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ARAYANGANJ : PLANNING FOR GROWTH

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T H E S I S

NARAYANGANJ : PLANNING FOR GROWTH.

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ABSTRACT

The City of Narayanganj is one of the most important urban centres of Bangladesh. But it did not experience any application of Planning methods to reform her physical environment so that desired economic growth and social development could take place. The rapid and continuous population growth in the City has been creating severe land use conflict.

The study analysed the potentialities for growth and recognized it's dynamic character. The basis of any planning depends on one of the fundamental facts of potential population growth rate of the City. Past trends in the growth of City's population indicate that hopefully, a population of 7,54,214 will be living there by 2000 A.D.

The suitable location and the merit of the specific site of Narayanganj with an easy access to a vast and productive hinterland has made her the most important centre of collection and distribution. The economic activities of Narayanganj, after liberation, were not that glorious what it had been in the past. Misallocation of resources was the result of unplanned urban growth of Narayanganj.

The volume of trade in Jute and Jute goods, being the life blood of Narayanganj's economy, was not getting proper attention resulting in a gradual decrease. Industries in Narayanganj City were also found not utilizing their full capacities causing short fall in the production target. Degradation of quality and quantity of Industrial products caused a serious set back in her economy.

Narayanganj, which handled 35% of water borne traffic of this part of the Country before liberation, has lately been not able to retain her place as a top receiving and distributing centre. Moreover, shifting of Railway terminal station from Narayanganj to Dacca has also acted adversely to her economy. Roads linking Narayanganj with it's environs were found grossly inadequate according to Government specifications.

A thorough re-examination of the past and present economic activities of Narayanganj, in the light of existing socio-economic situations, was done and measures were suggested to evolve suitable policy for her growth.

Very serious social and physical deterioration have been found out which the City has so long suffered because of an absence of sound planning and administration alongwith a relentless overloading of it's already inadequate facilities by increased population. Zoning has been proposed as a means of guide line for future development goals to overcome the problems associated with the anticipated growth. Recommendations^{for} an administrative structure has been made through which urbanization can be supported and guided effectively creating a sound living environment there.

Narayanganj, being the vital centre of an urbanizing region of the country, must make massive effort to achieve rapid social and economic changes. The economic potentialities of Narayanganj must be fully utilized for the benefit of the region and the nation.

Integration of economic, social and physical plan of Narayanganj with the Regional/National development plan is necessary to evolve an optimum pattern of urban growth for Narayanganj City.

Hopefully, industrial development in Narayanganj will be coordinated with regional urban planning along with required regional transportation system for desired urbanization there.

The study suggests the future growth of Narayanganj in the desired direction for her benefit as well for the benefit of the region. The problems of the city can be overcome if they are dealt with selectively in a proper sequence.

Title of the Thesis :- Narayanganj : Planning for Growth.

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1.1. INTRODUCTION.

Planning as a concept and as policy needs no elucidation in Bangladesh to-day. However strangely enough, planning methods have not yet been applied to reforming the physical environment within which planned economic growth and social development are to take place. The city of Narayanganj which was growing at a very fast rate, has been left to sprawl over the land and as such functional and spatial integration could not be achieved. Functional integration refers to the integration of all economic and social activities which influence the life of people. Thus, health, education, agriculture, industries and several other aspects of our day-to-day living overlap. It is well understood that any policy for development must try to utilize these inter-relationships.

A frame work for urban growth requires close co-ordination between social, economic and physical planning. In order to evolve an optimum pattern of urban development, one must integrate the economic, social and physical plan of urban areas with the National development plan. The occasional failure of planning not only decelerate economic growth but they endanger the future planning itself.

The Planning system consisting of the long-term, medium-term and annual plans represent a consistant whole in which all important factors and problems, varying in terms of time, can be covered properly. This is expressed in the different but complementary functions that the individual plans as integral components of the system are presumed to perform. Longer plans give a perspective guide-line for short-term plans and the latter serve as means of implementation for the former. The underlying logic of such an approach is the fact that development is essentially an evolutionary process along a time path, and can only be carried out sequentially in given stages. Planning is not a once-for-all

exercise. It is a continuous process which calls for the initiation of a programme of development in a logical sequence determined by technological, economic, social, political and administrative consideration.

1.2. STATEMENT OF THE PROBLEM.

Narayanganj, one of the major urban centres of Bangladesh developed around Industrial concentration in Cotton, Jute, Silk production and indigo processing. The strategic location of Narayanganj on the bank of the river Lakhya, which remains navigable throughout the year, made Narayanganj an important trade and distribution centre from early Mughal time. But the rise of British colonial rule in India saw an era of deindustrialization when indigenous industries were systematically destroyed. Urban growth received a new impetus when British left Indian Sub-continent. During this period some industrialization took place in and around Narayanganj, as a result, it experienced influx of rural migrants. In the post-liberation of Bangladesh, this tendency, specially in Narayanganj, is likely to be more pronounced as it is in close proximity of the capital City of Dacca.

Narayanganj city recorded a very high rate of growth in the last four decade. In 1941 it had 56,007 persons. The figure reached 68,373 in 1951 recording 22.1 percent increase over 1941. But most rapid growth was recorded between 1951 and 1961. In this period there was a record rise of 137.01 percent. But the increase in population of Narayanganj city in 1974 over 1961 was only 67.0 percent.¹

The rapid growth in population in Pakistan period was due to the great tempo of Industrial development in and around Narayanganj town triggered by several advantages. The physical growth took place mainly along the river Lakhya in the form of industries. The growth has been taking place in northern direction. Narayanganj, and adjacent area is specialized in textile industries particularly in the Jute and Cotton Textile. Most of the textile Mills are located

1. Census Commission, Ministry of Home Affairs, Govt. of Bangladesh, Dacca, Bangladesh population Census 1974, Bulletin 2 p.104.

along the river Lakhya. Unlike other river banks in the delta, the banks of the Lakhya are immune from normal flood. This gives the Lakhya an unique position as regard to the buildable land along water frontage.

But the liberation war damaged the overall economy of the country causing serious blow to the growth of Narayanganj. Moreover, on March 26, 1972, Jute manufacturing, Cotton textile and Sugar Industries were Nationalized. Thus this period showed a declining tendency almost in all sectors. Inflation, natural calamities etc. were among many other reasons to further deteriorate the growth of Narayanganj. The nationalization programme in itself was a positive and major policy decision constituting a significant step towards the overthrow of class character of industrial asset ownership in the country, which was fundamentally in the hands of private entrepreneurs in pre-liberation days. The nationalized industries in Narayanganj have suffered from various other problems arising out of poor economic condition of the country, characterized by serious shortage of financial, physical and human resources, poor planning and general administration lapses. Thus the industries have suffered from shortage of managerial and technical personnel and skilled labour, lack of proper planning at Industry and enterprise level, transport and marketing difficulties, financial inadequacy, inflexibility and in-discipline; shortage of imported raw materials and spares, power failures and poor law and order situation. The last four have been identified as the major reasons for production loss since liberation.²

At the time of liberation, about 66 percent of fixed assets in the jute manufacturing industry, about 47 percent of fixed assets in the cotton textile industry and all but 6 of the enterprises with assets above Tk. 2.5 million in the other sectors were in the ownership of Non-Bengalces.³

2. Ahmed, Tajuddin : Budget Speech, 1974-75. The Ministry of Finance, Govt. Republic of Bangladesh, June 19, 1974.

3. Sobhan, Rehman; "Nationalization of Industries in Bangladesh: Background and problems" (Minco).

With the overall deterioration of the country's economy, Marayanganj too, was experiencing depression in her economic activities. As a result, chain reaction in her socio-economic life started causing degradation of her growth. Marayanganj, once the second biggest city of this part of the country in 1961, was losing its status rapidly due to dullness in her economic activities. This, along with already existed problems of unplanned urbanization made her economic and social life stagnant. The existing inadequate infrastructure, improper landuse, non-availability of land, administrative deficiencies, natural calamities etc. acted adversely for proper utilization of her potentialities. If these were allowed to continue, the huge investment already made there, would be a wastage. Hence it was felt necessary to study the important elements of urbanization in Marayanganj, specially her past, present and future economic activities to suggest a possible guide line to plan Marayanganj for her growth so that it could continue to contribute her full share in the national economy.

CHAPTER II

RESEARCH METHODOLOGY AND SCOPE OF THE STUDY2.1. INTRODUCTION.

Well defined objectives are required to evaluate any proposal of a plan for growth and to measure the degree of success after it's implementation. Both controllable and uncontrollable variables are usually found in a plan for growth. Controllable variables can be controlled by the government or other concerned agencies to achieve desired objectives.

"Constraints" are usually uncontrollable variables such as existing conditions in Narayanganj, attitudes and values of people, availability of all different necessary inputs in appropriate time for required economic development and the population to be accommodated in Narayanganj.

Though all these variables can be estimated, they can not be controlled within the scope of this study.

2.2. SCOPE OF THE STUDY

The study presents an objective and comprehensive account of the position and problems of the development of Narayanganj City. Narayanganj Paurashava, Adanjee Industrial belt and Fatulla urban were considered within the boundaries of the City. Although the recommendations of the study are focused mainly on planning for the growth of Narayanganj City, these recommendations and analysis on which they are based, must be viewed in the context of the broader regions within which Narayanganj is vitally connected. It may be mentioned here that Narayanganj is connected with whole of Bangladesh which form its hinterland. The hinterland is defined as the area of dominant influence of the import/export functions of Narayanganj port and of commercial and financial functions of the city.

However the study looks into the historical background of the area; analyse the survey data on the past and present population, economic activities, landuse, transport facilities etc. to determine the overall trend of Narayanganj, specially as a trade centre. Attempts have also been made to predict future of the city's population, economic activities, landuse and transport facilities on which basis a frame work for action has been furnished.

2.3. OBJECTIVES

There are five main underlying objectives in the study:

1. The basic objective is to raise the standard of living in Narayanganj with greater equality of opportunity for all citizens.
2. To determine the present causes of stagnation (if any) in the economic activities of Narayanganj.
3. To suggest measure to promote a more dynamic economic growth rate.
4. To develop an urban environment which is socially satisfactory and capable of sustaining with appropriate facilities and services for future population.
5. To recommend the machinery for sustained development planning and for effective plan implementation within a coherent growth framework.

2.4. METHODOLOGY.

Primary data were collected through socio-economic field survey. Out of 14 blocks in which Narayanganj city was divided, 12 were existing union committees of Narayanganj Paurashava and other two were Adanfee Industrial belt and Fatulla urban centre. A total number of 950 questionnaire were proportionately distributed among these 14 areas according to the number of people residing in each area. Heads of the families to be interviewed

were picked up at random from the latest voter lists of these areas. The questionnaire formed the basis of collecting primary data.

Data were also collected from secondary sources in order to supplement the findings of the field survey so that all aspects of the study can be satisfactorily completed.

Primary source data provided the following aspects of urban population and its physical environment.

- a) Demographic characteristics
- b) Economic characteristics
- c) Social characteristics
- d) Migrant status
- e) Housing and related services
- f) Health education, welfare and recreational facilities
- g) Transport facilities - distance between workplace and residence.

On the other hand secondary source data provided information on :

- a) Public Housing
- b) Public Transport vehicles
- c) Private transport vehicles
- d) Roads - route mileage
- e) Industrial, commercial and other establishments
- f) Educational Institutions, hospitals, parks, community, centres etc.
- g) Urban land development potential for housing, commercial and industrial purpose.

Apart from this, arterial road traffic survey for 16 hours for two days at different points of Narayanganj city were

conducted to determine the volume and nature of road traffic.*

The existing pattern of different landuses at various localities within the city were collected by a landuse survey of the entire city area.

All data thus obtained were analysed within the framework of objectives of the study so as to derive policies for future development of Narayanganj City.

2.5. LIMITATIONS.

Given the prevailing scarcity of skilled manpower, raw materials, foreign exchange, organisational capacity and other resources, and given the many competing demands for these resources, it is clear that not all the problems can be tackled at once. It is also clear that it would be unrealistic to expect Narayanganj of to-day to be transformed quickly to affluence.

It is obviously difficult to predict with any degree of certainty the many changes, both in the physical environment and in social and economic behaviour and attitudes, which are likely to occur over the period. Consequently, the emphasis here is less on a hard-and-fast, once and for all 'plan' covering a series of governmental decisions for the period, than on creating the developmental machinery and planning institutions whereby a full control, and positive encouragement of the development process can be exercised.

* The road traffic survey was conducted with the help of Transport Section, Planning Commission, Govt. Republic of Bangladesh, Dacca. The author is grateful to Dr. M. Rahmat Ullah, Section Chief, Transport Section, Planning Commission for his guidance and supervision in conducting and analysing the road traffic survey data.

However there are limitation in the study of inland river port such as Narayanganj which has recently experienced slight development. Authorities could not provide earlier data regarding movement of traffic and cargo. After liberation, statistical information have not also been properly maintained by the port authority. Limitations were also found due to changing socio-economic situation in Narayanganj after liberation war. The difficulties in obtaining data from secondary sources in all sectors were so great that major portion of the limited time to complete the study was consumed in that. Again, some times, such data were supplied which were not exactly necessary for the study. Sometimes, statistics that were kept by various agencies frequently changed in 'units'. This sort of disorganized data made the analysis most difficult.

Important data like schedule services of cargo and other vessels were also not available. They were neither registered at the port nor the accounts of various types of cargo vessels were kept.

Difficulties also were faced as there was no recent road traffic survey on Dacca-Adanjee Belt Road so as to enable one to compare forecast done in the present study.

Moreover this sort of study requires Judgement, power, time and financial assistance, all of which were inadequate to conduct this study. As such, some results of the previous studies done by competent local and foreign agencies were taken into consideration for this study with proper references at appropriate places. Yet sincere and earnest effort have been made in completing the study as far as possible in proper manner and due time.

CHAPTER III.

NARAYANGANJ: ITS ORIGIN AND GROWTH3.1. LOCATION:

Narayanganj, situated geographically in the centre of Bangladesh, stands on Lakhya river, at $23^{\circ}27'$ N and $90^{\circ}30'$ E, in a position which is suited for all purposes of trade.¹ It is situated on the confluence of three important rivers: namely Meghna, Brahmaputra and Lakhya; the major inland water ways of the country. This makes Narayanganj accessible by the major routes in water ways (Plate No. 1).

The two high banks through which the river Lakhya flows have saved Narayanganj to be washed away and have kept this trade centre right on the navigable water. The river Lakhya falls into the river Dhaleswari at Narayanganj and the Dhaleswari joins the Padma at further south few miles down. It is thus connected with all the trade centre via Goalondo and even with the sea. Narayanganj, being at the south of Dacca, is separated from the capital city by only 10 miles of Road and Railways and about 20 miles of waterways.

3.2. AREA AND SIZE.

The total area of Narayanganj subdivision is 298 square miles² of which 7.5 square miles are being covered by Narayanganj Paurashava. Narayanganj is the head-quarter town of the subdivision in Dacca district.

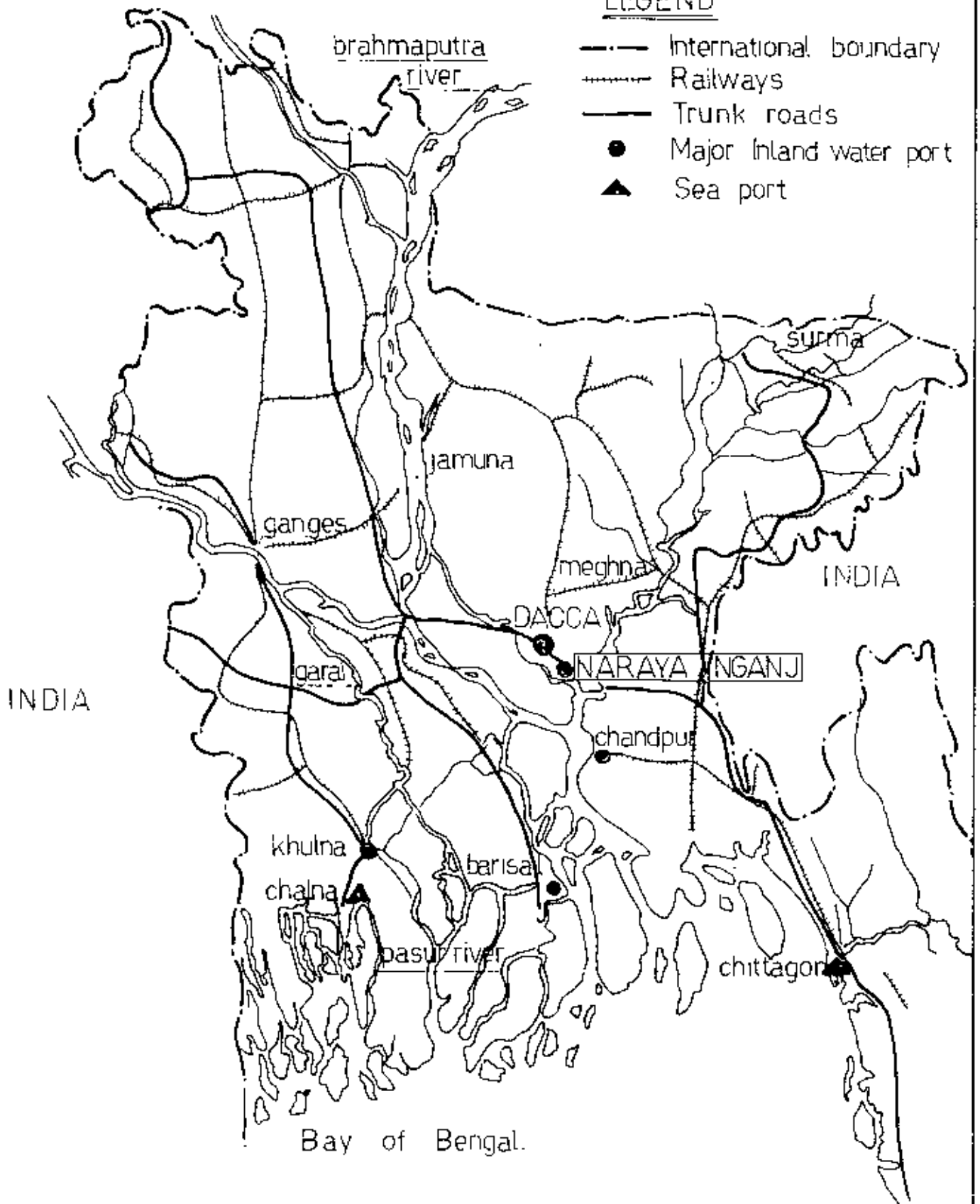
1. Allen, B.C. : 'DACCA' Eastern Bengal District Gazetteer, Allahabad 1902, India. p. 109.

2. Census Commission, Ministry of Home Affairs, Govt. Republic of Bangladesh, Bangladesh Population Census 1974, Bulletin - 2. p. 34.

NARAYANGANJ AND TRANSPORTATION NETWORK IN BANGLADESH (scale-1: 2 400 000)

LEGEND

- International boundary
- - - Railways
- Trunk roads
- Major Inland water port
- ▲ Sea port



The main town of Narayanganj is divided by the river Lakhya into the following unions. On the right bank, listed from North to South, are : (a) Nabiganj, (b) Kadam Rasul, (c) Bandar, (d) Sonakanda and on the left bank, again from North to South are (e) Godnail, (f) Hajiganj, (g) Khanpur (h) Chashara, (i) Narayanganj, (j) Deobhagh, (k) Paikpara and (l) Shitalakhya.

3.3. ADMINISTRATIVE SET UP OF NARAYANGANJ PAURASHAVA.

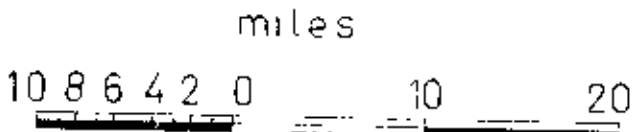
The entire Paurashava was divided into 7 unions as per basic principles adopted by the Government of the then Pakistan for election Committee (now called Nagar Panchayet) and the 7 unions into 39 wards. There were single member ward, 2 member ward and also multi member wards in those unions. Altogether 66 members were elected from these wards. Members of each of Nagar Panchayet elected a chairman from amongst themselves who became the chairman of the Paurashava U/S 9 of the Municipal Administration Ordinance of 1960. In 1964, these 7 unions were divided into 12 Nagar Panchayets and altogether 98 members were elected.

3.4. COMMERCIAL ORIGIN OF NARAYANGANJ:

Narayanganj became a commercial centre from ancient time because of her exceptionally unique position on the inland waterway system, its favourable location at the terminal of different river routes and its easy, safe and comfortable access to hinterland and her exceptional suitability of the site.

From 1351 to the ~~latter~~ part of 16th century while Sonargaon was capital of Bengal in Muslim period, Ibn Batuta visited the capital and found that fleet were loaded with Muslims, food grains and other commodities to proceed for Java. The West bank of Shitalakhya came into prominence during Mirzuna's period in 1663 when road communication was established from Khajirpur (Narayanganj) to Jahangirnagar (Dacca) via Fatulla and Pagla. Historian Taylor mentioned the value of business transaction of Narayanganj in 1756 to be Rupees two crores.

DACCA DISTRICT



Pabna district

Mymensingh district

Mymensingh dist

LEGEND

- district boundary ———
- sub div. boundary - - - - -
- thana boundary - - - - -
- metalled roads ———
- unmetalled roads - - - - -
- railway ———
- dst. H.Q. ●
- sub div H.Q. ●
- thana H.Q. ○

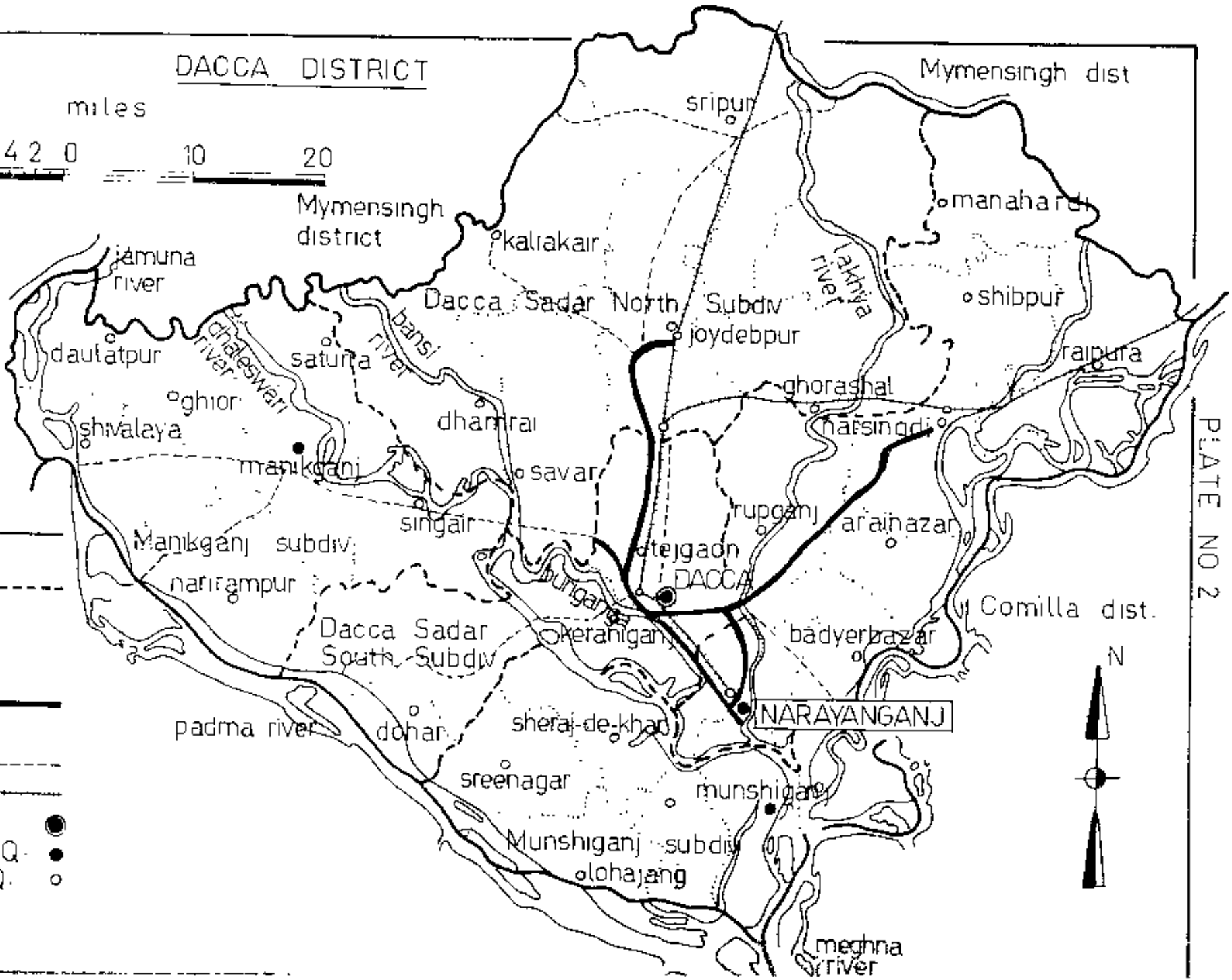


PLATE NO 2

Hamilton; in 1820, says: "the inhabitants carried on a great trade in salt, grain, oil etc. and thus the town of Narayanganj exhibits a scene of commercial bustle and activity"³. In the early of nineteenth century, as James Taylor wrote in 1830, Narayanganj was an important distribution centre. He wrote; "Narayanganj is a mart for the produce of the surrounding districts. Grain, oil seeds and salt are brought here for transmission to different parts of the country"⁴.

3.5. HISTORICAL BACKGROUND:

The history of Narayanganj, prior to Mughal Rule in early 16th century is exiguous as it is based on scanty and uncertain evidences. Mughals brought Narayanganj into limelight and hence written evidence are available to prove the importance of Narayanganj in the Mughal history. But there is hardly any definite history before the advent of Mughal rule on which one can base one's study to trace the process of evaluation of Narayanganj from an unknown river front to the most significant river port of Bengal. However, for some glimpse into the early history of Narayanganj, one must depend on the traveller's account who visited this part of Bengal before 16th century.

3.5.1. PRE-MUGHAL NARAYANGANJ:

During pre-muslim days BANGLA of muslim ruler or Bengal of British period was divided into three distinct regions. The Eastern and flat riverine region (more or less present Bangladesh) was known as VANGA or SAMATAL (the plain) and its capital was at Sonargaon. The North-western region was known as VARENDRABHUMI OR POUNDRA with its capital at Laknauti. The South-Western region comprising roughly of the area now forming west Bengal was called RHLR and its capital was located at Satgaon which was also known as Saptagram just as Sonargaon was called SUVARNAGRAM.

3. Allen, B.C.: 'DACCA' Eastern Bengal District Gazetter

4. Ibid: p.204

NARAYANGANJ & NARSINGDI
SUBDIVISIONS

Scale 1" = 4 miles

ROADS AND RAILWAYS



MONAHARDI

MYMENSING DISTRICT

DACCA SADAR
NORTH SUBDIVISION

SHIBPUR

Lakhya
river

to DACCA

RAIPURA

RUPGANJ

NARSINGDI

LEGEND

- SUBDIVISION BOUNDARY
- THANA BOUNDARY
- METALLED ROAD
- UNMETALLED ROAD
- THANA H Q

DACCA SADAR SOUTH

ARAIHAZAR

COMILLA DISTRICT

BADYER
BAZAR

Meghna river

NARAYANGANJ

Dhaleswari river

FATULLA

Ghyasuddin Balban (1281) defeated the rebellions of Bangal Sultan Tughril Khan of Laknauti and entered into alliance with one Danuj Roy, the King of Sonargaon.⁵ It appears that about 20 years after the Bal-Danuj alliance, Sonargaon finally passed under Muslim domination. But wealth and distance of Bengal from the centre always provoked its governors to defy the authority of Delhi.

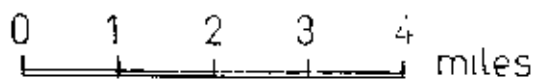
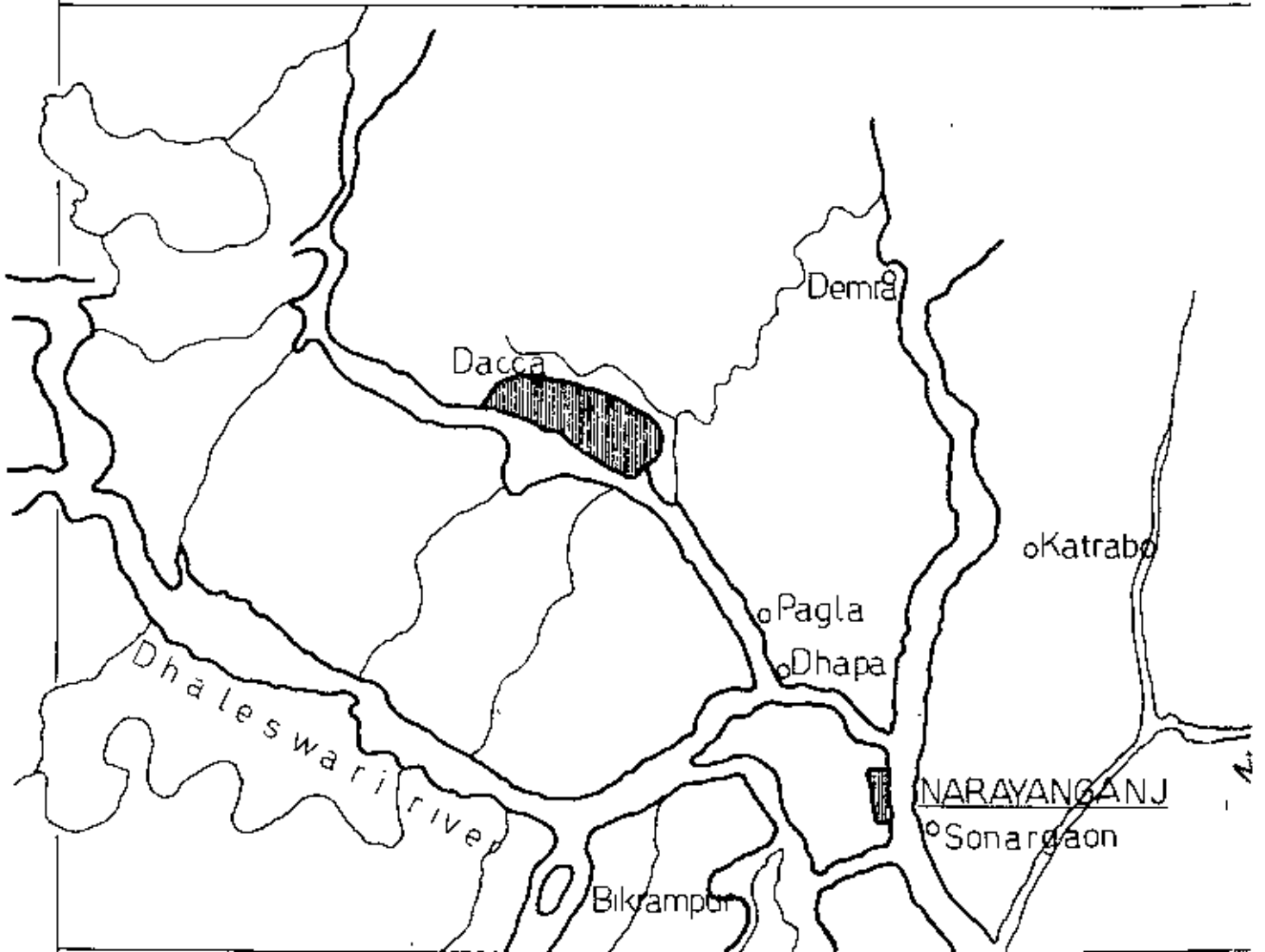
The strategic position and wealth of Narayanganj and its environs played an important role in the economy and politics of the sub-continent. Its location was unique in the sense that it occupied a position in between the two most renowned places of early India. One was Sonargaon; the centre for world famous muslin and also once the capital of Bengal and the other was Dacca, the emporium of trade.

Narayanganj could grow fast on this very busy and significant river route because of enormous movement of people and commodities between these two places. Traveller's accounts tell us that other river routes which linked Dacca with Meghna were not navigable. The river Lakhya was navigable throughout the year permitting all types of water crafts and ocean going vessels to visit Narayanganj from Arakan, Chittagong and various other places. In 1640, during Tavenier's visit, Dhaleshwari river mouth of Buriganga seemed to have been closed. N.K. Bhattashali hence stated, "it is to be noted that Tavenier had no business to go to Lakhya if the Dhaleshwari mouth of Buriganga was open,"⁶ while he was travelling through river Meghna to Dacca. Dulai must have facilitated all water transport to Dacca via Narayanganj as the mouth of Buriganga from Dhaleshwari was not open. (Plate No. 4) Moreover all the water traffic towards Sonargaon moving either

5. Taifoor, S.M. : Glimpses of old Dacca.

6. Bhattashali, N.K. : Bengal Past and Present, vol.LI
January - June 1936,
Journal of the Calcutta History
society, p. 48.

ENVIRONS OF DACCA



Ref: Rennell's sheet no.12

from Dacca through the Dulai or traffic moving from Meghna in the south did pass through Narayanganj because Narayanganj was nearer to Sonargaon than Dacca. Hence according to Bhattachali, it is to be presumed that all water borne traffic moving from Dacca to the East or South did pass via Narayanganj through the Dulai. Ultimately this part of Bengal around river Lakhya became known as "NABBO-MANDAL" meaning "Navigable area" or "zone". Hence it was one of the most strategic water routes of Bengal serving as gateway and thereby giving access to all western and southern traffic. The references to the area around Dacca in Bengal during the Hindu rule (1526) area such: "এই স্থান নদীজলে পযাচ্ছন; এ জমোই এতদ্বিজলে নৌয়ার প্রয়োজন বেধী। অতি প্রাচীন কাল হইতেই এতদ্বিধে নৌ-চলাচল ছিল এবং বহু স্থান হইতে পদাশ্রয় পরিপূর্ণ পোত সমূহ চালায় এবং নানান্যন্যপক্ষে উপবীত হইত।

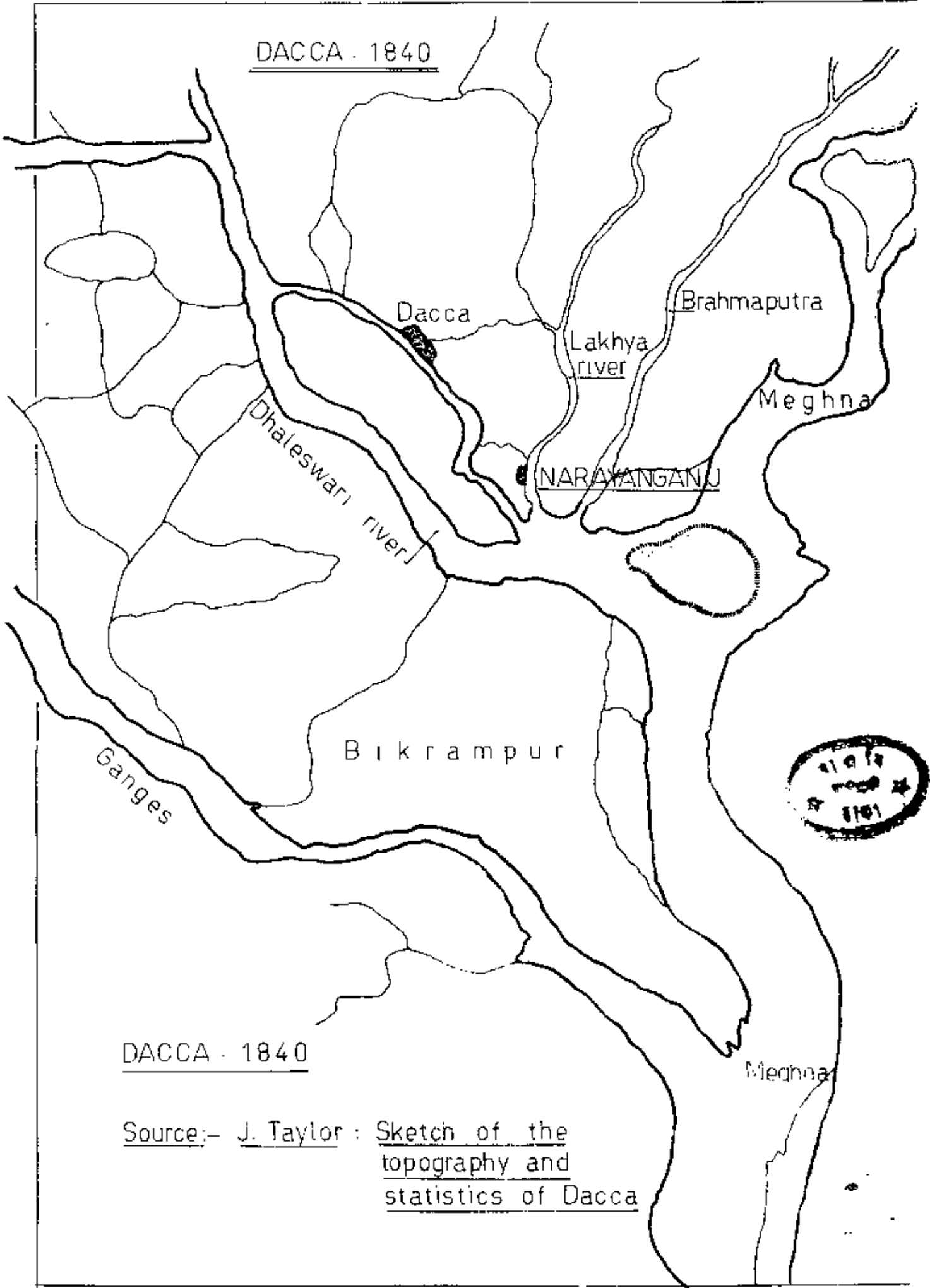
"..... নদীজলে বহু নৌ সন্ধান হইতে এবং সমুদ্র গমন-গমনের জন্য এই স্থানের নাবিকগণ সমুদ্র পথে বিশেষ দক্ষ ছিল" ⁷
 Which means "this area is interrupted with a labyrinth of rivers, gave rise to a busy route and from an ancient time hundreds of boats traversed on its waters" ⁷. Therefore the river Lakhya was most important transportation medium between the towns on its banks and various other commercial centres.

Thus material contribution of the river was responsible for the growth of Narayanganj as important trade centre. Places to the west of Ganges could also be approached from Narayanganj making it as the gate way for those places. According to Jatindra Mohan Roy there were several "নাবিশ্থান" "NAVISTHAN" ⁸ (boat depots) in Narayanganj at the end of 15th century during Hindu rule and wealthy boatmen were engaged in boat making industry. At that time the main commodities for trade were cotton, cloth, silk goods, rice, sugar, spices, pepper, ivory etc.

7. রায়, যতীন্দ্র মোহন। লাক্‌সার ইতিহাস, দ্বিতীয় খণ্ড, বঙ্গবন্ধু ১৯১৯ খৃঃাব্দ।

Roy, J.M., History of Dacca, Calcutta 1913, (B.S.1319)
 part I. p.219.

8. Ibid, p.223.



DACCA . 1840

Source:- J. Taylor : Sketch of the topography and statistics of Dacca

3.5.2. NARAYANGANJ UNDER MUGHAL PERIOD:

Narayanganj, in the latter half of the Mughal period, i.e. from Jahangir's reign in 1605 to Aurangzeb's reign till 1707, occupied an important and strategic position. It flourished as one of the most important places in Eastern Bengal both politically and economically during Aurangzeb's reign (1658-1707).

For evidence and information of this era we are to depend mostly on written accounts by travellers. Dacca during this period was well known for its industries and performed extensive trade in Eastern Bengal. Dacca and its environs in 1586, as described by Ralph Fitch was "abounding in rice, cotton goods, and silk goods. There were several markets on the rivers Lakhya and Buriganga which were engaged in exchanging these trade items"⁹.

Dr. Wise suggests "a tribe on Lakhya, opposite Khizirpore, (Narayanganj), property of Isa Khan, comprised mainly of Mohammedan population"¹⁰ KHIKIRPUR was the name of Narayanganj during Mughal rule. During Akbar's reign (1556-1604), Khizirpur became Isa Khan's capital. Therefore in the mid 16th century, Narayanganj was already enjoying an important position both as capital and commercial centre.

Hughe and Parker mentioned about Portuguese trade in Eastern Bengal and their ports (at the end of 16th century and beginning of 17th century): "There are some portingalls at present in the town (Dacca) and more are lately gone for their ports in this part of Bengla; into whose traffic I have made inquiries and gather they usually bring all sorts of spices and silk of China, in lieu thereof they transport carpets and silk".¹¹ Here, surely enough Narayanganj was one of "their ports in this part of Bengala" which exchanged and dealt with the above items with other ports.

9. Campos, J.J, History of the Portuguese in Bengal ,
Calcutta 1919, p.88.

10. Ibid., p.92

11. Ibid., p. 116.

Sebastian Manrique while travelling in 1628, wrote, "to export rice, butter, oil, wax, sugar, 100 ships were annually laden in the ports of Bengal. Trade in opium was great".¹² It goes without saying that Narayanganj must have implied here, as it was one of the flourishing port of Bengal.

Tavenier, a french traveller, who came to Bengal in 1640, says about Narayanganj, "on the 13th about noon, we met with a river, two leagues from Dacca, called LAQUILA which runs from the north-east. Just against the point where the two rivers meet, Lakhya and Dulai, (Plate No. 5) there stands a fortress, near a market town, on each side. Half a league lower appears another river Fagalu (Fagla) upon which there is a fair bridge of brick built by Mirza Mowla"¹³ N.K. Bhattasali suggested "it is to be noted that Tavenier had no business to go to the lakhya if Dhaleshwari mouth of the Buriganga was open. Tavenier was an accurate observer. He has correctly observed that where the Dulai or Buriganga joins the Lakhya there were two forts on either side of the river. These are Hajiganj or Khizirpur fort on the right bank of Lakhya and Sonakanda fort on the left bank of Lakhya. The former still exists north of the present town".¹⁴

According to Bhattasali, "in Jahangir's reign, the Magh pirates used to come to Dacca for plunder, by the Nullah which leaves the Brahmaputra passed by Khizirpure and joins the Nullah of Dacca".¹⁵ The former Nullah was surely the river Lakhya through which pirates moved easily and is a proof of easy navigable route. Therefore the river Lakhya served as a gateway to Dacca. The forts at Khizirpur and Sonakanda were built to "act as a barrier against the incursion of the Maghs".¹⁶

12. Campos, J.J, History of the Portuguese in Bengal, Cal. 1919, p. 116

13. Tavenier, J.B., Travels in India, 1675, Cal. 1905, p. 102.

14. Bhattasali, N.K., Bengal Past and Present, Vol. L1
Jan.-June 1936, JCHS., p. 48.

15. Ibid., p. 56.

16. Allen, B.C. 'DACCA' Eastern Bengal District Gazetteer,
Allahabad, India, 1912., p. 189.

BAHRISTAN-I-GAIBI gives evidence of the significance of Narayanganj during Mughal period by describing a fight between Kusa Khan and Islam Khan at Khizirpure, "Musa Khan prepared for war and utilized the river Lakhya as his base for defence and established guard stations on the bank of Lakhya. Islam Khan marched to Khizirpure and made the mosque his headquarters"¹⁷ Thus along with its commercial significance, Narayanganj's position was also strategically important.

During Mughal period a channel connected Lakhya with Buriganga. But it was doubtful if Buriganga was known at that time by its present name. According to A. Karin, "the present sharp turn of the Buriganga towards the south-west from 'Dhapa', by which she joins Dhaleshwari, did not exist during the early Mughal period. It is difficult to say whether the Buriganga was known at that time by this name, because Mirza Nathan in 'BAHARISTHAN-I-GAIBI' refers to this river as DULAI. If the junction of these two rivers did not exist, the Buriganga was connected with Lakhya by two branches into which she had bifurcated at a point beyond the eastern limit of the present Dacca town. One branch, the main stream met the Lakhya near Khizirpure and the other near Demra"¹⁸ Thus we can safely say that as the Buriganga had no outlet in the south via Dhaleswari, the channel connecting Lakhya with Buriganga at Narayanganj must have provided passage for all water borne traffic from Buriganga to Meghna. Thus strategic position of Narayanganj from an early time seems to be unquestionable.

3.5.3 NARAYANGANJ UNDER BRITISH PERIOD.

With the fall of Mughal, there was slight decline in the importance of Narayanganj. British, after gaining control, in the year 1757 planned to develop Narayanganj as a river port, because significant and most important animated parts of trade and barter were always situated on the river fronts.

17. Nathan, Mirza, Baharistan-i-Gaibi, Vol. 1, Assam 1936, p.76.

18. Karin, A., Dacca the Mughal Capital

Asiatic Society, Dacca 1964, p. 4.

In a record of the collectorate Report of Dacca of 1763, the name 'Narayanganj' was mentioned as a 'commercial town and river port after the 'Diwani' was acquired by the East India company. There was a petition in 1790 in which "one Bannur Thakur alleges that he had built the 'Gurje' for upward of 30 years for the purpose of defraying the expenses of the god Narayana and feeding the poor".¹⁹ This was the origin of the name 'Narayanganj'.

Narayanganj was connected with Dacca by railways in the year 1885.²⁰ Though many commodities arrived by rail, majority of traffic was water-borne and Lakhya was the navigable route throughout the year, helping Narayanganj to grow as a port town. On 8th September 1876, Narayanganj Municipality was established while in 1882 it was declared as sub-divisional head quarter.

In 1814, the collector in his report stated that "Narayanganj was well known to Government as a great salt emporium and the residence of one of their salt agencies".²¹ W. Hamilton in 1820 States, "the inhabitants of Narayanganj carried on a great trade in salt, grains, oil, tobacco, sugar, timber, lime. The town exhibited a scene of commercial bustle and activity seldom seen in a community entirely composed of Hindus".²² The importance of Narayanganj is evident from the following statement made by Taylor : "This town, next to Dacca, is the largest one in the district. It enjoys a free communication by water with Calcutta, Sylhet, Chittagong etc. throughout the year and with Assam during the rains. It may be called the port of Dacca, from which it is distant about 8 miles by land and 12 miles by water. It is a depot for boats and boatmen engaged in inland trade".

19. Allen, B.C. DACCA Eastern Bengal District Gazetteer, Allahabad 1912, p. 187.

20. Pakistan Eastern Railway, Year Book, 1965, p.2.

21. Allen, B.C., DACCA Eastern Bengal District Gazetteer, Allahabad, 1912, p. 187.

22. Ibid., p. 188.

In his 'Topography of Dacca' in 1838, James Taylor wrote about Narayanganj that "the place had been declining for more than 30 years, having suffered from the competition of Sirajganj. About 5,00,000 maunds of Salt were imported from Chittagong and Bulwah and no less than 160 sloops were engaged in the trade. Mughs and people from the East coast below Arakan including a few Chinese also visited Narayanganj, in the monsoon season, exchanging catechu, Cotton, arsenic, pepper and bullion in return of betel nut, sugar, tobacco and manufactured goods".²³ We can imagine that Narayanganj's trade was extended as far place as Arakan exchanging various commodities. It was also a big collecting centre of salt. Mentioning of "monsoon season" confirmed the fact that all trades and transactions were performed by waterways.

Jute trade of Narayanganj was getting importance from the year 1867. The annual exports (estimated) amounted to "4 lakh maunds of Jute and the trade in oil seeds was increasing. Oil is a great article of commerce and there is an installation for the storage of oil in bulk. There are three bonded warehouses for the sale of salt and upward 3,00,000 maunds were cleared in 1910. There is also a large market for grain, cotton, **piece goods** tobacco, sugar. The main items of export are jute, oil seeds and cotton".²⁴

James Taylor gives an excellent account of trade of Narayanganj in the 19th century as "Dacca and Narraingunje are ports for the produce of the surrounding districts: grain and oil seeds are imported from Sylhet, Mymensingh, Tipperah, and salt from Chittagong and Bullwah to Narraingunje for transmission to different

23. Taylor, James., A sketch of the topography and Statistics of Dacca, Calcutta, 1840, p.99.

24. Allen, B.C., Dacca, Eastern Bengal District Gazetteer, Allahabad, 1912, p. 189.

parts of the country". Thus Narayanganj was collecting and distributing centre from as early as 1838. As mentioned by Taylor, Narayanganj was in fact the "port of Dacca". Thus import and export of Dacca's trade was handled at Narayanganj. The trade of Narayanganj consisted of various commodities and trade links were established with faraway place like Arakan, East-Indies, Arabia etc.

James Taylor's table shows that there were 11 major items of exports as against 18 items of imports. The different varieties of imported articles indicated that Narayanganj acted as distributing centre of these articles.

Cotton cloth, Muslin, Jute were principal items of export which were sent to Jeddah, Basra and Calcutta. Hides and Skins were exported to Calcutta and China and Soap to Mauritius and East-Indies. Betelnuts were exported mainly to Assam, Arakan and Pegu. Other export items of Narayanganj were indigo, shell bracelets, jewellery, copper, utensils, cheese etc.

Among the great varieties of imported items of Narayanganj, the most important ones were "grains, oil seeds, and salt, which were brought to Narayanganj for transmission to different parts of the country".²⁵ Patna, Assam, Mynensingh supplied grains and oil seeds; salt was imported from "Chittagong and Bulwah which amounted to 5,00,000 maunds annually".²⁶ Sugar was imported from Faridpur, timber from Assam and Rungpore, lime from Sylhet, Tobacco from Furnea and Rungpore. Minor items such as catechu, ivory were imported from Arakan and Pegu, coconuts from Chittagang and Bakerganj; shoes, English cloth, glassware, drug and cutlery etc. were imported from Calcutta.

25. Taylor, James; A Sketch of the Topography and Statistics of Dacca, Calcutta 1840, p., 184.

26. Ibid., p. 99.

Narayanganj became the main centre of import and export at the end of 19th and the beginning of 20th century. J.M. Roy states:

"নারায়ণগঞ্জের ব্যয় ভারবাহের স্থান পূর্ববঙ্গে আর নাই। ইহা প্রধান আমদানী ও রপ্তানীর স্থান ১৮৮০ খৃষ্টাব্দে নারায়ণগঞ্জ স্বাধীন বন্দর বলিয়া ঘোষিত হইয়াছিল। কিন্তু ১৯০৬ সালের ১২ই মে তারিখের বিজ্ঞাপনী অনুসারে নারায়ণগঞ্জ পোর্ট চট্টগ্রাম বন্দরের অধীন বলিয়া ঘোষিত হইয়াছিল"।²⁷

"There is no other distributing and receiving centre as well developed as Narayanganj. In the 1880 Narayanganj was proclaimed an independent port but in the year 1906, 12th of May, according to a notification issued by the Government, Narayanganj port came under the port of Chittagong".²⁷

History of Narayanganj from 1906 till the partition in 1947 is little known as there are no written evidences. Political disturbances during the period did not allow enough attention to record economic situations that prevailed here. However in general, commerce on old pattern had declined due to introduction of foreign finished goods and war. But due to "Sawdeshi" movement (1906-12) which gave impetus to the local products, helped Narayanganj to keep its status of important trade centre. Moreover, Dhakeswari, Chittaranjan, Luxininarayan Cotton Mills etc. were established in and around Narayanganj during this period. Side by side, Baburhat, near Narayanganj, became famous for its cotton products, and was known as "Manchester of the East" whose trade was also handled at Narayanganj.

The condition of this trade centre after partition (1947) will however be discussed in a separate section entitled "Economic Activities". (Page 44).

27. রায় মতীন্দ্র মোহন, 'ঢাকার ইতিহাস', দ্বিতীয় খণ্ড। কলিকাতা ১৩১৯, বঙ্গাব্দ

Roy, J.M., History of Dacca, Calcutta, B.S. 1319, Part I, p. 150.

Table - 1
 TRADE OF DACCA - 1838
 (Via the Port of Narayanganj)

I.	Export	To
	1. Muslin	Jeddah, Basra
	2. Jute	Calcutta, Chittagong
	3. Betel Nut	Assam, Arakan, Pegu
	4. Hides	Calcutta, China
	5. Soap	Mouritius, East Indies
	6. Shell Bracelets	-
	7. Jewellery	-
	8. Copper utensils	
/ \		
II.	Imports	From
	1. Oil seeds	Assam, Mynensingh
	2. Sugar	Furzedpore
	3. Line	Sylhet
	4. Timber	Assam, Rungpore
	5. Tobacco	Purnea, Rungpore
	6. Cotton	Arakan, Chittagong
	7. Ivory	Arakan, Pegu
	8. Wheat and Grains	Patna
	9. Glass ware etc.	Calcutta.
	10. Gold and silver	
	11. Pepper	
	12. Coconuts	
	13. Spices	
	14. Catechu.	

Source: Taylor, James, A Sketch of the Topography and Statistics of Dacca, Calcutta 1840, p. 184.

CHAPTER IV.

ANALYSIS OF SURVEY RESULTS

4.A. POPULATION:4.A.1. INTRODUCTION:

The present population of Narayanganj city and its potential rate of growth is one of fundamental facts upon which planning of any kind must be based. The characteristics of the present population notably its sex and age composition, and its settlement patterns are also important factors which will influence not only the kind of planning that is required, but also the overall objectives and possible means of plan.

Though the present and past characteristics of Narayanganj's population can be described fairly accurately, any estimate of future population meets with much greater uncertainty. One cannot indicate with certainty what will be the future death and birth rates and what will be migratory patterns which will prevail to influence the size of the population of any given area. One should assume that in any given area, present patterns will tend to continue, as modified by possible national policy decisions. One should also assume that some of the features of population growth which have been discerned for Bangladesh as a whole will operate in a similar fashion in Narayanganj.

4.A.2. TRENDS IN THE GROWTH OF POPULATION OF NARAYANGANJ CITY.

Narayanganj was relatively more populous and opulent in 1814 than the city of Dacca.¹ In 1830, according to Walter Hamilton, the population of Narayanganj was 15,000,² while according to

1. Allen, B.C., 'DACCA' Eastern Bengal District Gazetteer, Allahabad, 1902, India. p.204

2. Ibid., p. 204

Janes Taylor, her population in 1838 was only 6,252. Janes Taylor also states that "the place had been declining for about 30 years having suffered from the competition of Sirajganj".³ The first Indian Census in 1872 recorded the population of Narayanganj to be 11,377. The next nine years recorded little growth.

Table=2
URBAN POPULATION : DACCA-NARAYANGANJ.

Year	Dacca Paurashava	Narayanganj Paurashava	Absolute increase in Narayanganj	Percent increase	Sources
1838	68,000	6,252	-	-	Bishop hebet
1867	51,000	-	-	-	Remmel
1872	69,000	11,377	-	-	Census of Pak. 1961
1881	80,000	12,508	1,131	9.94	-do-
1891	83,358	17,785	5,277	42.18	-do-
1901	89,733	24,472	6,687	37.59	-do-
1911	108,551	27,876	3,404	13.90	-do-
1921	119,450	30,602	2,726	9.77	-do-
1931	141,402	34,189	3,587	11.72	-do-
1941	213,218	46,002	11,818	34.56	-do-
1951	276,033	72,517	16,510	57.62	-do-
1961	558,000	1,62,000	89,483	123.39	-do-
1974	16,79,572*	2,70,680 *	1,08,680	67.00	Census Con. Govt. of Bangladesh 1974, Bulletin 2.

Source: Oriental Geographer (1961) Dacca, p.98.

3. Op.cit.,p.209.

* City(includes Paurashava and adjacent urban areas around it.)

The population of 17,785 in 1891 gradually increased to reach a number of 34,189 persons in 1931⁴ But the years between 1931 and 1961 experienced a high population increase, 1951 census recorded the urban population of Narayanganj to be 72,517 persons which was more than double of 1931 population. It was due to creation of Pakistan and sudden mass transfer of migrants, businessmen, labourers, industrialization, and other factors.

In the course of economic development which brings about a higher degree of urbanization, migration plays a very important role. Rural-urban migration is the predominant component in internal migration. A world bank report indicates that "migration from rural areas accounts for the other half of urban population expansion"⁵ (the other half is attributed to natural increase). This appears to be somewhat exaggerated since socio-economic surveys of a number of cities in India in 1954 indicated that the percentage of immigrants since 1941 of the total population varied between 39.00 in Poona and 11.4 in Lucknow.⁶ However, of the immigrants into cities, the largest component is from Rural areas. The surveys referred to above indicated that percentage of immigrants from rural areas varied between 82.3 percent for Jamshedpur and 40.8 percent for Baroda.

4. Ahmad, Nafis., An Economic Geography of East Pakistan, London, 1958, p.304.

5. International Bank for Reconstruction and Development, World Bank Operations (Baltimore: The Johns Hopkins University Press, 1972) p.414.

6. Bogue, Donald J. and Zachariah, K.C., Urbanization and migration in India, in Roy Turner (ed), India's Urban Future (Berkeley and Los Angeles: University of California press, 1962) pp., 27,28.

According to the nature of movement and its direction, migration can be classified into three groups:

- a) Permanent migration
- b) Seasonal migration
- c) Step-wise migration.

The first refers to a permanent change in the place of residence or employment of an individual or a group. The second refers to the movement in a particular time during a year. This takes place when during the off season, surplus manpower moves from rural areas into urban areas where they are usually absorbed in construction and other activities. Finally, in many developing countries, step-wise emigration takes place in stages in the sense that people do not change from their place of origin to the final place of residence in one move. In general, movement takes place from village to those in the suburb of small cities and towns, then they make their next move into larger metropolises which often become their final places of residence. Such phenomena is said to have been observed in Latin America as well as India, Pakistan and Bangladesh.

The causes of migration are usually in the form of either the "Push" factors of the rural areas or the "Pull forces" of urban areas. Different factors seem to have played more prominent role in different countries as well as in different regions of the same country. In general, the following are usually mentioned as factors affecting rural-urban migration:

- a) Pressure of population on land in agriculture
- b) Land tenure system prevailing in the country.
- c) Under employment in agriculture and lack of alternative sources of income in rural areas.
- d) Prospect of higher income and employment in cities.
- e) Attraction of city life in the form of social amenities i.e. education, recreation, entertainment shopping centres, medical care etc.

- f) Break down of the traditional, social and cultural ties.
- g) Social and political unrest in the countryside, and
- h) The need for proximity to the administrative decision-making authority.

The World Bank report summarizes the above by the statement, "difference in social norms, include the degree of 'emancipation' which the towns offer, in existing links with urban families, in prevailing conditions in the towns and countryside, particularly the dynamism of urban economic growth and availability of additional agricultural land, all influence the flow"⁷ (from rural to urban areas).

Urbanization of population-occurs largely in response to the various economic functions served by a town or a city. In the past, urbanization in Bangladesh responded primarily to the development of administrative, trading and transportation centres. With the establishment of manufacturing industries, urban growth in Bangladesh was closely related to industrialization. It was evident that there were a substantial impact of industrialization on many aspect of urbanization. Industrialization not only effected the rate of growth of particular urban areas in Bangladesh but also the type of growth in urbanization, as well as the relative level of economic development involved in urbanization. Growth rate of urban population of Bangladesh over different periods, is shown in table -3 .

7. International Bank for Reconstruction and Development, World Bank Operations; (Baltimore: The Johns Hopkins University Press, 1972) p.414.

Table - 3

GROWTH OF URBAN POPULATION 1901 to 1974.

Year	Total urban population.	Percent urban	Index of urban population growth	Index of total pop. growth
1901	7,02,035	2.43	100	100
1911	8,07,024	2.56	115	109
1921	8,78,480	2.64	125	115
1931	10,76,489	3.02	153	124
1941	15,37,243	3.66	219	141
1951	18,44,345	4.35	363	157
1964	26,40,726	5.19	376	188
1974	62,73,603	8.78	893	274

Source: Population Census of Pakistan 1951, Vo. 3, Population Census of Pakistan 1961. Vol. 2, Bangladesh Population Census 1974, Bulletin 2.

4.A.3. THE POPULATION OF NATIONAL CAPITAL CITY:

Narayanganj, being in close proximity of National Capital City, was related to her in many ways for many purposes. Therefore a discussion of the growth of the population of Dacca city was necessary for our purpose. Population growth in Dacca city proper took a new pattern. Independence brought influx of refugees across the boarder and crowding the city as a provincial capital, made her the highest order city in the functional hierarchy. In 1951, the population of Dacca crossed over 300,000 and in 1961, the figure went over half a million and again in 1974, after liberation, the capital city of Dacca had a population of 16,79,572, an increase of 222.4 percent over 1961 figure. It's growth since independence and liberation is unprecedented.

The old town, situated in the south of the former railway was already compactly developed, characterised by old and obsolete buildings and narrow roads. The major physical development took place on the north of the old town which today, is known as the new town. "Population within the zone of new town in 1951 has increased by more than 130 percent since 1941, and by 1961, it recorded over 200% . But in the old town the increase was only about 13% both in 1951 and 1961".⁸

Table - 4
POPULATION OF DACCA CITY.

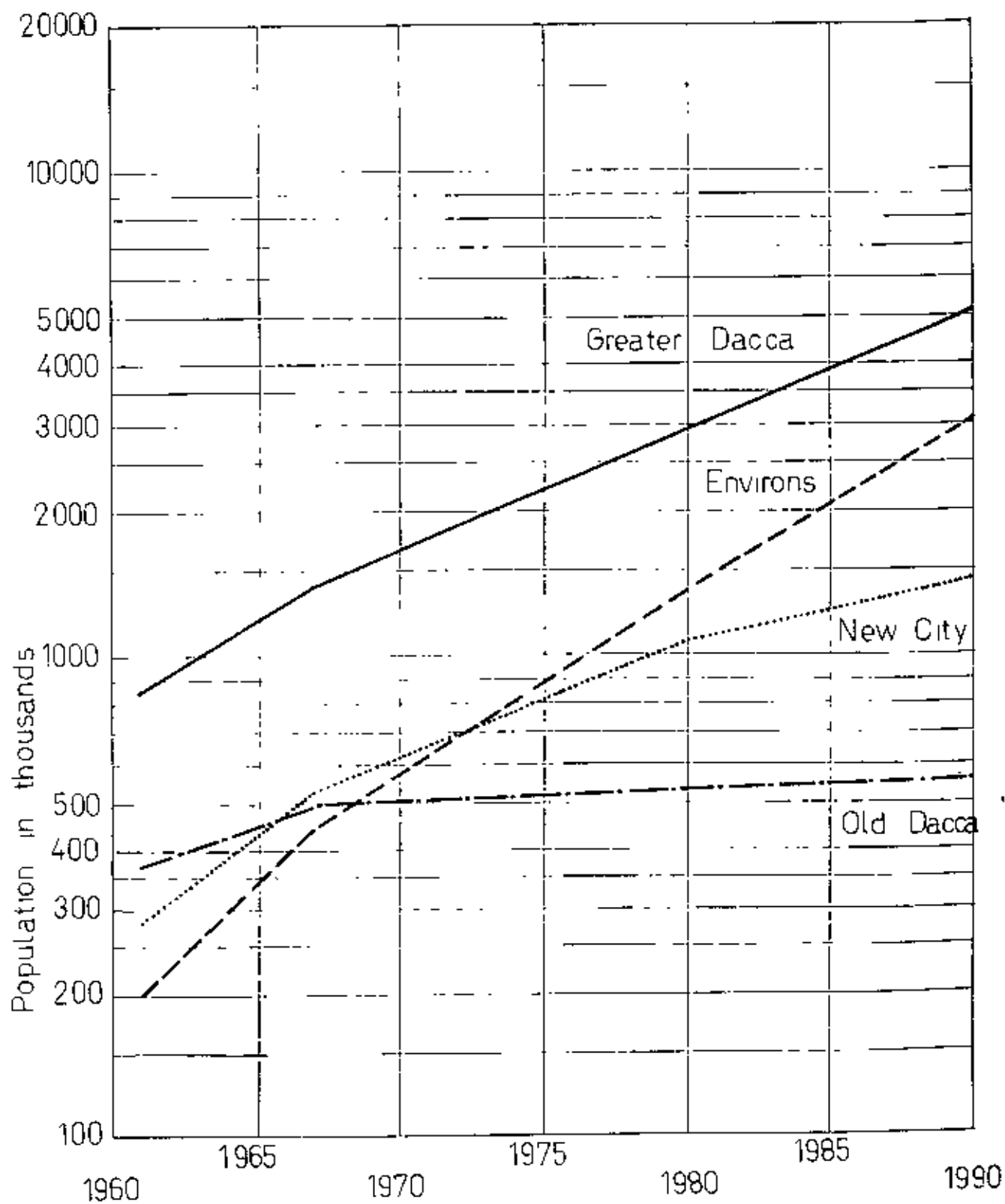
Year	New Town	Old Town	Total	Percent increase (of total)
1901	14,652	89,733	1,04,385	-
1911	17,182	1,08,551	1,25,733	20.45
1921	18,458	1,19,450	1,37,908	9.08
1931	20,460	1,41,462	1,61,922	17.41
1941	26,510	2,13,218	2,39,728	48.05
1951	62,729	2,76,033	3,38,762	41.31
1961	1,94,706	3,62,006	5,56,712	64.33
1974	3,68,596	13,10,976	16,79,572	222.40

It might be said that the old town has demonstratively reached what might be called a saturation point under present condition and is not going to absorb population growth in future if the present condition persists. (Plate 6) In 1951, the new town recorded 62,729 persons against the population figure of 2,76,033 of the old town. By 1961, the population of the new town was 1,94,706 whereas the old town recorded a figure of 3,62,006. But in 1974 this figures jumped to 3,68,596 and 13,10,976 respectively.

8. Akramuzzaman, Malik., Morphological Study of the New Town of Dacca City, p. 40.

URBAN POPULATION

DACCA



Source Y E A R S
 Amman and Whitney International Ltd., New York.
 Dacca Bypass and/or Penetrator Road Dec. 1968

In 1961 new town had 34% increase in it's population indicating that most of the growth was being accommodated in different areas within new town. This was also quite visible by the wide spread constructional activities in New Town.

Dacca and Narayanganj were experiencing gradual increase in their population. Table 5 gives a comparison of percentage increase in population in these areas :

Table - 5 .

PERCENTAGE INCREASE IN POPULATION
OF NARAYANGANJ AND DACCA.

	<u>Narayanganj</u>	<u>Dacca</u>
1931	11.72	17.41
1941	34.56	48.05
1951	57.62	41.31
1961	123.39	64.33
1974	67.00	222.40

Source: Computed from table 2 and 4.

Increase in population of Narayanganj from 1941 to 1961 was comparatively greater due to emergence of Narayanganj as major trade and Industrial Centre while enormous increase in the population of Dacca in 1974, after liberation, was due to change in the status of Dacca City from provincial capital to National Capital.

Some ideas can be obtained of the future population of Dacca city from the (table -6). In 1980 the old town hopefully may reach a population of 5,20,000 as against a population of 10,43,000 in the new Dacca. By 1990, as the projection indicates, the population figure for new Dacca will possibly reach, 14,50,000. The total population of entire city is supposed to reach 20,00,000 by 1990.

Table -6

ESTIMATED URBAN POPULATION GROWTH: GREATER DACCA.

Areas	1961	1967	1980	1990
Old Dacca	3,60,000	4,82,200	5,20,000	5,50,000
New City	2,76,000	5,20,000	10,43,000	14,50,000
City Proper	6,36,000	9,48,200	15,63,000	20,00,000
Environs	1,93,000	4,20,000	13,28,000	30,00,000
Greater Dacca	8,29,000	13,74,800	28,91,000	50,00,000
Index	60.3	100.00	210.3	363.7

Source : Arthur and Whitney International Ltd. Engineering and Economic Feasibility Study for Dacca Bypass and Penetrator Road, Vol. 1., p.20 .

4.A.4. CHARACTERISTICS OF NARAYANGANJ'S POPULATION:

The crucial demographic fact about Narayanganj is that it is the primate city of a vast hinterland, which had a population of 1,62,054 in 1961, now about, 3,00,000 and which is the most unsatisfactorily urbanized centre of all the major urban centres of Bangladesh.

Narayanganj's economic dominance over a vast region of Bangladesh containing a quarter of Bangladesh's total population, is overwhelming. Its magnetic attraction for migrants in search of employment is unrivalled by any other urban centres except Dacca. Thus the city has grown and prospered and suffered as its physical plan and urban services have failed to cope with the unrelieved population pressure. The close inter dependence of the city and its vast hinterland makes it imperative that the development of the region and the development of the city be viewed as parts of a single process. To understand the growth of the city and above all to anticipate its future prospects, it is essential to consider the urbanization pattern of urban areas in its environs. This is summarised in Table 7.

Table-7

POPULATION OF SURROUNDING URBAN AREAS OF NARAYANGANJ.

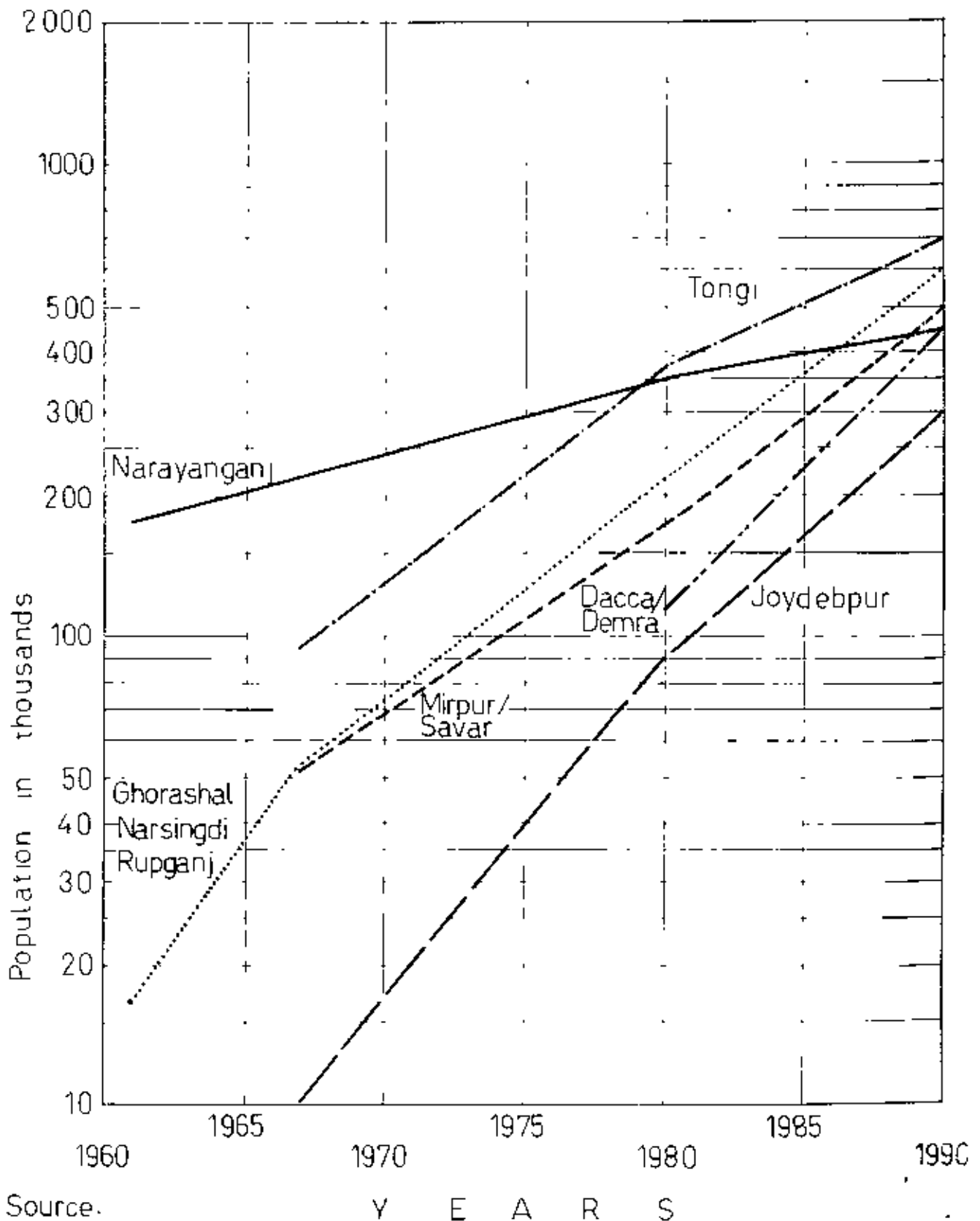
Area	Year		% variation over 1961
	1961	1974	
Dacca City	5,56,712	16,79,572	222.4
Narayanganj City	1,62,054	2,70,680	67.0
Narsingdi Urban	14,757	39,140	165.3
Manikganj Paurashava	11,676	26,649	128.2
Munshiganj Paurashava	8,604	27,546	220.2
Tongi Paurashava	-	67,240	-
Joydevpur Urban.	2,717	15,255	-
Savar Urban	3,474	24,023	-

Sources: District Census report, Dacca Bangladesh Population Census 1974, Bulletin 2.

In 1961, the population of Narayanganj City which includes the Paurashava area and Narayanganj industrial area was 1,62,054. Narayanganj city recorded a very high rate of growth in the last four decade. In 1941 it had 46,007 persons. This figure went up to 72,517 in 1951 indicating 57.62% increase over the 1941 figure (table 2). But most rapid growth was recorded between 1951 and 1961. In this period there was record rise of 123.39%. The net increase was 89,483 persons for the same period. The rise of city's population in 1974 over 1961 was 67% having a variation of 1,08,626 persons for the same period.

This rapid growth in population in 60's was due to the great tempo of industrial development in and around Narayanganj town triggered by several advantages. The fact alone well illustrates the demographic preponderance of Narayanganj Paurashava in its subdivision. More than 50% of the total population of Narayanganj subdivision is concentrated in a strip of land on Eastern and western banks of the river Shitalakhya measuring 7.5 square miles.

URBAN POPULATION
ENVIRONS OF DACCA



Source.

Amman and Whitney International Ltd; New York.
Dacca Bypass and/or Penetrator Road Dec 1968.

Adanjee Industrial belt and Fatulla area have less concentration of population, as, except for few public housing in Industrial belt, there are no residential facilities. A decennial change in population is presented in table 8.

Table - 8

DECENNIAL CHANGE IN POPULATION (1941 to 1974) SHOWING
VARIATION IN NUMBER OF PERSON, PERCENT, AREA, AND DENSITY
OF NARAYANGANJ CITY AND NARAYANGANJ PAURASHAVA .

Year	Population	Variation	Percent increase	Area in Square Miles.	Persons per Square Miles.
1941	(56,007)	(21,818)	(63.8)	(4.5)	(12,446)
1951	(72,515)	(16,510)	(29.47)	(7.5)	(9,669)
1961	1,52,054 (1,25,792)	89,483 (57,419)	123.39 (83.97)	9.75 (7.5)	16,621 (16,772)
1974	2,70,680 (1,76,459)	1,08,626 (50,667)	67.00 (40.3)	11.25 (7.5)	24,060 (23,528)

Note: Narayanganj City includes Narayanganj Paurashava and adjacent Urban areas.

Figures in parenthesis are for Narayanganj Paurashava only.

Source: District Census report, Dacca. Vol. IV, pp., 7,11 ,
Bangladesh Population Census 1974, Bulletin 2. p.104

4.A 5: INDIVIDUAL INFORMATION:

(i) Age and Sex Composition.

Age and sex composition were computed from the field survey data (Annexure-A, Table 1). Males and Females in each area were tabulated in percentage form against total number of sample males and females in each area and also against total number of Males and Females covered by the survey within the city. Out of 950 sample families, number of males and females were recorded to be 3,093 and 2,684 constituting 53.54% and 46.46% respectively. In all the areas, 5-14 and 15-30 age groups recorded comparatively higher percentage of population with respect to population of all other age groups in each area. However, within age group of 5-14, Ghashara Union recorded the highest percentage of male population (3.59%) while Godnail Union recorded lowest percentage (0.65%). Similarly female population within this age group recorded highest (3.65%) in Adanjee industrial belt while Godnail Union recorded lowest (0.45%) percentage. Within the age group of 15-30, male population recorded highest percentage (3.86%) in Adanjee industrial belt while, again, Godnail Union recorded lowest (0.48%) percentage. Similarly female population within this age group were recorded to be highest (3.95%) in Adanjee industrial belt while Godnail Union recorded lowest (0.48%) percentage. Thus in both the age groups and for both males and females, Godnail Union was recorded to have lowest percentage of population. The combined percentage of these two age groups within the city for both Males and Females were recorded to be 58.03% and 58.29% respectively.

(ii) Family Size.

Family sizes were recorded as percent of household in each area and as percent of total number of household surveyed within the city (Annexure-A, Table 2 and 2a). Godnail Union had 55.58% of families having only one member, while Narayanganj Union had 22.36% of families having more than nine members. The overall picture (Table 2a) revealed that the highest percentage (17.57%)

AGE PROFILE OF
SAMPLE POPULATION
IN NARAYANGANJ
CITY



of all the family sizes within the city was composed of families having five members. While lowest percentage (4.09%) was composed of families having two members. Families having six members constituted 15.68% within the city followed by 13.05% families having seven members. Families having more than nine members constituted 10.31%, while Hajiganj, Khanpur and Shitalakhya union recorded no such families. Again the lowest family size in Shitalakhya union consisted of four members. Family size consisting of one member constituted 7.15% within the city was probably due to the fact that people worked in the city keeping back their families in village homes. Moreover many could not stay with their families because of shortage of housing facilities.

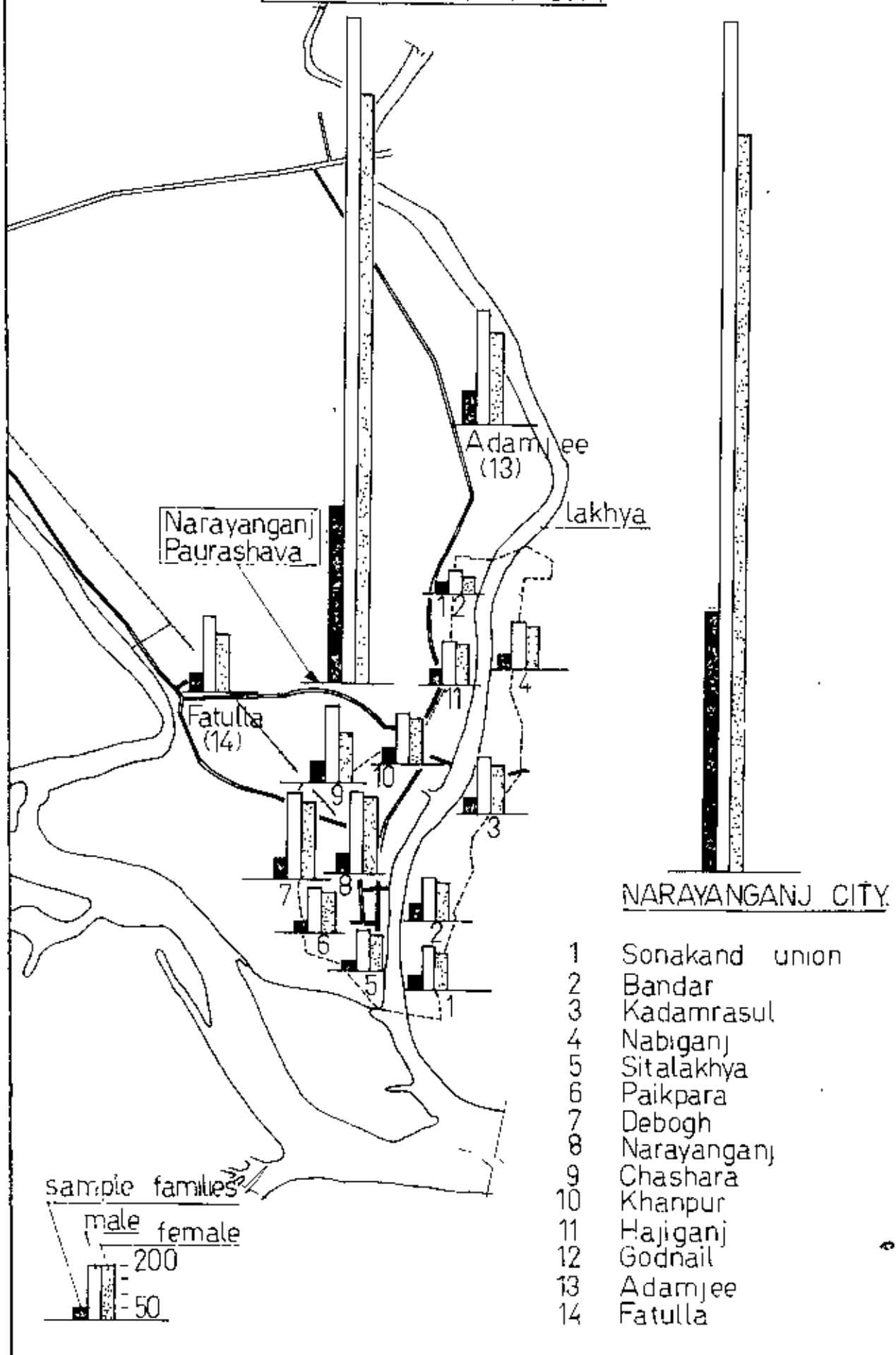
(iii) Age of Heads of the Families.

Information regarding age of the heads of the families were collected from all over the area (Annexure- A, Table -3). The dominating age group within the city seemed to be 31-45 years constituting 46.08% of the total heads followed by 46-60 age groups (31.66%). As judged by number of heads of the families in each area, Chashara Union had highest percentage (63.63%) of heads within 31-45 age group while Deobhagh Union had lowest percentage (30.00%). In 46-60 age group, Deobhagh Union recorded highest percentage (48.75%) of heads of the families while Chashara Union recorded lowest percentage (17.07%). In descending order, the different age groups within the city were recorded as 31-45 years (46.08%), 46-60 years (31.66%), 15-30 years (15.53%) and 60 above years (6.63%).

(iv) Births and Deaths.

This data could be gathered accurately for the Narayanganj Paurashava only as they maintained proper registrar for these information. In other parts of the city, no such data could be collected. Table - 9 revealed that the births within Narayanganj Paurashava area were gradually declining from 1969.

POPULATION OF SAMPLE FAMILIES BY SEX
IN NARAYANGANJ CITY



Deaths, in comparison with 1967 level have increased during the last two years. The lowest birth rate in 1977 indicated that people were aware of consequences of large families. Though slight increase in death rate in 1977 were registered, it was well within the margin.

Table - 9

REGISTERED BIRTHS AND DEATHS IN NARAYANGANJ PAURASHAVA.
(1967 to 1977)

Year	Births		Deaths.	
	Numbers	As percent of Total population.	Number	As percent of Total population.
1967	1,725	1.06	2,296	1.41
1968	2,127	1.31	2,318	1.43
1969	2,183	1.34	1,819	1.12
1970	2,143	1.32	2,039	1.25
1971	997	0.61	1,590	0.98
1972	535	0.33	2,112	1.30
1973	470	0.29	2,231	1.37
1974	436	0.27	2,930	1.66
1975	344	0.19	3,877	2.19
1976	302	0.17	2,541	1.44
1977	249	0.14	2,801	1.58

Source: Office Records, Narayanganj Paurashava, Narayanganj, Dacca.

(v) Place of Origin of Heads of the Families:

Several districts and "outside Bangladesh" were considered as possible places of origin of Heads of the families (Annexure-A, Tables 4 and 4a). All the areas within the city, individually showed largest representation from the District of Dacca. Among them, Nabiganj Union had highest percentage (96.16%) while

Godnail Union had lowest percentage (33.34%) of heads of the families from Dacca District. Rangpur, followed by Sylhet and Khulna had least representation. Other than Dacca, Comilla, Noakhali and Faridpur were the main districts from where considerable heads of the families arrived here. Nabiganj Union which had highest (96.16%) percentage of heads from the District of Dacca revealed Comilla as the only other District from where heads of the families (3.84%) arrived there. Thus within the city 75.81% arrived from Dacca District (including permanent residents in Narayanganj) while 9.01% and 4.94% of the heads arrived from Comilla and Noakhali respectively. (Annexure - A, Table - 4a).

(vi) Urban and Rural Origin.

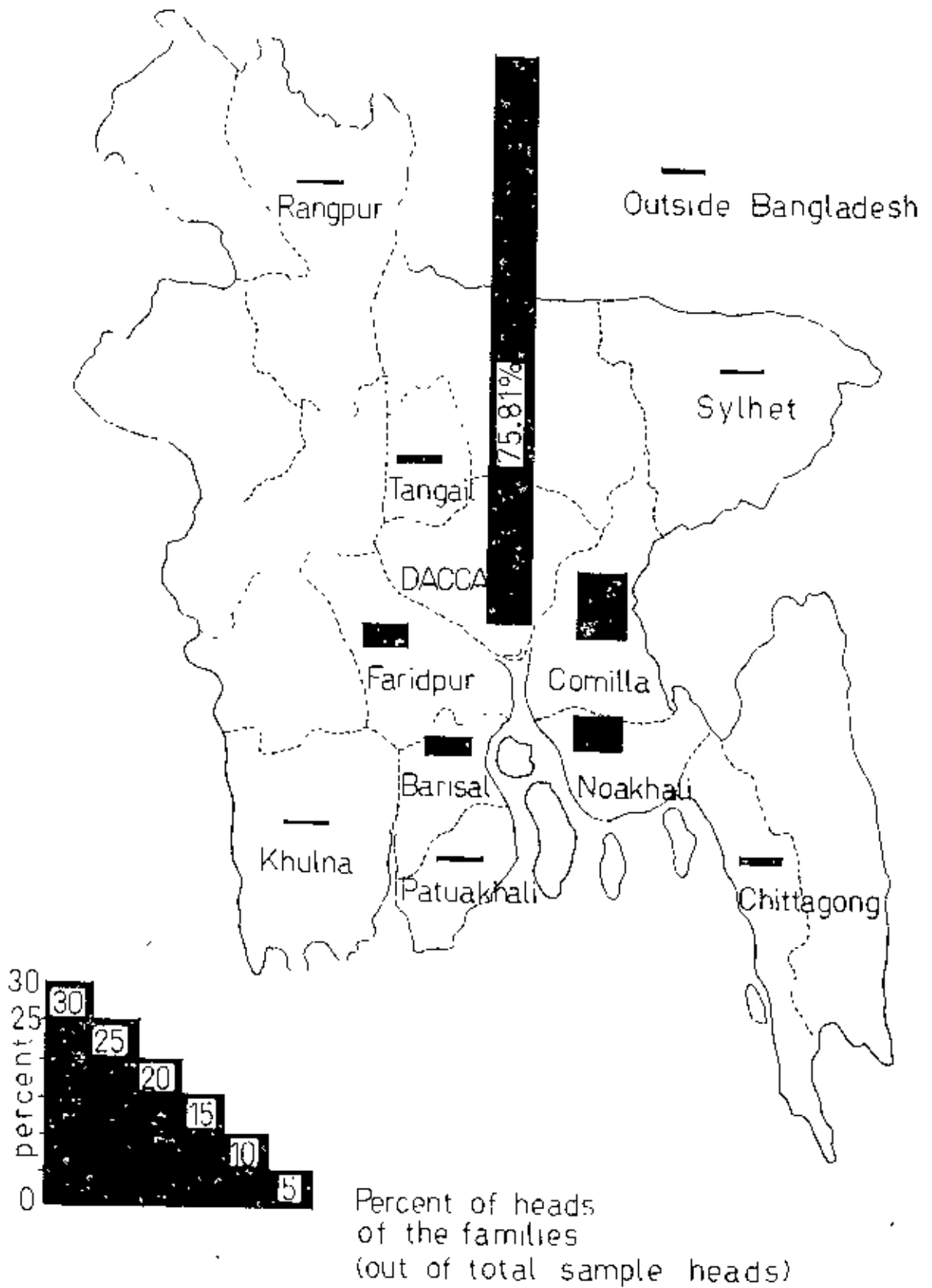
Thus local heads of the families (local included residents within the city by more than one generation) dominated the city constituting 52.70% of the heads within city. (Annexure - A, Table 5). 44.68% of heads arrived from Rural areas while only 2.62% arrived from Urban areas. Though, "Local" was included within urban area, it was separately calculated to see its contribution in the growth of urban population of Narayanganj. However, heads from the urban areas may be considered as 55.32% (local + urban).

(vii) Educational level of Heads of the Families.

Seven categories of educational level such "none", "can sign only", "Primary", "Secondary", "H.S.C.", "Degree" and "Masters" were considered. (Annexure - A, Table 6). Though there was an information column as "other" in the questionnaire to indicate any professional or vocational education, it was afterwards omitted because no response was obtained against it.

In individual areas, primary education dominated showing Hajiganj Union having highest percentage (64.80%) while Chashara Union had lowest percentage (27.30%). In case of Secondary education, Khanpur Union recorded highest percentage (40.31%) while Adanjeo

PLACES OF ORIGIN OF HEADS
OF THE FAMILIES BY DISTRICTS.



Industrial belt recorded lowest percentage (8.21%). Only Chashara, Narayanganj and Fatulla had Heads of the families with Master degree constituting 6.81% , 1.17% and 2.77% respectively Godnail Union had neither any illiterate, nor had Bachelor or Master degree holders.

In the overall picture of the city, primary education constituted 43.67% followed by secondary education, 21.67%, though "none" constituted 10.44%. Bachelor and Master degree holders were very few representing only 2.93% and 0.94% respectively.

(viii) Occupational Structure of Heads of the Families.

There were 12 occupations considered and accordingly data were computed against number of heads in each area and against total number of heads within the city. (~~Annexure~~ A, Table 7 and 7a).

In all the areas labourers were found in varied percentage. Adanjee Industrial belt recorded highest percentage (42.55%) while Narayanganj Union recorded lowest percentage (2.35%) of labourers. All the places, except Godnail, recorded Business men (other) among whom, Khanpur Union had highest percentage (37.32%) while Kadam Rasul Union had lowest percentage (8.04%). All the 14 areas also recorded having heads under the category of "service" (office work) among whom Godnail Union accounted for 75.58% (highest) while Adanjee Industrial belt accounted for 7.46% (lowest). The highest percentage (4.44%) of unemployed heads were recorded in Godnail Union while Khanpur, Paikpara, Shitalakhya, Bandar, Sonakanda and Adanjee Industrial belt did not record any unemployed heads.

The overall picture within the city (Table - 7a) thus represented "service" (office work) as 26.35% (highest) followed by "Business (other)" as 17.16%. In descending order the categories were; labourer 14.94%, professional service 12.53%, "other" 7.03%, Shopkeeper 6.31%, "Business" (Cotton and Cotton Products) 6.29%, etc. the lowest being "Religious worker" (0.82%).

(ix) Monthly Income:

Monthly income was also considered in the survey and was computed to judge the distribution of heads in different areas with particular range of income. (Annexure- A, Tables 8, 8a). Eleven categories, from income range of Tk. 0-100 to Tk. 4,000 above per month were considered. Paikpara and Shitalakhya Union had no heads earning less than Tk. 200 per month. Narayanganj, Deobhagh, Shitalakhya and Bandar had heads constituting 1.18%, 1.25%, 2.22% and 1.63% respectively earning more than Tk. 4000 p.m. Income range of Tk. 401-500 seemed to be average range for all the areas in Narayanganj city. The highest percentage of heads (19.95%) were having income within range of Tk. 201-300 per month followed by income range of Tk. 401-500 per month (17.14%). The highest income group of Tk. 4000 and above constituted lowest percentage (0.40%) within the city which seemed to be quite negligible for an urban area of this magnitude. (Table 8a).

(x) Monthly Expenditure of Heads of the Families.

Similar ranges for monthly expenditure by heads of the families were also considered and computed. (Annexure- A, Table 9 and 9a). These tables, naturally, showed direct relationship with the income tables indicating that expenditures were directly related to the income pattern.

Though there were four areas which recorded income above Tk. 4,000 p.m., in the expenditure tables, three out of these four areas recorded expenditure above Tk. 4,000 p.m.

Expenditure within the range of Tk. 201-500 p.m. recorded highest percentage (19.57%) while expenditure within the range of Tk. 4,000 and above recorded lowest percentage (0.30%) within the city (Table- 9a). Second highest expenditure was recorded to be within the range of Tk. 501-800 p.m. (17.24%).

(xi) Send/Receive help in Cash or Kind by Heads of the Families.

It was desired to find out the transfer of resources either in cash or kind from or to Narayanganj at individual level. Accordingly information for two categories such as "send help" or "receive help" were tabulated (~~Annexure~~-A, Table 10).

As against each area, highest percentage (23.89%) from Adanjee Industrial belt recorded to have sent help elsewhere, either in cash or kind while Bandar Union in this respect was lowest (1.63%). According to the information, all the areas recorded to have sent help elsewhere. As regards "receiving help", only Kadam Rasul Union recorded in negative whereas all other unions responded to have received help. This was quite contradictory to the earlier statements of income and expenditure by the heads of the families, as expenditure patterns were more or less following the income ranges. Moreover responds recording occasional gifts from village homes (in kinds) distorted this figure. It can well be said from the interview experiences that though certain percentage sent help out side, either in cash or kind, very negligible percentage, received help from outside, almost amounting to nil.

However, the overall picture of the city, revealed that 91.13% did not send help while 8.87% did send help. On the other hand, 93.92% received help while 6.08% did not receive any help.

4.A.6. THE FUTURE POPULATION OF NARAYANGANJ CITY.

To plan for various type of land-use, to assess the perspective needs for different kinds of urban amenities, housing, water supply, educational and recreational facilities and other services, it is of great importance to know the magnitude of population which probably will be in Narayanganj in the next fifteen to twenty years. In general, methods of population projection are based upon the assumption that certain existing population trend in a given area will continue to operate in approximately the same way in future as it had been in the past.

Although there exist fairly accurate methods of projecting population by age and sex distribution, lack of adequate data makes the application of these methods in-advisable in case of Narayanganj. Moreover the purpose of this chapter is not to engage in technical demographic innovations, but to give a picture of the approximate magnitude of population and its more salient characteristics which could serve as a guide line for working out various other elements of a comprehensive physical plan.

The projections for Narayanganj and the regions around it have therefore been attempted by empirical formula as suggested by Hardenberg:

$$P_f = P_p (1+r)^n$$

Where p_f = future population

P_p = present population

r = probable rate of increase per year

n = number of years considered.

When the population data of the past decade are available, the average value of r in the above equation can be computed from the following expression.

$$r = \sqrt[n]{\frac{P_2}{P_1}} - 1$$

Where P_2 and P_1 are population at two dates, and n is the number of years between those dates.

Table - 10

PROJECTED POPULATION OF NARAYANGANJ AND SURROUNDING
URBAN CENTRES.

Areas	Y e a r ' s .			
	1961	1974	1980	1985
Narayanganj City.	1,62,054	2,70,680	3,42,892	4,17,582
Narayanganj Paurashava	1,25,792	1,76,459	2,06,322	2,35,032
Adanjee Industrial belt*	35,262	77,796	1,04,255	1,33,058
Fatulla Urban	9,136	16,425	21,526	26,966
	1990	1995	2000	
	5,08,541	6,19,313	7,54,214	
	2,67,739	3,04,996	3,47,438	
	1,69,819	2,16,737	2,76,618	
	33,782	42,320	53,017	

* Adanjee Industrial belt includes Shidhiringanj, Kanchan Urban Areas.

On the basis of the projection presented in Table 10, it may be expected that population of Narayanganj city in 2000 A.D. will increase by 278.63% while population of Narayanganj Paurashava, Adanjee Industrial belt and Fatulla Urban will increase by 196.90%, 155.56% and 322.78% respectively with respect to 1974 population.

The growth of population of Narayanganj City from 0.27 million in 1974 to 0.75 million in 2000 A.D. corresponds roughly to an increase of 4.02% per year. This is not an unreasonable assumption to make.

One estimate of normal Urban population trend in table 11 shows the population of Narayanganj City will probably be 4,50,000 in 1990.

Table - 11

URBAN POPULATION : ENVIRONS OF DACCA.

	1961	1967	1980	1990
Tongi	-	94,000	3,78,000	7,00,000
Joydevpur	-	10,000	90,000	3,00,000
Mirpur	-	52,000	1,75,000	5,00,000
Savar	-	2,18,000	-	-
Narayanganj	1,76,500	1,76,500	3,53,100	4,50,000
Derra	-	-	1,16,000	4,50,000
Ghorasal	-	20,000	1,00,000	
Narsingdi	16,000	23,500	55,000	6,00,000
Kaliganj- Rupganj.	-	10,000	61,000	

Source: Annann Whitney International Ltd. Engineering and Economic Feasibility Study for Dacca By pass and Penetrator Road, Vol. 1., P.B. 49.

However the probability that the population of Narayanganj City may be larger than the projected figure (0.75 million in Table - 10) is greater than the probability that these limit will not be reached. Because the net population increase of Narayanganj City is made up of two components :

- (a) net growth due to the excess of births over deaths, and
- (b) net immigration.

It is likely that both these factors will not decrease in the years to come. That death rates will decline is almost certain as a consequence of economic development and improvement of health and hygienic facilities. Though birth rates may decline also, it is common experience that a decline in birth rates usually follows rather than precedes a decline in death rates,

and socio-economic survey in and around Narayanganj have shown that birth rates are as yet very high.

As regards migration component, it should be said that past pattern of migration into Narayanganj City was mainly due to the establishment of industrial belt in and around it. The enhanced opportunities for jobs and relative paucity of employment opportunities in other allied sectors led large number of migrants to come to Narayanganj every year during past decades. Unfortunately enough there is no statistics regarding in-migration in Narayanganj. However, if the dullness in industrial activities can be overcome leading to full production and employment, which, as yet, could not be made at per pre-liberation period, it can be safely said that flow of in-migration will gradually increase in Narayanganj.

4. B. ECONOMIC ACTIVITIES OF NARAYANGANJ.

4.B.1. INTRODUCTION.

"Since early times the internal trade of East Bengal has depended primarily on inland water transport and only secondarily on land routes linking up various Towns, market places and collecting centres".¹ East Bengal was connected with Arakan, Burma and China by sea and land routes. In Portuguese and Mughal rule, "Dacca and its environs were the source of much trade"² of Eastern Bengal.

"Narayanganj became an important inland commercial centre at the end of 18th century. In those days about 160 ships of fair size were employed in trade at this inland river port. But by 1838, its importance had declined owing to general disappearance of the former East Bengal trade in piece goods etc. and also as a result of the growing importance of Sirajganj".³

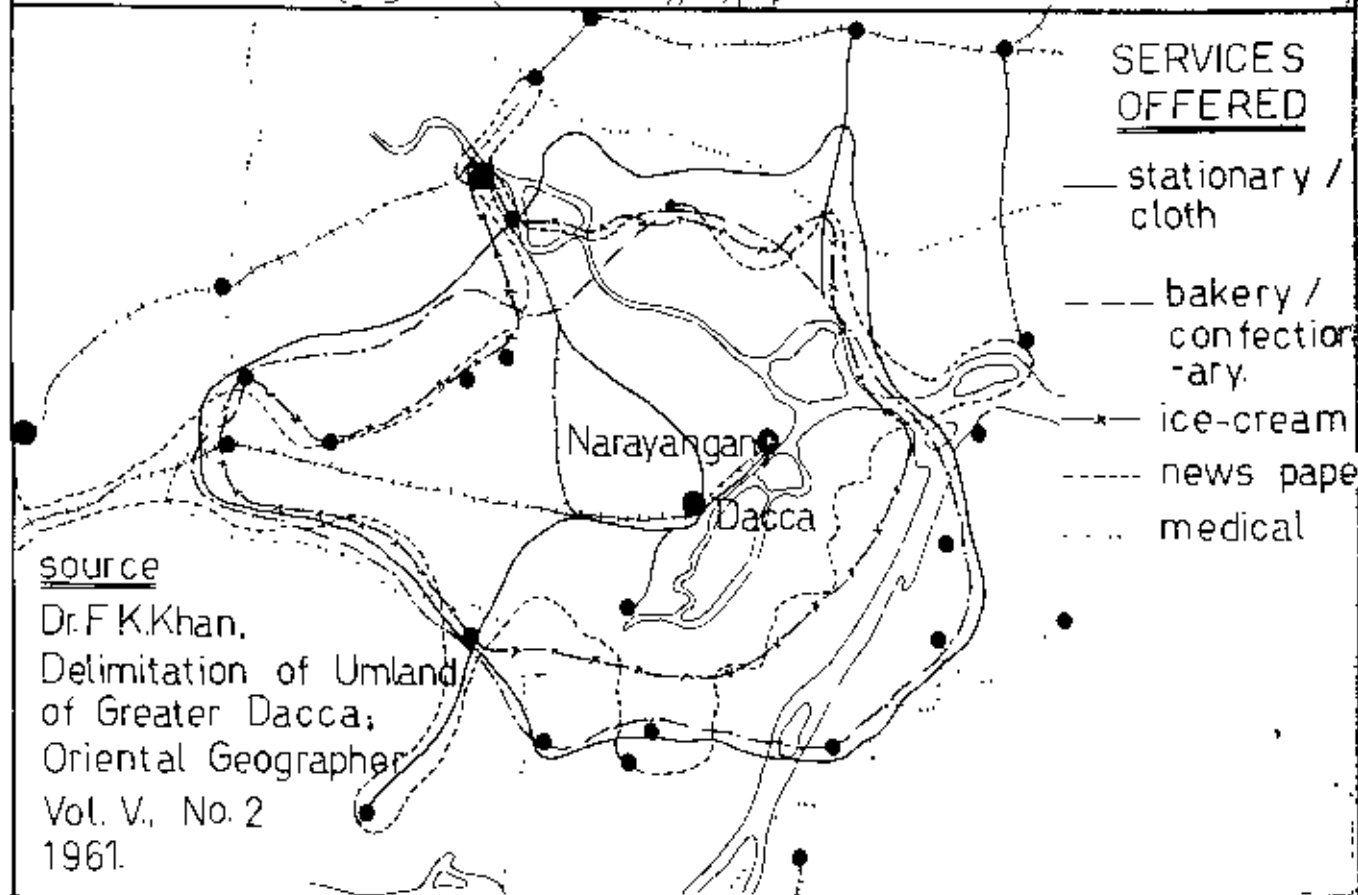
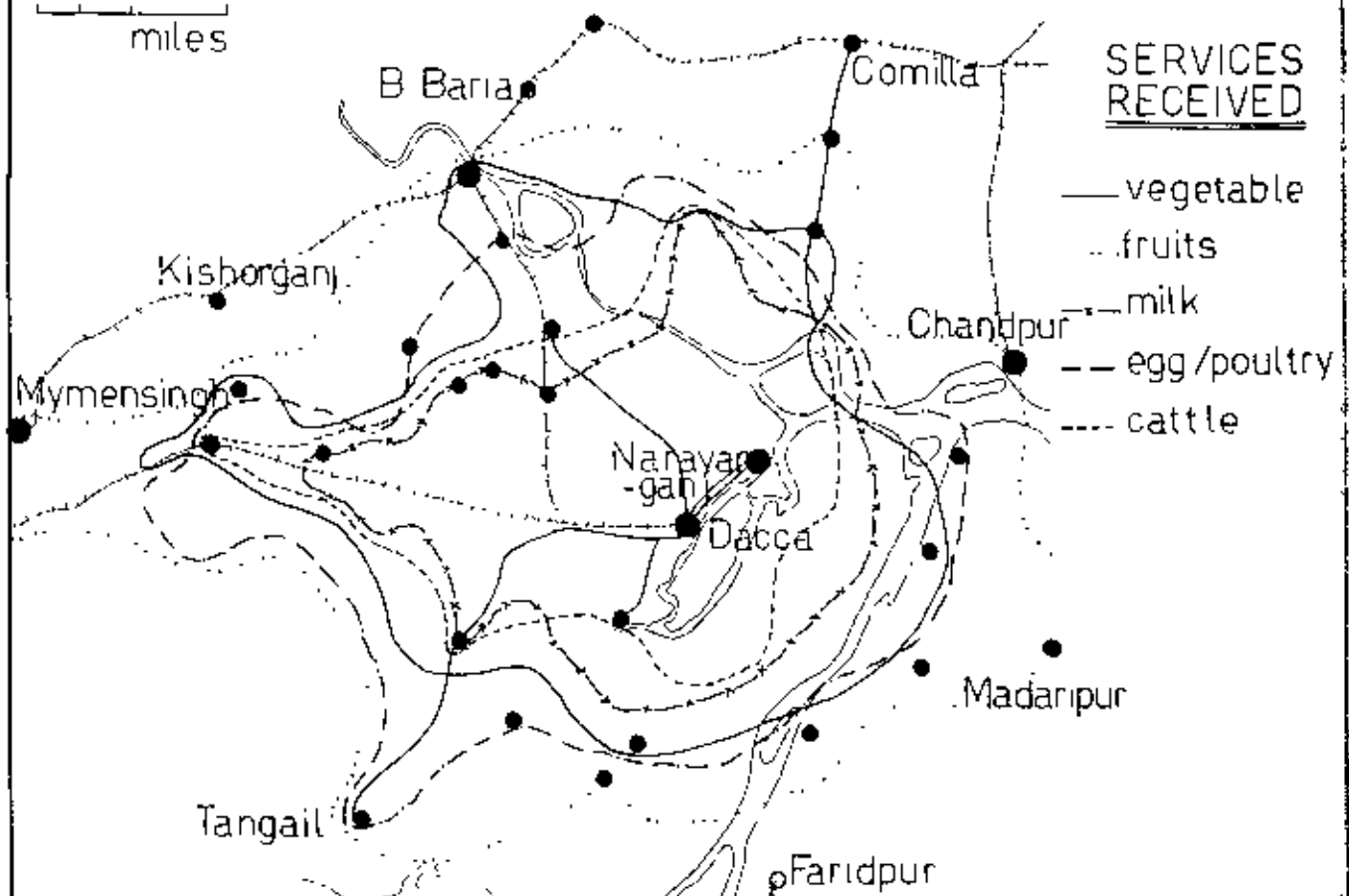
1. Ahmad, Nafis., An Economic Geography of East Pakistan, London, 1958, p.103.

2. Ibid., p.104

3. Ibid., p.108

SERVICE AREA OF GREATER DACCA 1960

10 5 0 10
miles



source

Dr. F. K. Khan,
Delimitation of Umland
of Greater Dacca,
Oriental Geographer
Vol. V., No. 2
1961.

4.B.2. JUTE TRADE.

However, importance of jute gave Narayanganj, once again, its place of prominence; From 1840 onwards, it became an important collecting and exporting centre of raw jute in large quantities. With growing world demand at the beginning of 20th century, Jute cultivation started a new phase in agricultural production. Narayanganj became most important distributing centre of agricultural products such as grains, jute, oil, seeds etc. Narayanganj was also biggest transaction centre of the Bengal and retained her status till the time of partition. Narayanganj became most important jute exporting centre after partition. It also captured the foreland which was earlier dominated by Calcutta. Except few jute presses, there were no jute mills in the then East Pakistan during the time of partition.

The position however had changed within 5 to 6 years after partition. Four Jute Mills were located in Narayanganj out of eight in the then East Pakistan along with 31 of the 80 Jute presses in the province.⁴ Thus a dramatic change occurred in the position of Narayanganj as a trade centre and in due time it became the world's largest jute manufacturing area. In fact, jute and jute manufacturing establishments made Narayanganj most prosperous.

Jute was major traffic of Narayanganj from 1951 to 1960. More than one-third of total presses of the then East Pakistan, having 431 bailing capacity, were located in Narayanganj. In 1958-59, out of the province's raw jute production of 50,25,338 bales, 23,84,520 bales were sent from Narayanganj for export. Thus Narayanganj supplied 53% of raw jute to total foreign sea borne exports. The table below shows the Jute trade of Narayanganj in the year 1959-60 to 1973-74.

4. Op., Cit., p.226

Table - 12

MOVEMENT OF PUCCA JUTE BALES FROM NARAYANGANJ.

<u>Year</u>	<u>Bales</u>
1959-60	21,37,530
1960-61	20,67,928
1961-62	22,08,239
1962-63	23,00,000
1963-64	22,13,469
1964-65	17,91,460
1965-66	18,04,390
1966-67	19,21,140
1967-68	19,84,691
1968-69	19,31,452
1969-70	20,45,631
1973-74	19,12,302

(Note: The figures of the missing years could not be traced).

Source: Office records, Bangladesh Jute Association, Narayanganj.

Narayanganj used to play the part of jute export hinterland of Calcutta before creation of Pakistan. Important raw materials, like jute, hides and skin etc. were exported to Calcutta for industrial use. After creation of Pakistan, though the jute trade of Narayanganj increased, devaluation of Indian currency in 1949 caused a severe set back to Narayanganj's Jute as because India was her largest importer. But in 1950, the start of Korean war favoured the export of Narayanganj Jute trade increasing her export to 19,88,245 bales in 1951. In 1954-55, highest quantity of 32,95,904 bales of jute were exported from Narayanganj. The trade agreement with India for three years in 1953 entitled her to import more than 18,00,000 bales of Jute. Calcutta imported 15,04,358 bales⁵ of jute from Narayanganj in 1954-55 against which Narayanganj received Indian coal. Between the years 1951-74, this was the highest amount of jute export

5. Annual Report, Jute Merchant Association, Narayanganj.

by Narayanganj to India. Most of the jute were transported by river routes (waterways) while Indian coal was imported by land routes (Railways).

Jute played most vital role in the then Pakistan's economy. In the early 60's, 70% of the world jute acreage was concentrated in the then East Pakistan which supplied about half of the World's demand. Pakistan earned about 50% of total foreign exchange by exporting jute.

Jute constituted major part of total tonnage of goods traffic handled in Narayanganj. Inland waterways carried major portion of Jute from Narayanganj.

Table - 13

MOVEMENT OF JUTE BALES FROM NARAYANGANJ BY VARIOUS MODES OF TRANSPORT.

	Via Chittagongs			Via Chalna		
	By water	By Road	Total	By water	By R.R.	Total
1959-60	4,80,814	1,14,243	5,95,057	N. A.	-	N.A.
1960-61	3,80,785	1,15,404	4,96,189	8,41,976	-	8,41,976
1961-62	4,07,375	1,14,095	5,51,470	1,1,47,390	-	1,1,47,390
1962-63	4,99,747	1,52,755	6,52,502	5,98,579	-	5,89,579

Source: Statistics Department, Bangladesh Railway, Chittagong.

In 1964-65, Narayanganj exported 3,70,985 tons of Jute, out of which 2,30,001 tons (62%) and 1,40,984 tons (38%) were moved by waterways and Railways respectively for export. In the same year total tonnage handled by Inland Water Transport throughout the province was 5,61,002 tons out of which Narayanganj handled 2,30,001 tons (41%) for export. Table 14 gives detail of export from Narayanganj.

Table - 14

JUTE EXPORT OF NARAYANGANJ (1964-65)
(BY WATERWAYS ONLY)

<u>To</u>	<u>Tons</u>
Chalna	1,92,400
Chittagong	30,402
Denra	2,001
Daulatpur	1,477
Chandpur	999
Khulna	971
Dacca	371
Others	1,390
	2,30,001

(Source: Office records, BIWTA)

In the same year, Chalna received highest share of Narayanganj's export (1,92,400 tons) followed by Chittagong (30,402 tons) which were meant for export to other countries.

There were four major internal markets in the country namely Narayanganj, Daulatpur, Chandpur, and Sharishabari, for handling of Raw Jute. Annual arrivals of Raw Jute in these internal markets were tabulated in Table 15. Daulatpur became the rival internal market competing hard to receive more raw Jute than Narayanganj.

Table - 15

ANNUAL ARRIVALS OF RAW JUTE IN MAUNDS INTO FOUR MAJOR
INTERNAL MARKETS.

Year	Internal Markets.			
	Narayanganj	Daulatpur	Chandpur	Sharishabari
1967-68	59,04,000	17,04,000	7,56,614	15,54,164
1968-69	60,04,500	16,00,985	5,68,025	11,75,686
1969-70	53,31,611	22,91,950	1,16,891	20,86,460
1970-71	47,64,241	12,28,200	7,76,590	15,16,680
1971-72	31,75,000	17,48,550	5,05,500	4,63,300
1972-73	32,00,000	25,20,000	7,05,500	9,14,000
1973-74	16,08,000	31,57,700	6,81,000	8,36,567
1974-75	16,33,000	20,00,000	2,00,000	6,50,000
1975-76	23,58,500	26,19,000	1,79,000	4,63,000
1976-77*	21,80,000	24,37,000	NA	NA

Note: * Upto 31.12.77

Source: Office Records, Jute Division, (The Statistic and Research)
Government of Bangladesh, Karir Chambers, Dacca.
Bangladesh Jute Association, Narayanganj, Dacca.
Chief Inspector of Jute, Narayanganj Circle, Narayanganj,

In 1967-68 Narayanganj received 59,04,000 maunds of raw jute as against 17,04,000 maunds received by Daulatpur. In the following years, raw jute arriving at Narayanganj were declining gradually while Daulatpur remained stable (to some extent). In 1972-73, arrival of raw jute in Narayanganj's market dropped down to almost half from that of 1967-68 figure while, for the same year, Daulatpur received almost double the quantity from that of 1967-68. In 1973-74 the arrival of raw jute dramatically shifted it's emphasis from Narayanganj (16,08,000 maunds) to Daulatpur (31,57,700 maunds), the latter receiving double the quantity from that of Narayanganj.

The statistics regarding jute export (table -16) from Narayanganj and Daulatpur also indicated that the Daulatpur area was getting at par with Narayanganj in this respect.

Table - 16

INSPECTED FIGURES IN BALES FOR EXPORT OF JUTE IN TWO IMPORTANT INTERNAL MARKETS OF THE COUNTRY FROM 1972-73 to 1976-77.

Year	Zones	
	Narayanganj	Daulatpur
1972-73	16,16,719	7,97,789
1973-74	13,61,206	10,96,645
1974-75	5,72,224	9,87,676
1975-76	12,69,519	10,14,075
1976-77	11,03,841	10,17,688

Note : For Export of Jute Bales, certificate from the authority after proper inspection, is necessary to obtain.

Source: Office Records, Bangladesh Jute Export Corporation, Topkhana Road, Dacca.

From 1972-73 to 1976-77, the inspected figures of jute in Narayanganj were declining while the sale was increasing gradually in Daulatpur. This indicated the rising importance of Daulatpur, though till now Narayanganj was managing to export, a little more than Daulatpur. It was also interesting to note that the licensed exporters of Raw Jute (1970-71) were 144 in Narayanganj as against only 67 in Daulatpur.⁶ The newly constructed Jute Mills in Daulatpur were added to increase their total numbers

6. Annual Review, The Jute season 1970-71 and 71-72, Govt. of Bangladesh, Jute Division, pp. 158, 170.

(1971-72) to ten while, in the same year, there were 12 Jute Mills in Narayanganj area.⁷

All these indicated that Narayanganj was being neglected as Jute trading and manufacturing centre which, if not taken care of now, may in very near future lose its place in the national economy. Though there are now more than double raw jute licensed exporters in Narayanganj than Daulatpur, Narayanganj only exported a little more, indicating that there might be serious setback in jute business in Narayanganj.

It may be noted here that over 9 year period, from 1968-69 to 1976-77, the number of kutchha and pucca presses did not increase in Narayanganj significantly (Table - 17).

Table - 17.

NUMBER OF KUTCHA AND PUCCA PRESSES IN NARAYANGANJ CITY, 1977.

Year	Press	Name of the Circle		Total
		South	North	
1968-69	Pucca	8	14	22
	Kutchha	59	16	75
1969-70	Pucca	9	16	25
	Kutchha	NA	NA	-
1970-71	Pucca	9	16	25
	Kutchha	NA	NA	-
1971-72	Pucca	9	16	25
	Kutchha	58	14	72
1972-73	Pucca	9	16	25
	Kutchha	57	13	70
1973-74	Pucca	9	16	25
	Kutchha	60	15	75
1974-75	Pucca	9	16	25
	Kutchha	62	15	77
1975-76	Pucca	9	16	25
	Kutchha	62	16	78
1976-77	Pucca	9	16	25
	Kutchha	64	16	80

Source: Chief Inspector of Jute, Narayanganj Circle, Narayanganj.

7. Op. cit., pp., 110, 113.

The storage facilities in Narayanganj for raw jute have also decreased from 1968-69 to 1976-77. The godowns in different areas in Narayanganj were damaged by liberation war, some became abandoned property and therefore was locked causing reduction in floor space of Godowns. Moreover, lack of maintenance has caused these godowns to be in bad shape. In 1968-69, there were total 40,00,000 sft. of godown area in Narayanganj while in 1975-76, only 37,00,000 sft. were available (Annexure- B, Table - 1).

The number of licence holders in Jute trade have reduced to half in 1977-78 in comparison with 1972-73 figure. The year 1973-74 experienced sudden fall in numbers (4,758) of licence holders. This may be due to the fact that after liberation, the new comers pushed their ways into the jute business for easy income, and afterwards, left the business with bad experiences both for themselves and for the jute trade of Narayanganj.

Table - 18

NUMBER OF LICENCE HOLDERS IN JUTE BUSINESS
OF NARAYANGANJ CENTRE, 1967-68 to 1977-78.

Year	All categories.	Increase/Decrease in per- cent from the previous yr.
1967-68	5,531	-
1972-73	7,107	-
1973-74	4,758	-33.05
1974-75	3,745	-27.04
1975-76	3,147	-19.00
1976-77	3,642	+13.59
1977-78*	3,649	+ 0.19

Note: All Categories include (i) Kutcha Baler (ii) Godowns
(iii) Bopari (iv) Aratdar (v) Kutcha press (vi) Dalal.

* figures upto 31.12.1977.

Source: Chief Inspector of Jute, Narayanganj Circle, Narayanganj.

4.B.3. NARAYANGANJ AS RECEIVING AND DISTRIBUTING CENTRE.

With its favourable geographical location and high urban character, Narayanganj's growing business activity has formed a large hinterland. Since partition, Narayanganj's market has assumed distributive functions. It serves as a distributor of commodities and consumers durable in a vast area. Commodities which can sustain lengthy transportation and also the articles of daily consumption tend to be distributed from this trade centre.

Narayanganj being the principal inland river port handled 35% of river borne traffic of this part of the country before liberation. In 1964-65, Narayanganj handled highest tonnage (7,04,724 tons) among all the major river ports namely Narayanganj, Dacca, Chandpur, Barisal and Khulna (Annexure- B, Table - 2).

According to the table, Narayanganj's export was greater than import. Between the years 1963-1964 and 1974-1975, Narayanganj's total traffic fluctuated, recording highest of 7,04,724 tons in 1964-65 and lowest of 3,70,220 tons in 1974-75. The fall was due to the disturbances by liberation war and its after effects. The peak of 1964-65 was due to increased movements of cement, bulk oil, food grain etc. within the country via Narayanganj.

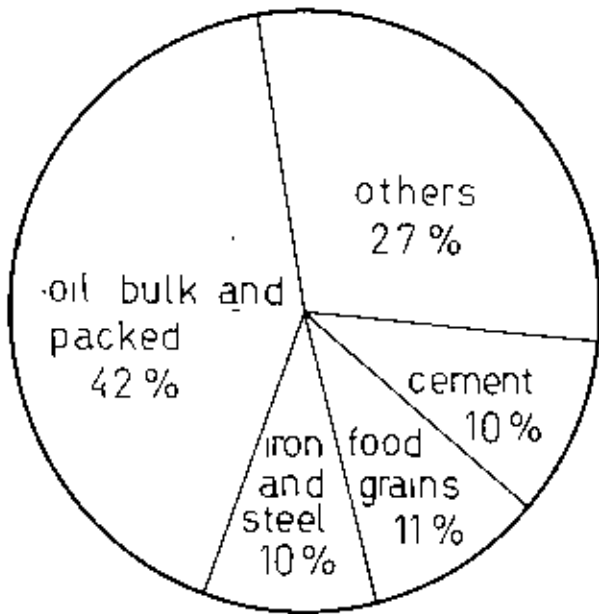
In the year 1964-65, waterways of the country carried 20,36,460 tons, out of which Narayanganj handled 6,34,448 tons⁸ amounting to about 35% of the total. Majority of this commodities in this year were jute and jute products.

Important items such as jute, jute products, foodgrains, iron and steel, salt, cotton yarn, oil, coal, paper, piece goods etc. constituted 90% of total traffic handled by Narayanganj.

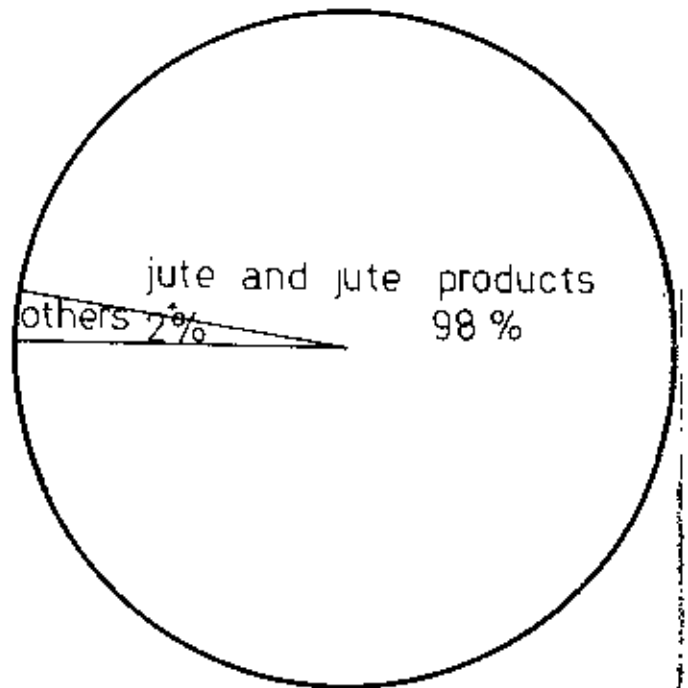
8. B.I.W.T.A., Annual Traffic Report, 1964-65.

NARAYANGANJ

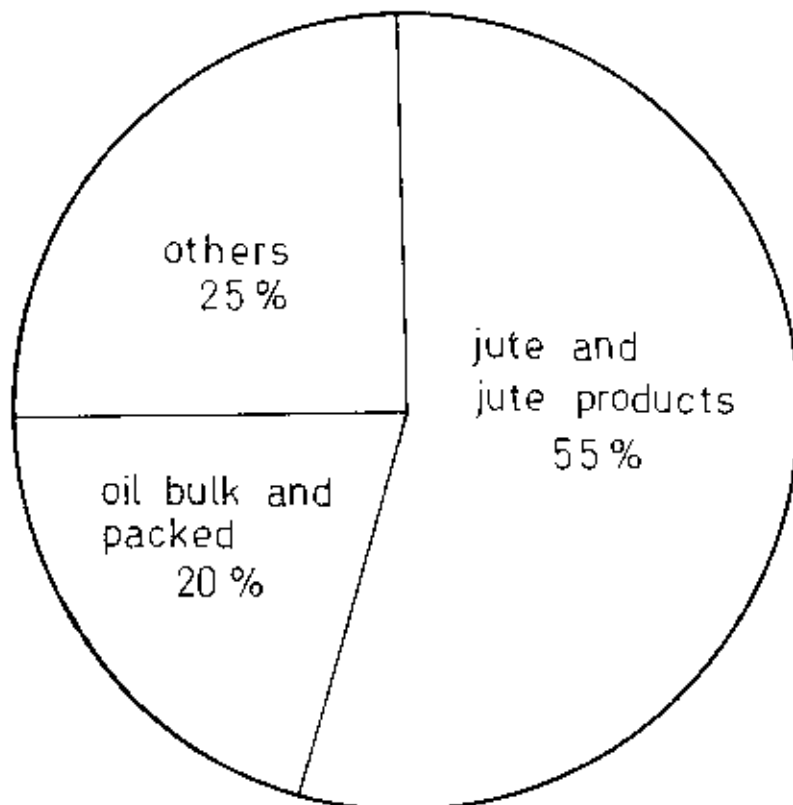
PRINCIPAL COMMODITIES HANDLED BY MECHANIZED
INLAND WATER TRANSPORT IN 1964 - 65



COMMODITIES RECEIVED
(254 288 tons)



COMMODITIES FORWARDED
(324 684 tons)



TOTAL CARGO HANDLED
(578 972 tons)

source: I.W.T.A.

Before liberation, goods forwarded were always more than goods received (Table -19). The highest tonnage was forwarded (4,68,671 tons) in 1965-66 while the lowest tonnage was forwarded (47,431 tons) in 1974-75, recording a decrease of 4,21,240 tons, (89.87%). On the other hand, highest tonnage was received (3,55,067 tons) in 1975-76 while the lowest tonnage was received (1,93,107 tons) in 1960-61, the difference being 16,196 tons, (4.56%). However increase in the total goods traffic handled at Narayanganj was a favourable sign for her economy.

Table - 19

GOODS TRAFFIC HANDLED AT NARAYANGANJ PORT.

(in tons)

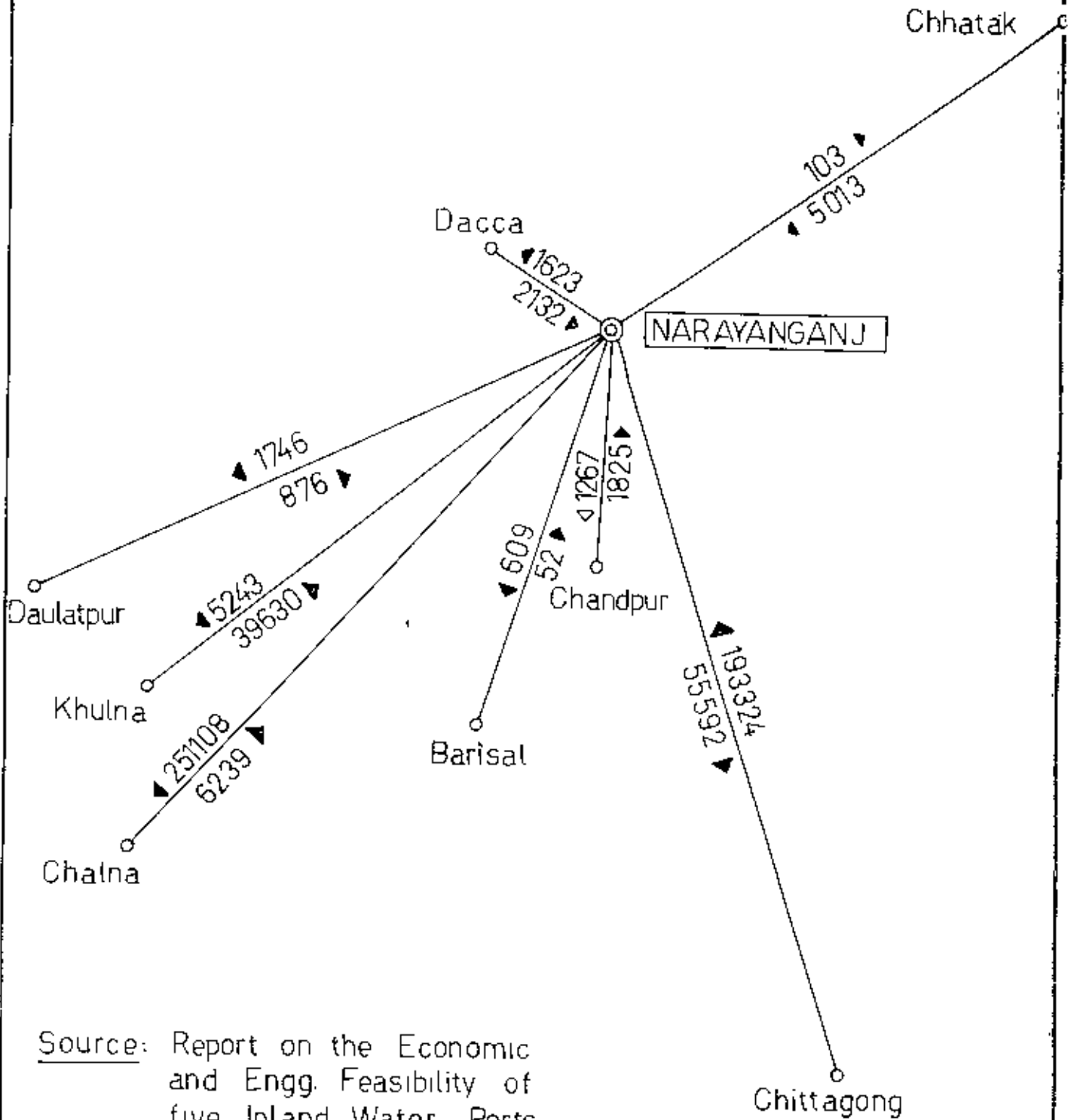
Year	Overseas and Forwarded	Inland Received	Total
1964-65	3,24,684	2,54,288	5,78,972
1965-66	4,68,671	2,79,561	7,48,232
1966-67	3,85,137	2,65,126	6,50,263
1967-68	4,18,280	2,09,565	6,27,845
1969-70	4,33,622	2,18,729	6,52,351
1970-71 to 1973-74	NA	NA	NA
1974-75	47,431	3,22,789	3,70,220
1975-76	52,174	3,55,067	4,07,242

Source: Office Records, Director of Ports and Traffic and Deputy Conservator of Inland Ports, B.I.W.T.A., Dacca.

Main traffic direction and traffic volume of Narayanganj port is presented in Annexure- B, Table - 3. It indicated that total traffic handled by IWSA in Bangladesh was gradually decreasing, probably due to it's failure to compete with other modes of transport. Consequently Narayanganj's share in handling traffic was also decreased.

NARAYANGANJ

ORIGIN AND DESTINATION OF INLAND WATER CARGO CARRIED IN MECHANIZED VESSELS IN 1964-65 (in tons)



Source: Report on the Economic and Engg. Feasibility of five Inland Water Ports.
 Frederic R. Harris Inc.
 Consulting Engineer
 New York.

Before liberation, Chalna used to get greater share of Narayanganj's traffic than Chittagong. But after liberation, the situation seen to have changed. Chittagong now were attracting greater share of Narayanganj's goods traffic. In fact, in 1974-75 and 1975-76, Chittagong received 86.93% and 86.74% respectively of total goods handled in Narayanganj port. At the same time, it may be noted, that percentage of traffic handled at Narayanganj port was gradually increasing after liberation.

As Narayanganj acts as receiving and distributing centre of the country, it may be interesting to note the movement of cargo to and from Narayanganj. (Annexure-b, Table - 4).

In the table, stations have been identified which send cargo to Narayanganj and receive the same from Narayanganj. From 1967-68 to 1974-75, Chittagong used to send the largest quantity of goods followed by Chalna. It can be well presumed that these cargo were imported in the country and were distributed through Narayanganj. Similarly these two sea ports received largest quantities of goods, obviously for export purposes. Before liberation, the movement of goods to Narayanganj was steady when in 1974-75, it jumped to more than double. But the movement of goods from Narayanganj from 1967-68 to 1974-75 remained almost stable. The data for the years 1970-71 to 1973-74, however, could not be traced which might have been misplaced due to liberation war.

The distribution of different important items by IWTA vessels has been reduced possibly due to :

- (a) shortage of such vessels
- (b) increased per unit cost which the small operators cannot afford.
- (c) non-availability of space or vessels in desired time.

Movement of important commodities to and from Narayanganj from the year 1967-68 to 1975-76 were also tabulated (Annexure-B, Table - 5).

It showed that though Narayanganj has received considerable quantity of different commodities, the movement of these commodities from Narayanganj ^{were} comparatively less by IWTA mechanized vessels.

Country Boats also played important role in carrying and distributing goods through Narayanganj. Particularly when all other modes were facing serious trouble due to increase freight rates resulting from their increased operating cost, country boats were still cheaper. The unfavourable conditions against country boats were their slow speed and absence of safety in the internal river routes.

Table - 20

MAJOR CARGO TRAFFIC BY COUNTRY BOATS HANDLED THROUGH NARAYANGANJ
PORT (000 Tons)

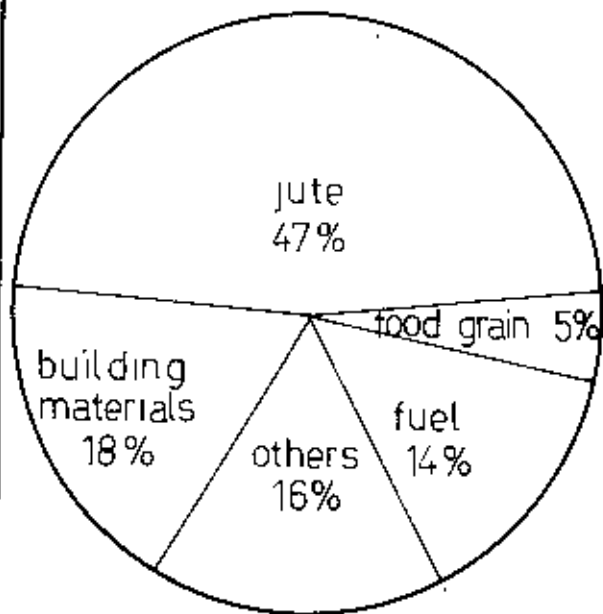
Commodities	Year			
	1961	1964	1970	1975
Jute	545.1	684.5	999.3	1,209.0
Food Grains	99.9	113.2	154.0	190.7
Other Food Stuff	144.8	68.5	97.0	118.5
Fuel	127.1	149.6	188.1	239.5
Building Material	44.4	154.2	186.4	240.8
Others	106.2	194.1	253.9	318.7
Total	1,067.5	1,364.1	1,878.7	2,317.2

Source: Office Records, Office of the Port Officer, Narayanganj Port, IWTA, Narayanganj.

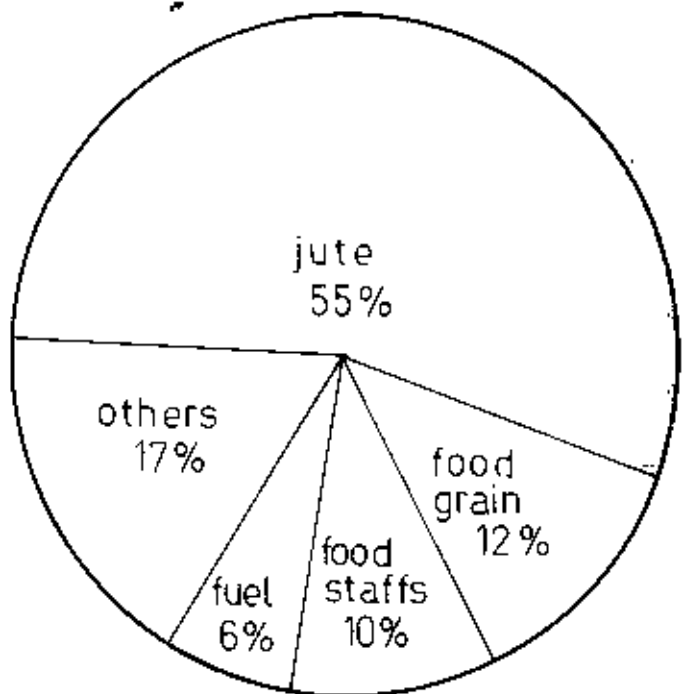
Jute and Fuel were the main items that were being carried by country boats between 1961 to 1975. The highest quantity of 2,317.2 thousand tons of goods were carried in 1975. Usually boats carry some items such as jute, fruits, vegetable, and

NARAYANGANJ

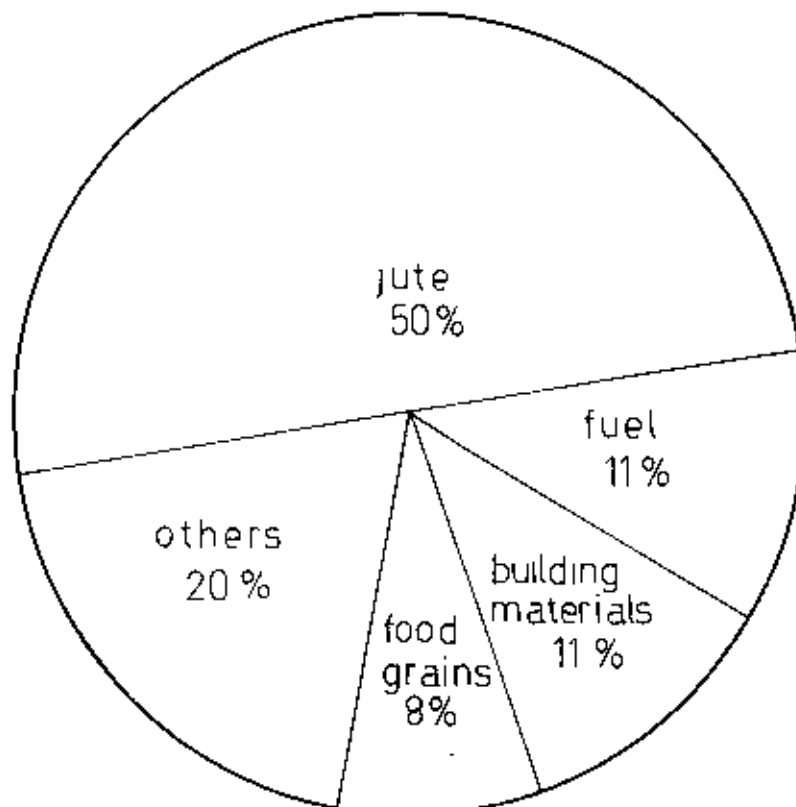
PRINCIPAL COMMODITIES HANDLED BY COUNTRY BOATS
IN 1963-64



COMMODITIES RECEIVED
(779 500 tons)



COMMODITIES FORWARDED
(584 600 tons)



TOTAL CARGO. HANDLED
(1 364 100 tons)

sand etc. to Narayanganj while on their return voyage they carry back imported items from Narayanganj to various destinations. Though fuel used to be an important item, especially, for both internal consumption of Narayanganj city and also for distribution in the interior areas, very recently, with the installation of gas pipes in Narayanganj city, the transaction of this item through Narayanganj may be less in future.

The other major imported commodities handled in Narayanganj annually, which were being carried to and from Narayanganj by different modes of transport were tabulated in table -21. These commodities were salt, cement, iron and steel, soap, dyes and chemicals. Among them, salt seemed to have been handled here in very large quantity after liberation war. The fact was, probably, due to establishment of 12 more big salt industries in Narayanganj city. Soap Industry for which Narayanganj has a fame, also flourished. Due to high price of cement and iron and steel (including house building materials), their handling were, to some extent, less. The rise in the quantity of cement during 1973 to 1975 was probably due to inclusion of Government quota, supplied through local dealers for public construction in Narayanganj.

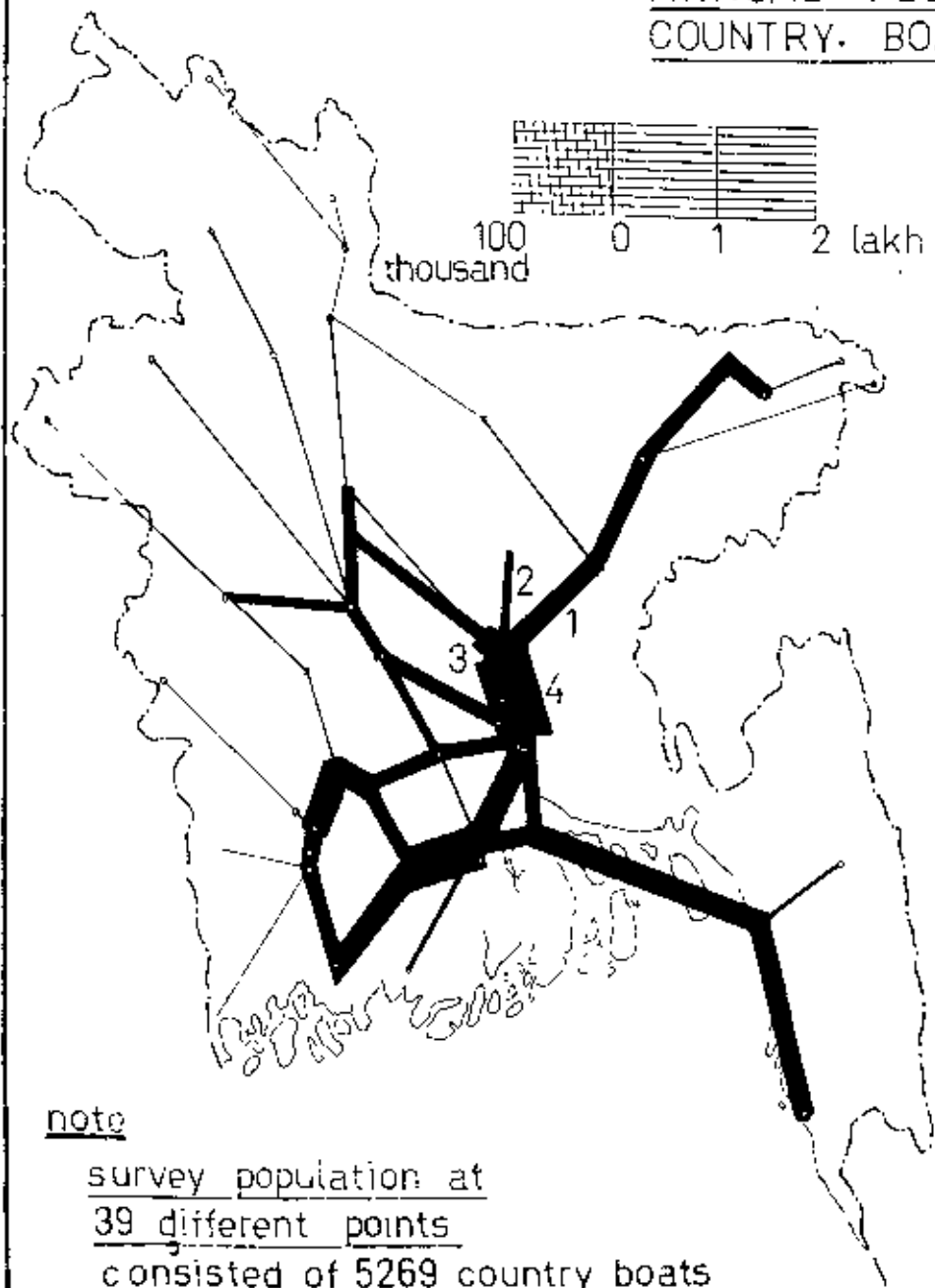
Table - 21

MAJOR COMMODITIES HANDLED IN NARAYANGANJ ANNUALLY (IN TONS)

Year	Commodities				
	Salt	Cement	Iron & Steel	Soap	Dyes & Chemicals
1967-68	92,350	36,000	3,600	14,400	1,200
1968-69	92,350	36,000	3,600	14,400	1,178
1969-70	92,350	36,000	4,000	16,000	1,350
1972-73	2,70,500	42,000	1,200	11,000	1,000
1973-74	2,70,000	42,000	1,100	12,000	1,450
1974-75	2,74,100	54,000	1,800	14,000	1,360
1975-76	2,73,600	42,000	2,200	14,200	1,200
1976-77	2,72,100	38,000	3,000	14,400	1,440

Source: Narayanganj Marchant Association, Narayanganj, Dacca.
Narayanganj Dyes and Chemical Marchant Associate, N. Ganj.

ANNUAL FLOW OF CARGO TRAFFIC BY
COUNTRY. BOATS (at NARAYANGANJ port survey population 916
 1973 sample 46)



routes	all items
1. bhairab-narayanganj	83,944 tons
2. narayanganj-kapsasia	27,915 "
3. dacca-narayanganj	98,705 "
4. narayanganj-chandpur	224,137 "

cargo	routes			
	1	2	3	4
all items	83944	27915	98705	224137
jute		1749	5636	15888
salt	2265		23	15876
food grains	7499		15385	28033
housing materials	52851	22944	40572	106339
fuel			26990	33280
veg. foodstuffs	17501	281	7476	18102
others	3828	3004	2623	6619

note

survey population at
 39 different points
 consisted of 5269 country boats

source

transport section
 planning commission
 Govt. of Bangladesh

The major portion (70%) of dyes and chemicals handled in Narayanganj were distributed to the other areas. Narayanganj consumed small percentage (about 30%) for its hosiery and other allied industries. Though number of licence holders of dyes and chemicals have increased four times (now about 800), their total holding and capital investment capacities were less than those of the total number of licence holders in Pakistan period. Consequently the quantity of Dyes and chemicals handled in Narayanganj remained more or less same over the period.

Yarn, being another important item of Narayanganj's distributive functions, the number of licence holders for distribution of yarn and the amount of yarn distributed through Narayanganj between the years 1968-69 to 1976-77 were tabulated in Table-22.

Table - 22

NUMBER OF YARN LICENCE HOLDERS AND YARN DISTRIBUTION IN NARAYANGANJ CITY. (1968-69 to 1976-77).

Years.	No. of licence holders.	Yarn distributed (in lbs.)
1968-69	75	1,18,000
1969-70	125	1,76,000
1970-71	NA	NA
1971-72	750	96,600
1972-73	761	91,000
1973-74	770	1,24,000
1974-75	767	1,17,650
1975-76	773	1,20,000
1976-77	800	1,20,000

Source: Office Records, Yarn Merchant Association, Teabazar, Narayanganj, Dacca.

Here again, though number of licence holders in Narayanganj have increased by more than 10 times than that of pre-liberation period, the quantity of yarn handled, remained more or less, the same. This was again, due to, small holding capacity and shortage of capital. Moreover the cost of yarn in foreign markets have increased considerably in recent past. However, if not decreased, the previous demand of yarn and dependency for yarn on Narayanganj remained the same.

Trade licence holders in Narayanganj Paurashava from 1968-69 to 1976-77 were also tabulated in Table - 23. Number of whole sale traders, throughout these years dominated over the number of retail traders. However, the figure 5,321 for all categories in the year 1976-77, was less than previous year's figure. This was due to temporary suspension of trade licences by the authority due to non-payment of taxes and dues etc.

Table - 23

NUMBER OF BUSINESS TRADE LICENCE HOLDERS OF NARAYANGANJ PAURASHAVA.

Years	Categories		
	Whole Sale	Retail	All Categories.
1968-69	2,479	1,652	4,131
1969-70	1,457	971	2,428
1970-71	1,320	880	2,200
1971-72	1,696	1,130	2,826
1972-73	3,405	2,270	5,675
1973-74	4,406	2,938	7,344
1974-75	4,346	2,897	7,243
1975-76	4,738	3,159	7,897
1976-77	3,193	2,128	5,321

Source: Office Records, Narayanganj Paurashava, Narayanganj.

4.B.4. RAIL TRANSPORT IN NARAYANGANJ'S ECONOMY.

The importance of Rail Transport in Narayanganj's economy was great from the British period. But the withdrawal of terminal station from Narayanganj along with the connecting steamer and other inland water way services to Dacca, gave a severe blow to her economy. The inward and outward passengers of Narayanganj have decreased by 95.55% and 49.26% respectively in 1975-76 as compared to 1968-69 level. Inward goods movement also have decreased by 33.56% in 1975-76 as compared to 1968-69. But the outward movement of goods have increased by 45.45% in 1975-1976 in comparison to 1968-69 figure. As regards parcel, both inward and outward movements have increased by 20.31% and 19.34% respectively for the year 1975-76, with respect to 1968-69 figure (Table - 24).

Thus this indicated that though Railway was losing passengers, goods traffic were still on 'increase'. The fact also revealed that the potentiality of 'goods traffic' to and from Narayanganj was still very high.

Table - 24

MOVEMENT OF PASSENGERS, GOODS AND PARCELS THROUGH NARAYANGANJ BY RAIL

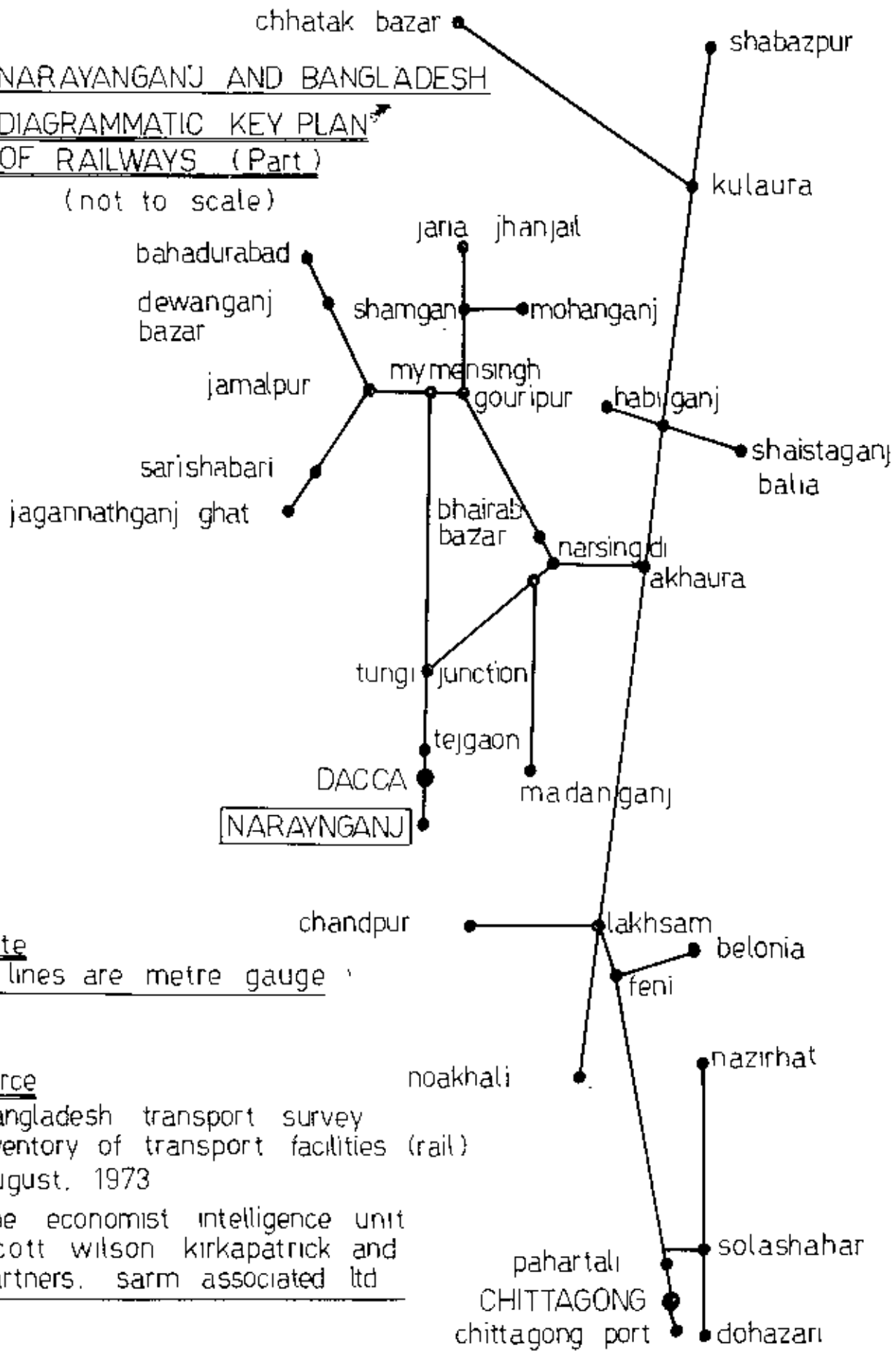
Years	Passengers (Nos)		Goods (Mnds)		Parcels (Mnds)	
	Inward	Outward	Inward	Outward	Inward	Outward
1968-69	15,16,783	11,92,439	33,41,731	15,63,790	57,869	78,942
1969-70	12,13,694	NA	39,38,492	17,20,500	68,932	74,389
1970-71	NA	1,77,524	NA	17,19,505	NA	63,379
1971-72	46,290	67,509	NA	26,85,457	3,285	41,852
1972-73	63,921	3,49,437	28,49,503	40,62,764	49,943	134,819
1973-74	1,94,251	4,32,519	21,36,110	41,81,121	56,837	90,664
1974-75	80,491	3,75,554	17,18,212	11,69,495	53,942	92,723
1975-76	67,623	5,87,466	11,21,569	28,66,902	72,610	97,879

Source: Office Records, Station Master, Narayanganj Railway Station, Bangladesh Railway.

NARAYANGANJ AND BANGLADESH

DIAGRAMMATIC KEY PLAN
OF RAILWAYS (Part)

(not to scale)



note
all lines are metre gauge

source
Bangladesh transport survey
Inventory of transport facilities (rail)
August, 1973

The economist intelligence unit
Scott wilson kirkpatrick and
partners. sarm associated ltd

4.C. GOVERNMENT INCOME FROM NARAYANGANJ

Several sources of income contribute to the Government treasury. The followings are an attempt to discuss some of the major sources of Government income in Narayanganj.

4.C.1. INCOME TAX.

Authority divided Narayanganj into three circles for the purpose of realising income tax. Only those firms whose head offices were registered with any one of these circles in Narayanganj, were treated as assesses of the said circle. Many branch offices in Narayanganj, having head offices mostly in Dacca or elsewhere, were excluded from the assessment list as their head offices would pay taxes for the entire business at the places where they were registered.

Table - 25

INCOME TAX COLLECTED FROM DIFFERENT CIRCLES IN NARAYANGANJ TOWN (Lac Taka)

Assessment year	Number of Assess in all categories*	Amount realised (Lac Taka)
1970-71	3,841	30
1971-72	3,892	10
1972-73	4,800	10
1973-74	4,872	32
1974-75	5,009	50
1975-76	5,136	60
1976-77	5,327	78
1977-78	5,590	100**

Note : * Categories include five different classes;
 (a) Income range of Tk. 36,000 and above,
 (b) Income range of Tk. 20,000 to 35,999
 (c) Income range of Tk. 12,000 to 19,999
 (d) Income range of Tk. 9,000 to 11,999
 (e) Income range of Tk. 9,000 |

** Estimated figure for the year.

Source: Deputy Commissioner of Taxes, Narayanganj Zone, Narayanganj.

Income tax collected from Narayanganj from 1970-71 to 1977-78 were tabulated in the above table. (Table - 25). It may be noted that there were 3,841 number of assessee, in 1970-71 contributing Taka 30 lacs as income tax, while in 1977-78, the number was increased to 3,590 (an increase by 1,749 number or 45.53%) contributing Tk. 100 lacs.

4.C.2. PORT REVENUE.

Narayanganj Port, like others, earn revenue for the Government. Trend of revenue receipt of major river ports from 1968-69 to 1976-77, revealed that Narayanganj occupied the highest place in earning revenues among five major river ports in the country (Annexure - C, Table 1). In 1968-69, it earned Tk. 13,00,000/=-, while in 1976-77, her revenue earnings jumped to more than double, amounting to Tk. 28,80,000 per annum. The years 1971-72 and 1972-73 were 'depressed years' resulting from liberation war. It may be interesting to note that from 1973-74 onwards, Narayanganj River Port was earning more than Dacca. This was, among other reasons, due to the charges realised for increased port facilities extended to the heavy industries on the banks of the river Shitalakhya.

Thus high potentialities existed for revenue earnings from Narayanganj port if the conditions were made favourable.

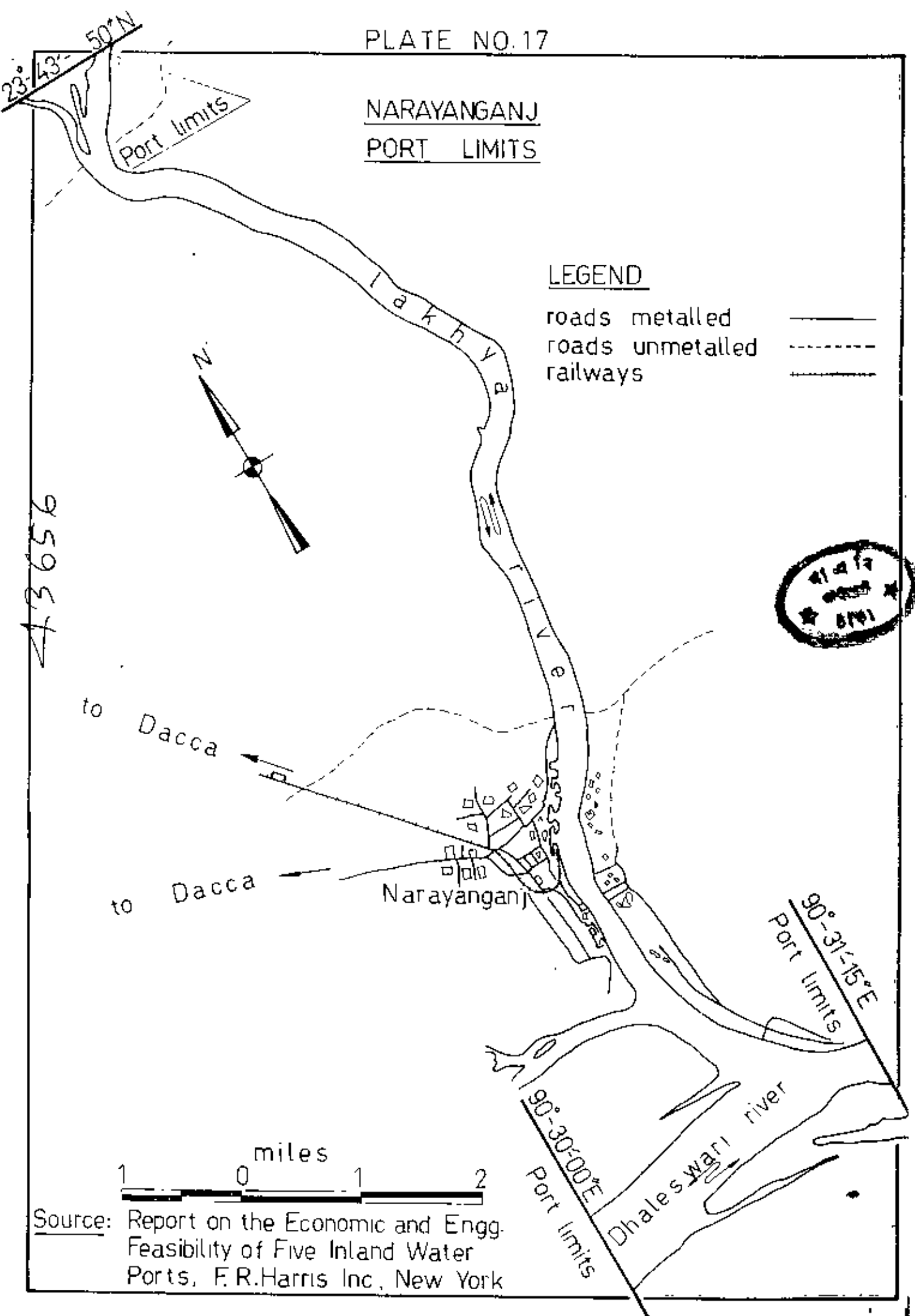
4.C.3. THE EARNINGS OF NARAYANGANJ PAURASHAVA.

There are several heads for Paurashava's earnings. Earnings of Tk. 27,98,685 in '67-68 was increased by more than three times in 1976-77 amounting to Tk. 79,48,741. Similarly during the same periods, Governments grant to the Paurashava rose from Tk. 9,30,415 to Tk. 12,11,937. It can also be noticed that from the year 1972-73 onward, Narayanganj Paurashava had surplus earnings. The total income and expenditure of the Paurashava for the year 1976-77 were Tk. 91,60,678 and Tk. 86,47,810 respectively (Table - 26).

NARAYANGANJ
PORT LIMITS

LEGEND

- roads metalled
- roads unmetalled
- railways



Source: Report on the Economic and Engg. Feasibility of Five Inland Water Ports, F.R.Harris Inc, New York

Table - 26

YEARLY INCOME AND EXPENDITURE OF NARAYANGANJ PAURASHAVA
(1967-68 to 1976-77).
 (In Taka)

Year	Income			Expendi- ture.
	Income from own source	Govt. Grant	Total	
1967-68	27,98,685	9,30,415	37,29,100	31,84,025
1968-69	29,98,221	7,46,150	37,44,371	41,63,982
1969-70	31,05,436	6,38,876	37,44,312	43,29,411
1970-71	26,57,701	6,95,000	33,52,701	35,43,501
1971-72	32,11,361	12,50,993	43,62,354	35,94,424
1972-73	38,36,921	35,91,256	73,88,177	63,53,574
1973-74	58,30,401	9,84,300	68,14,701	61,22,742
1974-75	62,34,013	8,14,308	70,48,321	68,05,634
1975-76	68,77,187	10,12,128	78,89,315	71,76,959
1976-77	79,48,741	12,11,937	91,60,678	86,47,810

Source: Office Records, Narayanganj Paurashava, Narayanganj.

(i) The earnings of Paurashava through Octroi Post.

A separate table is presented here (Table -27) to understand the volume of goods pouring in Narayanganj through its 8 octroi post (4 river and 4 land) situated at different places. Every goods were charged as per Government classifications and rates which entered into the Paurashava area through these octroi posts.

The table shows: budget estimates and actual earnings from the year 1967-68 to 1976-77. Both the heads registered rise, especially after liberation, indicating that goods movement through different posts increased considerably though the earnings could not meet the budget estimates. However, in September 1977, all the octroi posts were auctioned by a Government order which gave an income of Tk. 16,50 lac to the Paurashava for the year 1977-78.

Table - 27

EARNINGS OF NARAYANGANJ PAURASHAVA THROUGH IT'S
DIFFERENT OCTROI POSTS. (1967-68 to 1976-77).

<u>Year</u>	<u>Budget Estimate.</u>	<u>Actual Earnings (in Taka)</u>
1967-68	12,00,000	9,27,380
1968-69	12,00,000	9,52,122
1969-70	12,00,000	8,76,864
1970-71	8,50,000	6,60,820
1971-72	8,50,000	3,79,415
1972-73	9,00,000	4,35,667
1973-74	9,00,000	6,62,230
1974-75	9,00,000	7,93,098
1975-76	18,00,000	11,40,057
1976-77	18,00,000	15,60,665

Note: By Government order, the Authority has auctioned it's four Octroi posts for the year 1977-78 at a bid price of Tk. 16.50 lacs.

Source: Office Record, Narayanganj Paurashava, Narayanganj.

(ii) Rate Payers of the Paurashava.

The total number of tax payers, as against total number of holdings in Narayanganj Paurashava did not increase much. Table - 28 presents population and rate payers of Narayanganj Paurashava from 1966-67 to 1976-77. In 1966-67, out of more than 1,62,000 population, there were 8,050 tax payer, which after 10 years, in 1976-77, rose to 9,629, (out of more than 1,76,459 population). Thus percent of rate payers in relation to total population were 4.96 and 5.45 for the years 1966-67 and 1976-77 respectively. Small increase in rate payers in the last 10 years indicated non availability of land for expansion of housing in the Paurashava area. This also affected adversely to the earnings of the Paurashava.

Table - 28

POPULATION AND RATE PAYERS OF NARAYANGANJ PAURASHAVA
(1966-67 to 1976-77)

Year	Population	Total Number of Rate Payers.	Percent of rate payers in relation to total population
1966-67	1,62,000	8,050	4.96
1967-68		8,500	5.24
1968-69		8,650	5.33
1969-70		8,775	5.41
1970-71		8,775	5.41
1971-72		8,800	5.43
1972-73		8,831	5.45
1973-74	1,76,459	9,320	5.28
1974-75		9,361	5.30
1975-76		9,520	5.39
1976-77		9,629	5.45

Source: Office Records, Narayanganj Paurashava, Narayanganj.

4.C.4. LAND VALUES WITHIN NARAYANGANJ CITY.

Land values at different areas in Narayanganj City were also tabulated. (~~Annexure~~ C, Table -2). Upon the valuation of land and any structure thereon, the authorities impose taxes to be realised annually or by instalments from the concerned owners/occupiers.

Moreover transfer fees for ownership are imposed on such valuation. From the table it can be seen that Narayanganj Union registered highest price per bigha of land in 1977 while Godnail and Hajiganj Union registered lowest price. The valuation of land and immovable properties indirectly contribute to the Government treasury.

There were some other sources of government income within Narayanganj city (such as industries etc.), the accounting system of which were such that collection of data on individual earnings were not possible and moreover records were also not accessible.

4.D.INDUSTRY.

4.D.1. INTRODUCTION.

Industrial activities in general are of considerable importance in the economic growth of Narayanganj and provide the key to the future growth and welfare of the nation.

The industries of Narayanganj are mainly located in industrial belt of Adanjee nagar area, few are located in Fatulla area, while Hosiery Industries are concentrated in the centre of Narayanganj town. Hosiery, Jute and Textile industries are the main economic activities of Narayanganj which will be discussed here.

4.D.2. HOSIERY INDUSTRIES.

Narayanganj was famous for her hosiery products from early times. Before liberation, after meeting the local demand, this industry found her foreign markets, earning considerable foreign exchange. Table- 29 presents production and capacity of Hosiery industry in Narayanganj from 1966-67 to 1975-76.

The table showed that number of knitting machines have increased to 1,450 along with their production capacity to 41,76,000 lbs in 1975-76, though actual production in the same year was 39,67,400 lbs. The highest recorded production was 74,76,450 lbs in 1968-69 against 1,298 knitting machines working in double shifts. The actual productivity in 1975-76 has decreased to almost half than that of 1968-69 level. This was due to high price of yarn and competition with second hand clothings which were being imported by Government under wage earner scheme.

Table - 29

PRODUCTION AND CAPACITY OF HOSIERY INDUSTRY IN NARAYANGANJ
(1966-67 to 1976-77)

Year	Number of Knitting machines.	Production Capacity in lbs.	Actual Production in lbs.	Cost of Yarn in Taka per lb.
1966-67	1,282	36,92,160	73,84,320	3.00
1967-68	1,291	37,18,080	74,36,160	3.00
1968-69	1,298	37,38,240	74,76,480	3.75
1969-70	1,298	37,38,240	56,07,360	4.00
1970-71	NA	NA	NA	NA
1971-72	991	28,54,080	28,54,080	13.75
1972-73	1,027	29,57,760	29,57,760	16.00
1973-74	1,234	35,53,920	35,53,920	18.00
1974-75	1,298	37,38,240	30,07,500	20.00
1975-76	1,450	41,76,000	39,67,400	20.00

- Note: i) Production in 1966-67 to 1968-69 were in double shift;
 ii) Production in 1969-70 was in 1½ shift.
 iii) Production in 1974-75 and 1975-76 decreased due to high cost and low quality of yarn which resulted in considerable amount of wastage.
 iv) Production in 1971-72 to 1973-74 were in single shift (8 hours a day)

Source: 1. Bangladesh Hosiery Mills Association, Narayanganj.
 2. Annual Report 1975-76, Bangladesh Textile Mills Corporation, Appendix -XII.

It can be easily understood that given the favourable conditions, this industry could double its production employing more people and thus would generate more capital.

4.D.3. JUTE INDUSTRY.

Data like present position of looms, production, employment etc. for 12 Jute Mills in Narayanganj City were collected. (Annexure-D, Table - 1).

Adamjee Jute Mills had highest looms installed in 1976-77 numbering 3,248 i.e. 63.19% of the total looms installed for the year in Narayanganj. The lowest recorded looms installed for the year were by Hawar Jute Mills having only 44 looms i.e. 0.85% of the total looms installed. Some of the Mills had spindles installed, the highest number being 1,400, installed by N. A. Malek Jute Mills. This constituted 43.80% of total spindles installed in 1976-77.

However differences were recorded in "looms installed" and "looms operating". Adamjee Jute Mills, having highest number of 3,248 looms installed, had 2,549 looms (78.47%) operating in 1976-77. For the same year, in Narayanganj, the total looms operating were 4,020 constituting 78.21%.

Spindles were also ^{not} operating in full N.A. Malek Jute Mills, having highest number of 1,400 spindles installed, had only 1,152 spindles (82.28%) operating in 1976-77. For the same year, the total spindles operating in Narayanganj were 2,824 constituting 88.36% of the total installed spindles.

The looms and spindles operating in Narayanganj were as follows:

	<u>Looms</u>	<u>Spindles</u>
1973-74	81.01%	75.83%
1974-75	76.67%	81.60%
1975-76	82.20%	79.31%
1976-77	78.21%	88.36%

Thus both the looms and spindles installed were not utilized fully throughout the period.

4.D.3.1. PRODUCTION OF DIFFERENT JUTE MILLS.

Some of the Mills registered increase in production while some registered decrease in production from the year 1973-74 to 1976-77. (Annexure-D, Table-2). Adanjee Jute Mills registered an increase in production of about 5% in 1976-77 from that of 1973-74 production level. Adanjee, having largest numbers of looms operating, produced 56.11% of the total production in 1976-77. The total production in Karayanganj city, in 1973-74, was 91,862 tons which was increased to 1,11,227 tons (21.08%) in 1976-77.

4.D.3.2. EMPLOYMENT IN JUTE MILLS.

The employees of these jute mills consisted of workers and staff members including officers. Employment position of different Jute Mills in and around Karayanganj City from 1973-74 to 1976-77 were also tabulated. (Annexure-D, Table -3).

Adanjee Jute Mills employed highest number of workers and staff. It employed 22,336 workers and 1,518 staff members in 1976-77 constituting 56.53% and 42.00% respectively of the total employed persons in the Jute Mills in Karayanganj city.

But there were considerable difference between workers as per registrar and workers in attendance. Adanjee Jute Mills had 22,336 registered workers, while only 17,243 worker (79.43%) were in attendance. The overall picture for workers in attendance in different Jute Mills were as follows :

Percentage of workers in attendance

1973-74	61.92%
1974-75	62.14%
1975-76	74.15%
1976-77	63.61%

There were however an increase of 11.95% in staff members in the Mills of the city from 1973-74 to 1976-77.

4.D.4. TEXTILE INDUSTRY:

There were 11 Textile Mills having looms and/or spindles in and around Narayanganj city. The capacities of different textile mills in the city from 1972-73 to 1976-77 were tabulated. (Annexure - D, Table - 4).

The highest number of looms installed were found to be by Dhakeshwari Cotton Mill Number I and II. Their combined installed looms (810+554) constituted 43.49% of the total installed looms in 1976-77. There was an increase of 14.03% in the installed looms in the industry by the end of the year 1976-77.

However difference were there in the looms installed and looms running. The largest Cotton Mills i.e. Dhakeshwari I and II had (161+316 = 477) 477 looms running out of 1,364 looms installed in 1976-77. Their running looms thus constituted 32.77%. Total looms workable here, as the table indicated, were 915 and the rest of 449 looms were supposed to be unrepairable. That meant, out of 1,364 installed looms in Mills No. I and II, 32.77% were running, 67.08% were workable (including running), while 32.31% were not repairable. This was due to old model of the machines. For the year 1976-77, 54.94% of total installed looms in the city were running while 84.27% were workable (including running) indicating that 15.73% of the looms were not repairable. The maximum number of 1,937 looms (61.76% of installed looms) were running in the 1975-76, while the rest workable looms were not utilized.

Spindles

Numbers of spindles installed in each mills and thus total number of spindles installed in the city remained same from the year 1972-73 to 1976-77 (Annexure-D, Table -5). Dhakeshwari Cotton Mill No. I and II jointly constituted 25.17% of total installed spindle in the year 1976-77.

However, no Mills were found to be running as per installed spindles. Only 38.35% of the installed spindle of Dhashwari I and II were running in 1976-77. This constituted 15.09% of total running spindles for the same year. However total workable spindles were 63.53% of the installed spindles indicating that 36.47% were beyond any repair.

In 1976-77, 63.98% of all installed spindles in the city were running though 79.24% were workable. This meant that 20.76% of total installed spindle were not workable.

4.D.4.1. PRODUCTION OF TEXTILE MILLS.

The textile mills produces yarn and cloth. Comparative productive figure of different Textile Mills in and around Narayanganj city from 1972-73 to 1976-77 were computed in tabular form.

(Annexure- D, Table - 6).

Ahmed Bawany produced highest quantity of yarn (37.17 lac lb) in 1974-75 which constituted 21.25% of the total products of all the Mills in the year. The total production of yarn for the last 5 year did not increase much. Though there was a slight increase (41.61%) in total production in 1974-75 as against 1972-73, this tendency could not be maintained in 1975-76 and 1976-77.

Production of cloth also did not perform better. Ahmed Bawany, in 1976-77, producing 21.63% of the total production marked the highest. A total of 304.34 lac yds of cloth were produced in 1974-75, registering a rise of 41.02% over 1972-73 figure. This again declined in 1975-76 and 1976-77. The total production figure in 1976-77 went down below 1972-73 figure because of lay-off in Ahmed Silk mills.

4.D.4.2. EMPLOYMENT IN TEXTILE MILLS.

The employees of textile mills in Narayanganj were grouped as workers, staff & officers. (Annexure - D, Table -7). The table indicated that Dhakeshwari Cotton Mill No. I and II employed 691 staff and 42 officers in 1976-77 constituting 25.79% and 17.69% respectively of the total employed persons (staff & officers) for the year. The staff members and officers registered a rise by 37.22% and 49.07% respectively in the year 1976-77 as against 1972-73 figure. The percentage for both the figure would have ^{increased} further, if the staff members of Ahmed Silk Mill were included. This could not be done as this became a disinvested unit and data could not be traced.

Dhakeshwari I and II again indicated to be employing 28.35% of total workers in 1976-77. The increase in number of workers were not proportionate with the increase of other staff members. Though, in 1974-75, total number of 17,407 workers were employed, this figure came down again to 14,842 in 1976-77 because of Government policy to get rid of unwanted workers who found their ways inside the Mills through back door.

Economic activities in Narayanganj have thus been characterized by three main features.

- i) Jute and jute trade are vital for Narayanganj's economy.
- ii) Role of Narayanganj as collecting and distributing centre.
- iii) Concentration of Industries in Narayanganj and their contributions to the local and National economy.

The findings presented in this section was an attempt to focus on the trend of these features. The drawback/bottlenecks, as might appear in some cases, may be easily overcome by the suggestions put forward in the following chapter.

4.D.5. FUTURE ECONOMIC ACTIVITIES IN NARAYANGANJ.

4.D.5.1. INTRODUCTION

The purpose of this section is to indicate major trends in the development of the economy of Narayanganj, which have relevance for the purpose of urban planning. It may be assumed that the fulfilment of overall economic planning will require most rational and most efficient use of resources and that any projection of Narayanganj's future economy can be based on the assumption that it will be in the interest of the achievement of overall planning in Bangladesh.

A forecast of future ~~urban-area~~ economic activity of Narayanganj along with population forecast provides the basis of future land requirements and future mobility patterns. This is the direct effect of the increasing wealth of the urban area and the consumer, which is likely to occur within urban area.

4.D.5.2. FUTURE OF JUTE AND JUTE GOODS.

Production of Jute goods and export of raw jute from Narayanganj have shown little change in the recent past years. The reason for fall in export was due to growing competition in the world market from jute substitutes.

Although raw jute exports from Bangladesh have remained static, exports from other jute producing countries have risen by about 3% annually in recent years. Since Bangladesh is the source of the highest grade jute in the world and as 70% of acreage under jute cultivation of the world is situated here, there are reasons to believe that she will continue to share in the growing world demand for raw jute, while, at the same time, meeting the increased demand of domestic jute processing industry.

In the Pakistan period, during 1958-59 and 1963-64, Jute goods exports were increased by 13% annually, mainly as a result of Government policy to stimulate the growth of domestic jute-processing industry. There is still enough scope to continue this policy to earn sufficient export income.

Proposed government measures regarding jute and jute products upto year 1985 are produced in the following tables. These were obviously prepared after detail studies by the competent authorities.

Table - 30.

BANGLADESH: PROPOSED EXPANSION OF JUTE MANUFACTURING INDUSTRIES.

Period	Number of looms added during the period.	No. of looms at the end of the period.	Growth rate index.
1965-70	-	25,000	100
1970-75	6,400	31,000	126
1975-80	12,000	43,400	174
1980-85	12,000	55,400	222

Source: EPIDC, "Industry - A Monthly Journal of EPIDC"
 Jan/Feb., 1964, Pakistan Central Jute Committee,
"Jute and Jute Fibres - Pakistan", February, 1966.

Assuming that the internal consumption of jute goods will, after 1970, continue to grow at the rate observed in recent years, the future distribution of Jute Industry output may look as follows:

Table - 31

BANGLADESH: DISTRIBUTION OF JUTE INDUSTRIAL OUTPUT.
('000 tons)

Year	Output	Internal consumption		Jute manufactures exports	
		Volume	Growth rate index	Volume	Growth rate index.
1965	289	172	-	217	-
1970	800	120	100	680	100
1975	1,008	128	850	850	125
1980	1,592	196	163	1,192	175
1985	1,776	250	208	1,526	224

Source: Pakistan Central Jute Committee, "Jute and Jute Fabrics- Pakistan", February, 1966.

The table below shows the combined forecast of jute and jute goods export during the period.

Table- 32

BANGLADESH: JUTE AND JUTE PRODUCTS EXPORT FORECAST
(000 tons)

Year	Raw Jute	Jute products	Total	Growth Index
1970	872	680	1,552	100
1975	1,020	850	1,870	121
1980	1,172	1,192	2,364	152
1985	1,358	1,526	2,884	186

Source: Same as Table 30

4.D.5.3. FUTURE MOVEMENT OF CARGO TRAFFIC.

Excellent availability of all transport modes and the abundance of cheap labour favoured Narayanganj as main collecting and distributing centre of the country.

Based on the estimates presented in the previous tables Jute shipments to and from and through Narayanganj by mechanized IWT vessels will increase as follows :

Table - 33

NARAYANGANJ: JUTE AND JUTE PRODUCTS SHIPMENTS BY MECHANIZED INLAND WATER TRANSPORT (000 tons).

Year	Received	Forwarded	Handled
1970	8.7	527.9	536.6
1975	10.5	638.8	649.3
1980	13.2	802.4	815.6
1985	16.2	981.9	998.1

Source: Frederic R. Harris, Inc. New York. Report on the Economic and Engineering Feasibility of five Inland Water Ports, 1967.p.v. 14.

Table - 34

NARAYANGANJ: MECHANIZED IWT CARGO TRAFFIC FORECASTS (000 tons)

Commodity	1961	1965	1970	1975	1980	1985
	Forecasts of Cargo Received					
Jute & Products	23.3	5.8	8.7	10.5	13.2	16.2
Oil & Products	70.2	107.5	180.0	290.0	370.0	473.0
Food grains	8.8	27.7	134.0	134.0	134.0	134.0
Iron & Steel	2.7	20.2	26.3	34.2	45.0	58.6
Cement	8.0	26.7	44.4	56.2	72.0	89.0
Other	80.4	66.4	31.4	118.9	149.9	187.4
Total	193.1	254.3	484.8	643.8	784.1	958.2
Plus diversion from country boats.	Nil	Nil	Nil.	32.1	82.0	148.0
Total(Revised)	193.1	254.3	484.8	675.9	866.1	1106.2

(contd.)

Table - 34 (Cont'd)

Commodity	1961	1965	1970	1975	1980	1985
<u>FORECASTS OF CARGO FORWARDED</u>						
Jute & Products	306.0	313.5	527.9	638.8	802.2	981.9
Food grains	1.7	1.9	-	-	-	-
Cement	0.3	0.1	0.4	0.7	0.8	1.0
Other	9.3	9.2	12.0	15.6	19.7	24.6
Total	317.3	324.7	540.3	655.1	822.9	1007.5
Plus diversion from country boats	Nil.	Nil.	Nil.	25.8	66.5	115.8
Total (Revised)	317.3	324.7	540.3	680.9	889.4	1123.3

<u>FORECAST OF CARGO HANDLED</u>						
Jute & Jute - Products	329.3	319.3	536.6	649.3	815.6	998.1
Oil & products	70.2	107.5	180.0	290.0	370.0	473.0
Food grains	10.5	29.6	134.0	134.0	134.0	134.0
Iron & steel	2.7	20.2	26.3	34.2	45.0	58.6
Cement	8.3	26.8	44.8	50.9	72.8	90.0
Other	89.4	75.6	103.4	134.5	196.6	212.0
Total	510.4	579.0	1025.1	1298.9	1607.0	1965.7
Plus diversion from Country boats	Nil.	Nil.	Nil.	57.9	148.5	263.8
Total (Revised)	510.4	579.0	1025.1	1356.8	1755.5	2229.5

Source: Fredric R. Harris, Inc. New York. Report on the Economic and Engineering Feasibility of five Inland Water Ports. 1967. p.V-14.

4.D.5.4. COUNTRY BOAT TRAFFIC FORECASTS.

The National income commission, in its published report assumed that for Bangladesh as a whole, country boat traffic was growing at the same rate as the population.⁹ Although inefficient, the country boat traffic industry is very profitable. Studies based on a recent country boat survey indicated an average annual rate of return for the industry as a whole of about 50 percent.

This situation has developed largely as a result of the monopoly control of most of the areas served by country boats. Because of Navigational hazards to larger mechanized vessels, many of these areas can now be reached by country boats only. Another factor favouring country boats has been their ability to prosper on relatively small consignment of cargo.¹⁰

Table - 35

NARAYANGANJ: COUNTRY BOAT CARGO TRAFFIC FORECASTS (000 tons)

Commodity	1961	1965	1970	1975	1980	1985
	FORECASTS OF CARGO RECEIVED					
Jute	389.2	363.6	530.8	642.2	828.0	960.0
Food grain	65.3	41.3	49.1	63.8	80.5	100.6
Other Food stuffs	116.9	10.7	12.7	16.5	20.8	26.0
Fuel	109.4	112.2	133.5	173.5	218.9	273.6
Bldg. Materials	39.5	143.0	170.1	221.1	278.9	348.7
Other	63.1	108.7	129.3	168.0	212.0	265.0
Total	783.4	779.5	1,025.5	1,285.1	1,639.1	1,973.9
Less anticipated Traffic diversion	Nil.	Nil.	Nil.	64.3	164.0	296.1
Total (Revised)	783.4	779.5	1,025.5	1,220.8	1,475.1	1,677.8

9. Government of Pakistan, Final Report of the National Income Commission, Karachi, November, 1965.

10. IWTA, Country Boat Transport Industry Survey, (An unpublished report), Dacca, 1966.

Table -35 (cont'd)

Commodity	1961	1965	1970	1975	1980	1985
	FORECASTS OF CARGO FORWARDED					
Jute	155.9	320.9	468.5	566.8	730.8	847.9
Food grains	34.6	71.9	104.9	126.9	163.6	189.8
Other Food stuffs	27.9	57.8	84.3	102.0	131.5	152.5
Fuel	17.7	37.4	54.6	66.0	85.1	98.8
Bldg. Materials	4.9	11.2	16.3	19.7	25.4	29.9
Other	43.1	85.4	124.6	150.7	194.3	225.5
Total	284.1	584.6	853.2	1,032.1	1,330.7	1,544.0
Less anticipated traffic diversion	Nil.	Nil.	Nil.	51.6	133.0	231.6
Total (Revised)	284.1	584.6	853.2	980.5	1,197.7	1,312.4
FORECAST OF CARGO HANDLED						
June	545.1	684.5	999.3	1,209.0	1,558.8	1,807.9
Food grains	99.9	113.2	154.0	190.7	244.1	290.4
Other food stuffs	144.8	68.5	97.0	118.5	152.3	178.5
Fuel	127.1	149.6	188.1	239.5	304.0	372.4
Bldg. Materials	44.4	154.2	186.4	240.8	304.3	378.2
Other	106.2	194.1	253.9	318.7	406.3	490.5
Total	1,067.5	1,364.1	1,878.7	2,317.2	2,969.8	3,517.9
Less anticipate traffic diversion.	Nil.	Nil.	Nil.	115.9	297.0	527.7
Total (Revised)	1,067.5	1,364.1	1,878.7	2,201.3	2,672.8	2,990.2

Source : Same as Table -34.

4.D.5.5. FUTURE GOVERNMENT INCOME.

The past trends of state income, as presented in the table Nos. 25, 26, 27, 28, 29 and Annexure - C, Table 1 and 2 clearly indicate a gradual rising tendency. There are every reasons to believe that these trends, will continue in future.

4.D.5.6. FUTURE OUTPUT OF INDUSTRIES.

Though, industries in Bangladesh have faced serious trouble after liberation war, the momentum in production activities seems to have been gaining. Moreover in the first five year plan, an investment of Tk. 104.80 crores or 11.71% of industrial investment has been meant for "Modernisation and replacement along with reconstruction and rehabilitation of the industrial assets".¹¹

Sub sector jute received Tk. 4.924 crores (3.24%) for on-going industry out of sectoral investments, while Tk. 8.440 crores was placed for new industrial development under sub sector of jute. Similarly, textile sub sector received Tk. 16.00 crores (10.52%) for on-going industry out of sectoral investments, while Tk. 80.50 crores was placed for new industrial development under sub sector of textile industry. (refer FFYP).

Development and rehabilitation programme have already been started in the industrial sector, including industries in Narayanganj. Therefore, reasonably one can hope that industrial set-back, if any, will very soon be recovered and productivity in this sector will rise utilizing full capacity for employment as well as for generating new capital and greater employment opportunities.

¹¹ Planning Commission, Government of Bangladesh, The First Five Year Plan, 1973-78.

However, since Bangladesh is in the midst of Planning experiments and since our economic planning are trying to replace the old pattern by new approaches, there is little justification to predict long term perspectives.

However two important factors which are essential for determining future urban economic activities are :

- (i) employment
- (ii) per capita Income.

4.D.5.7. FUTURE EMPLOYMENT OF OPPORTUNITIES.

The development of employment opportunities will directly affect the population which can be expected to settle in the urban area. (assuming that population of an urban area is largely the result of work opportunities). There are many methods for estimating employment of which "Ratio of Employment to population"¹² is one. Unless otherwise specified, employment includes that occurring in all forms of industry and commerce.

Ratio of Employment to Population.

In this method, the ratio between the future employment and population is kept the same as between the present employment and population.

12. Irving : Hoch, Forecasting Economic Activity for the Chicago Region: Final Report.
(Chicago Area Transportation Study,
May 15, 1959) pp., 4,5.

Table - 36

PROJECTED NUMBERS OF EMPLOYMENT IN NARAYANGANJ CITY.

<u>Year</u>	<u>Number</u>
1980	1,42,871
1985	1,73,992
1990	2,11,892
1995	2,58,047
2000	3,14,256

Computed from table 46, Economic Activity of population for Cities and Selected Towns, District census report, Dacca, 1961 p.IV. 158 and from table - 10 in this study.

4.D.5.8. FUTURE PER CAPITA INCOME.

One readily observed trend in the economy is the steadily rising individual worker's productivity. This means higher real wages to him and greater output to his employer. As a result of this, each person (or family) will have a greater income, which will tend to promote greater expenditures, (assuming that the ratio of expenditure to income remains nearly constant).

With greater per capita income and expenditure, spending patterns will change, with smaller proportions of personal income expected to be spent on the necessities (food, housing, utilities, medical expenses) in the future. This means greater proportional expenditures on other items (furniture, household operation and equipment, clothing, education, recreation and transportation.)¹³

-
13. "Budget Study" data consisting of records of personal expenditures made by a representative urban area sample of consumer units over a particular time period will reveal this trend.

The per capita income in 1960 for this part of the country was Tk. 269. It was than the objective of the Government to increase per capita income to Tk. 940 by the end of the country's prospective plan i.e. by 1985.¹⁴ An increase in per capita income from Tk. 269 to Tk. 940 over a period of 25 years is equivalent to an annual compound rate of growth of roughly 5%.

Table - 37

BANGLADESH: PER CAPITA INCOME GROWTH.

Year	Per Capita Income	Growth Index 1970 = 100
1960	269	-
1970	438	100
1975	559	128
1980	714	163
1985	940	208

A per capita growth of 5% per annum together with an annual population growth of 2.6% indicates the regional income growth rate over the period of about 7.6% annually.

4.E. LAND USE OF NARAYANGANJ CITY.4.E.1. INTRODUCTION.

Unlike most of the rivers of Bangladesh, the river Shitalakhya and hence flows between the high banks/Narayanganj town and Adanjee (partly) have escaped the fate that generally be fall most of the towns on delta region and has neither been washed away nor left high and dry a mile or more from a navigable river.

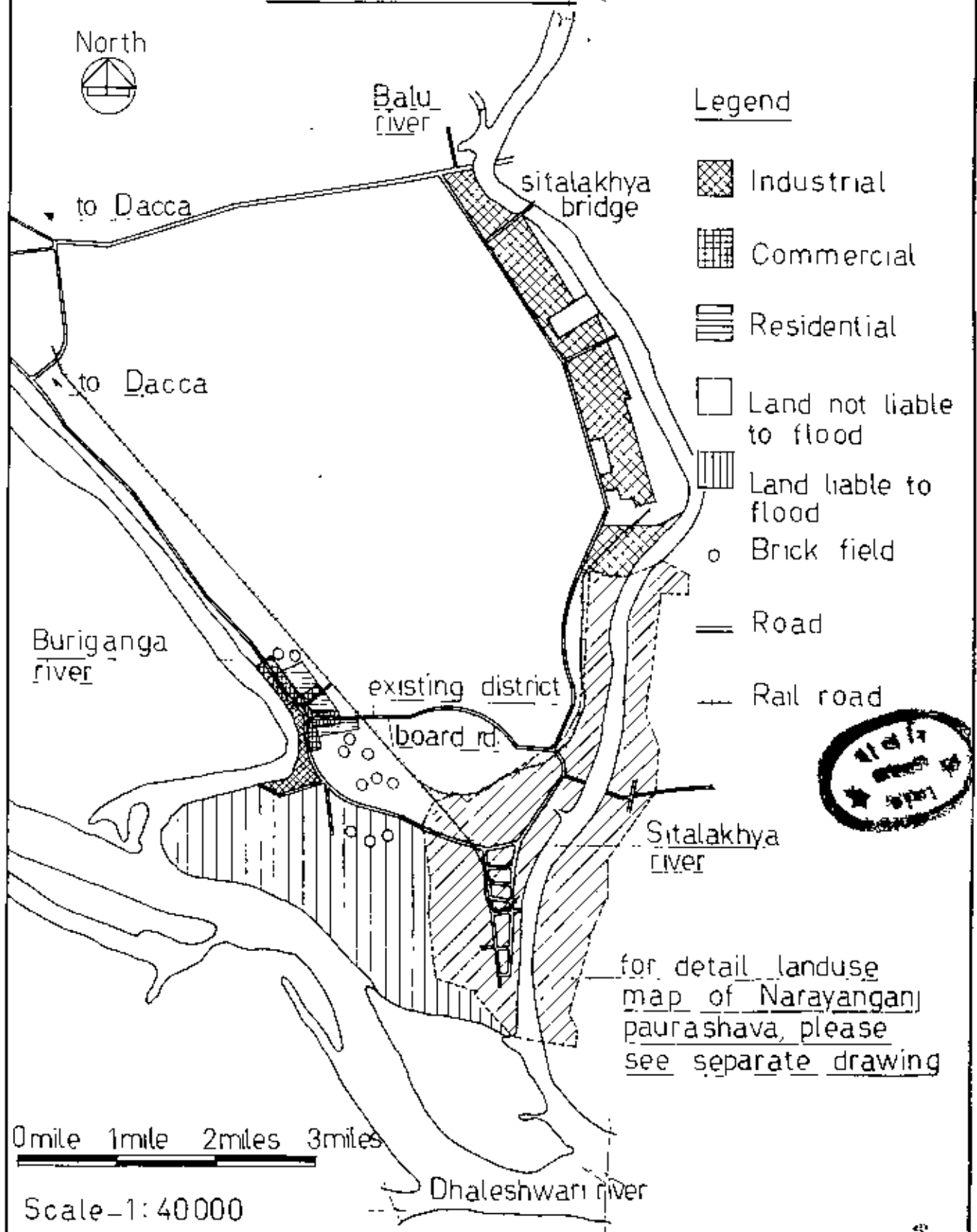
14. Government of Pakistan, Outline of the Third Five Year Plan 1965-70, Karachi, June 1965, also Pakistan Economic Survey 1964-65, (the objectives of this plan were also adopted for subsequent plans).

Rivers Buriganga and Shitalakhya are the main dominating features of Narayanganj city. Fatullah urban is situated on the East bank of the river Buriganga while Narayanganj is spread over both the banks of the river Shitalakhya. Adanjee urban, the industrial hub of the city, is situated on the west bank of Shitalakhya. The normal flows of these channels are not very wide. Narayanganj - Dacca highway running parallel to the river, which is also a part of embankment of D.N.D. Project, divides the Fatullah urban into two. The Northern part of Fatullah is saved from flooding during the monsoon by the road cum embankment, while the comparatively low area on the river side part of Fatulla urban is flooded during monsoon. The areas lying in between Fatulla and Narayanganj are mainly low lying areas at 3 to 10 feet depth from road level. The southern part of this area is flooded while the northern part, being within D.N.D. area, is saved during monsoon flooding. Though the area is predominantly agricultural in character, brick fields are also seen in operation during winter season. Continued operation of these brick fields requiring excavation of earth has created large areas forming stagnant water bodies.

Narayanganj town has the river Shitalakhya as main physical barrier confining herself into the two narrow strips on the high eastern and western banks of the river. The Western part, having direct link with the capital city have much higher intensity in land use. Major Khals, nallas and water bodies within the built-up area of Western part of Narayanganj have been filled up by public organizations. Yet then, innumerable ponds can be seen within the town which suggest that these were required to be excavated for raised platforms of the households which can be easily reclaimed.

Adanjee Urban, which is further North of Narayanganj proper, is spread over the Western bank of Shitalakhya river, mainly as an industrial belt. The navigational facility of the river throughout the year, it's centrality of location, promoted this area as important industrial belt of the country. The construction of the

EXISTING LANDUSE MAP OF
NARAYANGANJ CITY



bridge on Skitalakiya, further up of Adanjee industrial belt, is a major change in landuse of the area. It will diversify the existing use of land on both the sides of the river.

It has also been found that all the suitable land within the town have been exhausted to the saturation point accommodating unbearable population per acre of buildable land. The situation is worse in the old central area of Narayangonj Paurashava.

The area under Narayangonj Paurashava has been enhanced twice since it's creation, once on 11th July 1902 covering 4.5 sq. miles¹⁵ and lastly, on 30th January 1947, covering 7.5 sq. miles.¹⁶ The Adanjee urban, though was created in 1961, nearby places such as Kanchan, Shiddengonj as well as Fatulla have been declared as urban centres only in 1974. For the purpose of this study, few nearby places, not included in the declared urban centres as mentioned above, but having been under direct influences of them, have been considered as part of greater city of Narayangonj. These places consisting of agricultural land seem that if they are not brought under control now, will give way for slum development in future under population pressure.

Narayanganj City was thus conceived of having an area of 17 squaremiles. Of this, 7.5 sq.miles in Narayangonj Paurashava was under extensive use of different categories. Detail land uses of the city area were surveyed and areas under different categories were tabulated (Annexure - E, Table- 1).

-
15. No. 1332 T.N. the 11th July, 1902 vide notification No. 1530M, dated 1st April 1902 at pages 77-78, part 1B of Calcutta Gazette.
16. No. L.S.G. 407/46/1M-16th January 1947 vide, The Calcutta Gazette, January 30th, 1947. (Department of Health and Local Self Government).

EXISTING LANDUSE MAP
OF NARAYANGANJ TOWN



Narayanganj-
Adamjee road











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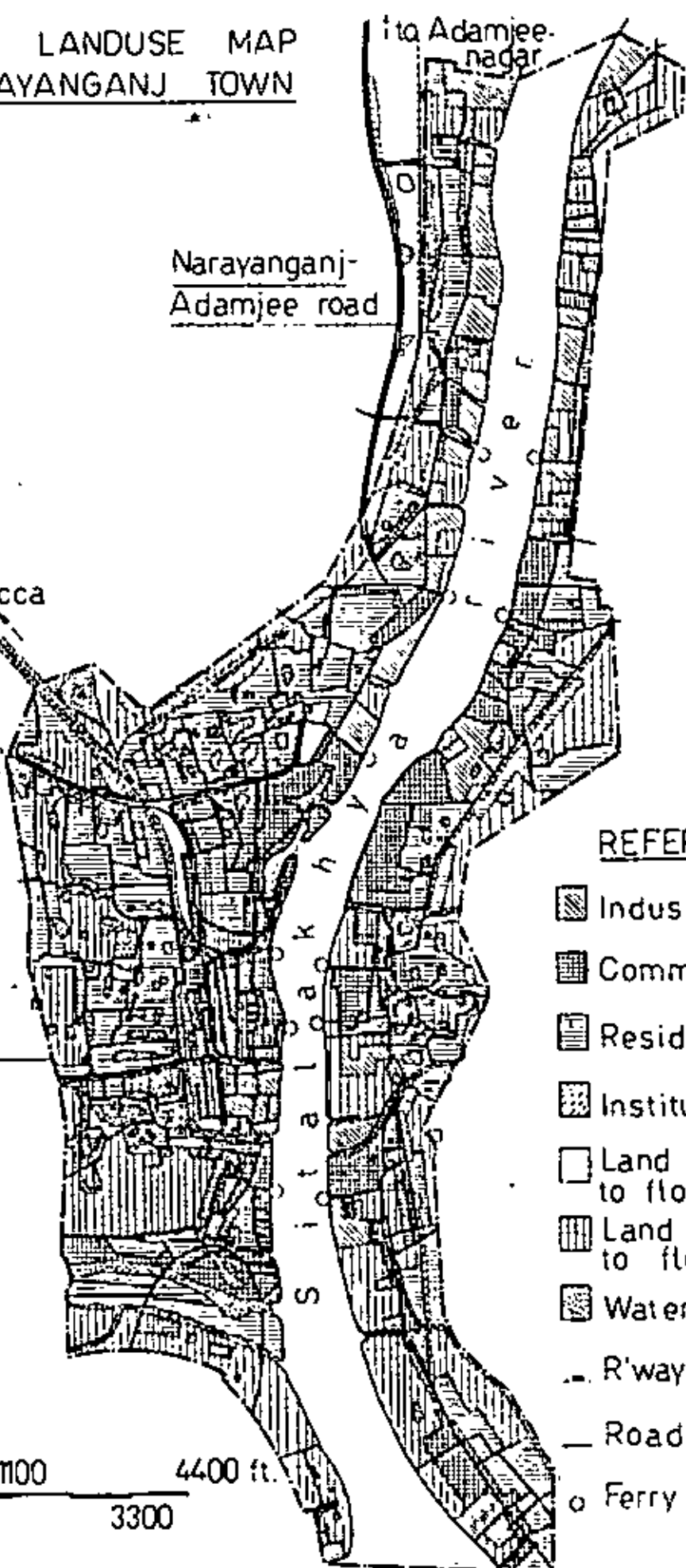
Paurashava
boundary

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REFERENCE

-  Industrial.
-  Commercial.
-  Residential.
-  Institutional.
-  Land not liable to flood.
-  Land liable to flood.
-  Water bodies.
-  R'way station.
-  Roads
-  Ferry ghat.

0 1100 4400 ft.
3300



4.E.2. INDUSTRIAL LAND USE.

The industrial belt on the Western bank of the river Shitalakhya in Amanjee Nagar and nearby areas were developed at the beginning of early sixties. Mainly large scale industries were established in this belt taking the opportunity of 'throughout the year' navigable river and nearby Dacca - Chittagong High way. There was planned development of the belt because allocation of land was done by government agencies. The main industries here were found to be jute and textile. 1,249 acres or 55.76% of land in this industrial belt is devoted to industries indicating considerable scope of further expansion of industrial development there. (Annexure - E, Table - 1). This constituted 11.48% of land of the whole city. Narayanganj Paurashava has 640 acres or 13.36% of its area under industrial use constituting 5.38% of land of the whole city. These industries are mainly at the North of the Paurashava area on the banks of the river. Some other industries though, scattered throughout the Paurashava area, are mainly concentrated along the two banks of river. Medium, heavy and light industries have found their ways inside the blighted area of the Paurashava. Fatulla has few medium type of industries along the bank of Suriganga river.

4.E.3. COMMERCIAL LAND USE.

Narayanganj's central Business District, commercial and financial centres are of unique character. As in Western cities, they are not concentrated in few blocks. Instead it has the linear form spreading over a distance of more than three miles along the Western bank of the river. It started from the southern most part of the Paurashava area, continuously extending towards north upto Kalirbazar. The width of this stretch of land is approximately $\frac{1}{2}$ to $\frac{3}{4}$ of a mile from the Western river bank up to the Bangabandhu Avenue. This is an earlier development and hence most densest. Except Kalirbazar, which is located at the north-west of Railway station, all other areas are devoted to whole sale trade. Nayamati and part of Tanbazar are mostly dominated



NARAYANGANJ
THE PORT
CITY

sheet 1 of 3

to narsingdi

marine diesel
training centre

LAKHYA RIVER

kashipur khal.

* jute
godown

source

Bangladesh Transport
Survey

Inventory of transport
facilities: vol 7

bidc.
bdrs

dock
terminal
bdrs

terminal
bldg.

NARAYANGANJ

ralli bro
ltd.
* jute

biwta
itwa

zerry
biwta bdrs.

** c.s.d
* jute

c.s.d
bdrs

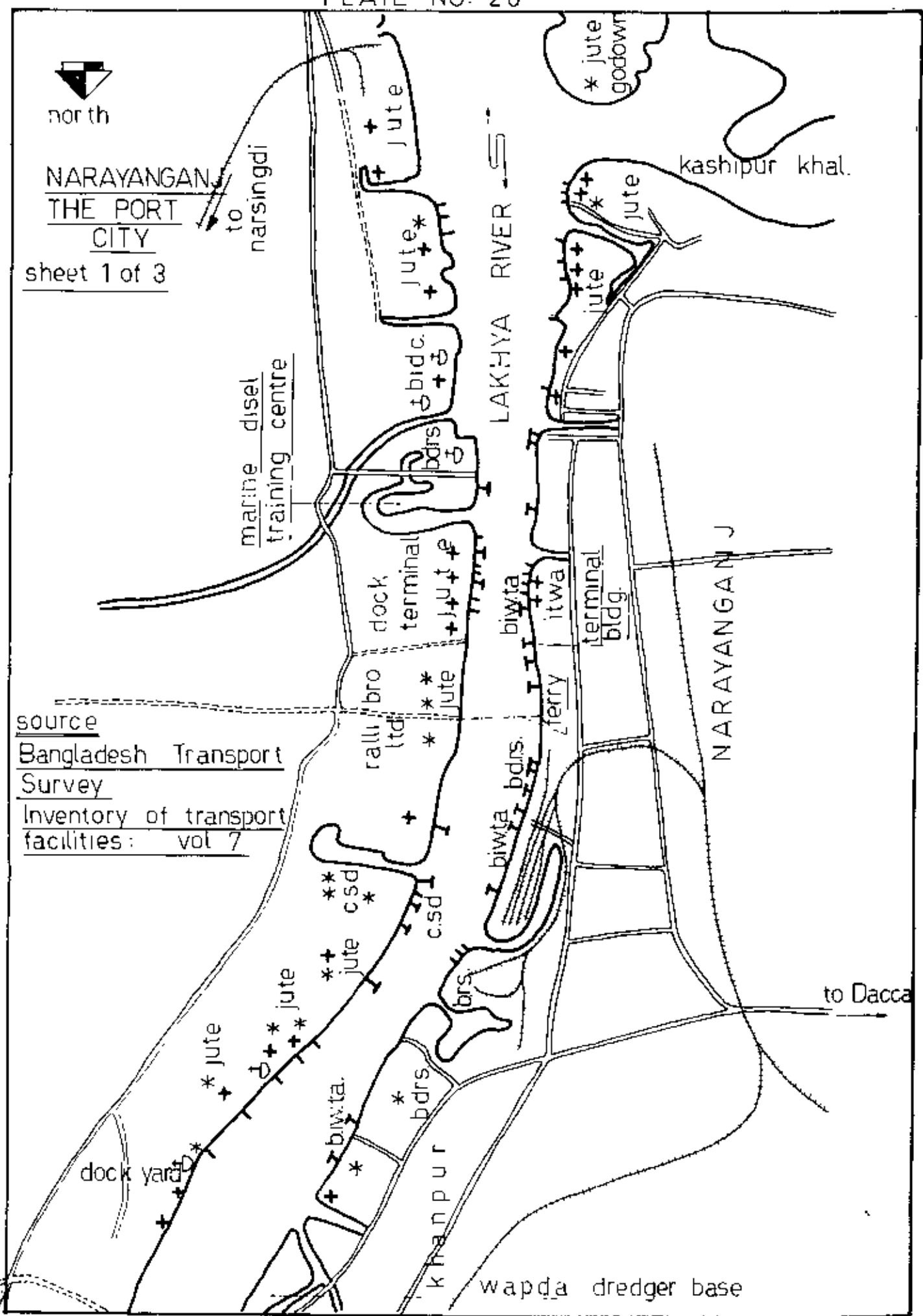
to Dacca

dock yard

biwta.
* bdrs

khanpur

wapda dredger base



by Hosiery manufacturing industry and it's whole sale trade. Banks, Government Offices and other Public and Private Agencies have found their ways on this strip of commercial land along the Eastern part of 100 ft. wide Bangabandhu Avenue running North-South. Some commercial activities in D.I.T. market on the Western side of this Avenue are too negligible. In other words, all major business and commercial activities are concentrated on this strip of land at southern part of Narayanganj Paurashava but confined in between the Western bank of river Shitalakhya and Bangabandhu Avenue.

Within this concentrated commercial area, there are three market places; namely Machhabazar at the south, Digbabur bazar, approximately in the middle and Kalirbazar at the north. In fact these are the only main markets for general provisions and household consumptions. All the structures within this thin belt of commercial area are considerably old, having an average height of two storeys. They are approached by narrow roads and lanes having maximum width of 20 to 25 ft. and minimum of 10 to 12 ft. Before the construction of Bangabandhu Avenue, the road running from New Metro Cinema upto Tambazar, having a width of 20 to 25 ft. used to be the main road. The rest are usually of 12 ft. width. Most of the traffic on these roads, lanes are composed of pedal Rickshaws and pedestrians.

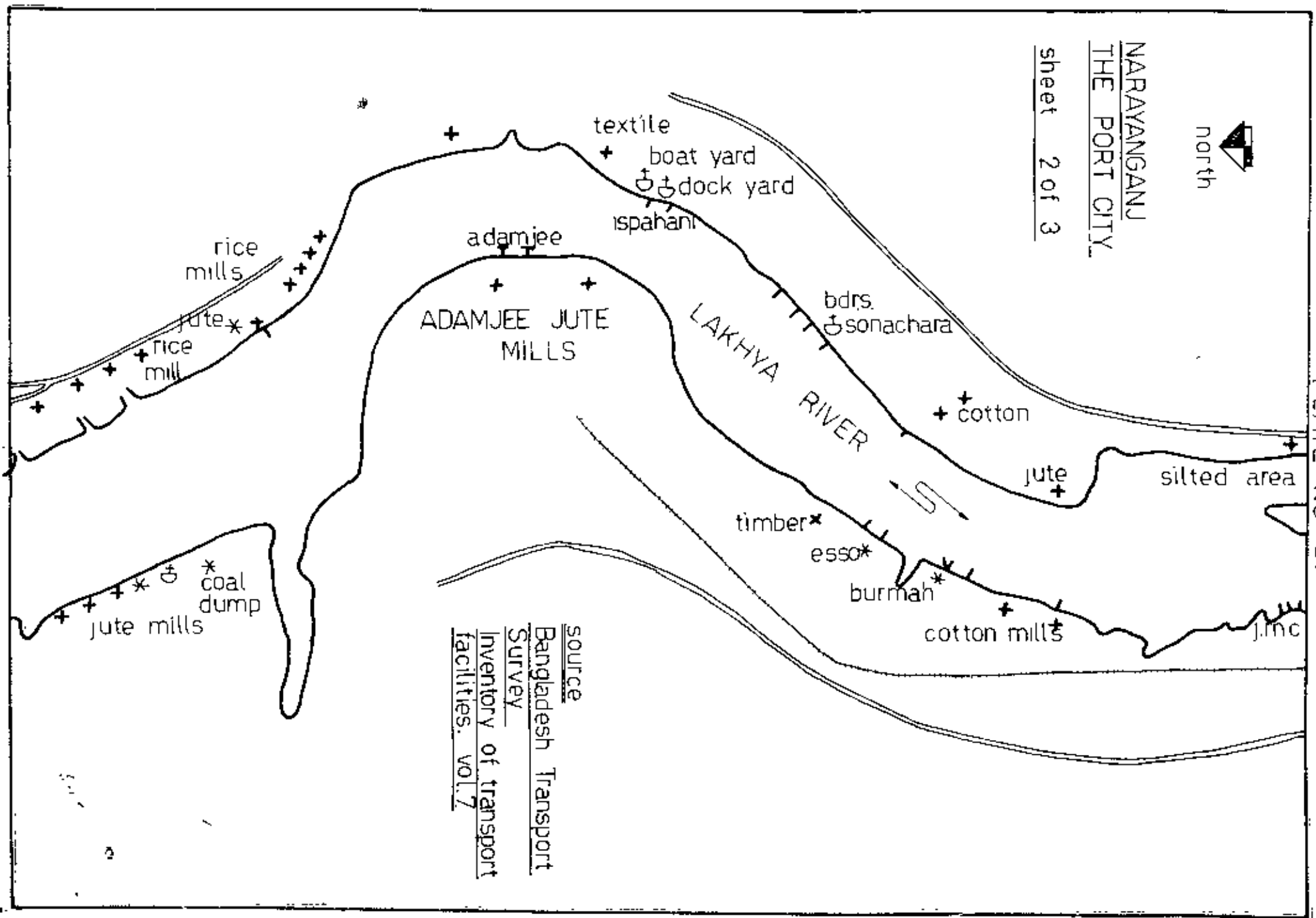
Besides this, the rest of the areas under Paurashava are either residential or vacant land liable to flood. It is interesting to note that on the Eastern Bank of the river, except for few industrial and commercial uses, all areas are devoted to middle and low income residential purposes. All the public and private agencies seemed to have fought enough to find places for their offices, residences etc. on the Western bank of the river or else where though making regular journeys to the Eastern bank for work or for their main interests. Even, city fathers seem to be satisfied not having a branch office of the Paurashava on the Eastern bank. The main road running from Bandar towards North and other few miles of roads at Nabiganj on the Eastern



NARAYANGANJ
THE PORT CITY.

sheet 2 of 3

PLATE NO. 21



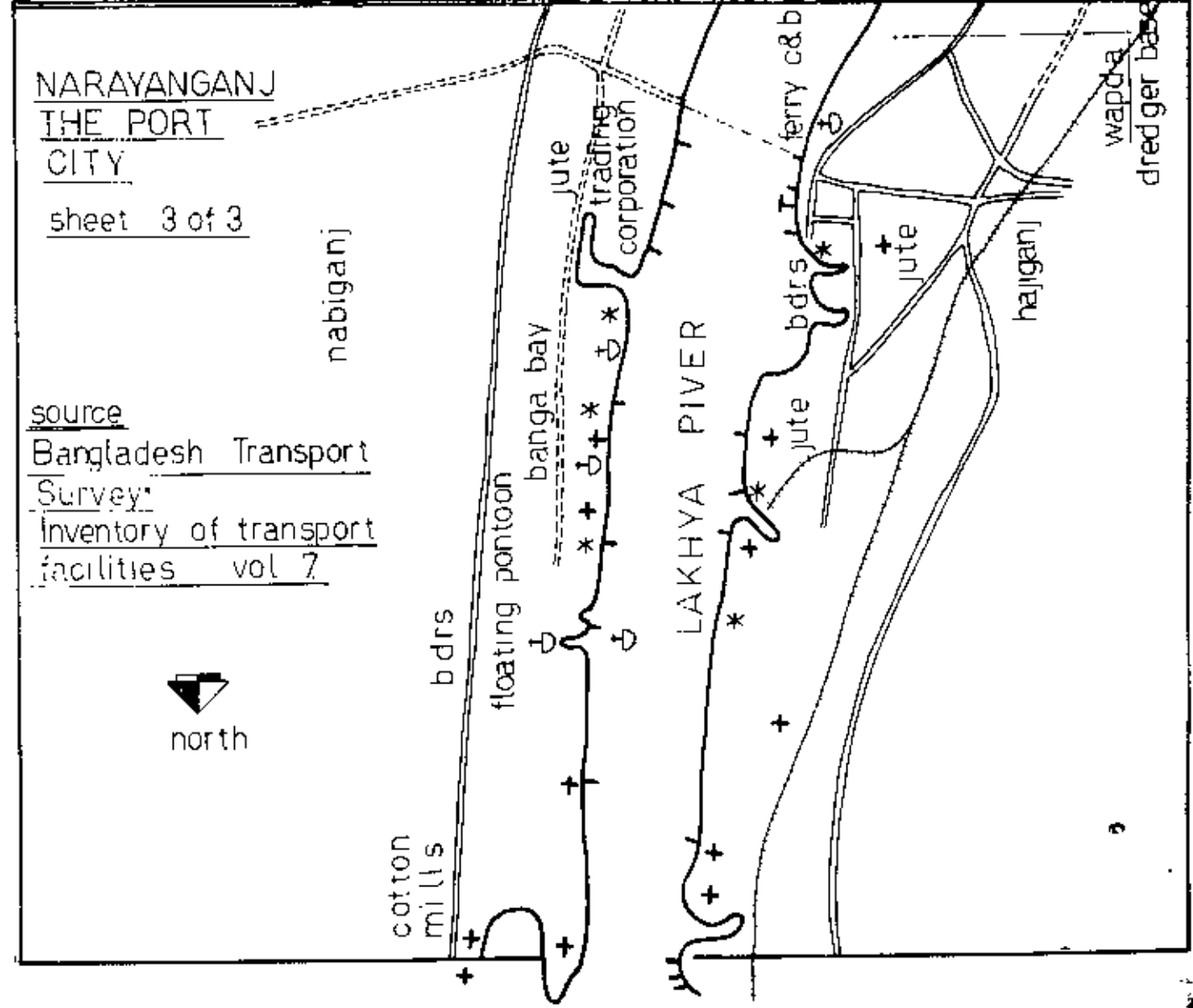
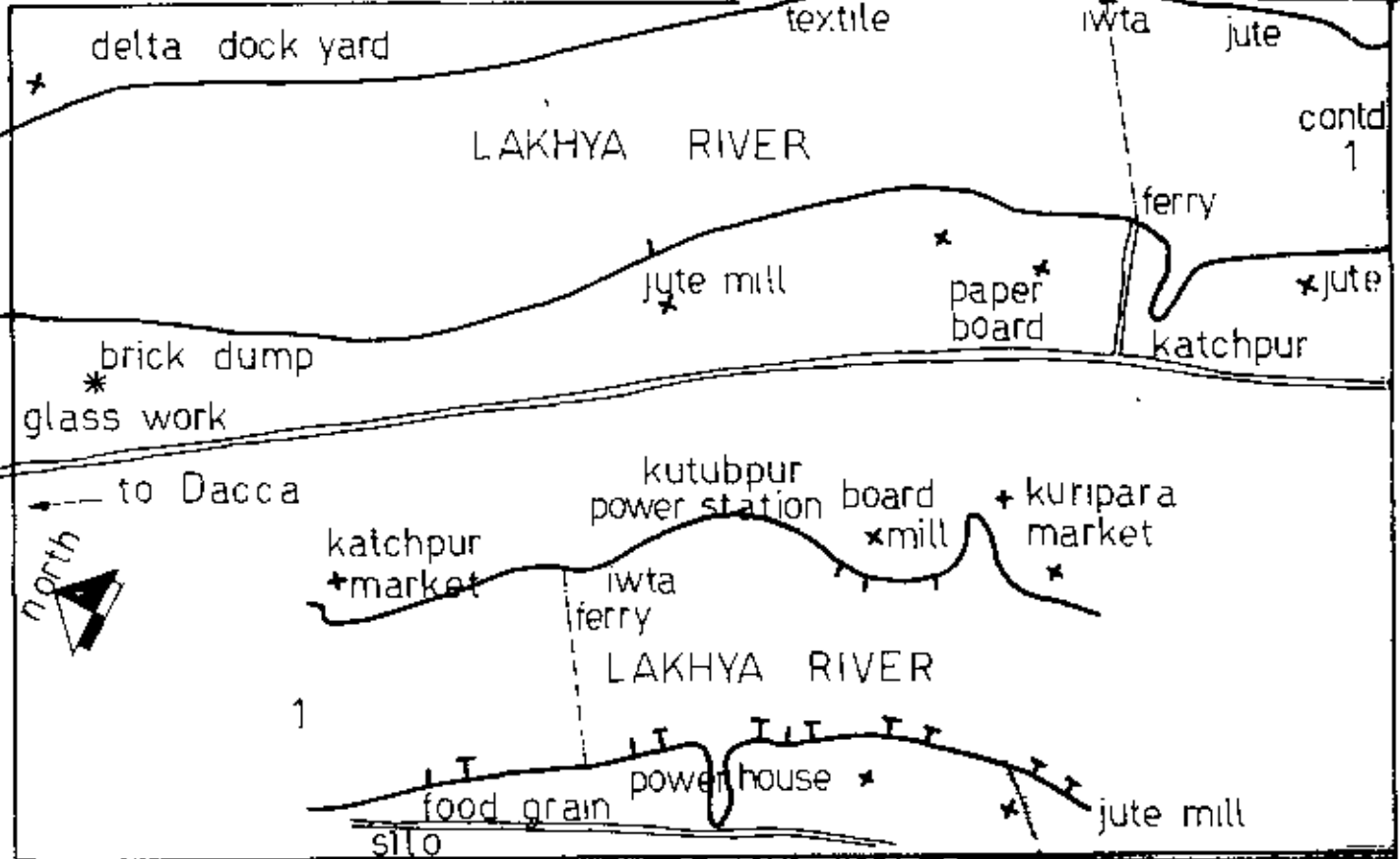
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Bangladesh Transport
Survey
Inventry of transport
facilities. vol. 7

part of the town are of 12 ft. width. Only traffic there, are Rickshawa, cycles and pedestrians (total absence of vehicular traffic). Due to physical barrier of the river, this part could not develop satisfactory land uses. D.I.T. had covered this area into its master plan, and accordingly, though it had drawn it's master plan showing different areas of land for different uses, it did neither enforce the plan, nor put any check to stop these areas being developed as they liked.

An area of 520 acres i.e. 10.83% of land of Narayanganj Paurashava constituting 4.78% of land of whole city is devoted to commercial use. Fatulla region has 42 acres or 1.09% of its land constituting 0.38% land of whole city as commercial area, mainly situated along the bank of Buriganj river and on either side of Dacca - Narayanganj High way. In contrast, Adanjee Industrial belt has no specific commercial area as such.

4.E.4. RESIDENTIAL LAND USE.

Narayanganj took a linear shape in post-partition period along the river banks of Shitalakhyt, spreading sporadically. Most of the development has been unplanned and uncoordinated. There were no proper distribution of work centres in relation to residential developments. Naturally, therefore, numerous inconveniences and planning problems have been created, such as transportation, inadequacy of roads, traffic hazards and delays etc. Presently there is no high class residential area in Narayanganj city. 1900 acres i.e. 39.54% land of the Paurashava or 17.46% land of the whole city is devoted to residential purpose in Narayanganj Paurashava while these figures for Adanjee Industrial belt are 89.60 acres or 4% and 0.82% respectively. Fatulla urban has 298 areas or 7.76% of its area and 2.74% of the whole city area under residential use.



source
Bangladesh Transport Survey
Inventory of transport facilities vol 7



north

However following various aspects of housing and environmental living were found out by a socio-economic survey conducted in August 1977 covering the entire area of Narayanganj city.

(i) Plot Size.

Various plot sizes used for residential purpose in different parts of Narayanganj city are presented in Annexure -E, Table 2 and 2a. Table 2 shows the plot sizes as percent of plots in each area while table 2a shows plot sizes as percent of total number of plots surveyed. All the 14 areas in the city recorded to have plot sizes of less than 2,160 sft. Out of these 14 areas, 10 areas recorded to have such plots size, which constituted more than 50% of all different plot sizes in each area. Hajiganj union had highest percentage (83.35%) of less than 2,160 sft. plots while Fatulla had lowest percentage (30.60%) of such plots with respect to all the plot sizes considered in the respective areas. Similarly, on the other hand, Bandar union recorded having 3.19% (highest) of 14,400 sft. plots, while Hajiganj union recorded to have only 1.66% (lowest) of such plots. Godnail union revealed having no plots of more than 5,400 sft.

(ii) Living Spaces.

Different categories of living spaces and their distribution in different areas in Narayanganj city are presented in Annexure-E, Table 3 and 3a. Godnail union recorded to have highest percentage (80.02%) of living spaces of less than 200 sft. among all the categories of living spaces there, while Shitalakhya union shared lowest (2.22%) for the same. Similarly for living spaces having an area of 1,500 sft. and above, Shitalakhya union recorded highest percentage (40.00%) while Narayanganj union recorded lowest percentage (10.17%) in their respective areas. Within the city, living spaces of less than 200 sft. constituted 28.60% (highest), while living spaces of 1,500 sft. and above constituted only 9.04% (lowest).

(iii) Open Spaces.

Different categories of open spaces as were found in different areas of the city are presented in Annexure - E, Table - 4 and 4a. Godnail union had 'no open spaces' which constituted 11.12% of all the categories of open spaces there, while this figure in Paikpara and Deobogh union were 4.25% and 2.50% respectively. Majority of the open space recorded to be within the range of 0-1000 sq. ft. Hajiganj had 5% of its open spaces classified as 10,000 sq. ft and above. Table 4(a) revealed that, throughout the city, the range of open space between 0-1,000 sq. ft. dominated having the highest percentage (66.09%), while open space of 10,000 sq. ft. and above recorded lowest percentage (1.15%).

(iv) Number of Stories.

The land was being used for different heights in the city by permanent and temporary structures. There were two categories of structures: (a) permanent (b) semi-permanent and temporary structures.

The second category, being single storied, dominated the whole city. Sonakanda union had highest percentage (92.32%) of 2nd category structure among all the structures there while Paikpara union had lowest percentage (59.56%) for the same. (Annexure -E, Table - 5). As regards permanent structures, single storey dominated all the unions of the city. Paikpara union had the highest percentage of single storied building (29.81%) among all permanent buildings there, while Sonakanda union had the lowest percentage (3.84%) for the same. Only Deobogh union (5.00%), Shitalakhya union (4.44%), Narayanraj union (4.17%) and Paikpara union (2.22%) had three storied buildings. For the whole city, semi-permanent and temporary structures accounted for 76.06%, while , one, two and three storied structures were recorded as 18.30%, 4.71% and 0.93% respectively.

(v) Age of the Structures.

All types of structures were grouped to indicate their ages in years ranging from 0 to 100 having 10 years interval. (Annexure-E, Table - 6 and 6a). The age of structure in most of the areas were upto 6 years. Only Deobogh union (1.25%) and Narayanganj union (1.17%) had structures having age range of 91 to 100 years. All the areas showed recent development (0 to 10 years). Fatulla recorded 43.09% of structures within age range of 0 to 10 years among all the structures there while Chashara union recorded 10.23% within this age range. The overall picture of the city showed that structures having age range of 0 to 10 years accounted for 30.53%, 51 to 60 years of age range accounted for 2.27% and 91 to 100 years age range accounted for 0.30%.

(vi) Approximate Price of Structures.

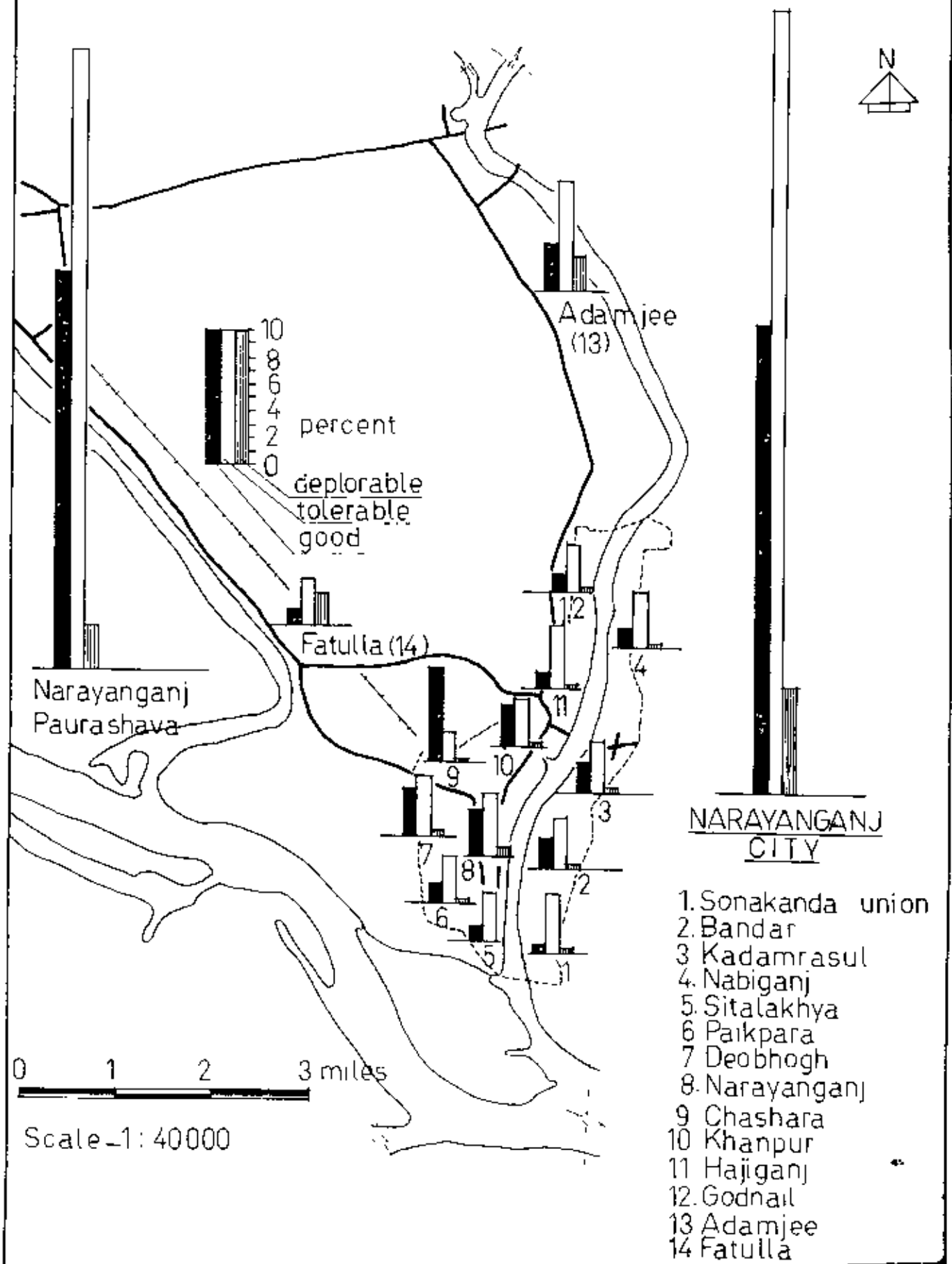
The prices of structures, mainly varied within the range of Taka 5 to 30 thousand. (Annexure-E, Table 7 and 7a). Shitalakhya (8.88%), Paikpara (4.25%), Narayanganj (3.52%) and Deobogh Union (2.50%) had structures valued at more than Taka 100 thousand among all the structures within each of these areas. All areas recorded having structures valued at less than Tk. 5,000. Within the city, value of structures at less than Tk. 5,000 and within the range of Taka 5 to 10 thousand accounted for more than 50% of the structures (Table - 7a).

(vii) Condition of the Structures.

Three classifications for conditions of structures such as 'Good', 'Tolerable' and 'Deplorable' were considered (Annexure-E, Table- 8). Percentage of different classifications as against each area and against whole city were worked out. Fatulla had the highest percentage (34.73%) of 'deplorable' structures among all the structures there while in contrast, Chashara union had highest percentage (76.15%) of 'Good' structures. Most of

CONDITION OF THE STRUCTURES

(shown as percent of the total number of sample structures)



the structures in each area recorded to be tolerable. Within the whole city, 34.41%, 57.73% and 7.86% were recorded to be 'Good', 'Tolerable' and 'Deplorable' respectively.

(viii) Building Materials used in Structures.

Structures were divided into three parts, such as, Roof, Wall and Floor. For Roof -- Concrete, Tin and Thatch, for Wall - Brick, Tin, Thatch and for Floor - Brick, Mud and Wood were considered as building materials out of which they were constructed. Different materials used for different parts of structures have been tabulated (Annexure -E, Table 9 and 9a). For roofing materials mostly tin was used in all areas, and for wall, both Brick and Tin were used while for floor, mostly bricks were used. Throughout the city, Tin roof constituted 72.19%, Tin wall constituted 40.31% and Mud floor constituted 50.51%, all being highest-percentage among building materials used for all the roofs, walls and floors surveyed within the city.

(ix) Categories of Structures.

Structures in the city were classified according to the materials used: (a) full brick, (b) Brick and Tin, (c) Tin and (d) Tin and Thatch.

All areas had structures having been made of C.I. Sheet (tin). (Annexure-E, Table 10). Narayanganj union recorded to have highest percentage (44.70%) of tin structure out of all structures there, while Paikpara union recorded lowest percentage (21.27%). In case of structures of full brick, Khanpur union recorded highest percentage (46.27%), while Hajiganj union recorded lowest percentage (5.00%). Through out the city, Tin structure constituted the highest percentage (36.39%) while full brick constituted 25.15%. Brick - Tin and Tin - Thatch type of structure were recorded as 14.74% and 21.46% respectively in the city. Narayanganj city was thus found to be dominated by semi-permanent, kutcha and single storied pucca structures.

(x) House Ownership Pattern.

For this purpose, classifications of house ownership were made as follows :

- (a) Owner
- (b) Tenant.

Classification of Tenant was further sub-divided as

- (b/i) Private Tenant and
- (b/ii) Public tenant.

House ownership pattern as recorded from field survey was tabulated in Annexure - E, Table - 11. It seems that all the areas had considerable percentage of 'owners'. Bandar union recorded to have highest percentage (91.82%) of owner while Godnail union had lowest percentage (22.22%) within the respective areas. Public housing, as against total houses in each area was also tabulated. Godnail union recorded highest percentage (66.66%) while Bandar union recorded lowest percentage (3.27%). It was interesting to note that Fatulla recorded no public housing at all. The overall picture of the city represented 'owner' to be 66.19%, Tenant (private) 23.48% and Tenant (public) 10.33%. This implies that there is drastic shortage of public housing.

(xi) Rental Structure.

Godnail union recorded 77.78% (highest) of rented houses among all houses there, while Bandar union had only 5% (lowest) of such houses (Annexure -E, Table - 12 and 12a). 52.88% of structures (highest) were rented at less than Taka 100/- per month while 1.55% (lowest) were rented within the highest considered range of Taka 500 to 1,000/- per month. (Table - 12a). There was however no houses recording rent above Tk. 1,000/- per month. It indicates that there are cheap rental structure in Narayanganj and the landuses are gradually converting the city areas into slums.

(xii) Duration of living.

Considerably high percentage of heads of the families were staying in respective areas for more than 10 years. Within the city, 72.56% of heads were staying there for more than 10 years while only 1.23% were staying for 0 to 2 years. This was due to the existing ownership pattern. (Annexure - E, Table - 13).

(xiii) Changes of Residences.

Change of residences within last 10 years by heads of the family were studied and tabulated. (Annexure - E, Table - 14). It was found that in each area, quite a high percentage of heads of the families did not change their places of residences. They constituted 80.79% in the whole city, while only 1.99% changed their residences for more than three times. This was due to high percentage of owners living in their own houses in the city. In other words fragmentation of holdings were and would be quite substantial in the city area in coming years due to inheritance of property by share holders. This will adversely effect the land use specially in residential area. However such gradual break down of total holdings in Narayanganj Paurashava from 9,320 in 1973-74 to 9,629 in 1976-77, recording a variation of 3.31% in 3 years, were found out. (Annexure - E, Table - 15).

(xiv) Satisfaction of living.

95.03% of the city's heads of the families replied to be satisfied in residing at the present localities. (Annexure -E, Table - 16). In certain areas 100% were satisfied in staying there. The obvious reasons for satisfaction were the ownership of the houses and low rent.

4.E.5. EDUCATIONAL, MEDICAL AND OTHER INSTITUTIONAL FACILITIES.

Survey recorded two colleges and one professional institute, in the city. There were eight high schools, four for boys and

four for girls, scattered over the area. All these facilities were mainly located on the western part of Narayanganj town. Out of total 226 free Primary schools, 57.62% were located on West bank, 28.17% on East bank, 8.57% in Fatulla and 5.64% in Adanjee industrial belt. These facilities, under no criteria of Judgment were upto any standard. There were no ancillary facilities such as playing ground etc. Primary schools were in worse conditions, having been accommodated within two or three small size rooms. This would be a dream for those small kids to have any play ground or hardly any open space. It was thus not astonishing to find that all these were being accommodated within 16.69 acres of land constituting only 0.15% of total area of the city.

Education at the Primary and Higher Secondary stages in Narayanganj were rather unorganized because the distribution of schools in the city were not based on any rational or planned manner.

4.E.6. HOSPITAL.

There was only one Government Hospital located near Paurashava office on Bangabandhu Avenue. The hospital which was established in British period found no way to expand because of non-availability of land. Paurashava established two or three dispensaries within its jurisdiction but all were inadequate to meet the growing need. The nationalized industries have their own medical consultants to attend the workers and staff, instead of any area being utilized as regular hospital/dispensaries.

4.E.7. LAND NOT LIABLE TO FLOOD.

Throughout the city, there were only 13.11% (1,426.80 acres) vacant land not liable to flood. Of this, 1.44% (156.80 acres) was in Adanjee industrial belt, 0.09% (40 acres) in Narayanganj Paurashava and 11.58% (1,260 acres) in Fatulla.

4.E.8. LAND LIABLE TO FLOOD.

A considerable areage of land in Narayanganj city were found to be liable to flood (38.19%). Narayanganj Paurashava, Adanjeer Industrial belt and Fatulla had 13.79%, 5.97% and 18.45% of land respectively under this catagory.

4.E.9. WATER BODIES.

Water bodies were created mainly due to requirement of earth for filling up land for several purposes. All the ponds within the city thus contributed towards developnent of land so as to save the land from flood water. Waterbodies in the city consti-tuted 277.14 acres or 2.56% of total acreage.

4.E.10. OTHER USES.

This catagory was composed of roads, water-works plants, pumping stations poultry firm, grave yard etc. having an area of 235.15 acres (2.15%) of land within city. It may be mentioned here that environmental condition of living in Narayanganj city was very poor. Though there was a so called drainage system in Narayanganj Paurashava area, none other areas were found to have any such system. Fatulla and some remote places of Narayanganj Paurashava did not have any tapped water while Adanjeer area had their own industrial water supply mainly from the river intakes. Nowhere in the city area had gas connection, though work on this seemed to be in progress in selected areas during survey period. Sewerage disposal system by WASA was completely absent in the city. Electricity, though, was available within the city area for indoor lighting and other purposes, few poor areas could not afford this opportunity of indoor lighting.

4.E.11. FUTURE LANDUSE OF NARAYANGANJ.

In forecasting the distribution of future landuse, it is necessary to consider the kind of activity, intensity of site uses,

and location of future land use and easiness in movement within urban environment. This forecast can be considered as a distributional problem in which the aggregate population and the future job opportunities are distributed in small area.

Four principal factors affect land development patterns. These are :

- (a) Topography
- (b) Population
- (c) Building costs and
- (d) Level of services provided by the transportation network.

It is expected that these influences will be operative in future in Narayanganj Urban area. But the relative importance of any one of these may vary from it's present importance.

Topography cannot be expected to change substantially. Man's ability to alter topographic features has favourably changed, especially with respect to filling in swamps, crossing rivers by bridges, modifying river ways etc. Significant site features, such as large water bodies, depressed land etc. if not changed, urban area development will continue to be influenced by these topographic features in much the same manner in the future, as in the past.

The effects of population are obvious. If more residents in urban area are expected, then increased requirements for urban land follow as a natural consequence.

The cost of building construction and level of services provided by the transportation network largely determine the location of families in the urban area. If travel resistance is high, there will be natural tendency for residential and non-residential area densities to remain high in an urban area. Building construction will be vertical rather than horizontal. The reverse is equally true. To a great extent, present observed densities result from the equilibrium point where travel costs balance the cost of land and buildings. This effect is not expected to change appreciably in the near future.

Ease of access has been and will continue to be significant in influencing the shape of urban development and the intensity at which the land is used.

4.E.12. THE LAND USE FORECAST.

The basic assumption here is that the influences presently operating will be responsible for developing the pattern of future landuse. The landuse forecast can be accomplished either by intuitive judgement, by a system of landuse accounting or by some system of combination of the these two methods. Observations of urban area show the following general patterns:

- (i) A regular decline in the intensity of land development and uses as distance from CBD increases.
- (ii) A regular decline in the proportion of land in use as distance from CBD increases.
- (iii) Stability in the proportion of land devoted to each activity (use).

Presently used urban land will tend to remain urban in nature, although it is subjected to gradual changes through years. Land not presently used for urban purposes will be converted to urban use. There are three basis estimates to all land forecasting procedures as follows:

1. The expected uses of presently vacant land in each zone (kinds of activities occupying the sites).
2. The expected densities of development to occur in each zone for above uses of land. (intensities of site uses)
3. The quantity of presently available vacant land expected to be absorbed into urban land uses by a specific date (or dates) in each zone.

The combination of first two zonal estimates measure the future zonal holding capacity. Holding capacity refers to the maximum number of residents employees etc. which can be accommodated in a given zone, if all available land was occupied by urban areas. Total zonal holding capacity is the estimated future zonal holding capacity plus the present zonal occupants (employment, population etc.) for different land uses.

INTUITIVE JUDGEMENT.

Intutive Judgement are as follows :

1. "Become personally acquainted with the nature of each zone in its relationship to the rest of the area, its street pattern and relationship to generalized arterial plans, its terrain, its soil conditions, its existing structure conditions and the existing kinds of industrial and commercial establishments.
2. Take into consideration present zoning and probable changes, its effectiveness and its reasonableness.
3. Estimate specifically what might be constructed on any remaining open area in the zone and in any area which might be replaced due to obsolescence or changes in land use".¹

Thus the available built-up land in Narayanganj city may be classified as follows:

- i) Industrial area
- ii) Commercial Area
- iii) Residential Area
- iv) Other uses.

1. William R. McGrowth "Land Use in Traffic Generation"
Bulletin 224, Trip Characteristics and Traffic Assignment
(Highway Research Board, 1959), p. 133.

(i) INDUSTRIAL.

The main concentrations of industrial activities are at the North of the city in Adamjee Inds. belt. This area was planned by Government keeping in view of future/^{need for} expansion industrial belt. The installation of machineries plants etc. were done by phases. Though there are further scope of expansion by almost all the industries and accordingly provisions were kept, it was found that the existing industries were not running to their full capacities. Momentum in industrial development gained in preliberation period was retarded by liberation war. Therefore, it can be safely said that to saturate the land in industrial belt by industrial uses will need further 15 to 20 years period if the policy and market behaviour etc. run favourably to the industrial development. For the purpose of this study, the industrial belt at the Northern part of the city was assumed to remain in industrial use and would be able to accommodate further industrial establishments for years to come.

- The industries within Narayanganj Paurashava cannot possibly further expand due to non-availability of land. Furthermore any expansion of industrial activities in future within Paurashava will deteriorate further the living environment of the area. Hence any further expansion of industries cannot be recommended here. As regards Fatulla, the existing industries, such as salt industry, ship building industry etc. depend on raw materials which are not produced in the locality or surrounding area. Recent trend of high transportation cost has already started to act adversely on these industries. So it can be easily foreseen that no favourable growth of industries on this part of the city will occur in near future.

Therefore the problem to accommodate further development of industrial activities in the city is not that acute having an vast industrial belt there and possibly with a suggested smaller area for elementary industrial use in convenient place will complementary eliminate any disturbances likely to be created by any unforeseen future industrial need in the city.

(ii) COMMERCIAL USE .

The area under commercial use which was developed to meet the need for growing commercial activities of this trade centre in the past was not confined into any zoning. Neither any laws for development in commercial use of land were at all followed here. The situation deteriorated considerably when powers of sanction for any development/improvement were withdrawn from Paurashava and was vested in DIT. DIT in turn, did not have enough interest here or enough manpower to check any unwanted development or change in present use of the premises. Commercial activities in earlier times were confined in the Southern part of Paurashava along the Western bank of the river, mainly, in Netaiganj and Tanbazar. These activities were latter found to infiltrate into nearby residential areas gradually changing the pattern of land uses. Commercial activities were now deeply concentrated within the strip of land as mentioned earlier without any planned development to meet the growing need for such activities of considerable magnitude. This concentration of commercial activities here, has been further backed by favourable location of different modes of transport such as river, road and rail, nearby. This part which could rightly be termed as CBD of Narayanganj did not experience any vertical expansion. The growing need went on gradually changing the existing other uses into commercial use which ultimately, in all respect, failed to meet any standard of commercial uses.

It was mentioned earlier that momentum gained in preliberation period in various activities in this trade centre was retarded due to disturbances of liberation war. It is now expected that, given the favourable conditions, the business and commercial activities will catch up 1968-69 level within next 5 to 10 years. (based on personal interview with leading business men of Narayanganj.).

A thorough survey of this area revealed that most of the structures were of single storey height and had considerable age. Many structures were at the verge of collapse. Very high percentage of whole sale trade were housed in tin shed, semi-pucca structures in almost every places.

However, if one assumed that commercial activities will be doubled by 2000 A.D., which seems to be quite reasonable, the future need of commercial use can very easily be accommodated within this strip of land by proper action and vertical arrangement over time in different phases. It may be pointed out that the body of a hosiery machine requiring a clear ceiling height between 14 to 18 feet can easily be accommodated in vertical structures requiring less space on land and reducing the pressure on land values. The hosiery industries and their whole sale trade, cover almost 60% of land within this strip, from Tanbazar bridge to Kalirbazar. Moreover, if the future requirement can be arranged here in a planned and co-ordinated manner, present benefit from different modes of transport will be more comfortable to use and cheaper in terms of time saved.

Therefore, this place, if developed as CBD with some other sub-centres at convenient places within the city, will easily meet the need of future commercial landuses resulting from a growing economy.

(iii) HOUSING.

Since creation of Pakistan, urban expansion of this city has been rather unprecedented and haphazard. This was mainly due to the fact that the need for proper planned and co-ordinated development was not emphasized by the concerned agencies and also, due to the topographical features of Narayanganj. Large chunks of Low Agricultural land lie undeveloped even within the Paurashava area. Linear development of so called housing along with high banks, specially Western bank of river could not meet any housing standard. It was rather impossible to design

or provide any efficient system of water supply and sewerage to these housing areas. Even electric lines to some areas were extended several years after erection of houses.

No programme for provision of schools, parks, play ground and other essential community facilities could be worked out because, probably, the ultimate development pattern was not known. This resulted in acute shortage of schools, other facilities etc. Since the authorities did not formulate any policy towards the provision of these facilities, they started opening these in residential premises. In the absence of any zoning, the other allied economic activities also started in residential premises and within short time these areas got infested with shops, service industry, repair shops, small scale industries, welding, general engineering and manufacturing etc. These were developed most haphazardly almost everywhere. Housing garages became repair shops, manufacturing establishments etc. and living rooms were converted into shops. Except for the premises on the main roads (which by now have switched over from residential to commercial use), majority of residential areas did not seem to have roads wide enough for vehicular approach. As a result, no high class residential area could be found in Narayanganj. The elite class found their ways to the capital city for living, educating their children and for better environment though their sources of income remained in Narayanganj. In other words, they were pushed off the town. This ultimately developed slum dwellings having low rental values and attracted low-income group. Both these actions increased daily commuters to and from Narayanganj for 'Journey to work'.

No Government agencies or private developer have done any significant contribution to solve this problem. Thus housing shortage still exists and may continue to exist for years to come in the absence of any well organized house building programme and perhaps until the national economy will permit large scale investment in housing schemes.

The shortage has resulted in extreme over-crowding and congestion in the dwelling houses. Many holdings have tow rooms only. This has increased the rate of occupancy which has over-strained the existing public utilities and services. Parks, playgrounds and open space have become too few for large number of people in Narayanganj Paurashava.

The cost of maintenance have increased many fold while Paurashava revenue increased little and were being subsidised by Government. The water main were totally in-adequate for over crowded dwellings. Drains were getting blocked or overflowing because of excessive discharge they have to carry for which they were never meant and designed. Though Paurashava has been providing scavenger services, night soils, house draine etc. were being discharged into the ponds and low lying areas,(a common sight in Narayanganj) Roads, lanes could not carry additional volume of traffic, even though it was Rickshawa-traffic. All these ultimately resulted in considerable deterioration of the neighbourhood, its environment and the communities have ceased to function as healthy neighbourhoods.

As Government is trying hard to run the industries to their full capacities and giving impetus to the overall economic development, future need for housing in Narayanganj will increase and further deteriorate the present status of the problem. It is thus quite reasonable to presume that housing need, if not more, will be doubled by the end of this century.

The major objectives of housing in future should be soley aimed at healthy and functional neighbourhoods.

4.F. TRANSPORTATION.

4.F.1. INTRODUCTION.

There is little doubt that transportation or lack of it can be an important factor in regional development. The role of transportation however, is primarily a permissive one, the existence of adequate transport capacity being a necessary but not sufficient condition for stimulating economic activity. Generally, where the development effects of improvements in transport have been dramatic, the means of development already existed and the lack of adequate transportation was the one factor restraining development.

The powerful constraint on development of transportation system of Narayanganj have been due to her formidable physical difficulties. Hence it could not keep pace with the growing and changing needs of the people. The river Shitalakhya and the formation of land forms have very much influenced the roads and highway system. The linear pattern of roads and town along the banks of river Shitalakhya have narrow corridors for movements. The main and widest among them were incomplete Bangabandhu Avenue running North-South parallel to the river. on the West bank and Wilson road (15'-0") on the East Bank. The incomplete Bangabandhu Avenue which was undertaken by D.I.T. in 1965-66 for its improvement, so as to connect Narayanganj with Adanjee industrial belt, still remained in it's old state only to meet 20'-0" wide road near Kumudini Welfare Trust, well inside the town and ultimately leading to Adanjee industrial belt.

Geographical constrictions of the area confined the urban growth to the narrow strips of highland along the river which were quite unsatisfactory for road transportation system. The river banks were connected only by manually operated ferry-boats. Though very recently Kantohpur bridge has been opened to traffic enabling one to cross the river, it was far beyond any existing metalled road on the Eastern part of the town. The main road connecting Narayanganj with the rest of the region were, in some

places, as narrow as 18 to 25 ft., with clear, solid roadways, which were even narrower in some places. The inner roads were in poor shape, and for long stretches were abutted on both sides by houses, commerce, industry, shops, pavement etc. The traffic on them was a conglomerate of rickshawa, handicrafts, pedestrians, trucks, automobiles, bullock carts etc. The internal road system was very much in-adequate for the load which it must carry. Over a considerable area of residential land, there was no road system capable of admitting motor vehicles at all inside the neighbourhoods.

The river Shitalakhya bisects the town and provides a great internal barrier for effecient road transport system and there are no points at which road traffic can cross the river. However there are 7 ghats for manually operated ferry-boats connecting the two banks of the river for passengers only. More than 10,000 persons daily cross the river (both-ways) through these ghats at different points.

The traffic problem has been enhanced by the urban sprawl during the rapid growth after creation of Pakistan. The facilities created then were grossly inadequate for the requirements of the present day traffic. Safe and effecient movement of people and goods within and through the urban area, were most frustrating. Encroachments on the right of the way drastically reduced the capacities of the roads. The biggest bottleneck was the entrance to Narayanganj at Chashara on Narayanganj - Dacca Road where the Highway (22 ft.wide) met the incomplete 100 ft. wide Bangabandhu Avenue having a Railway crossing as well.

The fast and slow moving vehicles using both routes connecting Narayanganj with Dacca via Fatulla and Narayanganj with Dacca via Adanjec Nagar, use the same carriageway on the roads. As a result due to constant competition among different speeds of vehicles for over-taking each other, capacity of the carriageways are reduced. It may be mentioned here that Rickshawas are main intra city traffic and are predominant on all roads. Table - 38 refers

number of licenced Rickshawas in Narayanganj Paurashava area showing a gradual increase in their number. They also ply between Narayanganj - Fatulla and Narayanganj - Adamjee industrial belt.

Table - 38

NUMBER OF LICENCED RICKSHAWAS IN NARAYANGANJ PAURASHAVA
(1967-68 to 1976-77)

Year	Rickshawas		Total	No. of licenced Rickshawa pullers.
	West Bank	East Bank		
1967-68	1,588	441	2,029	2,146
1968-69	1,617	456	2,073	3,766
1969-70	1,920	293	2,223	2,083
1970-71	1,610	333	1,943	2,258
1971-72	1,696	408	2,104	2,525
1972-73	1,770	425	2,195	1,693
1973-74	1,776	425	2,201	2,857
1974-75	1,776	425	2,201	3,282
1975-76	1,780	500	2,280	4,194
1976-77	1,800	500	2,300	4,012

Source: Office Records, Narayanganj Paurashava, Narayanganj.

The main reliance for mass transport at present is on the Bus transport system operated by both private and semi-government (BRTC) agencies. B.R.T.C. carried 64.07% of total passengers in 1975-76, while private buses carried 35.93%. (Annexure - F, Table - 1). Though the number of private buses were more, they carried less passengers because of their longer routes (Narayanganj - Mohammadpur) which increased their turn-around time considerably. On the other hand B.R.T.C. buses operated between Narayanganj, Dacca and Adamjee routes only. Dacca - Adamjee

route of B.R.T.C. carried passengers also for Denra and surrounding areas which were not included in Narayanganj city but statistics presented here in the table represent total passengers carried by B.R.T.C. on that route. Thus, though apparently B.R.T.C. carried more passengers in the past years, both the sectors might have carried equal number of passengers.

4.F.2. SOURCE OF INFORMATION.

Unfortunately enough there existed no previous traffic survey in and around Narayanganj. A considerable number of field trips were made to gather first-hand information of the existing circulation pattern and transport condition in Urban Narayanganj. All known sources bearing on transportation were consulted. For road traffic movement, data were collected by field survey conducted on main roads linking Narayanganj with Dacca and Adanjee Industrial belt.

4.F.3. ORIGIN AND DESTINATION SURVEY.

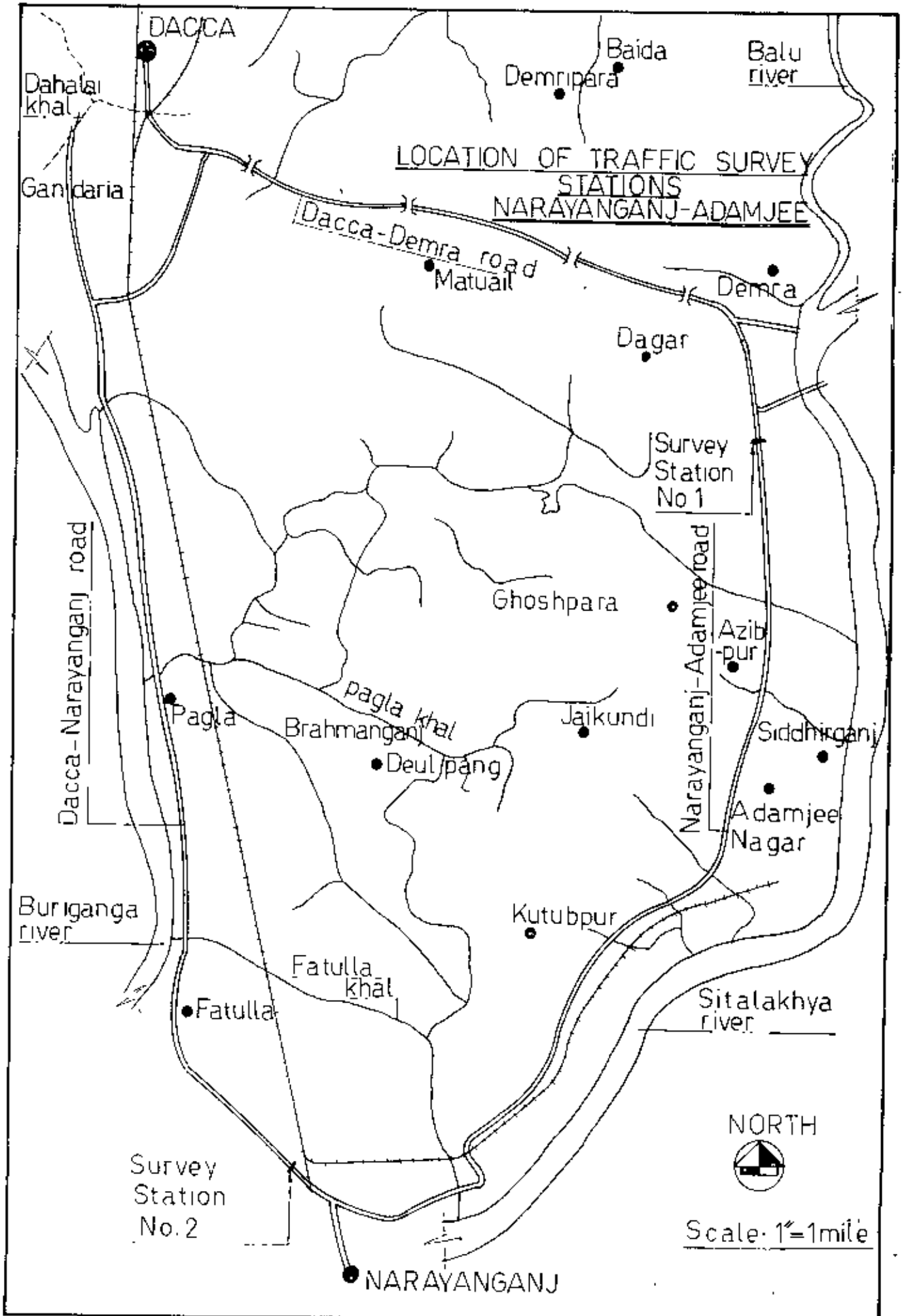
Extensive O-D Survey was undertaken for all vehicular traffic entering and leaving Narayanganj. Interview teams set up their stations at two points just on the outer skirts of Narayanganj Paurashava and Adanjee Industrial belt. These were the only two points giving access by roads to and from Narayanganj.

Traffic counts for two days were based on 16 hours duration. Attempts were made to give average 24 hour traffic volume considering night traffic data on nearby roads. Counting proceeded for 16 hours from 06.00 to 22.00 hours. Table - 39 shows location of these sites and the period of survey.

Table - 39

LOCATION OF TRAFFIC SURVEY STATION AT NARAYANGANJ.

<u>Route</u>	<u>Station No.</u>	<u>Location</u>	<u>Period</u>
Narayanganj to Adanjee	1	Near Kantchpur Bridge	August, 1977.
Narayanganj to Dacca.	2	Near grave-yard at the outer Skirt of Narayanganj Paurashava.	-Do-



4.F.3.1. ROAD SIDE INTERVIEW.

Road side interviews were carried out at selected points as mentioned in table-39. While counting and interviewing were conducted at station 1 on the first day, only counting was done on the same day at station 2. The procedure was reversed on the 2nd day, thus counting the both-way traffic on the two stations for two days and interviewing then for one day on each route. As many as drivers possible were interviewed. The response rate was quite satisfactory ranging between 80 to 90% of the vehicles interviewed. Number of vehicles interviewed in the two stations showing break down of inward and outward traffic are presented in Annexure - F, Table - 2. It was clear that flow of all types of vehicle through station 2 on Narayanganj - Dacca road was much greater than that of station 1, on Narayanganj - Adanjee route.

Hourly pattern of traffic flow, based on data collected at two stations are shown in Plate Nos. 26, -27. They indicated that there was a considerable variation in traffic flow throughout the day.

However the information collected in the interviews were :

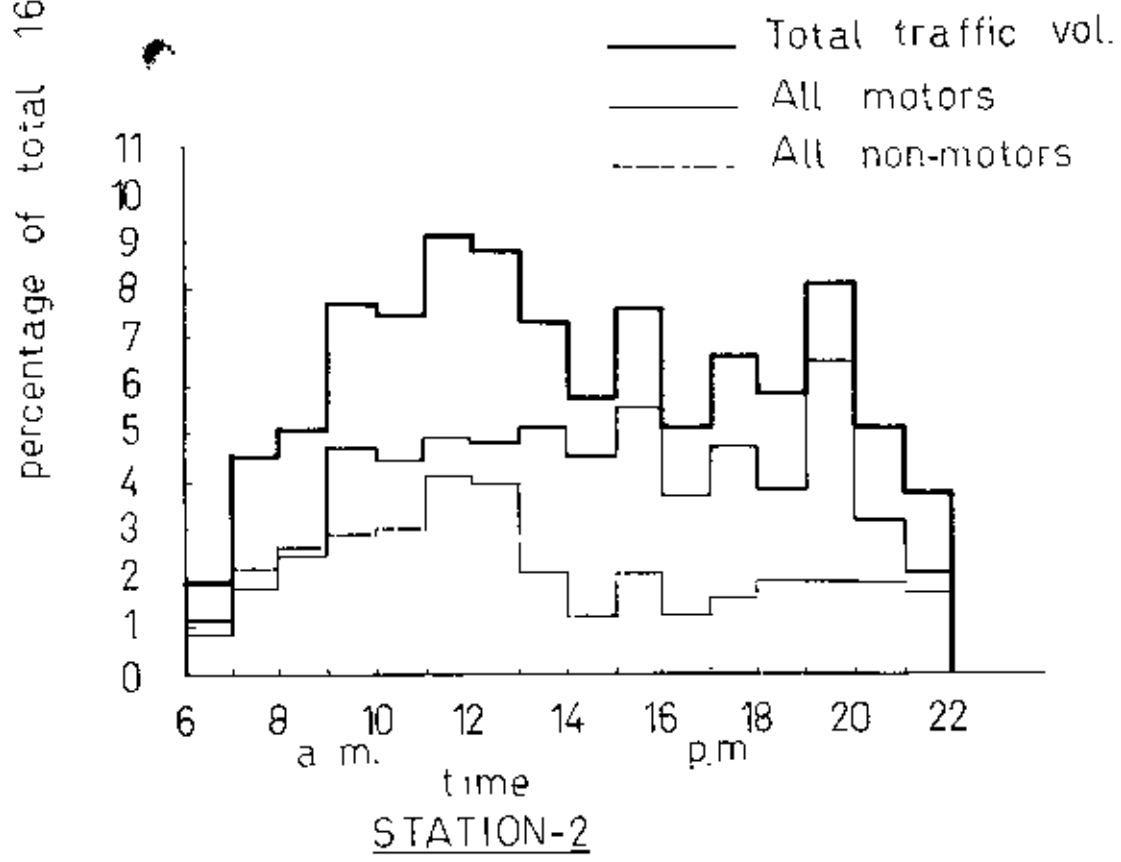
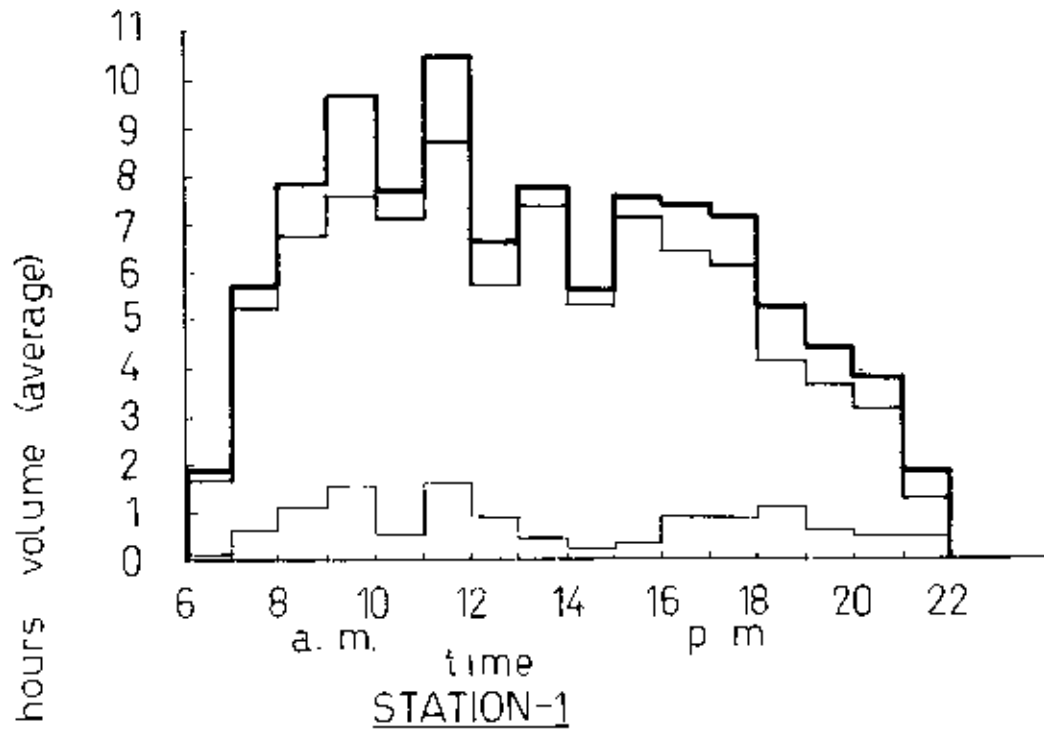
- a) vehicle type
- b) vehicle capacity
- c) loading of goods
- d) passenger carriage
- e) commodity carrier
- f) origin and destination
- g) purpose of journey
- h) starting time

4.F.3.2. DATA PREPARATION AND ANALYSIS.

Data were analysed manually. The factors being used to the data were :

- (a) Multiplying factors.
- (b) Night traffic expansion factors
- (c) Truck load factors.

HOURLY VARIATION OF TRAFFIC FLOW
BETWEEN NARAYANGANJ-DACCA
(INWARD TRAFFIC)



Source
 Field survey

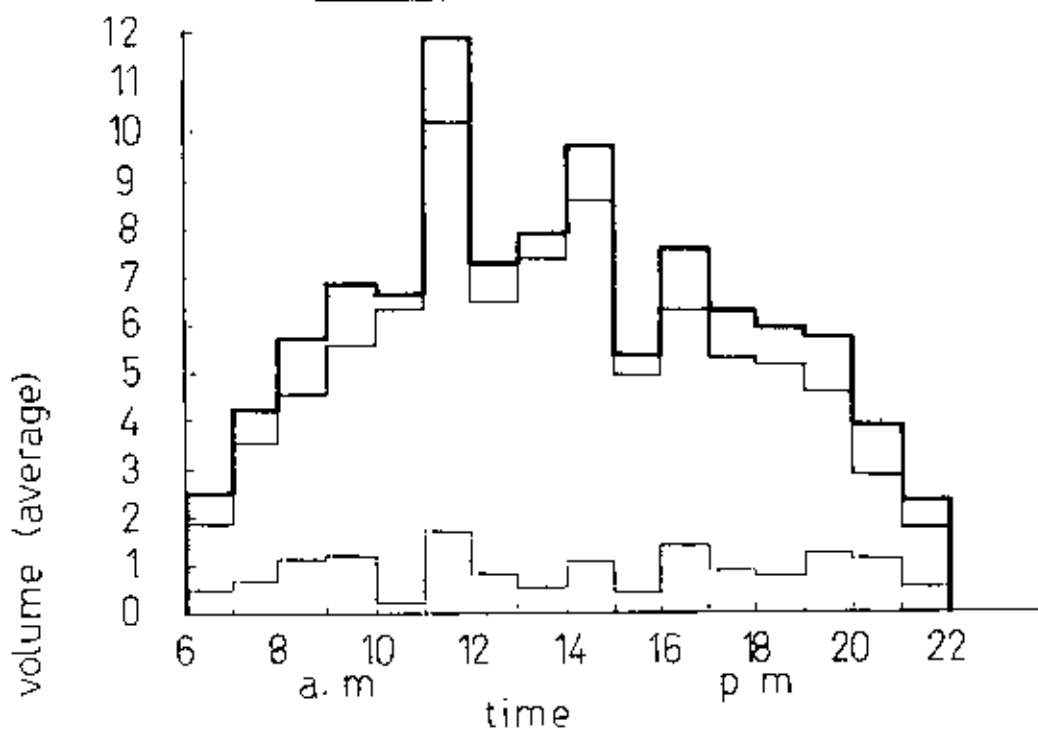
It should be noted that no survey was conducted to count and interview the night traffic on the two roads. So night traffic expansion factor, as suggested by transportation section, planning commission in its B.T.S. report was employed to find out the 24 hours traffic on these two roads. Movement of different types of vehicles in both directions for two days on the two roads ~~which~~ have been ultimately converted to total volume of traffic per day by employing night traffic expansion factor as applicable to different types of vehicles. (Annexure - F, Table - 3 and 4). "An expansion factor is the number of trips of each category represented by each interview during that particular period".¹⁸

(i) Origin and Destination.

In O.D. analysis all the sites were divided into zones, each having different code numbers. All the field interview sheets were loaded accordingly. Traffic movement between different zones were found out from loaded sheets. The ratio of 16 hours interview and 16 hours count (both direction combined) gave the multiplying factors of each type of vehicle on both the roads in different directions which were accordingly calculated. (Annexure - E, Table 5 and 6). Multiplying factors obtained thus were used to multiply the 16 hours interview figure showing thereby the directional distribution of traffic on the two roads. (Annexure - F, Table - 7 and 8). Table 7 (Annexure - F) revealed that only 4.53% of truck, 0.96% of Bus and 2.05% of cars were inter-district and rest all were intra-district on Narayanganj - Dacca Road. On the other hand, table 8 (Annexure F) revealed that almost all traffic were intra district, having only 11.99% of Truck and 3.18% of pick-up as inter-district on Narayanganj - Dacca Road. Significant characteristics were found here from both the roads that all most all the

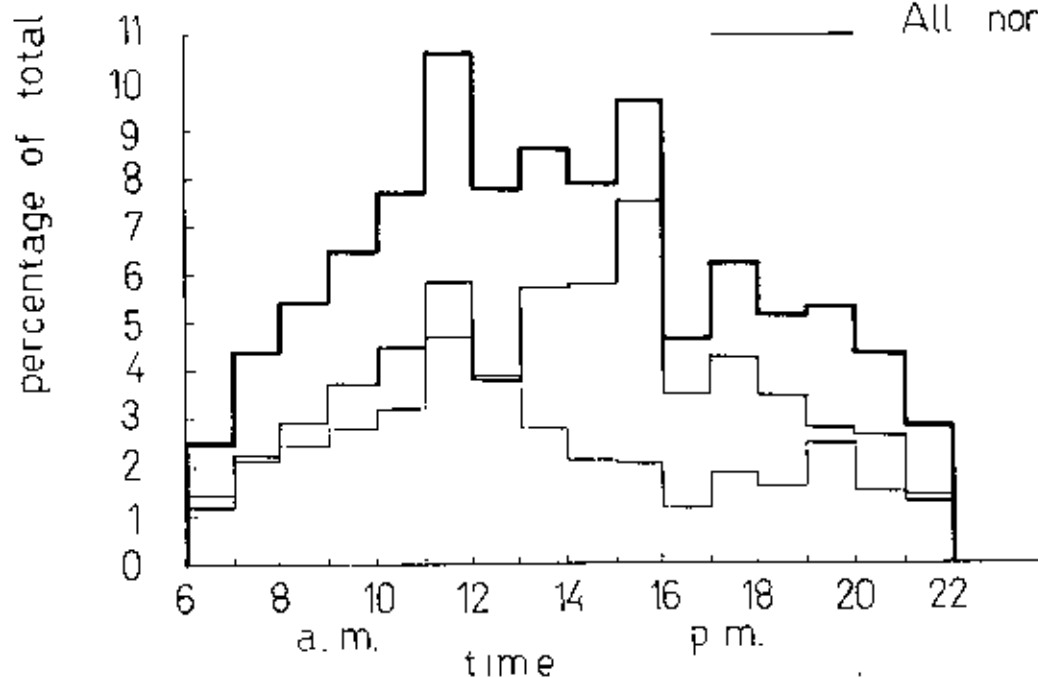
18. O'Flaherty, C.A. Highways. Edward Arnold Ltd., London.p.106.

HOURLY VARIATION OF TRAFFIC FLOW
BETWEEN NARAYANGANJ - DACCA
(OUTWARD TRAFFIC)



STATION-1

- _____ Total traffic vol
- _____ All motors
- _____ All non-motors



STATION-2

Source
 Field survey

vehicles moved around within 10 mile radius indicating a relationship of Narayanganj with the capital city of Dacca which falls within this radius.

(ii) Vehicle Occupancy and Capacity distribution.

Average number of persons carried (including driver) by different types of vehicles on these two roads were tabulated. (Annexure - F, Table 9). The average capacity distribution of these types of vehicles were also tabulated. (Annexure - F, Table - 10). The ratio of the two clearly indicated that there were over-loading on all types of vehicles on both the roads.

(iii) Truck Load Factors.

The average load factors of truck depend on two major considerations:

- (a) the length of the journey and
- (b) whether the origin is in a net despatching zone or a net receiving zone for goods.

The percentage of traction empty was also calculated. (Annexure F, Table - 11). Load factors for loaded trucks and for all trucks for selection origin and destination are shown in the table with the average capacity of trucks. It may be interesting to note that there were no empty inward trucks on both the roads for inter district movement. Intra-district movement of inward empty trucks on the two roads were 61.65% and 35.93% for Narayanganj - Adamjee and Narayanganj - Dacca roads respectively indicating the fact that Narayanganj and Adamjee areas were despatching zones. In case of, intra-district outward movements, empty trucks constituted 55.53% on Narayanganj-Dacca Road and 23.29% on Narayanganj-Adamjee road. This confirms the fact that both the areas are also receiving zones as none of the areas have any truck base or large garages for trucks.

(iv) Purpose of Journey.

Purposes were classified as 'Home, 'Work' and 'other' which were accordingly tabulated for all types of vehicles on both the roads. (Annexure-F, Table-12 and 13). All types of vehicles responded to 'work' as their purposes in great percentage. Comparatively high percentage of car to 'work' on both the roads indicates that many people of high income group reside in Dacca instead of Narayanganj. In both the roads, very high percentage of private/public vehicles to 'work' also implies that journeys were made mainly for 'work'.

(v) Commodity movement by Trucks.

Movement of Trucks carrying goods on both the roads were classified as 'Intra-district' and 'Inter-district' movements with their selected origin and destination and were tabulated in separate tables. (Annexure-F, Table 14 and 15). The main commodities indentified were:

- (a) Food grains
- (b) Cotton and Cotton Products
- (c) Building materials
- (d) Fuel and
- (e) Others.

Intra-district and inter-district movement of commodities through station 1 on Narayanganj-Adamjee road were recorded to be 853.47 tons per day and 48.75 tons per day respectively (table 14)

Inter-district movement of commodities constituted 94.54% of the total commodities moved through station 1. Similarly intra-district and inter-district movements of commodities through station 2 on Narayanganj, Dacca road were recorded to be 581.69 tons per day and 290.11 tons per day respectively. (Table 15).

Intra-district movement of commodities constituted 66.72% of the total commodities moved through station 2.

Intra-district movement of commodities through both the stations were recorded to be 1,435.16 tons per day while inter-district movement of commodities through these stations were recorded to be 338.86 tons per day. Thus intra-district movement of commodities through both the stations in Narayanganj constituted 80.89% of the total commodities moved through these stations. However, 1,774.02 tons per day were moved through these stations in both directions, out of which 50.85% of commodities moved through station 1 and 49.15% moved through station 2.

(vi) Passenger Car Equivalent.

Passanger Car equivalent for each catagory of vehicle for both 16 hours average and 24 hours average were found out by respective conversion factors.¹⁹ (Annexure F, Table 16). It was found that for 16 hours average, the PCE for station 1 and station 2 were 3,359 and 8,141 respectively. Similarly, for 24 hours average, the figures were 5,569 and 8,600 respectively.

4.F.F. BIWTC FERRY SERVICES AT NARAYANGANJ.

B.I.W.T.C. operates Ferry Services in Narayanganj-Daudkandi route having 5 trips each way as per fixed schedule. The ferry ghat is located near the terminal building at the heart of the city. Usually through traffic use this facility in Narayanganj.

There some-time occurs delay in loading/unloading of ferry vessels in the ghat. The main reasons are :

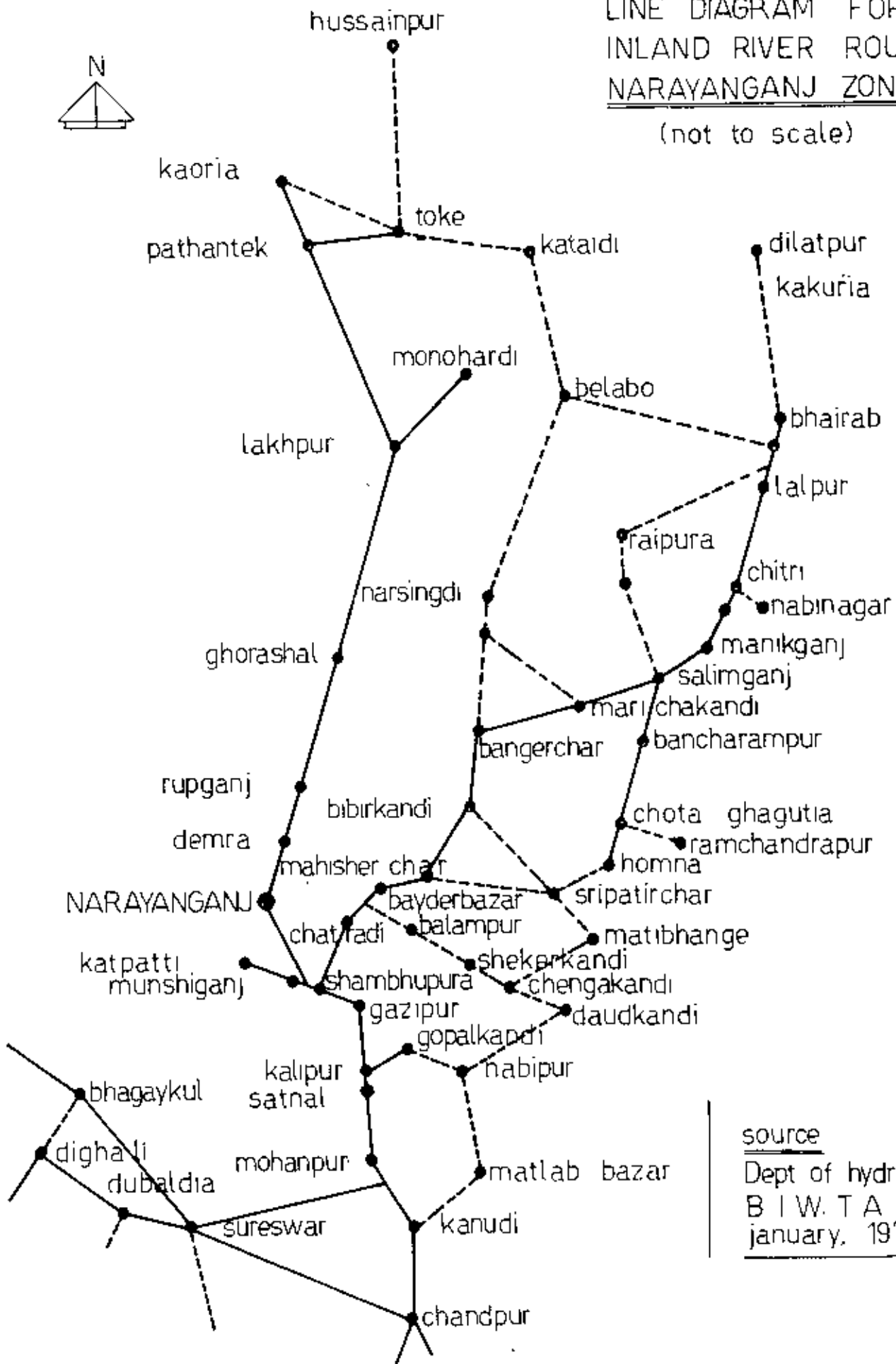
- i) Vehicles going out of order at the time of loading/unloading in ferries.
- ii) Repair works at ferry approaches
- iii) Excessive slope of ferry approach roads
- iv) Over loading of trucks.

19. Conversion factors as were used by transportation section, Planning Commission, Government of Bangladesh, in their B.T.S. reports.

Note: The survey for road traffic data was conducted by the author with the help of Transport section, Planning Commission, Govt. of Bangladesh, Dacca under the supervision and guidance of Dr.M.Rahamatulla, Section Chief, Transport Sec.

LINE DIAGRAM FOR
INLAND RIVER ROUTES
NARAYANGANJ ZONE

(not to scale)



source
Dept of hydrology
B I W. T A
January, 1976

4.F.4.1. WAITING OF VEHICLES.

Truck drivers start (usually) their voyage from Chittagong after 1200 hours of the day with the intention to cross the ferry in the next morning. Since, there is no night navigational facilities for ferries, the trucks are to wait at the que for the whole night (in Narayanganj and Daudkandi). As such waiting hours of trucks become high and usually tend to exceed 24 hours or so. The night haltage for at least 12 hours beginning from the departure of the last ferry to that of the first ferry next day seem to be common and compulsory for the trucks who arrive after the departure of the last ferry. Thus the que results in reduction of effective width of the road near the terminal buildings. In the face of heavy congestion there usually remain a larger number of Trucks standing at the ghat which is common and regular feature in Narayanganj.

4.F.4.2. PROBLEMS OF FERRY SERVICES.

The main problems of ferry which ultimately effects the road transport system of Narayanganj are :

- i) Holding up of trucks due to lack of adequate ferry facilities which also adversely effects on trade and supply.
- ii) Due to existance of lone ghat in each of the station , ferries are mostly found to wait along the side when ghat is occupied. This cause delay in loading and unloading.
- iii) Break down of loaded trucks during loading/unloading.
- iv) The timely deployment of ferries is not possible without telecommunication facilities between two ferry points (Narayanganj and Daudkandi).

4.F.5. LAUNCH SERVICES.

Narayanganj port also gives facilities to passanger launch services which ultimately increase the volume of road traffic in and through Narayanganj. The following table gives an idea of frequency of launch services.

Table - 40

FREQUENCY OF PASSANGER LAUNCH SERVICES IN NARAYANGANJ.

Year	Arrivals	Departures
1971-72	11,705	11,552
1972-73	12,003	11,307
1973-74	11,180	11,136
1974-75	12,007	11,081
1975-76	11,763	11,522

Table - 41

ARRIVAL AND DEPARTURE OF PASSANGERS THROUGH THE PORT

(IN THOUSANDS)

Year	Arrivals	Departures.
1971-72	454.90	N.A.
1972-73	1,063.40	N.A.
1973-74	836.00	N.A.
1974-75	1,250.00	2,500.00
1975-76	1,541.56	3,083.12
1976-77 (upto December)	830.00	N.A.

Source: Office records, Narayanganj Port Office, Terminal Building, Narayanganj.

4.F.6. COUNTRY BOATS.

Country boats of various sizes and shapes can be seen in large numbers almost everywhere within port area carrying goods and

passangers. These boats can be grouped into three broad categories:

- i) small,
- ii) medium and
- iii) large in terms of specific ranges of their carrying capacities in Maunds. The small boats represent the range of carrying capacity upto 299 maunds, the medium from 300 to 499 maunds, and all boats with carrying capacity of 500 maunds and above are placed under category of large boats. Table 42 shows their dimensions and life.

Table - 42.

CATEGORIES OF COUNTRY BOATS.

Category of boats.	Dimensions (ft).			Life (years)	
	Length	Width	Depth	Without repair.	With repair.
Small	30.30	8.20	2.60	8.00	19.00
Medium	37.00	11.00	3.70	10.00	22.00
Large	42.00	14.00	4.60	11.60	22.00

Source: Dr. Akhlaqur Rahman, M. The Country Boats of East Pakistan An Economic Analysis, Planning and Research Cell, E.P.I.W.T.A., Dacca. p.6.

Favourable season for different categories of cargo bring various type of boats along with considerable floating population. These boats usually require two weeks to trade-off their seasonal cargo (say mango, Jackfruit etc.) when they disperse carrying back other cargo and giving places for other boats.

However, improvement^{of} water transport is most vital for Narayanganj's economy. Elaborate discussion, and suggestions on this aspect have already been done in the study 'Report on the

Economic and Engineering, Feasibility of Five Inland Water Port's by Fredric R. Harris, Inc., New York. The author thinks those are still valid for Narayanganj Port.

4.F.7. RAILWAY.

The Dacca State Railway connecting Dacca with Narayanganj and Mymensingh was opened in 1885. Dacca - Narayanganj is on Primary class metre gauge line ($3' - 3\frac{5}{8}"$). The length of the section is 10 miles having three intermediate stations. The largest span of the major bridge (20 x 30 ft. span) is dated 1912 made by Howrah iron works, Calcutta. There are 11 minor bridges having a total span of 210 ft. The average of openings spanned by minor bridges is 21 ft. per mile.²⁰

All rail in use between Narayanganj to Dacca are of previous 60 lb. specification which are ill maintained resulting in very poor riding, damage to the rolling stock and damage to the rail themselves. As a result, commuting time has increased considerably making it a losing section. The situation worsened when the Railway terminal was shifted from Narayanganj to Dacca. The following table ~~was~~ indicates the trend of passengers in the past years travelling to and from Narayanganj by Railway.

Table - 43

MOVEMENT OF PASSENGERS

Year	Passenger (Numbers)	
	Inward	Onward
1968-69	15,16,783	11,92,439
1969-70	12,13,694	N.A.
1970-71	Na.	1,77,524
1971-72	46,290	67,509
1972-73	63,921	3,49,437
1973-74	1,94,251	4,32,519
1974-75	80,491	3,75,554
1975-76	67,623	5,87,466

20. Bangladesh Transport Survey, Inventory of Transport Facilities, Sarin Associate Ltd., August, 1973

Source: Office records, Office of the Station Master, Narayanganj, (Tab.43): Railway station, Narayanganj.

It can be seen that both inward and outward movement of passengers have been considerably reduced. However a survey was conducted on this section to get the capacity utilization which is presented in the following table.

Table - 44

RAIL PASSENGERS ORIGINATING FROM KARAYANGANJ

(September 5th, 1977)

Train No.	Leaving Station	Reaching Station.	No. of bogies.	Passenger			Total
				Capacity	Sitting	Standing	
237 up	N.Ganj.	Dacca	15	303	280	15	295
39 up	"	"	15	310	240	12	252
239 up	"	"	21	508	115	-	115
9 up	"	Sylhet	30	518	309	-	309
241 up	"	Dacca	34	607	225	-	225
243 up	"	"	9	304	227	-	227
43 up	"	"	15	306	278	19	297
33 up	Chitt.	Chitt.	9	304	266	27	293
245 up	"	Dacca	15	312	66	-	66
247 up	"	"	9	302	136	-	136
7 up	"	Bahadurabad.	31	748	405	60	465
Total per day			203	4,491	2,547	133	2,680

The survey revealed that only 55.67% of the total capacity of the day was utilized for the purpose of carrying passengers in this section of the Railway. The reason lies in the fact that Railway in this section, cannot compete with other mode of transport. (road transport).

4.R.8. FLUIDITY OF MOVEMENTS.

Apart from this, survey within the city included information regarding fluidity of movement by members of the sample families. These were computed and tabulated as discussed below. Possible destinations for various purposes were taken to be Dacca, Narayanganj*, Adamjee Industrial belt and Fatulla.

(i) Daily Movement.

Information of daily movement for various purposes such as for work, academic purpose, food supply and other were considered. The movement by members of the sample families for each purpose to desired destinations were worked out as percent of number of families in each area. (Annexure- F, Table 17). All the areas, except Nabiganj and Sonakanda Unions, recorded daily movement to Dacca for work. Narayanganj attracted people for work from all the areas surveyed, out of which cent percent was coming from Nabiganj Union. The lowest percentage (9.70%) commute for work in Narayanganj was from Adamjee Industrial belt. On the other hand, 27.81% came for work in Narayanganj from Fatulla while 59.69% worked there. Fatulla attracted 2.50% and 1.92% from Deobogh and Sonakanda Unions respectively for work. Dacca attracted less people from Fatulla (12.59%) in comparison with Narayanganj (27.81%) indicating that Fatulla was more dependent on Narayanganj for daily work. Thus Fatulla maintained closer link with Narayanganj. The highest of 31.12% was attracted for daily work to Dacca from Shitalakhya Union while the lowest attracted number was from Kadam Rasul Union (1.16%).

Thus all the areas, namely Narayanganj, Adamjee Industrial belt and Fatulla could absorb quite substantial percentage of their population for daily work.

* Narayanganj means area within administrative boundary of Narayanganj Paurashava.

For academic purpose, 9.42% (highest) and 0.74% (lowest) from Narayanganj Union and Adamjee area respectively moved to Dacca, probably for higher education. Almost all the areas seemed to be dependent to some extent, on Dacca for educational facilities.

For daily food supply none of the areas responded to be dependent on other areas. For category 'other' also, most of the areas did not respond and those responded did not show any dependency on other areas.

The overall picture of daily movement as computed against the total number of sample families showed that 72.71% of city's sample population worked in Narayanganj, while 12.00%, 10.42% and 4.84% moved for daily work to Adamjee Industrial belt, Dacca and Fatulla respectively. (Annexure F, Table 17a). Daily movement for Academic purpose was highest within Narayanganj (60.39%), while Adamjee Nagar, Fatulla and Dacca attracted 8.63%, 4.63% and 1.86% respectively. All the areas however could supply daily food and hence no movement for this purpose to other areas were necessary.

(ii) Weekly Movement.

Similarly weekly movement for 'shopping' 'food supply' and 'others' were considered and tabulated. (Annexure - F, Table -18) Fatulla did not respond to weekly movement for shopping. 9.70% from Adamjee Industrial belt responded against their weekly movement for shopping ⁱⁿ Narayanganj. The families in Narayanganj, though seemed to be mostly satisfied with the facilities offered by Narayanganj for their weekly shopping, some unions such as Paikpara (12.76%), Deobhogh (5.00%), Godnail (4.44%) and Kadam Rasul (1.16%) depended on Dacca for this purpose.

For weekly food supply, except for 2.98% from Adamjee industrial area moving to Narayanganj, all other areas did not require to move elsewhere. Thus they were satisfied for this purpose within the areas concerned.

For other purposes; 2.77% from Fatulla and 2.05% from Deobhagh moved weekly to Dacca whereas all 'other' weekly movements of respective areas were confined within Narayanganj.

The overall picture thus appeared to be such that 19.34% of city's sample families moved for weekly shopping, out of which 17.98% moved within Narayanganj while 1.36% moved to Dacca. None moved to Dacca for weekly food supply. For 'other' purpose only 0.41% moved to Dacca weekly while rest of 12.09% moved within Narayanganj.

(iii) Monthly Movement.

Similarly 'shopping', 'visit' and 'others' were considered in monthly movement and was accordingly tabulated. (Annexure - F, Table - 19). Dacca attracted people from all the areas (except Sonakanda Union) for monthly shopping. The table revealed that 27.67% (highest) from Paikpara union and 1.13% (lowest) from Chashara Union moved monthly to Dacca for shopping. Other shoppers were satisfied within Narayanganj area. Considerable visit to Dacca as monthly movement from almost all areas were recorded. The remaining majority moved within Narayanganj for their monthly visits. As regards monthly movement for other purposes, Dacca and Narayanganj ^{attracted} people from different areas, Narayanganj having greater share of such movements.

The overall distribution of monthly movement for the whole city for various purposes showed that Narayanganj attracted 20.94% for shopping, 15.68% for visit and 2.41% for other purposes while Dacca attracted 5.33% for shopping, 7.67% for visit and 2.83% for other purposes.

These indicated that except for specialized services and special purposes Narayanganj area could remain self contented.

4.F.9. DIFFERENT MODES OF TRANSPORT USED.

Data were also collected for daily, weekly and monthly use of different modes of Transport for various purpose by the sample families in different areas of Narayanganj city. These data were presented in tabular form both as percent of number of families in each area and as percent of total number of sample families within the city.

(i) Daily use of different modes.

Daily movements were considered to be due to various purposes such as 'work', 'academic', 'food supply' and 'others'. For each of the purpose, five modes of transport namely Bus, Walk, Rickshawa, Car and Train were considered to be in use. (Annexure-F, Table - 20).

(a) Daily Work.

All the areas responded daily movement to work by 'walking', the highest recorded percentage being in Godnail union (93.34%) while the lowest was in Khanpur union (28.37%). Next to 'walking', Rickshawa was the most popular mode of daily transport to work. 64.17% (highest) in Khanpur union moved daily by Rickshawa to work whereas 2.23% (lowest) did the same in Adanjee Industrial belt. The next important mode seemed to be Bus transport which was used by people from almost all the areas, among them Fatulla had highest percentage (34.73%) while Kadam Rasul union had the lowest percentage (1.61%). Movement by car for daily work was relatively less recording a highest of 2.35% in Narayanganj union and a lowest of 1.15% in Chashera union. Movement by Train for daily work was least having only two unions namely Bandar (3.27%) and Narayanganj (1.17%) responding against it.

(b) Daily Movement for Academic Purpose.

Within the city major movements were done by walking for this purpose, where Kadam Rasul union recorded highest percentage of (96.78%) and Godnail union recorded lowest percentage (11.12%). Rickshawa. ~~also~~ also carried a substantial percentage of people for this purpose, Khanpur union had highest (44.78%) percentage of movement by Rickshwa while Fatulla had lowest (1.38%) percentage. Car was less important for the purpose. However only 2.35% in Narayanganj union moved by train to Dacca for the purpose.

(c) Daily Movement for Food supply.

All the areas recorded movement for food supply on foot. Rickshawa were used by five areas constituting very small percentage.

The overall picture revealed that within the city, 62.70% used 'foot' followed by 23.80% using Rickshaw for their daily movement to work. (Annexure - F, Table 20a). For academic purpose, 59.03% used foot while 11.67% used Rickshaw within the city. A great percentage (87.09%) walked while only 5.05% used Rickshawa for daily food supply.

(ii) Weekly use of Different Modes.

Similarly, data for weekly use of different modes for various purposes were considered. Purposes for weekly movement were grouped as 'shopping', 'food supply' and 'others'.

For the purpose of weekly shopping, highest percentage (9.77%) was carried by Rickshawa followed by 'walking' (4.72%). (Annexure - F, Table 21). Car (0.83%) and Bus (0.71%) carried negligible percentage for weekly shopping.

All people for weekly food supply within the city have moved on foot constituting 99.13%. For other purpose, Rickshawa carried 11.78% (highest) followed by 'walk' (1.67%) and 'Bus' (0.95%).

(iii) Monthly use of different Modes.

Purposes for monthly movements were classified as 'shopping' 'visit' and 'other' using the same modes of transport such as Bus, Walk, Rickshaw and Car.

Bus was the dominating mode of transport (11.76%) for monthly movement for shopping followed by Rickshaw (10.95%). But for the purpose of monthly visit, Rickshaw dominated (12.17%) followed by Bus (9.37%). For 'other' purpose also, the mode 'bus Transport' dominated constituting 2.42% followed by Rickshaw (1.98%). 'Walk' as a mode in monthly use for other purpose constituted only 1.15%.

Thus there exists considerable interdependency between Narayanganj and Dacca. It will not be a surprise to assume that Dacca might be relatively more dependent on Narayanganj to extract the economic benefits from there. The single fact of over loading of all types of vehicles on both the roads (in both directions) connecting Narayanganj with Dacca will confirm this fact.

4.F.10. PROJECTED ROAD TRAFFIC VOLUME.

The requirement of transportation within an urban area will be determined by three principal forces, each of them being inter-related in some degree :

- (i) the growth of population
- (ii) the growth in income
- (iii) the physical plan or the shape of the urban growth of the area.

There are many methods/models to forecast future traffic but time and scope of the work did not permit to go through those elaborate procedures. However annual growth rate for estimating future traffic was taken from the following table²¹ for the purpose of this study. This was based on principles similar to

21. Ammann and Whitney International Ltd., New York, Engineering and Economic Feasibility Study for Dacca By pass and/or Penetrator Road, December 1968, p.28.

those used in obtaining the overall transportation factor, that is, a labour productivity factor was applied to the population figure to get an output or income figure raised by a multiplier to reflect elasticity of demand for transportation services as income rose.

Table - 45

ANNUAL TRAFFIC GROWTH RATES (IN PERCENT)

By Sectors of Metropolitan Area.

	<u>1967-80</u>	<u>1980-90</u>
Old City	4.8	3.1
New City	10.9	6.7
City Proper	8.5	5.5
Environs	16.4	12.8
Greater Dacca	11.4	8.5

By Zones

Name of Zones.

Mirpur	17.3	10.6
Tejgaon	4.9	4.9
Pongi	22.5	5.9
Narayanganj	13.5	10.6

The annual growth rates of 13.5% for 1967-80 and 10.6% for 1980-90 were applied to the existing traffic volume on the two roads to forecast future traffic of Narayanganj.

Table - 46

PROJECTED PCE (PASSENGER CAR EQUIVALENT) OF ROAD TRAFFIC
FOR NARAYANGANJ.

Year	Station 1 (Narayanganj - Adamjee Road)		Station 2 (Narayanganj - Dacca Road)	
	P.C.E.	PCE/Hour.	P.C.E.	PCE/Hour
1977	5,569	232	8,600	358
1980	7,824	326	12,083	503
1985	11,971	499	18,487	770
1990	18,316	763	28,285	1,179
1995	28,023	1,168	43,276	1,803
2000	42,875	1,786	66,212	2,758

This projection can however be compared with a projection made earlier by Ammann Whitney International Ltd. in their same study for Narayanganj-Dacca road.

Table - 47

PROJECTED PCE FOR NARAYANGANJ-DACCA ROAD.²²

<u>Year</u>	<u>P.C.E.</u>	<u>P.C.E./Hour</u>
1967	2,604	109
1970	3,782	158
1975	7,102	296
1980	13,510	563
1990	31,263	1,303

22 : Ammann & Whitney International Ltd. New York. Engineering and Economic Feasibility Study for Dacca By pass and/or Penetrator Road, December, 1968, p.28.

CHAPTER V

THE FRAME WORK FOR ACTION5. 1. INTRODUCTION.

The aim of this plan is to begin the effort to make Narayanganj a better place to live and work in. This should be taken as general guide line for decision making. Fulfilment of any plan depends on the generation of action programme and projects.

The plan however, makes recommendations for economy, landuse, transport and administration for growth of Narayanganj City.

5.1. ECONOMY

Before going into discussion of economic development activities 'Jute' being the most important in the economic life of Narayanganj as well as of Bangladesh, deserves special attention.

In 1947, production of Jute in Bangladesh was 12.1 Lakh tons which was 80% of world production of jute and allied fibres. Although, world production increased from 18 lakh tons in 1949-50 to 36 lakh tons in 1969-70, the share of Bangladesh : however, declined to only about 35% of the total.¹

The prosperity of Narayanganj is directly and deeply linked with the prosperity of jute in Bangladesh. In pre-liberation period Narayanganj handled more than 50% of total jute exported, out of which 41% was through Narayanganj river port by IWTA mechanized vessels. The present causes of bottlenecks and stagnation in jute and jute-goods production, if could be removed, Narayanganj would get great impetus for her increased economic activities.

1. F.T.Y.P. 1973-78. p. 97

5.A.1. JUTE INDUSTRY.

The Jute Manufacturing Industry which was nationalized among other industries soon after liberation, is the most important industry of Bangladesh as well as of Narayanganj both in terms of production and employment and also in terms of foreign exchange earnings.

During pre-liberation period, the Jute Mills of Bangladesh having 21,453 looms, exported 5,58,917 tons of jute goods. At present, Jute Mills have 24,824 looms, whereas the export target of jute goods (1977-78 fiscal year) is 5 lac tons only. Though Narayanganj industrial belt could not produce what it did in 1968-69, yet it produced 1,11,227 tons out of total production of 4,90,057 tons in Bangladesh in 1976-77.²

5.A.2. REASONABLE FACTORS FOR STAGNATION.

However, factors responsible for stagnation and decline in production of jute goods in Narayanganj industrial belt can be identified as follows :

- (i) The industries lost heavily due to power failures.
- (ii) Labour unrest
- (iii) Loss of market during the period of liberation war.
- (iv) Competition from synthetics.
- (v) A rise in production costs from Tk. 2,170 to Tk. 3,463 per ton for hessian and from Tk. 1,304 to Tk. 2,529 per ton of sacking.
- (vi) Sharp increase in idle looms.
- (vii) Shortage of shipping space compounded by slow loading at ports.
- (viii) Departure of non Bengalees who played the role of entrepreneurship.
- (vii) Lower amounts of Taka per dollar of export and much higher Taka cost of raw jute per dollar for export.

2 : Quarterly Summary of Jute Goods Statistics, BJMC, Dacca, Vol. No. 15, 3rd quarter, 1976-77. p. 11.

- (x) Over centralization and lack of decision making power at Mill level.
- (xi) Lack of skilled manpower.
- (xii) Faulty raw jute policy
- (xiii) Reduced consumption of cuttings
- (xiv) High percentage of wastage.
- (xv) High labour load.
- (xvi) Lack of maintenance.
- (xvii) Faulty export pricing policy.

5.A.3. CAPACITY UTILIZATION

Low capacity utilization and poor productive efficiency were major reasons for high costs of the output of the industries in Narayanganj. Costs could, therefore, be reduced significantly through increase in capacity utilization and improvement in production efficiency.

Capacity Utilization: The reasons available in monthly reports (BJMC) on loom hours lost have been shown as mechanical troubles, shortage of spares, shortage of weavers, power failure and 'others'. By the following table a picture of capacity utilization in the industries in Narayanganj (as well as Bangladesh) can be visualised.

Table - 48

LOOM HOURS LOST BY REASONS(% OF TOTAL)

July - December 1972.

(Based on Sample Industries)³

<u>Reasons</u>	<u>Percent</u>
Mechanical trouble	22.53
Shortage of spares	19.04
Shortage of Weavers	17.11
Power failure	13.75
Others	27.57
<u>Total</u>	<u>100.00</u>

3: BJMC: Summary of Jute goods statistics: Year 1972-73, p.24,

22.53% of loom hour loss by mechanical troubles seem to be too high as our machineries in jute manufacturing industry are not very old. Though it is quite true that normal attention to the machines by non-Bengalee technicians and also services of non-Bengalee weavers were no more available.

So, most urgently, programmes should be designed and implemented to fill up the gap.

Jute Mills, having their own workshops, usually produce their spares required, though few key spares, which cannot be produced domestically, have also to be imported. Spare parts shortage was due to nonavailability of domestically produced spare for want of raw materials and also regular supplies of imported spares.

For immediate needs, adhoc arrangements may be made to import spares and raw materials to produce spares domestically.

But for the solution of shortage of spare problems in the industries in Narayanganj, two actions are suggested :

- (i) Organizational arrangement and development of spare production in the area by Government to ensure regular supply of domestically produced spares which require simple technology.
- (ii) Timely and regular imports of necessary spares.

BJMC should move the appropriate authorities with specific proposals after careful study and evaluation.

As regard 'power failure', it may be noted that government has already given high priority for planned improvement of power system and distribution of power throughout the country. Work in this direction by Government agencies and foreign consultants are in progress. Siddhirganj power house has been included within the development programme in 1978-79.

The residual reason of 'others' are not the same for all the Mills. Each mill should constantly review this reason causing under-utilization of capacity and take proper action.

5.A.4. PRODUCTIVE EFFECIENCY.

Among several factors responsible for poor productive effeciency in the industries of Narayanganj, the more important ones are noted below with suggestions for improvement.

(i) Labour Situation: Indiscipline and labour unrest still prevail, although the situation has considerably improved. It may be mentioned here that 'go slow' policy of Adanjee Jute Mills continued for six months from July to December 1972 and the Mills remained closed for 8 days in September 1972.⁴

Both the managements and workers should guard sincerely a good general atmosphere for their benefit as well as for the country. The fundamental reason of present unrest among industrial workers is their expectation of higher wages and better conditions of work. Any review of wages should be linked up with the question of productivity if a sound basis of recovery and eventual growth of the industries are to be ensured. Moreover, workers participation in management is desirable to give them a sense of belonging and thereby induce them to give their best efforts in jobs.

(ii) Supervision: Lack of proper supervision resulted in high wastage and faulty products in the industries of Narayanganj. Skilled supervisors were already in short here in pre-liberation period, the situation worsend after liberation due to absence of non-Bengalee skilled supervisors. At present, quantity and quality of supervision must be sufficiently increased. Therefore, programmes should be undertaken to train supervisors and deploy the available ones in the most effec-tive manner.

4. Ref., BJMC., Annual Report, 1972.

(iii) Quality Control: Weakest aspect of Jute Manufacturing Industry in Narayanganj has been 'quality Control' even before liberation. After liberation, needless to say, the situation has worsened. According to BJMC report there are quality control department in 12 jute manufacturing industries out of total 73 mills in Bangladesh.

It is therefore necessary to establish properly equipped and manned quality control department in each mill to check if things are done properly. The heavy concentration of industries in Narayanganj require immediate action for quality control. To be effective, the quality control department should be independent of production units under direct control of the Chief Executive of the Mills. The Research and Quality Control Division of BJMC can help the Mills to sort out their problems and help them to establish effective quality control departments.

(iv) Inventory Control: In Narayanganj Industrial belt it was found that inventory control was totally absent. An inventory control system is highly useful method to control cost. A comprehensive inventory control system should cover all aspects from raw materials to the finished goods through each stage in the production process, as well as spare parts.

(v) Norms. Inter-Firm Comparison and Performance of Mills..

For making systematic progress in the manufacturing industries in Narayanganj, performance norms for the industries should be setup for productivity, costs, finance, export etc. Past experience in this country, experience in other countries and studies of present realities may form the basis to determine performance norms. After norms have been setup, current performance level of individual mill in the industrial belt and other areas of Narayanganj may be checked against each other. Any mill, thus found to fall behind in any area, may be required to improve the same.

The technique of Inter-farm comparison consist of evaluation of performances of each farm in relation to that of every other participating farm as well as average achievements of the whole group and set norms. Inter-farm comparison are done by a simultaneous study of the performances of different farms in an industry through their performance data. This comparative evaluation locates the problem areas and weak points of individual farms and also identifies reasons. Thus corrective steps can be designed to remove bottlenecks and improve functional efficiency.⁵

This technique is widely used in western European countries, USA, U.K., Astralia etc. In Bangladesh, the technique is almost unknown.

As the jute manufacturing Industry is a nationalized sector, inter-farm comparison of jute mills can be arranged easily, by the government initiative without resistance from Mills, as the question of Mill level secrecy of performance data is irrelevant. Moreover, this study will be easier in Narayanganj as all the industries are concentrated here.

It will not be out of place to mention the attitude of Dacca Chamber of Commerce for revitalizing the national economy through denationalization of jute and textile mills owned by Bangladeshi owners. The Chairman of Dacca Chamber of Commerce in his press statement on 19th April 1977 gave the following possible impact of denationalization.

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5. (a) Inter-farm Comparison-Problems and possibilities in India. The deptt. of Business management and Industrial Administration, University of Delhi (1965).
- (b) Inter-farm Comparison - An Incentive to Productivity OEEC, Paris (December 1957).

"To watch the possible impact of de-nationalization, we suggest at the present stage the divisions of the Country's Cotton Textile and Jute Mills in two distinct managements:

- (a) the abandoned Mills under public sector
- (b) the other in private sector of the Bangalee owners.

This will not only create a healthy sense of competition between the two groups as was in the past in case of the EPIDC Mills and Private Mills of the same kind of industry but also enable the government to make comparative assessment of performance of the respective sectors which will ultimately help the government in formulating and planning the national economy and its development programme. The disinvestment of the Cotton Textile and Jute Mills will also relieve the government of the huge liability of feeding these presently losing concerns at the cost of public exchequer".

5.A.5. BOTTLENECKS IN 'JUTE AND JUTE GOODS PRODUCTION AND THEIR SUGGESTED MEASURES.

The following bottlenecks seem to be major problems of Jute and Jute goods production :

- (i) Jute production stagnancy in the country and its erratic movement in price make our jute uneconomic in world market.
- (ii) Synthetics captured some of the Jute's market.
- (iii) Minimum price fixed by Government cannot give maximum benefit to the growers due to dwindling yield per acre and high cost of production.
- (iv) Cess money are being treated as general revenue to the government.
- (v) Credit facilities are too rigid and inadequate for this seasonal product of jute, jute goods.

(vi) High freight rates are great obstacles to the export of jute and jute goods.

(vii) Absence of 'maintenance spare' in jute baling and other jute manufacturing industries.

(viii) Unsatisfactory communication system.

(vii) Barter of jute is not practicable.

The suggested measures can be outlined as follows :

(i) With continuous supply of jute at reasonable price, the end users will not only will not try to switch over to substitute but will try to find out new use for this cheap material through research. It is the profit motive of the users of jute that will help increase expansion of jute. To have a reasonable profit incentive, price of jute has to be economic compared to the substitutes.

(ii) Remedy lies not in emphasising on minimum price but in reducing the cost of production by adopting improved and modern methods of cultivation.

(iii) Less money should spend for the benefit of growers, on research and on development of jute.

(iv) Liberal financing is essential to all sections of jute traders. If necessary special types of Bank on the line of I.D.B.B. and A.D.B.B., to cater exclusively to the need of jute trade may be established. The possibility of floating a 'jute Bank', and 'jute Exchange' may be given thought.

(v) Dependency on foreign shipping lines should be reduced. Instead, national shipping line, should get due consideration not only for export of jute but also for overall export and import requirements of the country.

(vi) Skill for local production of 'spares' should be developed along with timely import of the same.

(vii) For smooth movement of traffic, proper facilities in communication require priority. In this respect 'throughout the year' navigable river Shitalakhya with proper training will be of great importance.

(viii) Jute being the country's major cash crop earning valuable foreign exchange and having world-wide demand, its excessive exchange under barter deals, should, as far as practicable, be avoided.

The impact of emphasis on the overall improvement of jute on Narayanganj can put her back in her past unrivalled position. Bangladesh jute Association and other Government and Private Agencies should create desirable and favourable conditions for jute and jute products through formulation of policy, guide lines, administration and research. BJA there is the right Organization to sense the pulse of jute trade and accordingly can suggest and co-ordinate with other agencies for the development of jute trade and jute industry for the greater benefit as well as for the benefit of the economy of Narayanganj.

It may be pointed out that though synthetics and substitutes have entered the field, yet consumption of raw jute and jute goods have continued to increase due to the fact that jute has some inherent qualities which can not be so easily replaced. More-over demand for jute and jute products is growing rapidly with the rapid increase in World population, agricultural and industrial production. Left to free competition, however, the share of synthetics in the market will depend on the suitability of synthetics materials for packaging particular products, their reuse value and of course their price. It is quite reasonable to assume that jute will be able to hold it's own in this competition provided we can continue to make jute and jute products available in sufficient qualities at reasonable prices.

5.B. ECONOMIC PROBLEMS AND ACTION.

The economic analysis of Narayanganj within the scope and time limit of this study is not sufficient for the preparation of a full programme. The combined efforts of government and private agencies are must to formulate any such complete programme. However, the constant goal of all planning is better standard of living for all citizen.

The purpose here, as indicated earlier, is to give some outline of important economic variables, which, if can be dealt with properly, will give impetus and revitalize the economy of Narayanganj. But this must be achieved within an integrated regional and national economic frame work.

The economy of Narayanganj should be judged into two parts for future action:

First, those economic activities having markets beyond city limit. In this class of activities are : Jute, Cotton and Cotton Textiles, Hosiery, Dyes and Chemicals, Petroleum, Major whole sale and retail trades, transport and Communication etc.

The growth of this type of economic activities will largely depend on the growth of demand at international, national and regional markets. Much will also depend on the capability of Narayanganj to compete with other centres having similar type of activities.

Second activities, having their market mainly within the city itself. This activities include local whole sale and retail trade, house hold services, primary, secondary and technical education, local health services, other professional services, local government services, electricity and gas, bricks, construction and maintenance.

The growth of this type of activities will mainly depend on population and income of the city and growth of those industries in the first category which use the products of the second category.

It should be remembered here that in our developing society, with scarce capital resources, economic analysis and judgement are integral aspect of planning for growth. The economy of Narayanganj has the following basic and closely inter-related problems which must be considered in planning.

1. Employment: The demand for future employment from growing population and present unemployment require the economy to generate increased number of additional jobs.
2. Capacity Utilization: For higher income, output of employment, increased capacity utilization of installed capacity in the industries is desirable to revitalize more fully the economic potentiality of Narayanganj.
3. Removal of Bottlenecks: To support increased utilization of installed capacity require:
 - a) adequate raw material and investment and
 - b) infrastructure for the economy (power, transportation, water etc.)

The increased utilization should be in relation to the market demand though a thorough re-examination of government policies regarding allocation of raw materials, permits, licencing etc. will be necessary.

4. Regional locational policies for Industry: Regional growth centres such as Adanjee area, Fatulla and Narayanganj have to secure industrial investment which has to be balanced with the economic growth of greater Dacca.

5. Targets: The producing output targets of Narayanganj City must be determined by the appropriate authority from time to time. Production in Narayanganj should be able to contribute fully to her share of National targets.
6. Foreign Exchanges Earnings: The foreign exchange earnings by Narayanganj's industries must be increased to the maximum extent possible.
7. Per Capita Income: Rapid increase in per capita income of the city dwellers should be of concern of the policy makers for proper and healthy growth of the city.
8. Technical Education and Manpower Planning: For rapid progress in the economy, technical education and manpower planning should be devised to reduce the great proportion of untrained, unskilled illiterate or semi-literate workers in the labour force.

Basically all these can be dealt with by creating and safeguarding favourable climate of investment for private sector. Thus the attracted capital will inject new life in the economy. The important role of planning is to create such climate for investment to stimulate faster pace of growth.

5.C. LAND USE CONTROL.

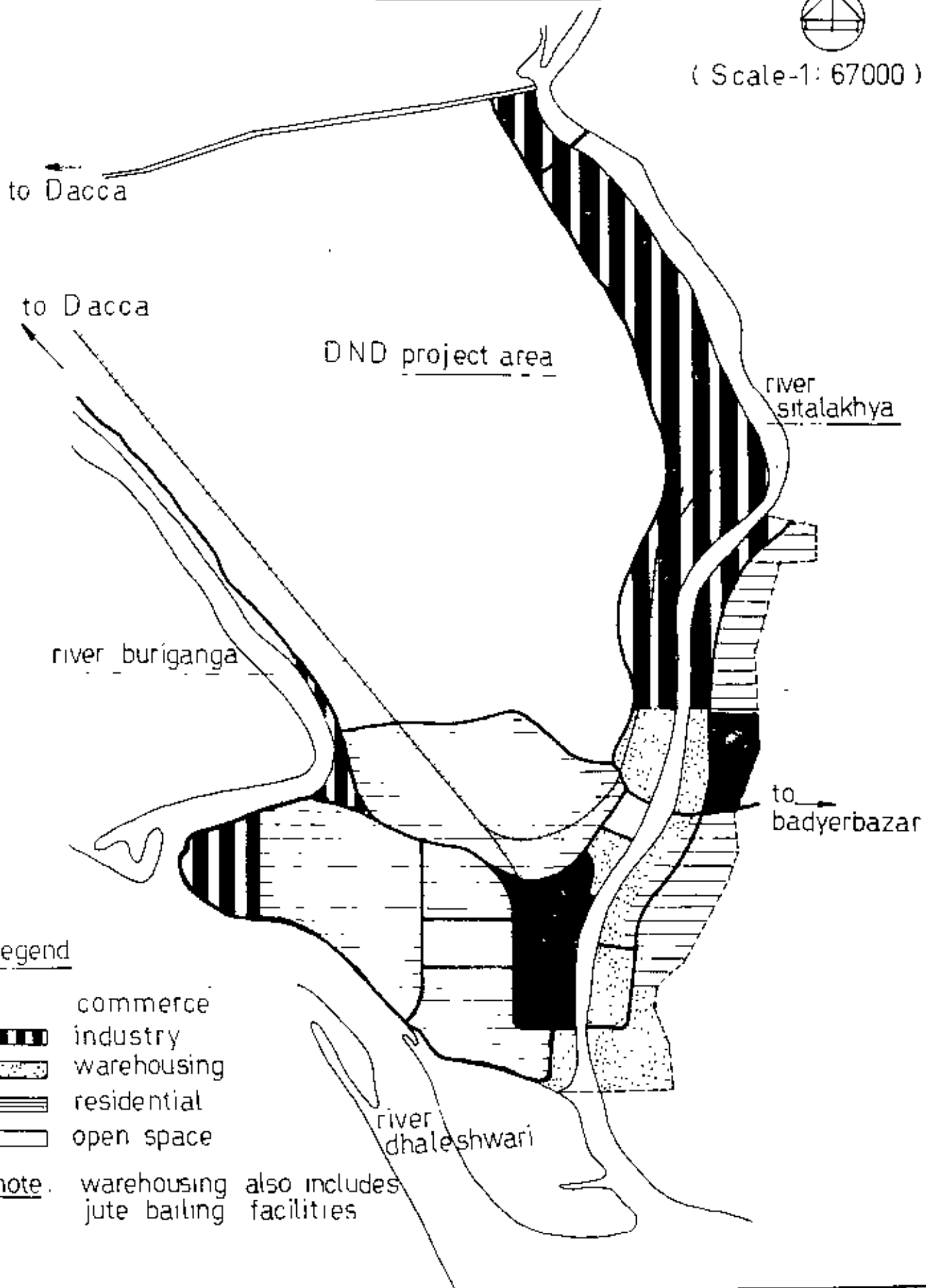
Responsibility for development of Narayanganj lies with both the public and private sectors. For the achievement of common goals, both the sectors must be integrated to support each other. Public planning should be closely related with the spatial distribution of the physical facilities (different landuse) created by private action.

To direct private actions and to increase development investment, broad development policies including more detailed plans for physical development become a positive and effective measure.

A LAND USE PROPOSAL FOR
NARAYANGANJ.



(Scale-1: 67000)



Legend

-  commerce
-  industry
-  warehousing
-  residential
-  open space

note. warehousing also includes
jute baling facilities

This measure of land use control, being a beneficial regulation, directly improves the physical environment through suitable locations of different uses. Each type of use, and groups of uses are allotted reasonable amount of land by this regulation. It relates these uses to one another for harmonious growth of all and ensure the mutual accessibility of uses and where necessary (such as schools & residences need to be accessible to one another). Activities when distributed on land properly contribute to the growth of economy and prevents undesirable uses of land.

Land use control aims at :

- 1) Promotion of development of land in planned manner so that enough land will be available for future planned growth.
- 2) Encourage development rather than restrict it.

Land use controls will be necessary for different areas of Narayanganj where public investment is confined to the provision of basic utilities and services and no major land acquisition is planned by Government. All land control measures should have the backing from law.

For enforcing of land use control, Narayanganj city can be divided into three major zones:

1st. Zone 'Narayanganj Paurashava': The whole of Narayanganj Paurashava should immediately be brought under land use control by the authority. There is substantial amount of land measuring more or less 1540 acres (32.08%) liable to flood within Paurashava area. Here dredging of river by the Government will serve dual purpose of filling this land and as well as to train the river. Land thus reclaimed, should, in no case, be used for any purpose without preparing a master plan. This does not mean acquisition of land. The policy of recovering cost thus incurred can be worked out jointly by Government, Paurashava and

people's representatives.¹⁰ This area can still remain in private ownership and yet be guided by a proper Master Plan. As a result, diversified activities with necessary facilities will be harmoniously spread over the Paurahsava area over specific time (times). This will demand joint effort by Government, private agencies, individual citizens to transform the city and to achieve better life for city people. It should be remembered that Narayanganj will continue as an important industrial and commercial centre and also as a river port. The manner in which her land is used will determine the degree of acceleration in the growth of her future economy.

The other essential task of first degree priority seems to be gradual renewal of CBD. Floor man ratio can very well be decreased to a comfortable limit by vertical expansion. The expenses incurred can very well be equated with increased value of properties, increased floor space, greater opportunity to increase income, greater comfort etc. The participation in the renewal programme may be either voluntary or compulsory. It may be pointed out that personal visits in C.B.D. confirmed the fact that regulations to be followed for obtaining industrial, commercial licences from the concerned authorities, were in great many cases, not followed properly in the CBD. Moreover, time has come to change the traditional outlook of the communities for their own benefits.

10: The policies may be circulated among the permanent residents of all the zones or sub-divisions thereof, public and private agencies etc., initially asking for their views so as to judge the overall attitude of the public. Before making any policy final and official, each zone or sub-division thereof, may be requested to send their representatives proportionately according to the population of each zone/area (other than already elected members of the Paurahsava) to have discussions with the authority/authorities on the point/points of disagreements, if any.

The first zone again may be divided into several smaller zones, possibly following the existing administrative boundaries which shall require to follow the master plan to be prepared by the appropriate authority. Few areas may thus require to undergo certain changes to provide different services.

2nd Major Zone 'Industrial Belt': The whole industrial belt of Adanjec Nagar etc., at the North of Paurashava will be covered by this zoning. Though this industrial belt has been previously planned and has accordingly been executed (partially), the residential accommodation and allied facilities seemed to be lacking either due to the fact that industries concern did not provide their respective full shares of residential and other concerned facilities to their workers or the concerned authority, namely DIT, who was supposed to be responsible for improvement of greater Dacca including this area, failed to provide housing and other necessary facilities. However, area outside the industrial belt, where kutchra and semi-kutchra structures have been gradually increasing for residences etc. which would be further intensified in near future on the Eastern bank of Shitalakhya due to recent opening of the bridge, should be a great concern of the planners while preparing the Master Plan. In this respect the ensuing 'two year' plan of the Government should be able to give some guide lines regarding possible investments in industries.

This zone again may be subdivided for various purposes so that worker get benefit of daily necessities within walking distance.

3rd zone 'Fatulla Urban': Fatulla urban, as has been seen earlier, depends on Narayanganj for many purposes. Land-use control should immediately take care of the unplanned growth on the both sides of Narayanganj-Dacca road. Further development, if allowed, without a proper Master Plan, will be unwise.

This urban area will mainly serve the purpose of housing needs and other facilities to the city people. The portion of land, not liable to flood measuring more or less 1260 acres (32.82%) on the northern side of Narayanganj- Dacca road, can now be prepared for housing development and other allied facilities. The existing Narayanganj - Dacca road and District Board roads, linking this area with Adanjee industrial belt and Narayanganj will give easy access to and from working places and residences.

There is another vast portion of land measuring more or less 2,006 acres (52.24%) liable to flood lying on the southern side of Narayanganj-Dacca Road which can be reclaimed. This can be achieved by providing an embankment on the northern bank of river Buriganga and filling it up when necessary. The road on this embankment, the existing Narayanganj - Dacca road running East-West and the district board road running North - South (at Panchabati) will confine this area within a ring. This area may be kept in reserve for future expansion of the city as and when it becomes necessary.

However all this efforts require direct government action having legal backings.

5.D. 'TRANSPORT'

Transportation system being one of the major instrument to resist deterioration of Narayanganj and to guide her growth in the desired direction call for immediate action by the authority. Highways, Railways, mass transport facilities and river transport are vital for industrial and residential development. Modern transportation system provides rapid, safe and economic movement within an urban area and also connects it with rest of the nation. The different nodes of transport should be efficiently integrated and the advantages of each mode such as rail, road, mass transit, river should be utilized.

5.D.1. ROADS.

The roads linking Narayanganj with Adanjee area at the North, Fatulla and Dacca at the west, have become major arteries. The two entries to Narayanganj by Road transport are: on Narayanganj-Adanjee road and Narayanganj-Dacca road.

These roads have become inadequate for the volume of traffic they have to carry. Field survey revealed that Narayanganj-Adanjee road and Narayanganj-Dacca road carried 232 PCE and 358 PCE per hour in August 1977. (Table-46). To judge the inadequacy of these roads, the following table may be referred to:

Table - 49

CLASSIFICATIONS AND SPECIFICATIONS OF ROADS.⁵

Type	Design speed PCE/hour. in mph.		Carri- age- way width in ft.	Shoulder width on each side ft.	Embank- ment width in ft.	
	Urban	Rural				
Class-IA	45	60	500 (at present)	20' Dual 4' median	6	56
Class-IB	35	50	500 and above*	22' single	9	40
Class-II	30	45	150-500*	18' single	7	32

* achievable at the end of the 10th year from now.

The future PCE per hour achievable at the end of the 10th year from now on Narayanganj-Adanjee Road makes it to be classified as 'Class IB' as per table - 46. Therefore as per recommendation of the Government, this would form a part of the arterial system and would carry a total of 500 PCE or more per hour in

⁵ Transport Survey Section, Planning Commission, Govt. of Bangladesh, Report of the Study group on Road Planning in Bangladesh, February, 1978.

both directions. This would be single carriageway road with 22' wide pavement. Shoulder width would be 9 ft. on each side giving a crest width of 40'. Design speed of this road would be 35 mph and would be designed for H-15 (equivalent to maximum single axle loading of 24,000 lbs) loading.

But Narayanganj- Adanjee road hardly meets this specification. It is single carriageway road with only 12' wide pavement. In many places, in the northern portion of the town, (where it is part of this road) it does not have any shoulder as a result of construction of temporary and semi-pucca structures. In other areas, where it runs through open spaces, its' crest width vary from 20 to 30 ft.

This section of road between Narayanganj to Adanjee requires immediate attention by the authority concerned. Moreover, overall condition of the existing road is most unsatisfactory due to bad maintenance etc.

As regards Narayanganj-Dacca road, projected amount of more than 500 PCE/hour will be carried in 1980, within less than 20 months from now. (table-46). Moreover nearly one year has passed in between actual survey and this report writing, during which it is more likely that the amount of PCE/hour on this road has increased. It may also be noted that the projection of PCE on the same road for 1980 made by Armann and Whitney International Ltd., New York, (Table - 47) exceeds by 12% than the projection done for this study.

Under the above circumstances, it will not be unreasonable to assume that present level of PCE/hour on this road is more than 500. If this assumption is allowed, then this road falls in Class - IA as per table - 49 which prescribes the road to have dual carriageway having pavement width of 20 ft., shoulder width of 6 ft. on each side, and the crest width of 56' with a median of 4' wide. Design speed would be 45 mph. and the road would be designed for H-15 (equivalent to maximum single axle loading of 24,000 lbs) loading.

If the road is classified as 'Class-IB' as per August 1977 PCE/hour, then also the specifications as prescribed in this class, in no way, meet the existing specifications. On the other hand in the 'Geometric Design Standard',⁶ a minimum free board of 3 ft. above normal flood level has been suggested which is absent in Narayanganj-Dacca road. This road protects flood water in DWD project area. But suggestion of free board of 3 ft. above normal flood level has not been maintained here. As a result, it can be seen throughout the length of Narayanganj - Dacca road, that an artificial longitudinal earth barrier of 2' width and 3' high (average) has been placed on the shoulder of the road facing the river Buriganga to protect the flood water in case if it overflows the metal portion of the road.

Thus, considering all the circumstances, this road, the vital organ of Narayanganj's economy, must get priority so that it may most satisfactorily serve its purpose for a considerable time to come.

The road system in Narayanganj Paurashava is not at all satisfactory. Hardly any of the roads, except the incomplete Bangabandhu Avenue exceeds 12 ft. in width. There are 50 miles road⁷ (all type) in Narayanganj Paurashava giving a figure of 3 miles per 10,000 population (of 1974), in other words against each mile of the road there are 3,529 people. This is so startling a figure that one may question it's accuracy. But its validity lies in the fact that 'right of the way' of roads have failed in all respect to keep pace with the increase in population and development.

A detail survey of road inventory by Government and local agencies should be undertaken to formulate and suggest measures for future action on the internal road development programme.

6. T.S.S., Planning Commission, Govt. of Bangladesh, Report of the study group on Road Planning in Bangladesh, Feb., 1978.

7. Office records, Narayanganj Paurashava (1975-76).

In Adanjee area, except the main road running from Narayanganj, all other roads linking the industries and residential units are ^{more} or less satisfactory, though few thousand yards of Katcha and brick paved roads on the river side are being submerged during flood.

Fatuála Urban, except Narayanganj-Dacca road, has no metalled road at all. It has two district board roads of brick pavement, the rest being kutchha roads or 'ails' which remain under water during rainy season.

However attention should be immediately focused on Narayanganj-Dacca road for its improvement. It may be pointed out here that for upgrading of this road, government has already sanction Tk. 36.7 lac including 4.2 lac foreign exchange component in 1974.⁸

5.D.2. WATER WAYS.

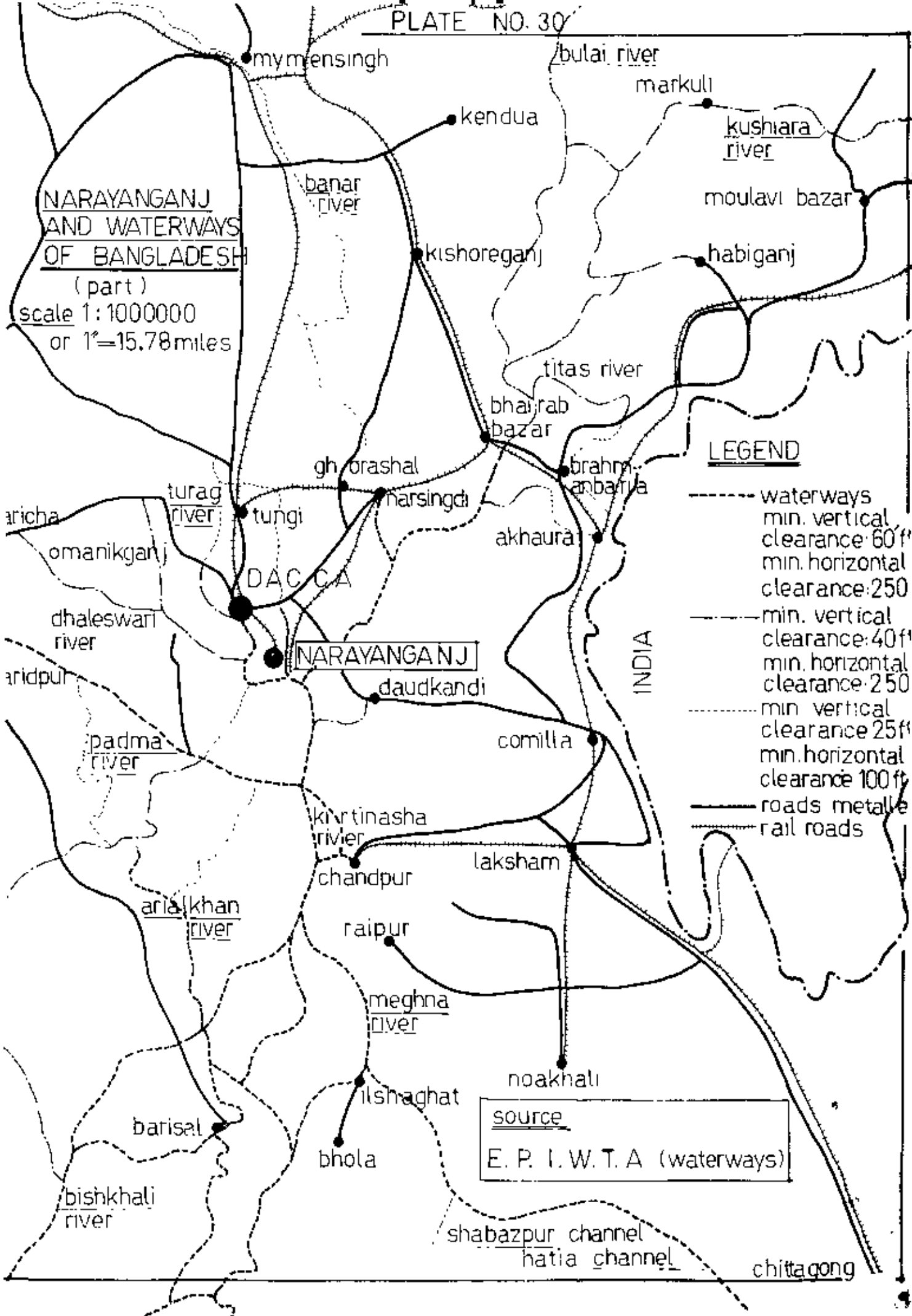
In the expansion of economy and industry of Narayanganj city, waterways will perform a vital role as it did in the past. Bulk non-perishable commodities can be carried by water ways at lesser cost than the other modes of transport. There still remains vast scope for the river Shitalakhya to play her role in improving Narayanganj's economy, if she can ^{be} trained and maintained properly. It may be noted here that the canal running East-West at the south of the Narayanganj Paurashava which used to join Shitalakhya with Buriganga, if now dredged and made navigable for throughout the year, would reduce the distance between Dacca and Narayanganj by 10 miles of waterways. Dredging of canals and river Shitalakhya will also be necessary for filling up the ditches and depressed land within the area.

8. Planning Commission; Sector Transport, Annual Development Programme, 1973-74. p.119, (Agency Road and Highways).

NARAYANGANJ AND WATERWAYS OF BANGLADESH

(part)

scale 1:1000000
or 1"=15.78 miles



LEGEND

- waterways
min. vertical clearance: 60 ft
min. horizontal clearance: 250
- min. vertical clearance: 40 ft
min. horizontal clearance: 250
- min. vertical clearance: 25 ft
min. horizontal clearance: 100 ft
- roads metalled
- rail roads

source
E. P. I. W. T. A (waterways)

INDIA

DACCA

NARAYANGANJ

chittagong

The detail forecasts of cargo etc. for Narayanganj port have been shown in previous chapter under heading economic activities. However, to state precisely, forecasts of cargo handling at Narayanganj are:⁹

1. Country boats Traffic.

- a) By 1970, a 38% increase over 1964 tonnage
- b) By 1985, a 40% increase over 1970 tonnage requiring IWTA facilities.

2. Mechanised IWT Traffic.

- a) By 1970, a 122% increase over 1965 tonnage
- b) By 1985, a 167% increase over 1970 tonnage requiring IWTA facilities.

The then EPIWTA, had drawn a master plan for improvement of port facilities of Narayanganj as per recommendations of Frederic R. Harris, Inc. New York, in 1967-68, which still deserves special attention for any proposals of improvement and development of Narayanganj port.

5.D.3. RAILWAYS.

Though shifting of railway station from Narayanganj to Dacca has acted adversely to the economy of Narayanganj, table 24 in previous chapter indicates that there exists a gradual increasing tendency for both passenger and goods to use the railway. In most of the developing and developed countries, Railway acts as ring road at the outskirts of the metropolitan city for easy movement of passengers and goods.

In our case, Narayanganj- Dacca Railway section can definitely be improved to that extent so that it can compete with other transport and at least be able to draw certain percentage of passengers from those nodes.

9: Frederic R. Harris, Inc., New York, Report on the Economic and Engineering Feasibility of five Inland Water Ports, 1967.

During the survey, negligence by the authority to this section of Railway has been noticed. However, there are enough scope for improvement of this section. Modern Methods of traffic control such as route-relay interlocking, synchronised signalisation, electrification etc. are not uncommon in developing countries. This may increase the capacity of the existing system by 40% and can even go upto 70%.

Well developed transport facilities will be required to maintain a balanced functional relationship between Narayanganj and Dacca. If Narayanganj can be developed in proper and planned manner, pressure on Dacca, in many respect, will also be considerable reduced.

5.E. ADMINISTRATION.

In the developing countries, problems of urban administration is closely related with the policy of the Government to encourage economic and social development. Urban problems need priority attention as these are increasing at a faster rate with the increased rate of urbanization. The role of a city's total social and economic development is restricted by demographic, economic and political factors and most importantly by administrative deficiencies. As a result the growth of our cities today are qualitatively different from those of western cities in early 19th century.

Urban administration may be defined as the whole range of governmental organization and processes for planning at all levels, for decision making and for performing the public services related to an urban area. Administrative problems are characterised by the elements present in them which delay, prevent, raise cost, creates obstacles to achieve desired goals of the Government.

"Change" is the important characteristics of rapid urbanization which cannot be satisfactorily met by administrative structures which are designed for maintaining law and order, and institution meant for control and regulation. Effective urban

administration, therefore, must provide able and innovative leadership, skill guidance in policy and research, and proper aptitude of the government servants to deal with the problems.

Fundamental among all in urban administration is the balance between specialization and co-ordination. Because conflict and competition may arise between several organization with the change in urbanization since governmental agencies usually operate at various levels.

Principal Administrative Problems of Urbanizations are :

1. Absence of suitable organizational structure
2. Lack of relationship between various government agencies.
3. Inability to manage urban resources for best uses.
4. Lack of people's participation and representation
5. Absence of National urban planning and policies
6. Non-availability of necessary institutional aids for the improvement and development of urban areas.

As a single project in our country, such as water supply, public housing, or a mass transit, requires action by several government agencies and hence co-operation and co-ordination among them in urban administration is most essential.

Urban region seems to offer a good frame work for the purpose of administration wherein local, regional and national operations may be co-ordinated. By experience, it can be said that fragmentation of government organization is one of the most serious problem in the administration of urban area. Fragmentation leads to multiplicity within the region by local authorities and field units of government agencies in absence of adequate co-ordination and arrangements. Thus, resources and efforts are wasted as a result of jurisdictional and functional fragmentation. Partnership between government agencies and local authority is therefore essential for urban administration.

For the purpose of this study a series of stages of administrative activity to be carried on by different agencies for Narayanganj are suggested as follows :

1. Preparation of plan by professional and technical staff.
2. People's consent and participation.
3. Sanctioning by the appropriate authority.
4. Implementation by or under the supervision of action agencies.

Now conditions are being created while implementing the plan which calls for revision of outstanding plans. The plans sanctioned should be re-sanctioned every year until they are satisfactorily completed. Planning thus is not a single stage of activity but is a continuous process.

Strengthening the existing development agencies and creation of new development agencies where necessary to execute any programme will be necessary to translate these plans into actions. New legislation may also be required in some cases. Therefore, powers needed, the responsibilities to be assumed, the functions to be performed, by the existing department or agencies or the required new agencies to exercise few/all of these powers etc. must be specific in the formulation of administrative policies for the development of Narayanganj.

In the light of unsatisfactory administrative and financial situations of development agency and Paurashava in Narayanganj, following administrative and fiscal arrangements are required for the planning of Narayanganj city for her growth.

1. Separate planning agency with statutory powers and responsibilities.
2. Establishment of area improvement/development agencies to implement improvement/development programmes.
3. Recasting and strengthening of Narayanganj Paurashava for its participation in improvement/development programmes.

- 4. Fiscal machineries to be organised for mobilization and allocation of resources to support her development.

Planning of Narayanganj city must be closely related and integrated with regional planning. The area of Narayanganj Paurashava, Adamjee industrial belt, Fatulla have strong socio-economic and physical ties. Therefore, Narayanganj city consisting of these three major areas, should be recognized and treated by the government as a basic unit for collection and preparation of data regularly by different government agencies and accordingly departmental progress reports should be prepared. Various department of the government such as statistical department, health, education, commerce and industries etc. should officially adopt Narayanganj city for their statistical purposes. These steps will eventually facilitate, to a great extent the task of planning and evaluating continuously the development progress of the area.

At present Ministries and planning commission in our country are responsible for development proposals and accordingly annual five year plan are prepared. The implementing authorities such as D.I.T., Narayanganj Town Development Committee, Narayanganj Paurashava etc. do not have enough professional and technical staff.

Our regions do not have unified legislations for development/improvement of various urban areas. Therefore, comprehensive legislations for urban and regional planning are needed urgently. Moreover uniformity in organizational pattern, power and procedures of various development/improvement agencies should be brought about by necessary acts and regulations.

The Ministry must undertake responsibilities of direct planning for undeveloped urban area like Narayanganj city. Co-ordination of various agencies in the development efforts should be important responsibility of the ministry. For this purpose, continuous review, evaluation and revision of all the plans, programmes and budgets will be necessary.

The planning structure outlined in the following diagram will formulate policies for planning of Narayanganj city as well as other parts of the region. Plans for Dacca, Narayanganj, Tongi, Joydehpur, Savar or other centres must be in an integrated form within the whole region where these areas are situated.

DMC

RIA


REGIONAL - BOARD

MADE IN AUSTRIA


REGIONAL - BOARD

MADE IN AUSTRIA


Legend

 Urban areas

DACCA CITY-REGION


 Existing industrial and urban areas


(GROWTH AREAS)


 Country side

NORTH



 Major roads

 Rail road

 river

Tangail

city region boundary

Sripur

Mirzapur

Lakhya river

Joydebpur

Dhaleshwari river

Ghorashal

Tongi

Kaligani

Narsindi

Manikganj

Savar

DACCA

Demra

Meghna river

Arichaghat

Nawabganj

NARAYANGANJ

Faridpur

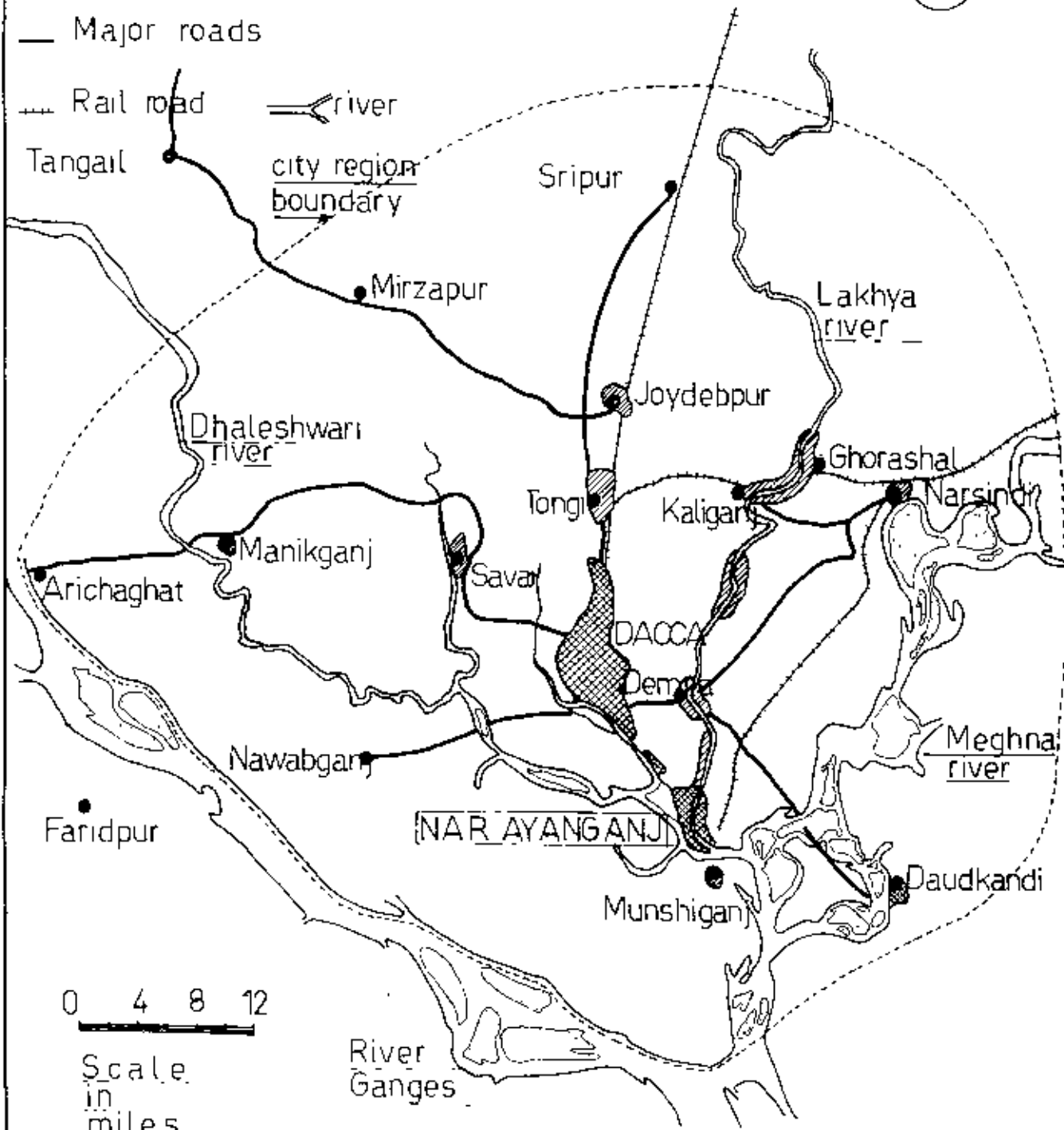
Daudkandi

Munshiganj

0 4 8 12

Scale in miles

River Ganges



PLANNING COMMISSION

MINISTRY OF WORKS

URBAN DEVELOPMENT DIRECTORATE

* Economic Planning * Physical Planning

DACCA IMPROVEMENT TRUST

NARSHINGDI PLANNING AUTHORITY

TONGI PLANNING AUTHORITY

JOYDEVPUR PLANNING AUTHORITY

SAVAR PLANNING AUTHORITY

MUNSHIGANJ PLANNING AUTHORITY

OTHER PLANNING AUTHORITIES IN THE REGION

KARAYANGANJ CITY PLANNING AUTHORITY 'NCPA' (Narayanganj Paurashava)

- * Preparation of Plan and Co-ordination
- * Budgeting
- * Review of Plan and Implementation
- * Information regarding plan
- * Negotiation and processing for planning

Administration Cell of NCPA

- * Taxation
- * Maintenance and lighting of all roads, footpaths etc.
- * Public cleansing
- * Primary education
- * Vaccination, inoculation and preventive health measures
- * Building control
- * Enforcement of local zoning and subdivision regulation
- * Recreation & local parks
- * Markets, Hats & Slaughter houses
- * Food and Drug administration
- * Control posts
- * Birth and Death registrations.

REGIONAL FUNCTIONAL AUTHORITIES

- * WASA, Dacca
- * BRTC & Private Mass Transport Agencies
- * WAPDA
- * DIT
- * FWD, Housing Directorate
- * Health Deptt.
- * Education Deptt.
- * Social Welfare Department.

Action Agencies of NCPA

Present area of N.Ganj. Paurashava.

Unit No. 1

Whole area of Industrial Belt

Unit No. 2

Fatulla urban and nearby areas.

Unit No. 3

———— ADMINISTRATIVE CO-ORDINATION
 - - - - - PLANNING AND DEVELOPMENT CO-ORDINATION

CONCLUSION AND SUMMARY RECOMMENDATIONS.

Urbanization, being relatively a new phenomenon in Bangladesh, requires basic research prior to development of any 'frame work for action' or 'development plan'. Unplanned urban growth leads to misallocation of resources as well creates problems for the people residing in the urban area. Although some urban problems in certain respect may appear quite formidable, yet there is scope for planners to formulate policies before the things go out of hand.

"Narayanganj Planning for growth" is a study for Narayanganj in its crisis. It is also a study for a centre vital to an urbanizing region in Bangladesh which must make massive effort to achieve rapid social and economic change. It may be mentioned here that Narayanganj, once the 2nd biggest city of the country, remained uncared for as an waste land or agricultural land near Dacca.

The revival and growth of Narayanganj and the sound growth of the central region of Bangladesh are closely related. Forward movement must be made simultaneously by Narayanganj and surrounding region and the community as a whole for harmonious growth. Full advantage of economic potentiality of Narayanganj must be taken if the region and the nation are to develop as rapidly as possible.

It is assumed that industrial planning in Narayanganj will be co-ordinated with the urban planning throughout the region. It is also assumed that regional transportation system will be developed to support the desired urbanization in Narayanganj and essential components of urban infrastructure including intra-urban transportation, power, water supply, other services etc. will be developed in the right places at the right time to support overall urbanization and Industrialization programme of Narayanganj.

The study is aimed at guiding future growth of Narayanganj in directions that will benefit the region and the nation. As an essential aspect of this, it is directed toward arresting the very serious physical and social deterioration that Narayanganj has suffered because of the absence of sound planning and administration.

The study does not promise to transform Narayanganj city overnight. The study does offer an image of what can be achieved in Narayanganj city in a realistic long run period.

The study suggests governmental development effort on key problems such as housing policy, zoning and gradual renewal of CBD. The problems of Narayanganj city can be overcome only if they are dealt with selectively and in a proper sequence, taking first those actions which can arrest the most serious deterioration and those which will contribute most to renewal, revival and growth of Narayanganj.

The followings are a few suggested measures for overall improvement of Narayanganj City.

1. Deterioration of CBD must be arrested by an overall programme so that it can play it's role as a major commercial, industrial and administrative centre with it's regional and natural status.
2. Renewal and development effort by the government within Narayanganj city should be there.
3. Three essential task must draw attention from public and private agencies:
 - (a) the arrest of deterioration.
 - (b) better use of the capacities of existing industries and infrastructures.
 - (c) provision for extensive future growth.

4. Four specific programmes should also be chalked out by the Government:

- (a) overall economic growth
- (b) strengthening and straightening administrative system.
- (c) improving physical environments of Marayanganj
- (d) essential facilities and community services.

5. To make better use of existing/installed capacities in manufacturing sector, an economic development programme (both short and longrun) should be undertaken. The responsibilities for short and long run programme should be shared both by local and central agencies as per accepted policy of the government.

6. Availability of decent houses at reasonable prices to the city dwellers will need long term programming for housing.

7. Elimination of health hazards and providing of basic utilities for new growth should also get proper attention.

8. Urgently needed community facilities within the city should get priorities which can support social and economic changes (education, health etc.) for its betterment.

9. Regional transportation system should also be programmed for its proper development.

10. Consolidation and annexation of local government units will be necessary for their reorganization to make them sufficiently large so that they can provide the fiscal base required. (effective administration of local affairs through local government.)

11. Existing fiscal system should be improved to strengthen the local finance.
12. Power should be delegated to the planning Authority to recommend plans, programmes and projects to the government.
13. Specific responsibilities and accountability should be there for Authority with statutory powers.
14. Narayanganj will require public acquisition and development of land for future expansion.

RADIO

RADIO - BOND

A N NEXURE

MADE IN

MADE IN AUSTRIA

ANNEXTURE - A

Table No.

1.	Individual Information : Age and Sex Composition in different areas in Narayanganj City.	I
2.	Family sizes in different areas in Narayanganj City (as percent of household in each area)	II
2(a)	DO (as percent of total number of household) ...	III
3.	Age of the Heads of the Families in different areas in Narayanganj City.	IV
4.	Places of origin of Heads of the families in Narayanganj City (as percent of Heads of the families in each area).	V
4(a)	Do (as percent of total number of Heads of the families.	VI
5.	Urban/Rural origin of the families in N.Ganj City.	VII
6.	Educational level of the Heads of the families ...	VIII
7.	Occupational structure of Heads of the families (as percent of Heads of the families in each area) ...	IX
7(a)	Do (as percent of total number of Heads of the families).	X
8.	Monthly income of the Heads of the families (as percent of Heads of the families in each area) ...	XI
8(a)	Do (as percent of total number of Heads of the families)	XII
9.	Monthly expenditure of Heads of the families (as percent of Heads of the families in each area) ...	XIII
9(a)	Do (as percent of total number of Heads of the families)	XIV
10.	Whether send/receive help in cash or kind by Heads of the families.	XV

ANNEXTURE - B

Table No.

1.	Floor space of Jute godowns in Narayanganj City ...	I
2.	Tonage handled at five major Inland River Ports by IWTA.	II
3.	Main traffic direction and traffic volume of Narayanganj Port.	III
4.	Movement of Cargo by IWTA mechanized vessels to and from Narayanganj.	IV
5.	Movement of Important commodities to and from Narayanganj Port.	V

ANNEXTURE - C

Table No.

1.	Trend of revenue receipt at major river Ports	...	I
2.	Land values in Narayanganj City	...	II

ANNEXTURE - D

Table No.

1.	Position of Looms of different Jute Mills in Narayanganj City.	...	I
2.	Production of different Jute Mills in N.Ganj City		II
3.	Employment position of different Jute Mills in Narayanganj City.	...	III
4.	Capacity of different Textile Mills (Looms) in Narayanganj City	...	IV
5.	Capacity of different Textile Mills (Spindle) in Narayanganj City.		V
6.	Comparative production of different Textile Mills in Narayanganj City.		VI
7.	Employment pattern in different Textile Mills in Narayanganj City.	...	VII

ANNEXTURE - E

Table No.

1.	Landuse of Narayanganj City	...	I
2.	Plot sizes in different areas in Narayanganj City (as percent of plots in each area).		II
2(a)	Do(as percent of total number of plots)	...	III
3.	Living spaces in different areas in Narayanganj City (as percent of plots in each area)	...	IV
3(a)	Do (as percent of total number of plots)	...	V
4.	Open spaces of plots in different areas in N.Ganj City (as percent of plots in each area)		VI
4(a)	Do (as percent of total number of plots)	...	VII
5.	Number of stories of Buildings in and around Narayanganj City.	...	VIII
6.	Age of the structures in Narayanganj City (as percent of structures in each area)	...	IX
6(a)	Do (as percent of total number of structures)	...	X
7.	Approximate prices of structures in Narayanganj City (as percent of structures in each area)	...	XI
7(a)	Do (as percent of total number of structures)	...	XII

8.	Condition of structures in different areas in Narayanganj City.	...	XIII
9.	Building materials used in structures in different areas (as percent of structures in each area)		XIV
9(a)	Do (as percent of total number of structures)	...	XV
10.	Categories of structures in different areas in Narayanganj City.	...	XVI
11.	House ownership pattern in different areas in Narayanganj City.	...	XVII
12.	Rental structure in different areas in N.Ganj City (as percent of rental houses in each area)		XVIII
12(a)	Do (as percent of total number of rental houses)		XIX
13.	Duration of living by Heads of the families in different areas in Narayanganj City.	...	XX
14.	Changes of residences by Heads of the families in different areas within Narayanganj City.	...	XXI
15.	Number of Holdings in Narayanganj Paurashava	...	XXII
16.	Satisfaction of living by Heads of the families in different areas in Narayanganj City.	...	XXIII

ANNEXTURE - F

Table No.

1.	Passengers carried monthly by BRTC and Private Buses on different routes connecting Narayanganj with it's environs.	...	I
2.	Movement of motor vehicles by origin and destination (Narayanganj-Adanjee and Narayanganj-Dacca Roads)		II
3.	Road traffic count (Narayanganj-Adanjee Road)	...	III
4.	Road traffic count (Narayanganj-Dacca Road)	...	IV
5.	Summary of traffic (Narayanganj-Adanjee Road)	...	V
6.	Summary of traffic (Narayanganj-Dacca Road)	...	VI
7.	Summary of traffic, Intra and Inter District (Narayanganj-Adanjee Road)	...	VII
8.	Do (Narayanganj-Dacca Road)	...	VIII
9.	Average Vehicle Occupancy	...	IX
10.	Average Capacity Distribution	...	X
11.	Truck load factors and Empty vehicles for selected origin and destination.	...	XI
12.	Purpose of Journey (Narayanganj-Adanjee Road)	...	XII
13.	Do (Narayanganj-Dacca Road)	...	XIII

14.	Major commodity movement by Trucks (Narayanganj-Adanjee Road)	...	XIV
15.	Do (Narayanganj-Dacca Road)	...	XV
16.	Passenger Car Equivalent	...	XVI
17.	Fluidity of Daily movement for various purpose (as percent of number of families in each area)	...	XVII
17(a)	Do (as percent of total number of families)	...	XVIII
18.	Fluidity of weekly movement for various purpose	...	XIX
19.	Fluidity of monthly movement for various purpose...	...	XX
20.	Daily use of different modes of transport (as percent of number of families in each area)	...	XXI
20(a)	Do (as percent of total number of families)	...	XXII
21.	Weekly use of different modes of transport	...	XXIII
22.	Monthly use of different modes of transport (as percent of number of families in each area)	...	XXIV
22(a)	Do (as percent of total number of families)	...	XXV

ANNEXURE - A
Table - 1

I

INDIVIDUAL INFORMATION; AGE AND SEX COMPOSITION IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY,
AUGUST 1977

Sl. No.	Areas.	No. of sample in each area.	Sex	Individual Information													
				Persons in particular age group in % of total sample persons in each area.							Persons in particular age group in % of total number of Males & Females covered by survey.						
				0-4	5-14	15-30	31-45	46-60	60+	Total	0-4	5-14	15-30	31-45	46-60	60+	Total
1.	Godnail Union	45	M89	6.74	22.48	33.71	25.85	3.98	2.24	100	0.19	0.65	0.97	0.74	0.26	0.06	2.87
			F57	24.57	21.06	22.81	10.52	19.29	1.75	100	0.52	0.45	0.48	0.22	0.41	0.04	2.12
2.	Hajiganj Union	60	M162	14.19	24.70	29.64	19.75	8.64	3.08	100	0.74	1.29	1.55	1.03	0.45	0.16	5.22
			F159	16.99	34.60	23.94	12.57	6.23	0.62	100	1.01	2.05	1.71	0.74	0.37	0.04	5.92
3.	Khanpur Union	67	M169	2.11	15.34	42.88	16.40	17.98	5.29	100	0.13	0.94	2.62	1.00	1.10	0.32	6.11
			F180	2.77	32.23	32.23	21.67	9.44	1.66	100	0.19	2.16	2.16	1.45	0.63	0.11	6.70
4.	Chashara Union	38	M286	2.79	38.83	30.42	19.58	6.99	1.39	100	0.26	3.59	2.81	1.81	0.65	0.13	9.25
			F199	11.55	36.69	20.10	25.62	5.52	0.52	100	0.67	2.72	1.49	1.90	0.41	0.04	7.43
5.	Narayanganj Union	85	M304	11.16	24.34	32.25	15.46	10.85	5.92	100	1.10	2.39	3.17	1.52	1.07	0.58	9.83
			F285	13.69	27.37	27.72	16.50	7.01	7.71	100	1.45	2.90	2.94	1.76	0.74	0.82	10.61
6.	Deobhogh Union	80	M315	10.79	22.22	31.45	18.09	13.65	3.80	100	1.10	2.26	3.20	1.84	1.39	0.39	10.18
			F293	15.69	29.34	28.34	17.40	7.16	3.07	100	1.17	3.09	3.09	1.90	0.78	0.33	10.36
7.	Paikpara Union	47	M181	3.88	19.34	43.67	19.88	9.39	3.86	100	0.23	1.13	2.55	1.16	0.55	0.23	5.85
			F166	12.04	29.52	39.77	15.06	3.01	0.60	100	0.74	1.82	2.46	0.93	0.19	0.04	6.18
8.	Shitalakhya Union.	45	M150	11.33	26.66	26.66	22.03	10.66	2.66	100	0.55	1.29	1.29	1.07	0.51	0.13	4.84
			F144	14.59	26.39	32.65	15.27	4.16	6.94	100	0.73	1.41	1.75	0.86	0.19	0.37	5.36
9.	Nabiganj Union	52	M186	10.75	27.97	30.64	16.14	9.67	4.63	100	0.65	1.68	1.84	0.97	0.58	0.29	6.01
			F166	22.29	29.52	18.68	19.07	8.15	3.00	100	1.33	1.82	1.15	1.11	0.54	0.18	6.18
10.	Kadma Rasul Union	62	M222	12.61	29.28	32.89	11.71	12.16	1.35	100	0.90	2.10	2.36	0.84	0.87	0.10	7.17
			F197	14.72	30.93	29.95	17.25	6.09	1.01	100	1.08	2.27	2.20	1.27	0.45	0.07	7.34
11.	Bandar Union	61	M162	20.37	20.99	29.03	18.81	8.02	3.08	100	1.07	1.10	1.52	0.97	0.42	0.16	5.24
			F145	15.86	26.20	35.89	15.86	5.51	0.68	100	0.86	1.41	1.94	0.86	0.30	0.04	5.41
12.	Sonakanda Union	52	M161	11.80	26.09	27.97	16.14	14.28	3.72	100	0.61	1.36	1.45	0.84	0.74	0.19	5.19
			F142	28.20	21.83	23.23	18.30	7.04	1.40	100	1.49	1.15	1.23	0.97	0.37	0.08	5.29
13.	Adamjee Indus- trial belt.	134	M405	12.59	26.18	29.14	19.75	9.33	2.96	100	1.65	3.43	3.86	2.59	1.23	0.39	13.15
			F348	16.37	28.17	30.47	18.10	5.17	1.72	100	2.12	3.65	3.95	2.65	0.67	0.22	12.96
14.	Fatulla Urban	72	M281	10.32	32.47	28.47	18.14	9.60	-	100	0.94	3.04	2.59	1.65	0.87	-	9.09
			F203	13.30	34.49	29.56	13.30	6.89	2.46	100	1.00	2.61	2.23	1.28	0.52	0.20	7.56
Total		950	M3093								M10.12	26.25	31.78	18.03	10.69	3.13	100.00
			F2684								F14.66	29.51	28.78	17.90	6.57	2.58	100.00

ANNEXURE -A
Table - 2

II

FAMILY SIZES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977

Sl. No.	Area	No. of sample of each area	Family sizes (Number of persons in households)										Total
			As percent of household in each area										
			1	2	3	4	5	6	7	8	9	9+	
1.	Godnail Union.	45	55.58	6.66	2.22	4.45	6.66	6.66	6.66	.	4.45	6.66	100
2.	Hajiganj Union	60	10.00	8.33	8.33	13.34	13.34	8.33	10.00	8.33	20.00	-	100
3.	Kempur Union	67	2.98	-	2.98	14.95	22.39	37.32	11.94	7.46	-	-	100
4.	Chashara Union	88	5.69	1.13	4.54	9.09	42.05	14.77	10.23	4.54	2.27	5.69	100
5.	Narayanganj Union	85	8.23	4.70	2.35	3.52	17.65	14.12	9.42	8.23	9.42	22.36	100
6.	Deobogh Union	80	2.50	3.75	2.50	12.50	13.75	10.00	15.00	7.50	12.50	20.00	100
7.	Paikpara Union	47	8.51	8.51	6.38	4.25	4.25	23.40	10.63	2.12	4.25	27.70	100
8.	Shitalakhya Union	45	-	-	-	2.22	17.78	26.67	31.12	15.55	6.66	-	100
9.	Nabiganj Union	52	3.84	-	7.69	7.69	7.69	21.15	21.15	7.69	9.62	13.48	100
10.	Kadam Rasul Union	62	1.61	8.06	4.83	12.90	12.90	11.30	8.06	11.30	14.52	14.52	100
11.	Bandar Union	61	3.27	8.19	11.48	22.99	21.32	18.03	1.63	3.27	4.91	4.91	100
12.	Sonakanda Union	52	9.61	-	7.70	21.15	13.48	9.61	19.25	5.75	5.75	5.75	100
13.	Adanjee Industrial Belt.	134	4.47	5.97	5.97	17.95	17.95	16.43	12.62	8.95	4.47	5.22	100
14.	Fatulla Urban	72	1.38	1.38	8.34	12.50	16.68	5.55	19.44	6.94	11.11	16.68	100
Total		950											

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ANNEXURE - A
Table - 2(a)

III

FAMILY SIZES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of Sample in each area	Family sizes (Number of persons in households)										Total
			As percent of total number of households										
			1	2	3	4	5	6	7	8	9	9+	
1.	Godnail Union	45	2.63	0.31	0.10	0.21	0.31	0.31	0.31	-	0.21	0.31	4.70
2.	Hajiganj Union	60	0.63	0.53	0.53	0.84	0.84	0.53	0.63	0.53	1.26	-	6.32
3.	Khanpur Union	67	0.21	-	0.21	1.05	1.68	0.63	0.84	0.53	-	-	7.05
4.	Ghashara Union	88	0.53	0.10	0.42	0.84	3.69	1.37	0.95	0.42	0.21	0.53	9.26
5.	Narayanganj Union	85	0.74	0.42	0.21	0.31	1.58	1.26	0.84	0.74	0.84	2.00	8.94
6.	Doobogh Union	80	0.21	0.31	0.21	1.05	1.16	0.84	1.26	0.63	1.05	1.68	8.40
7.	Paikpara Union	47	0.42	0.42	0.31	0.21	0.21	1.16	0.53	0.10	0.21	1.37	4.94
8.	Shitalakhya Union	45	-	-	-	0.10	0.84	1.26	1.47	0.74	0.31	-	4.72
9.	Nabiganj Union	52	0.21	-	0.42	0.42	0.42	1.16	1.16	0.42	0.53	0.74	5.48
10.	Kadam Rasul Union	62	0.10	0.53	0.31	0.84	0.84	0.74	0.53	0.74	0.95	0.95	6.53
11.	Bandar Union	61	0.21	0.53	0.74	1.47	1.37	1.16	0.10	0.21	0.31	0.31	6.41
12.	Sonakanda Union	52	0.53	-	0.42	1.16	0.74	0.53	1.17	0.31	0.31	0.42	5.59
13.	Adamjee Industrial Belt.	134	0.63	0.84	0.84	2.53	2.53	2.31	1.79	1.26	0.63	0.74	14.10
14.	Fatullah Urban	72	0.10	0.10	0.63	0.95	1.26	0.42	1.47	0.53	0.84	1.26	7.56
Total		950	7.15	4.09	5.35	11.98	17.57	15.68	13.05	7.16	7.66	10.31	100.00

AGE OF THE HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977

Sl. No.	Areas	No. of sample in each areas.	Age of the heads of the families in years.									
			In percent of heads of the families in each area.					In percent of total heads of the families				
			15-30	31-45	46-60	60+	Total	15-30	31-45	46-60	60+	Total
1.	Godnail Union	45	28.89	46.67	20.00	4.44	100	1.37	2.21	0.95	0.21	4.74
2.	Hajiganj Union	60	25.00	48.34	20.00	6.66	100	1.58	3.05	1.26	0.42	6.31
3.	Khanpur Union	67	5.98	38.80	46.27	8.95	100	0.42	2.74	3.26	0.63	7.05
4.	Chashara Union	88	14.77	63.63	17.07	4.45	100	1.37	5.89	1.58	0.42	9.26
5.	Narayanganj Union	85	14.12	45.88	31.77	8.23	100	1.26	4.10	2.84	0.74	8.94
6.	Doobhogh Union	30	11.25	30.00	48.75	10.00	100	0.95	2.58	4.10	0.84	8.42
7.	Paikpara Union	47	6.38	42.56	38.30	12.76	100	0.31	2.10	1.89	0.63	4.93
8.	Shitalakhya Union	45	2.22	57.78	30.34	6.66	100	0.10	2.74	1.58	0.31	4.73
9.	Nabiganj Union	52	19.23	42.30	30.78	7.69	100	1.05	2.31	1.68	0.42	5.46
10.	Kadam Rasul Union	62	17.74	37.10	41.94	3.22	100	1.16	2.42	2.74	0.21	6.53
11.	Bandar Union	61	27.85	44.28	19.68	8.19	100	1.79	2.84	1.26	0.53	6.42
12.	Sonakanda Union	52	5.75	38.48	46.16	9.61	100	0.38	2.10	2.53	0.53	5.54
13.	Adamjee Industrial belt.	134	30.14	48.52	26.12	5.22	100	2.84	6.84	3.68	0.74	14.10
14.	Fatulla Urban	72	13.91	55.49	30.60	-	100	1.05	4.21	2.31	-	7.57
Total		950						15.53	46.08	31.66	6.63	100.00

ANNEXURE - A
Table - 4

V

PLACE OF ORIGIN OF THE HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each areas.	Place of origin by Districts											
			As percent of heads of the families in each area											
			Dacca	Comi-lla	Noa-khali	Farid-pur	Bari-sal	Patus-khali	Khul-na.	Tan-gail.	Chitta gong	Rang-pur.	Sylhet	outside Bangla desh.
1.	Godnail Union	45	33.34	35.55	13.33	2.22	11.22	-	2.22	-	-	-	2.22	-
2.	Hajiganj Union	60	81.69	5.00	5.00	3.33	-	-	-	1.66	1.66	-	-	1.66
3.	Khanpur Union	67	73.15	11.94	7.46	2.98	4.47	-	-	-	-	-	-	-
4.	Chachara Union	88	68.20	10.23	10.23	4.54	2.27	-	-	1.13	3.40	-	-	-
5.	Narayanganj Union	65	61.23	16.47	5.88	4.70	2.35	1.17	1.17	2.35	1.17	1.17	1.17	1.17
6.	Deobhogh Union	80	95.00	1.25	-	2.50	-	1.25	-	-	-	-	-	-
7.	Paikpara Union	47	76.62	10.63	4.25	6.38	-	-	-	2.12	-	-	-	-
8.	Shitalakhya Union	45	57.82	8.88	8.88	6.66	6.66	4.44	-	4.44	2.22	-	-	-
9.	Nabiganj Union	52	96.16	3.84	-	-	-	-	-	-	-	-	-	-
10.	Kadam Rasul Union	62	83.90	1.61	3.22	3.22	4.83	-	-	1.61	-	-	-	1.61
11.	Bandar Union	61	90.19	4.91	-	3.27	1.63	-	-	-	-	-	-	-
12.	Sonakanda Union	52	75.07	5.75	5.75	3.84	5.75	-	-	-	1.92	-	-	1.92
13.	Adanjoc Industrial belt.	134	73.17	10.45	5.22	2.23	3.73	0.74	-	2.23	-	-	-	2.23
14.	Fatullah Urban	72	84.74	4.16	1.38	8.34	-	-	-	1.38	-	-	-	-
Total		950												

ANNEXURE - A
Table - 4(a)

VI

PLACES OF ORIGIN OF THE HEAD OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Places of origin by Districts												Total
			As percent of total number of heads of the families.												
			Dacca	Comilla.	Noakhali.	Faridpur.	Bari-sal.	Patua khali	Khulna.	Tangail	Chittagong	Rangpur.	Sylhet	Outside Bangla desh.	
1.	Godnail Union	45	1.58	1.68	0.63	0.10	0.53	-	0.10	-	-	-	0.10	-	4.72
2.	Hajiganj Union	60	5.15	0.31	0.31	0.21	-	-	-	0.10	0.10	-	-	0.10	6.28
3.	Khanpur Union	67	5.15	0.84	0.53	0.21	0.31	-	-	-	-	-	-	-	7.04
4.	Chashara Union	88	6.31	0.95	0.95	0.42	0.21	-	-	0.10	0.31	-	-	-	9.25
5.	Narayanganj Union	35	5.47	1.47	0.53	0.42	0.21	0.10	0.10	0.21	0.10	0.10	0.10	0.10	8.91
6.	Deobhagh Union	80	8.00	0.10	-	0.21	-	0.10	-	-	-	-	-	-	8.41
7.	Paikpara Union	47	3.79	0.53	0.21	0.31	-	-	-	0.10	-	-	-	-	4.94
8.	Shitalakhya Union	45	2.74	0.42	0.42	0.31	0.31	0.21	-	0.21	0.10	-	-	-	4.72
9.	Nahiganj Union	52	5.26	0.21	-	-	-	-	-	-	-	-	-	-	5.47
10.	Kadam Rasul Union	62	5.47	0.10	0.21	0.21	0.31	-	-	0.10	-	-	-	-	6.50
11.	Bandar Union	61	5.79	0.31	-	0.21	0.10	-	-	-	-	-	-	-	6.41
12.	Sonakanda Union	52	4.10	0.31	0.31	0.21	0.31	-	-	-	-	-	-	-	6.41
13.	Adamjee Industrial belt,	134	10.58	1.47	0.74	0.31	0.53	0.10	-	0.31	-	-	-	0.10	14.35
14.	Fatulla Urban	72	6.42	0.31	0.10	0.63	-	-	-	0.31	-	-	-	-	7.56
Total		950	75.81	9.01	4.94	3.76	2.82	0.51	0.20	1.23	0.71	0.10	0.20	0.71	100.00

ANNEXURE - A
Table - 5

VII

URBAN/RURAL ORIGIN OF THE HEADS OF THE FAMILIES IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Areas from where heads of the families came to settle in the city							
			In percent of the Heads of the families in each area				In percent of total number of heads of the families.			
			Urban	Rural	Local	Total	Urban	Rural	Local	Total
1.	Godnail Union	45	4.44	40.00	55.56	100	0.21	1.89	2.63	4.73
2.	Hajiganj Union	60	3.33	36.66	60.01	100	0.21	2.31	3.79	6.31
3.	Khanpur Union	67	7.46	49.20	43.28	100	0.53	3.47	3.05	7.05
4.	Chashara Union	88	-	48.86	51.14	100	-	4.53	4.74	9.27
5.	Narayanganj Union	85	10.58	66.24	21.18	100	0.95	6.10	1.89	3.94
6.	Doobhogh Union	80	1.25	10.00	83.75	100	0.10	0.84	7.47	8.41
7.	Paikpara Union	47	-	25.53	74.47	100	-	1.26	3.68	4.94
8.	Shitalakhaya Union	45	-	55.56	44.44	100	-	2.63	2.10	4.73
9.	Nabiganj Union	52	-	34.60	65.40	100	-	1.39	3.57	5.46
10.	Kadam Rasul Union	62	-	20.90	79.10	100	-	1.37	5.15	6.52
11.	Bandar Union	61	6.55	65.57	27.88	100	0.42	4.29	1.79	6.50
12.	Sonakanda Union	52	-	49.07	51.93	100	-	2.63	2.84	5.47
13.	Ashraja Industrial belt.	134	0.74	55.23	44.03	100	0.10	7.79	6.21	14.10
14.	Fatullah Urban	72	1.38	48.59	50.03	100	0.10	3.68	3.79	7.57
Total		950	35.73	607.07	757.20	1,400	2.62	44.68	52.70	100.00

Note: Local means residents by more than one generation.

Annexure - A
Table - 6

VIII

EDUCATIONAL LEVEL OF THE HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND MURAYANGANJ CITY, AUGUST 1977.

Sl. No.	Area	No. of sample in each area.	Educational level of the heads of the families.														
			As percent of heads of the families in each area.							As percent of total number of heads of the families							
			None	Sign only	Pri-ary	Secon-dary	H.S.C.	Degree	Master	None	Sign-only	Pri-ary	Secon-dary	H.S.C.	Deg-ree	Mas-ter	Total
1.	Godnail Union	35	-	13.33	64.46	15.55	6.66	-	-	0.63	3.05	0.74	0.31	-	-	4.73	
2.	Hajiganj Union.	60	3.33	6.66	64.80	13.55	5.00	1.66	-	0.53	0.42	4.10	0.84	0.31	0.31	-	6.30
3.	Xbanpur Union	64	1.49	4.47	32.32	40.31	13.43	5.98	-	0.10	0.31	2.42	2.84	0.95	0.42	-	7.04
4.	Ghashara Union	38	4.54	3.40	27.30	25.00	22.72	10.23	6.81	0.42	0.31	2.53	2.31	2.10	0.95	0.63	9.25
5.	Murayanganj Union	85	3.52	10.47	37.64	27.07	11.78	2.35	1.17	0.31	1.47	3.37	2.42	1.05	0.21	0.10	8.93
6.	Deobhogh Union	30	15.00	10.00	36.25	26.25	10.00	2.50	-	1.26	0.84	3.05	2.21	0.84	0.21	-	8.41
7.	Paikpara Union	47	10.63	2.12	48.96	25.53	12.76	-	-	0.53	0.10	2.42	1.26	0.63	-	-	4.94
8.	Shitalakhya Union	45	-	4.44	35.56	17.78	37.78	4.44	-	-	0.21	1.60	0.84	1.79	0.21	-	4.13
9.	Nabiganj Union	52	13.46	15.39	40.39	25.00	3.84	1.92	-	0.74	0.84	2.21	1.37	0.21	0.10	-	5.47
10.	Kadma Rasul Union.	62	12.90	12.90	54.85	11.30	2.83	3.22	-	0.84	0.84	3.57	0.74	0.31	0.21	-	6.51
11.	Bandar Union	61	11.48	4.91	42.62	32.91	4.91	3.27	-	0.74	0.31	2.74	2.10	0.31	0.21	-	6.41
12.	Sonakanda Union	52	40.39	9.61	32.70	13.46	3.84	-	-	2.21	0.53	1.79	0.74	0.21	-	-	5.48
13.	Adarjee Indus-trial belt.	134	14.92	14.92	56.74	8.21	4.47	0.74	-	2.10	2.10	8.00	1.16	0.63	0.10	-	14.09
14.	Fatulla Urban	72	6.94	18.04	36.12	27.81	5.55	2.77	2.77	0.63	1.37	2.74	2.10	0.42	0.21	0.21	7.71
Total		950								10.44	10.28	43.67	21.67	10.07	2.93	0.94	100.00

ANNEXURE - 4
Table - 7

IX

OCCUPATIONAL STRUCTURE OF THE HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977

Sl. No.	Areas.	No. of sample in each area.	Occupational Groups											
			In percent of heads of the families in each area.											
			Labourer	Professi onal service	Busi ness (Jute)	Busi ness (paint)	Busi ness (Cot ton & Cotton product)	Busi ness (Whole sale)	Busi ness (other)	Shop kee - per.	Ser vice (offi ce work)	Reli gious wor ker.	other	unemployed
1.	Godnail - Union	45	4.44	-	4.44	-	-	-	-	4.44	75.58	2.22	4.44	4.44
2.	Hajiganj Union	60	10.00	8.33	-	-	1.66	3.33	18.33	-	48.36	1.66	3.33	5.00
3.	Khanpur Union	67	2.98	-	2.98	5.98	10.44	3.95	37.32	-	28.37	-	2.98	-
4.	Chishara Union	88	3.40	1.13	-	-	14.77	5.69	21.60	1.13	46.61	-	3.40	2.27
5.	Narayanganj Union	35	2.35	8.23	2.35	5.88	11.78	7.05	21.16	5.88	29.41	1.17	5.57	1.17
6.	Doobigh Union	80	5.00	21.25	1.25	1.25	12.50	-	16.25	6.25	13.75	1.25	20.00	1.25
7.	Paikpara Union	47	4.25	10.63	6.38	4.25	14.90	2.12	19.17	8.51	27.67	-	2.12	-
8.	Shitalakhya Union	45	3.88	4.44	3.88	4.44	6.66	8.33	17.78	11.12	28.92	-	-	-
9.	Habiganj Union	52	11.53	36.59	1.92	-	3.84	-	11.53	7.69	11.53	3.04	9.61	1.92
10.	Kadma Rasul Union.	62	20.98	20.98	3.22	-	3.22	1.61	8.04	6.45	24.22	-	8.06	3.22
11.	Bandar Union	61	9.83	18.04	4.91	-	1.63	-	21.32	16.41	21.32	3.27	3.27	-
12.	Sonakanda Union	52	50.05	9.61	-	-	1.92	5.75	13.46	5.75	13.46	-	-	-
13.	Adajoo Indus-trial belt.	134	42.55	13.43	-	-	-	-	14.18	8.95	7.46	-	13.43	-
14.	Fatulla Urban	72	12.50	22.23	-	-	4.16	6.94	13.91	6.94	19.44	-	11.11	2.77
	Total	950												

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ANNEXURE-1
Table 7(a)

X

OCCUPATIONAL STRUCTURE OF THE HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977

Sl. No.	Areas	No. of sample in each area.	Occupational Groups.											Total	
			As percent of total number of heads of the families.												
			Labour er.	Profe- ssion- al ser- vice	Busi- ness (Jute)	Busi- ness (pa- int)	Busi- ness (cott- on & cott- on pro- duct.	Busi- ness (who- le sale)	Busi- ness (oth- er)	Shop kee- par	Ser- vico (off- ico work)	Religi- ous wor- ker.	Other	Unemp- loyed.	
1.	Godnail Union.	45	0.21	-	0.21	-	-	-	-	0.21	3.57	0.10	0.10	0.21	4.72
2.	Hajiganj Union	60	0.63	0.53	-	-	0.40	0.21	1.16	-	3.05	0.40	0.21	0.31	6.30
3.	Khanpur Union	67	0.21	-	0.21	0.42	0.74	0.63	2.63	-	2.00	-	0.21	-	7.05
4.	Chashara Union	88	0.31	0.10	-	-	1.37	0.53	2.00	0.10	4.31	-	0.31	0.21	9.24
5.	Narayanganj Union	85	0.21	0.74	0.21	0.53	1.05	0.63	1.89	0.53	2.68	0.10	0.31	0.21	9.09
6.	Doobhogh Union	90	0.42	1.79	0.10	0.10	1.05	-	1.37	0.53	1.16	0.10	1.68	0.10	8.40
7.	Paikpara Union	47	0.21	0.53	0.31	0.21	0.74	0.10	0.95	0.42	1.37	-	0.10	-	4.94
8.	Shitalakhiya Union.	45	0.42	0.21	0.42	0.21	0.31	0.42	0.04	0.53	1.37	-	-	-	4.73
9.	Nabiganj Union	52	0.63	2.00	0.10	-	0.21	-	0.63	0.42	0.63	0.21	0.53	0.21	6.53
10.	Kadam Rasul Union	62	1.37	1.37	0.21	-	0.21	0.10	0.53	0.42	1.58	-	0.53	0.21	6.53
11.	Bandar Union	61	0.63	1.16	0.31	-	0.10	-	1.37	1.05	1.37	0.21	0.21	-	6.41
12.	Sonakanda Union	52	2.74	0.53	-	-	0.10	0.31	0.74	0.31	0.74	-	-	-	5.47
13.	Adamjee Industrial belt	134	6.00	1.89	-	-	-	-	2.00	1.26	1.05	-	1.89	-	14.09
14.	Fatulla Urban	72	0.95	1.68	-	-	0.31	0.53	1.05	0.53	1.47	-	0.84	0.21	7.57
	Total	950	14.94	12.53	2.08	1.47	6.29	3.46	17.16	6.31	26.35	0.82	7.03	1.56	100.00

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ANNEXURE - a,
Table - 8

XI

MONTHLY INCOME OF THE HEAD OF THE FAMILY IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY,
AUGUST, 1977

Sl. No.	Areas	No. of sample in each area	Monthly income of Heads of the Families in Taka											Total
			As percent of Heads of the families in each area.											
			0-100	101-200	201-300	301-400	401-500	501-800	801-1000	1001-2000	2001-3000	3001-4000	4000+	
1.	Godnail Union	45	11.14	4.44	60.00	6.66	4.44	6.66	2.22	4.44	-	-	-	100
2.	Hajiganj Union	60	5.00	8.33	25.00	20.00	25.00	13.25	1.66	1.66	-	-	-	100
3.	Khanpur Union	67	1.49	4.47	7.46	1.49	17.91	23.89	17.91	14.92	10.46	10.46	-	100
4.	Chashara Union	88	1.54	3.40	9.09	6.81	21.60	21.60	14.77	11.37	3.41	3.41	-	100
5.	Narayanganj Union	35	1.17	5.88	16.47	4.70	12.94	18.03	17.65	12.95	4.70	3.53	1.13	100
6.	Deobhogh Union	60	7.50	11.25	10.00	17.50	11.25	11.25	7.50	18.75	1.25	2.50	1.25	100
7.	Pailpara Union	47	-	-	29.80	12.76	21.26	6.33	10.63	10.63	8.54	-	-	100
8.	Shitalakhya Union.	45	-	-	-	4.44	4.44	22.24	20.00	31.12	8.88	6.66	2.22	100
9.	Habiganj Union	52	-	3.84	30.78	21.15	23.09	13.46	3.84	1.92	1.92	-	-	100
10.	Kadem Rasul Union.	62	-	6.45	25.80	19.35	17.74	9.68	9.68	9.68	1.26	-	-	100
11.	Bandar Union	61	1.63	9.83	21.32	21.32	32.80	6.55	-	4.92	-	-	1.63	100
12.	Sonakanda Union	52	-	11.53	23.08	32.70	7.70	17.31	3.84	1.92	1.92	-	-	100
13.	Adamjee Industrial belt.	134	-	3.73	25.39	21.65	16.41	15.67	8.95	4.47	2.24	1.49	-	100
14.	Fatulla Urban	72	-	2.77	11.11	15.29	19.44	23.61	19.44	5.56	1.39	1.39	-	100
Total		950	32.47	75.92	295.30	205.82	236.02	210.48	136.09	134.31	46.33	18.98	6.28	1400.00

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MONTHLY INCOME OF THE HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977

Sl. No.	Areas	No. of sample in each area.	Monthly income of head of the families in Taka.											
			As percent of total numbers of heads of the families.											
			0-100	101-200	201-300	301-400	401-500	501-600	601-800	801-1000	1001-2000	2001-3000	3001-4000	4000+
1.	Godnail Union	45	0.53	0.21	2.82	0.31	0.21	0.31	0.10	0.21	-	-	-	4.70
2.	Hajiganj Union.	60	0.31	0.53	1.58	1.26	0.58	1.84	0.10	0.10	-	-	-	6.30
3.	Khanpur Union	67	0.10	0.31	0.53	0.10	1.26	1.68	1.26	1.05	0.74	-	-	7.30
4.	Chashara Union	88	0.42	0.31	0.84	0.63	2.00	2.00	1.37	1.05	0.31	0.31	-	9.24
5.	Narayanganj Union	85	0.10	0.53	1.47	0.42	1.16	1.68	1.53	1.16	0.42	0.31	0.10	8.93
6.	Deobhagh Union	80	0.63	0.95	0.84	1.47	0.95	0.95	0.63	1.58	0.10	0.21	0.10	3.41
7.	Faikpara Union	47	-	-	1.47	0.63	1.05	0.31	0.53	0.53	0.42	-	-	4.94
8.	Shitalakhya Union.	45	-	-	-	0.21	0.21	1.05	0.95	1.47	0.42	0.31	0.10	4.72
9.	Nabiganj Union	52	0.21	1.68	1.16	1.26	0.74	0.21	0.10	0.10	-	-	-	5.46
10.	Kadam Rasul Union.	62	-	0.42	1.68	1.26	1.16	0.63	0.63	0.63	0.10	-	-	6.51
11.	Bandar Union	61	0.10	0.63	1.37	1.37	2.10	0.42	-	0.31	-	-	0.10	6.40
12.	Sonakanda Union.	52	-	0.63	1.26	1.79	0.42	0.95	0.21	0.10	0.10	-	-	5.46
13.	Adamjee Industrial belt.	134	-	0.53	3.57	3.05	2.31	2.21	1.26	0.63	0.31	0.21	-	14.08
14.	Fatulla Urban	72	-	0.47	0.84	1.16	1.47	1.79	1.47	0.42	0.10	0.10	-	7.82
Total		950	2.19	5.73	19.95	14.82	17.14	15.56	10.30	9.34	3.12	1.45	0.40	100.00

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ANNEXURE - A
Table - 9

XIII

MONTHLY EXPENDITURE OF THE HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977

Sl. No.	Areas	No. of sample in each area.	Monthly expenditure of head of the families in Taka.											
			As percent of heads of the families in each area.											
			0-100	101-200	201-300	301-400	401-500	501-800	801-1000	1001-2000	2001-3000	3001-4000	4001-5000	Total
1.	Godnail Union	45	2.22	13.33	64.47	4.44	4.44	6.66	4.44	-	-	-	-	100
2.	Hajiganj Union	50	3.33	11.66	23.33	18.33	20.00	21.69	-	1.66	-	-	-	100
3.	Khanpur Union	67	1.49	4.47	7.48	1.49	14.92	29.37	16.41	14.92	6.69	-	-	100
4.	Chashara Union	88	4.54	3.40	9.09	6.81	21.60	21.60	14.77	11.37	3.41	3.41	-	100
5.	Narayanganj Union.	65	1.17	5.68	15.30	4.70	14.12	18.33	16.47	14.63	4.70	3.53	1.17	100
6.	Deobhogh Union	80	7.50	10.00	11.25	17.50	11.25	11.25	6.25	18.75	2.50	2.50	1.25	100
7.	Paikpara Union	47	-	-	29.30	10.63	23.40	6.48	10.63	10.63	8.43	-	-	100
8.	Shitalakhya Union	45	-	-	2.22	4.44	4.44	22.25	15.55	33.56	8.88	6.44	2.22	100
9.	Nabiganj Union	52	-	3.84	23.98	19.23	23.09	19.23	7.69	1.92	1.92	-	-	100
10.	Kadam Rasul Union.	62	-	6.45	25.80	19.35	17.74	9.68	9.68	9.68	1.62	-	-	100
11.	Bandar Union	61	1.63	9.83	21.32	21.32	32.80	6.55	-	4.92	1.63	-	-	100
12.	Sonikanda Union	52	-	13.46	23.08	32.72	5.75	17.31	3.84	1.92	1.92	-	-	100
13.	Adamjee Industrial.	134	-	7.46	23.89	22.39	13.43	18.66	7.46	4.47	2.26	-	-	100
14.	Fatulla Urban	72	-	1.38	9.72	15.29	20.83	23.61	20.83	5.56	1.39	1.39	-	100
Total		950												

ANNEXURE - A
Table - 9(a)

XIV

MONTHLY EXPENDITURE OF THE HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area	Monthly expenditure of heads of the families in Taka.										Total	
			Percent of total numbers of heads of the families.											
			0-100	101-200	201-300	301-400	401-500	501-600	601-1000	1001-2000	2001-3000	3001-4000		4001-5000
1.	Godnail Union	45	0.10	0.63	3.05	0.21	0.21	0.31	0.21	-	-	-	-	4.72
2.	Majiganj Union	60	0.21	0.74	1.47	1.16	1.26	1.37	-	0.10	-	-	-	6.31
3.	Khanpur Ur Lon	67	0.10	0.31	0.53	0.10	0.05	2.10	1.16	1.05	0.63	-	-	7.03
4.	Chashara Union	88	0.42	0.31	0.84	0.63	2.00	2.00	1.37	1.05	0.31	0.31	-	9.24
5.	Narayanganj Union.	85	0.10	0.53	1.37	0.42	1.26	1.68	1.27	1.27	0.42	0.31	0.10	8.92
6.	Deobhogh Union	80	0.63	0.84	0.95	1.47	0.95	0.95	0.53	1.53	0.21	0.21	0.10	8.42
7.	Paikpara Union	47	-	-	1.47	0.53	1.16	0.31	0.53	0.53	0.42	-	-	4.95
8.	Shitalakhya Union.	45	-	-	0.21	0.21	0.21	1.10	0.74	1.08	0.42	0.31	0.10	4.93
9.	Nabiganj Union	52	-	0.21	1.26	1.05	1.26	1.05	0.42	0.10	0.10	-	-	5.45
10.	Kadam Rasul Union.	62	-	0.42	1.68	1.26	1.16	0.63	0.53	0.63	0.10	-	-	6.51
11.	Bandar Union	61	0.10	0.63	1.37	1.37	2.10	0.42	-	0.31	1.10	-	-	6.40
12.	Sonakanda Union	52	-	0.74	1.26	1.79	0.31	0.95	0.21	0.10	0.10	-	-	5.46
13.	Adamjee Industrial belt.	134	-	1.05	3.37	3.16	1.89	2.63	1.05	0.63	0.31	-	-	14.09
14.	Fatulla Urban	72	-	0.10	0.74	1.16	1.53	1.79	1.53	0.42	0.10	0.10	-	7.57
Total		950	1.66	6.51	19.57	14.52	16.40	17.24	9.90	9.41	3.22	1.24	0.30	100.00

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Table - 10

WHETHER SEND/RECEIVE HELP IN CASH OR KIND (TO AND FROM ELSEWHERE) BY THE HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas.	No. of sample in each area.	Send or receive help to and from elsewhere.											
			Send help (as percent of heads of the families in each area)			Receive help (as percent of heads of the families in each area.			Send help (as percent of total numbers of the heads of the family			Receive help (as percent of total numbers of the heads of the family		
			Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total
1.	Godnail Union	45	6.66	93.34	100	13.33	86.67	100	0.31	4.42	4.73	0.63	4.10	4.73
2.	Hajiganj Union	60	10.00	90.00	100	10.00	90.00	100	0.63	5.68	6.31	0.63	5.68	6.31
3.	Khanpur Union	67	11.95	89.05	100	14.93	85.07	100	0.84	6.21	7.05	1.05	6.00	7.05
4.	Chashara Union	88	2.27	97.73	100	3.40	96.60	100	0.21	9.05	9.26	0.31	8.94	9.25
5.	Narayanganj Union	85	7.05	92.95	100	9.42	90.58	100	0.63	8.31	8.94	0.64	8.10	8.94
6.	Deobhogh Union	80	2.50	97.50	100	5.00	95.00	100	0.21	8.21	8.41	0.42	8.00	8.42
7.	Paikpara Union	47	6.38	93.62	100	2.12	97.88	100	0.31	4.63	4.94	0.10	4.82	4.92
8.	Shitalakhya Union	45	8.88	91.12	100	4.44	95.56	100	0.42	4.31	4.73	0.21	4.53	4.74
9.	Nabiganj Union	52	1.92	98.08	100	21.15	78.85	100	0.10	5.37	5.47	1.18	4.31	5.47
10.	Kadam Rasul Union	62	4.83	95.17	100	0.00	100.00	100	0.31	6.21	6.52	0.00	6.52	6.52
11.	Dondar Union	61	1.63	98.37	100	1.63	98.37	100	0.10	6.31	6.41	0.10	6.31	6.41
12.	Sonakanda Union	52	9.61	90.39	100	0.00	100.00	100	0.53	4.94	5.47	0.00	5.47	5.47
13.	Adanjee Industrial belt.	134	23.89	76.11	100	0.74	99.26	100	3.43	10.74	14.17	0.10	14.09	14.19
14.	Fatulla Urban	72	11.11	88.89	100	6.94	93.06	100	0.84	6.75	7.59	0.53	7.05	7.58
Total		950							8.87	91.13	100.00	6.08	93.92	100.00

ANNEXURE - B
Table - 1

I

FLOOR SPACE OF JUTE GODOWNS (IN SFT) IN DIFFERENT AREAS OF NARAYANGANJ CITY, AUGUST 1977
(000 sft.)

Sl. No.	Name of Areas.	Floor Space in Sft.						Percent of Floor Space in different areas(1976-77)	
		1968-69	1969-70	1972-73	1973-74	1974-75	1975-76		1976-77
1.	Shitalakhya	1000	1000	775	850	900	900	925	25
2.	Sonakanda	400	400	310	340	360	360	370	10
3.	Beñdar	600	600	465	510	540	540	555	15
4.	Tanbazar	400	400	310	340	360	360	370	10
5.	Hajiganj	400	400	310	340	360	360	370	10
6.	Ekranpur	600	600	465	510	540	540	555	15
7.	Nabiganj	200	200	155	170	180	180	185	5
8.	Azin Market	400	400	310	340	360	360	370	10
Total		4000	4000	3100	3400	3600	3600	3700	100

Note: i) Circles South and North are constituted by areas in serial Nos. 1 to 4 and 5 to 8 respectively as the jurisdiction of respective jute inspectors.

ii) For convenience, figures have been rounded off.

iii) The proportion of floor space of jute godowns in different areas remained same over the last 10 years.

Source: Chief Inspector of Jute, Narayanganj Circle, Narayanganj, Dacca.

ANNEXURE - B
Table - 2

II

TONAGE HANDLED AT THE FIVE MAJOR INLAND RIVER PORTS BY I.W.T.A. (MECHANIZED VESSELS) 1963-64 to 1974-75.

Sl. No.	Name of the Ports.	1963 - 64			1964 - 65			1965 - 66			1966 - 67		
		Inward	Outward	Total	Inward	Outward	Total	Inward	Outward	Total	Inward	Outward	Total
1.	Dacca	170370	26254	196624	137049	30414	167463	177365	32136	209701	208440	11479	219914
2.	Narayanganj	267069	409653	676727	269533	435141	704724	2511288	324624	578972	265126	385137	650263
3.	Chandpur	23586	13906	97492	59665	16283	75949	76552	21638	100190	81062	31350	112412
4.	Barisal	55158	4666	59824	39918	1924	41840	40667	7039	47806	5458	43293	48751
5.	Khulna	591041	198803	789849	584692	216711	311403	240108	251071	501259	634313	85435	719748
		1967 - 68			1968 - 69			1969 - 70			1974 - 75		
		Inward	Outward	Total	Inward	Outward	Total	Inward	Outward	Total	Inward	Outward	Total
		255245	17501	272746	291551	13098	304639	239526	16274	255800	128935	14174	143009
		209565	418200	627835	253548	351311	604859	213729	433622	652351	322789	17431	370220
		64719	27123	91841	59159	25977	85136	73320	21347	94667	12172	4728	16900
		37269	1121	38390	38832	2156	40400	52055	5523	53370	24548	3736	28284
		451711	92506	544297	591681	73219	664880	511254	70934	582188	265512	36283	301795

Note: Data for the year 1970-71 to 1973-74 and 1975-76 to 1976-77 were not available.

Source: Office Records, Director of Ports and Traffic and Deputy Conservator of Inland Ports, B.I.W.T.A., Dacca.
Annual Traffic Report 1974-75, B.I.W.T.A.

MAIN TRAFFIC DIRECTION AND TRAFFIC VOLUME OF NARAYANGANJ PORT
(IN TONS)

Year	Total Traffic handled by I.W.T.A. in Bangladesh.	Total Traffic handled by I.W.T.A. in Narayanganj Port.	Percent of traffic of Bangladesh handled by I.W.T.A. at Narayanganj Port.	Traffic Between	
				Narayanganj - Chalna.	Narayanganj - Chittagong.
1964-65	20,56,640	6,34,443	31.15	2,57,347	2,48,826
1965-66	24,75,368	7,48,232	30.22	3,96,809	3,01,644
1966-67	26,45,008	6,50,263	24.58	3,19,063	2,22,943
1967-68	26,05,576	6,27,845	24.09	3,83,999	1,48,287
1968-69	27,28,155	6,04,859	22.17	3,27,017	22,762
1969-70	27,41,171	6,52,351	23.79	3,98,600	2,09,540
1970-71	Not available				
1971-72					
1972-73					
1973-74					
1974-75	16,89,897	4,15,547	24.59	31,462	3,61,235
1975-76	18,58,886	4,58,101	24.64	34,608	3,97,358

Source: Office Records, Director of Ports and Traffic and Deputy Conservator of Inland Ports, BIWTA, Dacca
Annual Traffic Report 1974-75, BIWTA
Port Officer, Narayanganj Port.

ANNEXURE - B
Table - 4

IV

MOVEMENT OF CARGO (IN TONS) BY INTRA MECHANIZED VESSELS TO AND FROM NARAYANGANJ.

Station	TO NARAYANGANJ				FROM NARAYANGANJ			
	1967-68	1968-69	1969-70	1974-75	1967-68	1968-69	1969-70	1974-75
Barisal	18	544	809	100	341	2,950	1,080	230
Chalna	12,150	18,454	26,958	2,092	3,71,049	3,08,563	3,71,642	26,510
Chandpur	2,056	2,092	459	83	3,037	1,605	3,501	135
Chhatak	60,792	26,540	12,452	541	-	125	-	758
Chittagong	1,13,860	1,93,694	1,58,173	3,14,773	29,627	22,762	41,367	13,625
Dacca	519	267	1,163	-	163	324	3,278	-
Daulatpur	2,915	769	1,021	1,095	958	4,407	2,928	110
Khulna	3,688	3,051	1,500	4,15,898	3,399	4,557	2,107	2,105
Others	5,508	3,137	4,239	3,610	5,149	6,010	5,671	3,760
	2,06,306	2,53,548	2,16,854	7,38,272	4,15,021	3,51,311	4,31,578	47,233

Note: Data for the years 1970-71 to 1973-74 were not available.

Source : Office Records, Director of Ports and Traffic and Deputy Conservator of Inland Ports,
B.I.W.T.A., Dacca.

Annual Traffic Report 1974-75, B.I.W.T.A., Dacca. p.16.

ANNEXURE - B
Table - 5

V

MOVEMENT OF IMPORTANT COMMODITIES TO AND FROM HARYANGANJ PORT (IN TONS.)

Commodities	Y E A R S.									
	1967-68		1968-69		1969-70		1974-75		1975-76	
	To	From	To	From	To	From	To	From	To	From
Cement	40,256	900	48,373	01	17,464	17	7,164	-	2,439	NA
Food Grains	-	53,754	63,096	02	65,917	299	17,302	-	21,867	463
Coal	17,732	413	24,679	193	13,405	193	NA	NA	NA	NA
Fertilizer	2,620	-	11,662	-	6,750	-	12,976	4,252	6,379	-
Jute	0,260	1,330	10,976	5,021	NA	NA	6,160	3,790	8,645	7,831

Note : Data for the years 1970-71 to 1973-74 were not available.

Source: Office Records, Director of Ports and Traffic and Deputy Conservator of Inland Port, BIWPA., Dacca.
Annual Traffic Report 1974-75, BIWPA., Dacca.

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ANNEXURE - C
Table - 1

I

TREND OF REVENUE RECEIPT (TAKA) AT MAJOR RIVER PORTS (1968-69 to 1976-77).

Name of Ports.	Y E A R S							
	1968-69	1969-70	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77
Dacca	14,50,000	15,70,000	9,44,792	11,88,591	11,94,074	23,59,440	18,20,000	25,70,000
Harayanganj	13,00,000	14,27,000	9,61,479	11,15,994	10,25,250	24,63,773	18,30,000	28,80,000
Chandpur	5,00,000	3,71,000	2,43,291	5,13,337	5,13,680	6,26,367	6,95,000	6,49,000
Barisal	4,50,000	5,91,000	2,60,874	6,86,358	6,22,431	9,58,031	8,00,000	11,03,000
Khulna	3,00,000	16,36,000	5,11,024	11,99,802	5,25,791	13,07,679	17,75,000	20,00,000

Note : Data for the year 1970-71 were not available.

Revenue receipt include receipts from i) Terminal Charges, ii) L.S.C., iii) Berthing Charges, iv) Lease Licence fees, and v) Others.

Source: Office Records, Director of Ports and Traffic and Deputy Conservator of Inland Ports,
B.I.M.T.A., Dacca.

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LAND VALUES PER BIGHA IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY (1967 to 1977)
(In thousand Taka)

Sl. No.	Areas	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
1.	Godnail Union	5	6	7	8	10	15	20	30	40	50	60
2.	Kajiganj Union	6	7	8	9	10	12	15	20	40	50	60
3.	Khanpur Union	15	20	25	30	30	35	50	60	80	90	100
4.	Chashara Union	20	25	30	40	50	60	90	100	125	150	200
5.	Narayanganj Union	50	60	100	100	150	200	250	300	400	500	600
6.	Doobhogh Union	20	25	30	40	60	90	100	110	120	125	150
7.	Paikpara Union	30	40	60	70	80	90	100	110	120	125	150
8.	Shitalakhya Union	30	40	50	60	70	80	90	100	110	130	150
9.	Mabiganj Union	15	20	25	30	35	40	45	50	55	60	70
10.*	Kadon Rasul Union	15	20	25	30	35	40	45	50	55	60	70
11.	Bandar Union	20	25	30	35	40	45	50	60	65	70	80
12.*	Sonakanda Union	15	20	25	30	35	40	45	50	55	60	70
13.*	Admjee Industrial Belt.	NA	NA	35	55	40	45	50	60	70	70	72
14.*	Fatulla Urban	NA	NA	40	50	45	50	55	60	65	65	65

Note: i) The figures have been rounded off where necessary.
ii) * indicates land value other than Govt. acquired Industrial Belt.

Source: Office Records, Narayanganj Paurashava, Narayanganj, Dacca (For transfer of purchased holding/plot/area, one is required to mention the purchase price of the land to the Paurashava).
Registration Office, Narayanganj.

POSITION OF LOOMS OF DIFFERENT JUTE MILLS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.
(1973-74 to 1976-77)

Sl. No.	Name of the Jute Mills.	Looms installed				Looms operating			
		1973-74	1974-75	1975-76	1976-77	1973-74	1974-75	1975-76	1976-77
1.	Adanjee Jute Mills	3,242	3,200	2,123	3,246	2,582	2,346	2,407	2,549
2.	Associated Bagging Company Ltd.	20	20	20	20	18	16	16	17
3.	Bawa Jute Mills Ltd.	293 (300)	293 (408)	293 (408)	293 (640)	220 (800)	205 (342)	204 (182)	213 (302)
4.	Bangladesh Fabric Company Ltd.	78	78	78	78	62	50	47	32
5.	Broad Burlap Industries Ltd.	52	60	60	64	47	39	49	52
6.	Hussain Jute Mills Ltd.	(700)	(700)	(700)	(720)	(334)	(697)	(700)	(699)
7.	N.A. Malek Jute Mills Ltd.	(1,400)	(1,400)	(1,400)	(1,400)	(935)	(965)	(1,010)	(1,152)
8.	Sarwar Jute Mills Ltd.	(688)	(688)	(688)	(688)	(602)	(604)	(643)	(671)
9.	Karin Jute Mills Ltd.	516	516	516	516	411	360	360	350
10.	Latif Bawany Jute Mills Ltd.	619	797	825	827	722	779	717	727
11.	Manwar Jute Mills Ltd.	44	44	44	44	44	36	36	38
12.	Taj Jute Backing Co. Ltd.	50	50	50	50	37	47	45	42
Total		5,114 (3588)	5,058 (3196)	4,721 (3196)	5,110 (3196)	4,145 (2721)	2,378 (2608)	3,831 (2535)	4,020 (2824)

Note: 1) Figures in parenthesis indicate number of spindles.

Source: Office Records, Central Statistical Department, Bangladesh Jute Mills Corporation, Dacca.

ANNEXURE - D
Table - 2

II

PRODUCTION OF DIFFERENT JUTE MILLS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Name of the Jute Mills	Production (in tons)				% of Total (1976-77)
		1973-74	1974-75	1975-76	1976-77	
1.	Adamjee Jute Mills	59,960	57,753	55,792	62,416	56.11
2.	Associated Bagging Co. Ltd.	4,206	3,604	2,311	3,303	3.49
3.	Bawa Jute Mills Ltd.	5,612	4,209	4,249	4,563	4.10
4.	Bangladesh Fabric Co. Ltd.	6,569	4,996	4,446	1,773*	1.59
5.	Broad Burlap Industries Ltd.	1,179	1,052	2,131	2,302	1.06
6.	Hussain Jute Mills Ltd.	66 *	1,139	1,259	1,249	1.12
7.	H.A.Malick Jute Mills Ltd.	1,554	1,489	1,224	1,873	1.68
8.	Sarwar Jute Mills Ltd.	727	763	314	1,029	0.92
9.	Karin Jute Mills Ltd.	10,103	8,019	8,019	8,504	7.64
10.	Latif Bawany Jute Mills Ltd.	Nil	8,203	7,357	9,235	8.30
11.	Manwar Jute Mills Ltd.	136 *	615*	10,269	12,690	11.40
12.	Taj Jute Backing Co. Ltd.	1,750	184*	2,052	1,700	1.52
Total		91,862	92,031	1,00,923	1,11,227	100.00

Note : Star mark(*) indicates 'Lay-off' of the Mills for several months.

Source: Office Records, Central Statistical Department,
Bangladesh Jute Mills Corporation, Dacca.

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ANNEXURE D
Table - 3

III

EMPLOYMENT POSITION OF DIFFERENT JUTE MILLS IN AND AROUND NARAYINGANJ CITY, AUGUST 1977.
(1973-74 to 1976-77)

Sl. No.	Name of the Jute Mills	(Workers (as per registrar))				Workers in attendance			
		1973-74	1974-75	1975-76	1976-77	1973-74	1974-75	1975-76	1976-77
1.	Adrajco Jute Mills Ltd.	26,812 (1,280)	22,336 (1,267)	22,160 (1,440)	22,336 (1,513)	20,092	15,619	17,491	17,743
2.	Associated Bagging Co. Ltd.	633 (35)	604 (36)	564 (43)	604 (39)	604	480	502	522
3.	Bawa Jute Mills Ltd.	2,556 (234)	2,068 (239)	1,931 (276)	1,800 (290)	2,029	1,311	1,584	1,564
4.	Bangladesh Fabric Co. Ltd.	1,724 (133)	1,591 (130)	1,532 (123)	381 (110)	1,235	1,079	1,042	683
5.	Broad Durlan Industries Ltd.	485 (97)	525 (103)	681 (139)	674 (146)	432	384	453	517
6.	Hussain Jute Mills Ltd.	160 (40)	157 (40)	163 (47)	166 (52)	NA	NA	150	149
7.	K.A. Malak Jute Mills Ltd.	143 (37)	119 (62)	246 (74)	293 (76)	114	NA	NA	237
8.	Sarwar Jute Mills Ltd.	147 (47)	NA	165 (56)	255 (NA)	145	NA	NA	248
9.	Karim Jute Mills Ltd.	4,483 (441)	3,417 (414)	3,417 (414)	3,300 (412)	3,526	NA	2,652	2,724
10.	Latif Bawany Jute Mills Ltd.	7,397 (697)	7,450 (704)	8,001 (575)	8,046 (661)	NA	5,214	4,828	NA
11.	Manwar Jute Mills Ltd.	393 (102)	37 (100)	414 (NA)	395 (154)	NA	267	319	303
12.	Taj Jute Backing Co. Ltd.	540 (145)	546 (145)	627 (147)	590 (144)	NA	NA	458	463
Total.		45,503 (3,228)	39,190 (3,287)	39,751 (3,340)	39,508 (3,614)	26,177	24,354	29,479	25,133

Note : i) Figures in Parenthesis indicate number of staff other than workers.

ii) NA Means 'Not available'

Source : Office Records, Central Statistical Department, Bangladesh Jute Mills Corporation, Dacca.

ANNEXURE - D
Table - 4

IV

CAPACITY OF DIFFERENT TEXTILE MILLS IN AND AROUND NARAYANGANJ CITY, AUGUST, 1977.
(1972-73 to 1976-77)

Sl. No.	Name of the Mills	E O O M S										Total looms workable (1976-77)	
		Installed					Running (Yearly average)						
		1972-73	1973-74	1974-75	1975-76	1976-77	1972-73	1973-74	1974-75	1975-76	1976-77		
1.	Adarsha Cotton	145	145	145	145	145	38	105	119	138	131	144	
2.	Ahmed Bawary	328	328	328	328	328	94	180	196	183	190	328	
3.	Bangladesh Textile	NA	150	150	150	150	NA	07	76	91	93	150	
4.	Chittaranjan Textile	395	395	395	395	395	230	314	349	353	332	397	
5.	Dhakeswari Cotton Mills No. I	810	810	810	810	810					101	530	
6.	Dhakeswari Cotton Mills No. II	554	554	554	554	554	468	622	653	670	316 (477)	395	
7.	Gawsia Cotton	212	212	212	212	212	100	115	118	129	137	212	
8.	Luxminarayan Cotton	306	306	306	306	306	209	238	256	276	243	300	
9.	Orient Textile	No looms installed (only spindles)					---	does not apply			---		
10.	Sharmin Textile	NA	NA	176	176	176	NA	NA	91	65	98	167	
11.	Ahmed Silk Mills	NA	60	60	60	60	NA	32	37	32	22*	60	
Total		2,750	2,960	3,136	3,136	3,136	1,290	1,613	1,895	1,937	1,723	2,643	

Note: i) Figures in bracket indicate combined running looms of Mill Nos. I & II

ii) * production for the period July to October only (now a disinvested unit)

Source: Office Records, Management Information System, Bangladesh Textile Mills Corporation, Motijheel, Dacca.

ANNEXURE - D
Table - 5

V

CAPACITY OF DIFFERENT TEXTILE MILLS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.
(1972-73 to 1976-77)

Sl. No.	Name of the Mills	S P I N D L E S										Total spindles workable (1976-77)
		Installed					Running					
		1972-73	1973-74	1974-75	1975-76	1976-77	1972-73	1973-74	1974-75	1975-76	1976-77	
1.	Adarsha Cotton	11,432	11,432	11,432	11,432	11,432	5,388	NA	5,545	6,276	5,892	9,292
2.	Ahmed Bawany	40,000	40,000	40,000	40,000	40,000	23,407	30,308	26,237	26,523	27,683	30,378
3.	Bangladesh Textile	20,000	20,000	20,000	20,000	20,000	12,797	12,030	13,196	12,214	13,659	14,400
4.	Chittaranjan Textile	19,804	19,804	19,804	19,804	19,804	13,938	14,545	16,171	15,907	15,929	18,000
5.	Dhakeswari Cotton Mills No. I	30,440	30,440	30,440	30,440	30,440					7,120	13,801
6.	Dhakeswari Cotton Mills No. II	21,280	21,280	21,280	21,280	21,280	22,273	22,483	24,876	20,846	12,715 (19,835)	19,059
7.	Gawsia Cotton	24,880	24,880	24,880	24,880	24,880	17,131	16,636	16,524	15,546	16,918	22,000
8.	Luxminarayan Cotton	15,172	15,172	15,172	15,172	15,172	9,219	10,491	11,290	12,017	11,795	15,048
9.	Orient Textile	10,000	10,000	10,000	10,000	10,000	8,427	8,722	8,579	8,699	8,797	9,200
10.	Shamin Textile	12,400	12,400	12,400	12,400	12,400	12,267	10,815	10,909	10,912	10,918	11,600
11.	Ahmed Silk Mills *	--- No Spindles installed --- (only looms)					--- does not apply ---					
Total		2,05,408	2,05,408	2,05,408	2,05,408	2,05,408	1,28,347	1,80,368	1,33,127	1,29,000	1,31,428	1,62,778

Note: i) Figures in parenthesis indicate combined running spindles of Mills Nos. I & II
ii) * Now disinvested unit.

Source: Office Records, Management Information System, Bangladesh Textile Mills Corporation, Motijheel, Dacca.

ANNEXURE - D
Table - 6

VI

COMPARATIVE PRODUCTION OF DIFFERENT TEXTILE MILLS IN AND AROUND MURRAYGANJ CITY, AUGUST 1977.
(1972-73 to 1976-77)

Sl. No.	Name of the Mills	P R O D U C T I O N (Yearly average)									
		Yarn (lac lbs)					Cloth (lac yards)				
		1972-73	1973-74	1974-75	1975-76	1976-77	1972-73	1973-74	1974-75	1975-76	1976-77
1.	Adarsha Cotton	4.67	4.96	7.37	6.07	5.38	3.26	17.36	20.74	19.87	17.95
2.	Ahmed Bawany	32.94	35.81	37.17	35.27	32.16	23.06	49.98	56.33	44.70	45.74
3.	Bangladesh Textile	13.48	14.90	18.16	15.52	18.23	NL	0.40	7.84	9.36	10.27
4.	Chittaranjan Textile	17.88	18.65	21.44	19.60	19.11	10.20	45.63	53.08	52.53	48.04
5.	Dhakeswari Cotton Mills No. I					9.10					17.21
6.	Dhakeswari Cotton Mills No. II	28.17	31.70	32.91	25.29		89.29	107.48	108.57	83.99	
7.	Gausia Cotton	16.92	15.48	12.57	16.29	14.11 (23.21) 18.37	9.95	11.62	12.31	10.62	14.43 (31.64) 13.74
8.	Luminarayan Cotton	13.39	11.60	14.32	14.41	13.31	26.83	39.33	37.62	39.03	33.23
9.	Orient Textile	10.43	10.43	13.07	12.77	11.04	does not produce any cloth.				
10.	Shamin Textile	18.76	16.55	17.83	18.10	16.67	NL	NL	3.78	6.10	10.31
11.	Ahmed Silk Mills	-- does not produce any Yarn --					NL	2.60	4.07	2.31	0.53*
Total		156.64	160.08	174.84	163.32	157.48	215.81	274.41	304.34	268.51	211.45

Note : i) Figures in parenthesis indicate combined production for the year 1976-77.
ii) * production for the period July to October only (now a disinvested unit)

Source : Office Records; Management Information System, Bangladesh Textile Mills Corporation, Motijheel, Dacca.

ANNEXURE - D
Table - 7

VII

EMPLOYMENT PATTERN IN DIFFERENT TEXTILE MILLS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977
(1972-73 to 1976-77)

Sl. No.	Name of the Mills	E M P L O Y E E S									
		Staff					Workers				
		1972-73	1973-74	1974-75	1975-76	1976-77	1972-73	1973-74	1974-75	1975-76	1976-77
1.	Adarsha Cotton	130 (8)	180 (18)	192 (22)	184 (22)	177 (23)	1,050	993	1,064	1,053	990
2.	Ahmed Bawany	316 (27)	324 (34)	402 (41)	386 (40)	382 (36)	2,206	2,101	2,875	2,698	2,566
3.	Bangladesh Textile	109 (8)	157 (18)	171 (17)	156 (17)	163 (20)	658	948	1,073	963	939
4.	Chittaranjan Textile	99 (15)	106 (13)	229 (22)	287 (28)	265 (27)	1,925	1,811	1,944	1,796	1,917
5.	Dhakeswari Cotton Mills No. I					285 (16)					1,868
6.	Dhakeswari Cotton Mills No. II	662 (43)	812 (57)	870 (62)	815 (51)	406 (26)	4,305	3,956	5,377	4,992	2,332
7.	Gawsia Cotton	143 (18)	140 (21)	218 (33)	226 (31)	209 (32)	1,314	1,053	1,402	1,292	1,160
8.	Luminarayan Cotton	93 (10)	109 (16)	126 (22)	231 (22)	220 (27)	1,548	1,657	1,695	1,552	1,168
9.	Orient Textile	68 (11)	81 (11)	104 (15)	108 (13)	109 (15)	435	385	534	495	468
10.	Shanin Textile	100 (15)	202 (15)	193 (23)	187 (21)	184 (21)	733	1,245	1,259	1,182	1,104
11.	Ahmed Silk Mills	29 (8)	39 (8)	37 (14)	40 (10)	NA	135	164	184	166	NA
Total		1,749 (163)	2,150 (211)	2,542 (270)	2,600 (255)	2,400 (243)	14,359	14,349	17,407	16,209	14,812

Note : Figure in parenthesis indicate no. of Officers.

Source: Officer Records, Management Information System, Bangladesh Textile Mills Corporation, Motijheel, Dacca.

ANNEXURE - B
Table - 1

I

DIFFERENT TYPES OF LAND USE IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.
(Total area = 10,880 acres)

Type of Use	Narayanganj Paurashava			Adamjee Ind. Belt.			Fatulla Urban			Narayanganj City.	
	Area under each use (acre)	% of each area.	% of Total city area.	Area under each use.	% of each area.	% of Total city area.	Area under each use.	% of each area.	% of Total city area.	Area in each use.	% of Total area.
Industrial	640	13.36	5.88	1249.02	55.76	11.48	30	0.78	0.27	1919.02	17.64
Commercial	520	10.83	4.78	-	-	-	42	1.09	0.38	562.00	5.16
Residential	1900	39.54	17.46	89.60	4.00	0.82	298	1.76	2.74	2287.06	21.02
Institutional	10	0.21	0.09	2.69	0.12	0.02	4	0.10	0.03	10.69	0.15
Land not liable to flood	10	0.21	0.09	156.80	7.00	1.40	1260	32.82	11.58	1426.80	13.11
Land liable to flood.	1500	31.25	13.79	649.60	29.00	5.97	2006	52.24	18.45	4155.60	38.19
Water Bodies	40	0.83	0.37	59.14	2.64	0.55	178	4.64	1.64	277.14	2.56
Other uses	180	3.77	1.65	33.15	1.48	0.30	22	0.57	0.20	235.15	2.15
Total	4800	100.00	44.11	2240.00	100.00	20.58	3840	100.00	35.29	10880.00	100.00

Note : Other uses include roads, utility etc.

ANNEXURE - E
Table - 2

II

PLOT SIZES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Plot sizes in square feet.							Total
			As percent of plots in each area							
			Less than 2160	2160-3600	3601-5400	5401-7200	7201-10800	10801-14400	14400 +	
1.	Godnail Union	45	53.34	37.78	8.88	-	-	-	-	100
2.	Hajiganj Union	60	83.35	5.00	3.33	3.33	-	3.33	1.66	100
3.	Khanpur Union	67	52.23	25.39	14.93	1.49	1.49	-	4.47	100
4.	Chashara Union	88	68.20	28.40	3.40	-	-	-	-	100
5.	Narayanganj Union	85	37.66	30.60	17.65	7.06	2.35	1.17	2.52	100
6.	Deobhogh Union	80	55.00	16.25	15.75	5.00	6.25	3.75	-	100
7.	Paikpara Union	47	78.73	8.51	6.38	6.38	-	-	-	100
8.	Shitalakhya Union.	45	64.45	24.45	6.66	4.44	.	.	.	100
9.	Nabiganj Union	52	46.17	19.23	21.15	1.92	7.69	1.92	1.92	100
10.	Kadam Rasul Union.	62	59.69	16.13	12.90	-	8.06	-	3.22	100
11.	Bandar Union	61	42.62	19.68	11.48	4.91	6.55	6.55	8.19	100
12.	Sonakanda Union	52	63.50	15.38	11.53	5.75	-	-	3.84	100
13.	Adamjee Indus-trial belt.	134	61.22	26.80	5.22	1.49	2.23	-	2.98	100
14.	Fatulla Urban	72	30.60	23.61	12.50	6.94	12.68	4.16	5.51	100
Total		950								

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ANNEXTURE - E
Table - 2(a)

III

PLOT SIZES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Plot sizes in square feet							Total
			As percent of total numbers of plots.							
			Less than 2160	2160-3600	3601-5400	5401-7200	7201-10800	10801-14400	14400+	
1.	Godnail Union	45	2.53	1.79	0.42	-	-	-	-	4.74
2.	Hajiganj Union	60	5.26	0.31	0.21	0.21	-	0.21	0.10	6.30
3.	Khanpur Union	67	3.68	1.79	1.05	0.10	0.10	-	0.31	7.03
4.	Chashara Union	88	6.31	2.63	0.31	-	-	-	-	9.25
5.	Narayanganj Union.	85	3.37	2.74	1.58	0.63	0.21	0.10	0.31	8.94
6.	Deobhogh Union	80	4.63	1.37	1.16	0.42	0.52	0.31	-	8.41
7.	Paikpara Union	47	3.89	0.42	0.31	0.31	-	-	-	4.93
8.	Shitalakhya Union	45	3.05	1.16	0.31	0.21	-	-	-	4.73
9.	Habiganj Union	52	2.53	1.05	1.16	0.10	0.42	0.10	0.10	5.46
10.	Kadam Rasul Union	62	3.89	1.05	0.84	-	0.53	-	0.21	6.52
11.	Bandar Union	61	2.74	1.26	0.74	0.31	0.42	0.42	0.53	6.42
12.	Sonakanda Union	52	3.47	0.84	0.63	0.31	-	-	0.21	5.46
13.	Adamjee Industrial belt.	134	8.77	3.79	0.74	0.21	0.31	-	0.42	14.24
14.	Fatulla Urban	72	2.31	1.79	0.95	0.53	1.26	0.31	0.42	7.57
Total		950	56.43	21.99	10.41	3.34	3.77	1.45	2.61	100.00

ANNEXURE -E

IV

Table - 5

LIVING SPACE IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Living spaces in square feet (built up area)							Total
			As percent of plot in each area.							
			Less than 200	201-300	301-500	501-700	701-1000	1000-1500	1500+	
1.	Godasil Union	45	80.02	8.88	4.44	4.44	2.22	-	-	100
2.	Hajiganj Union	60	35.02	8.33	13.33	6.66	6.66	8.33	21.67	100
3.	Khanpur Union	67	14.93	8.95	7.46	2.98	11.94	14.93	38.81	100
4.	Chashara Union	88	32.97	25.00	17.06	1.13	13.63	6.81	3.40	100
5.	Narayanganj Union	85	23.53	34.13	23.53	9.42	4.70	3.52	1.17	100
6.	Deobhagh Union	80	15.00	22.50	22.50	16.25	8.75	6.25	8.75	100
7.	Faikpara Union	47	8.51	10.63	27.67	14.90	12.76	10.63	14.90	100
8.	Shitalakhya Union	45	2.22	2.22	6.66	11.12	4.44	33.34	40.00	100
9.	Nabiganj Union	52	28.85	46.17	11.53	9.61	1.92	-	1.92	100
10.	Kadam Rasul Union	62	20.96	24.20	11.30	14.51	4.83	11.30	12.90	100
11.	Bandar Union	61	44.28	36.08	9.83	6.55	1.63	1.63	-	100
12.	Sonakanda Union	52	11.53	19.25	25.00	15.38	11.53	17.31	-	100
13.	Adamjee Industrial Union	134	55.99	26.11	12.68	5.22	-	-	-	100
14.	Fatulla Urban	72	5.55	6.94	29.19	12.50	23.61	19.44	2.77	100
Total		950								

ANNEXTURE - E
Table - 3(a)

V

LIVING SPACES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Living spaces in square feet (built up area)							Total
			As percent of total number of plots							
			Less than 200	201-300	301-500	501-700	701-1000	1001-15000	1500+	
1.	Godnail Union	45	3.79	0.42	0.21	0.21	0.10	-	-	4.73
2.	Hajiganj Union	60	2.21	0.53	0.84	0.42	0.42	0.53	1.37	6.32
3.	Khanpur Union	67	1.05	0.63	0.53	0.21	0.84	1.05	2.74	7.05
4.	Chashara Union	88	3.05	2.31	1.58	0.10	1.26	0.63	0.31	9.24
5.	Narayanganj Union	85	2.10	3.05	2.10	0.84	0.42	0.31	0.10	8.92
6.	Deobhogh Union	80	1.26	1.89	1.89	1.37	0.74	0.53	0.74	8.42
7.	Paikpara Union	47	0.42	0.53	1.37	0.74	0.63	0.53	0.74	4.96
8.	Shitalakhya Union	45	0.40	0.10	0.31	0.53	0.21	1.58	1.89	4.72
9.	Nabiganj Union	52	1.58	2.53	0.63	0.53	0.10	-	0.10	5.47
10.	Kadem Rasul Union	62	1.37	1.58	0.74	0.95	0.31	0.74	0.84	6.53
11.	Bandar Union	61	2.84	2.31	0.63	0.42	0.10	0.10	-	6.40
12.	Sonakanda Union	52	0.63	1.05	1.37	0.84	0.63	0.95	-	5.47
13.	Adanjee Industrial Belt.	134	7.98	3.68	1.79	0.74	-	-	-	14.19
14.	Fatulla Urban.	72	0.42	0.53	2.21	0.95	1.79	1.47	0.21	7.58
Total		950	28.80	21.14	16.20	8.85	7.55	8.42	9.04	100.00

ANNEXTURE - E

VI

Table - 4

OPEN SPACES IN SAMPLE PLOTS IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ, CITY, AUGUST 1977.

Sl. No. Areas	No. of sample in each area.	Open Spaces in Square feet							Total
		As percent of Plots in each area							
		Nil	0-1000	1001-3000	3001-5000	5001-7000	7001-10000	10000 +	
1. Godnail Union	45	11.12	71.11	13.33	4.44	-	-	-	100
2. Hajiganj Union	60	-	80.00	10.00	5.00	-	-	5.00	100
3. Khanpur Union	67	-	71.65	26.86	1.49	-	-	-	100
4. Chashara Union	88	-	68.19	31.81	-	-	-	-	100
5. Narayanganj Union	85	-	57.66	29.41	8.23	4.70	-	-	100
6. Deobhogh Union	80	2.50	67.50	13.75	12.50	2.50	1.25	-	100
7. Paikpara Union	47	4.25	85.12	8.51	2.12	-	-	-	100
8. Shitalakhya Union	45	-	80.01	15.55	4.44	-	-	-	100
9. Nabiganj Union	52	-	36.55	25.00	25.00	1.92	7.69	3.84	100
10. Kadam Rasul Union	62	-	61.31	19.35	9.68	3.22	3.22	3.22	100
11. Bandar Union	61	-	39.36	29.51	13.12	9.83	4.91	3.27	100
12. Sonakanda Union	52	-	59.65	26.92	3.84	5.75	-	3.84	100
13. Adamjee Industrial belt.	134	-	89.57	7.46	0.74	1.49	0.74	-	100
14. Fatulla Urban	72	-	38.89	34.73	11.11	11.11	4.16	-	100
Total	950								

ANNEXURE -E
Table - 4(a)

VII

OPEN SPACES IN SAMPLE PLOTS IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas.	No. of sample in each area.	Open spaces in square feet						Total	
			As percent of total number of plots							
			Nil	0-1000	1001-3000	3001-5000	5001-7000	7001-10000	10000+	
1.	Godnail Union	45	0.53	3.37	0.63	0.21	-	-	-	4.74
2.	Hajiganj Union	60	-	5.05	0.63	0.31	-	-	0.31	6.30
3.	Khanpur Union	67	-	0.05	1.89	0.10	-	-	-	7.04
4.	Chashara Union	88	-	0.31	2.95	-	-	-	-	9.26
5.	Narayanganj Union	85	-	5.61	2.63	0.74	0.42	-	-	8.95
6.	Deobhogh Union	30	0.21	5.68	1.16	1.05	0.21	0.10	-	8.41
7.	Paikpara Union	47	0.21	4.21	0.42	0.10	-	-	-	4.94
8.	Shitalakhya Union	45	-	3.79	0.74	0.21	-	-	-	4.74
9.	Nabiganj Union	52	-	2.00	1.37	1.37	0.10	0.42	0.21	5.47
10.	Kadam Rasul Union	62	-	4.00	1.26	0.63	0.21	0.21	0.21	6.52
11.	Bandar Union	61	-	2.53	1.89	0.34	0.63	0.31	0.21	6.41
12.	Sonakanda Union	52	-	3.26	1.47	0.21	0.31	-	0.21	5.46
13.	Adarjee Industrial Belt.	134	-	12.73	1.05	0.10	0.21	0.10	-	14.19
14.	Fatulla Urban	72	-	2.95	2.63	0.84	0.81	0.31	-	7.57
Total		950	0.95	66.09	20.72	6.71	2.93	1.45	1.15	100.00

ANNEXTURE - B
Table - 5

VIII

NUMBER OF STORIES OF BUILDINGS IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas.	No. of sample in each area.	Number of stories of permanent and temporary structures.											
			As percent of houses in each area					As percent of total houses						
			Permanent				Semi-Per. & Temp. structure.	Total	Permanent				Semi-Per. & Temp. structure.	Total
1	2	3	3+	1	2	3			3+					
1.	Godnail Union	45	11.11	4.44	-	-	84.45	100	0.53	0.21	-	-	4.00	4.74
2.	Hajiganj Union	60	13.33	5.00	-	-	81.67	100	0.84	0.31	-	-	5.15	6.30
3.	Khanpur Union	67	17.91	7.46	-	-	74.63	100	1.26	0.53	-	-	5.26	7.05
4.	Chachara Union	88	26.14	13.64	-	-	60.22	100	2.42	1.26	-	-	5.37	9.05
5.	Narayanganj Union	85	21.18	5.88	4.17	-	71.77	100	1.89	0.53	0.10	-	6.42	8.94
6.	Deobnogh Union	80	25.00	2.50	5.00	-	67.50	100	2.10	0.21	0.42	-	5.68	8.41
7.	Paikpara Union	47	29.81	8.51	2.12	-	59.56	100	1.47	0.42	0.10	-	2.95	4.94
8.	Shitalakhya Union	45	26.67	6.66	4.44	-	62.23	100	1.26	0.31	0.21	-	2.95	4.73
9.	Nabiganj Union	52	7.69	1.92	-	-	90.39	100	0.42	0.10	-	-	4.95	5.47
10.	Kedam Rasul Union	62	8.06	1.61	-	-	90.33	100	0.53	0.10	-	-	5.89	6.52
11.	Bandar Union	61	14.76	3.27	-	-	81.97	100	0.95	0.21	-	-	5.26	6.42
12.	Sonakanda Union	52	3.48	1.92	1.92	-	92.32	100	0.21	0.10	0.10	-	5.05	5.46
13.	Adonjee Industrial Belt.	134	20.89	2.98	-	-	76.15	100	2.95	0.42	-	-	10.74	14.11
14.	Fatulla Urban	72	19.44	-	-	-	80.56	100	1.47	-	-	-	6.39	7.36
Total		950							18.30	4.71	0.93	-	76.06	100.00

ANNEXURE - E
Table - 6

IX

AGE OF THE STRUCTURES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Age of the structures in different areas in years.										
			As percent of the structures in each area.										
			0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90-100	Total
1.	Godnail Union	45	20.00	17.78	28.89	22.23	8.88	2.22	-	-	-	-	100
2.	Hajiganj Union	60	41.68	33.35	6.66	6.66	8.33	1.66	1.66	-	-	-	100
3.	Khanpur Union	67	23.09	31.35	10.44	14.93	16.41	1.49	-	-	1.49	-	100
4.	Chashara Union	88	10.23	50.00	37.50	-	2.27	-	-	-	-	-	100
5.	Narayanganj Union	85	10.58	27.07	21.18	22.36	14.12	2.35	1.17	-	-	1.17	100
6.	Deobhogh Union	80	36.25	17.50	17.50	8.75	7.50	3.75	1.25	3.75	2.50	2.50	100
7.	Paikpara Union	47	29.81	25.33	14.90	4.25	21.27	2.12	2.12	-	-	-	100
8.	Skitalakhya Union	45	22.23	26.67	17.78	6.66	11.12	3.03	4.44	-	-	-	100
9.	Nabiganj Union --	52	38.48	21.15	26.92	7.69	3.84	1.92	-	-	-	-	100
10.	Kadam Rasul Union	62	38.70	30.65	16.13	-	11.30	3.22	-	-	-	-	100
11.	Bandar Union	61	42.64	31.15	14.76	4.91	4.91	1.63	-	-	-	-	100
12.	Sonakanda Union	52	40.39	19.25	15.38	9.61	9.61	1.92	-	1.92	1.92	-	100
13.	Adamjee Industrial Belt.	134	33.60	26.88	14.92	8.95	10.44	1.49	1.49	0.74	1.49	-	100
14.	Fatulla Urban	72	43.09	19.44	12.50	6.94	11.11	2.77	-	2.77	1.38	-	100

ANNEXURE - E
Table - 6(a)

X

AGE OF THE STRUCTURES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas.	No. of samples in each area.	Age of the structures in different areas in years										Total
			As percent of total number of structures.										
			0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	
1.	Godnail Union	45	0.94	0.94	1.37	1.05	0.42	0.10	-	-	-	-	4.72
2.	Hajiganj Union	60	2.63	2.10	0.42	0.42	0.53	0.10	0.10	-	-	-	6.30
3.	Khanpur Union	67	1.68	2.21	0.74	1.05	1.16	0.10	-	-	0.10	-	7.04
4.	Chashara Union	38	0.95	4.63	3.47	-	0.21	-	-	-	-	-	9.26
5.	Narayanganj Union	35	0.95	2.42	1.89	2.00	1.26	0.21	0.10	-	-	0.10	8.93
6.	Doobhogh Union	80	3.05	1.47	1.47	0.74	0.63	0.31	0.10	0.31	0.21	0.10	8.39
7.	Paikpara Union	47	1.47	1.26	0.74	0.21	1.05	0.10	0.10	-	-	-	4.93
8.	Shitalakhya Union	45	1.05	1.26	0.84	0.31	0.53	0.42	0.21	-	-	0.10	4.72
9.	Nabiganj Union	52	2.10	1.16	1.43	0.42	0.21	0.10	-	-	-	-	5.42
10.	Kadam Rasul Union	62	2.53	2.00	1.05	-	0.74	0.21	-	-	-	-	6.53
11.	Randar Union	61	2.74	2.00	0.95	0.31	0.31	0.10	-	-	-	-	6.41
12.	Sonakanda Union	52	2.21	1.05	0.84	0.53	0.53	0.10	-	0.10	0.10	-	5.46
13.	Adamjee Industrial Belt.	134	4.97	3.79	2.10	1.26	1.47	0.21	0.21	0.10	0.21	-	14.32
14.	Fatulla Urban	72	3.26	1.47	0.95	0.53	0.64	0.21	-	0.21	0.10	-	7.57
Total		950	30.53	27.06	18.26	8.33	9.89	2.27	0.82	0.72	0.72	0.30	100.00

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ANNEXURE E
Table - 7

XI

APPROXIMATE PRICE OF THE STRUCTURES IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Price of structures in different areas in thousand takas.												
			As percent of structures in each area												
			Less than 500	5-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	100+	Total
1.	Godnail Union	45	22.23	11.12	55.55	6.66	4.44	-	-	-	-	-	-	-	100
2.	Hajiganj Union	60	55.02	25.00	11.66	5.00	-	1.66	1.66	-	-	-	-	-	100
3.	Khanpur Union	67	10.42	23.88	10.43	26.89	7.46	11.95	5.99	-	1.49	-	1.49	-	100
4.	Chashara Union	88	2.27	31.31	25.00	26.15	10.23	4.54	-	-	-	-	-	-	100
5.	Narayanganj Union	85	3.52	20.00	25.91	17.65	11.78	5.88	4.70	2.35	2.35	1.17	1.17	3.52	100
6.	Deobhogh Union	80	22.50	20.00	21.25	15.00	5.00	6.25	-	1.25	1.25	-	5.00	2.50	100
7.	Paikpara Union	47	31.94	19.17	4.25	8.51	6.38	12.76	2.12	-	4.25	2.12	4.25	4.25	100
8.	Shitalakhya Union	45	4.44	24.45	22.23	11.12	13.34	8.88	-	-	-	-	6.66	6.66	100
9.	Nabiganj Union	52	46.17	32.69	13.46	3.84	-	1.92	-	1.92	-	-	-	-	100
10.	Kadma Rasul Union	62	37.10	35.49	11.30	6.45	4.83	4.83	-	-	-	-	-	-	100
11.	Bandar Union	61	24.62	37.72	14.76	6.55	4.91	8.19	-	1.63	-	-	1.63	-	100
12.	Sonakanda Union	52	45.16	21.15	21.15	7.70	-	-	-	-	-	-	-	-	100
13.	Adanjee Industrial belt.	134	34.34	26.88	16.43	8.95	2.98	4.47	1.49	1.49	2.23	0.74	-	-	100
14.	Fatulia Urban	72	25.00	25.41	13.91	9.72	-	9.72	5.55	-	1.38	4.16	1.38	2.77	100
Total		950													

Table - 7(a)

APPROXIMATE PRICE OF THE STRUCTURES IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Area	No. of sample in each area	Price of the structures in different areas in thousand Taka.											Total	
			As percent of total number of structures												
			Less than 500	5-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	100+	
1.	Godnail Union	45	1.05	0.53	2.63	0.31	0.21	-	-	-	-	-	-	-	4.73
2.	Hajiganj Union	60	3.47	1.59	0.74	0.31	-	0.10	0.10	-	-	-	-	-	6.31
3.	Khanpur Union	67	0.74	1.68	0.74	1.89	0.53	0.84	0.42	-	0.10	-	0.10	-	7.04
4.	Chashara Union	88	0.21	2.95	2.31	2.42	0.94	0.42	-	-	-	-	-	-	9.25
5.	Narayanganj Union	85	0.31	1.79	2.31	1.58	1.05	0.53	0.42	0.21	0.21	0.10	0.10	0.31	8.92
6.	Deobhagh Union	80	1.89	1.68	1.79	1.26	0.42	0.53	-	0.10	0.10	-	0.42	0.21	8.40
7.	Paikpara Union	47	1.58	0.95	0.21	0.42	0.31	0.63	0.10	-	0.21	0.10	0.21	0.21	4.93
8.	Shitalakhya Union	45	0.21	1.26	1.05	0.53	0.63	0.42	-	-	-	-	0.31	0.42	4.73
9.	Nabiganj Union	52	2.53	1.79	0.74	0.21	-	0.10	-	0.10	-	-	-	-	5.47
10.	Kadam Rasul Union	62	2.42	2.31	0.74	0.42	0.31	0.31	-	-	-	-	-	-	6.51
11.	Bandar Union	61	1.58	2.42	0.95	0.42	0.31	0.53	-	0.10	-	-	0.10	-	6.41
12.	Sonakanda Union	52	2.53	1.16	1.16	0.42	-	-	-	-	-	-	0.21	-	5.48
13.	Adamjee Industrial Belt.	134	5.02	3.79	2.31	1.26	0.42	0.63	0.21	0.21	0.31	0.10	-	-	14.26
14.	Fatulla Urban	72	1.89	2.00	1.05	0.74	-	0.74	0.42	-	0.10	0.31	0.10	0.21	6.56
Total		950	25.43	25.80	18.73	12.19	5.13	5.78	1.67	0.72	1.03	0.61	1.55	1.36	100.00

CONDITION OF THE STRUCTURES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas.	No. of sample in each area.	CONDITION OF STRUCTURES,							
			As percent of in each area				As percent of total number of structures.			
			Good	Tolerable	Deplorable	Total	Good	Tolerable	Deplorable	Total
1.	Godnail Union	45	28.89	64.45	6.66	100	1.37	3.05	0.31	4.73
2.	Hajiganj Union	60	20.00	75.00	5.00	100	1.26	4.74	0.31	6.31
3.	Khanpur Union	67	44.78	50.75	4.47	100	3.16	3.58	0.31	7.05
4.	Chashara Union	88	76.15	22.72	1.13	100	7.05	2.10	0.10	9.25
5.	Narayanganj Union.	85	40.00	54.12	5.88	100	3.58	4.84	0.53	8.95
6.	Deobhogh Union	80	43.75	52.50	3.75	100	3.68	4.42	0.31	8.41
7.	Faikpara Union	47	31.94	63.81	4.25	100	1.58	3.16	0.21	4.95
8.	Shitalakhya Union	45	24.45	75.55	-	100	1.16	3.58	-	4.74
9.	Nabiganj Union	52	25.00	73.08	1.92	100	1.37	4.00	0.10	5.47
10.	Kadam Rasul Union.	62	33.89	59.66	6.45	100	2.21	3.89	0.42	6.52
11.	Bandar Union	61	36.08	60.65	3.27	100	2.31	3.89	0.21	6.41
12.	Sonakanda Union	52	11.53	84.63	3.48	100	0.63	4.63	0.21	5.47
13.	Adamjee Indus- trial belt.	134	26.08	57.46	15.66	100	3.79	6.17	2.21	14.17
14.	Fatulla Urban	72	16.68	48.59	34.73	100	1.26	3.68	2.63	7.57
Total		950	460.02	842.97	9.7.01	1400	34.41	57.73	7.86	100.00

ANNEXURE - E
Table - 9(a)

XV

BUILDING MATERIALS USED IN THE STRUCTURES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Area	No. of samples in each area	Types of materials used in construction in different areas											
			As percent of total number of structures.											
			R O O F				W A L L			F L O O F				
Conc.	Tin	Thatch	Total	Brick	Tin	Thatch	Total	Brick	Mud	Wood	Total			
1.	Godnail Union	45	1.26	3.37	0.10	4.73	2.00	1.68	1.05	4.73	2.95	1.79	-	4.74
2.	Hajiganj Union	60	0.31	6.00	-	6.31	1.47	2.31	2.53	6.31	2.10	4.21	-	6.31
3.	Khanpur Union	67	3.05	3.89	0.10	7.04	3.79	2.74	0.53	7.06	5.89	1.16	-	7.05
4.	Chashara Union	88	3.68	5.58	-	9.26	3.68	5.26	0.31	9.25	6.00	3.26	-	9.26
5.	Narayanganj Union	85	2.53	6.42	-	8.95	4.21	4.21	0.53	8.95	7.47	1.89	0.10	9.46
6.	Doobhogh Union	80	2.74	5.26	0.42	8.42	3.26	3.37	1.79	8.42	3.47	4.95	-	8.42
7.	Paikpara Union	47	2.00	2.84	0.10	4.94	2.10	1.16	1.08	4.94	2.63	2.21	0.10	4.94
8.	Shitalakhya Union	45	1.79	2.95	-	4.74	2.42	1.89	0.42	4.73	3.05	1.68	-	4.73
9.	Nabiganj Union	52	0.53	4.42	0.53	5.48	1.05	2.53	1.89	5.47	1.37	4.10	-	5.47
10.	Kadam Rasul Union	62	0.63	5.05	0.84	6.52	1.79	2.21	2.53	6.53	1.79	4.74	-	6.53
11.	Bandar Union	61	1.16	5.16	0.10	6.42	2.00	2.74	1.68	6.42	3.62	3.16	-	6.78
12.	Sonakanda Union	52	0.42	4.94	0.10	5.46	0.74	2.84	1.89	5.47	1.16	4.31	-	5.47
13.	Adamjee Industrial Belt.	134	3.37	10.21	0.58	14.16	4.74	4.95	4.45	14.14	6.05	9.05	-	14.14
14.	Fatulla Urban	72	1.47	6.10	-	7.57	2.74	2.42	2.42	7.58	2.74	4.00	-	6.74
Total		950	24.94	72.19	2.87	100.00	35.99	40.31	23.70	100.00	49.29	50.51	0.20	100.00

ANNEXURE E

XVI

Table 10

CATEGORIES OF THE STRUCTURES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas.	No. of sample in each area.	Categories of structures by materials used											
			As percent of structures in each area					As percent of total number of structures.						
			Full brick	Brick & Tin	Tin	Tin & Thatch	Thatch	Total	Full Brick	Brick & Tin	Tin	Tin & Thatch	Thatch	Total
1.	Godnail Union	45	26.66	15.56	35.56	20.00	2.22	100	1.26	0.74	1.68	0.95	0.10	4.73
2.	Kajiganj Union	60	5.00	18.32	33.35	43.33	-	100	0.31	1.16	2.10	2.74	-	6.31
3.	Khanpur Union.	67	46.27	10.44	35.82	5.98	1.49	100	3.26	0.74	2.53	0.42	0.10	7.05
4.	Chashara Union	88	33.78	14.77	42.05	3.40	-	100	3.68	1.37	3.89	0.31	-	9.25
5.	Narayanganj Union	85	28.24	22.36	44.70	4.70	-	100	2.53	2.00	4.00	0.42	-	8.95
6.	Deobhogh Union	80	32.50	6.25	40.00	16.25	5.00	100	2.74	0.53	3.37	1.37	0.42	8.43
7.	Paikpara Union	47	40.42	4.25	21.27	31.94	2.12	100	2.00	0.21	1.05	1.58	0.10	4.94
8.	Shitalakhya Union	45	37.78	13.34	40.00	8.88	-	100	1.79	0.63	1.89	0.42	-	4.73
9.	Nabiganj Union	52	9.61	13.46	42.33	34.60	-	100	0.53	0.74	2.31	1.89	-	5.47
10.	Kadam Rasul Union	62	9.68	22.60	27.41	27.41	12.90	100	0.63	1.47	1.79	1.79	0.84	6.52
11.	Bandar Union	61	18.03	19.65	36.08	24.61	1.63	100	1.16	1.26	2.31	1.53	0.10	6.41
12.	Sonakanda Union	52	7.70	15.46	44.23	32.69	1.92	100	0.42	0.74	2.42	1.79	0.10	5.47
13.	Adanjee Industrial belt.	134	23.88	11.94	33.59	27.61	2.98	100	3.37	1.68	4.74	3.89	0.50	14.18
14.	Fatulla Urban	72	19.40	19.40	30.60	30.60	-	100	1.47	1.47	2.31	2.31	-	7.56
Total		950						25.15 14.74 36.39 21.46 2.26 100.00						

HOUSE OWNERSHIP PATTERN IN DIFFERENT AREAS IN AND AROUND KARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas.	No. of sample in each area.	House Ownership							
			As percent of houses in each area				As percent of total houses.			
			Owner	Tenant		Total	Owner	Tenant		Total
	Private	Public			Private	Public				
1.	Godnail Union	45	22.22	11.12	66.66	100	1.05	0.53	3.16	4.74
2.	Hajiganj Union	60	66.67	21.67	11.66	100	4.21	1.37	0.74	6.32
3.	Khanpur Union	67	65.68	34.32	-	100	4.63	2.42	-	7.05
4.	Chashara Union	88	46.59	51.41	-	100	4.31	4.95	-	9.26
5.	Karayanganj Union	85	41.18	45.88	12.94	100	3.68	4.10	1.16	8.94
6.	Deobhogh Union	80	38.75	11.25	-	100	7.47	0.93	-	8.42
7.	Paikpara Union	47	74.47	25.53	-	100	3.68	1.26	-	4.94
8.	Shitalakhaya Union	45	66.67	33.33	-	100	3.15	1.58	-	4.74
9.	Nabiganj Union	52	76.94	11.53	11.53	100	4.21	0.63	0.63	5.47
10.	Kadam Rasul Union.	62	74.21	20.96	4.83	100	4.34	1.37	0.31	6.56
11.	Bandar Union	61	91.82	4.91	3.27	100	5.89	0.31	0.21	6.41
12.	Senakanda Union	52	61.55	26.92	11.53	100	3.37	1.47	0.63	5.47
13.	Adonjee Industrial belt.	134	70.15	5.22	24.62	100	9.30	0.75	3.49	14.14
14.	Fatalla Urban	72	76.39	23.61	-	100	5.79	1.79	-	7.58
Total		950					66.19	23.48	10.33	100.00

RENTAL STRUCTURE IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977

Sl. No.	Areas.	No. of sample in each area.	No. of rental houses in each area.	Rental houses as % of houses in each area.	Monthly rent in Taka							Total	
					As percent of Rental houses in each area.								
					Nil *	Less than 100	101-200	201-300	301-400	401-500	501-1000		1000+
1.	Godnail Union	45	35	77.78	97.14	2.86	-	-	-	-	-	-	100
2.	Kajiganj Union	60	20	33.33	25.00	50.00	20.00	5.00	-	-	-	-	100
3.	Khenpur Union	67	23	34.33	4.35	17.39	47.84	8.69	13.04	8.69	-	-	100
4.	Chashara Union	88	47	53.40	4.25	17.02	57.46	17.02	-	-	4.25	-	100
5.	Narayanganj Union	95	50	58.82	10.00	50.00	28.00	8.00	-	-	4.00	-	100
6.	Deobhogh Union	80	09	11.25	11.11	88.89	-	-	-	-	-	-	100
7.	Paikpara Union	47	12	25.53	-	75.00	16.67	8.33	-	-	-	-	100
8.	Shitalakhya Union	45	15	33.33	-	20.00	46.67	6.67	6.67	13.33	6.66	-	100
9.	Nabiganj Union	52	12	23.07	8.33	83.34	-	-	-	-	-	-	100
10.	Kadam Rasul Union	62	16	25.80	18.75	75.00	6.25	-	-	-	-	-	100
11.	Bandar Union	61	05	8.19	40.00	60.00	-	-	-	-	-	-	100
12.	Sonakanda Union	52	20	38.46	30.00	70.00	-	-	-	-	-	-	100
13.	Adamjoo Industrial belt.	134	40	29.85	10.00	82.50	7.50	-	-	-	-	-	100
14.	Fatulla Urban	72	17	23.61	-	82.36	17.64	-	-	-	-	-	100
Total		950	321										

* Rent free accommodation.

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ANNEXTURE - E
Table - 12(a)

XIX

RENTAL STRUCTURE IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST, 1977

Sl. No.	Areas	No. of sample in each area.	No. of rental houses in each area.	Monthly rent in Taka.							Total	
				As percent of total number of rental houses								
				Nil	Less than 100	101-200	201-300	301-400	401-500	501-1000	1000+	
1.	Godnail Union	45	35	10.59	0.31	-	-	-	-	-	-	10.90
2.	Hajiganj Union	60	20	1.56	3.11	1.25	9.31	-	-	-	-	6.23
3.	Khanpur Union	67	23	0.31	1.27	3.43	0.62	0.93	0.62	-	-	7.18
4.	Chashara Union	88	47	0.62	2.50	8.41	2.50	-	-	0.62	-	14.65
5.	Narayanganj Union	85	50	1.56	7.79	4.36	1.25	-	-	0.62	-	15.58
6.	Deobhogh Union	80	09	2.50	0.31	-	-	-	-	-	-	2.81
7.	Paikpara Union	47	12	-	2.80	0.62	0.31	-	-	-	-	3.73
8.	Shitalakhya Union	45	15	-	0.93	2.18	0.31	0.31	0.62	0.31	-	4.66
9.	Nabiganj Union	52	12	0.31	3.11	0.31	-	-	-	-	-	3.73
10.	Kadem Rasul Union	62	16	0.93	3.74	0.31	-	-	-	-	-	4.98
11.	Bandar Union	61	05	0.62	0.93	-	-	-	-	-	-	1.55
12.	Sonakanda Union	52	20	1.87	4.36	-	-	-	-	-	-	6.23
13.	Adarjee Industrial belt	134	40	1.25	10.30	0.93	-	-	-	-	-	12.48
14.	Fatulja Urban	72	17	-	4.36	0.93	-	-	-	-	-	5.29
Total		950	321	9.34	58.29	23.04	5.30	1.24	1.24	1.55	-	100.00

ANNEXURE -E

XX

Table - 13

DURATION OF LIVING BY HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas.	No. of sample in each area.	Duration of living in years											
			As percent of heads of the Families in each area.					Total	As percent of total number of heads of the families.					Total
			0-2	2-4	4-6	6-10	10+		0-2	2-4	4-6	6-10	10+	
1.	Gochnail Union	45	2.22	2.22	13.33	26.55	55.57	100	0.10	0.10	0.63	1.26	2.63	4.72
2.	Hajiganj Union	60	5.00	8.33	18.33	8.33	60.01	100	0.31	0.53	1.16	0.53	3.79	6.32
3.	Khanpur Union.	37	-	1.49	5.93	11.95	80.58	100	-	0.10	0.42	0.84	5.68	7.04
4.	Chashara Union	38	1.13	1.13	8.09	18.19	70.46	100	0.10	0.10	0.84	1.68	6.53	9.25
5.	Narayanganj Union	65	3.52	3.52	2.35	24.70	65.91	100	0.31	0.31	0.21	2.21	5.89	8.93
6.	Deobhogh Union	80	-	3.75	5.00	2.50	88.75	100	-	0.31	0.42	0.21	7.47	8.41
7.	Paikpara Union	47	-	-	10.63	14.90	74.47	100	-	-	0.53	0.74	3.68	4.95
8.	Shitalakhya Union.	45	6.66	8.88	2.22	4.44	77.00	100	0.31	0.42	0.10	0.21	3.68	4.72
9.	Nabiganj Union	52	-	3.85	5.77	5.77	84.61	100	-	0.21	0.31	0.31	4.63	5.46
10.	Kadam Rasul Union	62	-	-	1.61	11.30	87.09	100	-	-	0.10	0.74	5.68	6.52
11.	Bandar Union	61	-	4.63	13.12	19.63	65.57	100	-	0.10	0.84	1.26	4.27	6.47
12.	Sonakanda Union	52	-	1.92	9.61	17.31	71.16	100	-	0.10	0.53	1.02	3.89	5.54
13.	Adarjee Industrial belt.	134	-	1.49	8.95	24.63	64.93	100	-	0.21	1.26	3.47	9.16	14.10
14.	Fatulla Urban	72	1.38	13.91	-	11.11	73.60	100	0.10	1.05	1.05	0.84	5.58	7.57
Total		950							1.23	3.54	7.35	15.32	72.56	100.00

ANNEXURE -E
Table - 14

XXI

CHANGES OF RESIDENCES BY HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Number of changes of residences by heads of the families											
			As percent of heads of the families in each area.					As percent of total number of heads of the families						
			Nil	1	2	3	3+	Total	Nil	1	2	3	3+	Total
1.	Godnail Union	45	48.46	4.44	8.88	-	2.22	100	4.00	0.21	0.42	-	0.10	4.73
2.	Hajiganj Union	60	85.01	3.33	8.33	-	3.33	100	5.37	0.21	0.53	-	0.21	6.32
3.	Khanpur Union	67	74.84	7.46	13.43	1.49	2.98	100	5.26	0.53	0.95	0.10	0.21	7.05
4.	Chashara Union	80	64.78	5.69	13.63	13.63	2.27	100	6.00	0.53	1.26	1.26	0.21	9.26
5.	Narayanganj Union	85	47.02	9.42	22.36	9.42	11.78	100	4.21	0.84	2.00	0.84	1.05	8.94
6.	Deobhagh Union	80	90.00	5.00	5.00	-	-	100	7.53	0.42	0.42	-	-	8.42
7.	Paikpara Union	47	76.61	8.51	12.76	2.12	-	100	3.79	0.42	0.63	0.10	-	4.94
8.	Shitalakhya Union	45	66.66	4.44	11.12	13.34	4.44	100	3.13	0.21	0.53	0.63	0.21	4.74
9.	Nabiganj Union	52	80.73	5.76	13.46	-	-	100	4.42	0.31	0.74	-	-	5.47
10.	Kadam Rasul Union	62	91.94	6.45	1.61	-	-	100	6.10	0.42	0.10	-	-	6.62
11.	Bandar Union	61	78.70	16.40	3.27	1.63	-	100	5.05	1.05	0.21	0.10	-	6.41
12.	Sonekanda Union	52	98.08	-	1.92	-	-	100	5.37	-	0.10	-	-	5.47
13.	Adamjee Industrial belt.	134	92.55	5.22	2.23	-	-	100	13.04	0.74	0.31	-	-	14.06
14.	Fatulla Urban	72	98.62	1.38	-	-	-	100	7.47	0.10	-	-	-	7.57
Total		950							80.79	5.99	8.20	3.03	1.99	100.00

Note: Changes within last 10 years.

ANNEXURE E
Table - 15

NUMBER OF HOLDINGS IN DIFFERENT AREAS IN NARAYANGANJ PAURASHAVA, 1973-74 to 1976-77.

Sl. Circle Number No. (areas)	Year							
	1973-74	as % of total holdings.	1974-75	as % of total holdings.	1975-76	as % of total holdings	1976-77	as % of total holdings
1. Circle I (Gopchar to Netaiganj bridge)	763	8.19	776	8.29	818	8.59	824	8.58
2. Circle II (Shah Shuja Road to Deobhogh Pucca Road)	1,103	11.83	1,103	11.78	1,103	11.59	1,106	11.49
3. Circle III (Netaiganj bridge to Dighabur Bazar)	830	8.90	830	8.87	830	8.72	835	8.67
4. Circle IV (Deobhogh's West Road to Chashara)	912	9.78	930	9.95	1,022	10.74	1,047	10.87
5. Circle V (No. 1 R'way Ghat to New Metro Cinema)	703	7.54	703	7.51	703	7.38	708	7.35
6. Circle VI (New Metro Cinema & North Chashara to Talla Road)	1,146	12.30	1,156	12.35	1,131	12.40	1,190	12.36
7. Circle VII (Hajiganj to D.C. Mill No. II)	719	7.71	719	7.68	719	7.55	754	7.83
8. Circle VIII (Madanganj to Sankanda)	1,174	12.60	1,174	12.55	1,174	12.33	1,177	12.22
9. Circle IX (Bander to M.M. Isphani)	966	10.36	966	10.31	966	10.15	979	10.17
10. Circle X (Jamal Fute bailing to D.C. Mill No. I)	1,004	10.79	1,004	10.72	1,004	10.55	1,009	10.48
Total	9,320	100.00	9,361	100.00	9,520	100.00	9,629	100.00

Source: Office Records, Narayanjanj Paurashava, Narayanganj, Dacca.

SATISFACTION OF LIVING OF HEADS OF THE FAMILIES IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY,
AUGUST 1977

Sl. No.	Areas.	No. of sample in each area.	Satisfaction of living in present locality					
			As percent of heads of the families in each area			As percent of total number of heads of the families.		
			Yes	No	Total	Yes	No.	Total
1.	Godnail Union	45	100.00	-	100	4.74	-	4.74
2.	Hajiganj Union	60	100.00	-	100	6.31	-	6.31
3.	Khanpur Union	67	71.63	28.37	100	5.05	2.00	7.05
4.	Chashara Union	38	94.31	5.69	100	9.74	0.53	9.27
5.	Narayanganj Union.	85	91.77	8.23	100	8.21	0.77	8.98
6.	Deobhagh Union	80	92.50	7.50	100	7.79	0.63	8.42
7.	Paikpara Union	47	97.88	2.12	100	4.84	0.10	4.94
8.	Shitalakhya Union	45	91.12	8.88	100	4.31	0.42	4.73
9.	Nabiganj Union	52	96.16	3.84	100	5.26	0.21	5.47
10.	Kadsm Rasul Union.	62	100.00	-	100	6.53	-	6.53
11.	Bandar Union	61	100.00	-	100	6.42	-	6.42
12.	Sonakanda Union	52	100.00	-	100	5.47	-	5.47
13.	Adanjee Industrial belt,	134	94.78	5.22	100	13.79	0.31	14.10
14.	Fatulla Urban	72	100.00	-	100	7.57	-	7.57
Total		950				95.03	4.97	100.00

ANNEXTURE - F
Table - 1

PASSENGER CARRIED MONTHLY BY BRTC AND PRIVATE BUSES ON DIFFERENT ROUTES CONNECTING NARAYANGANJ WITH IT'S ENVIRONS.

Year.	BUSES					Total Passenger carried by both sector.					
	B. R. T. C.		P R I V A T E								
Route	Vehi- cles on Road.	Passenger carried.	Total Passenger on both routes.	% of Total passenger carried by both sector	Route	Vehi- cles on Road.	Passenger carried.	Total passenger on both routes.	% of total passen- ger car- ried by both sector.		
1969-70	Da-N. Ganj Da-Adamjee				Da-N. Ganj N. Ganj-Adam.	106 22	8,58,600 1,78,200	10,36,800	=		
1970-71	Da-N. Ganj Da-Adamjee	Not available			Da-N. Ganj N. Ganj-Adam.		Not available				
1971-72	Da-N. Ganj Da-Adamjee				Da-N. Ganj N. Ganj-Adam.	99 17	9,21,900 1,37,700	10,59,600	-		
1972-73	Da-N. Ganj Da-Adamjee	128 80	13,92,472 11,47,921	25,40,393	36.52	Da-N. Ganj N. Ganj-Adam.	106 14	11,58,600 1,13,400	12,72,000	30.40 2.97	38,12,393
1973-74	Da-N. Ganj Da-Adamjee	137 82	13,64,672 11,43,869	25,08,541	34.84 29.20	Da-N. Ganj N. Ganj-Adam.	111 11	13,19,100 8,09,100	14,08,200	33.69 2.27	39,16,741
1974-75	Da-N. Ganj Da-Adamjee	130 89	13,40,441 11,29,975	24,70,416	33.19 27.98	Da-N. Ganj N. Ganj-Adam.	117 10	14,87,700 81,000	15,68,700	35.85 2.00	40,39,116
1975-76	Da-N. Ganj Da-Adamjee	69 89	18,38,515 11,92,080	30,30,595	38.79 25.28	Da-N. Ganj N. Ganj-Adam.	123 11	15,96,300 89,100	16,85,400	34.04 1.89	47,15,995
1976-77	Da-N. Ganj Da-Adamjee	73 54	11,36,694 9,19,619	20,59,313*	29.96 24.17	Da-N. Ganj N. Ganj-Adam.	125 9	16,72,500 72,900	17,45,400	43.96 1.91	58,04,713

Source : BRTC: Office Records, Planning Cell, Head office, BRTC, Motijheel, Dacca.

PRIVATE: Office Records, Dacca Central Road Transport Association, 74, Motijheel C.A., Dacca.

ANNEXTURE - F

II

Table - 2

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977.
MOVEMENT OF MOTOR VEHICLES BY ORIGIN AND DESTINATION (16 hours interview).

Narayanganj-Adamjee Road
 BASE NARAYANGANJ
 Station - 1

Direction	Types of Vehicles								
	Truck	Tanker	Pickup	Bus	Minibus	Taxi	Car	Motor Cycle	Auto Rickshaw
To Base	136	36	22	134	16	39	125	6	63
From Base	107	29	7	110	11	27	89	5	33
Total	243	65	29	244	27	66	214	11	96

Narayanganj-Dacca Road
 BASE NARAYANGANJ
 Station - 2

To Base	145	16	14	351	14	27	239	32	93
From Base	127	23	24	341	18	60	211	33	95
Total	272	39	38	692	32	87	450	65	188

NARAYANGANJ - DACCA ROAD TRANSPORT SURVEY, AUGUST 1977.ROAD TRAFFIC COUNTS - AVERAGE DAY TRAFFIC.Narayanganj - Adamjee Road

BASE: NARAYANGANJ

Station-1

Direction (for two days count)	Types of Vehicle													Total No. of Motor.	Total No. of Vehicle.
	Truck	Tanker	Pick up	Bus	Mini- bus.	Taxi	Car	Motor Cycle	Auto Rick.	All Motor	Cycle	Cycle Rick.	Cart		
To Base	158	59	37	159	28	78	139	2	124	802	9	39	4	52	854
From Base	124	32	26	162	21	79	93	15	115	667	-	48	-	54	723
To Base	70	57	33	152	21	76	122	42	168	741	21	137	6	164	905
From Base	66	51	31	156	21	77	136	39	158	735	30	157	4	190	925
Total for 16 hours	418	199	127	629	91	310	490	98	565	2945	60	381	14	460	3407
Average day for 16 hours	243	100	64	315	46	155	245	49	283	1500	30	191	7	228	1728
Expansion factor for Night Traffic	1.12	1.12	1.12	1.05	1.05	1.03	1.03	1.03	1.03		1.03	1.03	1.03		
Total Per day	272	112	72	331	48	160	252	50	291	1508	31	197	7	235	1823

Table - 4

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977.ROAD TRAFFIC COUNT - AVERAGE DAY TRAFFIC.Narayanganj-Dacca RoadBASE: NARAYANGANJStation - 2

Direction (for two days count)	Types of Vehicles												Total Non Motor	Total Vehicle	
	Truck	Tanker	pick up	Bus	Mini. bus.	Taxi	Car	Motor Cycle	Auto Rick.	All Motor	Cycle	Cycle Rick.			Cart
To Base	163	12	25	313	6	98	236	54	179	1036	76	643	26	745	1831
From Base	200	56	29	374	6	92	215	59	154	1104	56	693	54	791	1975
To Base	171	22	30	407	28	95	268	65	176	1308	113	502	14	647	2021
From Base	199	38	42	473	48	110	331	100	203	1533	166	600	23	869	2402
Total for 16 hours	733	128	128	1567	82	393	1050	278	712	5171	411	2518	117	3052	8229
Average day for 16 hours	367	64	63	783	41	197	525	139	356	2536	206	1259	59	1524	4060
Expansion factor for night Traffic.	1.15	1.15	1.15	1.05	1.05	1.05	1.03	1.03	1.03		1.03	1.03	1.03		
Total Per Day	422	74	72	823	43	203	541	143	367		212	1297	61	1570	4258

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977

SUMMARY OF TRAFFIC (16 Hours)

Narayanganj-Admiral Road

BASE: NARAYANGANJ

Station - 1/

Directions	Types of Vehicles									
	Truck	Tanker	Pickup	Bus	Minibus	Taxi	Car	Motor Cycle	Auto Rick.	Total
Local (within 10 miles)	230	65	29	242	27	66	210	11	96	976
Other Intra District	2			2						4
Narayanganj Town to Sylhet Town	1									1
Narayanganj Town to Comilla Town							1			1
Narayanganj Town to Tangail Town	5									5
Narayanganj Town to Chittagong Town	5									5
Dacca City to Chittagong Town							2			2
Dacca City to Sylhet Town							1			1
Average 16 hours day interview.	243	65	29	244	27	66	214	11	96	995
16 Hours day count	243	100	64	315	46	155	245	49	283	1507
Expansion factor	1	1.53	2.20	1.29	1.70	2.34	1.14	4.45	2.94	

ANNEXURE - F
Table - 6

VI

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977

SUMMARY OF TRAFFIC (16 hours count)

Narayanganj-Dacca Road

BASE; NARAYANGANJ

Station - 2

Directions	Types of Vehicles									Total
	Truck	Tanker	Pickup	Bus	Minibus	Taxi	Car	Motor cycle	auto Rick.	
Local (within 10 miles)	240	38	37	692	32	87	448	65	188	1827
Narayanganj Town to Rangpur Town	1									1
Narayanganj Town to Pabna Town	2									2
Narayanganj Town to Kustia Town	3									3
Narayanganj Town to Mymensingh Town	2		1							3
Narayanganj Town to Tangail Town	12	1								13
Dacca City to Chittagong Town	8						2			10
Dacca City to Kustia Town	4									4
Average 16 hours day interview	272	39	38	692	32	87	450	65	188	1863
16 hours day count	367	64	63	784	41	197	525	139	256	2586
Expansion factor	1.34	1.64	1.65	1.13	1.28	2.26	1.16	2.13	1.89	

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977SUMMARY OF TRAFFIC (16 Hours)

(Both direction combined)

Narayanganj-Adamjee Road.BASE: NARAYANGANJ

Station - 1.

Directions	Type of Vehicles									
	Truck	Tanker	Pickup	Bus	Minibus	Taxi	Car	Motor Cycle	Auto Rick.	Total
Local (within 10 miles)	230	100	64	312	46	155	240	49	283	1479
Other Intra District	2			3						5
Narayanganj Town to Sylhet Town	1									1
Narayanganj Town to Comilla Town							1			1
Narayanganj Town to Tangail Town	5									5
Narayanganj Town to Chittagong Town	5									5
Dacca City to Chittagong Town							3			3
Dacca City to Sylhet Town							1			1
Total	243	100	64	315	46	155	245	49	283	1500
% Intra District	95.47	100	100	99.04	100	100	97.95	100	100	
% Inter District	4.53			0.96			2.05			

ANNEXURE - F
Table - 8

VIII

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977.

SUMMARY OF TRAFFIC (16 Hours)

(both direction combined)

Narayanganj-Dacca Road

BASE: NARAYANGANJ

Station - 2

Directions	Types of Vehicles									Total
	Truck	Tanker	Pickup	Bus	Minibus	Taxi	Car	Motor cycle	Auto Rick.	
Local (within 10 miles)	321	64	61	784	41	197	525	139	356	2488
Narayanganj Town to Rangpur Town	2									2
Narayanganj Town to Pabna Town	3									3
Narayanganj Town to Kustia Town	4									4
Narayanganj Town to Mynensingh Town	3		2							5
Narayanganj Town to Tangail Town	17									17
Dacca City to Chittagong Town	11									11
Dacca City to Kustia Town	6									6
Total	367	64	63	784	41	197	525	139	356	2536
% Intra District	88.01	100	96.82	100	100	100	100	100	100	
% Inter District	11.99		3.18							

ANNEXTURE - F
Table - 9

IX

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977.
AVERAGE VEHICLES OCCUPANCY

(Average Number of Persons carried by vehicles in two different Roads)

BASE: NARAYANGANJ

Route	To/From Base	Bus	Minibus	Car	Taxi	Auto/Rickshaw	Pickup
Narayanganj-	To	50.78	9.17	4.11	8.35	4.30	7.22
Adanjee Road	From	47.74	9.13	4.18	7.33	4.37	5.85
Narayanganj-	To	54.18	6.42	3.93	5.74	3.61	3.35
Dacca Road	From	47.30	5.97	3.51	5.57	2.90	6.52

Note : Number of passengers include drivers.

ANNEXTURE - F
Table - 10

X

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977

AVERAGE CAPACITY DISTRIBUTION.

BASE: NARAYANGANJ

Route	To/From Base	Bus	Minibus	Car	Taxi	Auto Rick.	Pickup
Narayanganj - Adamjee Road.	To	41.91	7.81	3.36	7.30	2.79	6.90
	From	47.31	7.09	4.61	7.70	2.45	4.80
Narayanganj - Dacca Road.	To	50.30	6.92	5.22	6.62	2.10	3.07
	From	50.41	8.66	3.32	4.85	3.00	6.58

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977.
TRUCK LOAD FACTORS AND EMPTY VEHICLES FOR SELECTED ORIGIN DESTINATION PAIRS.

Route	Movement	No. of Trucks (16 hrs. day)	Average Capacity of Trucks (Tons)	Empty (%)	Outward		Empty (%)	Inward	
					L.F. Loaded Trucks.	L.F. All Trucks.		L.F. Loaded Trucks.	L.F. All Trucks.
Narayanganj- Adamjee Road.	Intra District	232	5.20	29.29	1.20	0.84	61.65	1.22	0.46
	Inter District	11	5.20	25.00	1.11	0.85	-	1.35	1.35
Narayanganj- Dacca Road	Intra District	240	4.78	55.35	1.20	0.53	35.93	1.17	0.74
	Inter District	32	5.00	-	1.23	1.23	-	1.22	1.22

L . F. = Load Factor
Outward means from base
Inward means to base.

ANNEXURE - F
Table - 12

XII

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977.

PURPOSE OF JOURNEY

Narayanganj Adarsha Road

BASE: NARAYANGANJ

Station - 1

Purpose	To/From Base	Types of Vehicles .							
		Truck	Tanker	Pickup	Bus	Minibus	Taxi	Car	Auto Rickshaw.
HOME	To	43	27	1	-	-	-	3	-
	From	18	8	1	3	3	-	10	-
WORK	To	90	8	20	134	16	40	124	62
	From	32	21	7	106	8	26	64	84
OTHER	To	-	1	-	-	-	-	-	-
	From	-	-	-	1	-	-	13	-
Total		243	65	29	244	27	66	214	96
Percentage HOME		25.10	53.84	6.89	1.22	11.11	-	6.07	-
Percentage WORK		74.89	44.61	93.10	98.36	88.88	100.00	87.85	100.00
Percentage OTHER		-	1.53	-	0.40	-	-	6.07	-

NARAYANGANJ-DACCRA ROAD TRANSPORT SURVEY, AUGUST 1977.

PURPOSE OF JOURNEY

Narayanganj - Dacca Road.

BASE: NARAYANGANJ

Station - 2

Purpose	To/From Base	Types of Vehicles							
		Truck	Tanker	Pickup	Dus	Minibus	Taxi	Car	Auto Rickshaw
HOME	To	3	3	1	10	1	2	22	2
	From	12	7	9	2	1	1	20	3
WORK	To	130	15	14	340	12	30	215	88
	From	126	14	14	340	18	56	192	93
OTHER	To	-	-	-	-	-	-	-	-
	From	1	-	-	-	-	-	1	2
Total		272	39	33	692	32	87	450	188
<hr/>									
Percentage									
HOME		5.51	25.64	26.31	1.73	6.25	1.15	9.33	2.65
WORK		94.11	74.35	73.29	98.27	83.75	96.85	90.44	96.27
OTHER		0.36	-	-	-	-	-	0.23	1.08

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977.

MAJOR COMMODITY MOVEMENTS BY TRUCKS.

Narayanganj-Adamjee Road.

BASE: NARAYANGANJ

Station - 1.

INTRA DISTRICT					INTER DISTRICT						
Routes	Ori/ Dest.	Commodities	Tons/day.	Percent	Routes	Ori/ Dest.	Commodities	Tons/day	Percent		
Narayanganj Town to Dacca City.	To	Food Grains	33.75	3.95	Narayanganj Town to Tangail Town	To	Food Grains	-			
		Cotton	-	-			Cotton	-			
		Building Material	47.25	5.54			Building Material	-			
		Fuel	20.04	2.35			Fuel	-			
		Others	19.25	2.25			Others	-			
	From	Food Grain	334.00	39.15		From	Food Grain	33.75	89.22		
		Cotton	2.50	0.29			Cotton	-			
		Building Material	11.75	1.37			Building Material	-			
		Fuel	126.92	14.87			Fuel	-			
		Others	15.00	1.76			Others	-			
Narayanganj Town to Adamjee	To	Food Grain	43.75	5.13	Narayanganj Town to Chittagong City.	To	Food Grain	-			
		Cotton	-	-			Cotton	-			
		Building Material	41.25	4.83			Building Material	-			
		Fuel	20.04	2.35			Fuel	-			
		Others	6.75	0.79			Others	5.00			10.26
	From	Food Grain	47.25	5.54		From	Food Grain	-			
		Cotton	5.00	0.58			Cotton	-			
		Building Material	38.75	4.54			Building Material	-			
		Fuel	26.72	3.13			Fuel	-			
		Others	-	-			Others	5.00			10.26
Narayanganj Town to Manikganj Town	To	Food Grain	-	Narayanganj Town to Sylhet Town	To	Food Grain	-				
		Cotton	-			Cotton	-				
		Building Material	-			Building Material	-				
		Fuel	-			Fuel	-				
		Others	-			Others	-				
	From	Food Grain	13.50		1.58	From	Food grain	-			
		Cotton	-		-		Cotton	-			
		Building Material	-		-		Building Material	-			
		Others	-		-		Others	5.00			10.26
		Fuel	-		-		Fuel	-			
				853.47	100.00						
						48.75	100.00				

NARAYANGANJ-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977.MAJOR COMMODITY MOVEMENTS BY TRUCKS.Narayanganj - Dacca Road.

BASE, NARAYANGANJ

Station - 2

Routes	Ori/Dest.	INTRA DISTRICT		
		Commodities	Tons/day	Percent
Narayanganj Town to Dacca City.	To	Food Grain	-	-
		Cotton	67.50	11.60
		Building Material	163.75	28.15
		Fuel	10.03	6.89
		Others	54.25	9.38
	From	Food Grain	6.75	1.16
		Cotton	15.50	2.86
		Building Material	39.75	6.66
		Fuel	6.68	1.15
		Others	124.50	21.40
Adamjee Industrial Belt to Dacca city.	To	Food Grain	-	-
		Cotton	5.00	0.86
		Building Material	-	-
		Fuel	-	-
		Others	-	-
	From	Food Grain	-	-
		Cotton	-	-
		Building Material	20.25	3.48
		Fuel	-	-
		Others	-	-
Adamjee Industrial belt to Narayanganj Town.	To	Food Grain	-	-
		Cotton	25.25	4.35
		Building Material	-	-
		Fuel	-	-
		Other	-	-
	From	All Commodities	None	-
Narayanganj Town to Manikganj Town.	To	All Commodities	None	-
	From	All Commodities except fuel	None	-
		Fuel	6.68	1.15
Total			581.69	100.00

(Contd.)

INTER DISTRICT																		
Sl. No.	Routes	Ori/ Dest.	Commodities	Tons/day	Percent	Sl. No.	Route	Ori/ Dest.	Commodities	Tons/day	Percent							
1.	Narayanganj Town to Ishardi Town	To	Food Grain	-	-	5.		From	Food Grain	13.50	4.65							
			Cotton	6.75	2.32				Cotton	6.75	2.32							
			Building Material	-	-				Building Material	-	-							
			Fuel	-	-				Fuel	13.36	4.60							
			Others	6.75	2.32				Others	40.50	13.96							
		From		Food Grain	-	-	6.	Dacca City to Chittagong Town	To	Food Grain	13.50	4.65						
				Cotton	13.50	4.65				Cotton	13.50	4.65						
				Building Material	-	-				Building Material	13.50	4.65						
				Fuel	-	-				Fuel	-	-						
				Others	-	-				Others	20.25	6.98						
2.	Narayanganj Town to Rajshahi Town.	To	Food Grain	-	-			From	All Commodities except others	None	-							
			Cotton	-	-				Others	20.25	6.98							
			Building Material	-	-				7.	Kustia Town to Chittagong Town	To	All Commodities except others.	None	-				
			Fuel	-	-							Others	33.75	11.63				
	From		All Commodities	None	-			From	All commodities except others.	None	-							
			Others	13.50	4.65				Others	6.75	2.32							
3.	Narayanganj Town to Kustia Town	To	Food Grain	-	-			To	All Commodities except others.	None	-							
			Cotton	-	-				8.	Rajshahi Town to Chittagong	To	Others	6.75	2.32				
			Building Material	-	-							From		All Commodities	None	-		
			Fuel	-	-				Others	6.75	2.32							
	From		All Commodities	None	-			To	All Commodities except others.	None	-							
			Others	6.75	2.32				Others	6.75	2.32							
4.	Narayanganj Town to Mynasingh Town.	To	All Commodities	None	-			From	All Commodities	None	-							
			From		Food Grain				-	-	9.	Other than Rajshahi Town to Feni Town.	To	All Commodities except others.	None	-		
					Cotton				-	-				Others	6.75	2.32		
					Building Material				-	-				From		All Commodities	None	-
					Fuel				-	-						Others	6.75	2.32
	From		Others	6.75	2.32			Total	290.11	100.00								
			All Commodities	None	-													
5.	Narayanganj Town to Tangail Town.	To	Food Grain	6.75	2.32			From	All Commodities	None	-							
			Cotton	13.30	4.65													
			Building Material	-	-													
			Fuel	-	-													
			Others.	-	-													

Note : Cotton includes cotton products.

NAIRYANGANI-DACCA ROAD TRANSPORT SURVEY, AUGUST 1977.

PASSANGER CAR EQUIVALENT
BY STATION

ROAD TRAFFIC COUNTS.

(Average 16 hours and 24 hours day traffic)

Vehicle Type	16 hours (Average)						24 hours (Average)					
	Station I			Station II			Station I			Station II		
	No. of Vehi- cle.	Conver- sion Factor	P: C: E.	No. of Vehi- cle	Conver- sion factor	P: C: E.	No. of Vehi- cle.	Conver- sion Factor	P: C: E.	No. of Vehi- cle.	Conver- sion Factor	P: C: E.
Truck	243	3	729	367	3	1,101	234	3	702	422	3	1,266
Tanker	100	3	300	64	3	192	112	3	336	74	3	222
Pickup	64	1	64	63	1	63	72	1	72	72	1	72
Bus	315	3	945	784	3	2,352	331	3	993	323	3	2,496
Minibus	43	3	133	41	3	123	40	3	144	43	3	129
Taxi	155	1	155	197	1	197	160	1	160	203	1	203
Car	245	1	245	525	1	525	252	1	252	541	1	541
Motor- Cycle	49	1	49	139	1	139	50	1	50	143	1	143
Auto - Rick.	283	1	283	356	1	356	291	1	291	367	1	367
Cycle	30	0.50	15	206	0.50	103	31	0.50	16	212	0.50	106
Cycle Rick.	191	2	382	1,259	2	2,518	197	2	394	1,297	2	2,594
Cart	7	8	56	59	8	472	7	8	56	61	8	488
Total	1,738		3,359	4,060		8,141	1,785		5,569	4,258		8,600

DAILY MOVEMENT FOR VARIOUS PURPOSES BY FAMILY MEMBERS IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, 1977.

Sl. No.	Areas.	No. of sample in each area.	Daily movement for work, academic, food supply and other purposes.										
			As percent of number of families in each area.										
			Work			Academic			Food Supply			Others	
	Dacca	N. Ganj.	Adam- Joe	Fatu- lla.	Dacca	N. Ganj	Adam- Joe.	Fatu- lla.	N. Ganj.	Adam- Joe.	Fatu- lla.	N. Ganj	
1.	Godnail Union	45	11.12	88.88	-	-	15.56	-	-	93.33	-	-	-
2.	Hajiganj Union	60	23.33	76.67	-	-	3.33	50.00	-	-	31.66	-	1.66
3.	Khanpur Union	67	7.46	92.54	-	-	1.49	98.51	-	-	91.04	-	8.95
4.	Chashara Union	83	20.45	79.55	-	-	1.13	85.22	-	-	92.04	-	1.14
5.	Narayanganj Union	85	15.29	84.71	-	-	9.42	57.64	-	-	83.52	-	1.17
6.	Deobhogh Union	80	8.75	88.75	-	2.50	1.25	71.25	-	-	91.83	-	-
7.	Paikpara Union	47	8.51	91.49	-	-	4.25	74.47	-	-	85.10	-	-
8.	Shitalakhya Union.	45	31.12	68.88	-	-	-	99.77	-	-	93.33	-	-
9.	Nabiganj Union	52	-	100.00	-	-	-	75.00	-	-	96.15	-	-
10.	Kadam Rasul Union.	62	1.16	98.83	-	-	1.61	83.90	-	-	96.77	-	-
11.	Bandar Union	61	3.27	96.73	-	-	-	77.04	-	-	95.08	-	-
12.	Sonakenda Union	52	-	98.08	-	1.92	-	78.85	-	-	96.15	-	-
13.	Adamjee Indus- trial belt.	134	5.22	9.70	85.08	-	0.74	10.44	61.22	-	-	95.52	-
14.	Fatulla Urban	72	12.50	27.81	-	59.69	1.38	27.81	-	61.11	-	-	97.22
Total		950											

Note : (i) Dacca, Narayanganj, Fatulla and Adamjee were considered as possible destinations for each category of 'work' 'Academic' 'Food Supply' & 'other' purposes. Any destination, under any category, missing in this table indicate that respondents did not mention it.

(ii) For academic purpose, only one member of each family was considered who travelled the longest distance.

ANNEXURE - F
Table - 17(a)

XIX

DAILY MOVEMENT FOR VARIOUS PURPOSES BY FAMILY MEMBERS IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, 1977.

Sl. No.	Areas	No. of sample in each area.	Daily movement for work, academic, food supply and other purposes.											
			As percent of total number of families											
			Work				Academic				Food supply			
Dacca	N. Ganj	Adamjee.	Fatulla.	Dacca	N. Ganj	Adamjee.	Fatulla.	N. Ganj	Adamjee.	Fatulla.	N. Ganj.			
1.	Godnail Union	45	0.53	4.21	-	-	-	0.74	-	-	4.42	-	-	-
2.	Najiganj Union	60	1.47	4.02	-	-	0.21	3.16	-	-	5.15	-	-	0.10
3.	Rhanpur Union	67	0.53	6.53	-	-	0.10	6.74	-	-	6.42	-	-	0.63
4.	Ghashara Union	88	1.89	7.37	-	-	0.10	7.89	-	-	8.53	-	-	0.10
5.	Narayanganj Union	85	1.37	7.58	-	-	0.84	5.15	-	-	7.47	-	-	0.10
6.	Deobhogh Union	80	0.74	7.47	-	0.21	0.10	6.00	-	-	7.79	-	-	-
7.	Paikpara Union	47	0.42	4.53	-	-	0.21	3.68	-	-	4.21	-	-	-
8.	Shitalakhya Union.	45	1.47	3.26	-	-	-	4.63	-	-	4.42	-	-	-
9.	Nabiganj Union	52	-	5.47	-	-	-	4.10	-	-	5.26	-	-	-
10.	Kadon Rasul Union	62	0.10	6.42	-	-	0.10	5.47	-	-	6.31	-	-	-
11.	Bandar Union	61	0.21	6.21	-	-	-	4.95	-	-	6.10	-	-	-
12.	Sonakanda Union	52	-	5.37	-	0.10	-	4.31	-	-	5.26	-	-	-
13.	Adamjee Indus- trial belt.	134	0.74	1.37	12.00	-	0.10	1.47	8.63	-	-	13.47	-	-
14.	Fatulla Urban	72	0.95	2.10	-	4.53	0.10	2.10	-	4.63	-	-	7.37	-

Note : (i) Dacca, Narayanganj, Fatulla and Adamjee were considered as possible destinations for each category of 'work', 'Academic', 'Food supply' & 'other' purposes. Any destination, under any category, missing in this table indicate that respondents did not mention it.

(ii) For academic purposes, only one member of each family was considered who travelled the longest distance.

WEEKLY MOVEMENT FOR VARIOUS PURPOSES BY FAMILY MEMBERS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No. Areas	No. of sample in each area.	Weekly movement for work, Shopping, Food Supply and Others.													
		As percent of member of families in each area.							As percent of total number of families						
		Shopping		Food Supply			Others		Shopping		Food Supply			Others	
		Dacca.	N. Ganj.	N. Ganj.	Adamjee	Fatulla	Dac.	N. Ganj.	Dacca.	N. Ganj.	N. Ganj.	Adam.	Fat.	Dacca.	N. Ganj.
1. Godnail Union	45	4.44	91.11	100.00	-	-	-	-	0.21	4.31	4.74	-	-	-	-
2. Hajiganj Union	60	-	65.00	100.00	-	-	-	-	-	4.10	6.31	-	-	-	-
3. Khanpur Union	67	-	-	100.00	-	-	-	2.98	-	-	7.05	-	-	-	0.21
4. Chashara Union	38	-	25.00	100.00	-	-	-	3.40	-	2.31	9.26	-	-	-	0.31
5. Narayanganj Union.	35	-	5.38	100.00	-	-	-	9.42	-	0.53	8.95	-	-	-	0.84
6. Deobhogh Union	80	5.00	17.50	100.00	-	-	2.50	2.50	0.42	1.47	8.42	-	-	0.21	0.21
7. Paikpara Union	47	12.76	10.63	100.00	-	-	-	-	0.63	0.53	4.95	-	-	-	-
8. Shitalakhya Union.	45	-	44.44	100.00	-	-	-	-	-	2.10	4.74	-	-	-	-
9. Nabiganj Union	52	-	-	100.00	-	-	-	3.84	-	-	5.47	-	-	-	0.21
10. Kadm Rasul Union.	62	1.61	-	100.00	-	-	-	22.50	0.10	-	6.53	-	-	-	1.47
11. Bandar Union	61	-	-	100.00	-	-	-	6.55	-	-	6.42	-	-	-	0.42
12. Sonakanda Union.	52	-	23.08	100.00	-	-	-	32.70	-	1.26	5.47	-	-	-	1.79
13. Adamjee Indus- trial Belt.	134	-	9.70	2.98	97.02	-	-	46.26	-	1.37	0.42	13.68	-	-	6.53
14. Fatulla Urban	72	-	-	-	-	100.00	2.77	1.38	-	-	-	-	7.57	0.21	0.10
Total	950								1.36	17.98	78.73	13.68	7.57	0.2	12.09

Note : Dacca, Narayanganj, Adamjee and Fatulla were considered as possible destinations for each category of work, shopping, food supply and others purposes. Any category or destination under any category, missing in this table indicate that the respondents did not mention it.

MONTHLY MOVEMENT FOR VARIOUS PURPOSES BY FAMILY MEMBERS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas.	No. of sample in each area.	Monthly movement for Shopping, Visit, Food Supply and other purposes.											
			As percent of number of families in each areas.						As percent of total number of families.					
			Shopping		Visit		Others		Shopping		Visit		Others	
			Dacca	N. Ganj	Dacca	N. Ganj	Dacca	N. Ganj	Dacca	N. Ganj	Dacca	N. Ganj	Dacca	N. Ganj
1.	Godnail Union	45	2.22	3.83	-	11.12	-	6.66	0.10	0.42	-	0.53	-	0.31
2.	Hajiganj Union	60	5.00	33.34	8.33	21.66	8.33	6.66	0.31	2.10	0.53	1.37	0.53	0.42
3.	Khanpur Union	67	1.49	28.37	14.93	19.40	-	8.95	0.10	2.00	1.05	1.37	-	0.63
4.	Chashara Union	68	1.13	32.97	9.09	28.40	-	6.81	0.10	3.05	0.84	2.63	-	0.63
5.	Narayanganj Union	85	5.88	7.05	8.23	14.12	4.70	-	0.53	0.63	0.74	1.26	0.42	-
6.	Deobhogh Union	60	2.50	6.25	16.25	10.00	8.75	1.25	0.21	0.53	1.37	0.84	0.74	0.10
7.	Paikpara Union	47	27.67	4.25	19.17	2.12	-	-	1.37	0.21	0.95	0.10	-	-
8.	Shitalakhya Union	45	6.66	15.55	22.23	33.34	-	-	0.31	0.74	1.05	1.58	-	-
9.	Nabiganj Union	52	5.76	17.30	-	7.69	1.62	-	0.31	0.95	-	0.42	0.10	-
10.	Kadam Rasul Union.	62	3.22	30.65	3.22	12.90	1.61	-	0.21	2.00	0.21	0.84	0.10	-
11.	Bandar Union	61	4.91	9.83	-	11.48	-	-	0.31	0.63	-	0.74	-	-
12.	Sonakanda Union	52	-	23.08	5.75	21.15	5.75	13.46	-	1.23	0.31	1.16	0.31	0.74
13.	Adamjee Indus- trial belt.	134	5.97	45.52	2.23	17.16	-	-	0.84	0.42	0.31	2.42	-	-
14.	Fatulla Urban	72	8.33	-	4.16	5.55	2.77	-	0.63	-	0.31	0.42	0.21	-
Total		950							5.33	20.94	7.67	15.68	2.83	2.41

Note: Dacca, Narayanganj, Adamjee and Fatulla were considered as possible destinations for each category of Shopping, Visit, Food Supply and Other purposes. Any category or destination under any category, missing in this table indicate that the respondents did not mention it.

DAILY USE OF DIFFERENT MODES OF TRANSPORT FOR VARIOUS PURPOSES BY THE FAMILIES IN DIFFERENT AREAS
IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Daily use of different modes of transport for various purposes.													
			As percent of number of Families in each area													
			Work					Academic					Food Supply		Others	
Bus	Walk	Rick.	Car	Train	Bus	Walk	Rick.	Car	Train	Walk	Rick.	Walk	Rick.			
1.	Godnail Union	45	4.44	93.34	-	2.22	-	2.22	11.12	-	-	-	93.33	-	-	-
2.	Hajiganj Union	60	23.33	63.32	13.35	-	-	3.33	25.00	25.00	-	-	76.68	5.00	-	-
3.	Khanpur Union	67	7.46	20.37	64.17	-	-	1.49	52.23	44.73	-	-	56.72	31.32	-	-
4.	Chashara Union	33	20.45	50.00	28.40	1.15	-	1.13	63.63	21.60	1.15	-	81.81	10.23	1.14	-
5.	Narayanganj Union	85	11.78	32.94	51.76	2.35	1.17	7.05	44.70	11.78	1.17	2.35	70.53	12.94	-	1.17
6.	Deobhogh Union	80	11.25	56.25	31.25	1.25	-	1.25	56.25	13.75	1.25	-	91.83	2.50	-	-
7.	Paikpara Union	47	8.51	31.30	60.19	-	-	4.25	46.00	27.67	-	-	85.10	-	-	-
8.	Shitalakhya Union	45	26.67	31.07	42.26	-	-	-	91.11	4.44	2.22	-	93.33	-	-	-
9.	Nabiganj Union	52	-	80.78	17.30	1.92	-	-	75.00	-	-	-	96.15	-	-	-
10.	Kadam Rasul Union.	62	1.61	93.88	14.51	-	-	1.61	96.78	1.61	-	-	96.77	-	-	-
11.	Banchar Union	61	-	30.18	6.55	-	3.27	-	77.04	-	-	-	-	-	-	-
12.	Sonakanda Union	52	1.92	78.85	19.23	-	-	-	78.85	-	-	-	96.15	-	1.92	-
13.	Adarjee Industrial belt.	134	12.69	85.08	2.23	-	-	3.37	61.22	7.46	-	-	95.52	-	-	-
14.	Fatulla Urban	72	34.73	59.73	4.16	1.38	-	26.33	61.11	1.38	1.38	-	97.22	-	-	-
Total		950														

Note: Bus, Walk, Rickshaw, Car & Train were considered as possible modes of transport for each category of work, Academic, Food Supply & other purposes. Any mode under any category, missing in this table indicate that respondents did not mention it.

DAILY USE OF DIFFERENT MODES OF TRANSPORT FOR VARIOUS PURPOSES BY THE FAMILIES IN DIFFERENT AREAS
IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No. Areas.	No. of sample in each area.	Daily use of different modes of transport for various purposes.													
		As percent of total number of families													
		Work					Academic					Food Supply		Others	
Bus	Walk	Rick.	Car	Train	Bus	Walk	Rick.	Car	Train	Walk	Rick.	Walk	Rick.		
1. Godnail Union	45	0.53	4.21	-	0.10	-	0.21	0.53	-	-	-	4.42	-	-	-
2. Hajiganj Union	60	1.47	4.00	0.84	-	-	0.21	1.58	1.58	-	-	4.82	0.31	-	-
3. Khanpur Union	67	0.53	2.00	4.53	-	-	0.10	3.68	3.05	-	-	4.00	2.42	-	-
4. Chashara Union	88	1.89	4.63	2.63	0.10	-	0.10	5.89	2.00	0.10	-	7.57	0.95	0.10	-
5. Narayanganj Union	85	1.05	2.95	4.63	0.21	0.10	0.63	4.00	1.05	0.10	0.21	6.31	1.16	-	0.10
6. Deobhogh Union	80	0.95	4.74	2.55	0.10	-	0.10	4.74	1.16	0.10	-	7.57	0.21	-	-
7. Paikpara Union	67	0.42	1.89	2.63	-	-	0.21	2.31	1.57	-	-	4.21	-	-	-
8. Shitalakhya Union	45	1.26	1.76	2.00	-	-	-	4.31	0.21	0.10	-	4.42	-	-	-
9. Nabiganj Union	52	-	4.42	0.95	0.10	-	-	4.10	-	-	-	5.26	-	-	-
10. Kadam Rasul Union	62	0.10	5.47	0.95	-	-	0.10	5.47	0.95	-	-	6.31	-	-	-
11. Dandar Union	61	-	5.79	0.42	-	0.21	-	4.95	-	-	-	6.10	-	-	-
12. Sonakanda Union	52	0.10	4.31	1.05	-	-	-	4.31	-	-	-	5.26	-	0.10	-
13. Adamjee Industrial belt.	134	1.17	12.00	0.31	-	-	0.53	8.63	1.05	-	-	13.47	-	-	-
14. Fatulla Urban	72	2.63	4.53	0.31	0.10	-	2.00	4.63	0.10	0.10	-	7.37	-	-	-
Total	950	12.10	62.70	23.30	0.71	0.31	4.19	59.03	11.67	0.50	0.21	87.09	5.05	0.20	0.10

Note : Bus, Walk, Rickshaw, Car & Train were considered as possible modes of transport for each category of work, Academic, Food Supply and other purposes. Any mode under any category, missing in this table indicate that respondents did not mention it.

WEEKLY USE OF DIFFERENT MODES OF TRANSPORT FOR VARIOUS PURPOSES BY THE FAMILIES IN DIFFERENT AREAS
IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No. Areas	No. of sample in each area.	Weekly use of different modes of transport																		
		As percent of number of families in each area.									As percent of total number of families.									
		Shopping			Food Supply			Others			Shopping			Food Supply			Others			
		Bus.	Walk	Rick.	Car	Walk	Rick.	Bus	Walk	Rick.	Bus	Walk	Rick.	Car	Walk	Rick.	Bus	Walk	Rick.	
1. Godnail Union	45	-	8.88	6.66	4.44	100.00	-	-	-	-	-	0.42	0.31	0.21	4.75	-	-	-	-	
2. Hajiganj Union	60	-	45.00	20.00	-	100.00	-	-	-	-	-	2.84	1.26	-	6.31	-	-	-	-	
3. Khanpur Union	67	-	-	-	-	94.02	5.98	-	1.49	1.49	-	-	-	-	6.63	0.42	-	0.10	0.10	
4. Chashara Union	88	-	4.54	20.45	-	100.00	-	-	3.40	-	-	0.41	1.89	-	9.26	-	-	0.31	-	
5. Narayanganj Union	85	-	-	5.88	-	100.00	-	-	4.70	4.70	-	-	0.53	-	8.95	-	-	0.21	0.21	
6. Deobhogh union	80	1.25	-	17.50	3.75	100.00	-	2.50	-	-	0.10	-	1.79	0.31	8.42	-	0.21	-	-	
7. Paikpara Union	47	6.38	-	10.63	6.38	100.00	-	-	-	-	0.31	-	0.53	0.31	4.95	-	-	-	-	
8. Shitalakhya Union	45	-	-	44.44	-	100.00	-	-	-	-	-	-	2.10	-	4.73	-	-	-	-	
9. Nabiganj Union	52	-	-	-	-	100.00	-	-	-	3.84	-	-	-	-	5.47	-	-	-	0.21	
10. Kedam Rasul Union	62	-	-	1.61	-	100.00	-	-	-	22.56	-	-	0.10	-	6.52	-	-	-	1.47	
11. Bandar Union	61	-	-	-	-	100.00	-	6.55	-	26.21	-	-	-	-	6.42	-	0.53	-	1.68	
12. Sonakanda Union	52	-	19.25	3.84	-	100.00	-	-	-	28.86	-	1.05	0.21	-	5.47	-	-	-	1.58	
13. Adamjee Indus- trial belt.	134	2.23	-	7.46	-	97.02	2.98	-	6.71	46.20	0.31	-	1.05	-	13.68	0.42	-	0.95	6.53	
14. Fatulla Urban	72	-	-	-	-	100.00	-	2.77	1.38	-	-	-	-	-	7.57	-	0.21	0.10	-	
Total	950											0.71	4.72	9.77	0.83	99.13	0.87	0.95	1.67	11.78

Note : Bus, Walk, Rickshaw, Car & Train were considered as possible modes of transport for each category of work, Shopping, Food Supply & other purposes. Any category or mode under any category, missing in this table indicate that the respondents did not mention it.

MONTHLY USE OF DIFFERENT MODES OF TRANSPORT FOR VARIOUS PURPOSES BY THE FAMILIES
IN DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Monthly use of different modes of transport									
			As percent of number of families in each area.									
			Shopping			Visit			Others			
			Bus	Walk	Rick. Car	Bus	Rick. Car.	Bus	Walk Rick.	Rick.		
1.	Godnail Union	45	2.22	-	-	2.22	-	11.12	-	-	-	
2.	Hajiganj Union	60	5.00	13.34	20.00	-	8.33	20.00	5.00	8.33	1.66	5.00
3.	Khanpur Union	67	4.47	25.83	-	-	14.92	5.95	-	-	7.46	1.49
4.	Chashara Union	88	-	1.13	31.84	1.13	7.95	28.40	-	-	3.40	3.40
5.	Narayanganj Union	85	4.70	1.17	5.88	1.17	5.88	14.12	2.35	4.70	-	-
6.	Deobhogh Union	80	2.50	-	6.25	-	13.75	10.00	-	8.75	-	1.25
7.	Paikpara Union	47	27.67	-	4.25	-	17.02	2.12	-	-	-	-
8.	Shitalakhya Union	45	6.66	-	13.34	2.22	20.00	33.34	2.22	-	-	-
9.	Nabiganj Union	52	5.76	-	17.30	-	-	7.69	-	1.92	-	-
10.	Kadam Rasul Union	62	3.22	-	30.65	-	12.22	12.90	-	11.61	-	-
11.	Bandar Union	61	4.91	-	9.83	-	11.48	-	-	-	-	-
12.	Sonakanda Union	52	-	-	23.08	-	5.75	21.15	-	5.75	-	13.46
13.	Adamjee Industrial Belt.	134	51.59	-	-	-	11.94	7.46	-	-	-	-
14.	Fatulla Urban	72	6.84	1.38	-	-	8.34	1.38	-	-	-	-
Total		950										

Note: Bus, Walk, Rickshaw, Car and Train were considered as possible modes of transport for each category of Shopping, Visit, Food Supply and Other purposes. Any category or mode under any category, missing in this table indicate that the respondents did not mention it.

MONTHLY USE OF DIFFERENT MODES OF TRANSPORT FOR VARIOUS PURPOSES BY THE FAMILIES IN
DIFFERENT AREAS IN AND AROUND NARAYANGANJ CITY, AUGUST 1977.

Sl. No.	Areas	No. of sample in each area.	Monthly use of different modes of transport.									
			As percent of total number of families									
			% Shopping			Visit			Others			
			Bus	Walk	Rick.	Car	Bus	Rick.	Car	Bus	Walk	Rick.
1.	Godnall Union	45	0.10	-	-	0.10	-	0.53	-	-	-	-
2.	Kajiganj Union	60	0.31	0.84	1.26	-	0.53	1.25	0.10	0.53	0.31	0.10
3.	Khanpur Union	67	0.21	1.79	-	-	1.05	0.41	-	-	0.53	0.10
4.	Ghashara Union	88	-	0.10	2.95	0.10	0.74	2.63	-	-	0.51	0.51
5.	Narayanganj Union	85	0.42	0.10	0.53	0.10	0.53	1.26	0.10	0.42	-	-
6.	Deobhogh Union	60	0.42	-	0.53	-	1.16	0.84	-	0.74	-	0.10
7.	Paikpara Union	47	1.37	-	0.21	-	0.84	0.10	-	-	-	-
8.	Shitalakhya Union	45	0.31	-	0.63	0.10	0.95	1.58	0.10	-	-	-
9.	Nabiganj Union	52	0.31	-	0.95	-	-	0.42	-	0.10	-	-
10.	Kadem Rasul Union	62	0.21	-	2.00	-	0.21	0.64	-	0.10	-	-
11.	Bandar Union	61	0.51	-	0.63	-	0.74	-	-	-	-	-
12.	Sonakanda Union	52	-	-	1.26	-	0.31	1.16	-	0.53	-	1.37
13.	Adanjee Industrial belt.	154	7.26	-	-	-	1.68	1.05	-	-	-	-
14.	Fatulia Urban	72	0.53	0.10	-	-	0.63	0.10	-	-	-	-
Total		950	11.76	2.93	10.95	0.40	9.37	12.17	0.30	2.42	1.15	1.98

Note : Bus, Walk, Rickshaw, Car and Train were considered as possible modes of transport for each category of Shopping, Visit, Food Supply and Other purposes. Any category or mode under any category, missing in this table indicate that the respondents did not mention it.

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