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MINISTRY OF LOCAL GOVERNMENT
RURAL DEVELOPMENT AND CO-OPERATIVES

RURAL ROADS STUDY

(US AID GRANT 388-0031)

VOLUME II

PHASE I REPORT
DISTRICT PROFILE : FARIDPUR

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
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PHASE-I REPORT

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Dacca Bangladesh

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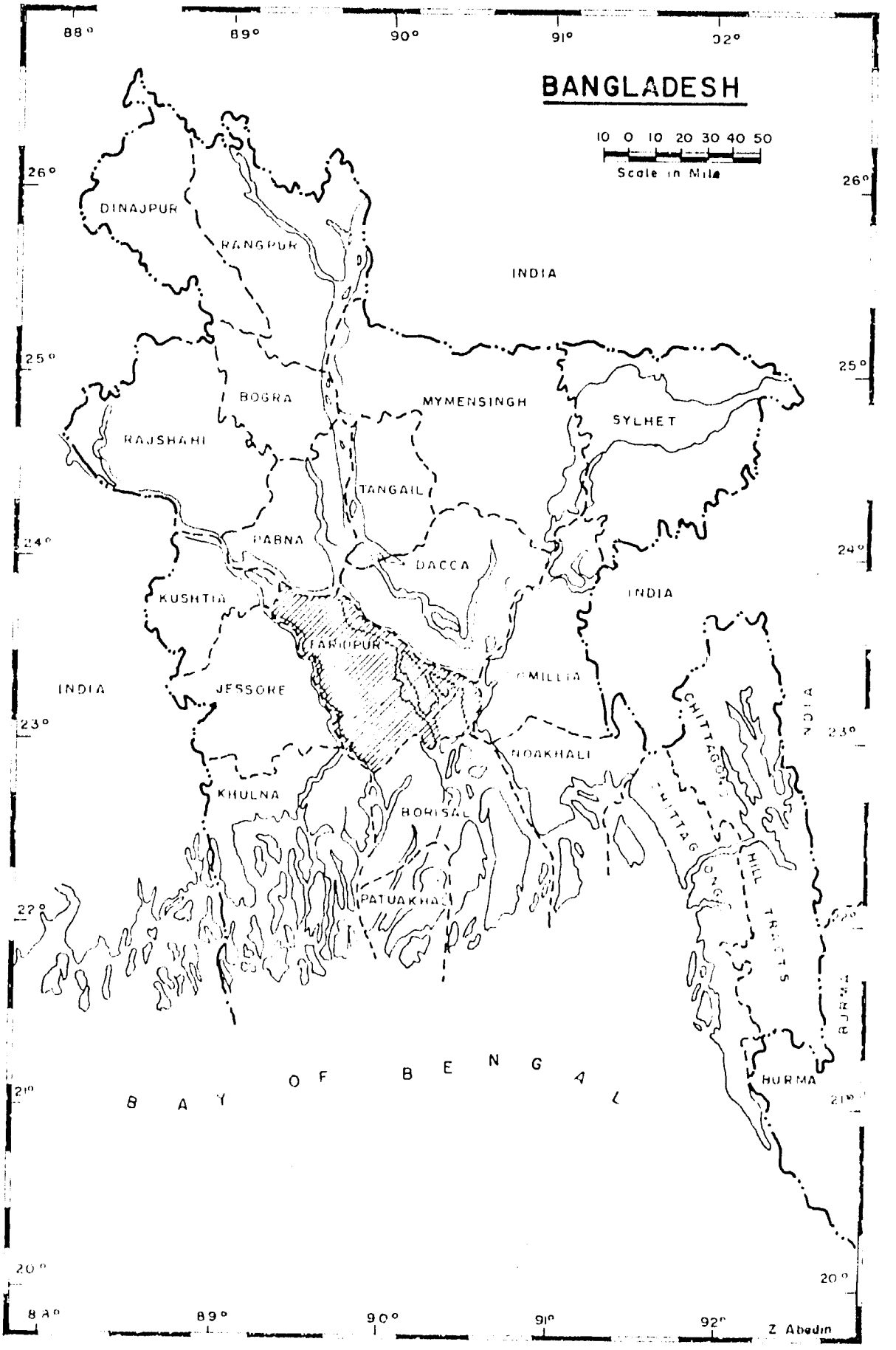
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TANGAIL
PABNA
DACCA
KUSHTIA
INDIA
FARIDPUR
COMILLA
INDIA
JESSORE
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KHULNA
BARISAL
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CHITTAGONG
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PREFACE

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 Faridpur 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 Faridpur'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 Faridpur under this project.

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I. TRANSPORTATION NETWORK

A. External Communication

As shown on the map in Figure 1, Faridpur District is well connected with surrounding districts and Dacca City by road, rail and water transport.

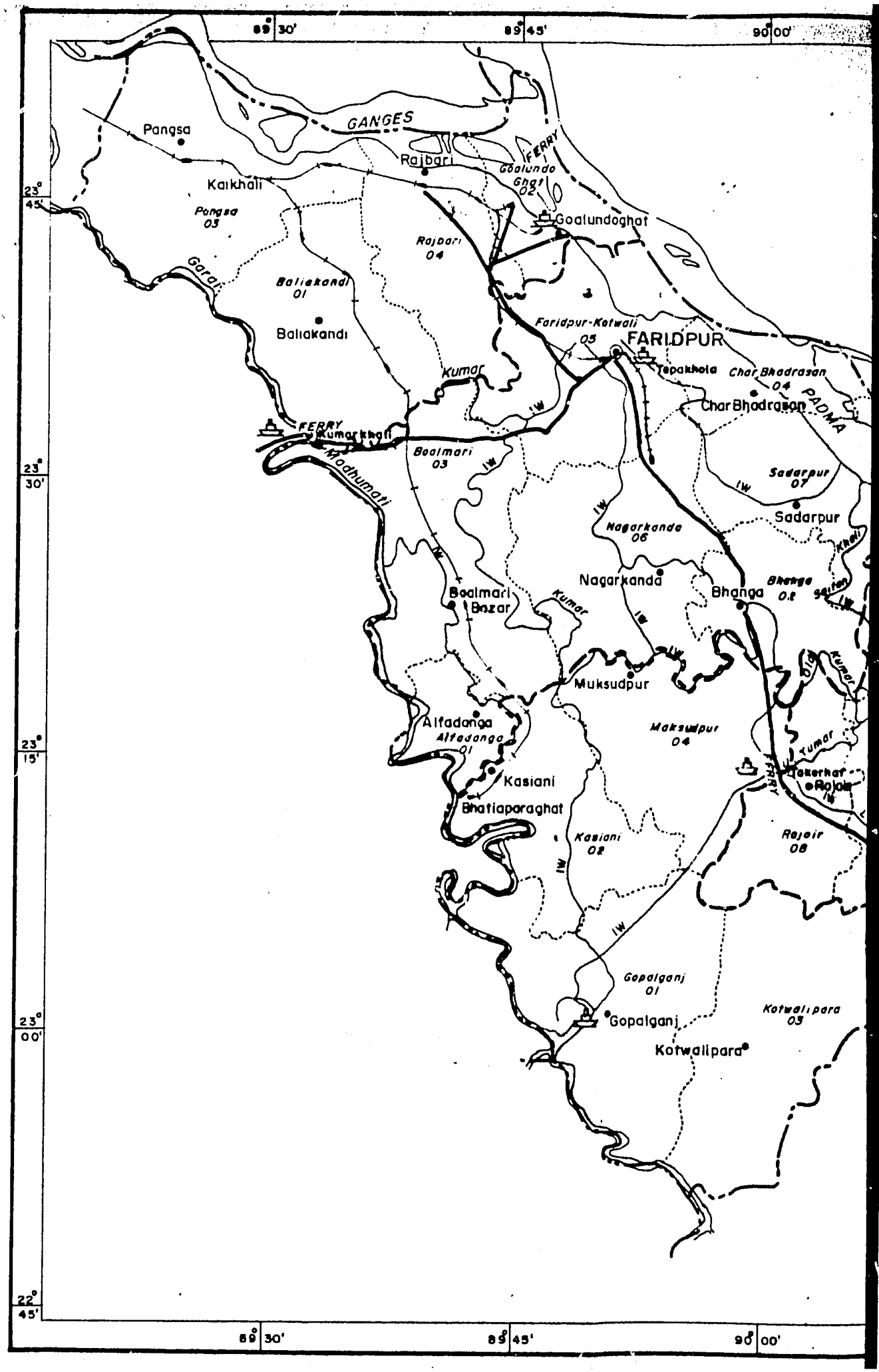
The western districts of Kushtia and Jessore are connected to Faridpur by railroad service through Kalukhali and Pangsa, and by R&H road through Madhukhali. These same transport modes continue across the Ganges River via Hardinge Bridge or ferry, to link Faridpur with Pabna and the Rajshahi Division in the north.

The eastern districts are linked to Faridpur by frequent launch service to the important transhipment points of Dacca, Narayanganj and Chandpur. In addition, Dacca can be reached by R&H road via the Goalundo/Ghat-Aricha vehicle ferry.

The southern districts of Barisal and Khulna are principally reached by launch via the Lower Meghna or the Arial Khan Rivers or by R&H road through Madaripur Subdivision. The Lower Meghna route is also followed by steamers going to Khulna or Chalna but smaller boats use the Beel route, which traverses the southern part of Faridpur District. Khulna is also connected by road to Faridpur via Jessore, and by rail through Kushtia and Jessore.

B. Internal Communication

Transport connections within Faridpur District are not nearly as good as they are externally. Only two subdivisions, Goalundo and Madaripur, are linked by all weather road to the district headquarters in Faridpur Town. The other two subdivisions, Gopalganj and Shariatpur, can currently be reached only by lengthy combined launch and bus trips. A detailed transport profile of each of the thanas in Faridpur is pre-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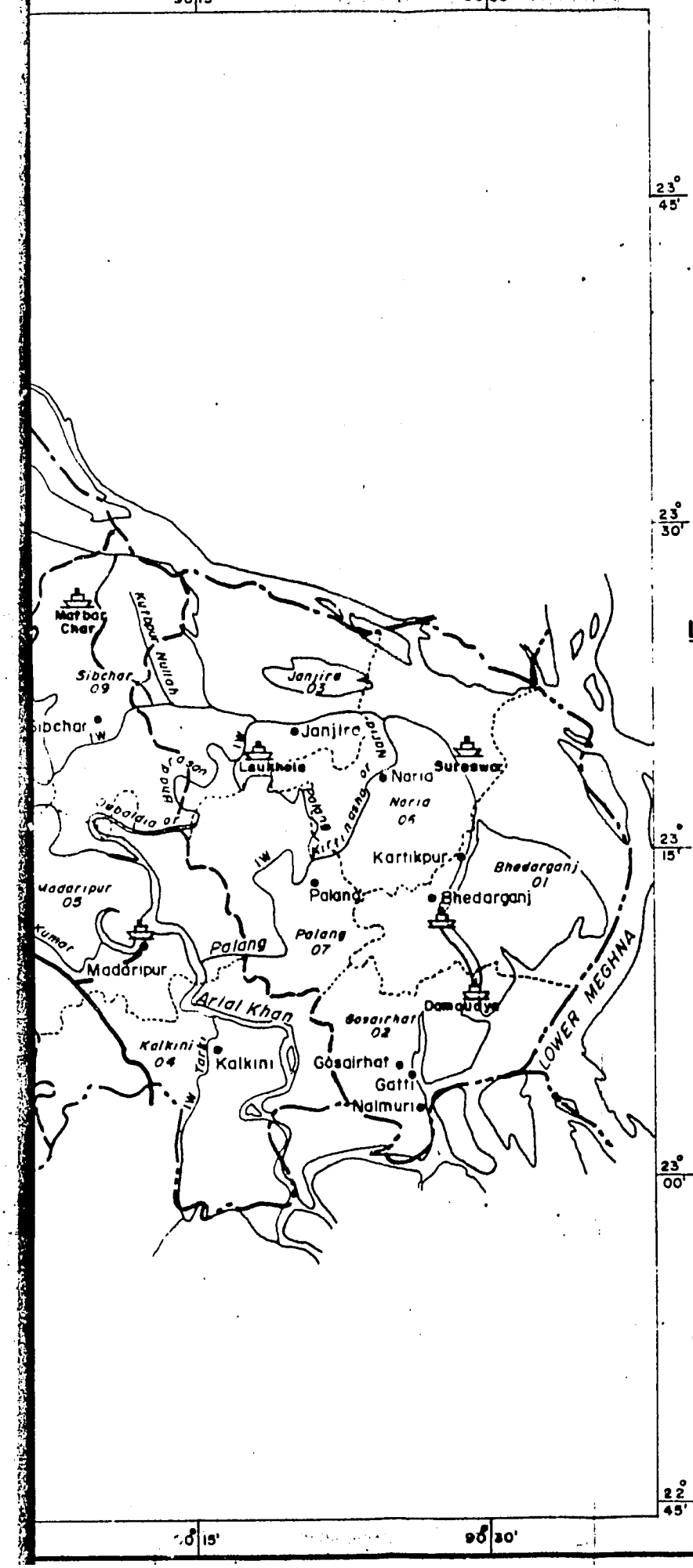
Kalkhali
Pangsa 03
Rajbari
Rajbari 04
FERRY
Goalundo Ghat 02
Goalundoghat
Gorai
Baliakandi 01
Baliakandi
Faridpur-Kotwali 05
FARIDPUR
Tepakhola
Char Bhadrasan 04
Char Bhadrasan
PADMA
Kumar
IW
FERRY
Kumarkhali
Madhumati
Boalmari 03
Sadarpur 07
Sadarpur
Nagarkanda 06
Nagarkanda
Khali
Boalmari Bazar
Bhanga
Bhanga 02
Saltan
Muksudpur
Kumar
Alfadanga
Alfadanga 01
Maksudpur 04
Kasiani
Bhatiaparaghat
Tekerhat
Rajoir
Kasiani 02
Rajoir 08
Gopalganj 01
Gopalganj
Kotwalipara 05
Kotwalipara

DIST. FARIDPUR



LEGEND:

ROADS ... ...

RAILROADS ... ...

WATERWAYS ... ... IW

MAJOR AIRPORT ...

LAUNCH GHAT ... ...

Scale : 1 Inch = 8 Miles (Approx.)

10 8 6 4 2 0 10 Miles

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH	
RURAL ROADS STUDY	
TRANSPORTATION	
LOUIS BERGER INTERNATIONAL INC. AND RAHMAN & ASSOCIATES LTD.	
PREPARED: Z. Abedin	RECOMMENDED
CHECKED	APPROVED
DATE	DRG. NO.

sented by subdivision on pages 4 to 8. An abreviated subdivision synopsis is shown in table 1.

TABLE- 1.
SUBDIVISION TRANSPORTATION SUMMARY

Sub-division	Area square miles	Approximate miles all weather road	# of Regular Launch Routes	# of Rail Stations
Faridpur Sadar	747	83	7	13
Goalundo	469	37	4	24
Gopalganj	582	20	8	4
Madaripur	434	32	5	0
Shariatpur	463	14	9	0

By any standards, the transport infrastructure in these sub-divisions is poor. Shariatpur, Madaripur and Gopalganj sub-divisions are more neglected than the two northern subdivisions, though even in those sub-divisions, thanas like Charbhadrasan and Alfadanga are practically inaccessable. The transport situation in Faridpur is further aggravated during the dry season, as many thanas are unable to use country boats because the water level is too low. This has a serious effect on both the marketing system and the distribution of agricultural inputs into and within these thanas.

SUBDIV: FARIDPUR SADAR 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.
KOTWALI *	23 Miles	R&H Roads to Barisal, Jessore, Goalundo, Rajbari,	4	4	Minor	N/A	N/A
BOALMARI	33 Miles	R&H Road under construction through thana from Faridpur Jessore road to Gopalganj.	0	6	N/A	Baby, Taxi Cart, Train (3 Hrs)	Baby Taxi, Cart, Train (3 Hrs)
ALFADANGA	1 Mile	None	0	3	N/A	Train & Bus (4 Hrs)	Foot, Train (4 Hrs)
NAGARPANDA	27 Miles Gravel	10 Miles to Faridpur-Dacca Road	0	0	Boats in rainy season	Rickshaw and Bus (2½ Hrs)	Rickshaw and Bus (2½ Hrs)
BHANGA	9 Miles Pucca 7 Miles HBB	Barisal-Faridpur Road passes through thana.	2	0	Boats in rainy season	Bus and Baby Taxi (1½ Hrs)	Bus and Baby Taxi (1½ Hrs)
SADARPUR	4 Miles HBB	7 Miles to Barisal-Faridpur Road	1	0	Boats in flood season	Launch and Cart (2 Hrs)	Launch and Cart (2 Hrs)
CHARBHADRASAN	NONE	None	0	0	Boats in flood season	Launch and Cart (3 Hrs)	Launch and Cart (3 Hrs)

* District and Subdivision Headquarters

SUBDIV: GOALONDO THANA	APPROX MILES OF ALL WEATHER ROAD (HBB & PUCCA)	VEHICLE ACCESS FROM THANA H.Q. 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 H.Q.	MODE OF TRANSPORT TO DIST. H.Q.
PANGSHA	3½ Miles	None	1	5	N/A	Train (1½ Hrs)	Train and Bus (3 Hrs)
BALIA-KANDI	6 Miles	None	1	5	Along Gorai river	Train (1 Hrs)	Train and Bus (3 Hrs)
RAJBARI *	23 Miles	17 miles planned or under construction	0	7	Small boats in flood season	N/A	Bus or Train (1 Hr.)
GOALONDO GHAT *	4½ Miles Pucca	10¼ miles planned or under construction	2	7	Boats in flood season	Bus or Train (1 Hr.)	Bus or Train (1 Hrs)

* Subdivision Headquarters

SUBDIV: MADARIPUR THANA	APPROX MILES OF ALL WEATHER ROAD (HBB & PUCCA)	VEHICLE ACCESS FROM THANA H.Q. 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 H.Q.	MODE OF TRANSPORT TO DIST. H.Q.
SHIBCHAR	None	None	1	0	Boats in flood season	Foot or Cart and Launch (6 Hrs.)	Foot, Launch and Bus (8 Hrs)
RAJOIR	7.5 Miles	Faridpur-Barisal road passes through thana	0	0	Boats in flood season	Bus (1 Hr.)	Bus (2½ Hrs)
MADARIPUR*	15 Miles	R&H Road connects Town to Barisal Faridpur Road.	4	0	Boats in flood season	N/A	Bus (2½ Hrs)
KALKINI	9 Miles	Faridpur-Barisal Road passes through Thana.	0	0	Boats in flood season	Rickshaw, and Bus (1½ Hrs)	Rickshaw and Bus (4 Hrs)

* Subdivision Headquarters

SUBDIV: SHARIATPUR 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	TRANSPORT TO NEAREST R-TERMINUS	TRANSPORT TO DISTRICT HEADQUARTERS
PALANG *	10 Miles	None	2	0	Boats in flood season	N[illegible]	Rickshaw, Launch and Bus (6 Hrs)
JANJIRA	2 Miles	None	2	0	Boats in flood season	Country Boat, Foot and Rickshaw (6 Hrs)	Launch and Bus (7 Hrs)
NARIA	None	None	2	0	Boats in flood season	Foot or Rickshaw (2 Hrs)	Foot or Rickshaw, Launch or Bus (9 Hrs)
BHEDARGANJ	None	None	0	0	Boats in flood season	Foot or Rickshaw (2-3 Hrs)	Foot Rickshaw, Launch and Bus (10Hrs)
GOSHAIRHAT	2 Miles	1 Mile	3	0	Boats in flood season	Foot and Boat (6 Hrs)	Foot, Launch and Bus (10 Hrs)
DAMUDDYA	None	None	0	0	Boats in flood season	Boat Rickshaw and Launch (Hrs)	Boat, Rickshaw Bus and Launch (10 Hrs)

*Subdivision Headquarters

SUBDIV: GOPALGANJ	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 H.Q.	MODE OF TRANSPORT TO DIST. H.Q.
GOPALGANJ* TONGIPARA	7 Miles	11 Miles planned or under construction	4	0	Boats in flood season	N/A	Launch and bus (6 Hrs)
KOTWALI-PARA	2 Miles	None	0	0	Boats in flood season	Boat (8 Hrs)	Boat, Bus and Foot (10 Hrs)
KASIANI	11 Miles	27 Miles planned or under construction.	0	4	Boats in flood season	Boat and foot (5 Hrs)	Train and Bus (10 Hrs)
MUKSUD-PUR	None	12 Miles Kutcha Roads Barisal-Faridpur Road.	4	0	Boats in flood season	Boat and foot 25 miles	On foot and bus (5 Hrs)

* Subdivision Headquarters

C. Roads

1. Number and Type

Faridpur has approximately 179 miles of paved (metaled or herring bone) roads, The Roads and Highways Directorate (R&H) constructed and maintains approximately 105 of these miles. The other 74 miles are under the jurisdiction of the District Council, which is also responsible for 126 miles of earth roads.

The R&H roads have a nominal 12 foot wide carriage-way with varying shoulder widths. The District Council paved roads have surface widths ranging from 8 to 12 feet with non-standard shoulder widths. The earth roads under the District Council are, in effect, little more than single lane tracks along hand-constructed embankments of varying heights and widths.

There are also local earth roads under the jurisdiction of thana councils and union councils. However, these are primarily footpaths along narrow irrigation embankments or tracks for bullock carts linking vilages to local hats and bazars. In some of the south and eastern thanas the lack of bridges or culverts precludes even the use of bullock carts.

The extremely low level of road development of Faridpur is exemplified in the following statistics. Faridpur has only 9.9 miles of road per 100,000 persons compared to the national average of 23.0. Per 100 square miles, the district has only 13.1. In both of these road categories and in every other road measurement examined, Faridpur ranked either last or next to last among the districts of Bangladesh.

2. Major Routes.

The principal road route to the south in Faridpur District starts at the ferry landing at Goalundo Ghat and proceeds southerly linking the population centers of Faridpur Town, Talma, Bhanga, Takerhat, Rajoir, Madaripur and Bhurghata before crossing into Barisal District.

The main route to the west commences at Faridpur Town and proceeds westerly through the principal villages of Majkandi, Madhukhali and Kamarkhali at the Madhumati River. Here a ferry provides access to Magura, Jhenida, Kushtia and Jessore.

Typical distances on these arterial roads are:

Faridpur	- Rajbari	17 miles
Faridpur	- Kamarkhali	20 miles
Faridpur	- Barisal	46 miles
Madaripur connection		6 miles
Goalundo Ghat connection		6 miles

Currently the Roads & Highways Directorate has under construction a north-south route on the western side of the district linking Faridpur Town with the thanas of Boalmari, Kasiani and Gopalganj subdivision, a distance of about 71 miles. (See Figure [illegible]).

In the planning stage at this time is a central east-west road from Maoa, on the banks of the Padma River, westerly through Sibchar crossing the present R&H north-south road in Bhanga thana thence passing Muksudpur, Kasiani and on to Bhatiaparaghat on the Jessore border. This road will be part of the Dacca-

District and land acquisition is proceeding in Faridpur, but construction will not begin in Faridpur for some time.

3. Ferry System

A number of ferries link the R&H roads at the major river crossings. The main ferry, a large capacity vehicle type, operated by the Inland Waterways Directorate, connects Goalundo Ghat with Aricha and provides the principal transport access to Dacca.

Six motorized, limited capacity ferries are used on the R&H road from Faridpur to Barisal. Two motorized ferries are in operation on the Faridpur-Madaripur route.

4. Source of Traffic

The total number of motor vehicle registered in Faridpur during 1976-77 was 906. (see Table 2). The number of these vehicles that are actually serviceable and on the road is probably much less.

TABLE 2

NUMBER OF REGISTERED MOTOR VEHICLES (1976-77)

Bus	Jeep	Auto Rickshaw	Truck	Truck/ Tractor	Taxi	Car	Motor Cycle	Total
106	89	214	72	24	59	15	327	906

road mileage, road transport is clearly not the major mode of transport in Faridpur.

Based on a traffic count done for the Bangladesh Transport Survey in 1974, the Faridpur-Jessore R&H road averaged about 365 vehicles a day 80% of which were trucks and buses. Of this traffic only 45% of the trucks and 60% of the buses were going to or coming from points in Faridpur, with the others only transiting Faridpur on their way to Dacca or another district.

D. Rail

1. Mileage and Routes

There are approximately 110 miles of broad gauge single track railway in Faridpur District. The general direction of the railway system is to the northwest feeding into the national broad gauge trunk line, which provides access south to Jessore and Khulna and north across the Hardinge Bridge to North Bengal.

There are two main rail links in the district. The eastern branch line starts at Talma and connects Faridpur Town, Goalundo Ghat, Rajbari and Kalukhali prior to proceeding on to Pangsa and Kushtia. The western branch begins near the Jessore border at Bhatiaparaghat in Kasiani thana and proceeds northward linking Boalmari and Madhukhali before joining the eastern branch at Kalukhali. Now under construction is the extension of the eastern branch rail line from Faridpur southward to Barisal. It is expected that another five miles beyond Talma will be opened this year.

2. Railway Stations and Services

On the western branch line two trains run daily each way from Bhatiaparaghat to Kalukhali line and provide thirteen (13) railway stations with passenger and commodity service.

On the eastern branch line eight trains run daily each way from Talma to Pangsa serving twenty railway stations along the way.

3. Sources of Traffic

The railway system provides for transfer of passengers and commodities only at the railway stations. Consequently, the movement of goods is restricted to the lateral area of influence along the rail lines.

The principal locations for transfer of goods are the following main population centers: Bhatiaparaghat, Kasiani, Boalmari, Madhukhali and Jamalpur on the western branch and Talma, Faridpur, Goalundoghat, Rajbari and Pangsa on the eastern branch.

E. Water

1. Waterway Network

Since Faridpur is a riverine district it is not surprising that the waterways are the main mode of transport. The main

waterways in the district accordingto the Bangladesh Inland Waterway Transport Authority (BIWTA) are classified in Table 3. Class I waterways are important national waterways, Class II are important district waterways and Class III are important local waterways.

TABLE 3
CLASSIFICATION OF INLAND WATERWAYS - FARIDPUR

Class	Name of Waterway	Maximum vessel draught at low-water
I	Padma-Jamuna River	6'
II	Dubaldia River	4'-5'
II	Arial Khan River	6'
II	Beel Route Canal	4'-5'
II	Madhumati River	6'
III	Garai River	4'-5'

Other important rivers in Faridpur are the Kumar, Saitan, Khali, Maguchatta, Palong, Naria and the Balasia. These are always passable during the monsoon season but during the dry season the water levels drop and some of these rivers are navigable for only shallow draft country boats or small piroques.

2. Launch Ghats

Within the district there are many established launch ghats which provide adequate transportation services to passenger and cargo vessels. (see Figure 1). The major launch ghats located on the Ganges-Padma River route are Goalundo ghat, Tenkhola, Kathal Char, and Laukhola. The major launch ghats along

the Dacca-Barisal route include Madaripur, Sureswar, Bhederganj and Damuddiya. Gopalganj and Takerhat are the most important launch ghats on the Beel Route.

3. Major Routes

The major routes follow along the Class I and Class II waterways. These routes primarily link towns in Faridpur with the districts of Dacca, Comilla, Barisal and Khulna.

A list of some of the major launch routes and their approximate mileage is given in Table 4.

TABLE 4

MAJOR LAUNCH ROUTES

Route	Mileage
1. Aricha-Goalundoghat	21 miles
2. Chandpur-Goalundoghat	74 miles
3. Dacca-Goalundoghat	101 miles
4. Narayanganj-Goalundoghat	86 miles
5. Chandpur-Sureswar	18 miles
6. Narayanganj-Sureswar	50 miles
7. Barisal-Madaripur	53 miles
8. Khulna-Madaripur	90 miles
9. Khulna-Tezakhola	108 miles
10. Khulna-Gopalganj	47 miles
11. Barisal-Gopalganj	74 miles

F. Air

There is no existing commercial air service to or from Faridpur District.

II. GENERAL BACKGROUND

A. History

The land constituting the present district of Faridpur has been associated with ancient history, especially with the Hindu rulers of independent kingdoms like those of the Pal Dynasty and Sen Dynasty. In 1203, the Muslim adventurer, Bakhtiar Khilji invaded Bengal; and the Hindu ruler Lakshman Sen deserted his capital at Nabadwip and settled in the eastern region. Subsequently Mohammad Toghlak conquered eastern Bengal in 1330; and when his Governor died in 1338, Fakhruddin, the Governor's armour bearer, seized the government and thus started the era of independent sultanate of Bengal.

In 1574 Emperor Akbar sent Murad Khan for the conquest of southeast Bengal. The latter's conquest led to his settling himself in Fatehabad which eventually formed the present Faridpur town.

After suppressing the Bara Bhuiyas (i.e. twelve king - landlords), Moghul rule was consolidated in Eastern Bengal by Governor Isa Khan in 1608. He made his capital at Dacca, with Faridpur as a part of the whole region commanded by Dacca.

When the British rulers secured the Diwani of Bengal, Bihar and Orissa in 1765, the northwest region of Faridpur was included in Rajshahi and the remaining areas were left in Dacca. At the time of permanent settlement, the various areas were reorganised and a separate district of Faridpur was created. Goalundo Subdivision was constituted in 1871 and Madaripur Subdivision was transferred to Faridpur from Bakerganj in 1873.

About 1820 A.D., Haji Shariatullah, a distinguished man of Bahadurpur in the Subdivision of Madaripur, came back from Mecca and started a socio-religious movement called the Faraizi movement. This eventually turned into a political movement to oppose British rule. A new subdivision has recently been created by the Government of Bangladesh; and the name given to it is Shariatpur, in memory of the great name of Shariatullah.

B. District Administration.

The civil administration of the Districts today is headed by a Deputy Commissioner, who combines the function of the District Magistrate, Collector of Land Revenue, maintenance of law and order and overall coordination of all developmental activities. He is assisted by three Additional Deputy Commissioners at the district level and a number of Subdivisional Officers (S.D.O's) who work in the subdivisions. The subdivisions are the middle level administrative units supported by thana administration at lower level. The thana administration is also under the control of subdivisional officers; but local attention to maintenance of law and order and supervision and execution of developmental activities at local levels are organised through thana-based officials. Developmental activities at thana level are usually supervised and coordinated by the Circle Officer (Development) on behalf of the Subdivisional Officer. Beyond the thanas, there are unions and villages which can be treated as local administrative units at grass roots. Faridpur District has 5 subdivisions, 26 thanas, 308 unions and 3,664 villages.

C. Demographic

The 1974 census estimates the population of Faridpur District to be 4,059,511. The population density (including rivers) is 1,521, making Faridpur the fifth most densely populated district in Bangladesh. The density is higher than in any other district in the southwest region (Kushtia, Jessore, Khulna, Barisal, and Patuakhali), but it is somewhat lower than neighboring Dacca District across the Padma River.

There is some moderate variation in densities among the district's subdivisions. Madaripur and Shariatpur subdivisions combined have the highest densities at 1,681 persons per square mile. They are followed by Sadar and Gopalganj subdivisions with 1,482 and 1,476 persons per square mile respectively. The lowest density is found in Goalundo Subdivision with 1,326 persons per square mile. However, because the densities reported in the 1974 census cover an area which includes rivers, it is likely that the density of the two highly riverine subdivisions, Madaripur and Shariatpur, is even greater than the above figures suggested.

Even though the density of Faridpur is very high the population is overwhelming rural, 97% according to the 1974 Census. The remaining urban population of only 3% is considerably less than the national urban average of 8.8%.

Within the district the urban concentration is highest in the Sadar Subdivision, which includes Faridpur Town (4.3% urban) and lowest in Gopalganj Subdivision (1.6% urban). Goalundo Subdivision in the north has an urban population of 3.9%, and the combined Madaripur/Shariatpur Subdivisions in the southeast have an urban population of 2.1%.

A curious factor is Faridpur's very low intercensal (1961-1974) growth rate of 27.7%, which was the lowest among all the districts in Bangladesh. The population increase for the country as a whole was 40.6% and the range of increases for the districts varied from 27.7% to 61.5%.

Available data do not account for the estimated low growth rate of the district. It is possibly that a substantially higher degree of migration to other districts, both permanent and seasonal in character may partially explain this phenomenon. Higher casualty rates and migration during the War in 1971 may also have affected the growth.

III. PHYSICAL AND ENVIRONMENTAL FEATURES

A. Physical Geography

1. Location

Faridpur District, located in the south-central portion of the country in Dacca Division, has an area of 2,669 square miles (sq.mi). It is the second smallest of the four districts. The district has common borders with a number of other districts including Pabna on the north, Dacca and Comilla on the northeast and east, Barisal on the south, Khulna on the southwest, and Jessore and Kushtia on the west and northwest, respectively. The district lies between 22°-45' and 23°-55' north latitude and 89°-15' and 90°-40' east longitude.

2. Topography

Since the district is entirely an alluvial deposit, significant topographic features are limited. The district exhibits relatively little relief except for those areas where silt deposition has raised the general land level above that of surrounding areas. There are, nonetheless, three distinct topographic areas. The north is relatively high and dry during all but the rainy season with the extreme northwest much like the adjoining portions of Kushtia and Jessore. The southeast exhibits a network of water channels which are numerous and pose a topographic constraint to road development. The southern portion of the district, which is only a few feet above sea level, is lower than the rest of the district with the only high land being formed by silt deposition along rivers.

3. Geology and Soils

The district consists entirely of recent alluvium deposited by the Ganges and Padma Rivers. There is some evidence of subsidence in the beel area in the southern portion of the district.

The country has been divided into four seismic zones by the Meteorological Dept. of Bangladesh. Faridpur District is considered to be within zone 3, meaning that earthquakes are likely to have only very light intensity and are generally not a problem.

The bulk of the district contains mainly Calcareous Dark Grey Floodplain Soils with Calcareous Brown Floodplain Soils occurring mainly on ridge crests. In the southern portion of the district between the southern district boundary and Kasiani and Rajoir, Noncalcareous Dark Grey Floodplain Soils are evident except in the beel areas where beds of impure peat predominate. On basin margins this peat is often overlain by a shallow layer of clay. Generally it is displaced by Calcareous Brown Floodplain Soils and Calcareous Dark Grey Floodplain Soils among major rivers. Figure 2 shows district soil mapping units.

B. Hydrology

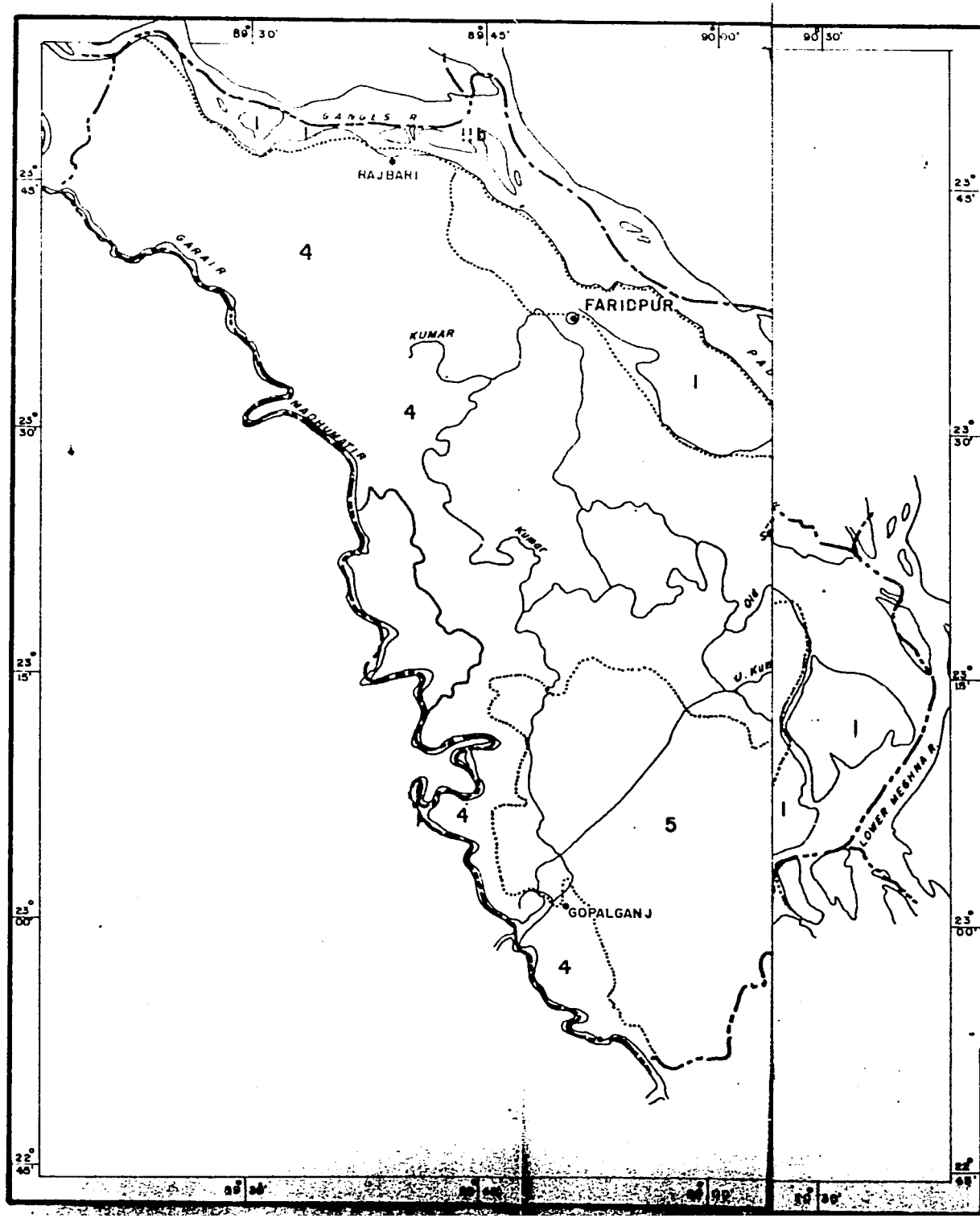
1. Climate

Temperatures in the district are at a minimum in January, rise to a high in April or May and gradually fall to the January low. Seasonal temperatures are described in the following table.

MAP INDEX

SOIL UNIT NUMBER	DESCRIPTION
1.	Calcareous silts and sands on charland. Calcareous loams and clays in part of north Faridpur.
2.	Loam on ridges. Friable clays in basins. Mainly silts on new alluvial land. All soils are calcareous and mainly permeable.
4.	Clays occupy about 80% of the unit, mainly on basins and on low ridges. These are "swelling" clays. Higher ridges have loams, rarely sands. Loamy soils are permeable except where they have a strong ploughpan. Clays are well structured and may have moderate permeability.
5	Peat and muck, sometimes with a clay topsoil. Soils with mucky layers have low bearing capacity and cannot support men and bullocks, or reportedly even rice seedlings in some cases. Mucky layers would shrink and harden irreversibly if allowed to dry out, making a poor medium for plant growth.
11b	Mixed sands and silts.
12	Calcareous Alluvium and Calcareous Brown Floodplain Soils. Sand and Silts on charland. Loams and silty clays on high levee.

DIST. FARIDPUR



LEGEND:

- Division Boundary . . . . . .
- Dist. Boundary . . . . . .
- Dist. Head Quarter . . ⊙
- Sub-Division head Quarter •
- Rivers . . . .
- Soil Unit Boundary . . . . . .
- Soil Unit Number 4

Sources: IBRD, 1972
UNDP, 1971

Scale: 1 Inch = 8 Miles (Approx.)

10 8 6 4 2 0 10 Miles

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH	
RURAL ROADS STUDY	
SOILS	
LOUIS BERGER INTERNATIONAL INC. AND RAHMAN & ASSOCIATES LTD.	
PREPARED: Z. Abedin	RECOMMENDED
CHECKED	APPROVED
DATE	DRG. NO.

TABLE 5.
SEASONAL TEMPERATURE VARIATION

Season	Maximum mean	Minimum mean
Dry Summer (March to June)	91.0°F	72.8°F
Monsoon (July to October)	87.5°F	77.5°F
Winter (November to Feb)	78.7°F	56.5°F

Source: Meteorological Dept. Chittagong.

In general, rainfall in the district varies moderately with geographic location. The northwestern portion of the district generally receives more than the southeastern portion but the variation is less than ten inches annually. Variations in rainfall from year to year, however, can be substantial. While the average annual rainfall in the district is about 70 inches, approximately 115 inches fell in each the years 1973 and 1974 In contrast, less than 60 inches fell in 1972. Since most of the annual rainfall generally occurs from June through October, it is an extremely important hydrologic factor in the district.

Because of its geographic location, the climate of Faridpur District is unique among the four districts. The eastern portion of the district lies in what is considered to be the border area between the olimatic zones of the country.

Through this border area maritime air masses extend northward, especially during the months of March to June, to separate the predominantly continental air of the eastern and western climatic zones. This is caused not only by a high pressure "push" from the Bay of Bengal but by a low pressure "pull" from the continental zones, as well. The air movements, formed mainly by the differential heating and cooling rates of air over water versus air over land, are sufficient to overcome the continental air mass which, in the winter, extends into the Bay of Bengal. Where these maritime and continental air masses meet, thunderstorms (often called northwesters) are the result. Bhedarganj and Madaripur thanas are particularly affected by thunderstorms formed through this process.

Cyclones have struck Faridpur on numerous occasions, often causing considerable damage to life and property. Cyclones occurred in 1912, 1919, 1961 and 1966. Tornadoes struck most recently in 1967 and 1968.

2. Surface Water

Surface water, either as rivers or lakes, dominates much of Faridpur District. The district is bounded on the north by the Ganges River, on the northeast by the Padma River, on the east by the Lower Meghna River and on the west by the Madhumati and Garai Rivers.

The rivers of the interior of the district show the importance of the Ganges which once flowed to the west of Faridpur. The mean maximum, mean minimum and mean annual flows of the Ganges River at Hardinge Bridge are 1,730, 65 and 415 thousand cubic feet per second (mcfs).

The Garai River leaves the Ganges in the northwest corner of the district and with the Madhumati forms the western district border with Jessore. Principal tributaries include the Kumar, Nabaganga and Kaliganga Rivers.

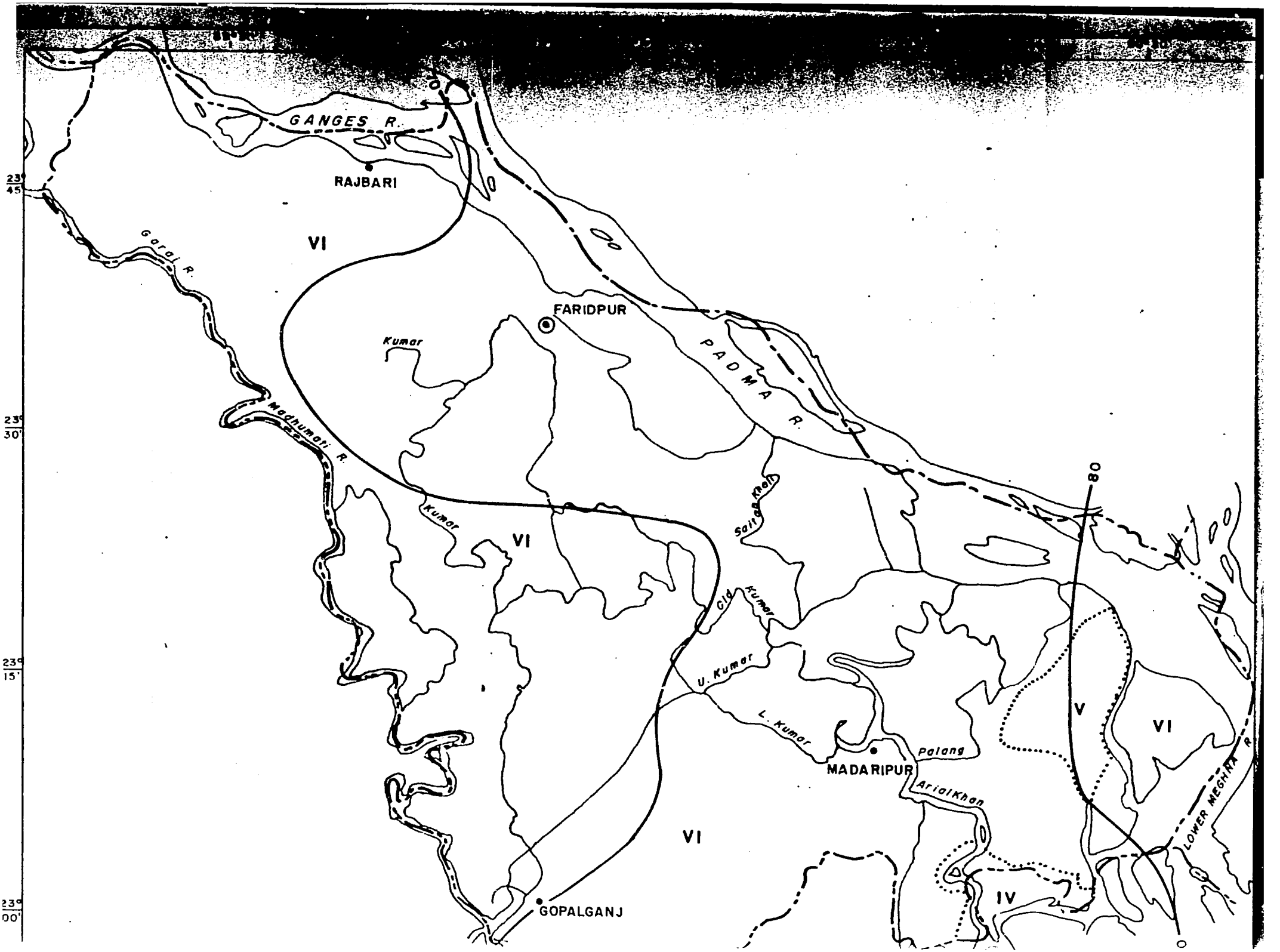
The Arial Khan flows in the southeastern portion of the district, receiving flows from the Bhadrasan and Palong Rivers, and flowing out of the district southeast of Kalkini.

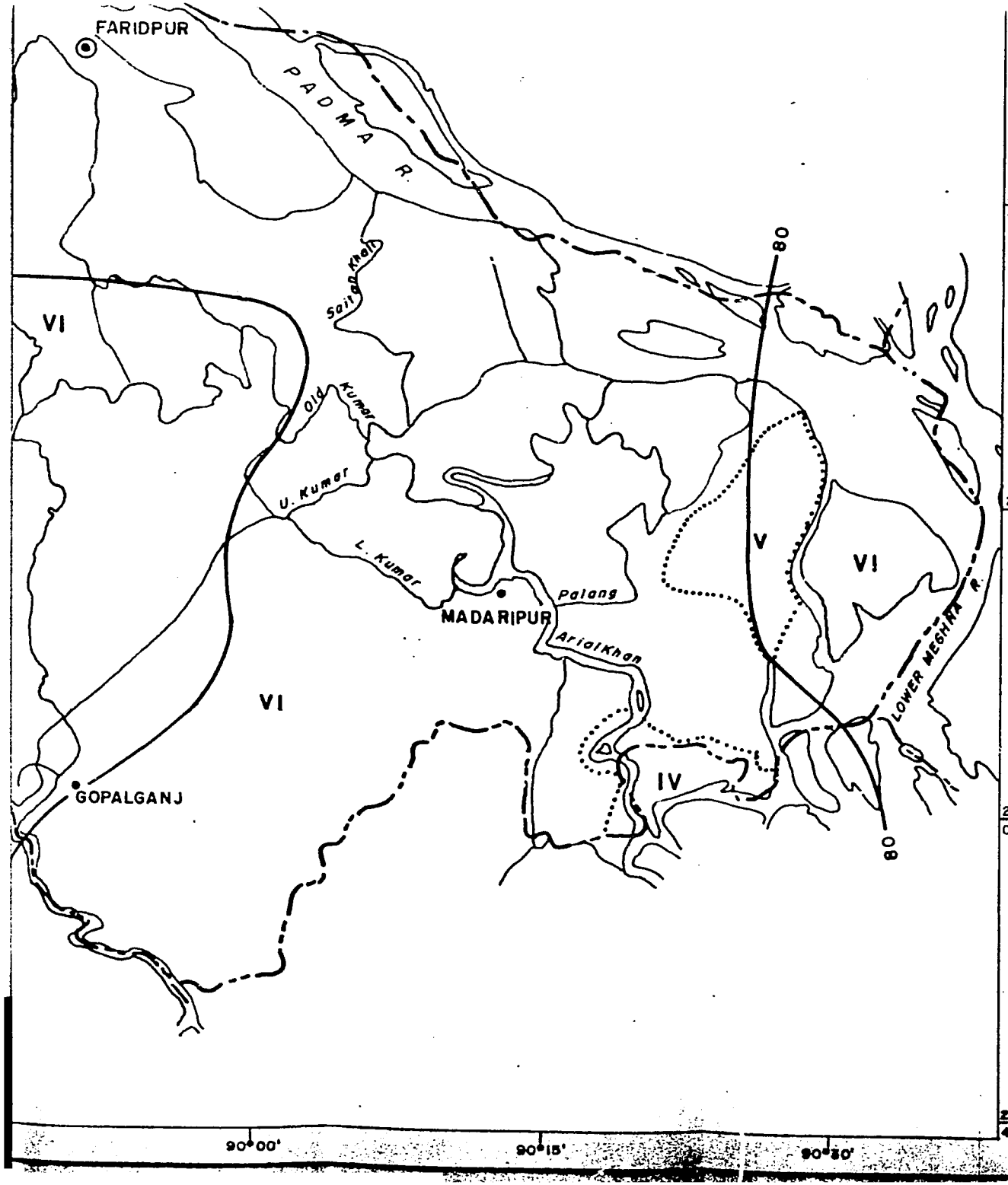
The Padma River is a broad waterway consisting of several channels between shifting banks and islands or chars. It is navigable all year. It begins to rise in July, as a result of the flooding of the Jamuna which joins with the Ganges near Goalundoghat. This rise is usually spent before the flood waters of the Ganges flow. Figure 3 illustrates the major rivers of the district.

The largest marsh or beel area lies in the southern area of the district, extending from the southern district boundary near Gopalganj to as far north as Madaripur and Rajoir. Essentially this area is one vast swamp with isolated strips of dry land during the dry season. During the rainy season the beels expand into lakes.

MAP INDEX

DRAINAGE UNIT NUMBER	DESCRIPTION OF LAND LEVELS IN RELATION TO FLOODING
IV	Mainly seasonally wet or shallowly flooded land
V	Mainly seasonally wet, shallow flooded land in basins
VI	Mainly deeply flooded land


GANGES R.
RAJBARI
23° 45'
Garai R.
VI
FARIDPUR
Kumar
PADMA R.
23° 30'
Madhumati R.
Kumar
VI
Saltha Khali
Old Kumar
23° 15'
U. Kumar
L. Kumar
Palang
MADARIPUR
Arial Khan
V
VI
LOWER MEGHNA R.
VI
IV
GOPALGANJ
23° 00'
80°



LEGEND:

- Division Boundary . . . .
- Dist. Boundary . . . . .
- Dist. Head Quarter . . . .
- Sub-Division Head Quarter
- Rivers . . . . . .
- Drainage Unit Boundary
- Drainage Unit Number VI
- Rainfall Isohyet in Mean Annual Inches . . . 70 —— 70

Source : I B R D , 1972

Scale: 1" Inch = 8 Miles (Approx.)

10 8 6 4 2 0 10 Miles

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH	
RURAL ROADS STUDY	
DRAINAGE WITH RAINFALL	
LOUIS BERGER INTERNATIONAL INC. AND RAHMAN & ASSOCIATES LTD.	
PREPARED: Z. Abedin	RECOMMENDED
CHECKED	APPROVED
DATE:	DRG. NO.

With the exception of a small area generally lying between Palong, Bhedarganj and the Padma River, the entire district consists of mainly deeply flooded land. In general, the central and southern areas are more poorly drained than the northwest portion of the district. The aforementioned exception is mainly seasonally wet and shallowly flooded in basin areas. Figure 3 indicates district land levels in relation to flooding.

Since a large part of the district slopes generally away from the rivers, it is subject to considerable flooding during the wet season. In general, unless the Ganges and Jamuna-Brahmaputra flood stages coincide, the higher areas in the northwestern portion of the district do not flood. Flooding affects Faridpur District with a balancing effect, however. If the floods are low, the higher area do not flood, depriving them of moisture and silt to renew the soil. On the other hand if floods are high and of long duration, they may damage the lowland crops. Major floods have occurred in 1787, 1824, 1838, 1870-71, 1954, 1958, 1968, 1970 and 1974.

Of the 2,669 square mile area of the district, approximately 1,129 square miles (42%) are normally flooded during the wet season. Of the 26 thanas in the district, the following are normally affected: Goalundoghat, Balinkandi, Bhanga, Alfadanga, Mukshudpur, Kasiani, Naria, Palong, Bhedarganj, Shibchar, Pangsa and Dammudiya.

3. <u>Ground Water</u>

Most of Faridpur District is within the lower Ganges floodplain hydrogeologic region, the exception being the southern portion near Gopalganj which is considered as within the zone demarcating

the salinity/freshwater groundwater table. The bulk of the district has an estimated well depth requirement of 150 to 200 feet for a potential estimated flow of 2 to 3 cubic feet per second (4" dia). Suitability for tubewell development is considered good. Only limited data are available, however.

C. Environmental Features

1. Flora

Faridpur District flora are dominated by aquatic varieties due to the presence of standing water for a substantial portion of the year, especially in the beel areas. Most common plants are water lilies, reeds and grasses. Due to cultivation and population, disturbance of natural vegetation is widespread and various types of vegetation, especially weedy types, are evidence that there is little undisturbed, natural growth.

Near the villages the most common trees are the Jival and Red Cotton Tree. Date Palms are found mainly in the north while Betel Nut trees are in evidence in the southern portion of the district. Cocoanut Palms are scattered except in Madaripur and Palong Thanas where large numbers exist. Betel Nut and Cocoanut Palms are declining due to a decrease in soil salinity caused by tidal recession. Bamboos abound in the district. A list of selected district flora is included in Annex II of the Volume I: Summary. There are no forested areas in the district.

2. Fauna

While the wildlife habitat area in Bangladesh has been reduced drastically over the past one hundred years or less, Faridpur District appears to have been even more severely affected than much of the rest of the country. Old records describe much of the district as "impenetrable morass" where rewards were paid for killing tigers, and wild buffaloes, leopards and wild pigs abounded. Most of these species are absent today due to habitat reduction through clearing and cultivation. An important point to note is that although nearly 16% of the area of Bangladesh is considered to be forest of some type, none are located in Faridpur District.

Among fauna, birds are particularly well represented in the district. Families present either seasonally or as residents include grebes, herons, storks, ducks, geese, eagles, hawks, buzzards, falcons, quail, plovers, sandpipers, pigeons, cuckoos, parakeets, owls, kingfishers, woodpeckers and many others. In all, 560 species are considered resident, seasonal or likely to be present in the district (Rashid, 1967). A complete list of these birds is contained in the summary volume Annex.

A number of species of mammals are present in the district, although diversification of species appears to have changed considerably within the relatively recent past due to population and cultivation of most available land. Common mammals present are hares, porcupines, rats, mice and wild boar. Few primates or carnivores are present. A number of bat species are present in the district. A complete mammal list for all four districts is included in the summary volume Annex.

A number of frogs, toads, lizards and snakes, both aquatic and terrestrial, exist in the district. A list of reptiles and amphibians for all four districts is included in Annex II

A vast number of fish varieties abound in and adjacent to the district during various seasons owing to the vast amounts of aquatic habitat which the district provides. A number are commercially harvested and represent an important source of protein. Species represented include freshwater, estuarine and marine varieties. Common fishes present include the bhetki (a sea fish known locally as the Korail machh), scaleless fishes (Order Siluridae) such as boal, pabda, chital, pholium, air, baor, pangas and dhain; members of the herring family (chupeidae) such as the popular hilsa, phansa and chela; khorsola of the mullet tribe; tapsi machh (mango fish) of the perch family; bhola (cod); rui, katla, kalbaus and mirgal of the carp family; shellfish such as galda chingri (prawns); and others such as sing (horned fish), chanda, balia, punti, lata and kai, a walking fish. Eels such as bain and pankal are also evident. A complete list of fishes is included in Annex to the summary volume.

IV. AGRICULTURE

A. Land Utilization

Approximately 1,283,160 acres of land in Faridpur are cultivatable of which 1,197,000 acres were used to raise crops in 1976. The ratio of cultivated land to cultivable land (cultivation intensity ratio) in Faridpur is 93.4%, which is one of the highest in Bangladesh and is well above the national average of 88.9%. The cropping intensity ratio, which is an indicator of the average number of crops grown annually per acre, is only 153(1.53 crops grown per acre)and on this basis Faridpur ranks ninth among the districts of Bangladesh.

Similar to many areas of Bangladesh, the cropping pattern in Faridpur is constrained by the annual depth of flooding which in many areas is between three and six feet. As a result, about 55% of the cultivated land in Faridpur is single cropped, 35% is double cropped and only 10% is triple cropped.

Most of the district is planted in mixed Aus and Broadcast (deep water) Aman sometimes followed by rabi (winter) crops on the ridges and basin margins. Secondary land uses are B. Aman with basins lying fallow or Aus with part jute followed by T. Aman and fallow. The Gopalganj peat basin lands are mainly B. Aman or Boro followed by fallow.

The average farm size in Faridpur, based on the 1960 Agricultural Census, was 3.2 acres and this compared closely 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 Faridpur has probably decreased by about one acre since 1960 as a result of the rapid growth in population. A more detailed analysis of 1960 district and national farm size data is given in Table 6.

TABLE 6
NUMBER AND PERCENT OF FARMS BY SIZE, 1960
(ACRES)

		0-0.5	0.5-2.4	2.5-4.9	Over 5	Total
Faridpur	#	46,330	172,190	105,030	74,860	398,410
	%	12	43	26	19	100%
Bangladesh	#	802,630	2,367,250	1,615,020	1,354,580	6,139,480
	%	13	39	26	22	100%

B. Major Crops

Rice is by far the most important crop grown in the district and it is the major subsistance crop. In 1975-76 rice was grown on 1,436,000 acres or roughly 78% of the total cropped acreage. The rice crop consists of the three main groups classified by seasonal characteristics, viz aus (autumn rice), aman (winter rice) and boro (spring rice) (see Table-7).

The Aus and Aman crops are the major rice crops. Since most of the district is medium low land with moderately permeable soil, the Aus crop and B. Aman crop are often sown together from March to May. The floods from the Ganges-Padma River usually come in August and are slow rising. Hence, the Aus crop is allowed to mature and is harvested in July/August before the flood peak. The B. Aman crop is able to withstand considerably deeper water and can be harvested in November/December. Over 80% of the rice in Faridpur is planted in this mixed Aus/B. Aman pattern.

TABLE 7
PRODUCTION SEASON FOR MAIN FOOD GRAINS

Type of Food Grain	Sown	Harvested
Aus	March/April	July/August
Transplanted Aman	July/August	November/December
Broadcast Aman	March/May	November/December
Boro	December/January	April/June
Wheat	November/December	February/March

Some of the thanas of Madaripur and Shariatpur subdivisions are not able to harvest the Aus crops because of early flooding. These areas are thus planted entirely with B. Aman. B. Aman is also planted in the higher portions of the Gopalgang beel which are dry during the March/April planting period.

The Boro crop, however, is the most important rice crop in Gopalganj and it is planted in the Marsh or beel areas as the water recedes in November through January. Although the Boro crop accounts for only about 5% of the total grain acreage in Faridpur, it produces 15% of the district's grain. (See Table 8). This is because two thirds of the Boro crop in Faridpur (50,000 acres) is planted in High Yielding Varieties (HYV).

TABLE 8

ACREAGE AND PRODUCTION OF CROPS 1974-75

Crop		No. of acres sown (000)	Production tons (000) *Jute bales	% of District Grain Production
Aus	Local	571	174	40
	HYV	2	2	0
	Total	573	176	40
Trans-planted Aman	Local	6	3	1
	HYV	0	0	0
	Total	6	3	1
Broad - cast Aman	Local	661	181	41
	HYV	0	0	0
	Total	661	181	41
Boro	Local	24	13	3
	HYV	50	55	12
	Total	74	68	15
Wheat	Local	44	12	3
	HYV	1	1	0
	Total	45	13	3
Other Food Grains		8	1	0
				% of National Production
Jute		155	349*	10
Pulses		10	23	11
Oilseeds		73	13	7
Sugarcane		26	411	6
Fruit		17	46	3

On a district wide basis, however, only 3% of the total grain acreage is planted in HYV. This constitutes the lowest utilization of HYV strains of any district in Bangladesh, There are many reasons for Faridpur's low HYV adoption rate but the major constraints are (1) the lack of water control, both drainage and irrigation and (2) the difficulty in providing fertilizer and agricultural extension services to remote areas because of poor transportation.

Jute is the second most important crop after rice and is grown [illegible] all the thanas of Faridpur. Nationally, the district is among the leaders in the production of jute, but the annual district acreage varies because of the fluctuations in jute prices.

In Faridpur 60% of the jute acreage is planted in white jute (Capsularis) and 40% is planted in Tossa jute (Olitorius). The white jute can tolerate some flooding and is planted on the lowlands about March and harvested between June and August. The Tossa jute is planted on higher lands protected from the floods, from April to May and harvested between August and September. Generally jute yields average about 10-16 maunds per acre in Faridpur except for the prolific Chars of the Ganges-Padma River where yields reach as high as 30 maunds.

The growing season of jute directly competes with the Aus and B. Aman crops in Faridpur. Since jute is grown as a cash crop, the relative prices of rice and jute are the major determinant of the acreage planted in each crop. In general, the farmer produces enough rice for his family needs; whether he plants

jute or rice on the remaining area depends upon the price ratio.

Pulses (Dal) are the third major crop grown in Faridpur and account for 5% of the total cropped area. (See Table 8) Pulses are grown on 103,974 acres throughout the district as a rabi crop, some of which is consumed by the farmer. Pulses are a dry season crop usually planted in November and harvested in March. This growing season allows pulses to be planted in a cycle with mixed Aus/B. Aman crops on medium high lands or with jute in the char areas.

Oilseeds, particularly mustard and til (sesame), are grown as a rabi crop in the thanas of Rajoir, Madaripur, Kalkini and Muskudpur. Groundnuts are also grown as a rabi crop and there are currently 8,000 acres under cultivation concentrated in Goalandoghat, Sadarpur, Faria and Sibchar. Oilseeds are sown in November/December after the B. Aman or jute crop is harvested. The crops are then harvested in February/March just before the Aus/B. Aman crop or jute is planted. Other significant rabi crops in the district are onions, garlic and chillis and these are grown in Sadarpur, Bhanga, Madaripur and Goalandoghat.

The other important crop in Faridpur is sugar cane which is grown in two main areas: Shariatpur Subdivision and the north-west thanas arround the Madukhali sugar mill. Sugar cane has a twelve month growing period usually February to February. Since it takes up the land of two or more other crops the selling price must be attractive to induce the farmer to plant it. Most of the cane from Shariatpur is locally crushed and made into gur(indigenous sugar). The cane from the Madukhali region is refined into sugar at the mill and shipped to other

parts of the country. There are, however, major transportation problems in getting the cane from the farm to the sugar mill. The people in Rajbari, Pangsha and Baliakandi thanas who do not have access to the rail line are particularly affected by the lack of road transportation.

There is no widespread cultivation of fruit crops in Faridpur even though nationally the district ranks ninth in production. In 1974-75 fruit cultivation in Faridpur covered 16,940 acres and produced 45,777 tons, mainly: mango, jackfruit, coconut, date, banana, papaya, litchi, lemon and custard apple.

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 information for the rural farmer. In addition, they are the main center of local, commercial and social interaction.

According to the District Revenue Office there are 421 hats and bazars in Faridpur District. These are categorized into three classes and those hats and bazars are summarized by subdivision in Table 9 .

TABLE 9

SYNOPSIS OF HATS AND BAZARS

Name of Sub-Division	Total No. of(1) "A" class hats	Total No. of(2)"B" class hats	Total No. of(3)"C" class hats	District total
1. Faridpur-Sadar	6	12	110	128
2. Madaripur	3	4	81	88
3. Shariatpur	0	14	53	67
4. Gopalganj	0	12	66	28
5. Goalando	2	8	50	60
Total	11	50	360	421

Note:

(1) Last three years average income of Hats and Bazars above 50,000/00 Tk. classified as "A" class.

(2) Last three years average income of Hats and Bazars above 5,000/00 Tk. to 50,000/00 Tk. classified as "B" class.

(3) Last three years average income of Hats and Bazars upto 5,000/00 Tk. classified as "C" class.

Although the District Revenue Office classification is a good indication of the number of markets in each subdivision it is not wholly reliable in assessing market importance. This classification is not based upon the number of transactions or the number of people who attend the market, but only upon the price the government receives for leasing the market. In some cases these prices are "fixed" to allow privileged local institutions a source of income.

In order to obtain an accurate picture of the most important markets in Faridpur these markets were crosschecked with the Agricultural Marketing Directorate. The resulting names and locations of the designated primary and secondary markets are shown on the map given in Figure 4. The local hats and small bazars have been omitted from this map.

As indicated in Table 9, however, there are numerous local markets in Faridpur. Typically these markets are small and usually sit on the bank of a river or on the roadside under the 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 load 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 bullock cart, country boat or shoulder sling.

These 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 Madaripur Subdivision, Sibchar, Utrail and Charmuguria are the principal jute markets, while Haturia is a major cattle market. In the north, Rangsha and Bagduli are important rice markets.

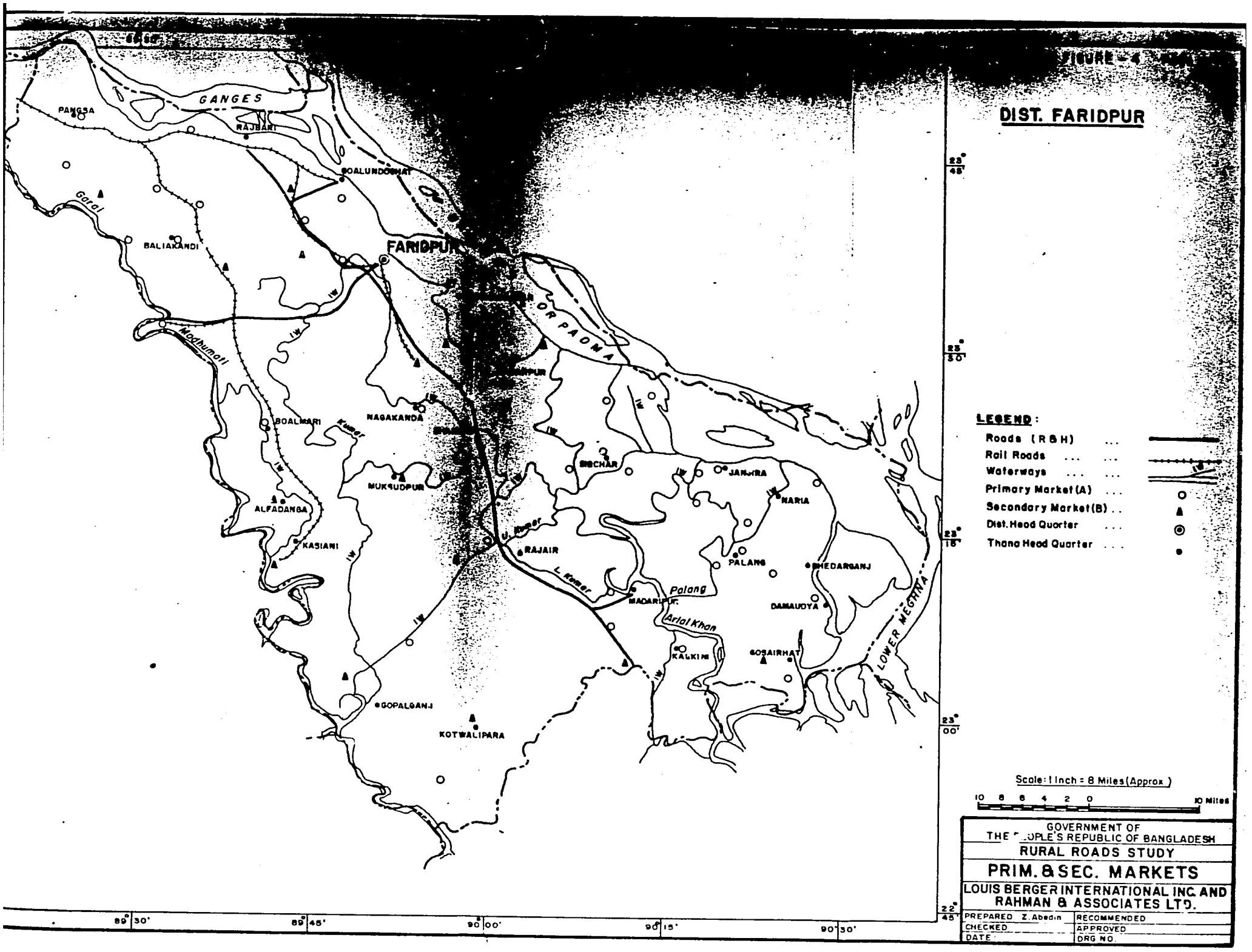


FIGURE - 4
DIST. FARIDPUR
GANGES
PANGSA
RAJBARI
BOALUNDOGHAT
FARIDPUR
BALIAKANDI
Garai
Madhumati
BOALMARI
Kumar
NAGAKANDA
MUKSUDPUR
ALFADANGA
KASIANI
GOPALGANJ
KOTWALIPARA
RAJAIR
L. Kumar
MADARIPUR
Arial Khan
KALKINI
GOSAIRHAT
DAMAUDYA
SHEDARGANJ
PALANG
NARIA
JANJIRA
SHEBCHAR
OR PADMA
LOWER MEGHNA
IW
LEGEND:
Roads (R&H) ...
Rail Roads ... ...
Waterways ... ...
Primary Market (A) ...
Secondary Market (B) ..
Dist. Head Quarter ...
Thana Head Quarter ...
Scale: 1 Inch = 8 Miles (Approx.)
10 8 6 4 2 0 10 Miles
GOVERNMENT OF
THE PEOPLE'S REPUBLIC OF BANGLADESH
RURAL ROADS STUDY
PRIM. & SEC. MARKETS
LOUIS BERGER INTERNATIONAL INC. AND
RAHMAN & ASSOCIATES LTD.
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The bulk of the commodities in the major markets are collected by the beparis and farias and sold to wholesalers. In addition, the markets operate as small retail markets but on hat 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 other districts of Bangladesh. Most of the goods sent from Faridpur go to Dacca and Comilla by country boat although there is some goods movement by road to Dacca. Examples of the major commodity movements from Faridpur are shown in Table 10.

TABLE- 10
COMMODITIES SHIPPED FROM FARIDPUR (1972-73)

Commodity	Tonnage	Destination	Transport Mode
Pulses	20,000	Comilla	Country Boat
Pulses	17,000	Dacca	Country Boat
Pulses	1,000	Dacca	Road
Fruit	5,000	Comilla	Country Boat
Firewood	27,000	Dacca	Country Boat
Raw Jute	53,000	Dacca	Country Boat
Raw Jute	44,000	Khulna	Country Boat
Raw Jute	10,000	Khulna	Road
Raw Jute	5,000	Khulna	Rail
Raw Jute	10,000	Comilla	Country Boat
Jute Bales	2,000	Khulna	Mechanised Vessel

The marketing of jute is basically the same as for the other agricultural crops but the process is more structured and consists of three distinct stages:

(1) collection by beparis and farias at the farmgate or in local hats;
(2) transport to a baling center or secondary market;
(3) transport from the secondary market to the jute mill or shipping point.

As can be seen in Table 10, most of the raw jute from Faridpur is sent to the jute mills in Dacca, Comilla and Khulna for processing. A smaller proportion is processed at the jute mill in Madaripur or baled in Charmuguria or Goalundo and sent by powered vessel to Chalna for export.

Transportation or the lack of it is a major factor in the marketing pattern of Faridpur. Currently, only 8 of the district's 36 primary (Class A) markets and 3 of the district's 15 secondary (Class B) markets are served by an all-weather road. (See Figure 4) Of the markets not connected by all-weather road, 6 of the primary markets and 2 of the secondary markets have rail service but the other 32 markets must move their commodities by boat, bullock cart or headload.

Some of these markets such as Sureswar, Laukhola and Matbar Char have easy access to the Ganges-Padma River or other major waterways but others are not so fortunate and when the flood waters recede boats are not able to ply on the shallow rivers that connect many important markets.

The jute farmers have a particular problem at this time. Though the market price is higher after the flood waters have receded, they cannot transport the jute to the markets. The traders, aware of the farmer's plight, are thus able to purchases the jute at well below the market price before the floods subside.

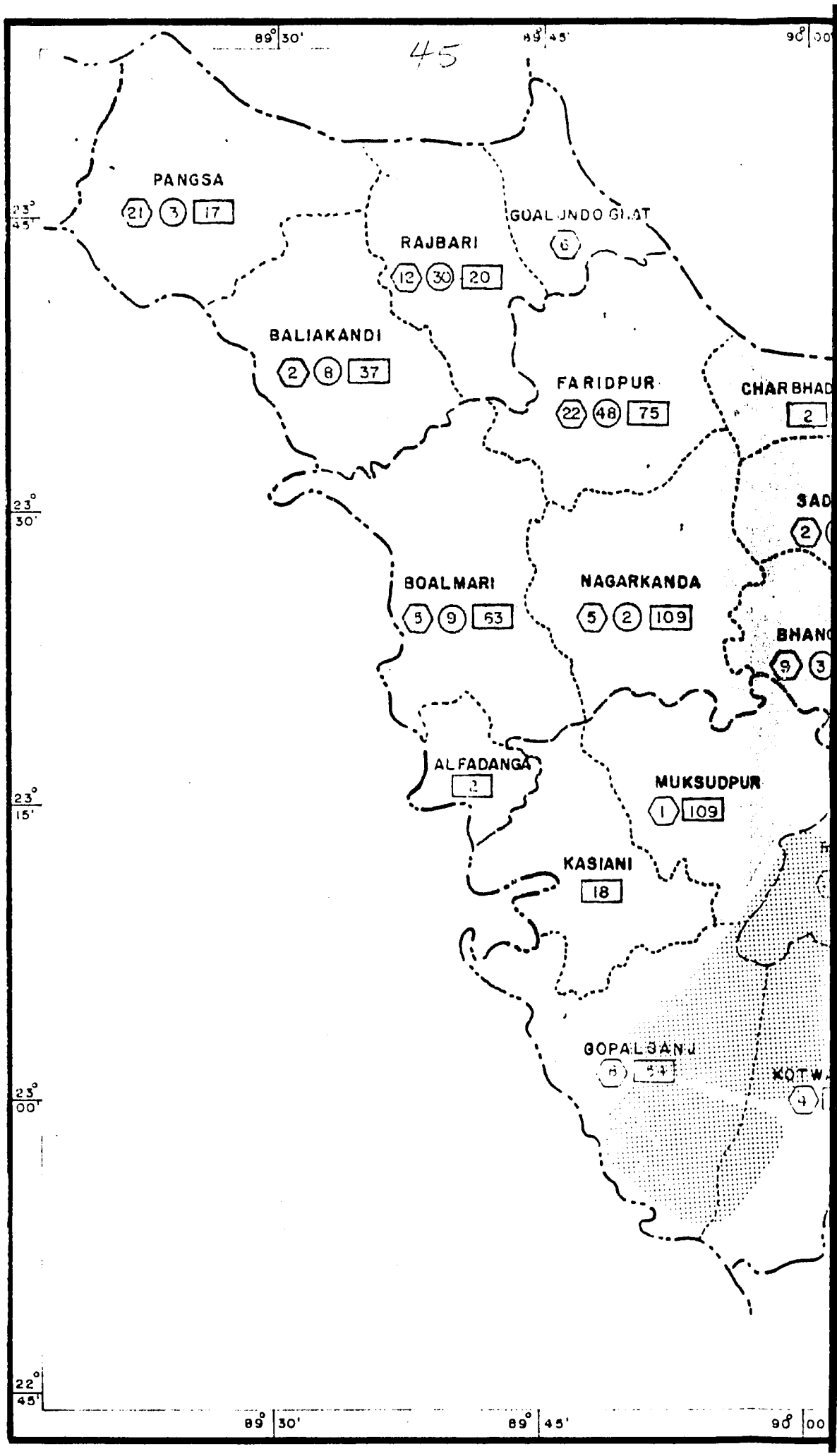
D. Agricultural Inputs

1. Irrigation and Flood Protection

As mentioned in section B, water control, both for irrigation and drainage, is one of the major problems in Faridpur. Currently, there are three major on-going water control projects in Faridpur and these are identified in Figure 5

The largest of these projects is the Faridpur Project which began in 1974-75 and is expected to cover 905,000 acres of land in thirteen thanas in Faridpur and two thanas in Kushtia. This is a major flood protection, drainage and irrigation [illegible] which if completed will protect 817,000 acres from flood and irrigate 653,000 acres. This project however is only 5% complete and it is unlikely that the project will be fully funded and finished for some time.

The other two water control projects are much smaller schemes. The Tarail Pachuria Project is planned to protect 40,000 acres of land in Kotowalipara and Gopalganj thanas from flooding. This project consists of building 115 miles of embankment divided into six polders. The project began in 1974-75 and is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BALIAKANDI
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FARIDPUR
22
48
75
CHARBHAD
2
SAD
2
BOALMARI
5
9
63
NAGARKANDA
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2
109
BHANG
9
3
ALFADANGA
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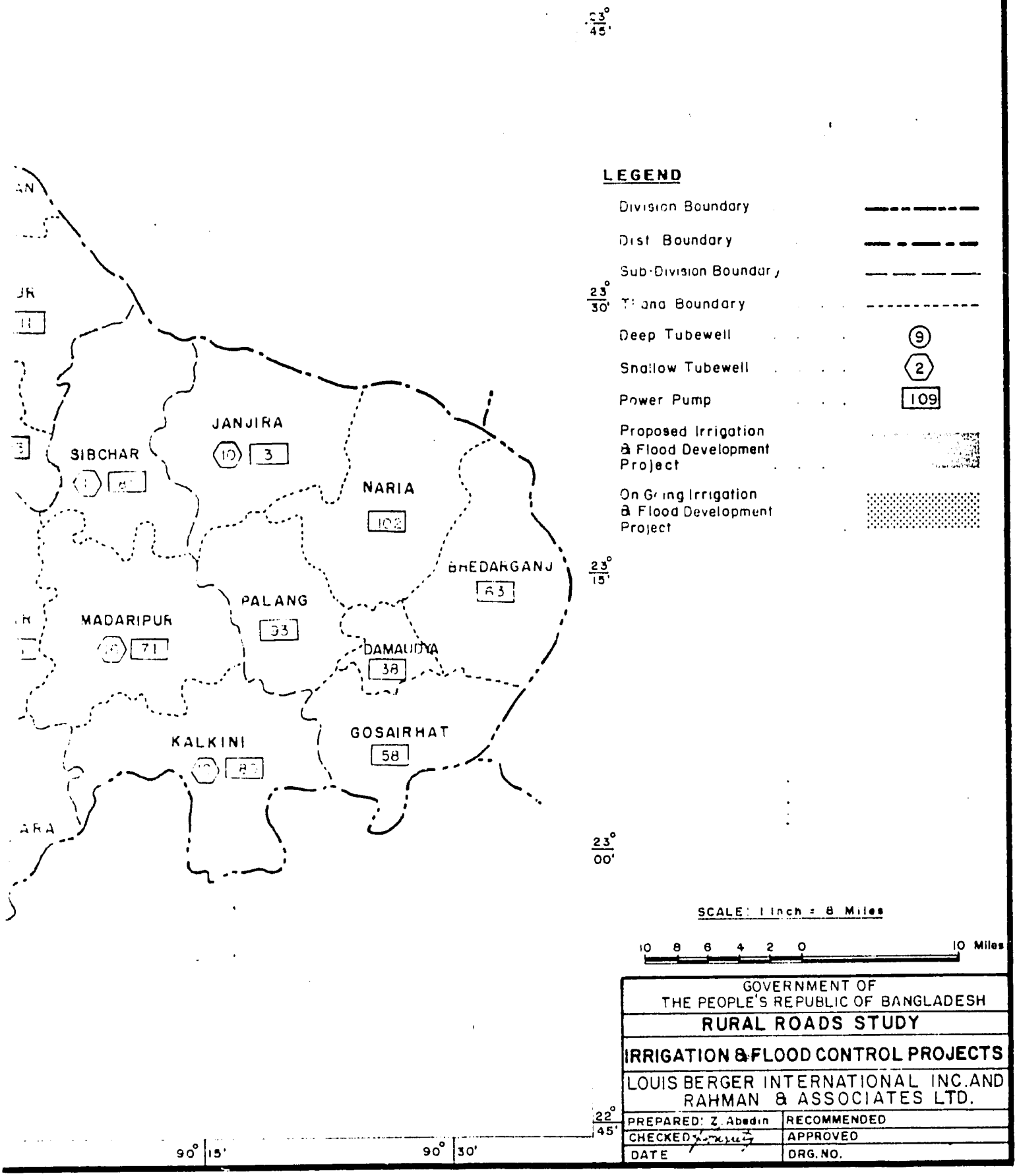
MUKSUDPUR
1
109
KASIANI
18
GOPALGANJ
8
54
KOTWA
4

45 A

DIST. FARIDPUR



now about 15% complete. No completion data is given but the project has received annual government grants.

The third project is the rehabilitation of embankments, khals and structures along the Madaripur Beel Route, which runs from Gopalganj to Takerhat. This project will protect 66,000 acres of land from flood and is currently 15% complete.

Despite these three major projects all of which are in the initial construction stage, Faridpur lags behind the other districts in water control and irrigation. According to 1975-76 statistics, only 66,630 acres of land are irrigated in Faridpur. This figure represents only 6% of the net cultivated acreage of the district, and is one of the lowest percentages in Bangladesh.

In Faridpur low lift pumps have supplied themain thrust of irrigation development with the thanas of Bhanga, Rajoir, Kalkini and Muksudpur having the most pumps. (See Table 11). The average irrigated area per pump is reportedly 32 acres. However, there is reason to believe that this figure may be overstated.

There are currently 301 shallow tubewells in Faridpur and 240 deep tubewells. As can be seen in Table 11 the bulk of these are in the northern part of the district. In some of the southern areas, especially Shariatpur Subdivision, deep tubewells are not effective because of salinity. The experience with tubewell irrigation has not been encouraging. There have been major problems with repair and maintenance as well as with organization. The deep tubewells are designed to irrigate an average of 40 acres and the shallow tubewells approximately 10-16 acres each. However, judging from responses to local enquires and observation little credence can be given to such figures.

These are reinforced by a recent report in 12 districts stating that only some 2/3 of the tubewells sunk were working and these were only irrigating about 5 acres each.

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

Thana	Power pump allotted	Power pump in use	Deep Tubewells	Shallow Tubewells
Faridpur Sadar				
Kotwali	131	75	48	22
Boalmari	70	63	9	5
[illegible]	4	2	-	-
[illegible]nda	149	109	2	5
Bhanga	269	233	3	9
Sadarpur	14	11	4	2
Charbhodrasan	2	2	-	-
Sub-total:	639	495	66	43
Goalundo				
Pangsha	24	17	3	21
Balinkandi	38	37	8	2
Rajbari	24	20	30	12
Goalundo Ghat	3	-	-	6
Sub-total:	89	74	41	41
Shariatpur				
Palong	94	93	-	-
Janjira	3	3	-	10
Naria	102	102	-	-
Bhedarganj	68	63	-	-
Goshairhat	57	58	-	-
Damuddiya	37	38	-	-
Sub-total:	361	357	0	10
Madaripur				
Madaripur	93	71	-	16
Shibchar	81	81	-	1
Rajoir	83	81	-	15
Kalkini	181	180	-	10
Sub-total:	438	413	0	42

"Table continues on following page"

Thana	Power Pump allotted	Power Pump in use	Deep Tubewells	Shallow Tubewells
Gopalganj				
Gopalganj/ Tongipara	50	54	-	8
Kotwalipara	60	52	-	4
Kasiani	23	18	-	-
Muksudpur	133	109	-	1
Sub-total:	266	233	0	13
District total:	1,793	1,572	107	149

2. Fertilizer

Faridpur has the lowest per acre fertilizer use among the districts in Bangladesh, with an average of only 7 lbs used per crop acre in 1975-76. This compares most unfavourably with the national district average of 36 lbs per acre. Faridpur uses only 1% of the country's fertilizer consumption even though it has 6% of the country's cropped acreage.

Since there is no fertilizer factory in Faridpur, all of the districts fertilizer requirements must be imported. The major shipments are sent from Chalna by rail and country boat to Goalandoghat, Madaripur and Boalmari. Smaller amounts are also shipped from Narayanganj and Ghorasal in Dacca District to Palong, Naria and Goshairhat. Intermediate fertilizer godowns are planned for Tepakhola (2000 tons), Madaripur (500 tons) and Kalkini (500 tons) and these should improve the district's distribution system. The fertilizer distribution figures for

1975-76, 1976-77 and 1977-78 for each thana are shown in Table 12.

The major problem in distributing fertilizer to the thanas is transportation. This is particularly so in the dry season for the thanas of Alfadanga, Charbhadrasan, Nagarkanda, Sadarpur, Baliakandi, Kotwalipara, Naria and Sibchar. These thanas are fairly accessible in the flood season because of water transportation but when the water recedes transport communication becomes almost impossible. It is a particular problem for the Bangladesh Agricultural Development (BADC) Office in Faridpur, and for the farmers, because if the fertilizer does not reach the thanas on schedule, it is of little use.

TABLE. 12
DISTRIBUTION OF FERTILIZER (TONS)

Name of Thana	1975-76	1976-77	1977-78
Subdiv: Faridpur Sadar			
1. Kotwali	580	642	1062
2. Char Bhadrasan	30	102	188
3. Sadarpur	138	265	373
4. Bhanga	1010	1018	1223
5. Nagarkanda	527	553	429
6. Boalmari	390	1111	1294
7. Alphadanga	23	61	N/A
Sub-total:	2698	3752	8569
Subdiv: Rajbari			
8. Rajbari	485	410	782
9. Goalandoghat	76	115	136
10. Baliakandi	76	174	160
11. Pangsha	312	631	669
Sub-total:	949	1330	1547
Subdiv: Gopalgonj			
12. Gopalgonj	132	150	203
13. Muksudpur	345	296	349
14 Kasiani	203	70	183
15. Kotwalipara	78	103	46
Sub-total:	758	619	781
Subdiv: Madaripur			
16. Madaripur	344	406	867
17. Shibchar	146	272	431
18. Rajoir	329	210	193
19. Kalkini	409	418	877
Sub-total:	1228	1306	2368
Subdiv: Shariatpur			
20. Janjira	56	186	315
21. Bhedargonj	140	346	416
22. Palong	178	287	541
23. Goshairhat	312	318	640
24. Naria	251	394	869
Sub-total:	937	1531	2781
District Total:	6570	8538	16046

A major constraint to increased fertilizer use in Faridpur is the present cropping pattern of mixed Aus and B. Aman which is planted in 80% of the district. Aus is generally regarded by the farmers as a high risk crop because of the possibility of early flooding and B. Aman, which is grown in deeply flooded areas carries a higher risk of loss or damage. As a result, the farmers are reluctant to invest much money in fertilizing these two crops.

The Boro rice crop, grown on only 5% of the grain cropped acres in Faridpur, has a much higher fertilizer-intensity. The HYV varieties respond to fertilizer more than the local varieties and both are much less risk-prone that either the Aus or B. Aman crop.

Two other crop of importance have a fairly high average fertilizer intensity: jute and sugar cane. The latter does not have a large impact on the district-wide consumption figures but does affect those of the thanas surrounding the Madukhali Sugar Mill.

3. Credit

Agricultural Credit is available to farmers in Faridpur from official and non-official sources. The non-official sources are the local money lenders, who often give credit at exhorbitant 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 National Commercial Banks (NCBs).

The government has made a strong effort to provide institutional agricultural credit to farmers. The Bangladesh Jatiya Samabaya Bank 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 Faridpur but the bank is an important source of credit.

The Bangladesh Krishi Bank has eight branch offices located in Boalmari, Faridpur Town, Bhederganj, Gopalganj, Kotwalipara, Rajbari, Madaripur and Goshairhat. (See Figure 6). Half of the 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.

TABLE 13

LOANS DISBURSED BY BANGLADESH KRISHI BANK FARIDPUR

(Amount in Thousand Taka)

Sl. No.	Branches	1973-74			1974-75		
		No. of Loans	Amount	Amount out standing	No. of Loans	Amount	Amount out standing
1.	Faridpur	1,280	1,036	4,070	904	818	4,587
2.	Boalmari	425	418	1,536	508	518	1,900
3.	Kotwalipara	467	314	-	558	412	690
4.	Madaripur	771	640	3,934	639	670	5,329
5.	Bhederganj	118	86	723	337	305	546
6.	Goshairhat	35	29	19	464	365	319
7.	Gopalganj	1,058	638	2,698	373	299	3,347
8.	Rajbari	964	696	4,365	490	583	6,696
	Total:	5,118	3,857	17,345	4,273	3,970	23,414

Source: Bangladesh Krishi Bank.

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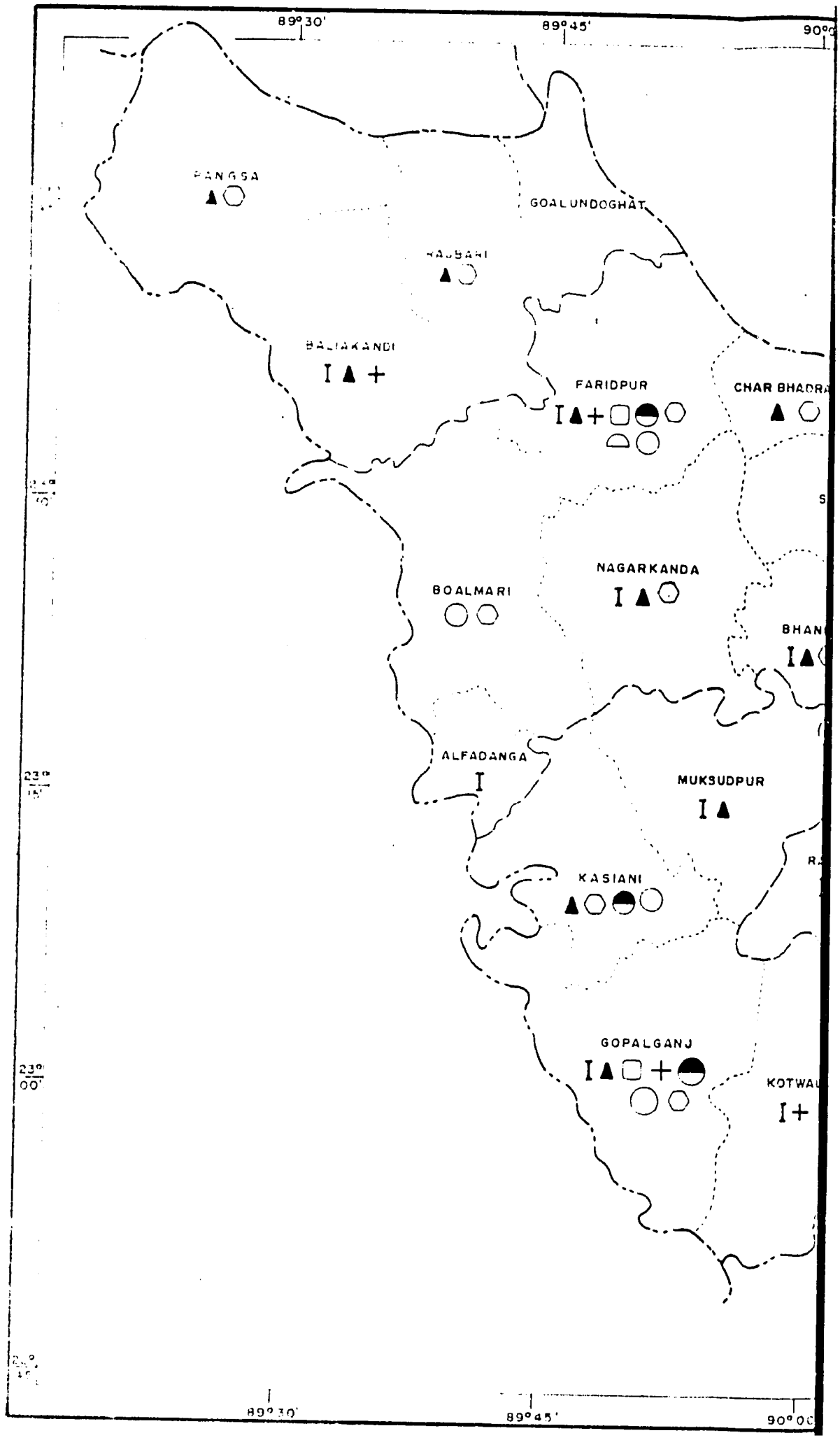
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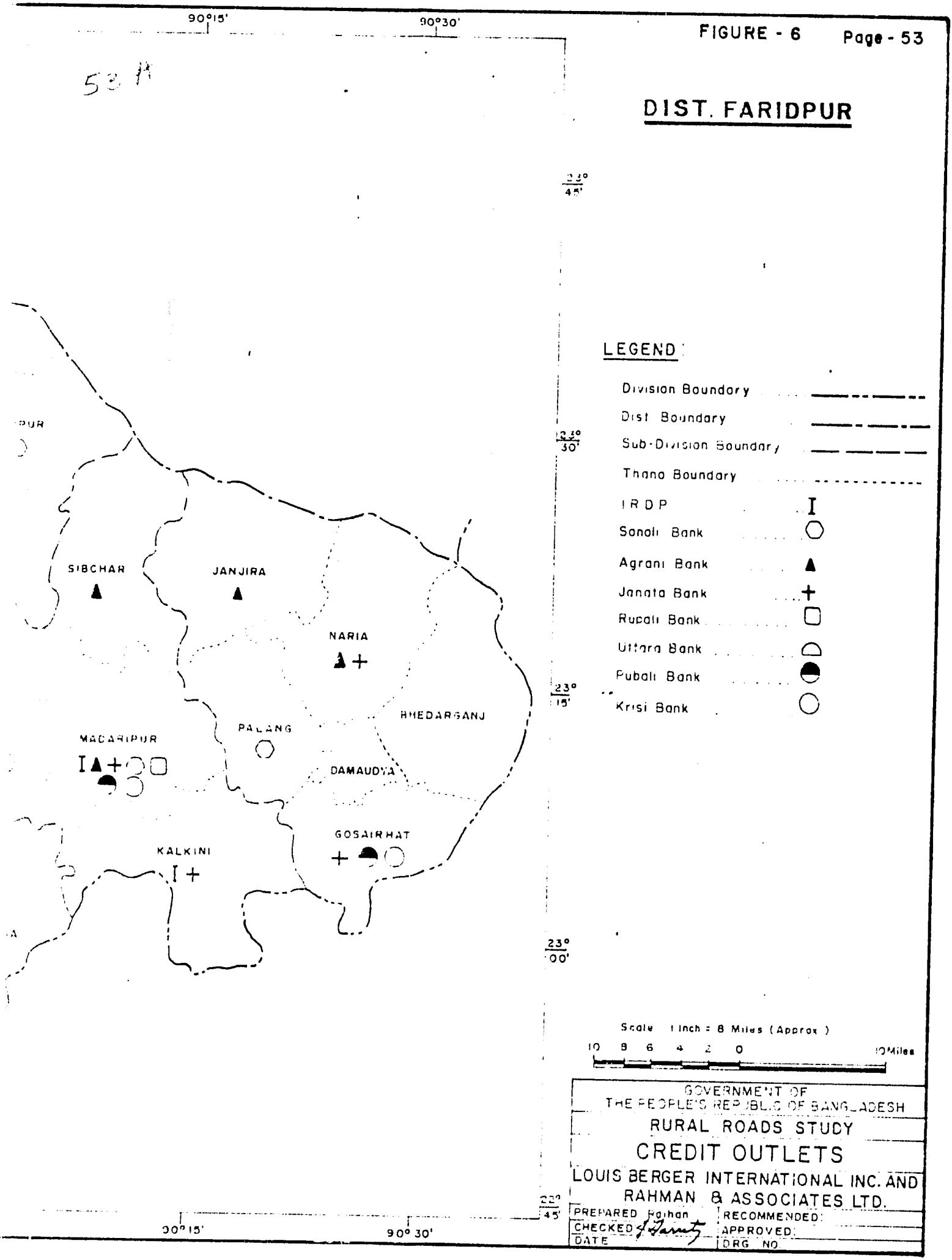
DIST. FARIDPUR



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 of this type. The table seems to support this assumption, as it can be observed that the number of loans decreased from 1973-74 to 1974-75 but the total amount loaned increased slightly. What is very noticeable, however, is the increase in the amount of money outstanding. The records indicates that many of these loans will never be collected as the borrowers have defaulted. This is not peculiar to Faridpur but is a reflection of the long standing default problem that has plagued institutional lending in Bangladesh, as in other developing countries.

There are Integrated Rural Development Programs in ten thanas in Faridpur (See Figure 6). Along with their responsibilities for education and training, the IRDPs provide short term crop loans to their members at 17.5% interest. Detailed information of the loan levels of individual IRDPs, however, are not available.

A new government program, the 100 Crore Agricultural Credit Program, was established in February 1977. The Bangladesh Krishi Bank and the Nationalized Commercial Banks (Sonali, Janata, Agrani, Rupali, Pubali and Uttara) 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 reports from Faridpur indicate that the banks have remained far behind their loan quotas because the farmers are reluctant to invest in fertilizers and other agricultural inputs.

In the new budget the government is increasing this program to 150 Crore for 1979. Despite these government efforts, there are still major bottlenecks in the organization and distribution of credit to small farmers. These constraints will probably exist for some time.

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 fertiliser, irrigation, HYV seeds and credit.

As noted in section A, the cultivation intensity ratio in Faridpur is 93.4% and is one of the highest in Bangladesh. Therefore, there is little possibility of improving agricultural production by increasing the acreage under cultivation.

Also noted earlier and repeated here for emphasis, the cropping intensity ratio of the district is only 153 and only about 10% of the cultivated land in Faridpur is triple cropped, 35% is double cropped and 55% is single cropped. 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, only the introduction of new crops could alter the current cropping pattern.

There is great potential for increasing the use of low lift pumps in the Subdivisions of Shariatpur, Madaripur, Gopalganj and portions of Barisal because of the abundant supply of surface water. The northern part of Faridpur District does not have as much surface water and therefore has more limited potential for increased power pump use. This area, however, has a large number of tubewells.

According to the 1972 soil survey project sponsored by the FAO, the central area of Faridpur could plant IRRI Boro/Aus or wheat on the clay soils and basin margins and local Boro crops in the basin centers. Additionally, wheat and other rabi dry-land crops followed by Aus or jute could be planted on loamy soils.

In the northern part of Faridpur, irrigation would allow large scale planting of IRRI, Aman and sugarcane and increase the suitability for IRRI Boro/Aus.

In the Gopalganj beel area, HYV Boro could be grown extensively with low lift pump irrigation. With controlled drainage, the Boro could be followed by T. Aman on the basin margin soils.

If water control permitted the conversion to more HYV strains, then there would be a greater need and potential for increased fertilizer usage. Without water control, Faridpur cannot be expected to alter radically its agricultural pattern. In that case changes will have to be incremental, largely based upon the introduction of new crops such as wheat, which is now planted on 35,000 acres in Faridpur.

V. OTHER ECONOMIC ACTIVITIES

2. Fisheries

Fish resources play an important role in the economic life of the people of Faridpur, especially in the eastern and southern regions where an extensive river network provides the natural sources for fish development. Exploitation and marketing of existing fish resources are known to be suffering because of deficiencies in transportation facilities in these regions. Improved road transportation is likely to benefit substantially thanas like Gopalganj, Kotwalipara, Sibchar, Charbhadrasan, Boalmari, Naria, Nagarkanda, Fuksudpur and Alfadanga. Excavation and re-excavation of closed areas of fish-farming (e.g. tanks, lakes, beels etc) are also now receiving priority attention. The Thailand type tilapia nilotica, and the Japanese type, common carp (cyprinus carpio), are attracting increased attention for such new efforts of fish development.

The Fisheries Directorate has been operating fish seed multiplication farms in several centers like Faridpur Sadar, Madaripur, Rajbari, Gopalganj and Baliakandi. One farm manager is supervising the work at the Faridpur Fish Seed Farm. In the field of development and management of neglected tanks and beels, the Directorate has undertaken substantial development work in one unit of 27 acres of water in Faridpur Sadar.

A special project under the Food for Work Program has been undertaken in Baliakandi. This involves the re-excavation of 33 acres of closed water area and offers development and management services for the provision of carp fry to farmers

(at the rate of 200,000 fry per year). The project also includes production of large fish, mainly carp, for sale in markets.

Many tanks need re-excavation; but often poor transportation facilities hinder both development and production. One fish farm per thana can produce and deliver 100,000 fry in the thana. The total impact of a comprehensive activity in all thanas could be significant.

3. Livestock and Animal Husbandry

Meat and milk suppliers for the people of Faridpur come almost exclusively from the domestic sources of livestock resources, mostly cattle and goats. Cultivation of land is also almost entirely dependent on the use of bullock-power for the plough. Milk and milk-products (including ghee and cheese - based sweets) are traditionally well-known for certain areas, especially in the Damuddiya thana. Naturally, hides and skins constitute a large valuable resource base.

It is the responsibility of the District Livestock Officer to upgrade the level of animal husbandry in the district. He has a staff of three or four persons in most of the thanas in the district. However, there are a number of constraints to the conduct of an effective program.

Perhaps the major problem is an inadequate supply of vaccine for animal diseases. Particularly noted were Newcastle's Disease for poultry and Foot and Mouth Disease for cattle, both of which could be controlled by the present staff if vaccines were available.

There is considerable room for improvement of cattle strains in the district, though the breed of cattle is of higher quality than in many other districts. An artificial insemination program is conducted at the union level. However, transport problems hinder the effectiveness of this program. In the amount of time required to transport the semen to the union level for the program, it loses much of its strength.

The West German government is also giving some assistance in cattle breeding, and some cattle from Savar are being brought to Faridpur for breeding.

The recent opening of the new milk processing plant at Takerhat by Milk Vita increases the importance of the livestock development program. At present the output of this plant is all carried by refrigerated truck to Dacca.

There is also much interest in increasing and improving poultry farming. Though there is currently no government program for ducks, private programs, such as CARE in Nagarkanda Thana, are promoting raising ducks. The government has plans for starting four subdivision chicken farms to produce eggs and chicks for distribution to farmers in order to increase egg and poultry production.

The lack of any vehicle at the disposal of the district office restricts regular supervision primarily to those thanas along the Faridpur-Madaripur Road which can easily be reached by bus.

4. Natural Resources

Natural resources of the district are mainly in the form of fish, clay and sand in several regions (especially along the river courses). Vegetation in marshy lands and low quality peat are found in the Gopalganj beel. There are no other mineral resources in Faridpur.

5. Industry

Faridpur's industry sector is modest. It consists of one jute mill in Malaripur, one sugar mill in Madhukhali (near Faridpur town) and one incomplete textile mill now producing yarn on a limited scale for distribution to weavers. Like other textile mills, this is based on imported cotton and the project is expected to be completed in 1980 (with weaving and other allied operations). One moderate sized Milk Vita plant has meanwhile been recently opened in Takerhat.

In Rajbari, an Industrial Town has been organised by the Government covering 15 acres of land. The Industrial Town has 77 plots, of which 38 have been distributed to industrial enterpreneurs. Factory sheds for several industries are under construction.

Resources related with water, forests and agricultural raw materials, indeed, provide a good base for extensive development of small and cottage industries. One Survey Report indicates that in this district, there are 602 small industrial units and 24,741 cottage industries including handicrafts. Amongst small industries, important establishments are: rice mills (79), flour mills (5), other food processing units (165), bakeries (27), saw mills (29), earthenware (11), printing presses (25), handlooms (18). Notable instances of cottage industry, in terms of units of establishments are: gur-making (8,311), ghani oil-crushing (545), bamboo works (554), boat-making (244), mat-making (284), wooden furniture-making (152), smithies (305), goldsmiths (335), fishing net-making (387), and hand looms (6,836).

Since independence the Bangladesh Government has promoted the rapid expansion of electrification to the rural thanas of the country. In Faridpur District, 17 thanas now have initial electrical connections, 2 thanas have transmission facilities under construction, and connections are planned over the next year or two for the remaining 7 thanas.

The available electrical power in Faridpur District originates primarily from Khulna. It is transmitted to the district by transmission lines coming north from Khulna via Jessore and Kushtia, west into Faridpur, and then again south-ward through the district along major power lines. Several southern thanas receive power from the smaller independent generating station at Barisal.

The district does not have multiple grid connections with the transmission lines in neighboring districts or within the district. So most of the district is dependent on the single connection via Kushtia. Long range plans exist to make grid connections with Khulna and Jessore at points on the western side of the district, for example through Gopalganj.

Though 75% of the thanas now have electrical connections, this suggests a considerably higher level of electrical expansion than actually exists. Many of the thana connections, except for the main administrative towns, are very recent. The points connected are almost exclusively thana headquarters. In some thanas one or two other market places have electrical connections. But the vast majority of markets are not electrified. And, excepting areas very near the main administrative towns, the village areas themselves are not electrified.

Although there are at least sixteen deep tubeweells with electric pumps in the northern part of the district, it will be some time before the power is sufficiently distributed from these thana centers to have a major direct impact on agriculture and rural life, such as for electrifying low lift pumps. However, the potential for major indirect impact is present even with these initial thana headquarters connections. Particularly, a new potential now exists, or will soon exist, in every thana of the district for the construction of cold storage, refrigeration, ice-making, and a wide variety of agricultural processing facilities. This could have considerable impact on agricultural marketing in the district, especially for such rabi crops as onions, garlic, and sweet potatoes, which reach the market at a time of surplus and depressed prices.

Transportation, and particularly the low state of development of roads in the district, presents a significant obstacle to the expansion of rural electrical services, according to the Power Development Board authorities. Maintaining service requires easy access to all points along the transmission lines. Thus most of the service is expanded along the existing or anticipated road network. This hinders not only making the initial electrical connections in the unelectrified thanas, but also spreading power to other points in the thana.

The thana-wise position of electrification in Faridpur District is shown in Table 14.

TABLE 14
STATUS OF
ELECTRIFICATION IN FARIDPUR THANAS

Subdivision/Thana	Position of Electrification	Locations electrified other than thana H.Q.
A. Gopalganj Subdivision:		
1. Gopalganj	Electrified	Bhaverhat
2. Kotwalipara	Planned	-
3. Kasiani	Electrified	Satiapara and Ramdia Bazar
4. Muksudpur	Under construction	-
5. Tungipara	Electrified	N.A.
B. Madaripur Subdivision:		
1. Madaripur	Electrified	Kulpaddi
2. Kalkini	Electrified	Burghata and Gopalpur Bazar
3. Rajoir	Electrified	Takerhat
4. Shibchar	Planned	-
C. Shariatpur Subdivision:		
1. Bhedarganj	Planned	-
2. Dammudya	Planned	-
3. Ghosairhat	Planned	-
4. Janjira	Planned	-
5. Naria	Planned	-
6. Palong	Electrified(1978)	Angaria and Bazgoni
D. Faridpur Subdibision:		
1. Alfadanga	Electrified(recently)	-
2. Boalmari	Planned	-
3. Bhanga	Electrified	Chanda, Azimnagar, Kalamirdha, Manikda.
4. Char Bhadrasan	Electrified	Char Hajigong Bazar
5. Kotwali	Electrified	9 Markets
6. Nagar Kanda	Electrified	-
7. Sadarpur	Electrified	Babur Char and Krishnapur
E. Goalundo Subdivision:		
1. Rajbari	Electrified	Khankhanapur, Barat, Surjanagar and Basantapur Markets.
2. Baliakandi	Electrified	Ramdia Bazar, Baharpur and Madhakhali Sugar Mill.
3. Goalundo Ghat	Electrified	Benari Para(Daulatdia)
4. Pangsa	Electrified	Hasnara, Balagachi and Kulchuli Bazars.

E. Development Programs

Development planning in Bangladesh has its own tradition of systematic reliance on research, investigation, surveys, feasibility studies etc. on programs and projects proposed in the main sectors of the country's economy. The process was however, subjected to narrow limits for [illegible] years until the present trend of reasonable economic stability as established during the last two years. This led to greater mobilization of domestic and foreign resources for supporting increased development planning; but it is still predominantly of a contralized character. While there is much increased concern for shifting the strategy of development towards Rural Development, the Planning Commission and the Government have not been able to reorganize the planning and implementation process to suit the designed shifts. Ideas have been expressed by unofficial sources that decentralization in planning as is pragmatic in the existing situation, need be designed and installed as District/Division Planning Agencies so that bottom-up and top-down processes can be effectively organized and practised. (Vide Raihan Sharif "Ruralisation Strategy" Bangladesh Times, December 25,1976). Institutional changes in this regard appears to be rather slow. As a result the presentation of development programs continues to be on the old contralized basis. And it is not possible to identify clearly the development programs in progress in each district and also to attempt any analysis of the effects of the development programs for district areas, let alone the question of tracing the effects of development effort by subdivision and thanas which will be relevant and important for the Rural Roads Projects.

However, from the composition of the recently announced Two-Year Plan (1978-80), we can form some general ideas about the likely development impact for the Faridpur District such as:

1. There are certain general programs, sponsored and executed by Ministries, which cover nation-wide thanas and subdivisions; out of these, thanas and subdivisions of the Faridpur District will be benefited. The activities covered under these programs are shown in Table 15

TABLE 15
DEVELOPMENT ACTIVITIES

Activity	Commencement	Completion
Thana Veterinary Dispensaries.	1976	1981
Expansion and establishment of Poultry Farms at Thana levels.	1976	1981
IRDP Projects	1973	1980
Thana Storage and Godowns	1976	1980
Rural Development Project-1	1976	1981
New Rural Development Expansion Program (36 thanas)	1978	1983
Establishment of Thana Health Complexes.	1974	1985
Modernization of Sub-divisional Hospitals.	1973	1980
Thana level Cottage Industries Training cum Production Centres for Women.	1977	1980
Development of Government Rural hats and bazars.		

2. There are some programs or projects which are known to be in the process of implementation in the district. The important ones relevant to Rural Development are indicated in Table 16.

TABLE 16
PROJECTS UNDER IMPLEMENTATION

Activity	Commencement	Completion
Water Development:		
Re-examination of khal from Santikanda to Dignagar (Bhanga thana)	1974	1980
Construction of weir cum Regulator at Hashemdia (Bhanga thana)	1970	1980
Re-excavation of Khals for the improvement of a number of beels in Pangsha thana	1974	1980
Power Development:		
Bheramara-Faridpur-Barisal 132 KV line	1977	1984
Social Administrative Services		
Construction of Subdivisional Headquarters at Shariatpur	1977	1980
Establishment of Medical Assistants Training Institute at Faridpur	1975	1980
Nurses Training Centre at Faridpur	1977	1982
Technical Training Centre at Faridpur	1975	1981

VI. SOCIO- ECONOMIC CHARACTERISTICS

A. Occupational Distribution

As is to be expected in a predominantly rural population, the major occupations involve agriculture. Of the employed population (males + females) over age 10, 86.9% were employed in agriculture, according to 1974 Census. The next highest occupational categories were "production and transport", in which 6.2% were employed, and "sales", in which 3.8% were employed. Only insignificant percentages are reported for the other categories reported by the census: services, clerical, administrative/management, and professional/technical.

The occupational distribution pattern for Faridpur is similar to that for the nation as a whole, with two minor but notable exceptions. The percent employed in agriculture is about 8% higher in Faridpur (86.9%) than in all of Bangladesh (79.1%). The main differences in the other occupational categories were in the "production and transport" categories where a considerably lower proportion of the population is involved in Faridpur (6.2%) than in Bangladesh as a whole (11.2%). One can speculate that the smaller percentages in this category in Faridpur reflect both the extremely low industrial development of the district (there are only three notable factories, two of which are relatively new) and the comparatively poor infrastructural transportation development of the district which presents serious obstacles to almost any type of significant movement for parts of the year in large areas of the district.

These occupational distribution statistics combine both males and females. However, the breakdown in the census shows only 2% of females employed or "economically active", which considerably underrepresents the economic contribution of women to the agricultural activity occuring inside or near the home, particularly in the drying and processing of foodgrain. However, it is certainly correct in indicating only a minor percentage of women in remunerative employment.

B. Agriculture Employment

The 1974 Census further breaks down the agriculturally employed by categories related to tenancy. These are shown in Table 17, comparing Faridpur with the rest of Bangladesh:

TABLE 17
CATEGORIES OF AGRICULTURALLY EMPLOYED

	Faridpur	Bangladesh
Owner Cultivators	35.0%	31.1%
Owner-sharecroppers	11.9%	13.1%
Sharecroppers	2.5%	3.5%
Agricultural Labor	24.3%	24.8%
Unpaid family helper	26.3%	27.4%

Again, the statistics combine both males and females, but only 2% of the agricultural laborers enumerated were females. The distribution of these categories for Faridpur does not differ greatly from the country as a whole.

Although these census statistics were not published below the district level, the unpublished breakdown shows some differences among subdivisions which are difficult to interpret in the absence of more detailed landownership statistics.

The percentages of sharecroppers and unpaid family helpers remained about the same in all subdivisions. But the percentages of owner cultivators in the labor force varied considerably from 44% in Gopalganj subdivision to only 24% in Goalundo subdivision.

In general, one would expect that the major resource, land, is more equitably distributed where the percentage of owner cultivators is highest, as in Gopalganj. This somewhat contradicts the unconfirmed interview information received to the effect that there exists a fair number of large landholders (jotdars) in Gopalganj subdivision; i. that situation a correspondingly higher portion of agricultural laborers and sharecroppers would have been expected than was found. This information by by subdivisions in Faridpur is presented in Table 18.

TABLE 18
EMPLOYMENT CATEGORIES OF AGRICULTURALLY ACTIVE POPULATION OVER AGE 10 BY SUBDIVISION, 1974.

EMPLOYMENT CATEGORIES		GOPALGANJ	MADARIPUR SHARIATPUR	FARIDPUR SADAR	GOALUNDO
Owner-Cultivators	(n)	86,954	133,379	78,619	35,940
	(%)	44%	36%	32%	24%
Owner-Sharecroppers	(n)	20,094	31,402	32,724	30,283
	(%)	10%	9%	13%	20%
Sharecroppers	(n)	5,915	8,814	5,630	3,728
		3%	3%	2%	4%
Agricultural Labor	(n)	36,601	92,229	65,648	40,617
		18%	25%	26%	27%
Unpaid Family helper	(n)	48,783	100,798	66,219	37,749
	(%)	25%	27%	27%	25%
TOTAL	(n)	198,347	366,622	248,840	148,317
	(%)	100%	100%	100%	100%

C. Level of Unemployment

One indicator of the relative poverty or economic wellbeing 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. Limitations to 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 of both sexes, we find a startling low percentage of 2.5% looking for work in Bangladesh as a whole, and an even lower 1.6% for Faridpur (and the other three districts considered in the rural roads study). And although the census was taken before the major floods and famine of 1974, it must be noted that the economy was still at a low point then, not having recovered from the Liberation War of 1971. Thus a much higher unemployment figure would have been expected. The large influx of persons begging or seeking work in the cities or obviously malnourished in the rural areas were the all-too-painful evidence that the unemployment picture was very much worse than those statistics suggest.

Perhaps the main problem with these statistics is that they greatly underrepresent underemployment. A very large portion of the labor force may be employed only a portion of the year, perhaps only 20%, 40%, or 60% of the working days. Much agricultural work is seasonal, and most agricultural laborers and very small farmers are not fully employed all year.

Though the published census statistics do not go below the district level to the subdivision or thana, the unpublished subdivision statistics were examined, anticipating that they might reflect some relative variations in the employment picture. However, within Faridpur District, the variation among the subdivisions was not great, with Gopalganj and Goalundo showing slightly higher percentage of

persons looking for work (1.9% and 1.8% respectively) than in Madaripur/Shariatpur Subdivisions and Faridpur Sadar Subdivisions (both 1.4%). Given the unreliability of this statistics, such minor differences between the subdivisions cannot be seriously considered.

However, there is evidence from other studies that there is a large degree of emigration from Madaripur and Shariatpur Subdivisions to other districts. A very high percentage of persons from these areas has been noted in the squatter (bustees) settlements in and around Dacca. There is fairly large scale labor migration from these subdivisions to Sylhet for the harvest of the Aman and Boro crops and to Patuakhali for the Aman crop. In Dacca city a large portion of the rickshaw wallahs are also known to be temporary labor migrants from this area. There is also some "permanent" migration from these subdivisions to Dacca and Jessore Districts.

Though similar information on the other subdivisions of Faridpur District was not available, this evidence for higher level of poverty in Madaripur/Shariatpur is quite credible in light of [illegible]ral factors: the higher population density in those subdivisions (see section II.C); and the vulnerability of that portion of the district to serious flooding from the Ganges, Padma, Jamuna and lower Meghna Rivers which converge nearby.

D. Land Ownership Pattern

A major national survey has recently been completed which gives the most reliable picture to date of the landholding and tenancy distribution in Bangladesh. It shows a high degree of land polarization in the country with about 60% of the cultivable land (over 3 acres) owned by only 20% of the rural population. Given the rapidly increasing population and the continuing process of land fragmentation, it becomes quite clear that the per person or per family share of land of the vast bulk of the rural population is decreasing. The extent of landlessness is increasing. But the larger landholders, who in this country are rather small by international standards, are increasing their portion of the total national lands.

Though the degree of land concentration varies considerably from one locality to another, the data required to compare Faridpur to other districts are not now available. The Report on the Hierarchy of Interests in land in Bangladesh was based on a sample size and frame needed to give a reliable national picture. Unfortunately, the samples at the district level were not large enough nor drawn in such a way as to provide a basis for a reliable district picture. However, the first reports of the national Agricultural Census taken in 1977 will be published within three months. This will present landholding and farm size information nationally and at the district level.

Inspite of the lack of specific systematic data for Faridpur, it is clear that the same national trends of increasing fragmentation, decreasing farm size for the large majority of the population, increasing landlessness, and increasing concentration of land in a rather small percentage of hands is occuring in Faridpur District.

The circumstantial evidence presented in the preceeding section infers that the increasing landlessness is probably at a higher level in Madaripur and Shariatpur Subdivisions than in other subdivisions. This inference is based on the high degree of agricultural labor migration from that area to Patuakhali and Sylhet, the higher density, the higher vulnerability of that area to flood and famine, and the high migration from that area to slums and to temporary jobs in Dacca.

However, even though landlessness may be higher in those two subdivisions, there is no evidence to suggest that the degree of polarization or land concentration is otherwise any greater there than elsewhere. Although the information on the question is not systematic, there are no reports of a concentration of large landowners or of a large number of absentee ownership in that area.

The district agricultural officials maintain that the polarization of land ownership is particularly acute in Gopalganj Subdivision. That is, there is an unusually large number of large land owners as well as an unusually high number of landless households.

The distribution of landholdings is a matter of importance is assessing the distribution of benefits from different rural development programs. Though the range of landholding sizes is rather low in Bangladesh as compared with other countries, there is a growing body of data in Bangladesh which demonstrates that a greatly disproportionate share of the benefits of many of the government promoted development programs in Bangladesh have gone to farmers holding somewhat above average landholdings; these middle farmers may hold only about four to ten acres of land, a small amount by Asian standards, but enough to produce a surplus and to place them socially and economically in a position of local power. This phenomenon has been noted with the operation of subsidized Thana Irrigation Program, fertilizer distribution, cooperative loans, and other programs.

E. Famine Prone Areas

Faridpur is one of the districts of Bangladesh which has experienced recurrent famines. Transportation difficulties have been a factor in these famines, particularly several months after flood waters have receded.

Much of Faridpur District is subject to regular flooding and in some years to devasting floods. This is especially true of the area south of Faridpur Town through the center of the district. Those subject to severe flooding and most inaccessible to administrative centers are most vulnerable to famine.

In those areas, word of the extent of developing famine is slow to reach the administrative centers. Transport difficulties delay confirmation of the situation. Any administrative food relief is further delayed by the difficulty in transporting relief supplies to the affected areas even after the need is identified.

Flood damge is immediate. In the worst situation it may simultaneously destry two crops; one which has not been harvested and another which has already been planted. Many people may be made temporarily homeless. Loss of life may be heavy. Epidemics such as cholera may spread quickly.

But famine conditions grow gradually after the floods have receded. Family crises and serious malnutrition occur as family reserves of money and food are severely diminished. Land changes hands rapidly as families are forced to sell at below normal prices to repay crop loans or to purchase food. If crops have been destroyed there is little local demand for labor. Naturally those affected first and most severely are with the smallest family reserves. These are agricultural laborers, the landless and small farmers. Those who benefit most from the tragedy are larger landholders with enough savings to purchase land while the prices are low. As the famine continues, increasingly more families will be affected, although their savings withstood the initial disaster.

Though a large part of the district has experienced famine, the areas identified as most vulnerable appear to be those very densely populated thanas on the eastern side of the district, between the R&H road to Barisal and the Padma River. These are areas where boat transportation is

relatively easy during the normal flood period, but where transportation becomes very difficult several months later as the water recedes. It is at this time (roughly October to December) that famine symptoms become most acute, as occured after the floods of mid-1974.

In addition to this broad famine-prone eastern portion of the district, there are other very small famine-vulnerable pockets in other thanas. These may consist of isolated village clusters which have very poor communication even with their thana headquarters. The consultant is not aware that such areas have ever been clearly delineated for the district.

It is reasonable to assume that the improvement of road transportation to these areas will help speed government response to emerging famine conditions. The recent creation of Shariatpur Subdivision, dividing the old Madaripur Subdivision into two parts, will also bring a number of these thanas administratively closer, further reducing the time needed to identify and respond to emerging famine.

VII. SOCIAL SERVICES

A. Health Care/Medical Facilities.

There are two broad types of medical services found in Faridpur 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(practicing a traditional medicine of the subcontinent), 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 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.

Second, there are various government medical facilities as detailed below.

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, and the major facilities are centralized and outdated. The government has been trying simultaneously to move these facilities closer to the rural people and to upgrade the facilities found in the administrative towns. Substantial resources do not appear to have been inves-

ted in such facilities in Faridpur District, judging from the age of the major facilities and the number of thanas lacking rural health facilities.

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 the thana administrative centers; and (3) a few sub-thana level family health centers. These are enumerated below for Faridpur District.

The government hospital facilities for the district are shown in Table 19.

TABLE 19

GOVERNMENT HOSPITALS AND CLINICS.

Location	Type of Facility	Number of Beds.
Faridpur Town	District Hospital(old)	100
Rajbari	Subdivision Hospital(modern)	50
Madaripur	Subdivision Hospital(old)	50
Gopalganj	Subdivision Hospital(old)	50
Faridpur Town	Tuberculosis Hospital	20
Faridpur Town	Tuberculosis Clinic	Outdoor Services
Madaripur Town	Tuberculosis Clinic	Outdoor Services
Gopalganj	Tuberculosis Clinic	Outdoor Services

Other facilities are planned. Construction of a new 200 bed modern district hospital is proposed in Faridpur Town to replace

the old hospital. The land has been acquired, but the funds for construction have not been sanctioned by the government. Land has also been acquired for new subdivision hospitals in Madaripur and Gopalganj, but construction funds have not yet been sanctioned.

The Civil Surgeon has proposed a new 50 bed modern hospital to be constructed for the new Shariatpur Subdivision at the headquarters in Palong. At present, Palong does not even have a Thana Health Complex. So far there has been no government response to the proposal.

In addition to the government hospitals, there is a Seventh Day Adventist sponsored Hospital in Gopalganj. Complete information for the district is not at hand regarding other private or internationally sponsored facilities.

The second major type of medical facility is the Thana Health Center (THC). The national objective is to have one such facility in every thana, staffed by at least one M.B.B.S. doctor. The facility contains both outpatient (outdoor) and limited inpatient (or indoor) services, as well as the offices overseeing the control of such diseases as malaria and smallpox.

During the Pakistan period, only ten of the more modest Rural Health Centers (RHC) had been constructed in the district. There is now a program to upgrade these RHC's to the new THC's and to establish the THC's in the remaining thanas. Table 20 shows the progress of that program by thana .

TABLE 20

THANAWISE ESTABLISHMENT OF RURAL HEALTH CENTERS

THANAS WITH OLD RURAL HEALTH CENTERS (RHC)

A. RHC not taken for Conversion:

Goshairhat
Nagarkanda
Kasiani

B. Conversion underway to THC

Shibchar
Naria
Boalmari
Gopinathpur
Baliakandi

C. Taken for conversion to THC nearly complete

Rajor
Kotwalipara

THANAS WITHOUT RURAL HEALTH CENTRES

A. New THC Constructed and Functioning (not electrified)

Bhanga
Sadarpur
Goalundoghat

B. THC under Construction

Damudya
Janjira
Kalkini
Charbhadrasan
Muksudpur

C. THC Site Selected, No Construction

Pangsa
Alfadanga
Bhedarganj
Palong

The third category of facility is the sub-thana center . In each thana there are one or more rural dispensaries in remote areas. Previously these were maintained by local governments, but the central government took them over after liberation. Often they are located with the union council offices. Details on the numbers, location, services, and staffing of these facilities were not obtained.

There has been a decision in the past year for cooperation by the Family Planning and Health Directorates to establish one Mother-Child Health Care Center (MCH) in each union, a program which will take some time to implement. Construction of twelve centers has been sanctioned and will soon be started with Dutch assistance. These 12 MCH will also serve as field training centers for medical assistants who will eventually staff these centers. One Medical Assistant Training Center is to be established in each Division; Dacca Division's Center will be located in Faridpur. In order that they can be used readily by the training center, nine of these first twelve MCH will be located along major roads; only three will be in riverine areas.

In addition, six union level Family Welfare Centers are under construction with Family Planning funds. These are located in:

Rajoir Thana, U.P. Hassanpur
Gopalganj Thana, U.P. Borni
Nagarkanda Thana, U.P. Ramkantapur
Kasiani Thana, Mahamudpur U.P.
Naria Thana, U.P. Bejari
Rajbari Thana, U.P. Islampur

Several other family welfare centers have been operating from Thana Health Centers and now are being transferred to the

Family Planning Directorate for reorganization. These will still involve the staff of both Family Planning and Health Directorates. The general problem of accessibility to health care is one which bears on the transportation focus of this study. The private practitioners mentioned earlier are most accessible to the bulk of the population. Unfortunately, though they are permanent residents and more likely to be trusted by villagers, the quality and range of services provided is limited.

The trend is toward decentralizing the more frequently required medical services and treatment using para-medical personnel with shorter, more specialized training. However, the plans for Bangladesh are not as decentralized as the "barefoot doctor" approach in China. It will be some time before existing decentralization plans can effectively be implemented.

Though the treatment for the more frequently used services is decentralized, the more expensive services requiring a higher degree of training and equipment (for example, surgery for serious injury, or treatment of less common diseases) will continue to be centered in the district and subdivision hospitals.

Even with the new system of Thana Health Centers, there are great obstacles to transporting persons from villages in emergencies. In any parts of Faridpur District, transportation of an injured or ill person on a small country boat may be relatively easy as a rule. However, during the several months when the floods have receded and transport is not possible even on the small rivers and canals, a sick or injured person

can be transported from many villages only with extreme difficulty. During this season, the services of the district hospitals are inaccessible for much of the population of the district. This condition is probably most critical in Madaripur and Shariatpur Subdivisions. Because of the cultural practice of protecting women from exposure to unknown men there is reluctance to take them to such health care facilities except in the most extreme circumstances. Thus, it is safe to say that the inaccessibility of many villages to emergency medical facilities affects women even more adversely than men.

There is another sense noted in the report of the Transport Survey Section of the Planning Commission, in whch transportation problems will present an obstacle even to the planned decentralization of medical services. As long as the present administrative system continues, supervision will be by district level officials. The success of the program will depend in part on the effectiveness of that supervision. The existing transportation system in Faridpur District restricts even this most limited supervision of such a widely decentralized program for much of the year.

B. Education.

The educational system of the district consists of "government schools" financially supported by the national government, and "non-government schools" which are organized and supported locally. The non-government schools receive only small annual grants-in-aid from the government to subsidize teachers' 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 Faridpur District are shown in Table 21.

TABLE 21.

PRIMARY AND SECONDARY SCHOOLS IN FARIDPUR DISTRICT, 1978

	PRIMARY (1-5 YRS)		SECONDARY (6-10 YRS)	
	Govt.	Non-Govt.	Govt.	Non-Govt.
No. of Institutions	2,070	487	8	318
No. of Teachers	8,297	2,055	164	3,512
No. of Students	345,899	78,780	3,284	82,618

Table 22 gives the complete breakdown of these schools by thana. The breakdown for the number of students is also given by thana in Table 23.

TABLE 22

DISTRIBUTION OF PRIMARY AND SECONDARY SCHOOLS BY THANA .

THANA	PRIMARY		SECONDARY	
	Govt.	Non-Govt.	Govt.	Non-Govt.
FARIDPUR SADAR				
1. Kotwali	98	25	2	17
2. Boalmari	114	21	-	19
3. Alfadanga	24	4	-	3
4. Nagarkanda	89	20	-	13
5. Bhanga	75	10	-	10
6. Sadarpur	68	3	-	6
7. Charbhadrasan	31	5	-	3
SUBDIV: GOALUNDO				
8. Rajbari	66	17	2	13
9. Pangsha	100	22	-	12
10. Baliakandi	79	26	-	14
11. Goalundo Ghat	27	5	-	1
SUBDIV: GOPALGANJ				
12. Gopalganj	158	42	2	33
13. Kasiani	108	16	-	19
14. Moksudpur	126	37	-	15
15. Kotowalipara	110	29	-	21
16. Tungipara	-	-	-	-
SUBDIV: MADARIPUR				
17. Madaripur	120	22	2	18
18. Shibchar	115	50	-	15
19. Rajoir	76	20	-	15
20. Kalkini	110	26	-	30
SUBDIV: SARIATPUR				
21. Palong	71	17	-	8
22. Naria	86	16	-	9
23. Janjira	53	10	-	5
24. Bhedarganj	82	19	-	10
25. Goshairhat	42	15	-	9
26. Damuddya	42	10	-	-
TOTALS:	2,070	487	8	318

TABLE 23

DISTRIBUTION OF PRIMARY AND SECONDARY SCHOOL STUDENTS BY THANA

THANA	PRIMARY		SECONDARY	
	Govt.	Non-Govt	Govt.	Non-Govt.
SUBDIV: FARIDPUR SADAR				
1. Kotowali	17,661	3,500	897	4,942
2. Boalmari	21,384	3,901	-	4,477
3. Alfadanga	3,782	593	-	837
4. Nagarkanda	13,410	2,825	-	2,706
5. Bhanga	11,119	1,985	-	2,787
6. Sadarpur	9,226	360	-	2,611
7. Charbhadrasan	4,054	608	-	861
SUBDIV: GOALUNDO				
8. Rajbari	13,215	4,378	841	4,047
9. Pangsha	15,452	3,592	-	3,344
10. Baliakandi	13,520	4,500	-	3,127
11. Goalundo Ghat	3,495	790	-	301
SUBDIV: GOPALGANJ				
12. Gopalganj	29,171	8,453	862	8,502
13. Kasiani	17,032	1,900	-	5,985
14. Mukundpur	20,486	8,460	-	4,062
15. Kotowalipara	17,332	3,480	-	5,330
16. Tungipara	-	-	-	-
SUBDIV: MADARIPUR				
17. Madaripur	19,204	3,585	684	4,658
18. Shibchar	18,000	7,500	-	3,897
19. Rajoir	12,900	3,485	-	3,402
20. Kalkini	19,632	4,512	-	7,359
SUBDIV: SARIATPUR				
21. Palong	12,453	2,100	-	1,574
22. Naria	13,435	2,583	-	2,208
23. Janjira	9,213	1,100	-	1,291
24. Bhedarganj	14,251	2,050	-	2,157
25. Goshairhat	8,350	1,490	-	2,153
26. Damuddiya	8,122	1,050	-	-
TOTALS:	345,899	78,780	3,284	82,618

There is also a number of post-secondary institutions in the district. There are no universities, but there is at least one college in every thana except Sadarpur, Alphadanga, Goshairhat and Goalundoghat. Some of the colleges offer only two-year instruction for the H.Sc., or Higher Secondary Examination. The H.Sc. is taken after 12 years of school and is supervised by the Regional Board of Education. Others also offer the two year Bachelor of Science or Bachelor of Arts examination course, with the examination administered by either Dacca or Rajshahi University.

Only two of the colleges are "government colleges" receiving any substantial degree of government support. The government makes only occasional grants-in-aid to the non-government colleges; many of them are in usual condition and have few students who pass examinations.

Literacy rates for Faridpur District (17.96%) are somewhat below the national averages (20.17%). The district ranks 13th in literacy among the districts of Bangladesh, according to the 1974 Census. There has been a small overall increase in literacy since 1961. The comparable figures for 1961 were 13.54% in Faridpur and 16.28% for the country as a whole.

The proportion of girls receiving formal education outside the Madrassah system has been steadily increasing. But the persistent reluctance to send girls to school is strikingly evident in the different literacy rates for males and females.

TABLE 24

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

Age Groups	Percent Literate	
	Male	Female
5-9 Years	14.0%	9.2%
10-14 Years	40.8%	26.9%
15-19 years	43.6%	21.3%
20-24 years	39.8%	14.4%
25-34 years	31.3%	10.8%
35-44 years	29.3%	7.7%
45-54 years	27.3%	5.3%
55-64 years	25.7%	3.6%
65 + years	24.7%	2.4%
All Age Groups Over 5 years	30.0%	12.6%

Table 24 compares the literacy rates for males and females in different age groups. In each age group a substantially larger percentage of men are literate than women.

By looking at the literacy rates for the different age groups, we have a picture of how much literacy rates have changed over time. Thus, among men age 55-64, who would have received most of their formal education during the years of 1914-34, 25% are literate. Those in the 15-19 year age group, who would have had a more recent education between the years 1959-74, have a literacy rate of 43.6%.

The increase in literacy has been steady, though not dramatic. It reflects an increase in school enrollment moderately greater than the population growth.

The same table shows that the difference in literacy between men and women is gradully reducing. In the 55-64 year age group, the literacy rate of men is seven times that of women. But in the 15-19 year age group, the literacy rate of men is only 1.5 times that of women.

An examin tion of the unpublished Census statistics at the subdivision level showed considerable differences in the level of literacy of both males and females. In particular, Gopalganj Subdivision showed a considerably higher literacy rate for both men and women than the other subdivisions. (See Table 25).

TABLE 25

MALE AND FEMALE LITERACY RATES BY SUBDIVISION IN FARIDPUR DISTRICT, 1974.

	% of Literate Persons	
	Male	Female
Gopalganj	37.8	18.3
Madaripur/Shariatpur	27.9	10.3
Faridpur Sadar	30.4	12.7
Goalundo	23.6	9.1

C. Food Procurement and Rationing.

Faridpur District is a foodgrain deficit district. Each of the thana agriculture officers interviewed also reported their

thanas to be deficit in food production. Because of this, the official distribution system of the Food Ministry has taken on special significance in Faridpur. This system has two primary aspects : 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 classes of persons living in the rural areas entitled to these rations at subsidized rates. Normally these persons are government employees, including teachers of non-government schools. They collect their rations monthly from designated union ration dealers. The ration dealers in turn lift their allotment from Local Storage Depots, or LSD's, located around the district. These foodstuffs are shipped to the LSD's generally from Khulna or Chandpur, having either been imported or procured from other surplus districts.

According to the district authorities, if all those entitled to receive rations were to receive their full amount, the district-wide requirement would be slightly over 1,500,000 maunds of foodgrain. What is actually distributed is far short of this, generally from 60,000 to 100,000 maunds.

In addition to serving as the central distribution point in the rationing system, the LSD's serve other purposes. They are the primary storage points for grain procured locally and internationaly by the government. However, as Faridpur is far from being surplus, it is not the primary focus of government procurement activities. Though much of this procured grain is then distributed through the rationing system, the LSD's

hold the buffer stock which can be available in case of the natural calamities to which the country (and this district) is vulnerable.

Although in the past, procurement policies have been dictated by the primarily urban needs of the rationing system, the government is now trying to use the system to stabilize the open market grain prices at a level which gives adequate incentive to farmers to maximize production. This may involve either the procurement from or release to the open market of foodgrains.

According to district food officials, the total storage capacity of the godowns in the district is nearly 8 lac of maunds. However, only about 1 lac maunds were in the stock in May 1978.

The thana by thana breakdown of these storage facilities is presented in Table 26.

TABLE 26

NUMBER AND CAPACITY OF FOOD STORAGE GODOWNS

SUBDIVISION/ THANA	Name of LSD	No.of Godowns Owned	Rented	Total Capacity (Maunds)
FARIDPUR SADAR SUBDIVISION				
Kotwali	Ambikapr	8	1	111,000
Boalmari	Boalmari	4	0	54,000
Bhanga	Bhanga	2	0	27,000
Nagarkanda	Nagarkanda	2	0	27,000
Sadarpur	Sadarpur	2	0	27,000
MADARIPUR SUBDIVISION				
Madaripur	Madaripur	3	0	54,000
Madaripur	Charmuguria	6	0	81,000
Shibchar	Shibchar	2	0	27,000
SHARIATPUR SUBDIVISION				
Palong	Amgaria	3	0	40,500
Damuddiya	Damuddiya	1	1	20,500
Naria	Naria	1	0	13,500
Janjira	Janjira	0	1	10,000
GOPALGANJ SUBDIVISION				
Gopalganj	Gopalganj	5	0	67,500
Mukundpur	Sindiaghat	2	0	27,500
Kasiani	Bhatiapara	2	0	27,000
Kotwalipara	Kotwalipara	2	0	27,000
Kasiani	Ramdia	0	1	4,000
RAJBARI/GOALUNDO SUBDIVISION				
Rajbari	Rajbari	5	0	67,500
Pangsha	Pangsha	4	0	54,000
Baliakandi	Naliagram	2	0	27,000
	TOTAL :	56	4	792,500

The difficulty or ease of shipment to each of these godowns was also discussed with district food officials. Transportation problems arise primarily during the dry season in those thanas where the rivers are too low to be used for transport and road or train connections are not available. Transport is the most difficult in all or part of the year for their LSD's in Gopalganj (Ramdia), Naria, Sibchar and Nagarkanda.

The summary of the transport status of the LSD's is presented in Table 27.

TABLE 27

TRANSPORT ACCESIBILITY OF FOOD STORAGE GODOWNS.

Name of LSD/Thana	Transport Accessibility
Ambikapur/Kotwali	O.K. all year.
Boalmari	O.K. by rail.
Nagarkanda	By truck to Bhanga, then by boat to Nagarkanda; because of canal silting, transport is only possible in rainy season.
Sadarpur	O.K. in rainy season. Very difficult transport by road in dry season.
Madaripur	O.K. all year.
Charmuguria/Madaripur	O.K. in rainy season; difficult in dry.
Sibchar	Difficult. Not possible to move stock there in dry season; in rainy season, boats can only come within six miles of LSD.
Amgaria/Palong	O.K. by boat in all season.
Damuddiya	O.K. by boat in all season.
Naria	O.K. in rainy season, very difficult in dry.
Janjira	O.K. by boat all year
Gopalganj	O.K. in rainy season; in dry season must off load and carry 3 miles.
Sindiaghat/Muksudpur	O.K. by boat
Bhatiapara/Kasiani	O.K. by rail
Kotwalipara	O.K. by boat
Ramdia/Kasiani	O.K. by boat
Rajbari	O.K. by rail
Pangsa	O.K. by rail
Naliagram/Baliakandi	O.K. rail

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. 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 varies from place to place. 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 developmentoriented form of leadership at 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.

Some experimentation is underway with an institution known as gram sarker (village government) as a vehicle for development at the village level. The consultant did not hear of any ongoing experiments with gram sarker in Faridpur.

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 again to build up the Rural Works Program which may include funds for bridges and structures other than earth work. Since the U.P. elections in 1977, the government has begun providing increasing financial support and training to the Union Parishads.

At the thana level, there is no elected local government body. However, over the past few years, thana councils consisting of the elected Chairmen 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 authority 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 plan which was important in the early 1960's had fallen into disuse. The

present government is trying to revive the plans along with 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 28.

TABLE 28.

STATUS OF THANA AND UNION PLANS

Thana	Thana Plan	Union Plan
GOALUNDO SUBDIVISION		
Goalundo Ghat	30% complete	Not complete.
Rajbari	50% complete	10 complete.
Pangsa	Plan book for 1976-77 completed.	50% complete.
Baliakandi	90% complete	90% complete.
SHARIATPUR SUBDIVISION		
Janjira	60% complete	Not prepared
Bhedarganj	75% complete	No preparation of thana plan.
Damudya	75% complete	Making plan book.
Goshairhat	Under preparation.	Instructed to complete the new plan book.
Naria	Complete	Complete.
Palong	75% complete	All unions are prepared. 50%.
MADARIPUR SUBDIVISION		
Madaripur	80% complete	6 unions 80% complete.
Kalkini	complete	5 unions complete.
Rajoir	80% complete	10 union under preparation.
Shibchar	complete	9 unions complete.
FARIDPUR SADAR		
Char Bhadrasan	complete	50%-60% on the way of preparation.
Kotwali	complete	Under preparation.
Sadarpur	completed	2 Union complete.
Boalmari	complete	Not complete.
Nagarkanda	complete	4 unions complete.
Bhanga	Not complete	Not complete.
Alfadanga	Complete	4 unions complete.

Thana	Thana Plan	Union Plan
GOPALGANJ SUBDIVISION		
Gopalganj	75% complete	Partially complet
Muksudpur	not complete	11 unions just started
Kasiani	complete	Under preparation

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 really accountable to or responsible 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).

In Faridpur, eleven thanas have IRDP cooperative system all organized in the past five years. These thanas are: Kotwali, Alphadanga, Nagarkanda, Bhanga, Gopalganj, Muksudpur, Kotalipara, Baliakandi, Madaripur, Rajoir, and Kalkini. The second type of thana-wide leadership that should be noted is the Members 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. The M.Ps. may represent more than one thana; but in their constituency they or their associates are often very powerful people. This is primarily because they are often the only local persons who 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.

3. <u>Role of Women</u>

In Faridpur, as in most of rural Bangladesh, the practice of <u>purdah</u> has considerable impact on the social and economic roles of women. The principle of the protection of women developed into a system which considerably restricted the travel and social/economic roles open to women.

However, there are many ways the purdah system is breaking down. Recent government initiatives to bring women more fully into the economic life and plans of the country are beginning to be felt in some rural areas.

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

Earlier it was noted 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 their 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 frequent the hats and bazars. Few women have remunerative work outside the home. Only a handful are registered as job-seekers and included in the estimates of 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. The processing of jute, especially separating the fibre after retting, is sometimes done by women even at some distance from the family compound. In some 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 may also work in the fields at the time of peak labor requirements.

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

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

In two locations of Goalundo Subdivision, the consultant was told of earthwork projects which were done this year for the first time by women only. One was the construction of a 3½ mile road (14 foot crest, 6 foot high) from Pangsa to Navakrishnapur in Pangsa Thana. The other was on the Ramkantapur Road from Sripur to Kasibada in Rajbari Thana, a project 2 miles long, 12 foot wide, and 4 foot high. Information was not available

on other FWP construction by women in Faridpur District.

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 Asia, 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; and
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 Faridpur 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 within the district considerably easier, as transportation services emerge. Though undoubtedly men will continue to use those facilities more than women for some time, the "inconveniences" that are now obstacles to women travelling in rural areas will have been considerably reduced. (It must be remembered that the areas of Faridpur District where these roads are proposed are now very difficult to reach for much of the year).

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 Faridpur, 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 roads 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 Faridpur. A large meeting was held in Faridpur Town with the Deputy Commissioner Subdivision Officers and district officers of government ministries.

Subsequent meetings were held in Rajbari, Palong, Madaripur and Gopalganj with 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 Faridpur District 813 miles of roads were nominated for rural road construction. These are listed in Table 29 and shown in Figure 7.

D. Preliminary Road Screening

A screening process was applied to these roads to select the more important segments for final priority ranking.

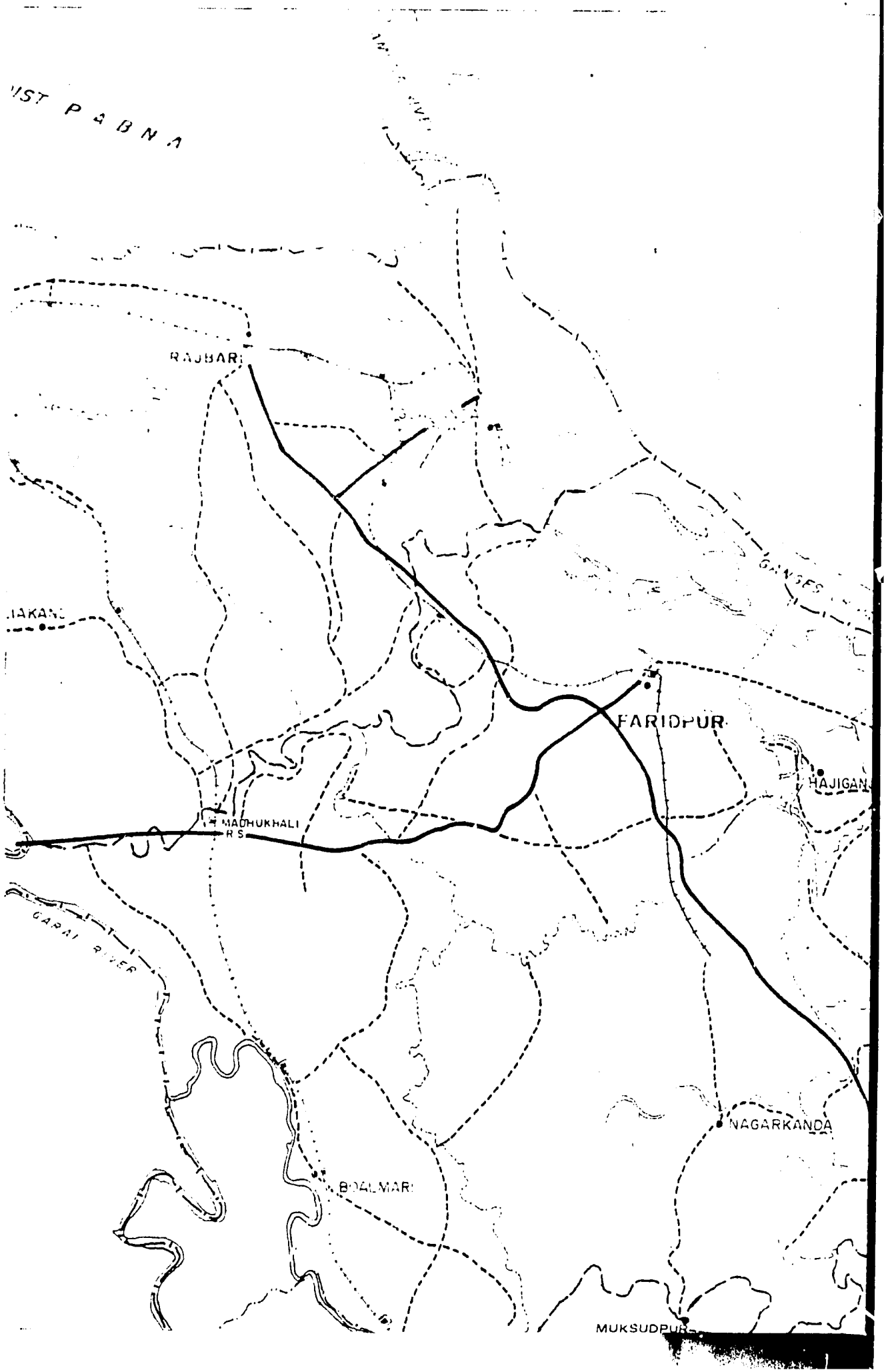
The screening process used four criteria which are outlined below:

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

109 A

DIST. JESSORE

B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GARAI RIVER
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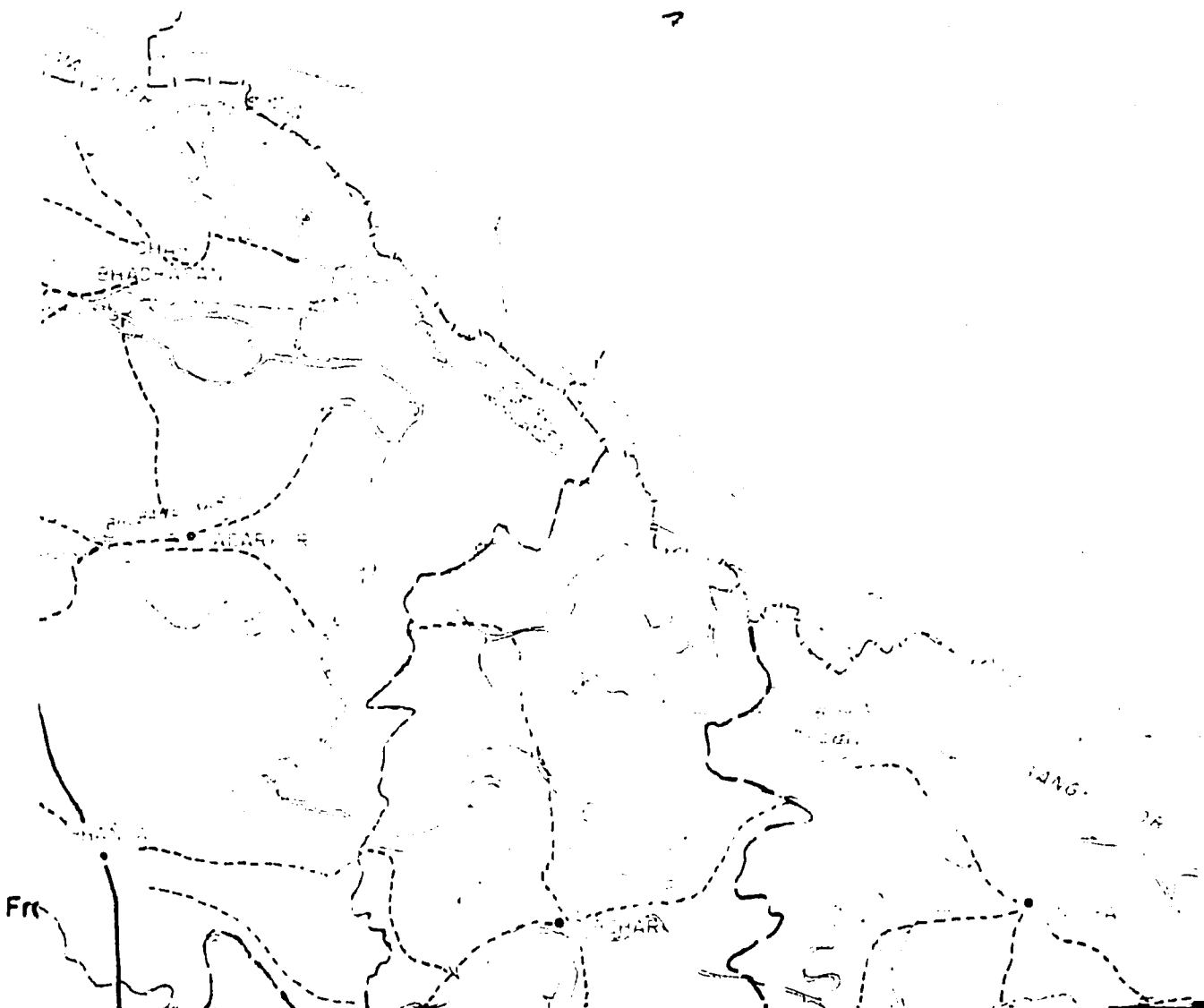


D

DIST. FARIDPUR

LEGEND:

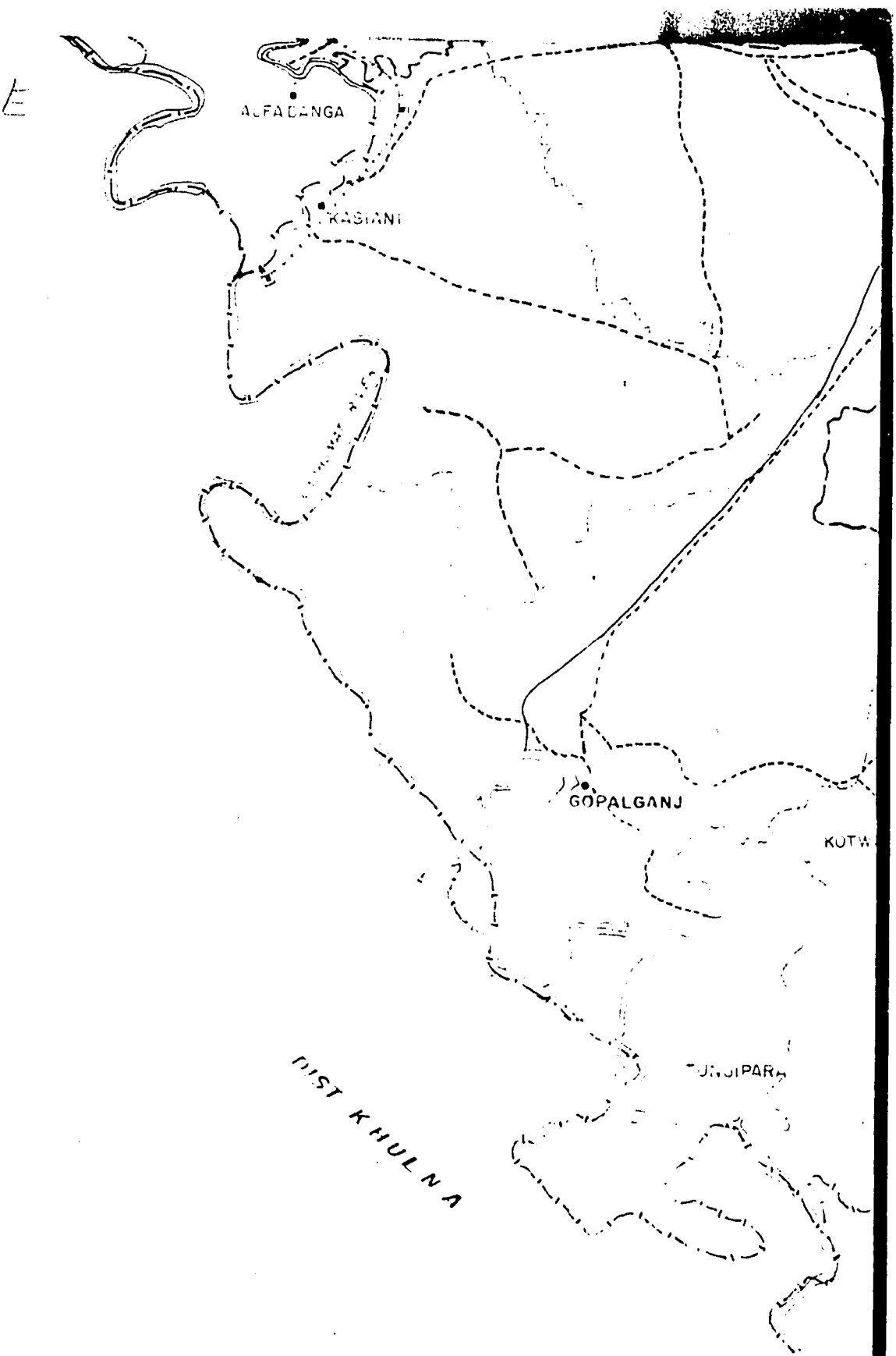
Roads (R & H) . . . . . .

Rail Roads .

Waterways . . . . . .

Major Airport . . . . .

Non notated Roads



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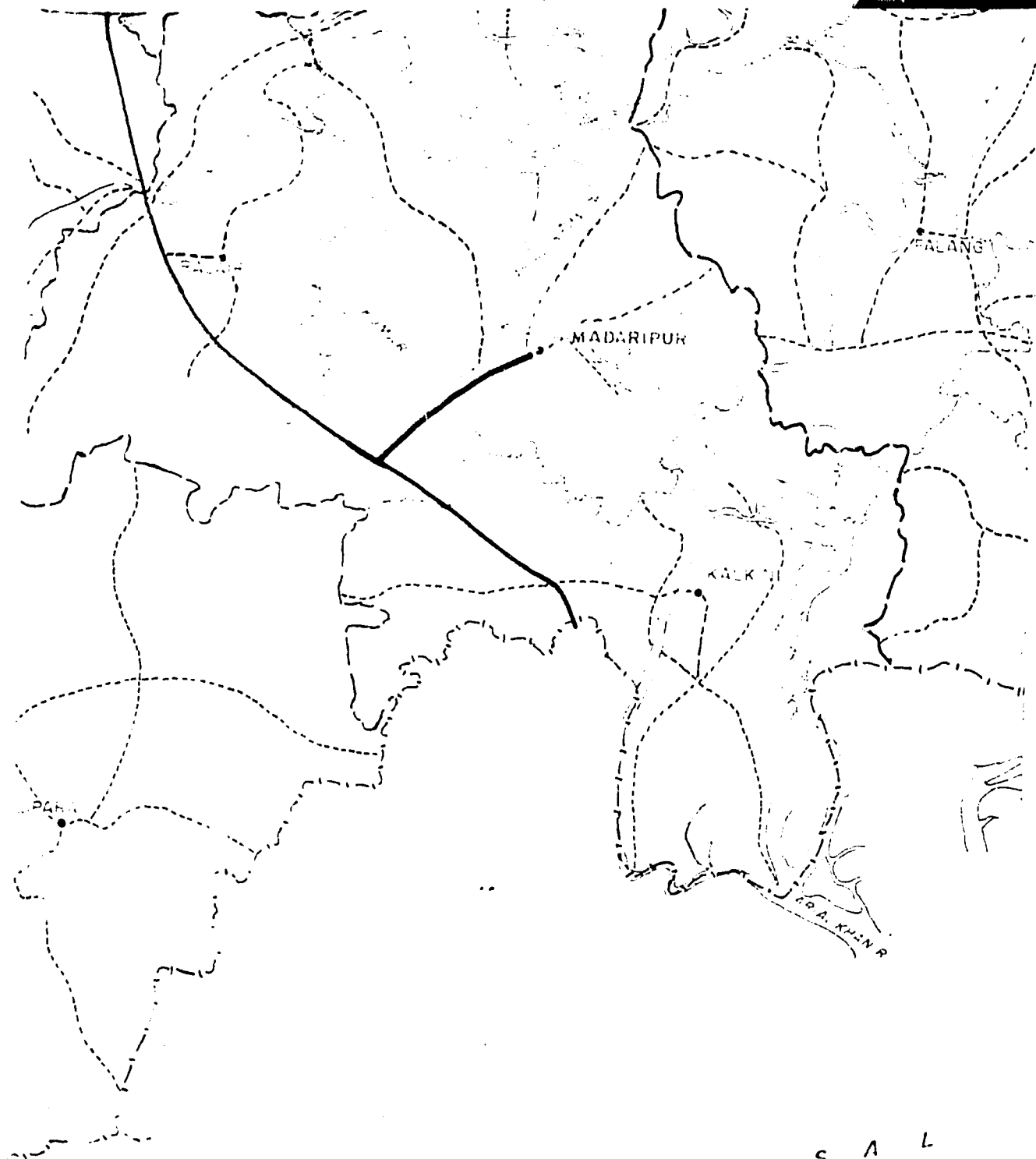


LIST BARISAL

DIST. COMILLA
BHEDARGANJ
GOSAIRHAT
MEGHNA RIVER

H

SCALE [illegible] Miles

5 4 3 2 1 0 5 10 Miles

GOVERNMENT OF
THE PEOPLE'S REPUBLIC OF BANGLADESH

RURAL ROADS STUDY

PRIORITY ROAD NOMINATIONS

LOUIS BERGER INTERNATIONAL INC. AND
RAHMAN & ASSOCIATES LTD.

PREPARED BY [illegible] Apedin	RECOMMENDED [illegible]
CHECKED [illegible]	APPROVED E. Prentice
DATE	DRG. NO.

90°30'

SUB: GOALUNDO

TABLE 29

ID TINATED ROADS

THANA	PRIORITY ROAD From	To	MILES	No. of proposed Bridges	Initial Selection
1. PANGSHA	1. Pangsha	Langleband Road	10½	2	Yes
	2. Pangsha	Hrigi Road	10	2	Yes
	3. Pangsha	Majbari Road	7½	1	No
	4. Pangsha*	Sengram Road	8	1	Yes
2. BALIAKANDI	1. Baliakandi**	Madhukhali Road	10	6	Yes
	2. Baliakandi **	Hirigi Road	7½	2	Yes
	3. Beharpur	Sonapur Road	5	3	No
	4. Baliakandi (at Bakchar)	Sarandhinagar Road	5	3	No
3. RAJBARI	1. Rajbari	Mathurapur Road	16	6	No
	2. R&H Road at Nimtola	Rajbari-Mathurapur Road.	5	6	Yes
	3. R&H Road at Kamaldia	Khankhanapur Rly.Stn.	5	6	No
	4. Khalipur	Hazrakhali Road	5½	6	No
4. GOALUNDO GHAT.	1. Goalnando Ferryghat	Goaltila Via JAPDA Embt. Road	5½	-	Yes
	2. Daulatdia Boat Ferryghat.	Kushahat Road	5½	-	No
	3. Baghabari Health Center.	Daultdia Boat Ferryghat Road	4	-	No
	4. R&H Road	Vagolpur Road	3	-	No

* Proposed by subdivision or district officials.

** Proposed by both.

SUB:MADARIPUR

FARIDPUR

THANA	PRIORITY ROAD From	To	MILES	No. of proposed Bridges	Initial Selection
1. SHIBCHAR	1. Shibchar *	Takerhat Road	8	5	YES
	2. Shibchar	Gastirhat Road	9	5	Yes
	3. Bandarkhola	Shaikpur Road	12	10	Yes - 12 miles
	4. Uttrail	Bangla Road	8	6	No
2. RAJOIR	1. Takerhat **	Panthanpara Road	9	15	Yes
	2. Takerhat	Kadanbari Road	8	12	No
	3. Rajoir	Sreenadi Road	8	5	No
	4. Rajoir	Angram Bazar Road	4	3	No
3. MADARIPUR	1. Madaripur *	Angaria Road	6	9	Yes
	2. Sreenadi	Charmuguria Road	10	17	Yes
	3. Kalaimara	Kulpaddi Road	4	5	No
	4. Madaripur	Zanjira Road	6	6	Yes
4. KALKINI	1. Kalkini *	Mollarhat Road	13	9	Yes
	2. Kalkini *	Sasikal Road	9	5	Yes
	3. New Torkey	Sastal Road	15	8	Yes - 7 miles
	4. Kalkini	Madra Road	9	6	No

* Proposed by Sub-Division or District Officials
** Proposed by both

SUB: SHARIATPUR

FARIDPUR

THANA	PRIORITY ROAD From	To	MILES	No.of-proposed Bridges	Initial Selection
1. PALONG	1.Monoharpur **	Narabalakhan Road	5½	2	Yes
	2.Takerhat	Burirhat Road	8	7	Yes
	3.Angaria-parchimpar	Santaspur Road	10	10	Yes - 5 miles [illegible]
	4.Gayatola*	Ganganagar Road	6	8	Yes
2. JANJIRA	1.Janjira	Madaripur Road	13	18	Yes
	2.Janjira*	Barakandi Road	3	1	Yes
	3.Janjira	Bilashpur Road	3	6	No.
	4.Janjira	Naodoba Road	6	6	No.
3. NARIA	1.Shariatpur**	WAPDA Road	10	7	Yes
	2.Bhojeswar	Kedarpur Road	10	7	No.
	3.Janjira	Kastikpur Road	20	14	Yes - 12 miles only
	4.Shariatpur	Janjira Road	5	3	No
4. GOSHAIRHAT	1.Goshairhat**	Shariatpur Road	10	8	Yes
	2.Goshairhat	Kasherhat Road	9	15	Yes - 5 miles only
	3.Goshairhat	Garibar Char Road	12	13	No
	4.Nagerpara	Banggari Road	5	1	No
5. DAMUDDIYA	1.Damuddiya	Bhedarganj Road	5	6	Yes
	2.Damuddiya	Banga Road	5	8	Yes
	3.Kaneswara	Damuddiya Road	9	9	No
	4.Takerhat	Damuddiya Road	7	7	No

* Proposed by subdivision or district officials. ** Proposed by both.

SUB: SHARIATPUR

FARIDPUR

THANA	PRIORITY ROAD From	To	MILES	No. of proposed Bridges	Initial Selection
6. BHADARGONJ	1. Bhadargonj	Barirhat Road	6	7	Yes
	2. Bhadargonj	Damuddiya Road	4	5	Yes
	3. Bhadargonj	Boundary Wall Road	6	6	No
	4. Bhadargonj	Sakipur Road	5	5	No
SADAR SUBDIVISION					
1. KOTWALI	1. Daulatdi R&H	Sibrampur Road	5½	-	Yes - 3 miles only
	2. Gedoriat	Tepakhola Road	15	15	Yes - 8 miles only
	3. Damrukandi R&H	Than Kania Road	6	1	Yes - 3 miles
	4. Nonirbhan	Mallikpur Road	16	10	No
2. BOALMARI	1. Fagtar *	Rupabad Road	24	5	Yes - 14 miles only
	2. Boalmari	Chandpur Bazar Road	12	8	No
	3. Dastordia R&H	Modhukhali Road	16	11	No
	4. Chitterbazar	Boalmari Road	14	11	No
3. BHANGA	1. Saharadi Bus Stop	Kalamirdha Road	7	1	Yes
	2. Puradighat	22 Rashi Road	9	-	No
	3. Chowghata	Pathrail Road	5	1	No
	4. Bhangaramyghat	Periarchar Road	5	1	No
4. SADARPUR	1. Krishnapur	Piaskhali Road	12	7	Yes
	2. Sadarpur	Charbhadrasan	7	2	No
	3. Krishnapur	Charbhadrasan Road	5½	4	No
	4. Sadarpur	Baliakhali Road	5½	2	No

* Proposed by subdivision or district officials.

SUB: SADAR

FARIDPUR

THANA	PRIORITY ROAD From	To	MILES	No. of proposed Bridges	Initial Selection
5. CHARBHAD-RASAN.	1. M.D.I.Embt.**	Kotwali P.S.Border	11	4	Yes
	2. Aamkhan	Charbhadrasan Road	5	1	No
	3. Khod.Pramani House	Sarbandia Road	7	1	No
	4. Gopalpur L.S.	V.D.B.Embt.	2	1	Yes
6. ALPHADANGHA	1. Shirgram	Krishapur	13	8	No
	2. Alphadanga	Shahsrail	4	1	Yes
	3. Alphadanga	Boalari Thana Road	6	3	No
	4. Alphadanga	Bangladeshi Hat	2.5	2	No
7. NAGARKANDA	1. Nagarkanda	Maharadpur	8.7	6	Yes
	2. Nagarkanda*	Manichpalti	5	4	No
	3. Thanthania	Saltha	10	4	Yes
	4. Nagarkanda	Talma	7	1	No
SUB:GOPALGANJ	1. Kharhat R&H**	Gerakhola Road	10	10	Yes
1. KASHIANI	2. Pona	Satpar Road	20	30	Yes
	3. Ramdia	Patigram Road	10 Approx	15	No
	4. Baranpur	Taltala Road	10 Approx	12	No
2. KOTWALI-PARA.	1. Kajulia V.P.	Paisarhat Road	11	23	Yes
	2. Kotwalipara	Rajoir Road	11	14	Yes
	3. Kashla U.P.	Ramsid Road	13	19	No
	4. TTDC	Kacharibhita Road	9	12	Yes - 4 miles

* Proposed by subdivision or district officials. ** Proposed by both.

SUB: GOP LGONJ

FARIDPUR

THANA	PRIORITY ROAD From	To	MILES	No. of Proposed Bridges	Initial Selection
3. GOPALGONJ	1. Gopalgonj**	Takerhat Road	22	10.	Yes
	2. Gopalgonj**	Kotwalipara Road	11	8	Yes
	3. Debram	Gopalpurhat Road	9	5	No
	4. Gopalgonj	Kashiani Road	7	3	No
4. MUKSUDPUR	1. Digraiyar**	Garekhola	16	10	Yes
	2. Tangrakhola	Ujani	12	12	Yes
	3. Banagram Bazar*	Jalibar	8	2	No
	4. Banagram Bazar*	Sendenghat	9	6	NO
5. TUNGIPARA	1.				
	2. Combined with Gopalgonj				
	3.				
	4.				

* Proposed by subdivision or district officials
** Proposed by both.

* Banagram Bazar

After the initial screening of all nominated roads and the adjustment of the road network, the mileage for the preliminary network was reduced to 407 miles. These road are shown on the map in Figure 8 and listed in Table 29.

E. Priority Road Ranking

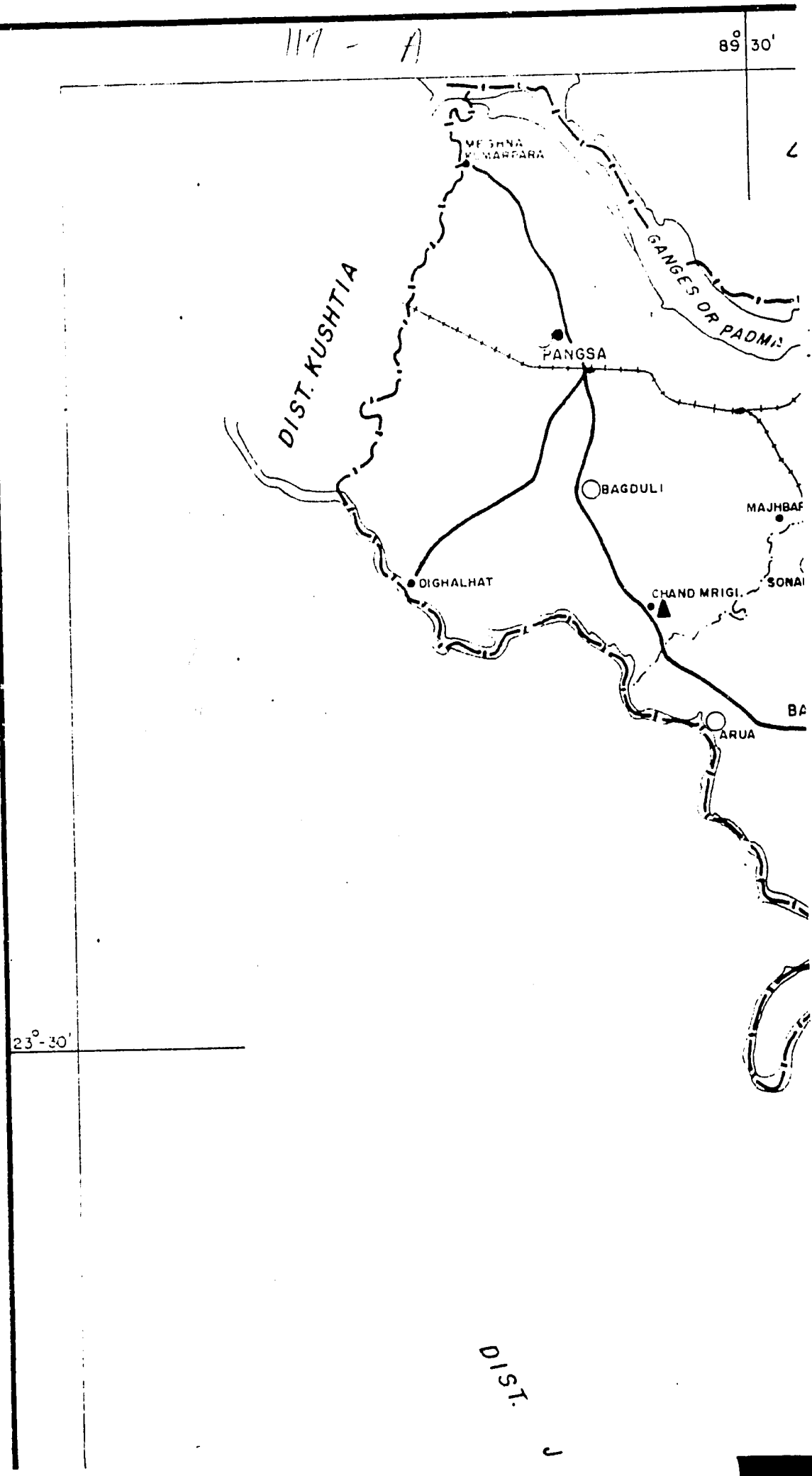
For ranking the screened roads the consultant devised a system that consisted of identifying and weighting selected benefit factors for each road and then comparing them to the estimated per mile cost for each road. This gives an artificial benefit/cost ratio that can easily be ranked, road by road.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

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.

117 - A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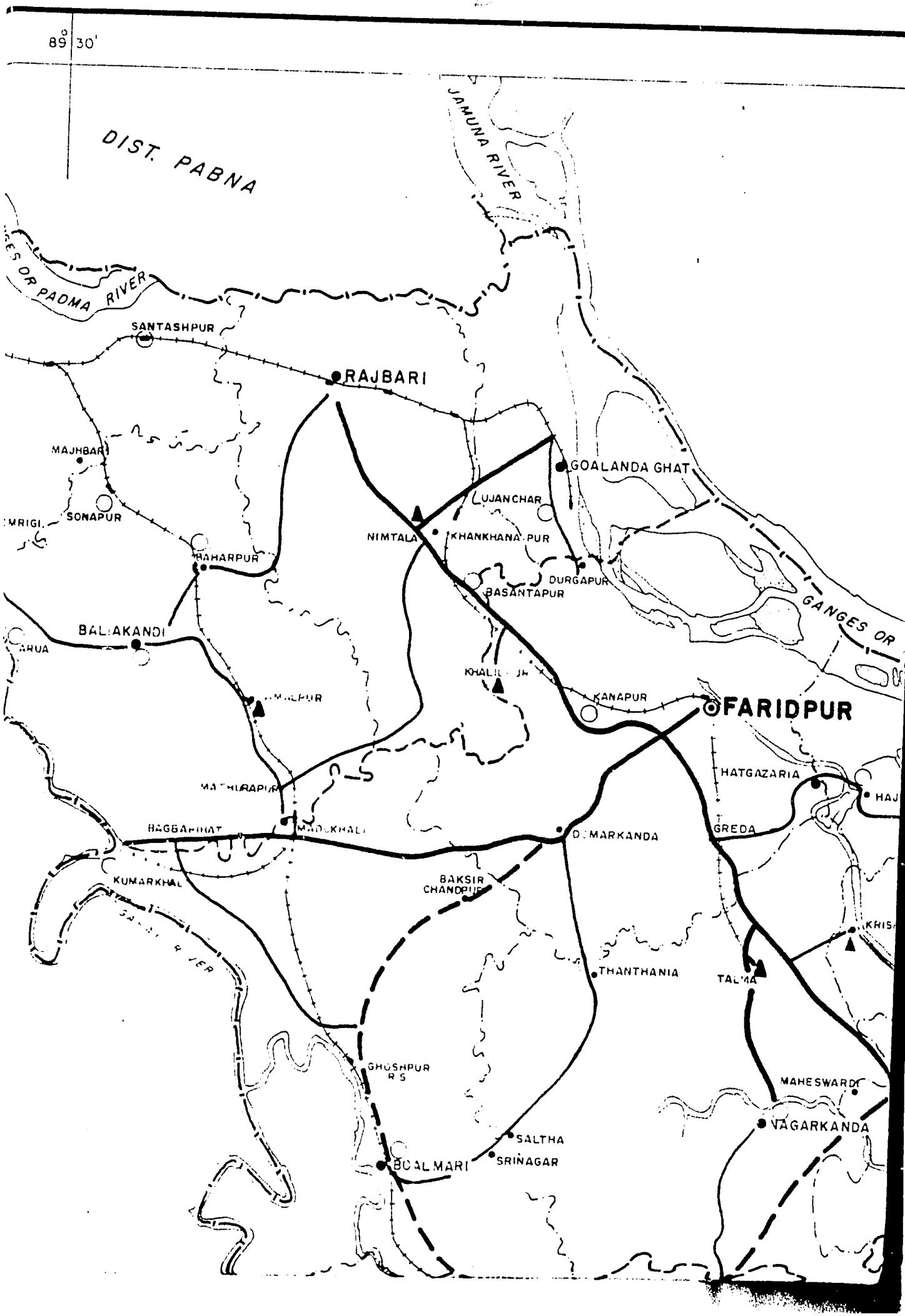
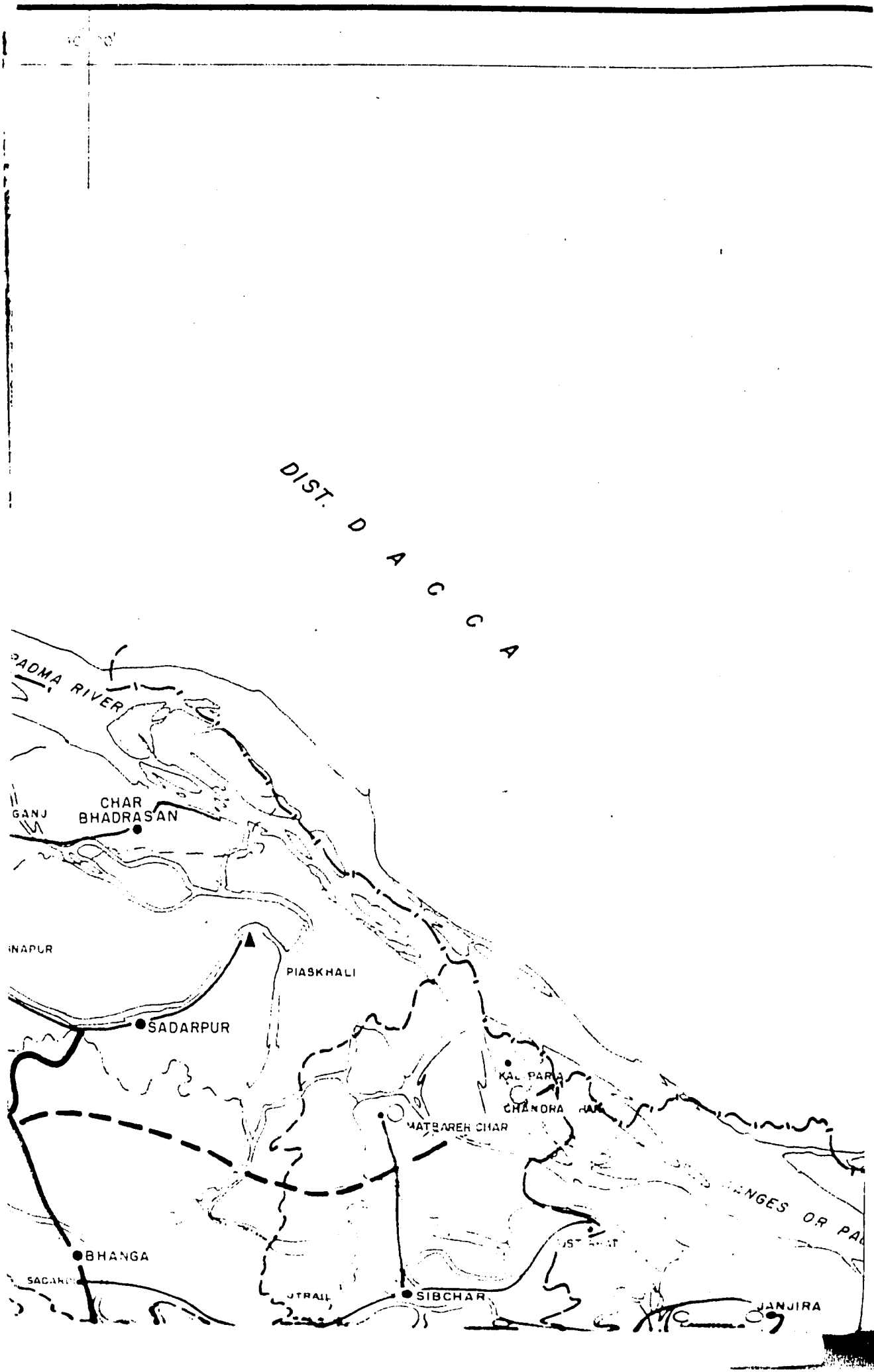
MEGHNA KUMARPARA
GANGES OR PADMA
DIST. KUSHTIA
PANGSA
BAGDULI
MAJHBAR
DIGHALHAT
CHAND MRIGI
SONAI
BA
ARUA
23°-30'

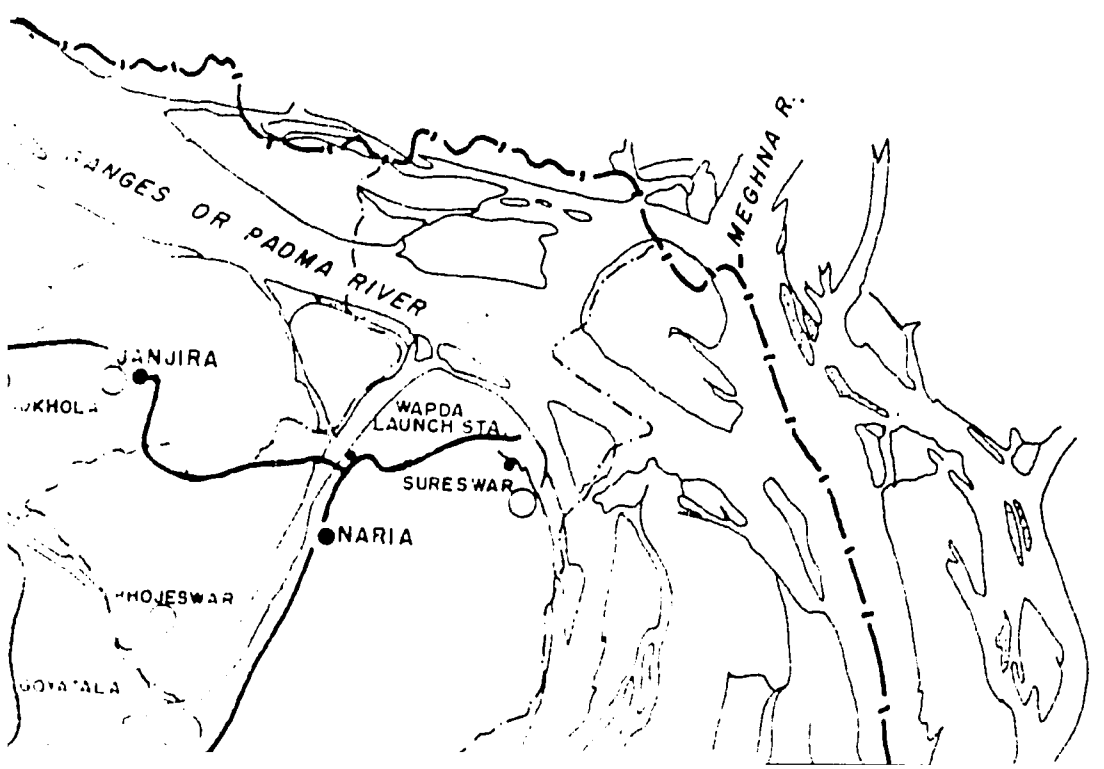
DIST.


89° 30'
DIST. PABNA
JAMUNA RIVER
GANGES OR PADMA RIVER
SANTASHPUR
RAJBARI
MAJHBARI
SONAPUR
GOALANDA GHAT
LUJANCHAR
NIMTALA
KHANKHANAPUR
BAHARPUR
DURGAPUR
BASANTAPUR
GANGES OR
BALIAKANDI
KANAPUR
FARIDPUR
HATGAZARIA
GREDA
BAGBARHAT
KUMARKHALI
BAKSIR CHANDPUR
THANTHANIA
GHOSHPUR R S
MAHESWARDI
NAGARKANDA
SALTHA
SRINAGAR
BOALMARI


DIST. DACCA
PADMA RIVER
CHAR
BHADRASAN
PIASKHALI
SADARPUR
MATBAREK CHAR
BHANGA
SIBCHAR

D

23°-30'



DIST COM I

DIST. FARIDPUR

LEGEND

Roads (R&H)

Rail Roads

Water ways

Major Airport

Prim Market (A

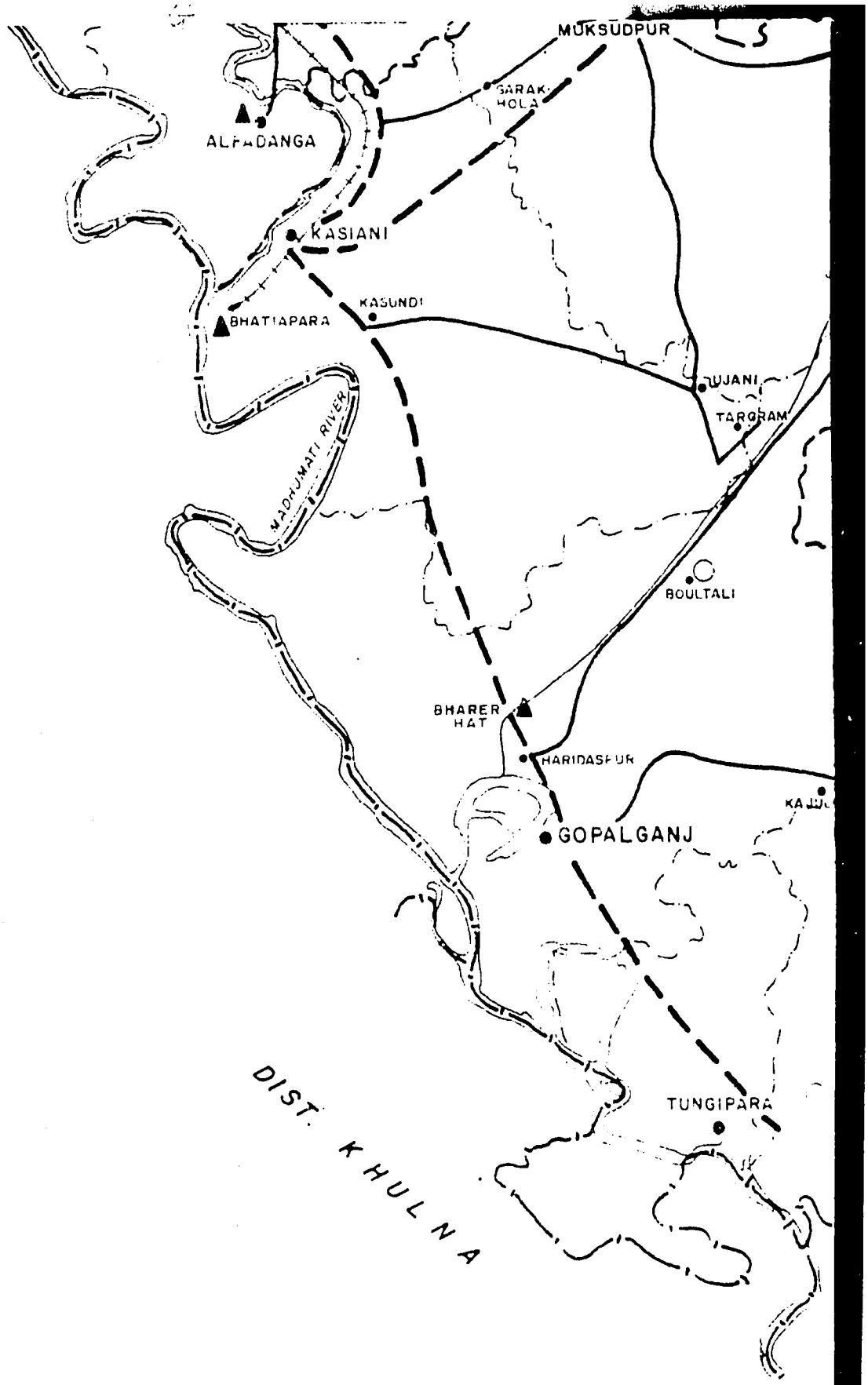
Sec Market (

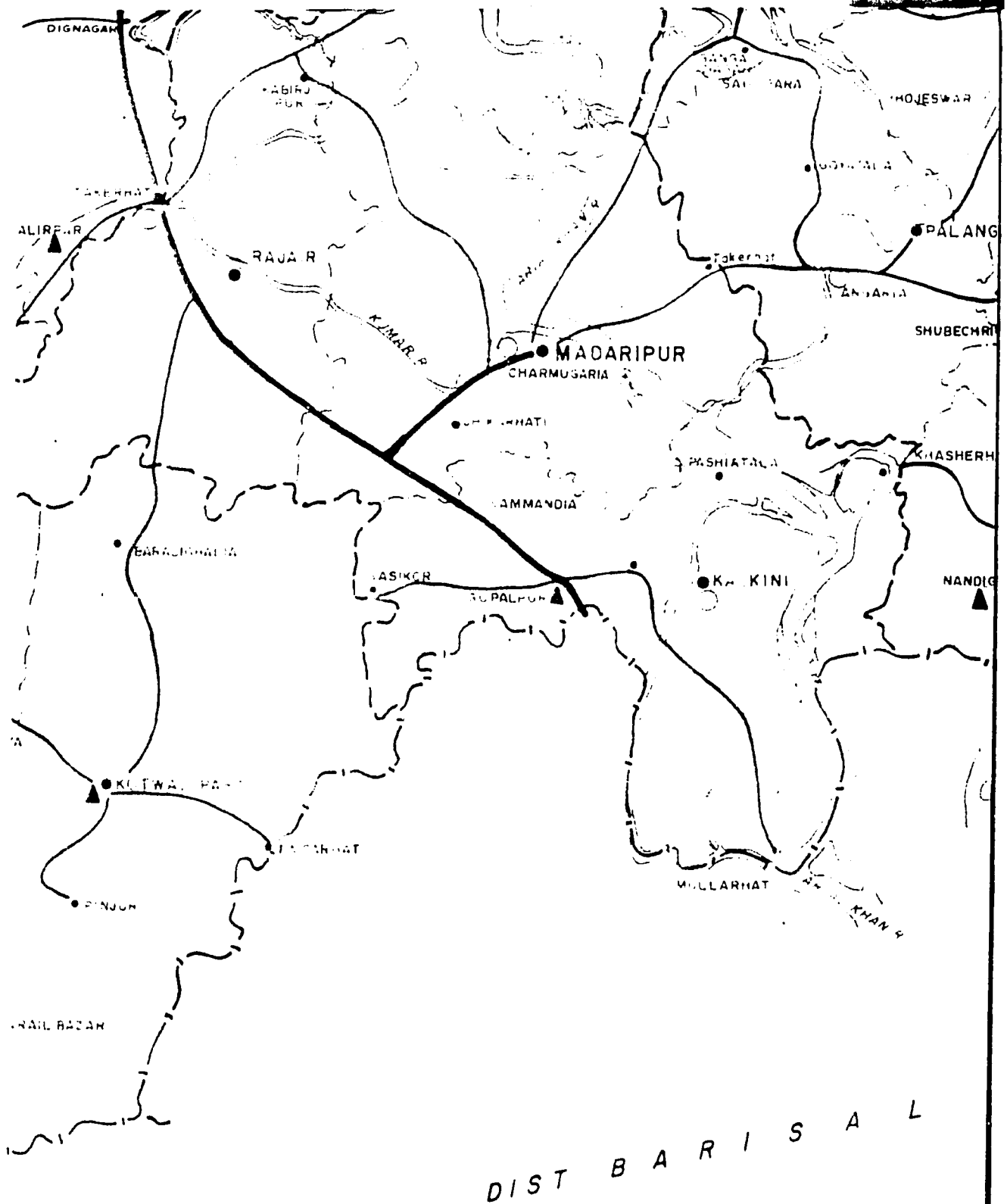
(R&H)

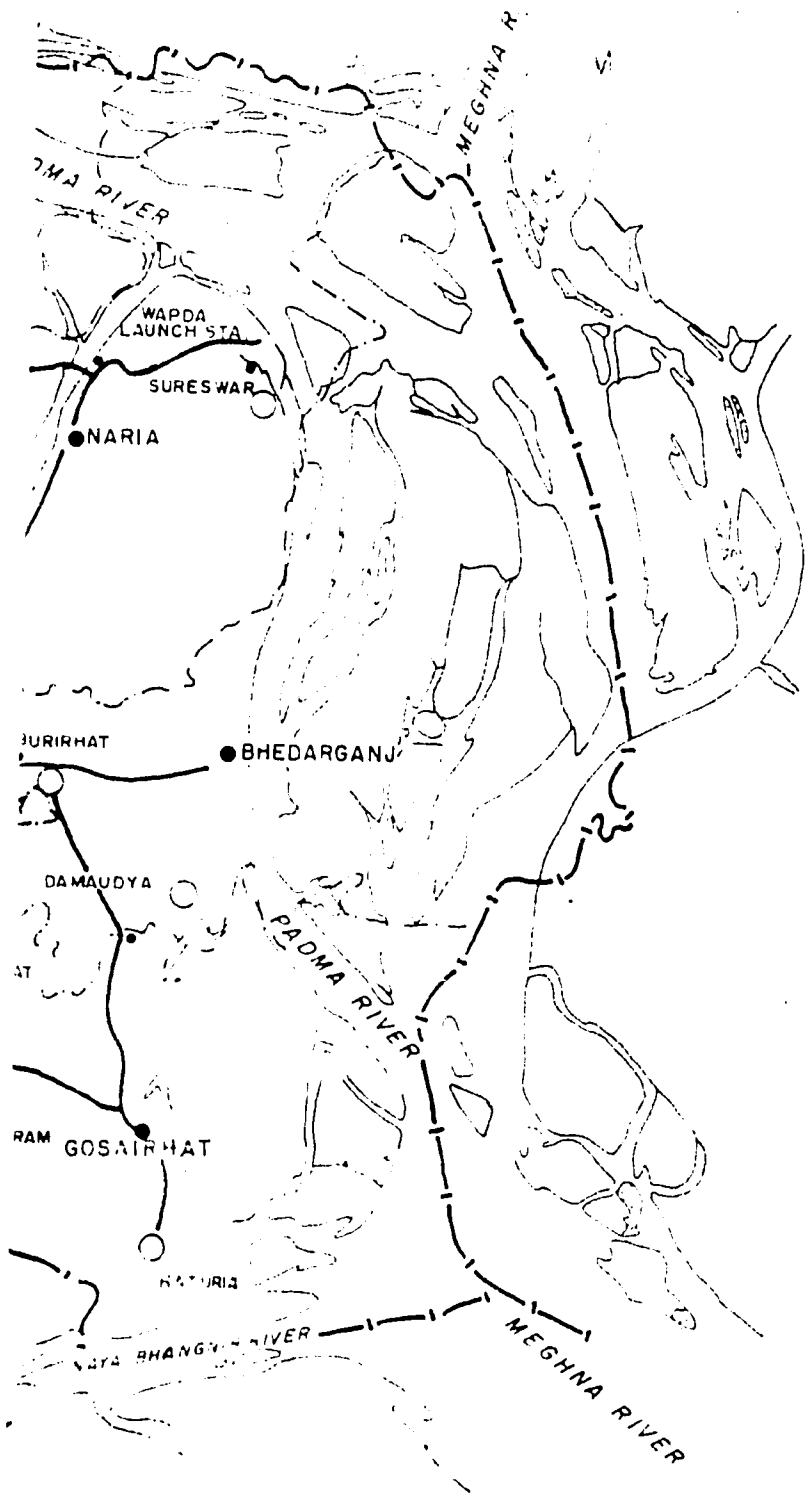
Preliminary Road Network

DIST. JESSORE

23 · 3


MUKSUDPUR
ALFADANGA
KASIANI
KASUNDI
BHATIAPARA
MADHUMATI RIVER
TUJANI
TARGRAM
BOULTALI
BHARER HAT
HARIDASPUR
GOPALGANJ
TUNGIPARA
DIST. KHULNA


DIGNAGAR
RAJA R
KUMAR R
MADARIPUR
CHARMUGARIA
PALANG
SHUBECHRI
KHASHERH
NANDIG
KINI
MULLARHAT
KHAN R
DIST BARISAL



DIST. COMILLA

23° - 00'

J

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.

PREPARED BY	RECOMMENDED
CHECKED	APPROVE
DATE :	DRG. NO.

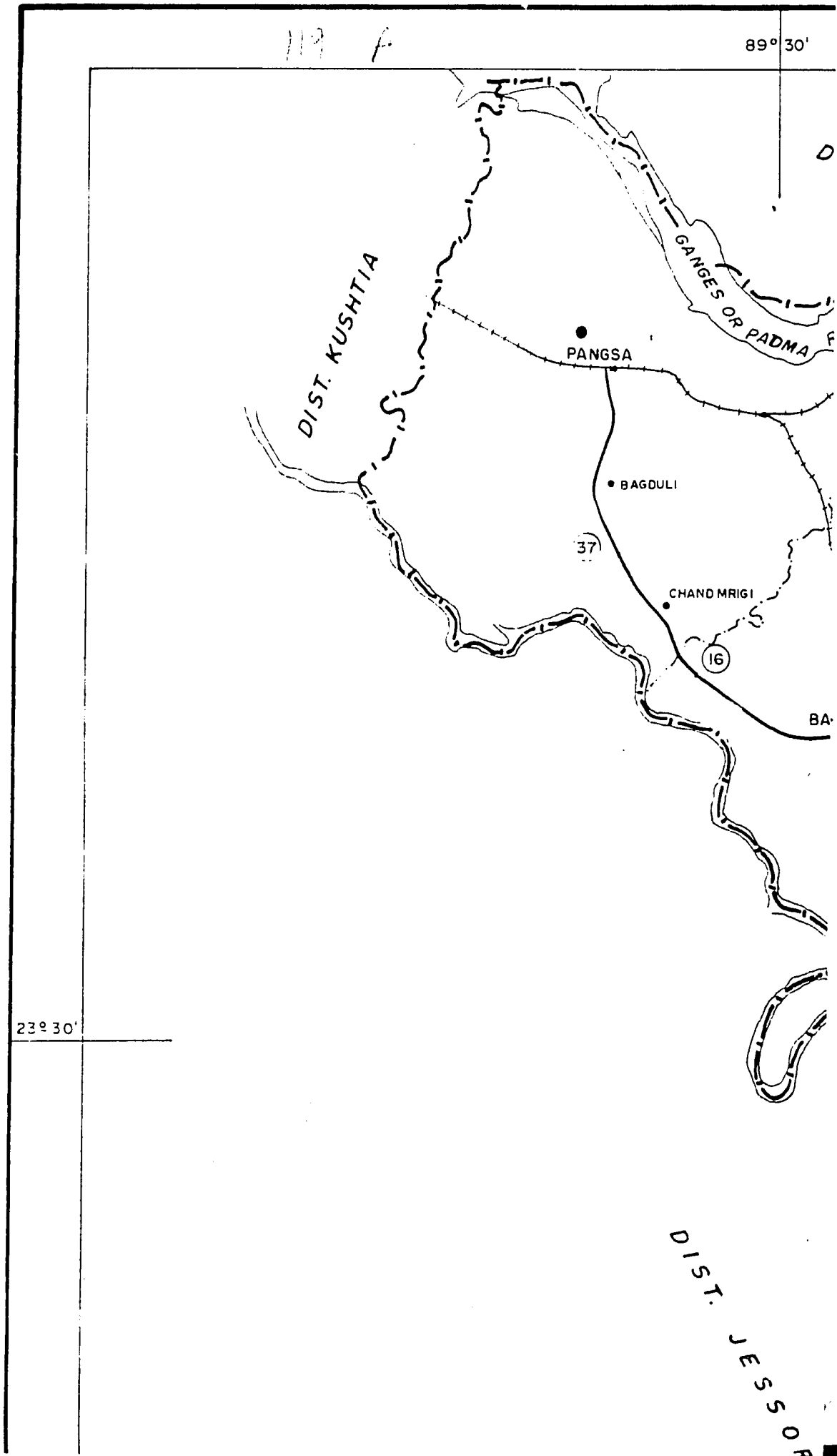
X. RECOMMENDED ROAD NETWORK

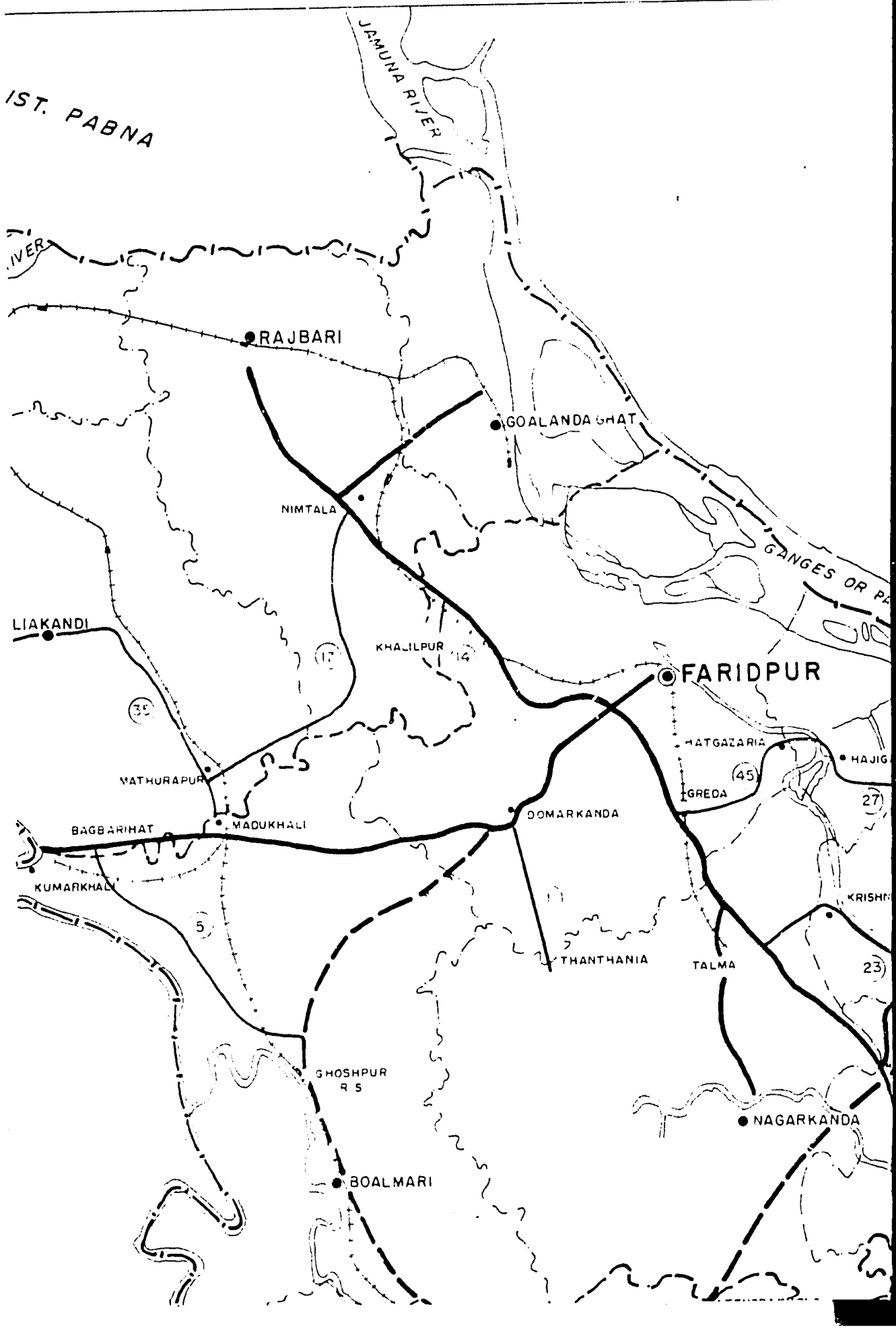
A. Network

As shown on the map in Figure 9 the rural road network recommended for Faridpur District consists of 29 roads totalling approximately 224.5 miles. Sixteen of these recommended roads are Class IV roads with a total length of 131.5 miles. The remaining thirteen roads, totalling 93.0 miles, are Class V roads. The total estimated network cost is $32.7 million, which averages to approximately $145.7 thousand per mile. The roads and mileage are distributed by subdivision as follows:

TABLE 30
ROADS BY SUBDIVISION

Subdivision	Class	No. of roads	Total Mileage
Sadar	IV	5	33
	V	2	13
	Total	7	46
Goalundo	IV	3	27.5
	V	1	11
	Total	4	38.5
Gopalganj	IV	1	14
	V	2	18
	Total	3	32
Madaripur	IV	3	23
	V	2	23
	Total	5	46
Sariatpur	IV	4	34
	V	5	28
	Total	9	62


89° 30'
GANGES OR PADMA
DIST. KUSHTIA
PANGSA
BAGDULI
37
CHAND MRIGI
16
23° 30'
DIST. JESSOR


IST. PABNA
JAMUNA RIVER
RAJBARI
GOALANDA GHAT
NIMTALA
GANGES OR PA
LIAKANDI
KHALILPUR
FARIDPUR
HATGAZARIA
HAJIG
MATHURAPUR
GREDA
DOMARKANDA
BAGBARIHAT
MADUKHALI
KUMARKHALI
KRISHN
THANTHANIA
TALMA
GHOSHPUR
R S
NAGARKANDA
BOALMARI

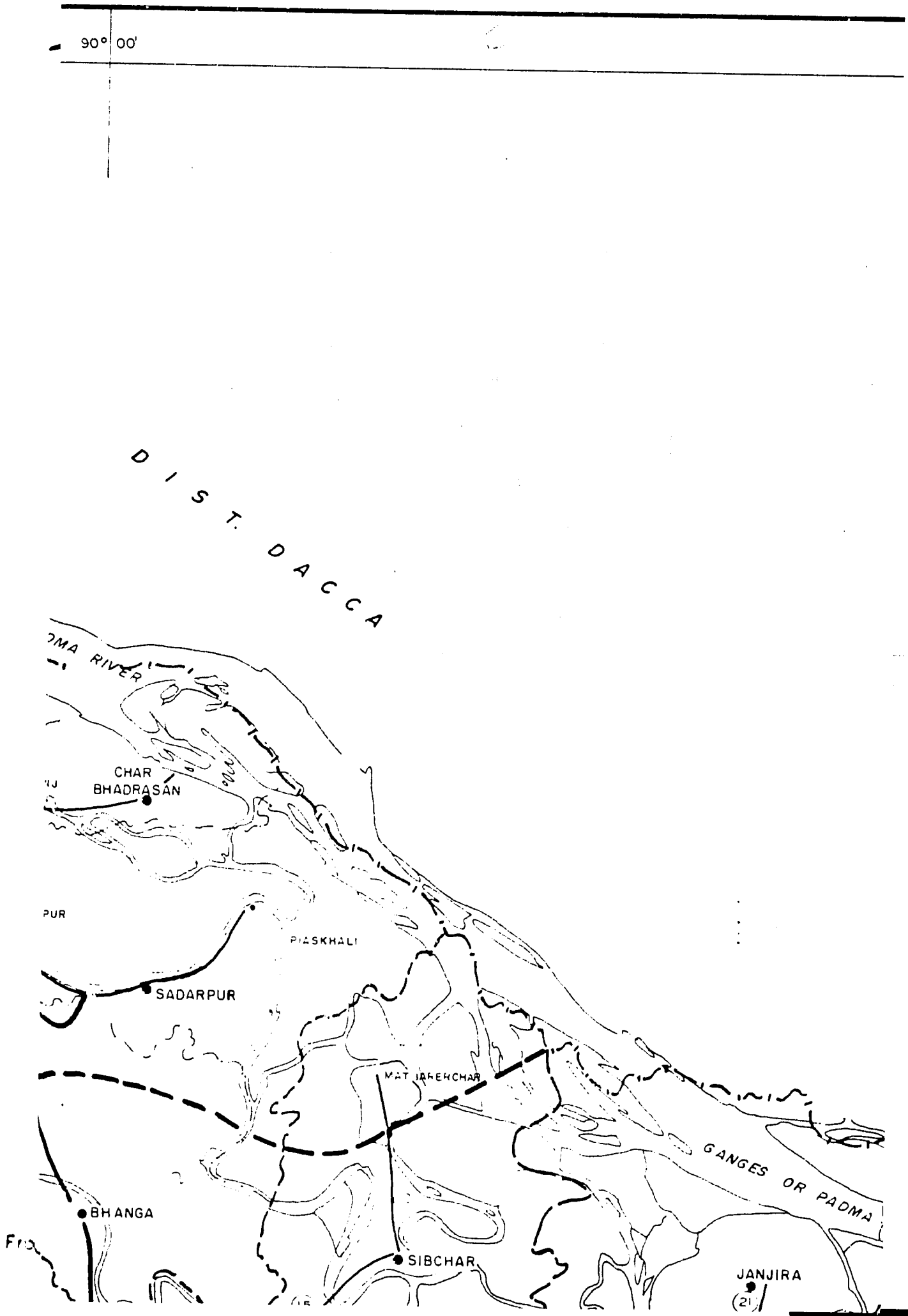
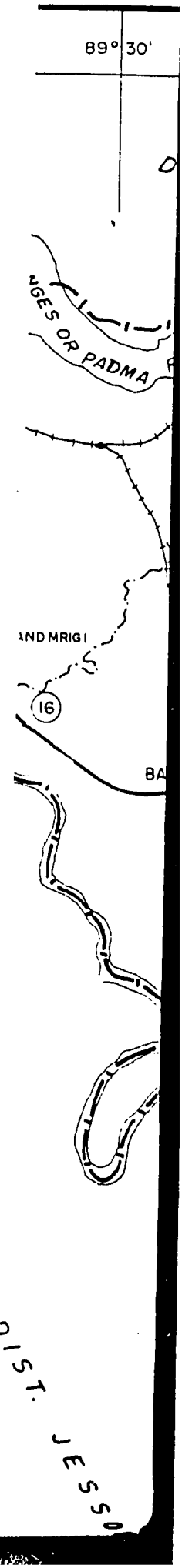

90° 00'
DIST. DACCA
OMA RIVER
CHAR
BHADRASAN
PUR
PIASKHALI
SADARPUR
MATJAHERCHAR
GANGES OR PADMA
BHANGA
SIBCHAR
JANJIRA
(21)

FIGURE-9 PAGE-119

DIST. FARIDPUR



LEGEND

ROADS (R & H)

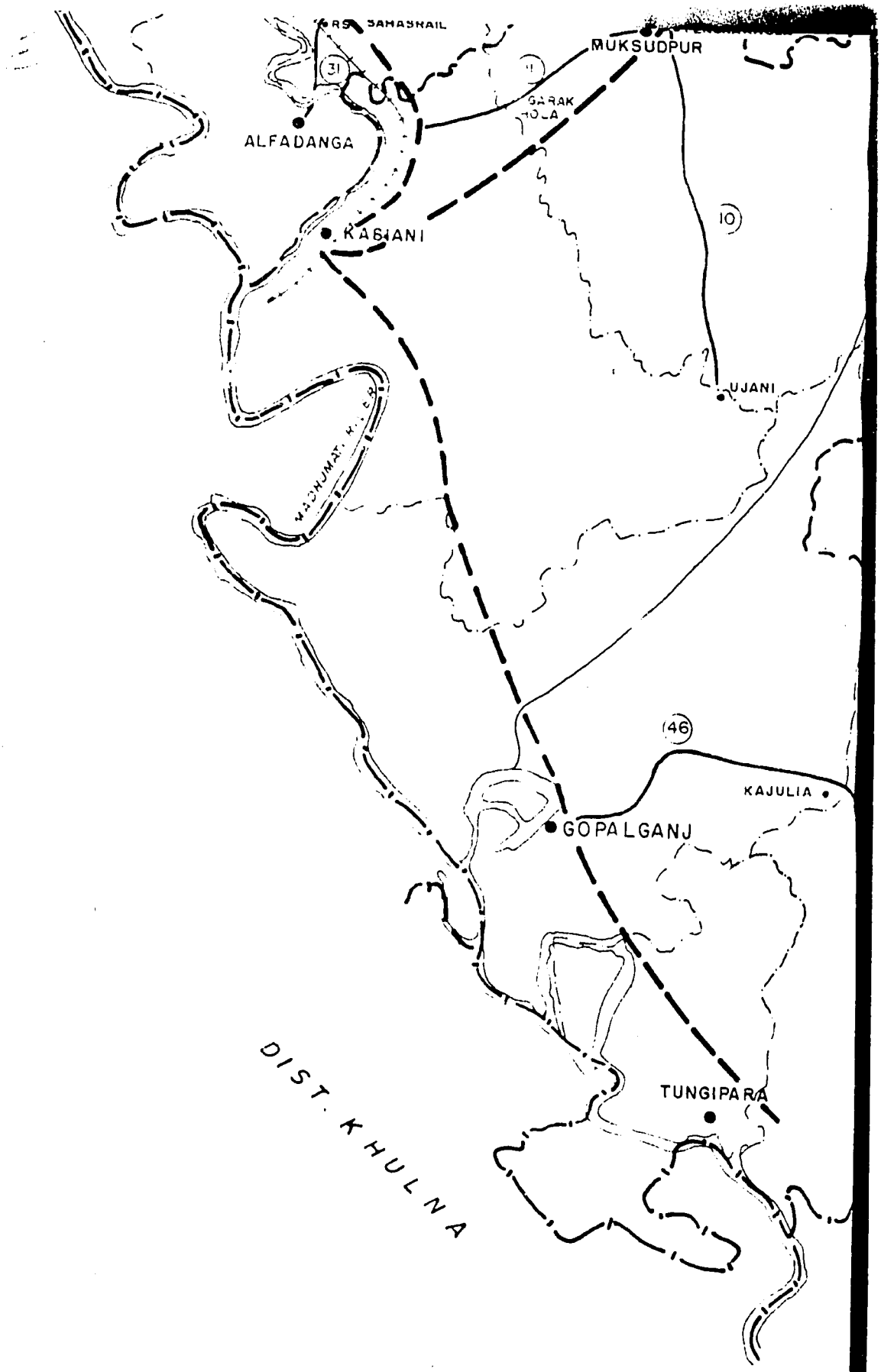
RAIL ROADS

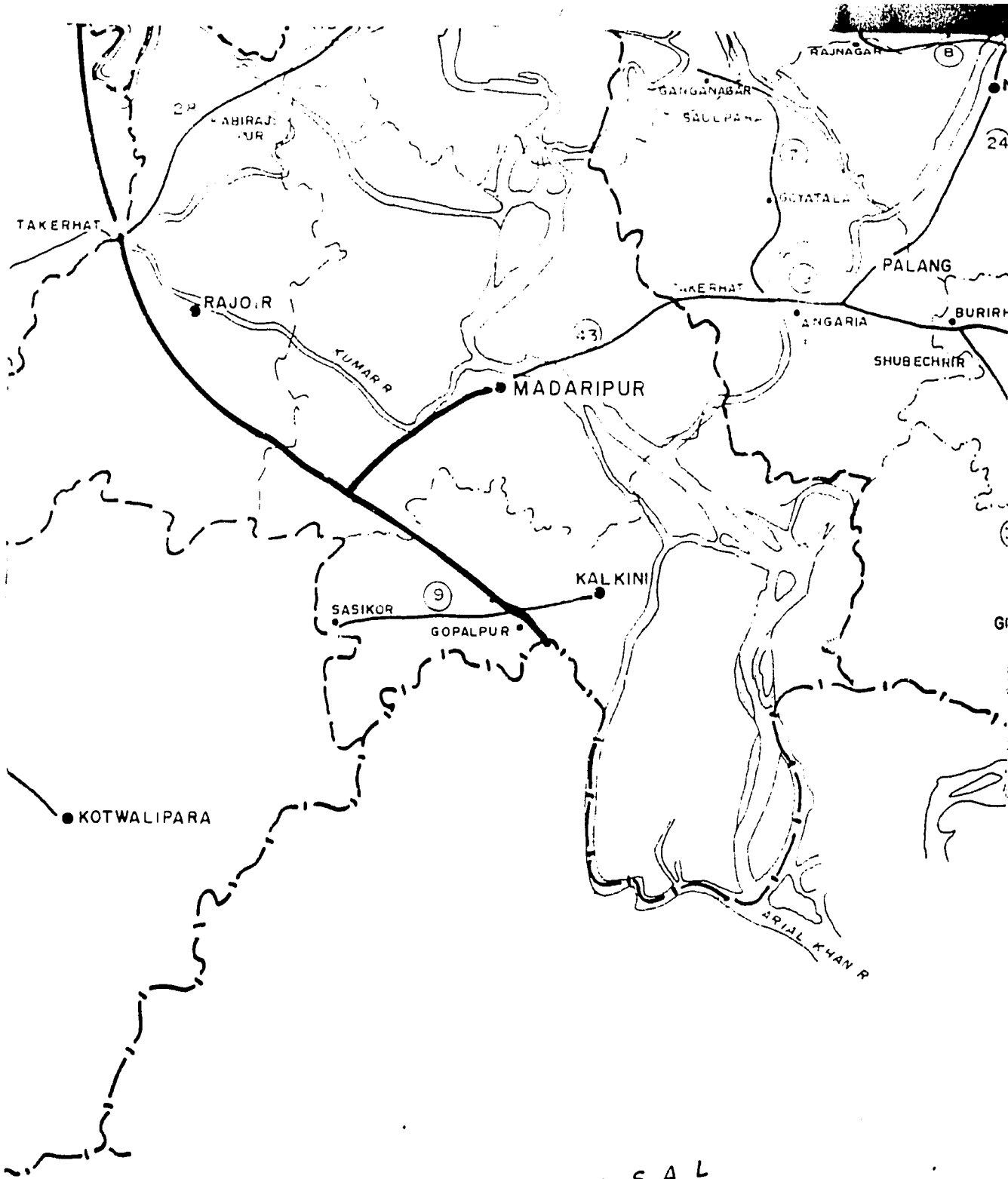
WATER WAYS

MAJOR AIRPORT

PROPOSED ROAD (R & H)

RECOMMENDED ROAD NETWORK (37)

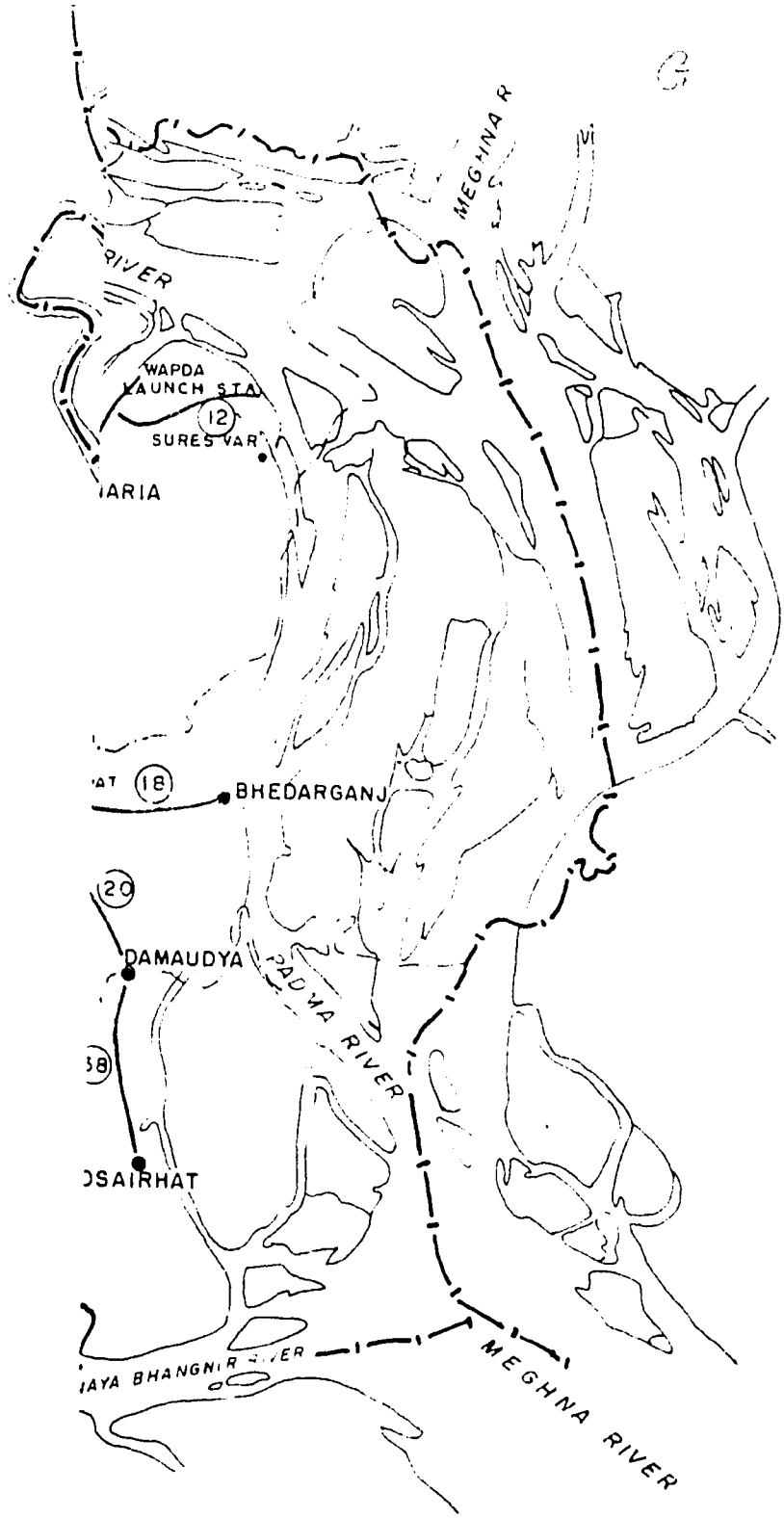

MUKSUDPUR
ALFADANGA
KASHIANI
UJANI
GOPALGANJ
KAJULIA
TUNGIPARA
DIST. KHULNA
31
10
46



DIST. BARISAL

Fn

90°00'



DIST. COMILLA

23°-00'

H

SCALE 1 Inch = 4 MILES.

5 4 3 2 1 0 5 10 Miles

GOVERNMENT OF
THE PEOPLE'S REPUBLIC OF BANGLADESH

RURAL ROADS STUDY

RECOMMENDED ROAD NETWORK

LOUIS BERGER INTERNATIONAL INC. AND
RAHMAN & ASSOCIATES LTD.

PREPARED BY S. ISLAM	RECOMMENDED
CHECKED	APPROVED
DATE 8.7.78	DRG NO.

89° 30'

From the collection of Dr. and Mrs. Clifton R. Wharton, Jr.

As shown in Table 30 the road mileage is fairly evenly distributed throughout the district. In addition the proposed network would link 29 major markets not now served by roads.

Initially the consultant had been favourably disposed toward more construction in Gopalganj Subdivision, but ultimately only three roads were recommended. The reasons are that: (1) the subdivision will soon be linked to the district headquarters by the new north-south R&H road on the western side of the district; and (2) the extremely high cost of building roads in many parts of the subdivision, With the three recommended roads and the new R&H road, every thana in the subdivision will be linked by road with the subdivision headquarters.

The largest number of roads and mileage is recommended for the currently inaccessable subdivision on of Sariatpur. The subdivision headquarters at Palong would be connected to Madaripur and the main R&H road. Every thana in the subdivision would then have a road link to Palong. This is very important to Sariatpur as currently water transport is the only transport alternative.

In Madaripur Subdivision the main additions are (1) the road connecting Sibchar thana with the main R&H road and (2) a road through the eastern part of Kalkini Thana.

Faridpur Sadar Subdivision has a better existing road network than other areas due to the intersection of Faridpur-Barisal and Faridpur-Jessore R&H roads. The recommended network will link currently inaccessable Char Bhadrasan and Alfadanga Thanas and poorly connected Sadarpur thana. In addition it will add shorter links opening up some poorly connected areas of Boalmari and Kotwali Thanas.

In Goalundo Subdivision, the main feature of the network is a long spine road through the very large Baliakandi and Pangsa Thanas, the latter which cannot be reached by road or water. This road and the Class V road through south-western Rajbari Thana would link a large sugar growing area to the new sugar mill at Madhukhali as well as provide a road services to several important markets.

In summary, the following thanas not now linked to the existing network would be included: Palong, Naria, Janjira, Bhedarganj, Damuddya, Goshairhat, Kotwalipara, Muksudpur, Alfadanga, Pangsa, Char Bhadrasan, and Sibchar. In addition, the thanas of Sadarpur and Baliakandi which are now poorly linked, would be better connected.

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

Mileage of all roads	224.5	
Estimated network cost (US $)	32.7	Million
Number of all roads	29	
Average per mile cost (US $)	145.7	Thousand
Number of Class IV Roads	16	
Mileage of Class IV Roads	131.5	
Number of Class V Roads	13	
Mileage of Class V Roads	93.0	
Shortest road segment	2	Miles
Longest road segment	12	Miles

TABLE 31

RECOMMENDED ROAD NETWORK

ROAD	THANA	CLASS	MILES	COSTS (1000 US $)	PRIORITY VALUE	RANK	REMARKS
R&H@ DONARKANDI THAN THANIA	KOTWALI	V	3	80	1.62	1	
SIBCHAR-PATBARER CHAR	SIBCHAR	V	12	298	1.50	2	
BOALMARI-BAGBARI HAT	BOALMARI	V	10	614	0.76	5	
ANGARIA-GANGANAGAR	PALONG	V	11	894	0.51	7	
NARIA-RAJNAGAR	NARIA	V	4	504	0.46	8	
KALKINI-SASIKAR	KALKINI	V	11	730	0.45	9	
TANGRA KHOLA-UJANI	MUKSUDPUR	V	8	834	0.40	10	
R&H @ KHARHAT-MUKSUDPUR VIA GHRAMKOL	KASHIANI	V	10	1,250	0.40	11	
NARIA-SURESWAR	NARIA	V	6	755	0.38	12	
R&H @ DALADDI KHALILPUR HAT	KOTWALI	IV	2	252	0.35	14	

Table continues on following page

ROAD	THANA	CLASS	MILES	COSTS (1000 US $)	PRIORITY VALUE	RANK	REMARKS
KABIRAJPUR-SIBCHAR	SIBCHAR	IV	8	1,462	0.33	15	
BALLAKANDI-MRICI	BALLAKANDI	IV	7.5	820	0.32	16	
NIMTOLA-KHOLA-MATHURAPUR	RAJBARI	V	11	1,350	0.32	17	
BHEDARGANJ-BURIR HAT	BHEDARGANJ	IV	6	774	0.32	18	
TAKERHAT-ANGARIA BURIR HAT	PALONG	IV	8	1,239	0.30	19	
DAMUDIYA-BURIR HAT	DAMUDIYA	V	5	1,256	0.29	20	
JANJIRA-RAJNAGAR	JANJIR	V	2	251	0.26	21	
R&H @ KRISHNAPUR SADARPUR-PIASHKHALI	SADARPUR	IV	12	1,891	0.26	23	
PALONG-NARIA-WAPDA GHAT	NARIA/PALONG	IV	10	1,822	0.26	24	
HATGAZARIA-WAPDA EMBANKMENT	CHARBHADRA-SAN	IV	11	2,155	0.24	27	Added in adjustment
TAKERHAT- - KABIRAJPUR	RAJOIR	IV	9	1,870	0.24	28	Added in adjustment
ALFADANGA-SAHASRAIL	ALFADANGA	IV	4	709	0.22	31	Added in adjustment

Table continues on following page

ROAD	THANA	CLASS	MILES	COSTS (1000 US $)	PRIORITY VALUE	RANK	REMARKS
BALIAKANDI-MADUKHALI	BALIAKANDI	IV	10	1,659	0.20	35	Added in adjustment
PANGSA-MRIGI	PANGSA	IV	10	2,001	0.19	37	Added in adjustment
DAMUDYA -GOSHAIR HAT	GOSHAIRHAT	IV	10	2,110	0.19	38	" " "
MADARIPUR-TAKERHAT	MADARIPUR	IV	6	1,785	0.17	43	" " "
GREADA-HATGAZARIA	KOTWALI	IV	4	941	0.16	45	" " "
GOPALGANJ - KOTWALIPARA	GOPALGANJ/ KOTWALIPARA	IV	14	2,326	0.16	46	" " "

The ratings were discontinued at rank No.25 because the mileage totaled 202.25 without adjustments of the network.

During adjustment for access, continuity and overall development concepts the following changes were made:

Deletion of roads 3, 4, 6, 13, 22, & 25 - less 55.75 miles

Addition of roads 27, 28, 31, 35, 37, 38, 43, 45 & 46 - Add 78.0 Miles

The total recommended mileage is 224.5 miles.

TABLE 32 -

PRIORITY VALUES FOR SCREENED ROADS
NOT INCLUDED IN NETWORK

ROAD	THANA	CLASS	MILES	COSTS (M $)	PRIORITY VALUE	RANK	REMARKS
DURGAPUR-GOALUNDA GHAT	GOALUNDA GHAT	V	5.25	.150	1.15	3	
GOSHAIRHAT-KASHER HAT	GOSHAIRHAT	V	9	.384	.98	4	
R&H (SADARDI) - KALAMIRDHA	BHANGA	V	7.1	.682	.62	6	
PANGSA-DIGAL HAT	PANGSA	V	10.5	1.154	.37	13	
JANJIRA-CHILAR CHAR	JANJIRA	IV	13	1.788	.26	22	
SIBCHAR-GASTIR HAT	SIBCHAR	IV	11	1.991	.25	25	
MUKSUDPUR - R&H (DIGNAGAR)	MUKSUDPUR	IV	12	2.258	.25	26	
PANGSA-SENGRAM (MEGHNA KUMAR)	PANGSA	IV	8	1.459	.23	29	
GOPALPUR L.S - WDB EMBANKMENT	CHARBHADRA-SAN	IV	2	0.478	.23	30	
KOTWALIPARA TTDC-PINJURHAT	KOTWALIPARA	V	4	0.799	.22	32	
KALKINI - MOLLAR HAT	KALKINI	IV	13	2.253	.21	33	
BOALMARI-SRINAGAR	BOALMARI	IV	5	1.131	.21	34	
RAJBARI-BAHARPUR	RAJBARI	IV	5	1.042	.20	36	

Table continues on following page

ROAD	THANA	CLASS	MILES	COSTS (M $)	PRIORITY VALUE	RANK	REMARKS
KOTWALIPARA- R&H (RAJOIR)	KOTWALIPARA/ RAJOIR	IV	9	1.973	.18	39	
GERAKHOLA - MUKSUDPUR	MUKSUDPUR	IV	10	2.221	.18	40	
GOPALGANJ-TAKERHAT	GOPALGANJ/ MUKSUDPUR	IV	22	5.860	.18	41	
NAGARKANDA- MUKSUDPUR	NAGARKANDA	IV	8.7	1.826	.17	42	
KABIRAJPUR - CHARMUGURIA	MADARIPUR	IV	10	1.911	.16	44	
MADARIPUR - CHILARCHAR	MADARIPUR	IV	6	1.151	.15	47	
THANTHANIA-SALTHA-SRINAGAR	NAGARKANDA	IV	10	1.997	.15	48	
BALIAKANDI (ARKANDI) BAHARPUR	BALIAKANDI	IV	6	1.250	.15	49	
KOTWALIPARA-PAISHARHAT	KOTWALIPARA	V	6	.581	.13	50	
KASUNDI - TARGRAM	KASHIANI	IV	13	4.062	.13	51	

Table 31 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 32 gives the priority values and other data for the remainder of the 51 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 inconsistances in the course of study.

Table 33 gives the estimated costs separated into local currency and foreign exchange components for each of the 29 road segments in the recommended network. US dollar equivalents for each segment are included in the table.

TABLE 33

COSTS BY RECOMMENDED ROAD SEGMENT

TAKA 16 = US $ 1.00

RANK	ROAD	SUBDIVISION	MILES	CLASS	COSTS (000) TAKA AND US $ EQUIV.	US $	TOTAL US $
1	R&H ROAD AT DOMARKANDI THANA THANIA	FARIDPUR	3	V	TK. 940 US 59	21	80
2	SIBCHAR-MATBARER CHAR	MADARIPUR	12	V	TK. 3,465 US 217	81	298
5	BOALMARI-BAGBARI HAT	FARIDPUR	10	V	TK 7,150 US 447	167	614
7	GANGANAGAR-ANGARIA VIA GOYATALA	SARIATPUR	11	V	TK.10,212 US 638	256	894
8	NARIA - RAJNAGAR	SARIATPUR	4	V	TK. 4,090 US 360	144	504
9.	KALKINI - SASIKOR	MADARIPUR	11	V	TK. 8,416 US 526	204	730
10	TANGRAKHOLA - UJANI	GOPALGANJ	8	V	TK. 9,542 US 596	238	834
11	KHARHAT R&H ROAD-MUKSUDPUR VIA GERAKHOLA	GOPALGANJ	10	V	TK.14,352 US 897	353	1,250
12	NARIA-SURESWAR	SARIATPUR	6	V	TK. 6,133 US 539	215	755
14	DAULADDI R&H RD KHALILPUR	FARIDPUR	2	IV	TK. 2,627 US 164	88	252

Table continues on following page

RANK	ROAD	SUBDIVISION	MILES	CLASS	COSTS (000) TAKA AND US $ EQUIV	US $	TOTAL US $
15	SIBCHAR-KABIRAJPUR	MADARIPUR	8	IV	TK.15,767 US 986	476	1,462
16	BALIAKANDI - MRIGI	GOALUNDO	7.5	IV	TK.8,344 US 521	299	820
17	NIMTOLA-KHOLA-MOTHURAPUR	GOALUNDO	11	V	TK.13,766 US 861	489	1,350
18	BHEDARGANJ-BURIR HAT	SARIATPUR	6	IV	TK. [illegible],532 US 471	303	774
19	TAKERHAT-ANGARIA-BURIR HAT	SARIATPUR	8	IV	TK.13,158 US 822	417	1,239
20	DAMUDDYA-BURIR HAT	SARIATPUR	5	V	TK. 14,408 US 900	356	1,256
21	JANJIRA - RAJNAGAR	SARIATPUR	2	V	TK. 2,045 US 180	72	251
23	R&H ROAD - PAIASHKHALI VIA KRISHNANGAR & SADARPUR	FARIDPUR	12	IV	TK. 20,047 US 1,253	638	1,891
24	PALONG - NARIA WAPDA LAUNCH STA	SARIATPUR	10	IV	TK. 19,487 US 1,218	604	1,822
27	WAPDA EMBANKMENT-CHAR BHADRASAN-HATGAZARIA	FARIDPUR	11	IV	TK. 23,127 US 1,445	710	2,155

Table continues on following page

RANK	ROAD	SUBDIVISION	MILES	CLASS	COSTS (000)		
					TAKA AND US$ EQUIV.	US $	TOTAL US $
28	TAKER HAT - KABIRAJPUR	MADARIPUR	9	IV	TK. 24,142 US 1,259	611	1,870
31	ALFADANGA- SAHASRAIL	FARIDPUR	4	IV	TK. 6,452 US 403	306	709
35	BALIAKANDI-MADHUKHALI	GOALUNDO	10	IV	TK.17,678 US 1,105	554	1,659
37	PANGSA - MRIGI	GOALUNDO	10	IV	TK.21,776 US 1,361	640	2,001
38	DAMUDDYA-GOSHAIRHAT	SARIATPUR	10	IV	TK.22,710 US 1,419	691	2,110
43	MADARIPUR-TAKERHAT	MADARIPUR	6	IV	TK.19463 US 1,216	569	1,785
45	HAT GAZARIA-R&H ROAD (GREDA)	FARIDPUR	4	IV	TK.10,277 US 642	299	941
46	GOPALGANJ-KOTWALIPARA	GOPALGANJ	14	IV	TK.24,048 US 1,503	857	2,360

XI. ENGINEERING AND CONSTRUCTION PLANNING

A. Construction Season

The period of the year available for road construction in Faridpur is directly associated with the clearly defined rainy or monsoon season. The best months are November through February, when the mean monthly rainfall is less than an inch. Depending on annual climatic conditions, the latter part of October, the month of March and the first part of May are also occasionally suitable. The construction season is slightly longer in the less flood-prone northern thanas, but somewhat shorter in the southern thanas.

The road construction season in Faridpur thus varies from a minimum of four months to a maximum of six months. Bridge construction may be continued for longer periods provided the work and material storage areas are properly protected.

B. Equipment and Material Availability

The Roads and Highways Directorate owns a minimum of construction equipment with a 10 year average age for its own use. The District Council and Sub-division Offices have no road construction equipment that could be used on this project. The major materials requirements, brick, filling sand and earth, are readily available in all areas of the district. Stone and concrete sand are generally brought into the areas from Dacca and Sylhet. Other materials such as cement, mild steel and coal for firing the bricks are imported and must be transported from the port at Chittagong.

C. Contracting and Labor Availability

Other than small building contractors, there are no local road or bridge contractors in the district. It is envisioned that registered contractors will come from Dacca or other major areas with their skilled craftsman and employ local people for the unskilled labor requirements. Equipment for compaction or pile driving must be brought in or even furnished to the successful contractor.

After the harvest period, local information indicates that substantial numbers of people in all areas are either unemployed or underemployed. These people could easily satisfy the unskilled labor requirements for the small contractors. A limited number of masons and carpenters are present in each subdivision but availability would depend on other work opportunities.

D. Special Problems

Construction of ferry landings requiring piles, floating pontoons and steel access ramps for major river crossings will present some difficulties. Problems are also anticipated because of the additional land for rights-of-way that the rural roads program will require.

E. Network Construction Schedule

Table 34 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 (1000 CF)
CE - Cement(Tons)
ST - Steel (Cwt)
BR - Bricks(1000)
SA - Sand (1000 Cf)
BI - Bitumen (Ton)

TABLE 34

CONSTRUCTION PLANNING BY RECOMMENDED ROADS.

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

Rank	Road	Class	Sub-division	Miles	Period Months	REQUIREMENTS		
						Manpower	Equipment	Materials
1	R&H ROAD AT DOMARKANI-THAN THANIA	V	FARIDPUR	3	3	S- NIL L-410	TS-1 R -1	S - NIL CE - NIL ST- NIL SA - NIL
2	SHIBCHAR-MATBARER CHAR	V	MADARIPUR	12	5	S-40 L-660	TS-2 R -2	S -10 CE-80 ST-1410 SA-5
5	BOALMARI-BAGBARIHAT	V	FARIDPUR	10	5	S-70 L-1390	TS-1 R -1	S -20 CE -170 ST-2820 SA -10
7	ANGARIA-GANGANAGAR VIA GOYATALA	V	SARIATPUR	11	5	S-220 L-1150	TS-1 R -1	S - 50 CE - 570 ST - 9545 SA - 30
8	NARIA-RAJNAGAR	V	SARIATPUR	4	5	S-120 L-500	TS-1 R -1	S - 60 CE- 360 ST- 5930 SA-20
9	KALKINI-SASIKAR	V	MADARIPUR	11	5	S-150 L-1140	TS-1 R -1	S- 40 CE- 370 ST- 6340 SA-20

Table contines on following page

Rank	Road	Class	Subdivision	Miles	Period Months	REQUIREMENTS		
						Manpower	Equipment	Materials
10	TANGRAKHOLA-UJANI	V	GOPALGANJ	8	4	S-230 L-1260	TS-1 T -1	S - 50 CE - 540 ST - 8980 SA - 30
11	R&H @ KHARHAT MUKSUDPUR VIA GERAKHOLA	V	GOPALGANJ	10	5	S-280 L-890	TS-1 R -1	S -90 CE -960 ST-15840 SA-50
12	NARIA-SURESWAR	V	SARIAPUR	6	5	S-184 L-750	TS-1 R -1	S -90 CE-530 ST-8890 SA-30
14	R&H @ DAULADDI KHALILPUR HAT	IV	FARIDPUR	2	2	S-60 L-840	TS-1 R -1	S -NIL CE-NIL ST-NIL BR-1360 SA-140 BI-60
15	KABIRAJPUR-SHIBCHAR	IV	MADARIPUR	8	5	S-180 L-1750	TS-1 R -1	S -30 CE -300 ST -4930 BR -5440 SA -570 BI -230
16	BALIAKANDI-MRIGI	IV	GOALUNDO	7.5	5	S-120 L-540	TS-1 R -1	S -10 CE-90 ST-1580 BR-5100 SA-530 BI-210
17	NIMTOLA-KHOLA-MATHURAPUR	V	GOPALGANJ	11	5	S-340 L-2030	TS-1 R -1	S -70 CE-720 ST-9840 SA-40

Table continues on following page

Rank	Road	Class	Subdivision	Miles	Period Months	REQUIREMENTS		
						Manpower	Equipment	Materials
18	BHEDERGANJ-BURIR HAT	IV	SARIATPUR	6	5	S-70 L-880	TS-1 R-1	S -NIL CE-NIL ST-NIL BR-4080 SA-420 BI-170
19	TAKERHAT-ANGARIA-BURIRHAT	IV	SHARIATPUR	8	5	S-170 L-1420	TS-1 R -1	S -20 CE-190 ST-3260 BR-5440 SA-570 BI-230
20	DAMUDIYA-BURIRHAT	V	SARIATPUR	5	5	S-270 L-730	TS-1 R -1	S -20 CE-1020 ST-16680 SA- 50
21	JANJIR-RAJNAGAR	V	SARIATPUR	2	5	S-60 L-250	TS-1 R -1	S -30 CE-180 ST-2960 SA-10
23	R&H @ KRISHNAPUR SADARPUR-PIASKHALI	IV	FARIDPUR	12	5	S-270 L-2100	TS-2 R -2	S -30 CE-330 ST-5630 BR-8160 SA-860 BI-340
24	PALONG-NARIA-WAPDAGHAT	IV	SARIATPUR	10	5	S-270 L-1730	TS-1 R -1	S -40 CE-540 ST-8930 BR-6800 SA-730 BI-280

Table continues on following page

Rank	Road	Class	Subdivision	Miles	Period Months	REQUIREMENTS		
						Manpower	Equipment	Materials
27	WAPDA EMBANKMENT-CHARDADRASAN-HATGAZARIA	IV	FARIDPUR	11	5	S-340 L-2040	TS-1 R -1	S -70 CE-720 ST-11880 BR-7480 SA-800 BI-310
28	TAKERHAT-KABIRAJPUR	IV	MADARIPUR	9	5	S-340 L-1640	TS-1 R -1	S -70 CE-700 ST-11530 BR-6120 SA-660 BI-250
31	ALFADANGA-SAHASRALI	IV	FARIDPUR	4	5	S-50 L-580	TS-1 R 1	S - NIL CE-NIL ST-NIL BR-2720 SA-280 BI-110
35	BALIAKANDI-MODHUKHALI	IV	GOALUNDO	10	5	S-220 L-1620	TS-1 R -1	S -40 CE-390 ST-6420 BR-6800 SA-720 BI-280
37	PANGSA-MRIGI	IV	GOALUNDO	10	5	S-660 L-2800	TS-1 R -1	S -30 CE-340 ST-5810 BR-6800 SA-720 BI-280

Table continues on following page

Road	Road	Class	Subdivision	Miles	Period Months	REQUIREMENTS		
						Manpower	Equipment	Materials
38	DATUDYA-GOSHAINHAT	IV	SHRIRIPUR	10	5	S-340 L-2240	TS-1 R -1	S -70 CE-710 ST-11790 BR-6800 SA-730 BI-280
43	MADARIPUR-TAKERHAT	IV	MADARIPUR	6	5	S-410 L-1110	TS-1 R -1	S -100 CE-1140 ST-17340 BR-4080 SA-470 BI-170
45	HAT GAZARIA-R&H ROAD (GREDA)	IV	FARIDPUR	4	5	S-150 L-940	TS-1 R -1	S -30 CE-340 ST-56[illegible] BR-2720 SA-300 BI-110
46	GOPALGANJ-KOTWALIPARA	IV	GOPALGANJ	14	5	S-230 L-2890	TS-2 R -2	S -20 CE-180 ST-3080 BR-9520 SA-990 BI-400