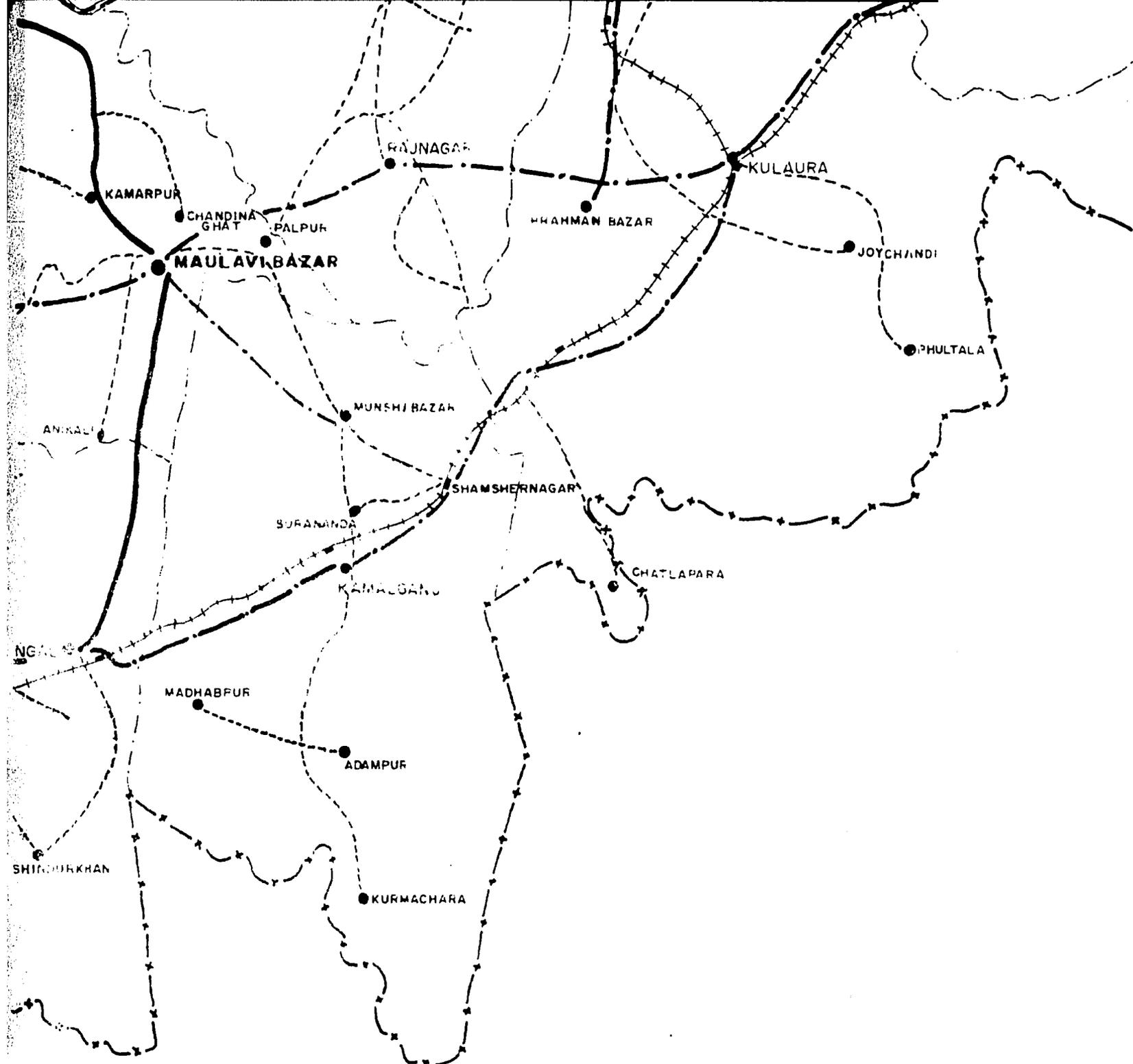
BALLA

MADHABPUR

KPISHNANGA

91° 30'

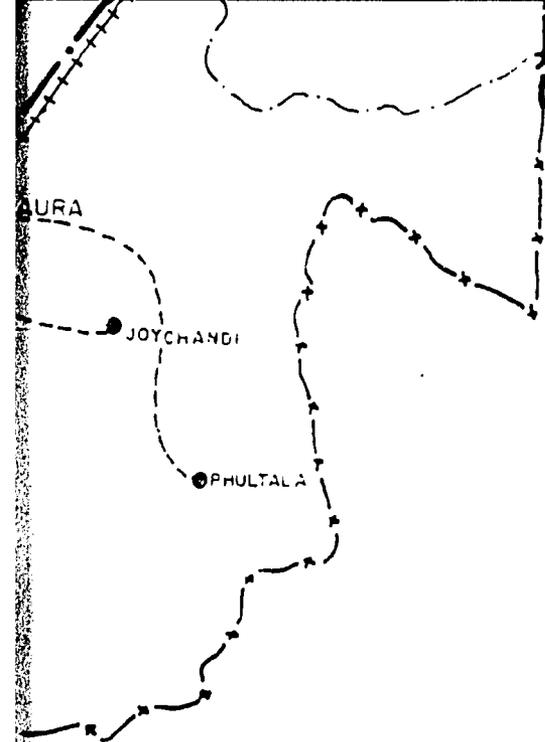
91° 45'



INDIA

91° 45'

92° 0'



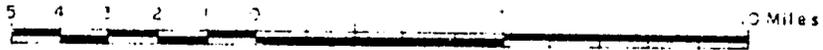
92° 15'

92° 30'

2-°30'

24°15'

SCALE 1 Inch = 4 Miles



GOVERNMENT OF  
THE PEOPLE'S REPUBLIC OF BANGLADESH

RURAL ROADS STUDY

**PRIORITY ROAD NOMINATIONS**

LOUIS BERGER INTERNATIONAL INC. AND  
RAHMAN & ASSOCIATES LTD.

24°0'

PREPARED BY Z. Abedin, Rahman

RECOMMENDED

*W. Ward*

CHECKED

APPROVED

DATE :

DRG. NO.

TABLE 35  
NOMINATED ROADS

SUB: SYLHET SADAR

| THANA         | PRIORITY ROADS  |                        | MILES | PROPOSED BRIDGES | INITIAL SELECTION |
|---------------|-----------------|------------------------|-------|------------------|-------------------|
|               | From            | To                     |       |                  |                   |
| 1. Kotwali    | 1. Salutikor    | Companiganj            | 8½    | 9                | Yes               |
|               | 2. Lalabazar    | Zafrabad               | 5     | 2                | Yes               |
|               | 3. Sylhet       | Kamalbazar             | 5     | -                | Yes               |
|               | 4. Badaghat     | Shiberbazar            | 3     | 1                | No                |
| 2. Gowainghat | 1. Gowainghat   | Salutikor              | 15    | 5                | Yes               |
|               | 2. Gowainghat   | Radhanagar             | 5     | 2                | No                |
|               | 3. Kagra        | Laknaut                | 4     | 3                | No                |
|               | 4.              | N.A.                   | -     | -                | -                 |
| 3. Biswanath  | 1. Biswanath    | Khajanchigaon          | 5½    | 5                | Yes               |
|               | 2. Biswanath *  | Habiabazar-Gazirmukhan | 7     | 5                | Yes               |
|               | 3. Rampassa     | Singer Katch           | 4     | -                | No                |
|               | 4. Kaliganj     | Monaikandi             | 5     | 3                | No                |
| 4. Balaganj   | 1. Nosiarpur *  | Balaganj               | 8     | 4                | Yes               |
|               | 2. Deyamir      | Dewanbazar             | 4½    | 2                | No                |
|               | 3. Goalabazar   | Khadimpur              | 7     | -                | No                |
|               | 4. Burungabazar | Taltala                | 10    | 2                | No                |

\* Proposed by Sub-Division or District Officials

\*\* Proposed by Both

Table continued  
on next page

| THANA         | PRICRITY ROADS    |                        | MILES | NO OF BRIDGES PROPOS-ED | INITIAL SELECTION |
|---------------|-------------------|------------------------|-------|-------------------------|-------------------|
|               | From              | To                     |       |                         |                   |
| 5. Fenchuganj | 1. Ilashpur       | Bank of River Kushiara | 2     | 2                       | No                |
|               | 2. Steamerghat    | Dakbungalow            | 1     | -                       | No                |
|               | 3. Bashmanbazar   | Fenchuganj bazar       | 3½    | -                       | No                |
|               | 4. Mirzapur       | Steamerghat            | 3½    | -                       | No                |
| 6. Golapganj  | 1. Barkuma        | Badepassa              | 15    | 9                       | No                |
|               | 2. Dukbazar       | Kagail                 | 4     | 3                       | No                |
|               | 3. Dukbazar       | Chandanpur             | 3½    | 3                       | No                |
|               | 4. Gandamara      | Fulshain Madrasha      | 9     | 3                       | Yes               |
| 7. Bianibazar | 1. Bianibazar HQ  | Golapganj              | 10    | 2                       | No                |
|               | 2. Bianibazar HQ  | Sharapar B.J.P.        | 7     | 2                       | No                |
|               | 3. Bianibazar H.Q | Kargram (R&H Road)     | 9     | 3                       | Yes               |
|               | 4. Mothiura bazar | Bibiraj bazar          | 5     | 2                       | No                |
| 8. Kanaighat  | 1. Bourbagh       | Fathaganj              | 20    | 2                       | Yes               |
|               | 2. Taiya Khal     | Babaniganj             | 4     | 1                       | No                |
|               | 3. Chatulbazar    | Gasbari                | 5     | -                       | Yes               |
|               | 4. T T.D.C.       | Flood Shelter          | 2     | -                       | No                |

| THANA          | PRICIRTY ROAD        |                       | MILES | NO. OF BRIDGES PROPOSED | INITIAL SELECTION |
|----------------|----------------------|-----------------------|-------|-------------------------|-------------------|
|                | From                 | To                    |       |                         |                   |
| 9. Jaintiapur  | 1. Bridge over Esaba | River at Chatul Bazar | 300'  | 1                       | Yes               |
|                | 2. Chatul            | Lalakhal              | 5     | NS                      | No                |
|                | 3. Mahuthati         | Ujanipara             | 2     | -                       | No                |
|                | 4. Korgram           | Charlain              | 2½    | NS                      | No                |
| 10. Zakiganj   | 1. Zakiganj          | Atgram                | 8     | 2                       | Yes               |
|                | 2. Zakiganj          | Sheola                | 14    | -                       | Yes               |
|                | 3. Zakiganj          | Kaliganj              | 7     | 1                       | No                |
|                | 4. Sonashar          | Munshibazar           | 4     | -                       | No                |
| SUB: SUNAMGANJ |                      |                       |       |                         |                   |
| 1. Dharmapasha | 1. Dharmapasha       | Joysree               | 8     | 3                       | No                |
|                | 2. Dharmapasha       | Moheshkhola           | 26    | 8                       | No                |
|                | 3. Mahadipur         | Muktarpur             | 8     | 4                       | No                |
|                | 4. Joysree           | Golukpur              | 7     | 3                       | No                |
| 2. Tahirpur    | 1. Laliapur          | Tahirpur              | 8     | 3                       | No                |
|                | 2. Taherpur          | Sreepur (Noabadh)     | 10    | 2                       | No                |
|                | 3. Tahirpur          | Rajai                 | 9½    | 2                       | No                |
|                | 4. Tahirpur          | Chapati Mohammadpur   | 8     | 3                       | No                |

| THANA           | PRICRITY ROADS                   | MILES | NO OF PROPOSED BRIDGES | INITIAL SELECTION |
|-----------------|----------------------------------|-------|------------------------|-------------------|
| 3. Jamalganj    | 1. Sachnabazar Oazkhali          | 14    | 8                      | No                |
|                 | 2. Jamalganj Bhatipara           | 15    | 5                      | No                |
|                 | 3. Sachnabazar Beheli (Islampur) | 5     | 2                      | No                |
|                 | 4. Shahapur Selimganj            | 10    | 2                      | No                |
| 4. Derai        | 1. Derai Sharifpur               | 6     | 3                      | No                |
|                 | 2. Derai Nachni                  | 6     | 2                      | No                |
|                 | 3. Derai Shyamchar               | 11    | 4                      | No                |
|                 | 4. Patharia Bhatipara            | 8     | 4                      | No                |
| 5. Sulla        | 1. Ghungiargawn Nachni           | 6     | 3                      | No                |
|                 | 2. Ghungiargown Thanaghat        | 3     | 4                      | No                |
|                 | 3. Ghungiargown Sulla            | 6     | 1                      | No                |
|                 | 4. Ghungiargown Shyamarchar      | 8     | 2                      | No                |
| 6. Jagannathpur | 1. Jagannathpur Biswanath *      | 16    | 4                      | Yes               |
|                 | 2. Jagannathpur Runiganj         | 7     | 4                      | No                |
|                 | 3. Jagannathpur Kamarkhali       | 8½    | 4                      | No                |
|                 | 4. Jagannathpur Haldipur         | 7     | -                      | No                |
| 7. Sunamganj    | 1. Madanpur Sharifpur            | 12    | 5                      | No                |
|                 | 2. Ibrahimpur Narayantola        | 6     | 3                      | No                |
|                 | 3. Sunamganj Ambari              | 4     | 2                      | No                |
|                 | 4. Pagla Birgaon Bazar           | 4     | 4                      | No                |

| THANA                | PRIORITY ROADS        |                       | MILES | NO. OF PROPOSED BRIDGES | INITIAL SELECTION |
|----------------------|-----------------------|-----------------------|-------|-------------------------|-------------------|
|                      | From                  | To                    |       |                         |                   |
| 8. Chhatak           | 1. Noarai             | Haqueragar            | 12    | 3                       | No                |
|                      | 2. Jalalpur           | Lama Rasulganj        | 12    | 10                      | No                |
|                      | 3. Chhatak            | Jewabazar             | 10    | 8                       | No.               |
|                      | 4. Chhatak            | Ambari                | 12    | 10                      | No                |
| SUB:<br>MAULAVIBAZAR | 1. Kamarpur           | Kagabala              | 8     | 3                       | No                |
|                      | 2. Kuchamahal         | Shamsherganj          | 9     | -                       | No                |
|                      | 3. Hilalpur           | Anikali               | 7     | -                       | No                |
|                      | 4. Nayabazar          | Chandinghat           | 5     | 1                       | No                |
| 2. Sreemanga         | 1. Sreemangal         | Shindur Khan          | 6     | -                       | No                |
|                      | 2. Shindur Khan bazar | Shamsherganj          | 18    | 12                      | Yes               |
|                      | 3. C & B Road         | Shindur Khan U.P.     | 3     | 3                       | No                |
|                      | 4. C & B Road         | Biswamoni Fungel Road | 3     | 2                       | No                |
| 3. Kamalganj         | 1. Minshibazar        | Kurmachara            | 20    | 3                       | No.               |
|                      | 2. Adampur            | Madhabpur             | 4½    | 2                       | No                |
|                      | 3. Kamalganj          | Kamarchara            | 6     | 3                       | No                |
|                      | 4. Shamshernagar      | Suranandar Road       | 5     | 2                       | No                |

| THANA         | PRIORITY ROADS                      |                   | MILES | NO. OF PROPOSED BRIDGES | INITIAL SELECTION |
|---------------|-------------------------------------|-------------------|-------|-------------------------|-------------------|
|               | From                                | To                |       |                         |                   |
| 4. Rajnagar   | 1. Falpur bazar                     | Dhalairnuck       | 15    | 3                       | Yes               |
|               | 2. Dewandighi                       | Manu Rly. Station | 7     | 3                       | No                |
|               | 3. Rajnagar - Indeswar-Mukambazar** |                   | 6     | 5                       | Yes               |
|               | 4. Haziganjbazar                    | Munshibazar *     | 8     | 4                       | No.               |
| 5. Kulaura    | 1. Kulaura                          | Fultala           | 9     | 5                       | No                |
|               | 2. Manu Bridge                      | Chatlapur         | 9     | 2                       | No                |
|               | 3. Nababganj                        | Joichandi U.P.    | 10    | 1                       | No                |
|               | 4. Brahmmanbazar                    | Fenchuganj        | 11    | 6                       | Yes               |
| 6.            | 1. School tilla                     | Sujanagar Road    | 12    | 5                       | No                |
|               | 2. Sujanagar                        | Wahidpur          | 9     | 5                       | No                |
|               | 3. Dasherbazar                      | Fakshail Idgah    | 5½    | 2                       | No                |
|               | 4. Rathuli                          | Madhabkundha      | 4     | 2                       | No,               |
| SUB:HABIGANJ  |                                     |                   |       |                         |                   |
| 1. Azmiriganj | 1. Azmiriganj                       | Jhingrinadi **    | 9     | 6                       | No                |
|               | 2. Khurshed bund                    | Paschembag        | 7     | 2                       | No,               |
|               | 3. Azmiriganj                       | Nagar             | 1     | -                       | No,               |
|               | 4. Khurshed bund                    | Paschimbag        | 5     | -                       | No                |

| THANA          | PRIORITY ROAD           |                     | MILES | NO. OF PROPOSED BRIDGES | INITIAL SELECTION |
|----------------|-------------------------|---------------------|-------|-------------------------|-------------------|
|                | From                    | To                  |       |                         |                   |
| 2. Baniachang  | 1. Baniachang           | Habiganj *          | 12    | 5                       | No                |
|                | 2. Baniachang           | Zingrinadi          | 4     | 3                       | No                |
|                | 3. Baniachang           | Omarpur             | 5     | 2                       | No                |
|                | 4. Hazrepura            | Adarbari            | 3½    | -                       | No                |
| 3. Lakhai      | 1. Lakhai<br>Thamerhati | Bekiteka **         | 10½   | 12                      | No                |
|                | 2. Bullabazar           | Gunipur             | 6     | 2                       | No                |
|                | 3. Modnabazar           | Bhomapur            | 7     | 8                       | No                |
|                | 4. Kaliadara<br>Bridge  | Bhorakhal           | 7     | 3                       | No                |
| 4. Madhabpur   | 1. Madhabpur            | Kashimnagar         | 7     | 4                       | Yes               |
|                | 2. Andiura              | Patuali             | 6     | 3                       | No                |
|                | 3. Chatianbazar         | Chatian Rly Station | 2¼    | 3                       | No                |
|                | 4. Madhabpur            | Kabilpur            | 2     | 1                       | No                |
| 5. Chunarughat | 1. Chunarughat          | Balla               | 10    | 1                       | Yes               |
|                | 2. C & B Road           | Chandbhanga         | 1¼    | -                       | No                |
|                | 3. Chunarughat          | Paikpara            | 4     | 2                       | No                |
|                | 4. Shaistaganj          | Dewandi             | 6     | 3                       | No                |

## SUB: HABIGANJ

| THANA       | PRICRITY ROADS         |                    | MILES | NO.OF PROPOSED BRIDGES | INITIAL SELECTION |
|-------------|------------------------|--------------------|-------|------------------------|-------------------|
|             | From                   | To                 |       |                        |                   |
| 6. HABIGANJ | 1. Laskarpur Rly.Gate- | Duliakhal          | 9     | 2                      | No,               |
|             | 2. Court Station       | Bekiteka           | 7     | 5                      | No                |
|             | 3. Shahajibazar        | Shankarpasha       | 6     | 2                      | No                |
|             | 4. Machlia Ferry Ghat  | Poila(Sult tanshi) | 4     | 4                      | No                |
| 7. Bahubal  | 1. Putijuri            | Khagawra           | 8     | -                      | Yes               |
|             | 2. Chalitatola         | Baktarpur          | 6     | -                      | No                |
|             | 3. Jangali             | Tarapasha          | 5     | -                      | No                |
|             | 4. Mirpur              | Khilbamani         | 5     | -                      | No                |
| 8. Nabiganj | 1. Nabiganj            | Habiganj **        | 16    | 8                      | No                |
|             | 2. Nabiganj            | Baniachang **      | 10    | 10                     | No                |
|             | 3. Nabiganj            | Inathganj          | 8     | 4                      | No                |
|             | 4. Nabiganj            | Rudragram          | 8     | 8                      | No                |

For low-lying roads, the accepted construction practice is to construct the embankments above flood level plus wave height, plus protect the embankment with a large stone blanket. Preliminary costs were developed for a 16 foot high embankment with a 23 foot crest and stone embankment protection using 1978 Roads and Highway Directorate unit prices and the total was 485,000 per mile. This figure did not include any sums for pavement.

Unfortunately, as the result of the enormous cost, roads in the haer area were excluded from project consideration.

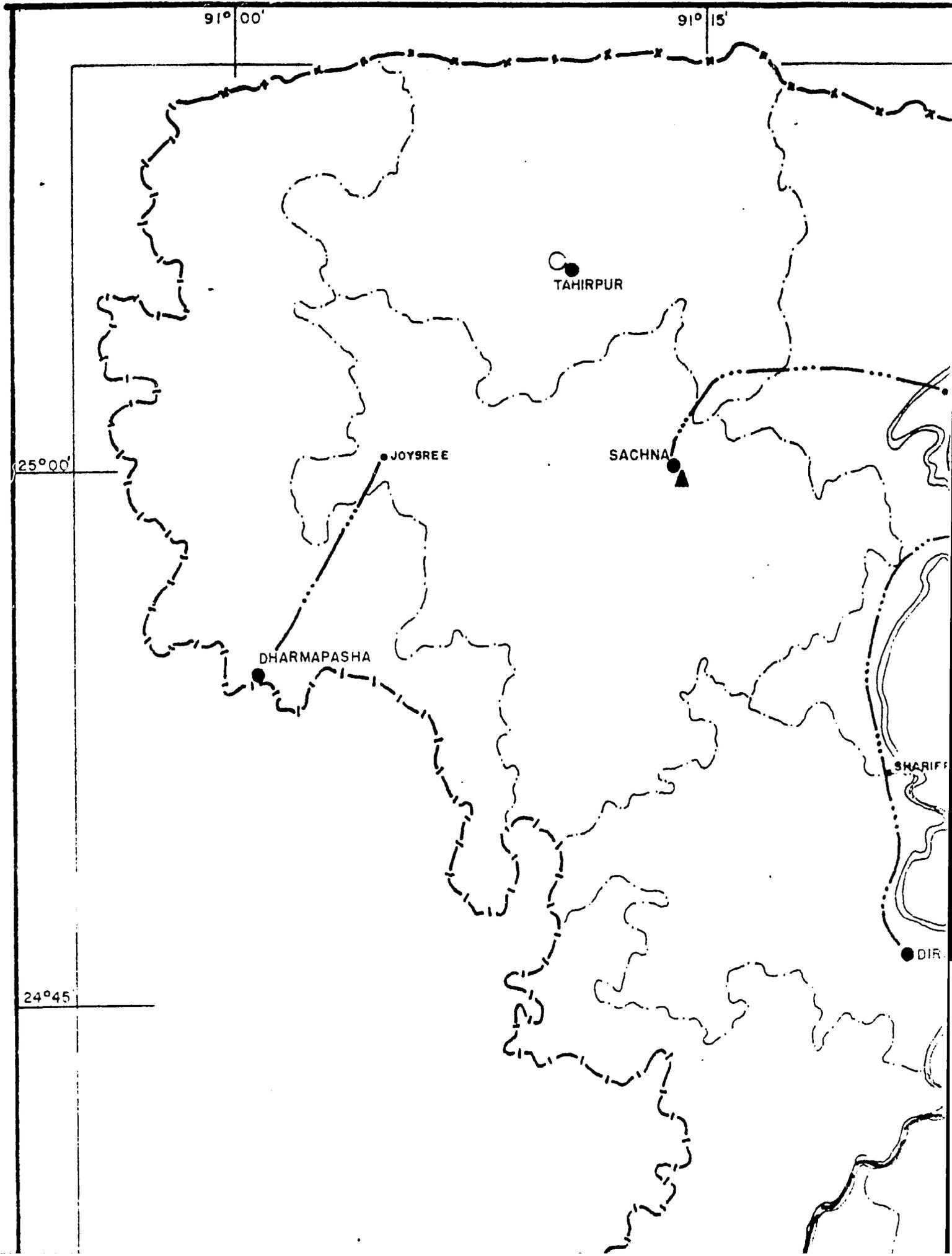
The remaining nominated roads were screened using four criteria which are outlined below:

1. Dual Nomination
2. Parallel Roads
3. Nonconnecting Roads
4. Economic or Social Benefit

After the initial screening of all nominated roads and the adjustment of the road network, the mileage for the preliminary network was reduced to 198 miles. These roads are shown on the map in Figure 8 and listed in Table 35.

#### E. Priority Road Ranking

For ranking the screened roads the consultant devised a system that consisted the identifying and weighting selected benefit factors for each road and then comparing them to the estimated per mile cost for each road. This gives an artificial benefit/cost ratio that can easily be ranked, road by road. It should be stressed that this ratio does not give a true benefit/cost ratio and does not indicate feasibility.



91° 15'

91° 30'

●  
SHERPUR

SURMA R.

●  
SUNAMGANJ

○  
DWARABAZAR

▲  
CHHATAK

▲  
SACHNA

●  
QZAKHALI

●  
JOYKALASH

○  
PAGLA

SHARIFFPUR

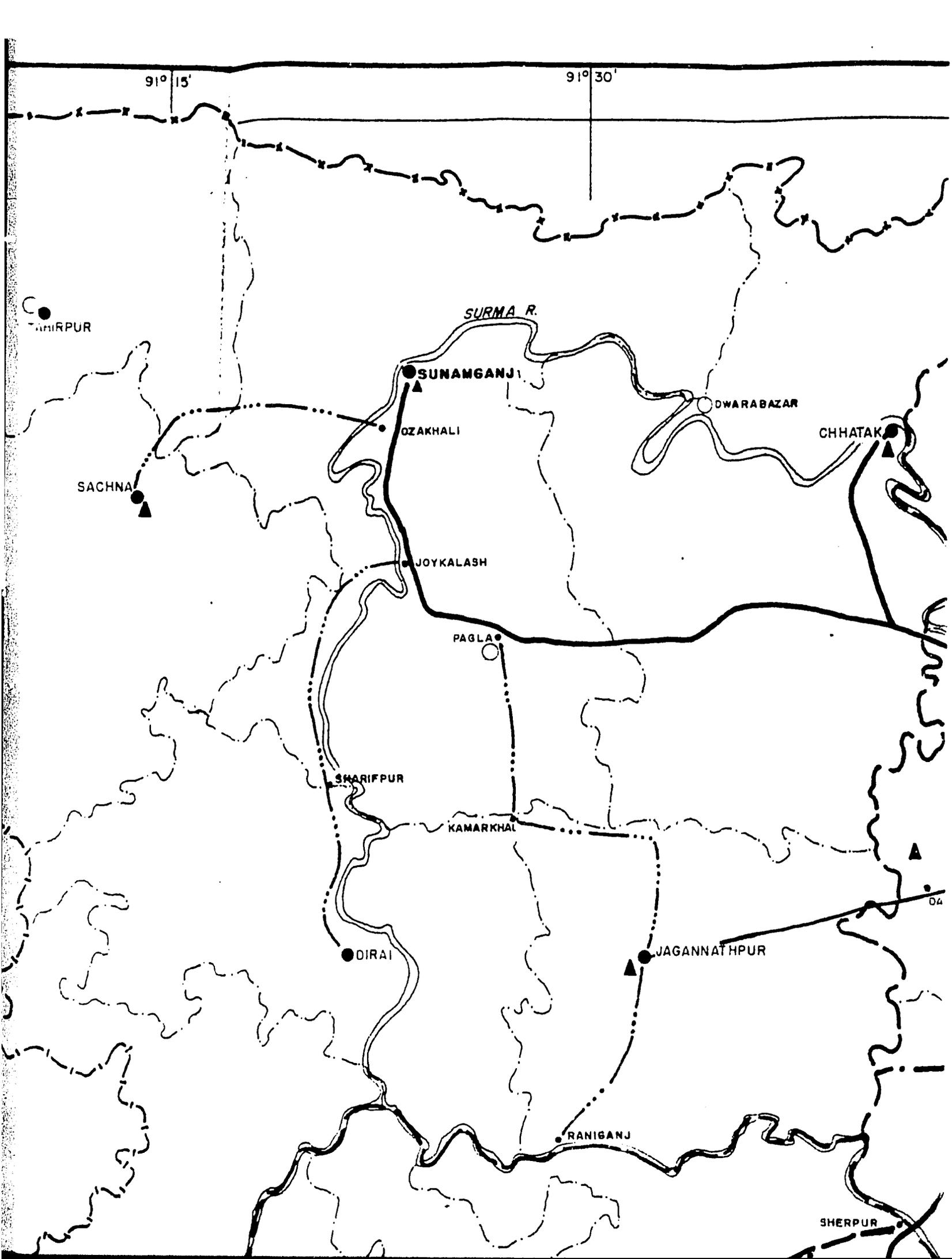
KAMARKHAL

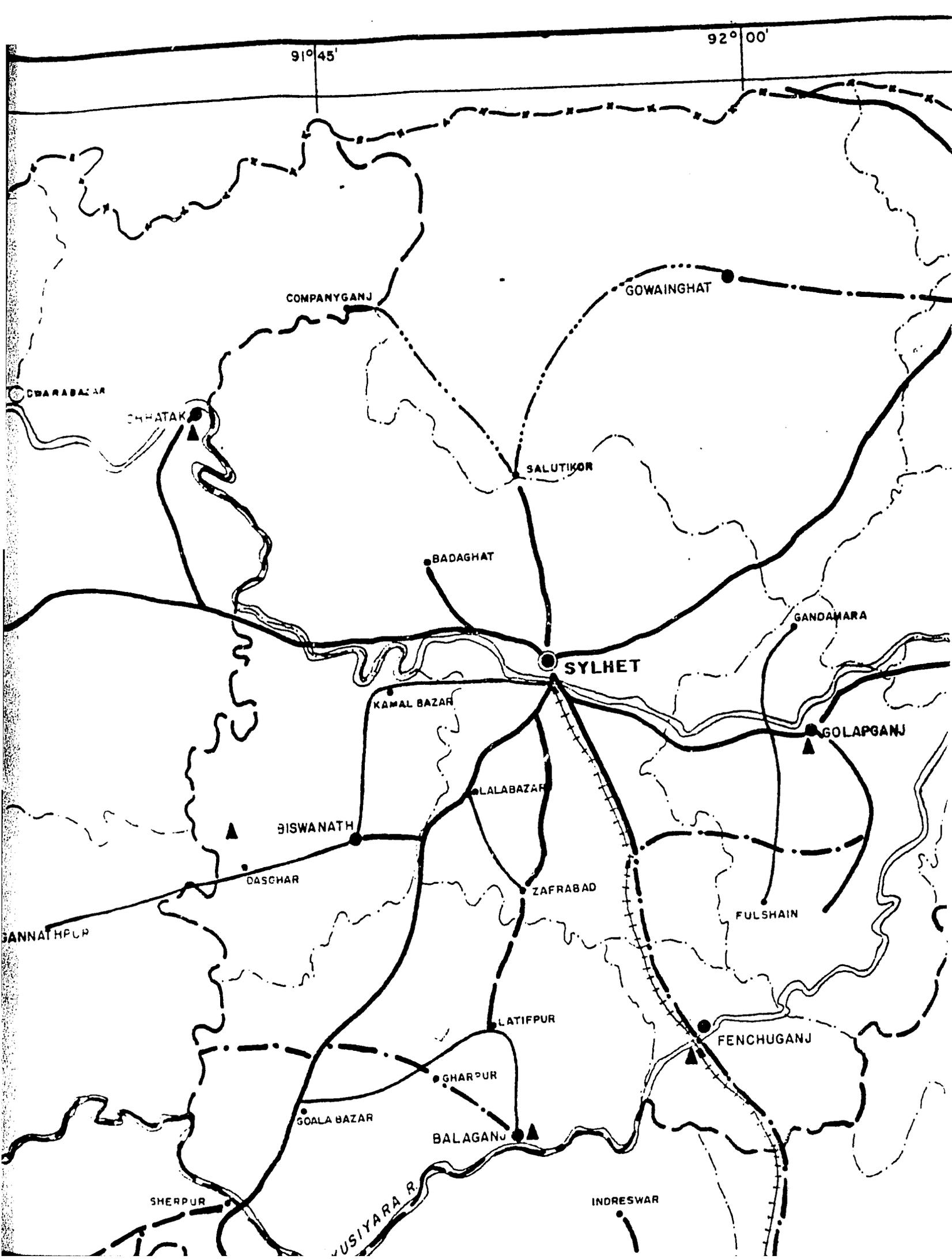
●  
DIRAI

▲  
JAGANNATHPUR

●  
RANIGANJ

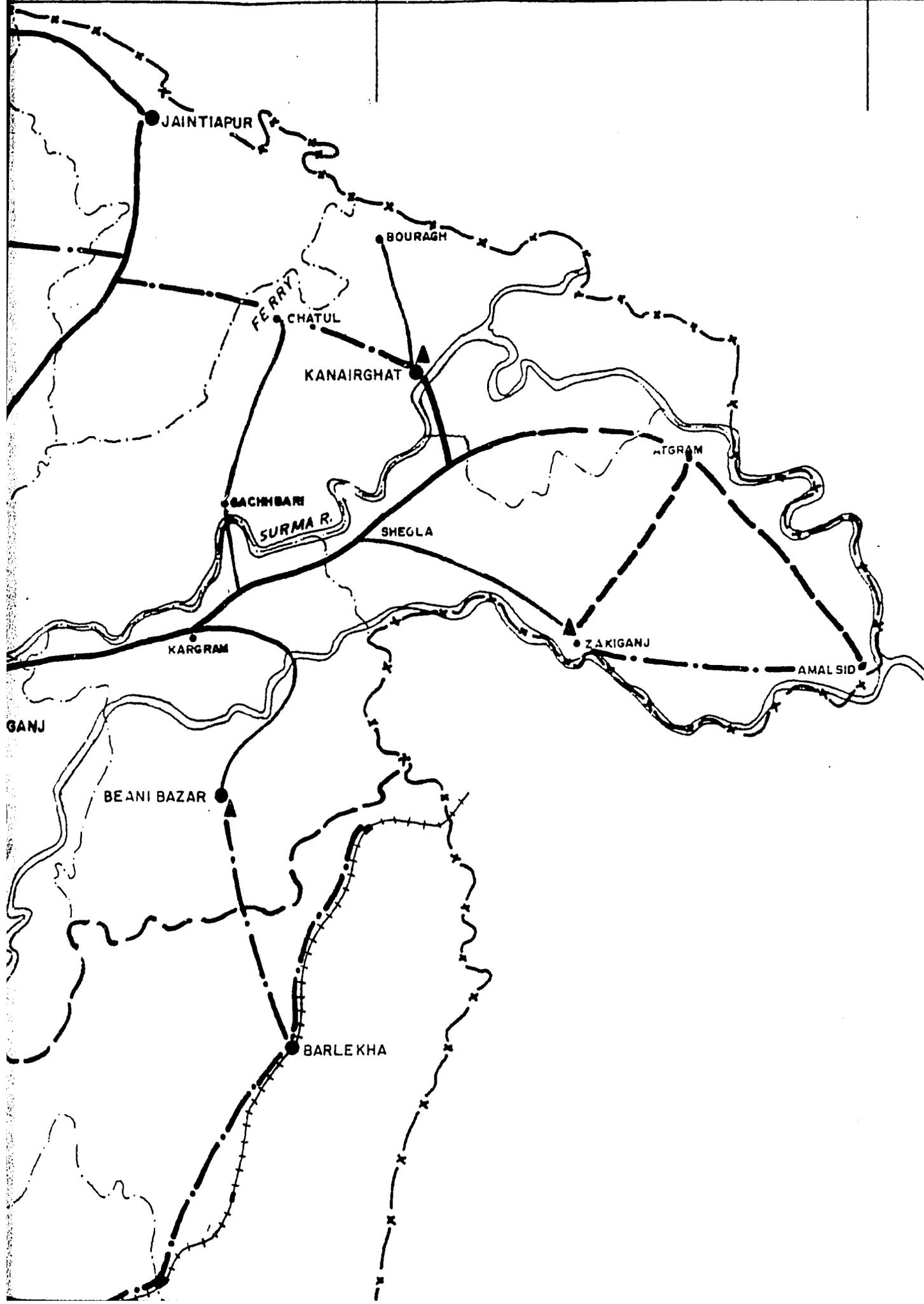
SHERPUR





92° 15'

92° 30'

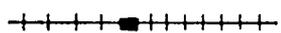


# DIST. SYLHET

25°00'

24°45'

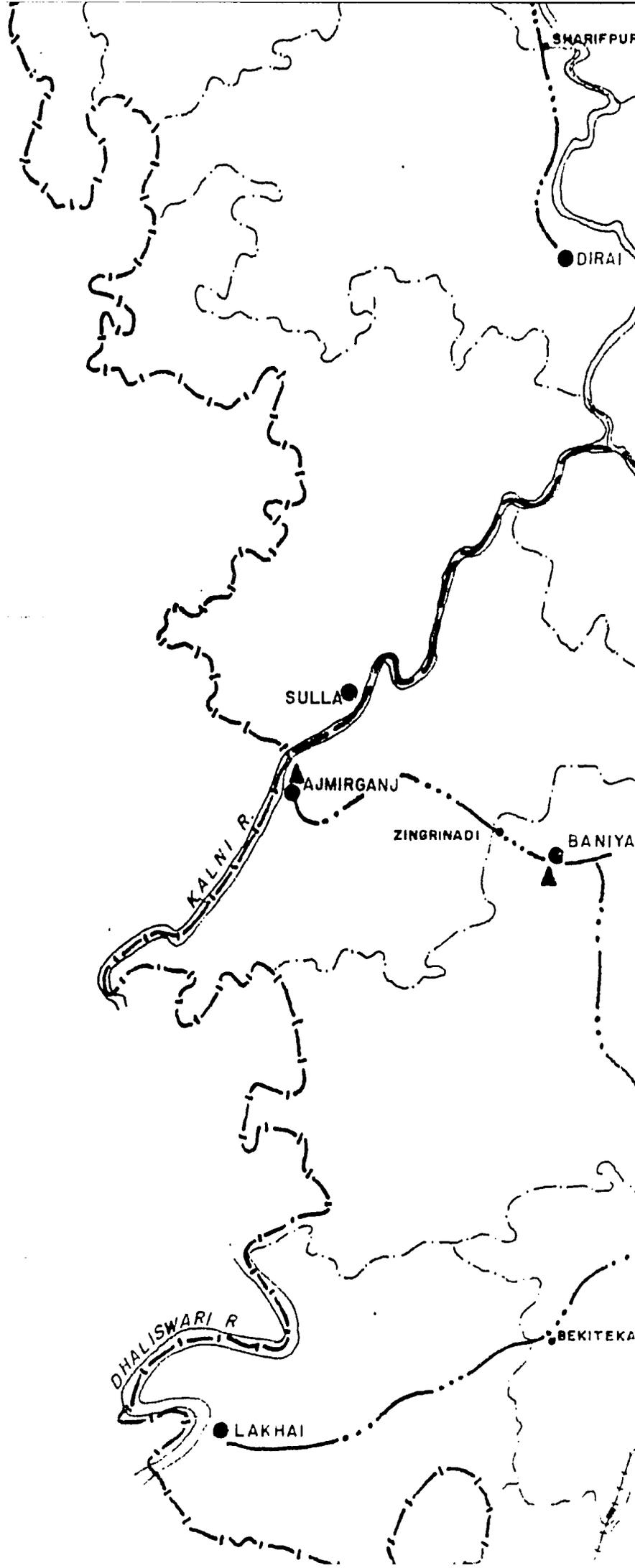
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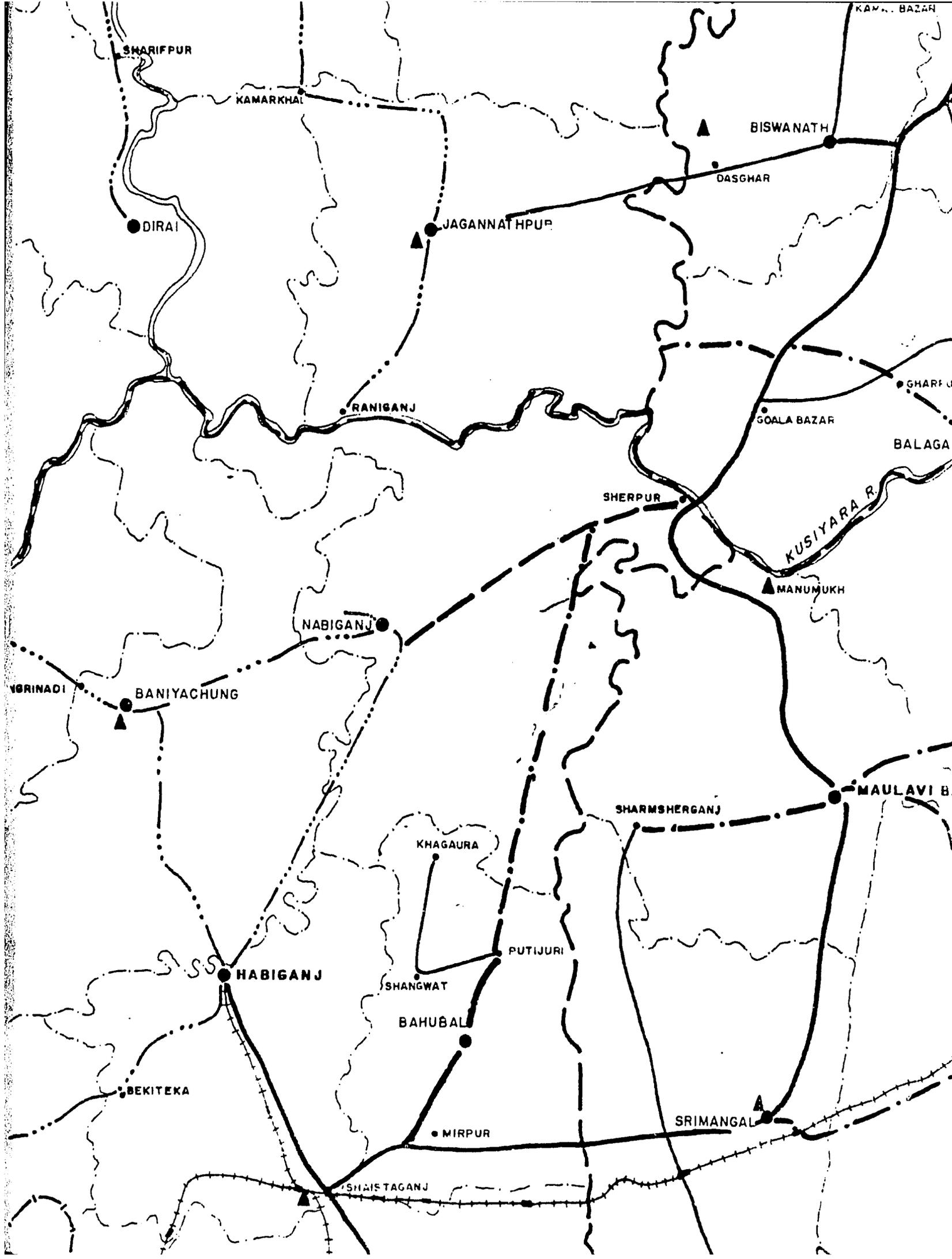
- |                          |     |     |   |
|--------------------------|-----|-----|---|
| Roads (R & H) Paved      | ... | ... |   |
| Rail Roads               | ... | ... |   |
| Water ways               | ... | ... |   |
| Major Airport            | ... | ... |  |
| Prim Market (A)          | ... | ... |  |
| Sec. Market (B)          | ... | ... |  |
| Proposed Roads (R & H)   | ... | ... |   |
| Preliminary Road Network | ... | ... |   |

24°45'

24°30'

24°15'





SHARIFPUR

KAMARKHAL

BISWANATH

DASGHAR

DIRAI

JAGANNATHPUR

RANIGANJ

GOALA BAZAR

BALAGA

SHERPUR

KUSIARA R.

MANUMUKH

NABIGANJ

BANIYACHUNG

GRINADI

SHARMSHEGANJ

MAULAVI B

KHAGAURA

PUTIJURI

HABIGANJ

SHANGWAT

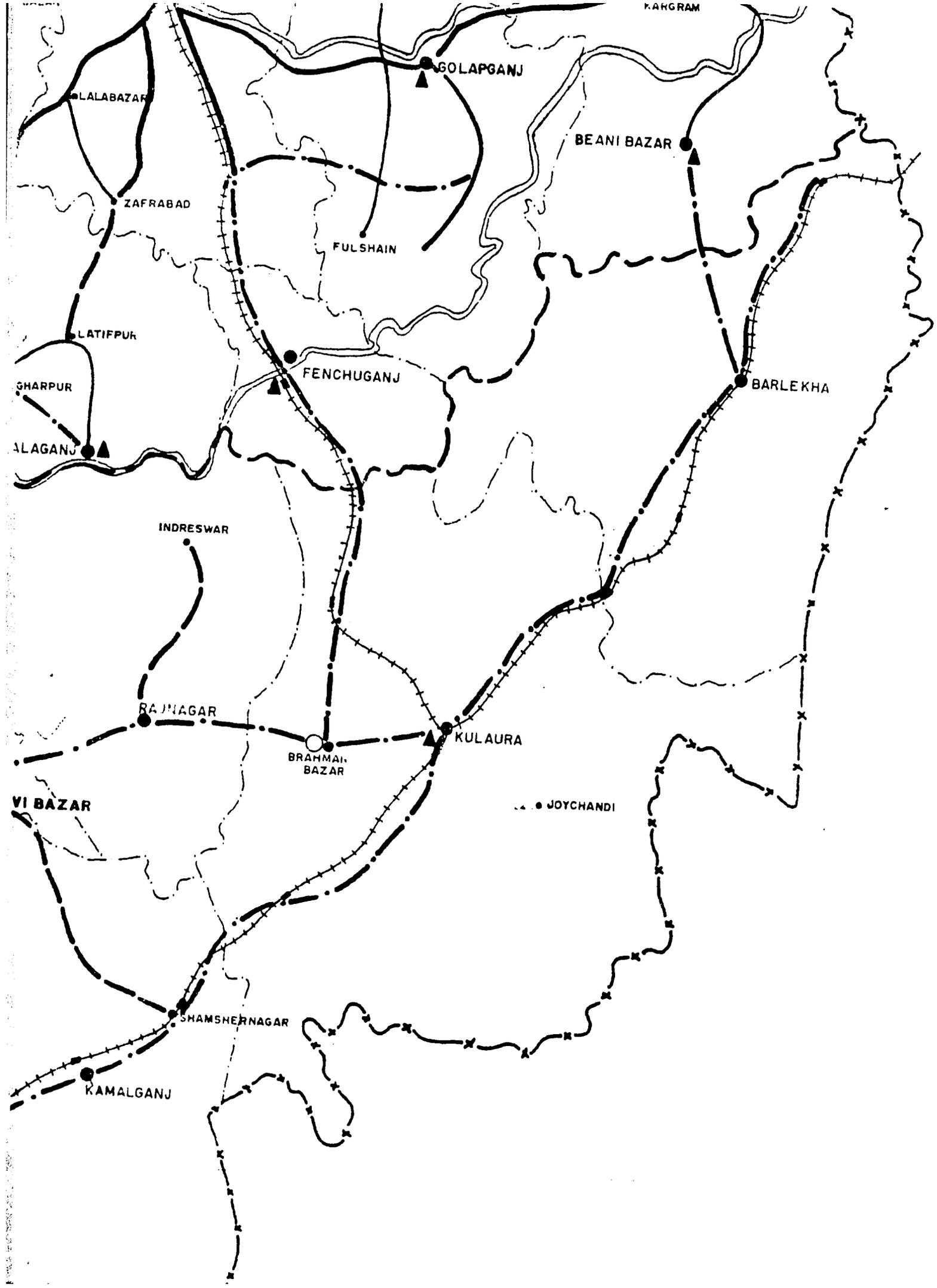
BAHUBAL

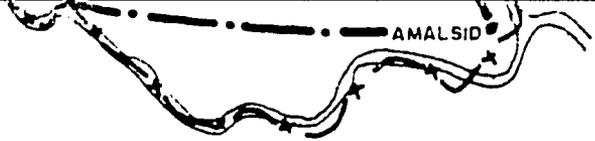
MIRPUR

SRIRANGAL

BEKITEKA

SHRISHTAGANJ





24°45'

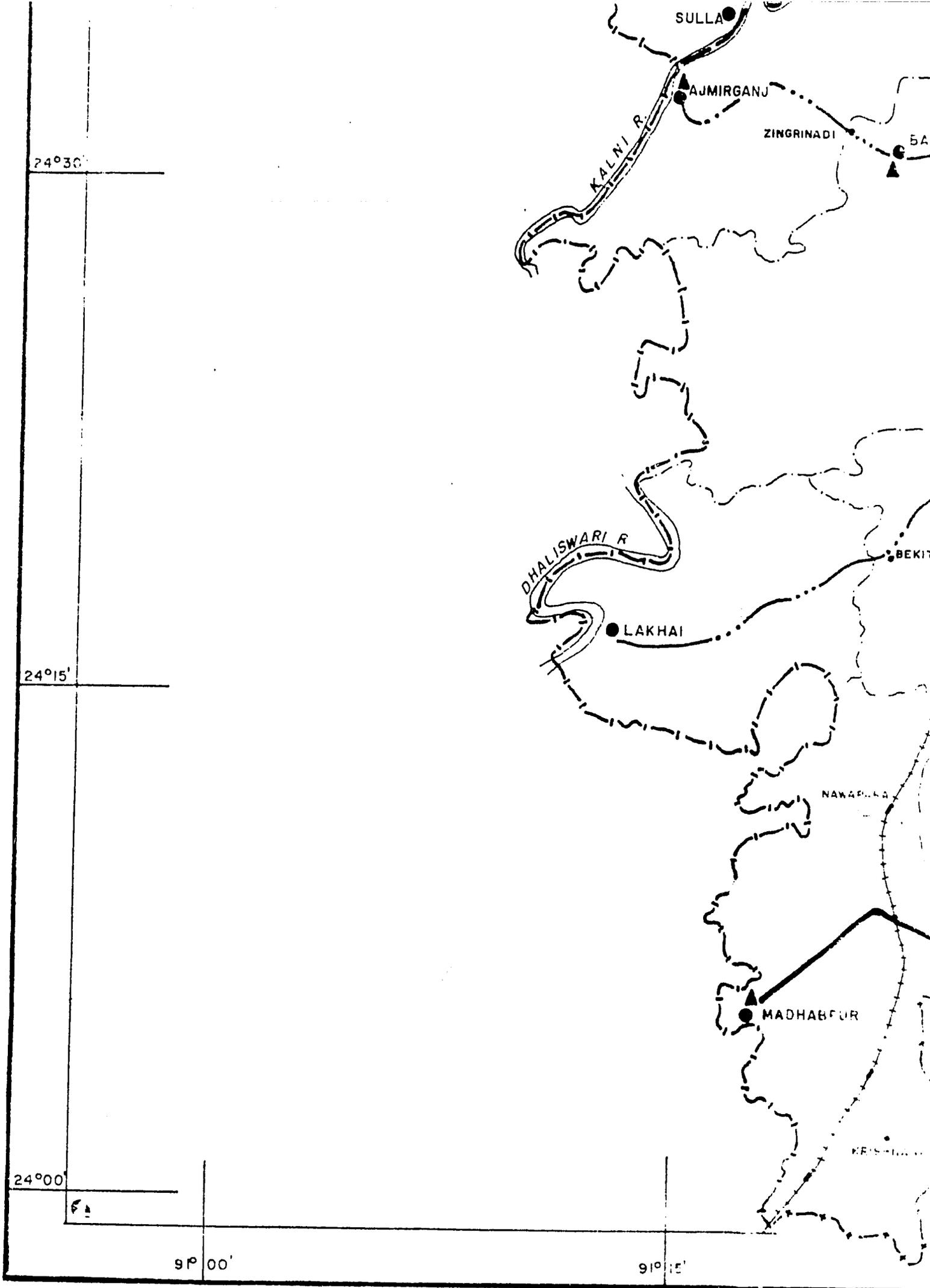
LEGEND

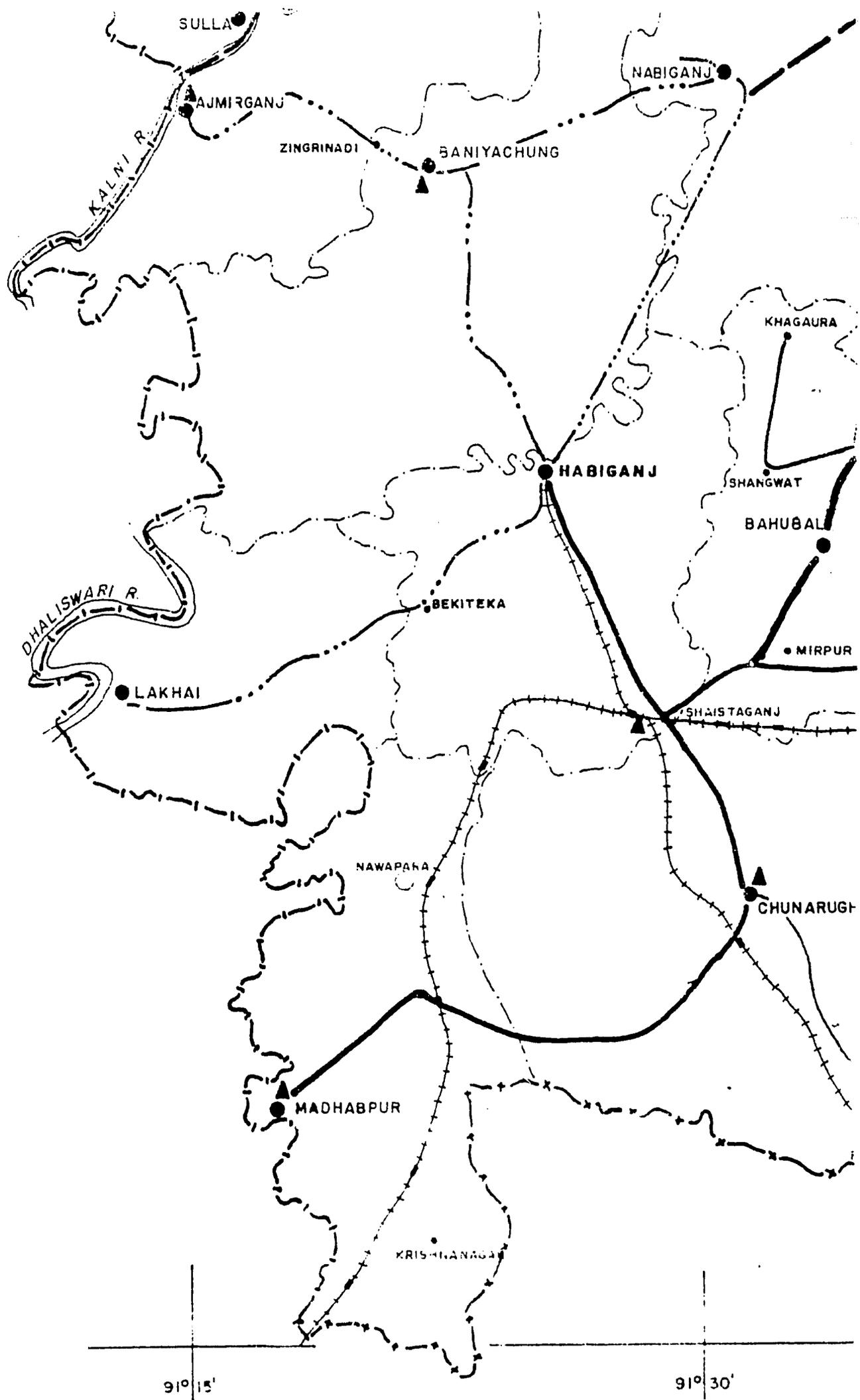
- Roads (P & H) Paved
- Rail Roads
- Water ways
- Major Airport
- Prim Market (A)
- Sec. Market (B)
- Proposed Roads (K & H)
- Preliminary Road Network
- Roads in Haar Area
- All weather Roads

24°30'

24°15'







91° 15'

91° 30'

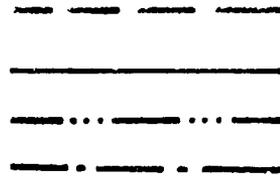




Preliminary Road Network

Roads in Hear Area

All weather Roads



24°30'

24°15'

SCALE : 1 Inch = 4 Miles



GOVERNMENT OF  
THE PEOPLE'S REPUBLIC OF BANGLADESH

**RURAL ROADS STUDY**

**SCREENED ROAD NETWORK**

LOUIS BERGER INTERNATIONAL INC. AND  
RAHMAN & ASSOCIATES LTD.

24°00'

PREPARED BY : Raihan, Zainal

RECOMMENDED :

CHECKED :

APPROVED :

DATE :

DRG. NO.

Because many proposed roads are dependent upon the construction of other proposed roads, some additions and deletions of road segments were made. These adjustments were necessary to ensure accessibility and present an integrated rural road network.

F. Data Problems

All of the basic data used in estimating costs and benefits for the road ranking system were supplied by district and thana officials. For some thanas the economic, agricultural and engineering data received by the consultant were either not carefully prepared or incomplete. In many instances data were available from alternate sources but in others they were not and unfortunately this adversely affected the priority ranking of individual roads.

X. RECOMMENDED ROAD NETWORK

A. Network

As shown on the map in Figure 9 the rural road network recommended for Sylhet District consists of 17 roads totalling approximately 169 miles. Ten of the recommended roads are Class IV roads with a total length of 95 miles. The other eleven roads, totalling 76 miles, are Class V roads. The total estimated network cost is \$17.7 million, an average of \$ 105 thousand per mile.

The roads and mileage are divided among the subdivisions as shown in Table 36.

TABLE 36  
SYLHET: ROADS BY SUBDIVISION

| Subdivision  | Class | No. of Roads | Total Mileage |
|--------------|-------|--------------|---------------|
| Sylhet Sadar | IV    | 9            | 85            |
|              | V     | 4            | 38            |
| Total:       |       | 13           | 123           |
| Moulvi Bazar | IV    | 1            | 10            |
|              | V     | 1            | 18            |
| Total:       |       | 2            | 28            |
| Habiganj     | IV    | Nil          | Nil           |
|              | V     | 2            | 18            |
| Total:       |       | 2            | 18            |
| Sunamganj    | Nil   | Nil          | Nil           |

91° 00'

91° 15'

25° 00'

TAHIRPUR

JOYSREE

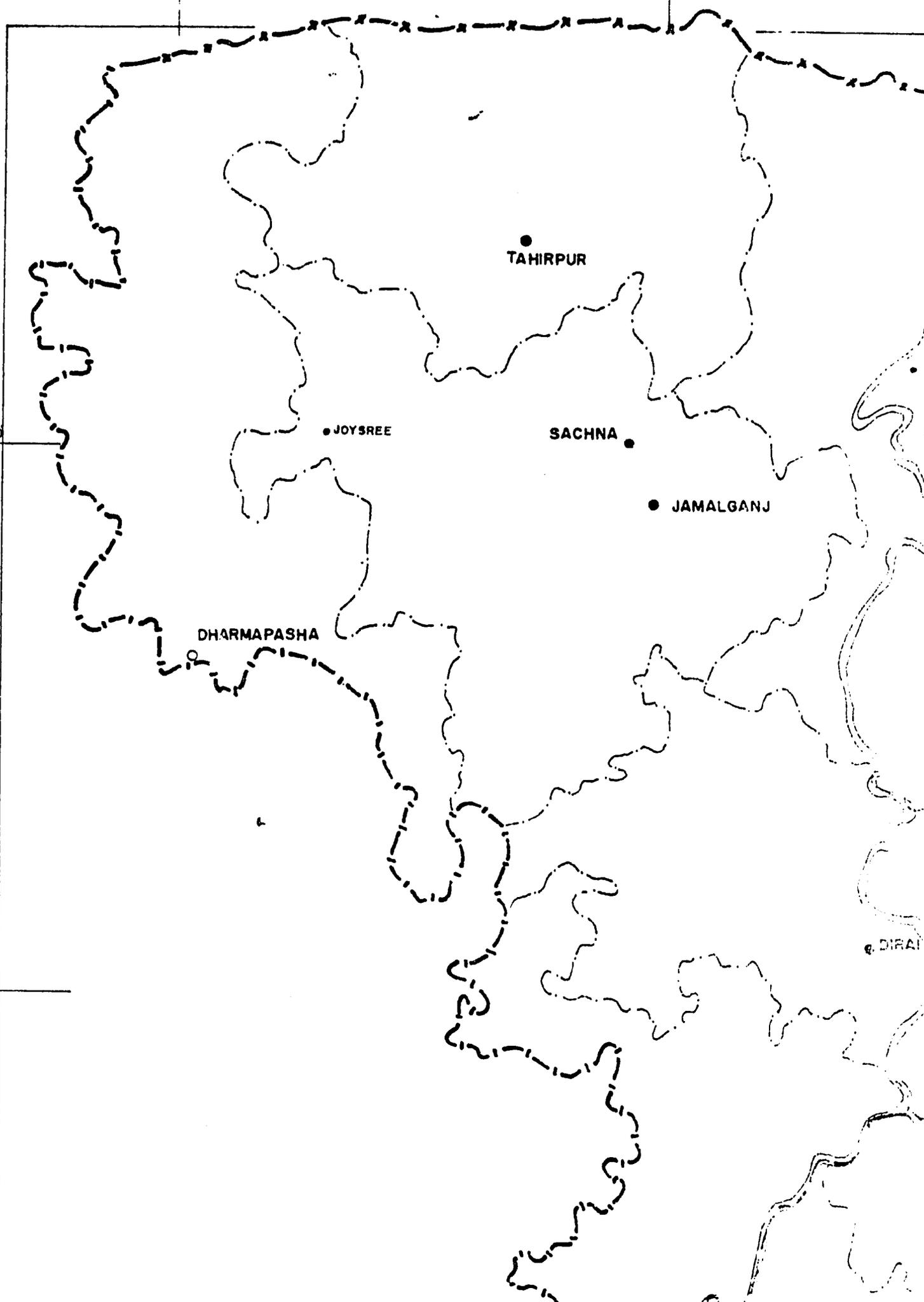
SACHNA

JAMALGANJ

DHARMAPASHA

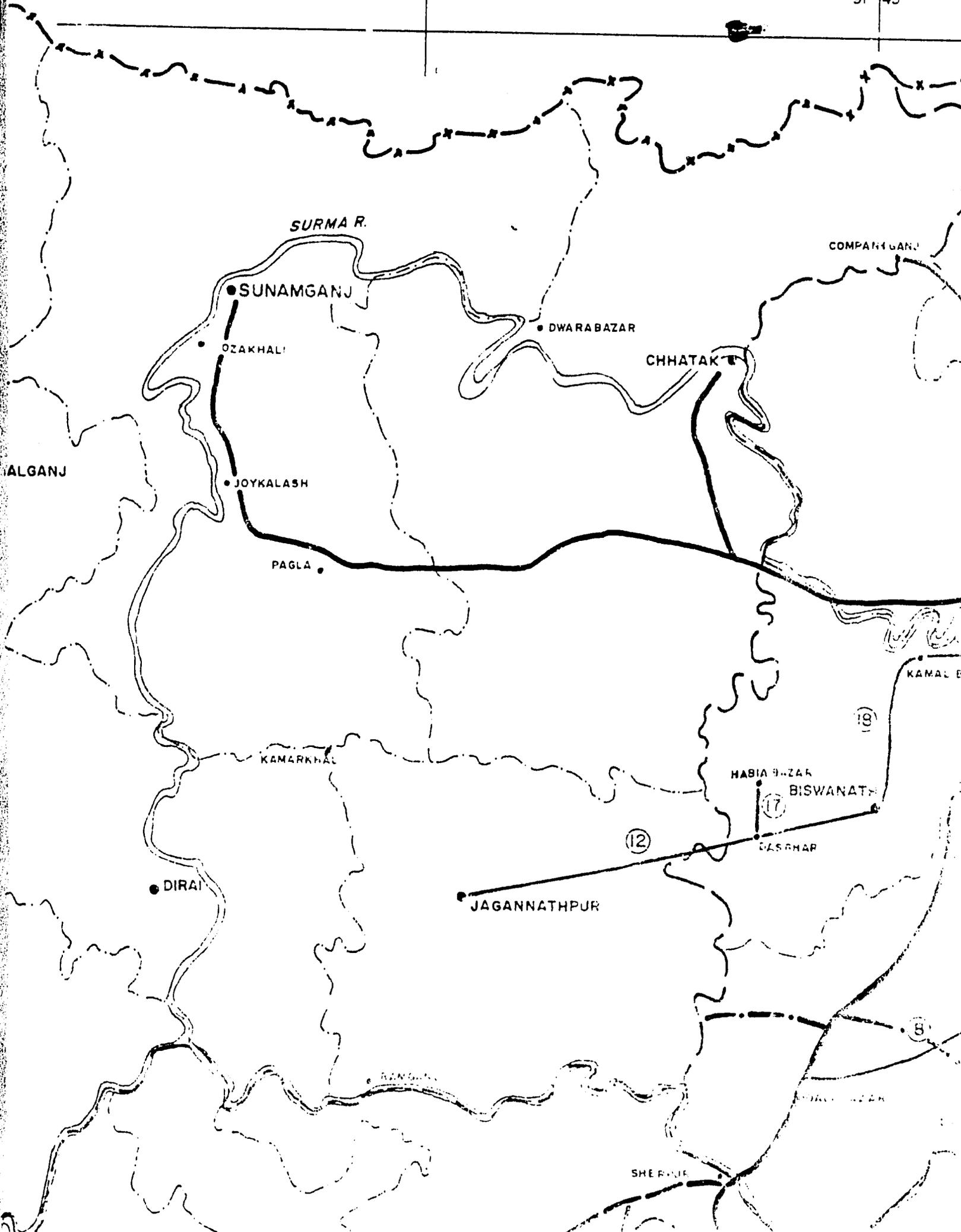
24° 45'

DIRAI



91° 30'

91° 45'



SURMA R.

SUNAMGANJ

OZAKHALI

JOYKALASH

PAGLA

DWARABAZAR

CHHATAK

COMPANIGANJ

ALGANJ

KAMARKHAL

DIRAI

JAGANNATHPUR

HABIA BAZAR

BISWANATH

WASHPAR

KAMAL B.

12

17

18

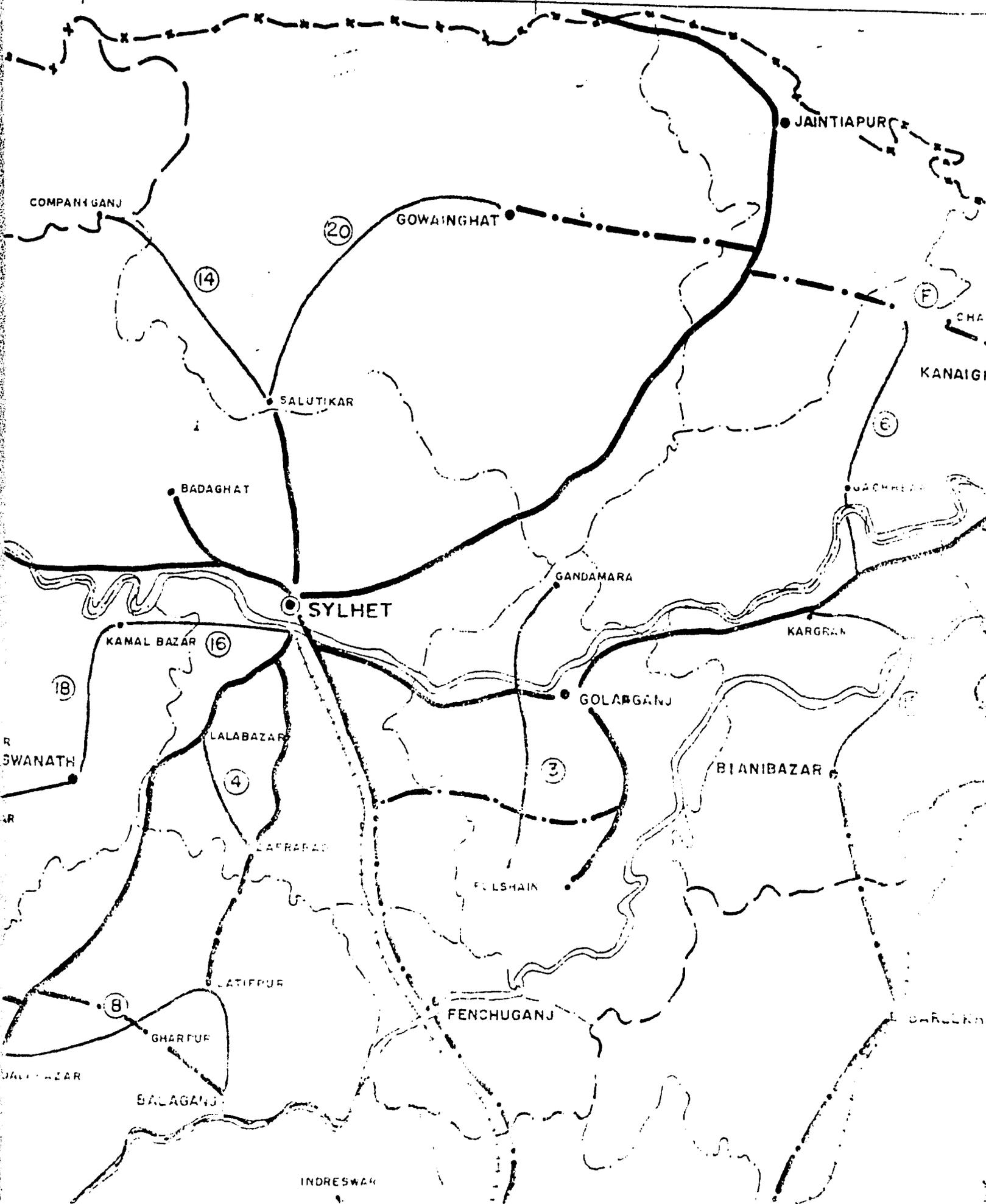
8

SHEPHE

91° 45'

92° 00'

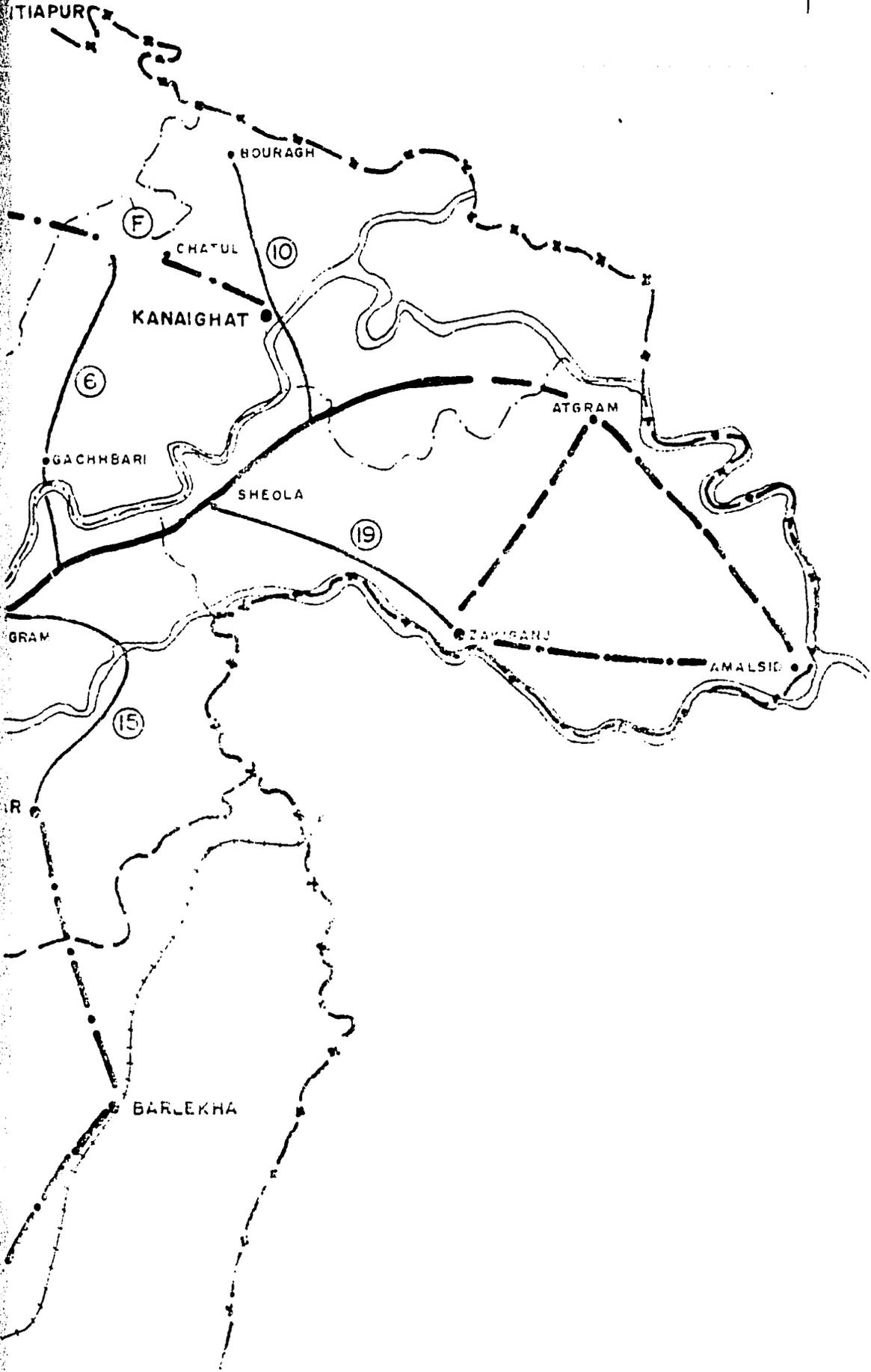
30



92° 15'

92° 30'

25° 00'



TIAPUR

HOURAGH

(F)

CHATUL

(10)

KANAIGHAT

(6)

GACHHBARI

SHEOLA

(19)

ATGRAM

GRAM

(15)

ZAVIGANJ

AMALSID

R

BARLEKHA

# DIST. SYLHET

25°-00'

24° 45'

## LEGEND

ROADS (R & H)



ALL WEATHER ROADS



PROPOSED ROADS (R & H)



RECOMMENDED ROAD NETWORK



MOTORIZED FERRY



RAIL ROADS



WATER WAYS



MAJOR AIRPORT



DHARMAPASHA

24°45'

DIRAI

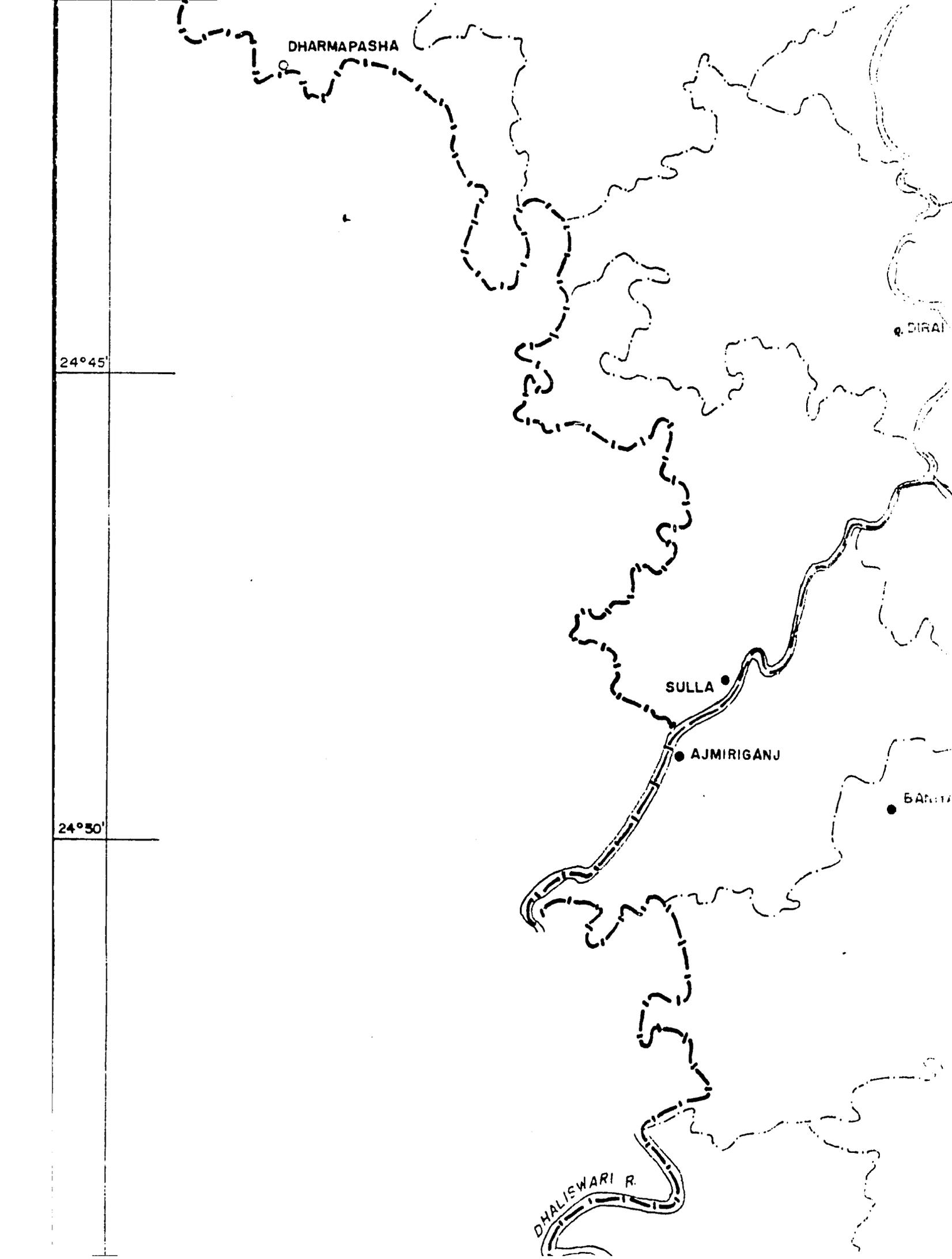
SULLA

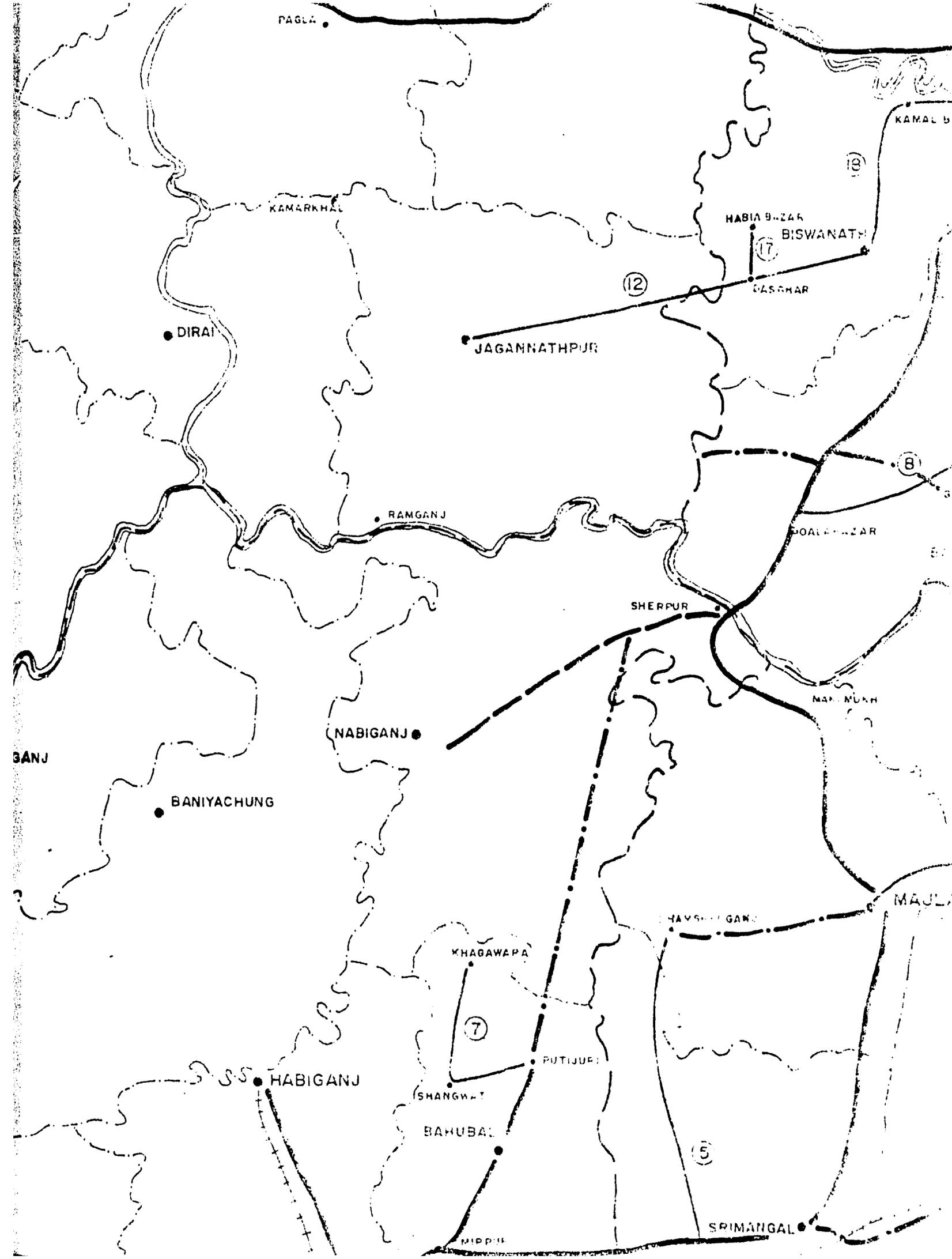
AJMIRIGANJ

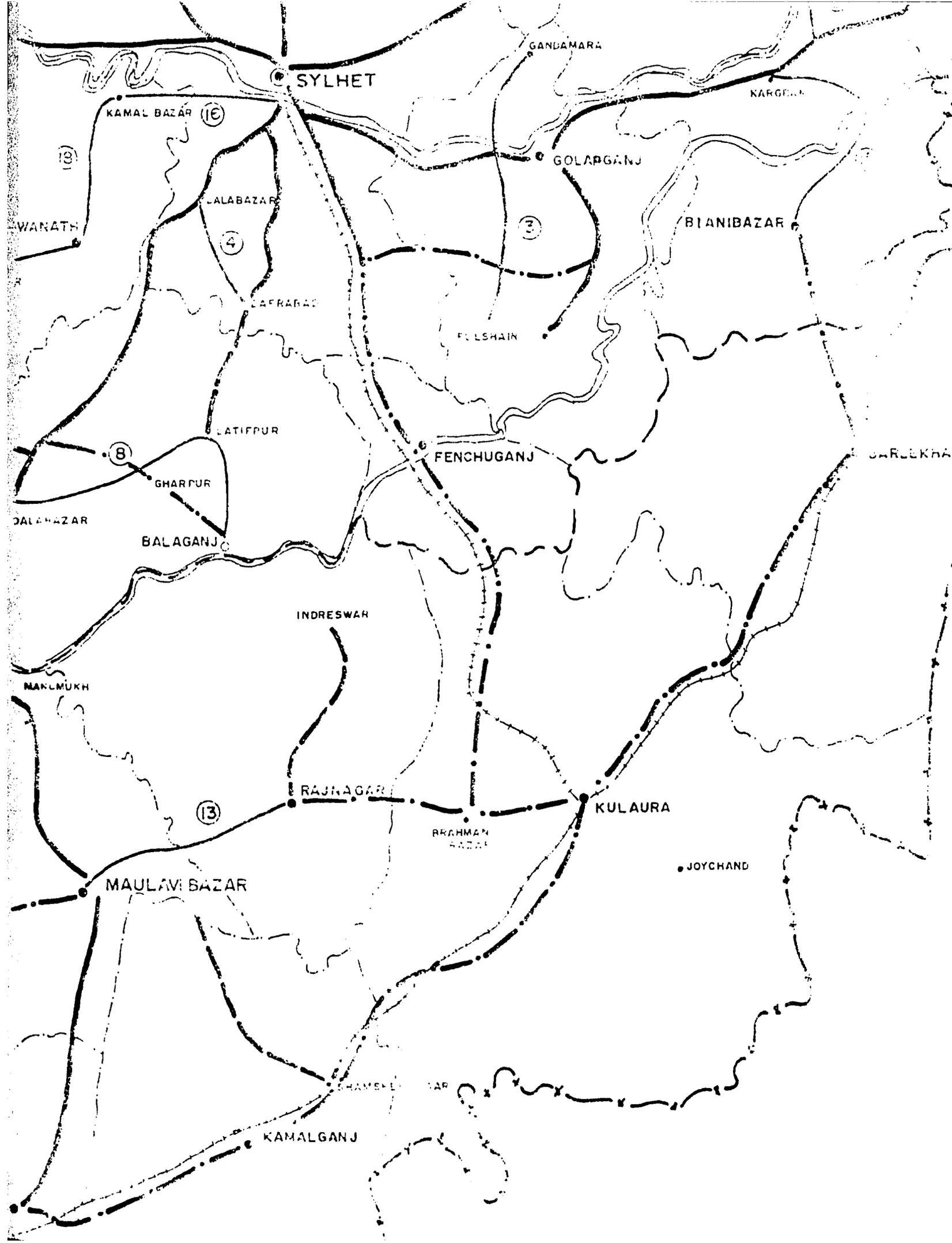
BAN...

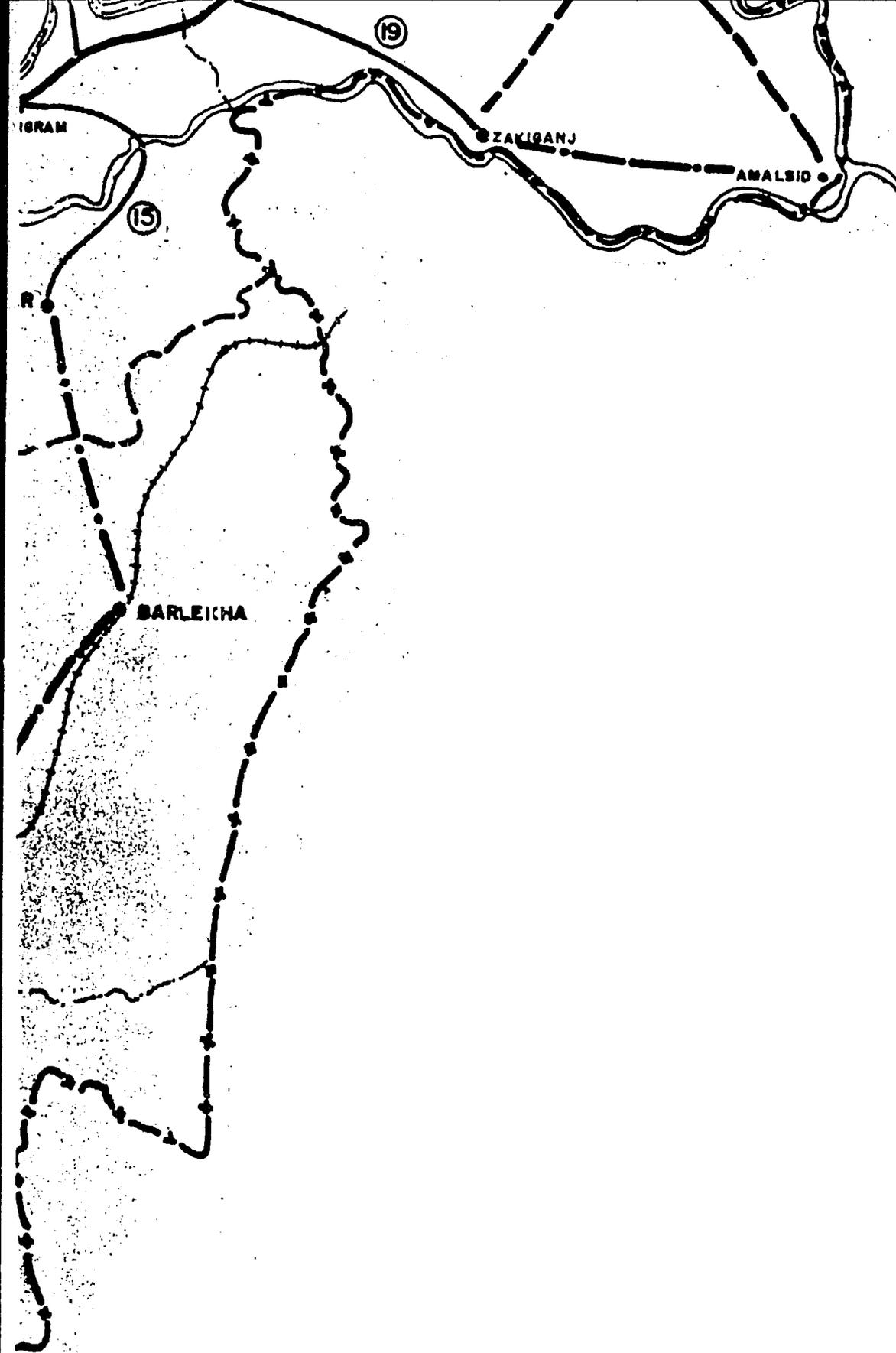
24°50'

DHALISWARI R.









24° 45'

24° 30'

24° 45'

**LEGEND**

ROADS (R & H)



ALL WEATHER ROADS



PROPOSED ROADS (R & H)



RECOMMENDED ROAD NETWORK



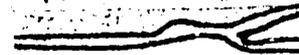
MOTORIZED FERRY



RAIL ROADS



WATER WAYS



MAJOR AIRPORT



24° 30'

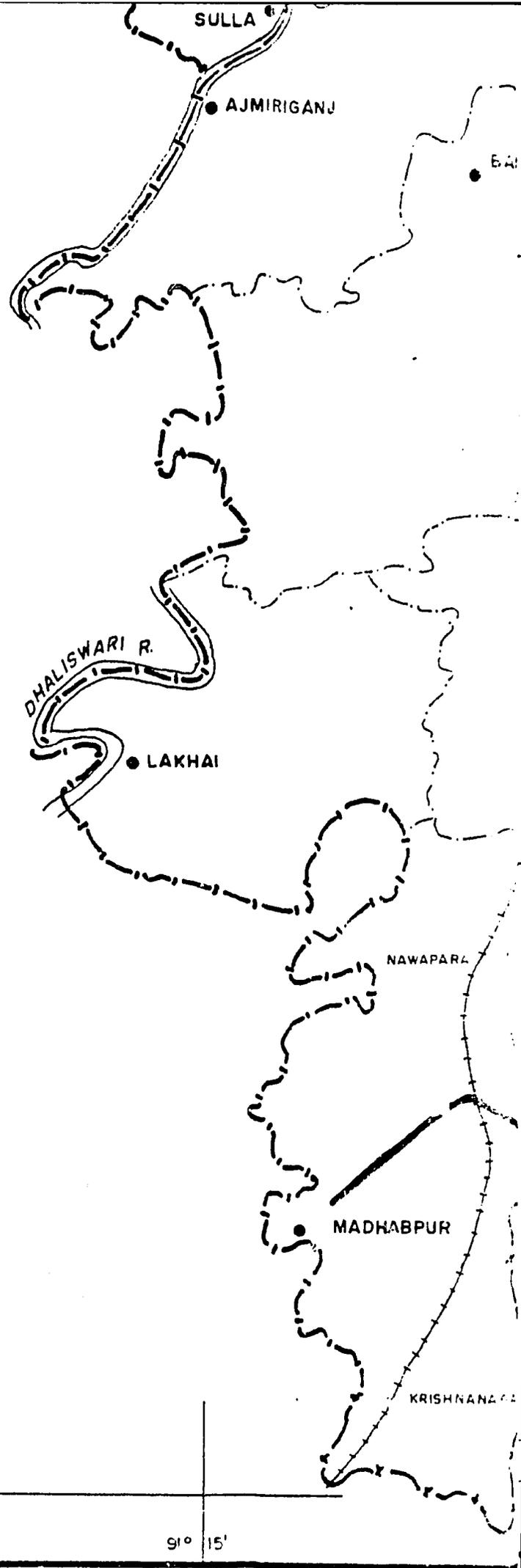
24°50'

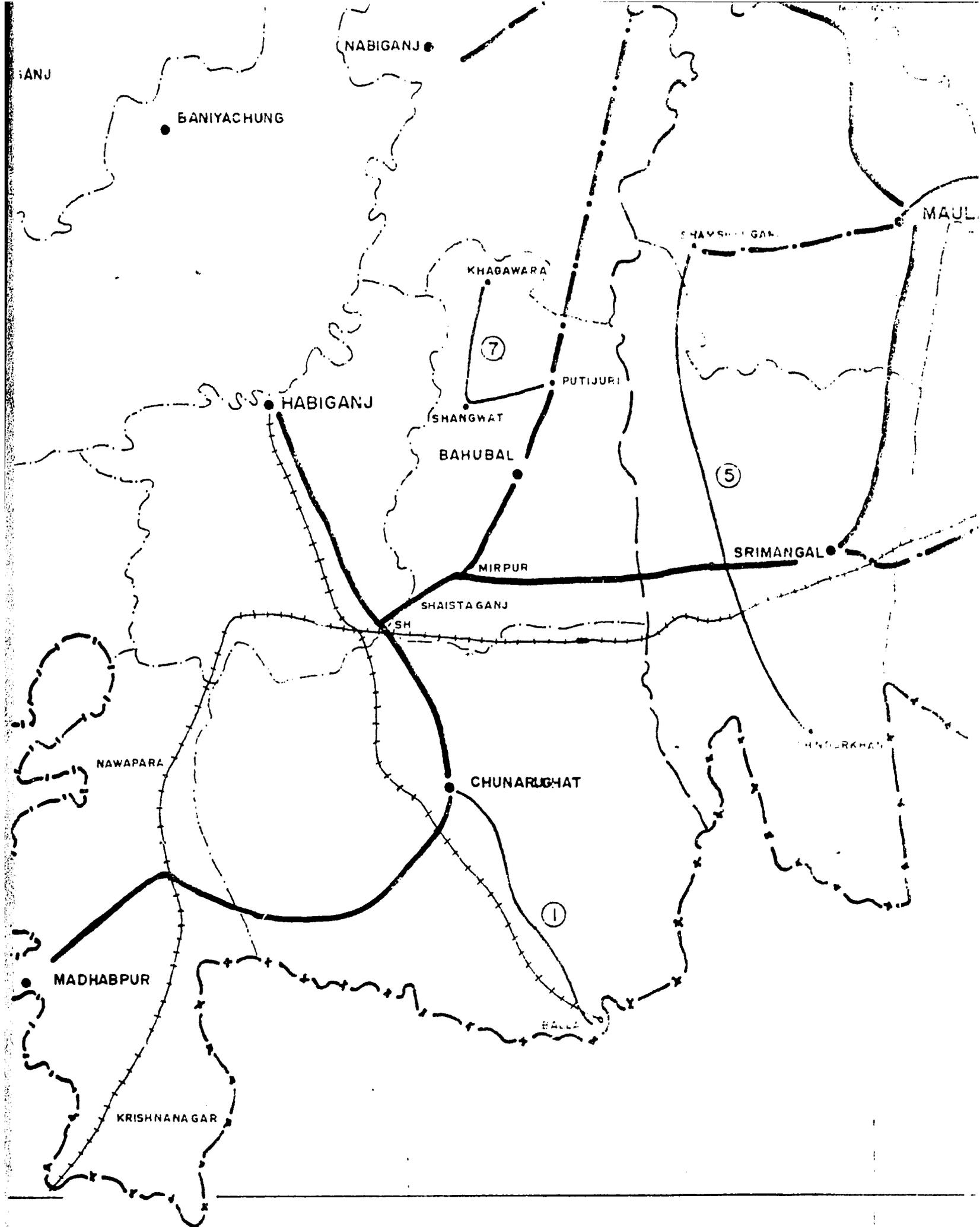
24°15'

24°00'

9° 00'

9° 15'





ANJ

BANIYACHUNG

NABIGANJ

MAUL

SHAMSHAGANJ

KHAGAWARA

⑦

PUTIJURI

HABIGANJ

SHANGWAT

BAHUBAL

⑤

SRIMANGAL

MIRPUR

SHAISTA GANJ

SH

MINERKHA

NAWAPARA

CHUNARUGHAT

①

MADHABPUR

KRISHNANAGAR

BALLA

24° 30'

24° 15'

SCALE 1 inch = 4 Miles



GOVERNMENT OF  
THE PEOPLE'S REPUBLIC OF BANGLADESH

RURAL ROADS STUDY

RECOMMENDED ROAD NETWORK

LOUIS BERGER INTERNATIONAL INC. AND  
RAHMAN & ASSOCIATES LTD.

24° 00'

PREPARED BY S. ISLAM

RECOMMENDED

*W. Ward*

CHECKED

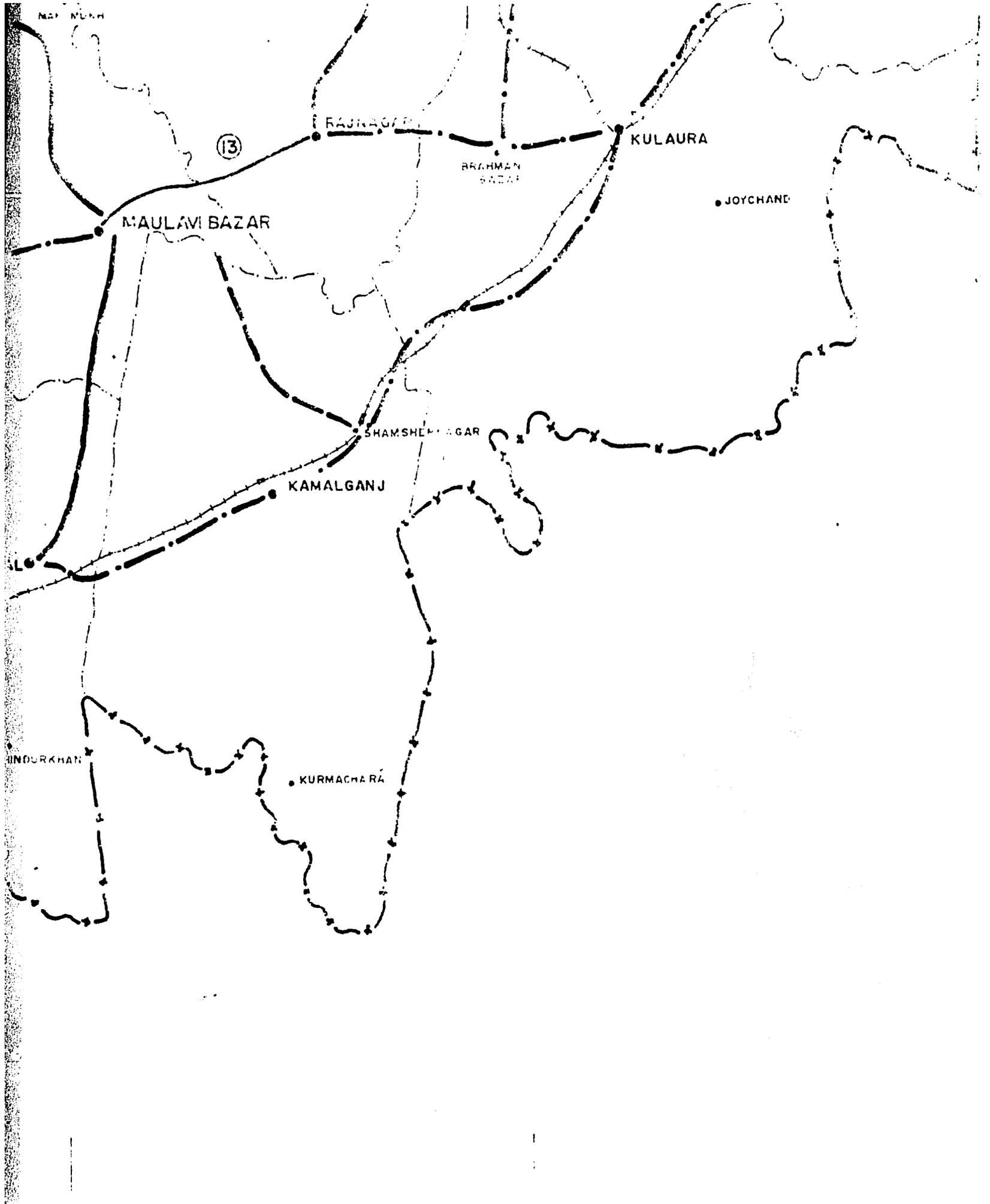
*Rahman*

APPROVED

*E. Prantia*

DATE 11.7.78

DRG, NO.



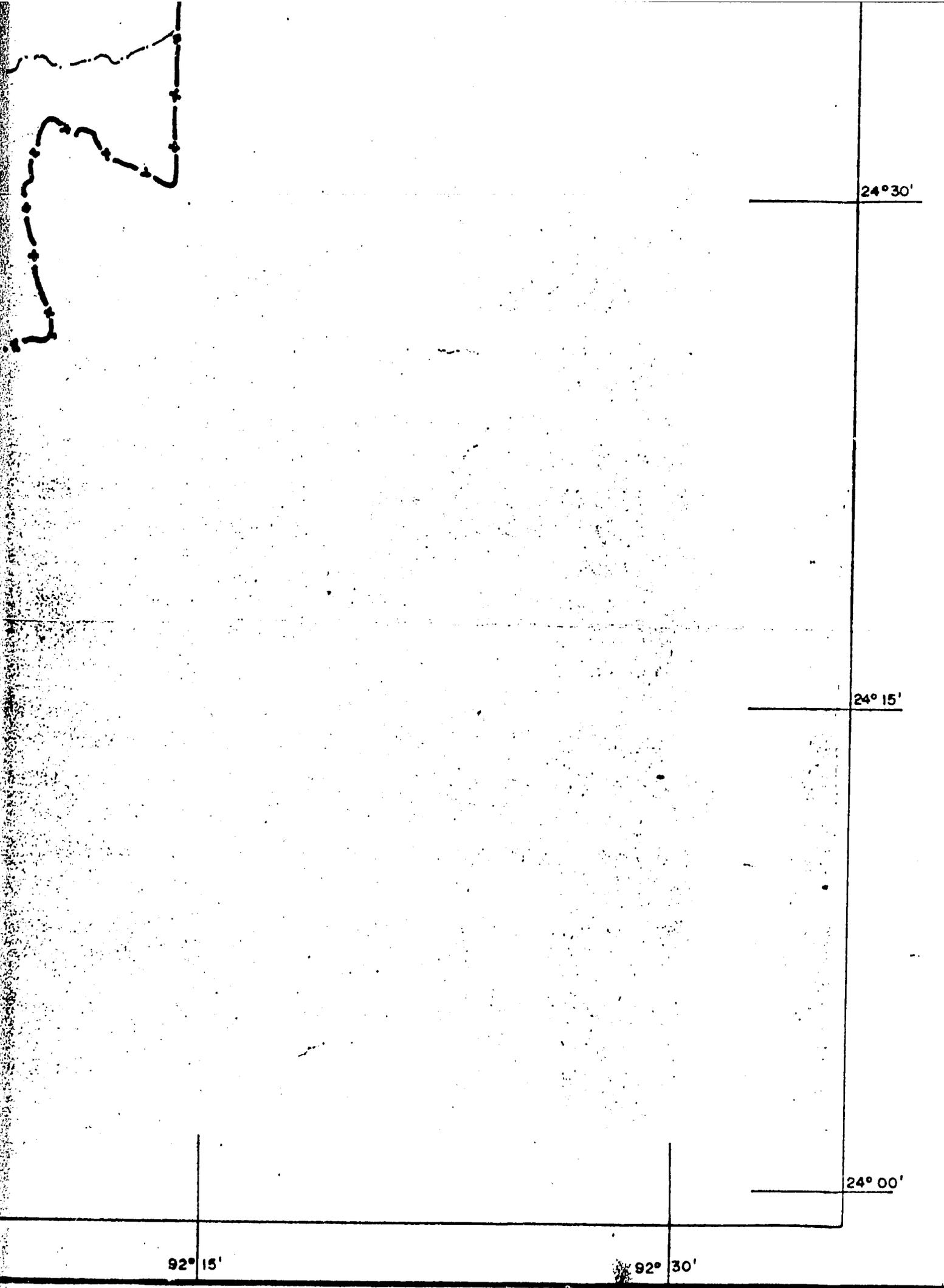
24° 30'

24° 15'

24° 00'

92° 15'

92° 30'



All roads in the hilly area of Sylhet were excluded from further consideration because of prohibitive costs and the need for more detailed hydrological studies. This eliminated from the study all road nominations for the thanas of Sunamganj Subdivision and four of the thanas from Habiganj Subdivision, even though these areas are among the most desperate in the nation for adequate transport.

In addition, three thanas (Kulaura, Kamalganj and Madhabpur) were excluded from the recommended network because rural roads are planned as part of the World Bank's Integrated Rural Development Program.

As a result, fifteen of Sylhet's 32 thanas have been excluded from this project. Among these are some of the most inaccessible and least developed thanas in Sylhet. The remaining thanas in the Subdivisions of Sylhet Sadar, Maulvi Bazar, and a portion of Habiganj already enjoy a relatively good transport network.

In spite of this there are still many thanas, such as Companyganj, Gowainghat, Kanaighat, Biswanath and Jaganathpur, that require rural roads. The recommended road network provides road access for these areas.

A summary of the salient facts concerning the recommended network follows:

|                               |              |
|-------------------------------|--------------|
| Mileage of all roads          | 169          |
| Estimated network cost (US\$) | 17.7 million |
| Number of all roads           | 17           |
| Average per mile cost (US\$)  | 105 thousand |
| Number of Class IV Roads      | 9            |
| Mileage of Class IV Roads     | 87           |
| Number of Class V Roads       | 8            |
| Mileage of Class V Roads      | 82           |
| Shortest road segment         | 2 miles      |
| Longest road segment          | 12 miles     |

Table 37 lists each road included in the recommended network by priority ranking together with the thanas and subdivisions served, class of road, length and estimated cost.

Table 38 gives the priority values and other data for the remainder of the 22 screened roads not included in the recommended network.

#### B. Cost Estimate Constraints

The costs presented road by road in these tables are economic costs, that is, after all taxes and duties have been deducted. They do not include costs of any land acquisition for right-of-way. They are based upon estimates supplied by local and district officials for road mileages, bridge lengths and have not been checked by the consultant. It should be noted that local officials do not have access to any distance measuring equipment, and the consultant has been faced with many data inconsistencies in the course of study.

TABLE 27  
RECOMMENDED ROAD NETWORK

| ROAD                                 | THANA        | CLASS | MILEAGE | COST<br>(000<br>US \$) | PRIORITY<br>VALUE | RANK | REMARKS |
|--------------------------------------|--------------|-------|---------|------------------------|-------------------|------|---------|
| CHUNARUGHAT - BALLA                  | CHUNARUGHAT  | V     | 10      | 286                    | 1.36              | 1    |         |
| GANDAMARA - FULSHAIN                 | GOLAPGANJ    | V     | 9       | 380                    | 1.10              | 3    |         |
| LALABAZAR - ZAFRABAD                 | KOTWALI      | V     | 5       | 271                    | 0.89              | 4    |         |
| SHINDURKAN BAZAR -<br>SHAMSHERGANJ   | SREEMANGAL   | V     | 18      | 631                    | 0.83              | 5    |         |
| CHATUL BAZAR - GACHHBARI<br>R&H ROAD | KANAIGHAT    | V     | 10      | 330                    | 0.74              | 6    |         |
| PUTIJURI - KHAGAWARA                 | BAHUBAL      | V     | 8       | 252                    | 0.68              | 7    |         |
| BALAGANJ - GOALA BAZAR               | BALAGANJ     | V     | 14      | 733                    | 0.65              | 8    |         |
| BOUR BAGH - KANAIGHAT<br>R&H ROAD    | KANAIGHAT    | IV    | 8       | 1,124                  | 0.37              | 10   |         |
| JAGANNATHPUR - BISWANATH             | JAGANNATHPUR | IV    | 16      | 2,430                  | 0.30              | 12   |         |
| MOULVI BAZAR - RAJNAGAR              | RAJNAGAR     | IV    | 10      | 1,160                  | 0.29              | 13   |         |
| SALUTIKOR - COMPANIGANJ              | KOTWALI      | IV    | 8.5     | 1,409                  | 0.21              | 14   |         |
| BIANI BAZAR - KARGRAM(R&H)           | BIANI BAZAR  | IV    | 9       | 1,455                  | 0.21              | 15   |         |
| SYLHET - KAMAL BAZAR                 | KOTWALI      | IV    | 5       | 696                    | 0.21              | 16   |         |
| DASGHAR - TABIA BAZAR                | BISWANATH    | IV    | 4       | 873                    | 0.18              | 17   |         |
| BISWANATH - KAMAL BAZAR              | BISWANATH    | IV    | 5.5     | 1,037                  | 0.17              | 18   |         |
| ZAKIGANJ - SHEOLA                    | ZAKIGANJ     | IV    | 14      | 2,224                  | 0.16              | 19   |         |
| SALUTIKOR - GOWAINGHAT               | GOWAINGHAT   | IV    | 15      | 2,384                  | 0.14              | 20   |         |

TABLE 38  
 PRIORITY VALUES FOR SCREENED ROADS  
 NOT INCLUDED IN NETWORK

| ROADS                     | THANA     | CLASS | MILES | COST<br>(000 \$) | PRIORITY<br>VALUE | RANK | REMARKS   |
|---------------------------|-----------|-------|-------|------------------|-------------------|------|-----------|
| NABABGANJ-JOYCHANDI       | KULAURA   | V     | 10    | 283              | 1.19              | 2    | IBRD Area |
| KAMALGANJ-<br>KURMACHARA  | KAMALGANJ | V     | 10    | 543              | 0.48              | 9    | IBRD Area |
| MADHABPUR-<br>KASHIMNAGAR | MADHABPUR | IV    | 7     | 1,174            | 0.32              | 11   | IBRD Area |

Table 39 gives the estimated costs separated into local currency and foreign exchange components for each of the 17 road segments in the recommended network. US dollar equivalents for each segment are included in the table.

TABLE 39  
COSTS BY RECOMMENDED ROAD SEGMENT

TAKA 16 = US \$ 1.00

| RANK | ROAD                                  | SUBDIVISION   | MILES | CLASS | COSTS (000)         |      |               |
|------|---------------------------------------|---------------|-------|-------|---------------------|------|---------------|
|      |                                       |               |       |       | TAKA                | US\$ | TOTAL (US \$) |
| 1    | CHUNARUGHAT - BALILA                  | HABIGANJ      | 10    | V     | Tk. 3,110<br>US 194 | 92   | 286           |
| 3    | GANDAMARA - FULSHAIN                  | SYLHET SADAR  | 9     | V     | Tk. 4,320<br>US 270 | 110  | 380           |
| 4    | LALA BAZAR - ZAFRABAD                 | SYLHET SADAR  | 5     | V     | Tk. 3,081<br>US 193 | 78   | 271           |
| 5    | SHAMSHER GANJ -<br>SUNDUR KHAN BAZAR  | MAULAVI BAZAR | 18    | V     | Tk. 7,073<br>US 442 | 189  | 631           |
| 6    | CHATUL BAZAR - R&H<br>ROAD            | SYLHET SADAR  | 10    | V     | Tk. 3,806<br>US 238 | 92   | 330           |
| 7    | KHAGA WARA - FUTIJURI                 | HABIGANJ      | 8     | V     | Tk. 2,912<br>US 182 | 70   | 252           |
| 8    | GOMLA BAZAR - NASIARP-<br>UR BALAGANJ | SYLHET SADAR  | 14    | V     | Tk. 8,271<br>US 517 | 216  | 733           |

TK. 16=US 1.00

| RANK | ROAD                                 | SUBDIVISION  | MILES | CLASS | COSTS (000)            |       |              |
|------|--------------------------------------|--------------|-------|-------|------------------------|-------|--------------|
|      |                                      |              |       |       | TKA                    | US \$ | TOTAL(US \$) |
| 10   | BOURELGH -<br>KUNAI GHAT<br>R&H ROAD | SYLHET SADAR | 8     | IV    | Tk. 11,604<br>US 725   | 399   | 1,124        |
| 12   | JUGANATHFUL -<br>BISWANATH           | SUNAMGANJ    | 16    | IV    | Tk. 25,297<br>US 1,581 | 849   | 2,430        |
| 13   | BAZAR -<br>RUKHAR                    | BAZAR        | 10    | IV    | Tk. 16,946<br>US 1,059 | 601   | 1,160        |
| 14   | SALUTIKOR -<br>COMPLAINI GANJ        | SYLHET SADAR | 18.5  | IV    | Tk. 13,664<br>US 854   | 555   | 1,409        |
| 15   | BIANI BAZAR -<br>KURGRAM (R&H)       | SYLHET SADAR | 9     | IV    | Tk. 45,151<br>US 947   | 508   | 1,455        |
| 16   | SYLHET -<br>RANGEL BAZAR             | SYLHET SADAR | 5     | IV    | Tk. 7,185<br>US 449    | 247   | 696          |
| 17   | DASGHAR -<br>HABIA BAZAR             | SYLHET SADAR | 4     | IV    | Tk. 9,228<br>US 577    | 296   | 873          |

TAKA 16 = US \$ 1.00

| RANK | ROAD                    | SUBDIVISION  | MILES | CLASS | COSTS (000)            |       |              |
|------|-------------------------|--------------|-------|-------|------------------------|-------|--------------|
|      |                         |              |       |       | TAKA                   | US \$ | TOTAL(US \$) |
| 18   | KAMEL PAZAR<br>BIS WAKH | SYLHET SADAR | 5.5   | IV    | Tk. 10,948<br>US 684   | 353   | 1,037        |
| 19   | ZAKIGANJ-<br>SHEOLA     | SYLHET SADAR | 14    | IV    | Tk. 23,165<br>US 1,448 | 776   | 2,224        |
| 20   | SATULKOR<br>GOWALGHAT   | SYLHET SADAR | 15    | IV    | Tk. 24,947<br>US 1,559 | 825   | 2,384        |

XI. ENGINEERING AND CONSTRUCTION PLANNING

A. Construction Season

Sylhet District is subject to annual rainfalls varying from 80 inches in the Madhabpur and to 220 inches in the northeast region near Jaintiapur. The relatively "dry" months are between November and March and therefore, the optimum construction period is limited to 5 months.

B. Equipment and Material Availability

The District Council and subdivision offices have indicated that there is a total lack of any construction equipment in the district. However all construction materials are available in the district, though coal and mild steel must be transported from Chittagong port after being imported into the country.

C. Contracting and Labor Availability

It was reported that several small but experienced road and bridge contractors are available in the district. Adequate semi-skilled and unskilled laborers are available throughout the district during the normal construction season.

D. Special Problems

Due to the large annual rainfall the construction program would require close scheduling and perhaps extended periods for completion.

In addition, vast areas of natural depressions, haors, cover a major part of Sylhet District. There are a total of 35 large haors and 475 smaller ones which flood to depths greater than 10 feet in the rainy season. Road information received from the district did not detail the location of these depressed areas in reference to the proposed road segments.

The presence of these depressions present unique design and construction problems which will require a detailed study of the hydrology, currents, wave actions, soils etc. prior to any initial design or construction. This may cause a significant delay in the implementation of the project in Sylhet.

E. Network Construction Schedule

Table 40 presents detailed construction planning requirements for each road segment covering manpower, equipment and materials. It also gives an estimate of the construction time required to complete each road in the recommended network.

S- Stone (1000CF)  
 CE-Cement ( Tons )  
 ST-Steel ( Cwt )  
 BR-Bricks (1000 )  
 SA-Sand (1000CF)  
 BI-Bitumen (Ton )

TABLE - 40

CONSTRUCTION PLANNING BY  
 RECOMMENDED ROADS

S= Skilled  
 L= Unskilled  
 TS= Tractor/Sheepfoot  
 Roller  
 R= 3 wheel Roller

| Rank | Road                                | Class | Sub-division | Miles | Period<br>(Months) | R E Q U I R E M E N T S |              |                                    |
|------|-------------------------------------|-------|--------------|-------|--------------------|-------------------------|--------------|------------------------------------|
|      |                                     |       |              |       |                    | Manpower                | Equipment    | Materials                          |
| 1    | CHUNARUGHAT<br>BALLA                | V     | EABIGANJ     | 10    | 5                  | S-46<br>L-830           | TS-1<br>R -1 | CE-120<br>ST-2024<br>SA-6<br>S-12  |
| 3    | GANDAMARA<br>FULSHALIN              | V     | SYLHET SADAR | 9     | 5                  | S-42<br>L-927           | TS-1<br>R-1  | CE-109<br>ST-1831<br>SA-6<br>S-12  |
| 4    | LALA BAZAR<br>ZAFERABAD             | V     | SYLHET SADAR | 5     | 5                  | S-44<br>L-530           | TS-1<br>R-1  | CE-115<br>ST-1936<br>SA-6<br>S-12  |
| 5    | SHAMSHERGANG<br>SHINDURKHAN BZR     | V     | MOULVI BAZAR | 18    | 2 YRS<br>10        | S-52<br>L-755           | TS-1<br>R-1  | CE-271<br>ST-4576<br>SA-13<br>S-26 |
| 6    | CHITUL BAZAR<br>GASBARI<br>R&H ROAD | V     | SYLHET SADAR | 10    | 5                  | S-6<br>L-1000           | TS-1<br>R-1  | CE-16<br>ST-264<br>SA-1<br>S-2     |

S-Stone (1000CF)  
 CE-Cement (Tons)  
 ST-Steel (Cwt)  
 BR-Bricks (1000)  
 SA-Sand (1000CF)  
 BI-Bitumen (Ton)

SYLHET  
 CONSTRUCTION PLANNING  
 BY  
 RECOMMENDED ROADS

S= Skilled  
 L= Unskilled  
 TS= Tractor/Sheepfoot  
 Roller  
 R= 3 Wheel Roller

| Rank | Road                               | Class | Sub-division | Miles | Period<br>(Months) | R E Q U I R E M E N T S |             |   |
|------|------------------------------------|-------|--------------|-------|--------------------|-------------------------|-------------|---|
|      |                                    |       |              |       |                    | Manpower                | Equipment   | Materials   |
| 7    | KHAGANARA<br>PUTIJURI              | V     | HABIGANJ     | 8     | 5                  | S-0<br>L-796            | TS-1<br>R-1 | NONE<br>EARTHWORK<br>ONLY                                   |
| 8    | GOALA BAZAR<br>NOSIAPUR<br>BALIUNJ | V     | SYLHET SADAR | 14    | 2 YRS<br>10        | S-62<br>L-743           | TS-1<br>R-1 | CE-325<br>ST-5456<br>SA-16<br>S-32                          |
| 10   | BOUR BAGH<br>KANAIKHA<br>R&H ROAD  | IV    | SYLHET SADAR | 8     | 5                  | S-97<br>L-1541          | TS-1<br>R-1 | CE-16<br>ST-264<br>BR-5440<br>SA-561<br>BI-227<br>S-2       |
| 12   | JAGANNATHPUR<br>BISWANATH          | IV    | SUNAMGANJ    | 16    | 2 YRS<br>10        | S-129<br>L-1565         | TS-1<br>R-1 | CE-198<br>ST-3344<br>BR-10,880<br>SA-1130<br>PI-453<br>S-19 |
| 13   | MOULVI BAZAR<br>RAJNAGAR           | IV    | MOULVI BAZAR | 10    | 5                  | S-322<br>L-2077         | TS-1<br>R-1 | CE-541<br>ST-9152<br>BR-6800<br>SA-726<br>BI-283<br>S-52    |
| 14   | SALUTIKOR<br>COMPANIGANJ           | IV    | SYLHET SADAR | 8.5   | 5                  | S-296<br>L-1783         | TS-1<br>R-1 | CE-614<br>ST-10,208<br>BR-5,780<br>SA-624<br>BI-241<br>S-58 |

S-Stone (1000CF)  
 CE-Cement (Tons)  
 ST-Steel (Cwt)  
 BR-Bricks (1000)  
 SA-Sand (1000CF)  
 BI-Bitumen (Ton)

SYLHET  
 CONSTRUCTION PLANNING  
 BY  
 RECOMMENDED ROADS

S= Skilled  
 L= Unskilled  
 TS= Tractor/Sheepfoot  
 Roller  
 R= 3 wheel Roller

| Rank | Road                     | Class | Sub-division | Miles | Period<br>(Months) | REQUIREMENTS<br>Manpower | EQUIPMENT<br>Equipment | MATERIALS<br>Materials                                      |
|------|--------------------------|-------|--------------|-------|--------------------|--------------------------|------------------------|---|
| 15   | BIANI BAZAR<br>KARGHUM   | IV    | SYLHET SADAR | 9     | 5                  | S-186<br>L-1796          | TS-1<br>R-1            | BE-219<br>ST-3696<br>BR-6120<br>SA-641<br>BI-255<br>S-21    |
| 16   | SYLHET KAMAL<br>BAZAR    | IV    | SYLHET SADAR | 5     | 5                  | S-57<br>L-960            | TS-1<br>R-1            | BR-3400<br>SA- 350<br>BI- 142                               |
| 17   | DABGHAN HABIBA<br>BAZAR  | IV    | SYLHET SADAR | 4     | 5                  | S-174<br>L-865           | TS-1<br>R-1            | CE-333<br>ST-5632<br>BR-2720<br>SA- 296<br>BI- 113<br>S- 32 |
| 18   | KAMAL BAZAR<br>BISWANATH | IV    | SYLHET SADAR | 5.5   | 5                  | S-164<br>L-1135          | TS-1<br>R-1            | CE-270<br>ST-4576<br>BR-3740<br>SA- 398<br>BI- 156<br>S- 26 |

S-Stone (1000CF)  
 CE-Cement (Tons)  
 ST-Steel (Cwt)  
 BR-Bricks (1000)  
 SA-Sand (1000CF)  
 BI-Bitumen (Ton)

SYLHET  
 CONSTRUCTION PLANNING  
 BY  
 RECOMMENDED ROADS

S= Skilled  
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 TS= Tractor/Sheepfoot  
 Roller  
 R= 3 wheel Roller

| Rank | Road                     | Class | Sub-division | Miles | Period<br>(Months) | REQUIREMENTS |           |   |
|------|--------------------------|-------|--------------|-------|--------------------|--------------|-----------|---|
|      |                          |       |              |       |                    | Manpower     | Equipment | Materials   |
| 19   | ZAKIGANJ<br>SHEOLA       | IV    | SYLHET SADAR | 14    | 2 YRS              | S-136        | TS-1      | CE-292  |
|      |                          |       |              |       | 10                 | L-1387       | R-1       | ST-4928<br>BR-9520<br>SA- 994<br>BI- 396<br>S- 28     |
| 20   | SALUTIKOR<br>GOWALINGHAT | IV    | SYLHET SADAR | 15    | 2 YRS.             | S-129        | TS-1      | CE-276  |
|      |                          |       |              |       | 10                 | L-1474       | TS-1      | ST-4576<br>BR-10,200<br>SA- 1,063<br>BI- 425<br>S- 26 |