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Patterns of Urbanization of Rajshahi Town - A Socio-Economic Study

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PATTERNS OF URBANIZATION OF RAJSHAHI TOWN
- A SOCIO-ECONOMIC STUDY

BY

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D-1108

A THESIS

SUBMITTED TO THE INSTITUTE OF BANGLADESH STUDIES
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TO MY PARENTS

ABSTRACT

The uncontrolled crescendo of urbanization in Bangladesh is becoming an important and urgent issue because the organizational method for coping with the on-rush to cities, the squatting and slums, the housing and transport problems are not at all satisfactorily dealt with or proven. Urbanization problems are widely documented, though they still lack the wide range of required investigations.

The present study, through normative approach, attempts to focus the interrelationship between the socio-economic growth and the patterns of urbanization. The study is based on a comprehensive socio-economic survey on the different aspects of urbanization using two sets of questionnaires. 800 samples through stratified sampling method have been used. Analysis is made using statistical techniques.

It has been found that agriculture, trade and commerce, and service are the most important sectors of employment. The location of industries are scattered and inefficient. Ratio of non-working population to the total population is higher. The average family size is 5.86 and per capita income is Tk. 3606 per year. The sex ratio, dependency ratio and child-woman ratio is 975, 68.03 and 360 respectively. The density of population per acre is only 6.59 persons and literacy is 52.95 per cent.

The rate of population growth is high and it will reach 98 hundred thousands i.e., four times larger than what it is today in next 20 years.

Considering the consequences of rapid urbanization in a country like Bangladesh, recommendations for a national policy on urbanization is made. It has also been suggested to make further researches on the problems and prospects of urbanization in developing countries like Bangladesh.

ACKNOWLEDGEMENTS

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CHAPTER - 1

I. INTRODUCTION

1.1 Background

There is hardly any important problem in public policy which is ever considered original. By the time it becomes an important problem, some of its features will have been seen, their consequences felt, and solutions put forward to deal with them. Urbanization is such a problem in public policy, specially when it is rampant, excessive, uncontrolled and unbalanced urban growth.[1] The rate of urban growth in the cities of Asia and the Far East is over rapid, specially in the capitals and other larger cities which have a tendency to grow faster than smaller urban areas.[2] This fact has been experienced in the case of Dacca, the capital city of Bangladesh.[3] The main contributing cause is massive rural-urban migration.[4] There is a lot of speculation on the precise causes of such large-scale migration. It may be inferred that rural problems rather

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[1] Pacific Conference on Urban Growth, "The New Urban Debate", Agency for International Development, Washington D.C., USA, 1968, p. 4.

[2] United Nations, Centre for Housing, Building and Planning, Selected Conclusions and Recommendations on Regional and Metropolitan Planning, New Towns and Land Policies (E/CN.II/I&NR/PURD/L. 7, Sept. 9, 1966), p. 3.

[3] Quadir, S.R. "Dacca - a city of imbalance" Local Govt. Quarterly, Vol. 2, Sept. & Dec. No. 3 & 4, Local Govt. Institute, Dacca, 1973, p. 1.

[4] Seminar on Planning for Urban and Regional Development including Metropolitan areas, New Towns and Land Policies, Nagoya, Japan, 1966, p. 10.

than urban attractions play a crucial role in this movement. The rapid decline in the [illegible] and the consequent increase in population [illegible] lems in the rural areas. [illegible] ment and under-employment. Improvement in rural [illegible] standards and in the communication between rural and urban areas has made the rural people aware [illegible] given the hope that these are perhaps not inevitable and can be redressed by [illegible] cities. [illegible] Planning for Urban and Regional Development held in Nagoya, Japan hold the view that this migration from rural to urban areas resulted largely from push factors from the rural countryside, due to the low level of rural living standard, and sometimes to conditions of physical insecurity, and greatly from pull factors of city employment opportunities and [illegible] of higher incomes from industrial, commercial and service developments.[6]

The general consequences of urbanization everywhere are as plain as the conditions and its causes. Because of over-urbanization, primate or great cities have a paralytic effect on the development of other places and [illegible] in

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[5] United Nations, Planning of Metropolitan Areas and New Towns, New York, 1959, p. 27.

[6] Nagoya Seminar, op. cit., p. 10.

relation to the remainder of the national economy.[7] Over-urbanization has everywhere [illegible] over-[illegible] [illegible]ulties including (i) migration, (ii) unemployment, (iii) [illegible], (iv) absence of mass [illegible], (v) [illegible], (vi) lack of recreational [illegible] order, (viii) high crime rate, (ix) squalor, (x) inadequate housing and so on.[8]

To deal with these conditions and their consequences, the present research is an attempt to study the urban [illegible] pattern of Rajshahi town.

1.2 Problem of the study

Most of the urban centres in Bangladesh have emerged either near the railway station or riverport or at the crossing of road transportation system. These locations are primarily administrative centres or trading centres or the combination of the both. Rajshahi, originally a trading centre was made the headquarters of the district in 1825 and [illegible] the [illegible] in 1947. The earliest historical reference of the town can be traced back since the middle of the 18th century; and on that account it appears that the town [illegible] only two hundred years old. Therefore, there are sufficient reasons to anticipate that the town should have been more [illegible] than what it is to-day.

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[7] Pacific Conference, op. cit., p. 5.
[8] Ibid.

In 1974 only 8.78 per cent of the population of Bangladesh was reported to be living in urban areas.[9] This level is relatively low when compared [illegible] level of urbanization in some other Asian countries.[10] Although, the present level of urbanization [illegible] exceedingly slow in recent years, even when it is compared with the rates of growth obtaining in other Asian countries.[11] During 1961-78 the urban population of Bangladesh grew at the exponential rate of 6.7 per cent per annum as compared to rural population which grew by 2.[illegible] per cent.[12] This growth rate is even higher than that of the contemporary growth rate in Thailand[13] and India.[14] It means that the urban population of Bangladesh is growing very fast and it has the potential to reach the average level of urbanization of the Asian countries very soon.[15]

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[9] Bangladesh Bureau of Statistics, Bangladesh Population Census Report: 1974: National Volume, Ministry of Planning, Govt. of Bangladesh, 1977, p. 1.

[10] Ibid.

[11] Chaudhury, R. H. Urban [illegible] Bangladesh, Centre for Urban Studies, Department of Geography, Dacca University, Dacca, 1980, p. 2.

[12] Bangladesh Bureau of Statistics, op. cit., p. 14.

[13] Goldstein, S. Urbanization in Thailand, 1947-1967, Demography, Vol. 8, No. 2, 1971, pp. 205-223.

[14] Bose, A. India's Urbanization 1901-2001, (2nd edition), Tata McGraw-Hill Publishing Company, Ltd. 1978, pp. 73-109.

[15] Chaudhury, R. H. op. cit., p. [illegible]

Rajshahi is one of the four divisional headquarters of Bangladesh. Overall experience [illegible] that the rate of urbanization [illegible] divisional headquarters of [illegible] the unique [illegible] has some unique characteristics and growth potential, still there are some common factors which [illegible] rate of urbanization.

[illegible] the concept urbanization. It is therefore, felt to decide upon a precise definition of urbanization. Urbanization or the process whereby human beings congregate in relatively large number at one spot of the earth's surface, is a universal phenomena of considerable antiquity.[16] Mitchell refers to urbanization as being the process of becoming urban, moving to cities, changing from age culture [illegible] pursuits common to cities and corresponding changes of behaviour patterns.[17] Thompson writes that urbanization is characterized by the movement of people from [illegible]

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[16] Mabogunje, A.L. Urbanization in Nigeria, University of London Press, London, 1968, p. 33.

[17] [illegible] 'Urbanization, [illegible], Stabilization and Urban Community in Southern Africa: A problem of [illegible] and measurement, 1968', in P. Lindow [illegible] Urbanism, Urbanization and Change: Comparative Perspective, Addison-Wesley Publishing Company, USA, [illegible] pp. 470-[illegible].

whose activities are primarily concerned with government, trade, manufacture or allied interest.[18] According to Anderson, urbanization involves [illegible] behaviour of people and changes in their [illegible] value [illegible] not merely a matter of [illegible] kind of work to another, but involves changes [illegible] towards work and it means entering a new and everchanging division of labour.[19] Urbanization is sometimes defined [illegible] of population concentration that requires both growth in the size of cities and multiplication of their numbers. In the demographic sense, urbanization is an increase in the proportion of urban population; to the total population over a period of time.[20] This demographic approach seems to neglect two other important aspects of urbanization: namely, economic and social. The economic dimension consists of structural change in the productive forces, which includes specialization and the division of labour; and the social aspects entails modernization and the non-economic transformations. A suitable definition of urbanization must take all these processes into account.[21] [illegible] views the process of urbanization as a continuing process which is not

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[18] Thompson, S.W. 'Urbanization' in Encyclopaedia of Social Sciences, Vol. XV, MacMillan & Co., London, 1935, p. 165.

[19] Anderson, N. The Urban Community: A World Perspective, Holt, Pinceart and Winston, New York, USA, 1963, p. [illegible]

[20] Bose, A. Studies in India's Urbanization 1901-71, Tata McGraw-Hill Publishing Co. Ltd., New Delhi, 1974, p. [illegible]

[21] Keles, R. Urbanization in Turkey, International Urbanization Survey, The Ford Foundation, New York, 1972, p. 1.

merely a concomitant of industrialization but a concomitant of the whole gamut of factors underlying the process of economic growth and social change.[22]

It appears from the above passage that these definitions of urbanization vary from rural exodus to a combination of socio-economic characteristics including psychological and specifically the changes in attitudes. Since urbanization is situational[23] and takes place in some defined area or place, it would be wise if the above definitions be applied concurrently so as to avoid the difficulties that might arise in the use of the present study. In the present study urbanization has been referred to as a continuing process and takes place within a defined area wherein rural to urban migration occurs as a result of either rural push and or urban pull and the majority of the inhabitants are engaged in jobs other than agriculture and where the outcome of technological developments are available first. This definition seems to be adequate for the present study of urbanization pattern of Rajshahi town and in the context of Bangladesh.

1.3 Importance of the study

The implications of the continuing growth of urbanization deserves careful consideration. Unfortunately most countries

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[22] Bose, A. op. cit., p. 3

[23] Mitchell, C. op. cit.

of the ECAFE region lack a thorough understanding of the impact of urbanization on the structure and form of cities and regions.[24] Bangladesh is no exception to this fact. The implications of urbanization are not necessarily obvious, and when they are made clear [illegible] some idea of the importance of the various research tasks. The speed of urban change and the relative recency of truly mass urbanization have left national and local governments without consistent policies for dealing with the resulting problems.[25]

It appears that there is a growing awareness of urban problems in highly industrial or agrarian regions but a great uncertainty as to the best methods of dealing with them. The whole process of urbanization is so massive and so intimately bound up with the coveted goal of economic development that it is probably impossible to stop the growth of cities. This means that the innumerable problems growing out of massive urbanization must somehow be solved without eliminating the basic cause which is urbanization or city growth itself.[26]

Research on the problems of urbanization has not so far been seriously undertaken in Bangladesh. It is a neglected area of research in Bangladesh.[27] The scholars who have done some useful

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[24] Nagoya Seminar Report, op. cit., p. 15.

[25] Davis, K. 'Forward: Urban Research and Its Significance' in J.P. Gibbs (eds.) Urban Research Methods, D. Van Nostrand Company, Inc., New York, 1961, p. xxi.

[26] Ibid.

[27] Chaudhury, R. H. op. cit., p. 1.

work are geographers associated with Dacca University and planners in the Urban Development Directorate; and more recently some Masters theses have been and are being submitted at the Bangladesh University of Engineering and Technology, Dacca. This state of affairs is not surprising in view of the fact that formulation of a systematic and national urban development plan seemed to have been a low priority item on the agenda of national planning.[28] Individual researchers, however, have mostly been handicapped by non-availability of relevant data. The only source for most data on urbanization remained in the three censuses taken in the country in 1951, 1961 and 1974. One could do only a limited amount of study with data available from these sources.

Under the circumstances, scientific study in regard to the patterns of urbanization is urgently needed. Such study cannot, of course, determine policy, it can however, bring into view a greater knowledge of the realities which policies must deal. For these reasons the present study on the patterns of urbanization of Rajshahi town has been undertaken.

1.4 Objectives of the study

The present study aims to achieve the following objectives:

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[28] Alamgir, M. Approaches Towards Research Methodology on Problems of Urbanization in Bangladesh, Research Report Series No. 15, Bangladesh Institute of Development Studies, Dacca, 1973.

i) To make a short historical account of the town emphasizing geographical settings and physical growth;

ii) To study the demographic characteristics i.e., age-sex composition, migration, literacy etc.;

iii) To study the household pattern i.e., the family size, income level, occupational structure, family expenditure, poverty level etc.;

iv) To make a survey of the economic activity of the town; and

v) To examine the housing pattern i.e., the ownership and rent-area ratio.

1.5 Scope of the study

Urbanization is a vast subject, not least because seen in international perspective it is at present relevant primarily to developing countries. There are a number of problems of comprehension on the subject. There are also considerable difficulties in assessing rates, and in comparing phenomena of urbanization since both the data on which such assessment are made and their categorization, are generally rather poor; the definitions are ambiguous; the area boundaries tend to be

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arbitrary.[29] There are several definitions of urbanization in terms of physical, administrative, occupational or cultural criteria, population size or institutional equipment of a settlement.[30] The present study focuses on almost all the aspects of urbanization: namely, physical, social, economic, demographic and public services and institutions.

1.6 Limitations of the study

Admittedly, the objectives of the present study in relation to the multiple dimensions of the real world problems are modest and limited in scope. Nevertheless, the findings of the study will, hopefully add to the knowledge in the literature of the study of urbanization particularly in a developing country. However, the scope and objectives of the present study have been kept less ambitious for the following facts:

i) There is hardly any published or unpublished materials available to the study of the pattern of urbanization for Rajshahi town;

ii) To get reliable information about the present trend of urbanization of Rajshahi town is really formidable; and

iii) The whole work has to be based on actual field study on account of the above two facts.

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[29] Glass, R. 'Sociological Aspect of Urban Growth: Some Problems of Comprehension' in The Exploding City, (Offprint), Edinburgh University Press, 1972, pp. 19-25.

[30] Glass, R. op. cit., p. 2[illegible].

Besides these source, resource and time constraints, the present study has been undertaken mainly as there is no such study on this particular town. The study, therefore, would provide us with at least an opportunity to examine the problem in its real perspective in order to some degree of in the kind of solution of the problems of urbanization.

CHAPTER - 2

II. RESEARCH DESIGN

2.1 Approach to the study

There are different approaches to study urbanization for it has been defined in a number of ways and that it includes the physical growth of the town, socio-economic characteristics, psychological factors as well as the demographic characteristics. The advantages and limitations of different approaches are discussed and explained here and the suitable one has been employed in the present study.

The ecological approach to human communities is valuable. Amos Hawley defined ecological approach as the study of the morphology of collective life in both its static and dynamic aspects.[1] Studies on human communities are conducted on the basis of population in the 'region or area'. Bogue defined a region as a unique cluster of interrelated conditions, traits or forces present in an area at a given time.[2] The ecological approach has validity for the moment at which it is derived and for no other moment. There is little provision for the study of change through time. The approach tend to treat the defined region as a community isolated from the rest of the world yet clearly no area or region in the modern world is independent of

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[1] Hawley, Amos H., Human Ecology: A Theory of Community Structure, The Ronald Press Company, New York, 1950, p. 67.

[2] Bogue, Donald J., 'Population Distribution' in Philip M. Hauser and Otis Dudley Duncan (eds.) The Study of Population, Chicago University Press, Chicago, 1959, p. 396.

other parts of the world.[3]

Shekvy and his associates developed social area analysis method to study the complex texture of urban agglomeration.[4] This methodology proved to be a successful technique to measure and identify major interaction pattern in society. Later development of social area analysis gave rise to the method of factorial analysis. This method involves the use of factor analysis, a multivariate statistical technique in isolating basic patterns of interaction.[5] The methodology starts with data matrix of socio-economic characteristics of various sub-area population of the area under study. A correlation matrix holding simple correlations between various pairs of those socio-economic phenomena is created out of this data matrix. This correlation matrix is then summarised by using method of factor analysis to form factor matrix. This factor matrix holds basic patterns (often called factors) of interaction that exists among the population under investigation. The next matrix derived by manipulating this factor matrix, is called factor score matrix. This final matrix classifies various sub-area

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[3]Grigg, D., 'Regions, Models and Classes' in R.J. Chorley and P. Hagget (eds.) Integrated Models in Geography, University Paperback, Methuen: London, 1969, p. 471.

[4]Quoted in Hossain, H. 'Urban Ecology of Calcutta: 1971' The Oriental Geographer, Vol. XIX and XX, Nos. I and 2, 1975 and 1976. The Bangladesh Geographical Society, Department of Geography, Dacca University, pp. 35-36.

[5]Ibid.

based on their position in the social space, defined in terms of basic patterns of interaction.[6]

The descriptive approach is the simplest and is applicable to a number of social problems especially in underdeveloped countries.[7] This approach provides a wide range of detail information and is essentially a fact finding approach related largely to the present, and abstracting generalization by the cross-sectional study of the current situation.[8] In this method the researcher as a participant observer gathers such a variety of data that he is able to see the total situation. The wealth of details gives an immediacy to the finding that would be difficult to duplicate by any other research method. Many latent patterns of behaviour may become apparent through this procedure. With this method, the observer can grasp the processes and patterns of behaviour as a whole.[9] The success of this approach is in large part attributable to the combition of a detailed, probing and rounded grasp of the system as a whole. In a sense, the method is an approximate application, through the use of purely descriptive data, of the rather complete approach, which translates into research the entire conceptual model, in contrast to the more useful partial approach, which

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[6] Ibid.

[7] Gopal, M.H. An Introduction to Research Procedure in Social Sciences, Second Edition, Asia Publishing House, Bombay, 1970, p. 74.

[8] Ibid.

[9] Riley, M. W., Sociological Research: A Case Approach, Harcourt, Brace and World, Inc., New York, 1963, pp. 69-70.

only attempts to deal with a few isolated system properties.[10]

Regardless of whether the researcher takes a role in the system under study, a second limitation arises whenever the procedure rests on unsystematic description rather than on measurement. Because the procedure is not standardized, the researcher himself cannot always employ it consistently. Thus it is possible that all sorts of errors may have been introduced in the course of observing, recording and interpreting the data. A degree of reliability may be introduced in to exploratory studies by supplementing description with certain analytical procedure.[11]

The two terms 'analytical' and 'descriptive' are usually differentiated as somewhat polemic concepts. However, research inquiries usually contain both 'analytical' and descriptive' elements but in varying proportions. The conceptual issue involved in analytical versus descriptive is akin to another issue which may be described as 'quantitative' versus 'qualitative' research. The quantitative concept equates the analytical with precise quantification of variables and the use of mathematical and statistical techniques. Inference is frequently explicitly made that a study that does not involve the use of mathematical and statistical techniques is non-analytical or descriptive. This view implies that the more rigorous, numerous and complex are these techniques used in a

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[10] Ibid, p. 70.

[11] Riley, M. W., op. cit., pp. 73-74.

piece of research the more analytical is the study. The criteria are 'objective' i.e., mathematical or statistical tools or techniques. The qualitative concept equates the analytical with qualitative judgement, the reasoning involved, or the logical and theoretical framework within which conclusions or results are drawn. The more rigorous is the logic portrayed in the testing of propositions and in interpretation of the evidence supporting the conclusions the more analytical is the study. The criteria are 'subjective' i.e., logical reasoning.[12]

Hagget and Chorley[13] feel that descriptive models are 'concerned with some stylistic description of reality' and that normative models 'deal with what might be expected to occur under certain stated condition'. As they define these terms 'descriptive' does not necessarily mean systematisation or have any ability to predict, and 'normative' does not imply that the models outcome is what ought to occur in the real world. Descriptive models may be concerned with the organisation of empirical information and be termed 'data, classificatory or experimental' design models. Normative models often involve the use of a more familiar situation as a model for a less familiar one, either in a time (historical) or a spatial sense, and have a strongly predictive connotation.[14]

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[12] Moore, C. Science: Concepts and Considerations, pp. 11-13. (Cyclostyled class note supplied by the IBS, Rajshahi University, 1979).

[13] Hagget, P. and Chorley, R.J. 'Models, Paradigms and the New Geography' in Hagget, P. and Chorley, R.J. (eds.) Integrated Models in Geography, University Paperbacks, Methuen: London, 1969, p. 25.

[14] Ibid.

Employing the normative approach, researches were undertaken by Robert W. Schmeding and Mazharul Haque[15] on the research project: the education in East Pakistan in 1970 and Mofazzal Hossain[16] on the study of location of schools in 1977. Research of the normative type is concerned with surveying, that is, with determining, often on the basis of a sampling of units from a given population, what is the normal, or typical situation. It may be termed status research, i.e., studying what is. It need not be confined to, but may in fact be, the gathering of facts and statistics which are unconcerned with stated hypotheses, but are meant to supply means for arriving at answers to problems or questions. Such, indeed, is the study being undertaken here. So desperate is the need for all kinds of data about urbanization on this study area, that it is deliberately left to other researchers for framing of hypotheses and their testing through research. It is anticipated that much of the data collected for the present study will be useful to future researchers for further studies.

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15 Schmeding, R.W. and Haque, M. (eds.) The Education in East Pakistan Research Project, Research Service Centre, Institute of Education and Research, University of Dacca, Dacca, 1970.

16 Hossain, M. A Case Study of Some Selected High Schools in Dacca to Determine the Optimum Location Criteria, unpublished M.P.P. thesis, Engineering University, Dacca, 1977.

2.2 Methodology

The term method comes from the Greek meta (with after) and hodos (way). It means an apt of doing something with brevity, thoroughness and security. A method is sometimes confused with a technique but they are different. The method of a study applies to the whole process or procedures that is to be followed in the study, while technique consists in the means used or mode in which the whole method or stage of it is to be followed.[17] Various methods such as historical method, comparative method, case-study method, statistical method, survey method etc. are used in socio-economic investigations. However, so far as the methods are concerned, there is no single method for the study of socio-economic phenomena. The present study has been made employing historical and survey methods.

Historical method seems to have great significance for social research in underdeveloped countries.[18] So far as anything an anticipated history and a natural development, the past has a causal relation to the present. Historical method involves the use of historical data and it calls for a study of events, processes, and institutions of the past for the purpose of finding the origins or antecedents of contemporary. The past contains the key to the present. Society is not static organization; it is continually growing through dynamic changes. The

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[17] Khan, F.R. Principles of Sociology, Shirin Publications, Dacca, 1969, p. 42.

[18] Gopal, M. H. op. cit., p. 77.

direct observation of social phenomena in a state of rest is therefore not a sufficient foundation; it gives neither the requisite scope nor accuracy. There must be added a study of the development of these phenomena in time, that is in history.[19] But historical method is not an unmixed blessings. Nevertheless, it is possible for this method to lead to scientific knowledge.[20] Since the present study includes socio-economic characteristics and physical growth pattern of the town, it obviously calls for historical data and hence historical method.

Again, since the present study could not be thoroughly covered by historical data only, survey method was also employed. The purpose of many surveys is simply to provide with informations and there is no limit to the range of topics covered by surveys. The purpose of surveys is always straightforward.[21] Survey method involves the collection of data concerning the socio-economic condition of people in a given area in order to help the formulation of practical socio-economic measures. The survey method is a way and a supremely useful one for exploring the field of collecting data around as well as directly on the subject of study, so that the problem is brought into focus and the points worth pursuing are suggested.[22] This method has its

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[19] Young, P. Scientific Social Survey and Research, Prentice-Hall, Inc., Englewood Cliffs, 1958, p. 139.

[20] Khan, F.R., op. cit., p. 47.

[21] Moser, C.A. and Kalton, G. Survey Methods in Social Investigation, The English Language Book Society and Heinemann Educational Books Ltd., London, 1973, p. 2.

[22] Khan, F.R. op. cit., p. 49.

usefulness both in leading to the formulation of hypothesis and in a more advanced stage in putting them to test.[23]

In the present study three major dimensions namely the demographic characteristics including family or household composition, marital status, fertility, age, sex etc., the economic conditions including occupation, income, housing condition, etc., and the economic activities including trade, commerce, business, expenditure pattern etc. could be surveyed. The opinion and attitudes of the enterpreneurs for commercial and industrial activities in the study area could also be surveyed with this method through properly designed questionnaires.

Data on demographic characteristics and economic conditions are factual and their collection presented relatively few problems. They are less open to error than information on the economic activities and attitudes and opinion because they are objective.[24]

Since the historical method and survey method could cover the whole range of informations required for the present study, only these two methods have been employed leaving the other methods.

To achieve the objectives of the present study, a very intensive fieldwork was undertaken to collect the data directly

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[23] Moser, C.A. and Kalton, G. op. cit., p. 4.
[24] Ibid., p. 5.

from the primary sources i.e., from the field. Fildwork is a personal experience and it involves close interaction with the subjects of the research. Every fieldworker has, therefore, to arrive at his own equations with his informants. There is no clear-cut prescribed formula for handling any given field situation, for each situation is unique. While there are certain standardized research techniques, the manner in which they are used the results that they yield depend on the rapport which the observer is able to establish with his informants. Fieldwork is an amalgam of methodological rigour and unpredictable consequences of personality of the observer. In the ultimate analysis each fieldworker must face his own challenges and experience his own triumphs and tribulations.[25] Normally, a fieldworker is expected to maintain sufficient detachment in order to adopt an unbiased view of the people and events he is observing. But the very act of fieldwork, and of participant observation in particular, tends to draw an investigator into the life of the community in a manner that seriously affects his ability to remain detached. The demands of the role of a participant observer can be overwhelming especially when he identifies himself emotionally with the problems of the community.[26] The

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[25] Chakravarti, A. 'Experiences of an Encapsulated Observer: A Village in Rajsthan' in M.N. Srinivas, A.M. Shah and E.A. Ramaswamy (eds.) The Fieldworker and the Field: Problems and Challenges in Sociological Investigations, Oxford University Press, Delhi, 1979, p. 38.

[26] Ibid.

following account focusses on the personal element during the course of the fieldwork of the present study.

When I joined the M. Phil. course at the Institute of Bangladesh Studies, Rajshahi University as an external candidate, I was then also serving the Rajshahi Town Development Authority as Town Planner. I knew that sooner or later I will have to do fieldwork for my thesis, to be submitted in partial fulfilment of the requirements for the degree. When I was a student of M.P.P. class in the Faculty of Architecture and Planning, Bangladesh University of Engineering and Technology, Dacca, I had collected data from the field for my thesis in 1976-77.[27] As Town Planner of the Rajshahi Town Development Authority, I was well known to the study area; and I had a good access to the officials of different organizations in the town and to the local leaders and elites of the society. Besides, while I was collecting data for the present study I was also collecting data for the preparation of a Master Plan of Rajshahi Town in consultation with the United Nations Development Programme Advisors. It was a privilege for me to collect data for both the works at a time. It saved time, cost and money.

For the collection of data I used two sets of questionnaires. The questionnaires were designed without ambiguity

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[27] Hossain, M., op. cit.

and in such a manner that almost all the information necessary for the research can be collected smoothly. Since I had prior experience in collecting data through field survey, it was a bit easier for me this time. I could easily use the technique to make people understand about the objectives of my study, and it was my experience that once the respondents could understand the objectives of the study, they normally respond to the questions asked during the field survey. It was an interesting experience that the people of the suburban or rural area were more cordial and hospitable than the urban people in the present study area. Most of the suburban or rural people accepted the author as their guest of honour. On the contrary, the respondents for the urban areas particularly the businessmen sometimes showed annoyance and even refused to give interview when they were asked about their income. This kind of annoyance was also marked among the industrialists and landlords. This has happened perhaps because of the fact that I could not make them understand about the objectives of the study or the respondents could not rely upon me about the secrecy of the information. To me, it was a common fear of the respondents that if they correctly inform about their income, the Government may impose further income-tax on them. In this situation, I was really in trouble to get authentic information. To avoid this difficulty, I had to refrain from asking question about their income. I asked questions about the expenditure pattern which in turn gave me some logical basis of guessing their income pattern,

for expenditure is a good indicator of income. Further, I had to ignore the names and addresses of the persons and establishments by using code numbers. With this act, the respondents felt free to inform in confidence about their income and expenditure. However, keeping in mind the importance of the work, utmost care was taken to achieve the highest level of accuracy and consistency. The major methods of inquiry adopted in the study consists of the following:

(a) The use of two sets of questionnaire (Appendix- I, II), one for collecting information on demographic aspects including households and the other on industrial and commercial establishments;

(b) Formal and informal interviews with political leaders, business executives, government officials, people engaged in trade and commerce, bankers and other elites of the town;

(c) Participant observation by the researcher himself;

(d) The use of historical documents, official records and other published and unpublished materials; and

(e) Use of the key-informants.

2.2.1 Preparation of the questionnaire

A frequently used device for gathering field data is the questionnaire. In general the word questionnaire refers to a device for securing answers to questions by using a form. Questionnaire is the name usually applied to a set of questions which are asked and filled in by an interviewer in a face-to-face situation with another person.[28] The questionnaire in a sense is a detailed, classified, planned and seriated list of items on which information is required. Its main use is to obtain concrete, quantified and objective data from the source direct. In underdeveloped countries with predominantly illiterate population, the questionnaire and the interview are preferable.[29]

The structure and length of a questionnaire as well as the details depend upon the objective of the enquiry. While there is no standardized form for questionnaire some principles must be followed. The questions should be objective and quantitative, easily observable and suppliable. The items in the questionnaire must be clearly and precisely worded so that both the investigator and the interviewee might easily know what is wanted.

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[28] Goode, W.J. and Hatt, P.K. Methods in Social Research, McGraw-Hill Book Company, Inc. International Student Edition, Tokyo, 1952, p. 133.

[29] Gopal, M.H. op. cit., pp. 142-43.

The questionnaires were designed in Bengali using familiar words and unequivocal and straightforward for easy understanding of the respondents. Questions which might give scope for rationalized answers as well as vague has been tactfully avoided. Special care was taken for producing a series of identical forms which are easy to fill-in, easy to read and free from ambiguity in their wording or layout. Some questions such as on age, sex, occupation and so on were, in the interest of neatness, given in regularly placed boxes and, in some cases, were coded. The rest of the forms were designed primarily to find out the required facts. The emphasis on wording and on the order of questions were placed with utmost care to extract the required information. Plenty of space was provided to give scope for full and unchallenged description of the respondents' responses to these questions as well as for comments. Sometimes, questions were designed in a manner to provide cross-check for accuracy, e.g., the figures for annual income were checked with the figures provided for total expenditure to assure consistency.

Once the questionnaires were prepared, it was put to test. A pre-test is in fact a rehearsal of the final study.[30] A pre-test is necessary to eradicate possibility of any

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30 Goode, W.J. and Hatt, P.K., op. cit., p. 146.

misunderstanding or resistance that the questions could evoke. The preliminary difficulties were cleared up and supplementary questions were added where necessary thus the stage was set for the actual conduct of the survey.

2.2.2 Selection of sample

A sample, as the name implies, is a smaller representation of a larger whole. There are only two basic requirements for sampling procedure to fulfill. A sample must representative, and it must be adequate. A sample is adequate when it is of sufficient size to allow confidence in the stability of its characteristics.[31] The object of any sampling procedure is to secure a sample which will reproduce the characteristics of the total population. This object is never completely attained due to presence of error out of bias and sampling error. While the former can be minimized by good craftsmanship, the later can be regulated by appropriate design.

The three alternative techniques which can be used to complete the sample design are (i) Random sampling, (ii) Stratified sampling and (iii) Purposive sampling. The later type is os little use since this is not a satisfactory procedure if high precision is required. Moreover, from the statistical point of view this technique is particularly weak, since there is no way

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[31] Goode, W.J. and Hatt, P.K. op. cit., pp. 208-231.

of calculating the limits of permissible error, or the required number for the sample, if strict probability sampling is not used.[32] A random sample is one which is drawn that the researcher, from all pertinent points of view, has no reason to believe a bias will result. In other words, the units of the universe must be so arranged that the selection process gives equiprobability of selection to every unit in that universe. This really means that the researcher does not know his universe sufficiently well to duplicate it exactly in his sample. While stratified sampling is placed in distinction to random sampling, this does not mean that it does not employ randomness. Actually it depends upon randomness but combines this with another method calculated to increase representativeness. Because the method does improve representativeness it allows the use of a smaller sample than does simple random sampling, with greater precision and consequent savings in time and money.[33]

In the present study, stratified sampling method has been used. While using this method imposing restrictions on the randomness of the selection, it does not necessarily introduce bias. In the procedure, the population is divided into blocks or strata according to certain principles, and each stratum is then sampled at random. Here, the wards and unions were used

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[32] Ibid.

[33] Goode, W.J. and Hatt, P.K. op. cit., p. 221.

to divide the population into strata. The population consisted of all the households, as reported during the 1974 census.[34] Table 2.1 shows the total population, total number of households and the number of selected sample households from each strata. However, it should be noted that in the case of several unions only certain '<u>Mouza</u>'[35] came within the jurisdiction of the present study.

The population strata may be used for the extraction of a uniform sample size. However, a varied sample size has been choosen from each stratum according to need. Since the proposed study takes into consideration certain sub-groups whose numbers in the population were small and random selection of units was unlikely to provide enough of such cases, sampling was carried out separately for each stratum. Thus variable sampling fractions not only allowed better analysis of sub-groups but also made it possible, after reweighting the sample to generalize more accurately about the total population.

Households formed the sampling units for the demographic and households survey of the present study. The household is a residential and domestic unit composed of one or more persons living under the same roof and eating food cooked in a single

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[34] Bangladesh Population Census 1974: Village Population Statistics: Rajshahi District, Bangladesh Bureau of Statistics, Statistics Division, Ministry of Planning, Govt. of Bangladesh, Dacca, 1977.

[35] A mouza is a revenue village unit.

kitchen.[36] Households with one to three members have been considered as small, with four to six as medium, with seven to nine as large, and with ten and more as very large. A simple household may be composed of the whole or a part of a parental family. There are six major possible compositions: (i) husband, wife and unmarried children; (ii) husband and wife; (iii) father and unmarried children; (iv) mother and unmarried children; (v) unmarried brothers and sisters; (vi) a single man or woman. Complex households are composed of more than one parental family or of parts of more than one parental family, or of one or more parental families and parts of one or more other parental families.[37] The necessary information on the number of households in the study area was obtained from the village population statistics of Rajshahi district, 1974. In the present study household means a collection of persons living and eating in one mess with their dependants, relations, servants and lodgers who normally reside together.

There is no rule of thumb method which is adequate for determining the exact size of the sample. The size of the sample is properly fixed by deciding what level of accuracy is required, hence how large a sampling error is acceptable. A measure of the average magnitude of the sampling error is given

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[36] Shah, A.M. The Household Dimension of the Family in India, Orient Longman Limited, New Delhi, 1973, p. 8.

[37] Shah, A.M. op. cit., pp. 12-14.

TABLE 2.1

SELECTION OF SAMPLES (STRATIFIED) BY WARD/UNION

1	2	3	4	5
Name of the Ward/Union	Total population	No. of households	Selected samples	Column 4 as % of column 3
Ward- I	11068	1640	50	3.05
Ward- II	10832	1633	50	3.08
Ward- III	9197	1785	50	2.80
Ward- IV	9173	996	50	5.02
Ward- V	12885	2073	50	2.42
Ward- VI	16610	2685	75	2.79
Ward- VII	10056	1335	50	2.75
Ward- VIII	14706	2298	50	2.18
Total Municipal Area	94527	14445	425	2.94
Damkura Union	801	130	5	3.85
Haripur Union	3278	537	15	2.79
Haragram Union	7914	1257	45	3.58
Sopura Union	12567	2499	50	2.00
Nawhata Union	13050	2216	50	2.26
Baragachhi Union	4925	776	25	3.22
Parila Union	5839	926	25	2.70
Harian Union	17734	3275	50	1.53
Kazla Union	11406	2257	50	2.22
Paba Union	8310	1316	50	3.80
Yusufpur Union	3554	438	10	2.83
Total sub-urban Area	89378	16929	375	2.22
Grand Total	183905	31374	800	2.55

TABLE 2.2

STRATIFICATION OF SAMPLE HOUSEHOLDS BY SECTORS OF EMPLOYMENT

ame of he Ward/ nion	Infor-mal	Agril.	Mfg.	Trade/ Comm.	Serv-ice	Const.	Trans-port	Other	Total
ard- I	-	2	5	11	22	4	6	-	50
ard- II	1	4	-	16	29	-	-	-	50
ard- III	6	4	2	20	15	3	-	-	50
ard- IV	2	2	5	12	29	-	-	-	50
ard- V	4	1	1	17	24	-	1	2	50
ard- VI	3	4	-	22	37	-	7	2	75
ard-VII	4	2	1	14	28	1	-	-	50
ard-VIII	-	8	1	20	15	-	6	-	50
otal Municipal rea	20	27	15	132	199	8	20	4	425
amkura nion	5	-	-	-	-	-	-	-	5
aripur nion	6	4	-	2	-	-	3	-	15
aragra nion	[illegible]	[illegible]	-	7	7	1	5	-	45
opura nion	6	6	1	11	21	2	2	1	50
awhata nion	13	21	-	12	3	-	-	1	50
aragac nion	[illegible]	1	-	-	-	-	-	-	25
arila nion	9	11	-	5	-	-	-	-	25
arian nion	4	21	12	4	6	-	2	1	50
azla U.	10	5	1	14	15	4	1	-	50
aba U.	9	[illegible]	[illegible]	16	10	2	-	-	50
ufpur U.	[illegible]	[illegible]	-	-	-	-	-	-	10
otal Non-Urban rea	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13	[illegible]	[illegible]
rand otal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

by the standard error and usually the standard error varies inversely with the square root of the size of the sample. Based on such considerations, the total number of samples taken for demographic and household survey was 800 and that is 2.55 per cent of the total population. If the entire population could be included in the sample, the finite population correction (f.p.c.) would become zero and so, logically, would the standard error. Since the sample did not exceed 10 per cent of the population, the standard error has been ignored.[38] Thus the appropriate size for the sample was determined. This is clearly better than an arbitrary choice of the sample size which yields result that are either rough or needlessly accurate.

The stratification by different sectors of employment of the sample households selected for the study is shown in Table 2.2. Since no data were available for sectoral distribution of the base population for such stratification, a priori knowledge was applied to incorporate households belonging to different occupational groups. Thus efforts were made to retain approximate proportional representation of the existing sectoral distribution of households in the sample.

2.2.3 Collection of primary data

The major findings of the study are based on the analysis of the primary data. The filled-in questionnaires were the source

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[38] Moser, C.A. and Kalton, G. op. cit., p. 67.

of primary data. Two sets of questionnaires were used in the present study. The first kind of questionnaire (Appendix- I) was used for the collection of data on the socio-economic aspects of the households including population and its characteristics, education, occupation, household assets, household income and its sources, expenditure pattern, indebtedness, employment and other economic characteristics of the household. The other kind of questionnaire (Appendix- II) was used to collect information on the commercial and industrial establishments including capital investment, input requirements, sources of finance, output and other related facts.

2.2.4 Collection of secondary data

In addition to the data collected from primary source i.e., through field survey, the present study was supplemented by data collected from secondary sources. The secondary sources of data include different official and business records, reports, documents and various other publications. Census reports, statistical yearbooks, district gazeteer etc. were the major sources of secondary data. Rajshahi Municipality, Rajshahi Town Development Authority, Chamber of Commerce and Industries, Small and Cottage Industries Corporation, schedule banks and District Council provided useful information for the study.

2.2.5 Test of reliability of collected data

The quality of research largely depends upon the quality of data used. The degree of reliability of data particularly which are collected from field survey through schedules are related to three main factors: (i) the subject of enquiry; (ii) the class of respondents; and (iii) the structure of the questions in the schedule.[39] To be sure, in underdeveloped countries like Bangladesh, where questions on income and savings are treated as highly personal, it is very difficult to get reliable information. However, very broadly, a high reliability could be expected in answers to objective and factual questions and low reliability regarding attitudes. If the schedule is short and simple and attractively worded without too many details, reliability is greater.[40]

In the present study, all possible precautionary measures were taken to get reliable data and to remedy all possible conclusiveness. Firstly, data were verified wherever possible, by finding second source of information. Secondly, the schedules were prepared objectively and straightforward. Thirdly, wherever possible, efforts were made to explain facts as perticipant observer. Besides, during the household survey, interviews were taken at the respondents houses through schedules. It really gave an ample opportunity to interprete the

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[39] Gopal, M.H. op. cit., p. 148.
[40] Ibid.

respondents' responses more rationally as a participant observer. Again, since in most cases, the heads of the household gave interview, it is anticipated that there is a fair chance of getting reliable information. The logic behind this anticipation is that the heads of the households are the decision maker and are responsible for the maintenance of the households. Hence it can be said that the data collected for the present study are quite reliable and authentic.

2.2.6 Limitations of the data

Collection of data from the field is a crucial job. It needs particular qualities and special training. The collection of quality data depends on the honesty, interest, personality, temparament, intelligence and education of the interviewer. Finding the sample member from the total sample is also important because it may give rise to bias in the analysis. Keeping in mind the role of these factors, all the precautionary measure were taken to collect fair data from the field.

Despite all these measures, errors might creep up in the study since the quality of census data are not beyond question.[41] It particularly suffers from coverage error. One way to examine the reliability of census data is to conduct a post-enumeration quality check survey. The post-enumeration quality check survey carried out following the 1961 and 1974 census were

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[41] Chaudhury, R.H. op. cit., p. 3.

beset with problems. As a result, the coverage error estimated by these post-enumeration surveys could not be used as an adjustment factor in this study.

2.2.7 Analysis of the Data

Once the data were collected, these were classified and tabulated, both manually and with the help of data-processing equipments according to the need. If all the factors are known in advance, then there is no serious problem in analysis. The simplest form of representing research findings is the frequency distribution or tabulation. All that is meant by this is the presentation in one column of different qualities of attribute, or different values of a variable, together with entries in another column showing the frequency of occurrence of each of these classes. A relevant method of comparing values is the proportion. This measure is a fraction such that the numerator is one of two observed frequencies and the denomenator the sum of observed frequencies.[42] The use of percentage (and ratios and proportions) simplifies the problems of comparison.

In the present study, all the techniques of presenting data such as frequency distribution, ratio, proportion, percentage has been used for the simplification of the analysis. Again, analysis were carried out both at the aggregated and

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[42] Goode, W.J. and Hatt, P.K. op. cit., pp. 341-357.

disaggregated level in order to arrive at a fairly comprehensive set of conclusions. The whole area under study was divided into urban (existing municipal area comprising of 8 Wards) and sub-urban area (adjacent II Unions of the municipal area) for better reflection of the data so collected.

CHAPTER - 3

3. STUDY AREA

The present study area covers approximately fortynine square miles including the existing municipal area of about 6.35 square miles. The municipal area is divided into eight wards, while the remaining area comprises of the whole of seven unions and part of four unions. The whole area is under the jurisdiction of the Rajshahi Town Development Authority and is referred here as the Greater Rajshahi.

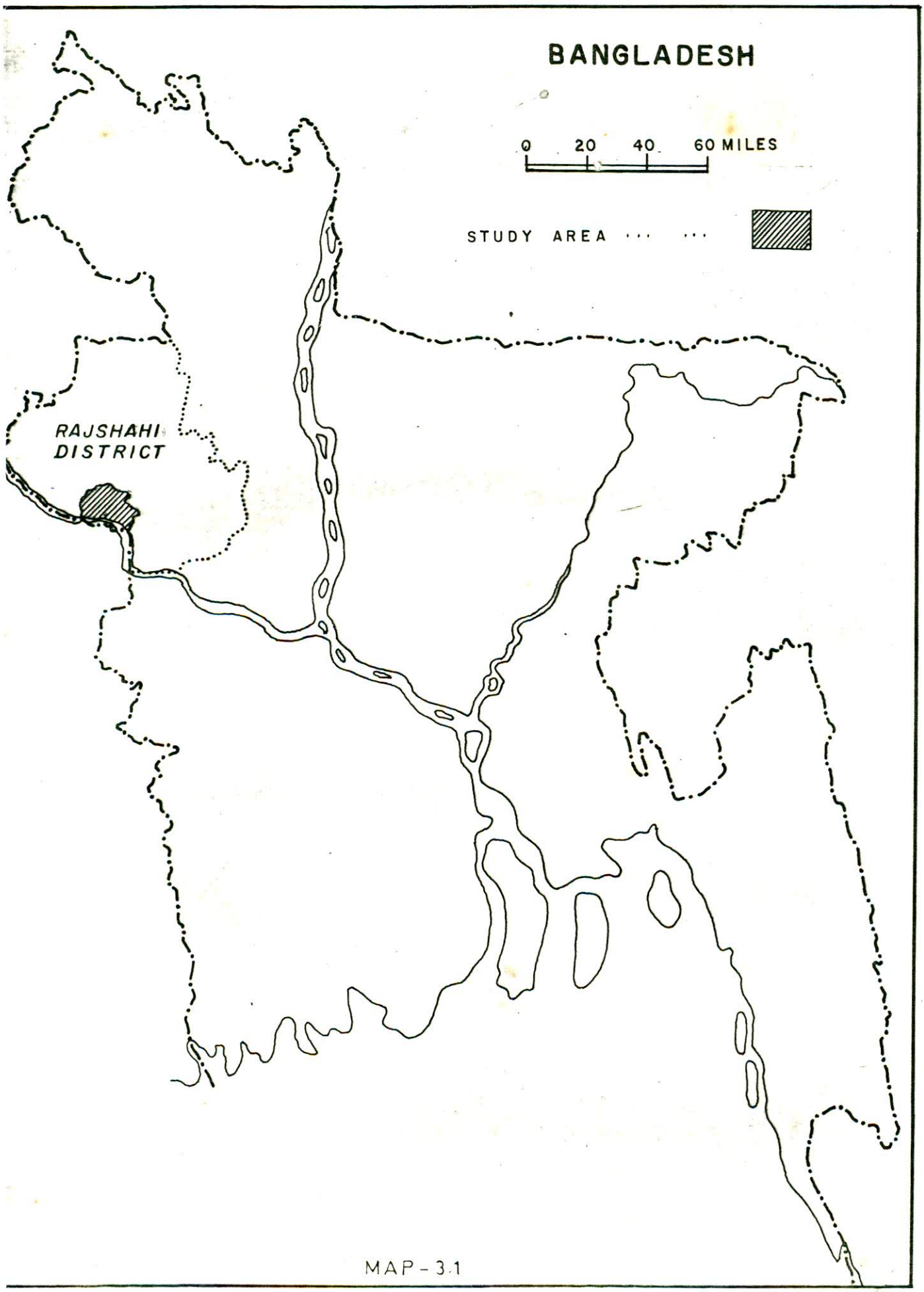
3.1 The settings

The Greater Rajshahi is situated on the northern bank of the river Padma and bounded on the west by the villages Nabaganga, Balia, Madhupur, Rahi, Madhobari and Kadirpur on the north by the villages Molladamag, Shahapur, Nepalpara, Chanbaria, Kumarpukur, Barikuri, Puthiapara, Pillapara, Mathura, Dadpur, Chak Goaldaha, Gholharia and Panthapara and on the east by the villages Bhalukapukur, Kazirpara (Puthia thana), Kapasia, Shahapur (Charghat thana) and Mirkamari (Charghat thana).

3.1.1 Topography

The town occupies a flat alluvial surface which is about 60 feet above the mean sea level. But this level is slightly lower than that of the river Padma.[1] Embankments, artificial

[1] Basic Data for Rajshahi Town Development Authority collected and produced by the Housing and Environmental Research Cell, Bangladesh University of Engineering and Technology, Dacca in June 1980 required for the preparation of Master Plan of Rajshahi Town, p. 5.



MAP - 3.1

depression and many tanks break the monotony of level relief.

Mean temperature increases from 63 degree Fahrenheit in January to 85 degree Fahrenheit in April, May and June. It is about 83 degree Fahrenheit during the monsoon months, and falls to 72 degree Fahrenheit in November and 65 degree Fahrenheit in December. The highest average maximum temperature is 96 degree Fahrenheit in April, and the highest average minimum is 78 degree Fahrenheit in July and August. The lowest average minimum is 51 degree Fahrenheit in January. The daily variation is often great, e.g., in May the temperature rises to 106 degree Fahrenheit and falls down at night to 78 degree Fahrenheit.[2]

Humidity is fairly high during the monsoon period, decreasing gradually from August. Humidity in June is 82 per cent, and in July-August it is 83 per cent, in September 82 per cent and in October 78 per cent.[3]

Rainfall is very light from November to February, increases somewhat in March and April, the season of local disturbances and continues uniformly at about 10 inches during the monsoon months, June to September, at Rajshahi. In May and October, the rainfall is about 5 inches and is due to occasional incursion of cyclonic

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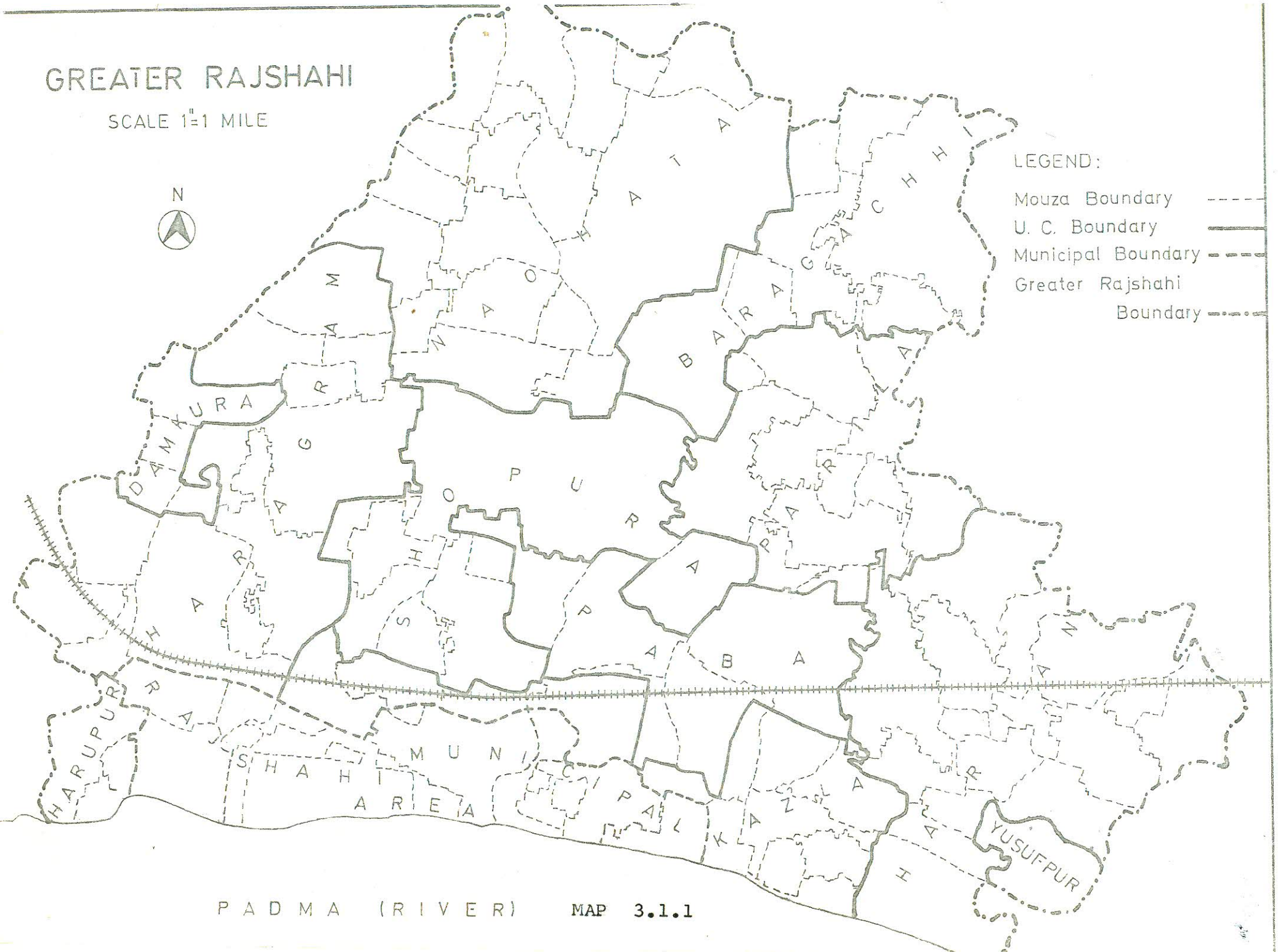
[2]Ashraf Siddique, (ed.) Bangladesh District Gazetteers - Rajshahi, Bangladesh Govt. Press, Dacca, 1976, p. 18.

[3]Master Plan, BWAPDA, Hydrology Data, Vol. I of VII, 1964.


GREATER RAJSHAHI
SCALE 1"=1 MILE
N
LEGEND:
Mouza Boundary
U. C. Boundary
Municipal Boundary
Greater Rajshahi Boundary
NAOHATA
BARAGACHHI
DAMKURA
HARAGRAM
SHOPURA
PARILA
PABA
HARIAN
HARUPUR
RAJSHAHI
MUNICIPAL
AREA
KAZLA
YUSUFPUR
PADMA (RIVER)

MAP 3.1.1

storms when heavy rain may fall for several days at a time. The main causes of rainfall are shallow land depressions, which frequently form during the monsoon months, and the shifting winds which, with the small oscillations of the atmospheric pressure and the high humidity then prevailing, are sufficient to maintain daily and, at times, heavy rainfall. The total average rainfall at Rajshahi is 57 inches, the heaviest on record being 90 inches in 1861.[4]

3.1.2 The people

The ethnic origin of the people of this town is a matter of controversy. The conclusions that the anthropologists could draw through research are to a large extent matters of conjecture. Some anthropologists have made careful study about the origin of the tribes but there has not been much scientific study on the origin of the general population.[5]

On the basis of available sources it may be said that the majority of the people belong to a pre-Aryan stock, not necessarily Dravidian, with a strong admixture of Tibeto-Burman elements. The next important group is the Indo-Aryan stock. The fair complexion, prominent nose and forehead, straight and

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[4]Ashraf Siddique, (ed.), op. cit., p. 18.

[5]Population Census of Pakistan: District Census Report - Rajshahi, 1961, Ministry of Home and Kashmir Affairs, Home Affairs Division, Karachi, p. 1-20.

soft hair and the formation of skull give sure indication of the Aryan ancestry of a large number of the inhabitants. There are also Turkish, Semetic and Persian elements - the introduction which roughly correspond with the Muslim domination of the area.[6]

There is however little doubt that there has been admisture of various elements during the ages; and pure specimen of any racial stock is absolutely rare. Racial origin then hardly be equated with social classes, as social class distinction mainly centres round the possession of wealth and property which changed hands with the change of rulers or due to other revolutionary changes.[7]

The physical features of the people of Rajshahi clearly indicate the admixture of different racial groups. There is, therefore, no group that claims racial purity. Straight or wavy hair, sharp nose, broad forehead, fair complexion etc. are as common features as dark complexion, broad nose, high cheek bones etc.[8] Rajshahi claims to have a distinct racial stock called 'Shershabadis' who are of the Pathan ancestry as the followers of Sher Shah who became the emperor of Delhi defeating the mughal emperor Humayun. They are distinguished by tall wiry figure, well

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[6] Ibid.

[7] Ibid.

[8] Op. cit., p. 1-21.

shaped nose, deep set eyes and regular calmly feature. Their complexion is dark brown.[9]

Owing to the fertility of the soil people are not driven by necessity to seek occupation elsewhere. They remain contented with the little they have and do not generally like to leave home. Untill recently, the high wages in the town and industries did not normally attract them as long as the land would support them. The common people are generally peace loving and try to maintain good relations with their neighbours.

The town dwellers belong to two major religions - Islam and Hinduism. The Muslims are mostly Sunnis, and among them Hanafis are more numerous. The Muslims have great regard for their religion; and many of them say daily prayers and observe fasting in the month of Ramzan. Some people hold the 'Pirs' and 'Fakirs' in high esteem and visit the Mazar of the renowned Muslim saint Hazrat Moulana Shah Mokhdum (R) situated at Dargahpara very close to the river Padma. Mullahs and Moulavis still play to some extent a significant role in shaping the beliefs and lives of the people. 'Jumma' (Friday prayer at noon) is attended by male Muslims of almost all ages. 'Milad Sharif' (Ceremony to discuss the birth, life and achievements of the Holy Prophet) is held occasionally. 'Eid-ul-Azha' and 'Eid-ul-Fitre', the two most important religious festivals of the Muslims

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[9] Ibid.

are celebrated with due sanctity. Many Muslim women observe 'Purdah' although 'Burkah' (vail) is used by a very few of them.

The Hindus of the town observe their religious festivals like 'Durgapuja', 'Kalipuja' and 'Saraswatipuja' with great pomps and shows. The images of these Goddesses are visited by their votaries and finally immersed in the holy waters. Hindu festivals are accompanied by day long loud music of drums, cymbals and flute. There is no 'Purdah' among the Hindus of the town.

Rajshahi is traditionally rich in her folklore and songs. Untill recently, Kabigan[10], Gambhira,[11] Biyergan,[12] Addhayatikgan or Dehatattergan,[13] Jatra[14] etc. were popular among the town dwellers. With passage of time and growing trend in urbanization, these traditional culture is disappearing. More recently, 'Adhunik Gaan',[15] 'Rabindra Sangeet,'[16] Nazrul Geeti',[17] 'Western

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[10]Kabigan is a debate between two singers on certain popular topic.

[11]Gambhira is one kind of dance-drama usually narrates very criticaly the performances of the ruling Govt. officials in a joking manner.

[12]Biyergan is one kind of group song usually sung on the occasion of marriage.

[13]Addhaytik or Dehatattergan is one kind of song the main theme of which is usually spiritual.

[14]Jatra is one kind of traditional drama with songs.

[15]Adhunik Gaan is modern songs.

[16]Rabindra Sangeet are the songs written by Poet Rabindranath Tagore.

[17]Nazrul Geeti are the songs written by Poet Kazi Nazrul Islam.

Pop-music'[18] and 'Natak'[19] are becoming very popular. Besides these, Cine-pictures, Television, Radio-Cassette, Tape-recorders etc. are becoming more popular among the youngs. This is happening because of the change in cultural pattern and which is a good indicator of urbanization.

3.2 Historical growth of Rajshahi town

Rajshahi, the headquarters of the district and division, lies in the north-western part of Bangladesh, is one of the major urban centres. The earliest historical references of the town can be traced back to the middle of the 18th century. It was made the headquarters of the district in 1825 and of the division in 1947.

The name Rajshahi is commonly believed to mean royal territory, and is a popular, but mistaken idea, that the district was given this name because it was the home of many Rajas Kings). The origin of the name is doubtful, but one plausible hypothesis is that it dates back to the beginning of the 15th century A.D. when this part of the country was ruled over by Raja Kans or Ganesh. The Raja having ousted the Sultan of Gaur, became king of Bengal, and according to Professor Blockmann, was consequently known as Rajashahy i.e. Hindu Raja who ascended a Muslim throne,

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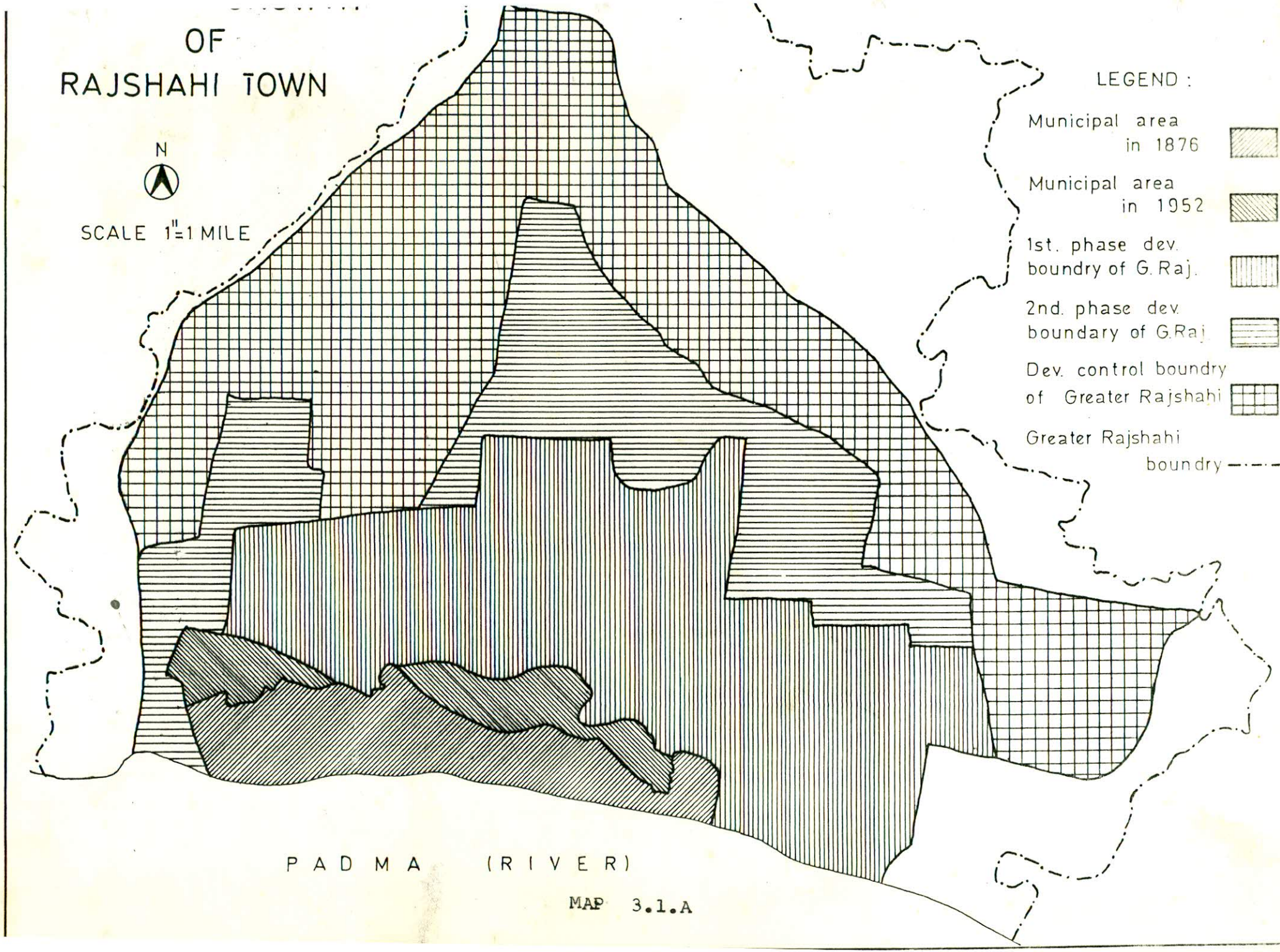
[18] Western Pop-music are the modern musical art by the group in western sophisticated instruments usually performed in musical show.

[19] Natak is modern drama.


OF
RAJSHAHI TOWN
N
SCALE 1"=1 MILE
LEGEND :
Municipal area in 1876
Municipal area in 1952
1st. phase dev. boundry of G. Raj.
2nd. phase dev. boundary of G.Raj
Dev. control boundry of Greater Rajshahi
Greater Rajshahi boundry
PADMA (RIVER)

MAP 3.1.A

while his territory acquired the name of Rajshahi.[20]

Though the town is commonly called Rajshahi, derived from the name of the district, it is frequently referred to as Rampur -Boalia; and the name of the '<u>thana</u>'[21] of which is the headquarters is Boalia. The name of the town Rajshahi has been mentioned in the old gazetteer, published in 1916 as Rampur-Boalia, a name derived from the names of the twin villages of Rampur-Boalia.[22]

It is evident from the inscription of the shrine of Hazrat Shah Mokhdum at Dargahpara near Rajshahi college, dated 1634 A.D. which commemorates the death of the Shah Darvish (vide Inscription of Bengal, Vol. IV, p. 272) that the tomb of the Darvish (Saint) became a place of great veneration around the first quarter of the 17th century. This place earned prominence with the existence of the mausoleum of such an eminent saint. It developed into an important trading centre and soon attracted the European traders by virtue of its location on the bank the river Padma and in the midst of a silk producing area.[23] In the middle of the 18th century many of the inhabitants of Murshidaba (now a district in West Bengal, India) fled across the Padma

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[20] Ashraf Siddique (ed.), <u>op. cit.</u>, pp. 1-2.
[21] Thana is the administrative boundary of a police station.
[22] Ashraf Siddique (ed.), <u>op. cit.</u>, p. 374.
[23] <u>Ibid</u>.

(Ganges) to escape the Maratha raids and sought refuge at Rampur-Boalia where they built houses and passed their lives.[24] From old records of the collectorate of Rajshahi, it appears that in March 1783, Mr. John Evelyn was engaged in making a settlement of Rajshahi and in 1791 Mr. J.M. Harington was made Commissioner to Rajshahi.[25] It transpires from these facts that Rajshahi have acquired sufficient background to develop as an urban centre since then.

After the partition of India in 1947, the town assumed greater importance as a divisional headquarters; and a quite significant growth was followed. Up to the end of 1950's Rajshahi town underwent a linear expansion in between two prominent landmarks i.e., the Padma in the south and the railway line on the north. The physical expansion grew mostly on the west and the east conforming a linear pattern. The establishment of the University of Rajshahi at Kazla in 1953, the Rajshahi Engineering College at Talaimari in 1964, the Rajshahi Jute Mills near Katakhali in 1966, the Katakhali power sub-station in early 60's in the east along the only thoroughfare Natore-Nawabganj road justifies the eastward growth. The establishment of Teachers' Training College in 1953 along the same thoroughfare in the west and the establishment of the Rajshahi Medical College Hospital near Laxmipur in 1958 testifies the growth in the

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[24] Ibid.
[25] Ibid.

westward direction. The growth in the east and west took the shape of linear pattern. The linear pattern of growth took place because of the fact that the locational efficiency of those establishments depends on some related factors including the accessibility, availability of land, cost of site development, sub-surface condition, acquisition, environment, transportation net-work etc. At that time when those institutions and industries were established, those factors of locational efficiency could satisfy only in the east and westbound direction of the existing township. It was only during 60's when a break-through in the north became imminent and the town later experienced also some frontal expansion. The growth to the north of the railway line was marked with the establishment of a Satellite town at Sopura during the 60's and the establishment of the Industrial Estate in late 60's. Recently the Rajshahi Textile Mills is established at Naodapara to the north of the town and along the Naohata road, that connects the sub-divisional headquarters of Naogaon. More recently it appears that there is a trend of the physical growth of the town towards the north with the establishments of some industrial and administrative units including the Uttara Automatic Rice Mills, Himalay Cold Storage, Uttara Cold Storage, Experimental Agricultural and Poultry Farm of the Bangladesh Agricultural Development Corporation, Postal Training Complex along the Naohata road. Since the town is bounde by the Padma in the south, no physical expansion is possible and hence did not take place.

Rajshahi is officially recognised as a city since 1978.[26] At the moment the area under municipality is 6.35 square miles[27] but the builtup area is approximately 11 square miles and is extended over 5 miles from the east to the west and about 2 miles from the south to the north. The trend of the growth of the town together with the government appreciation of the importance of Town Planning, the government of the People's Republic of Bangladesh was pleased to promulgate the Rajshahi Town Development Authority Ordinance and the Rajshahi Town Development Authority was established in 1976.[28] The area under the jurisdiction of the Rajshahi Town Development Authority is 49.84 square miles.

The present study covers the whole area under the jurisdiction of the Rajshahi Town Development Authority or Greater Rajshahi.

3.3 Distribution pattern of educational institutions

There are 78 primary schools and 28 high schools in Greater Rajshahi and out of which 34 primary schools and 18 high schools are in the municipal area and 44 primary schools and 10

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[26] Bangladesh Gazette, Extraordinary Notification No. SRO/108-1/1978 dated 10th May, 1978. Ministry of Local Govt., Rural Development and Cooperatives, Govt. of the People's Republic of Bangladesh, Dacca.

[27] Rajshahi Municipality Records.

[28] Bangladesh Gazette, Extra Ordinary Notification, Govt. Press, Dacca, 1976, pp. 3005-3024.

high schools in the suburban area. There are also 10 colleges within the boundary of Greater Rajshahi and out of which 8 colleges are in the municipal area and only 2 in the suburban area. The locational addresses of these institutions were obtained and each of them was located on a map of Greater Rajshahi of scale one inches to a mile (Map 3.2.A) using different symbols for each kind of schools and colleges and employing mapping technique.[29] The list of schools and colleges are provided in Appendix- VI.

In order to find out the locational frequency variation of the schools and colleges in terms of the distance from the city centres, a series of 14 circles were drawn to cover the Greater Rajshahi limit. They were drawn with the Shaheb Bazar traffic canopy as the centre and the radii of the successive circles increasing by half a mile. The number of schools and colleges in each successive circles/zones were determined and shown in Table 3.1 and in the Map 3.2.B.

It is found from the Table 3.1 and Map 3.2.B that the locational pattern varies in magnitude from one circle/zone to another depending upon the factors including accessibility, environment, availability of space, cost of land, education

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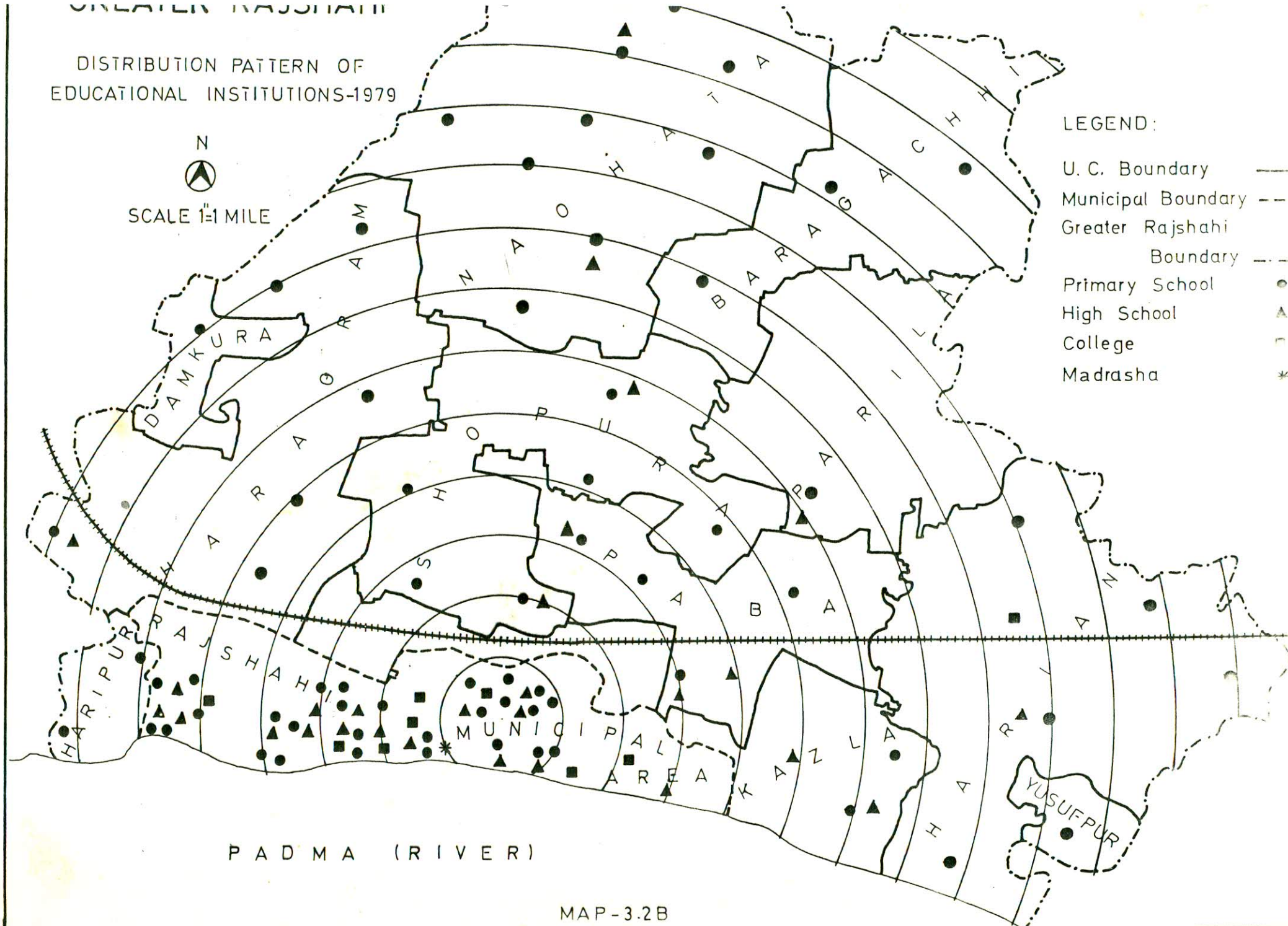
29 Gould, W.T.S. Planning the Location of Schools: Ankole District, Uganda, IIEP Research Project, UNESCO: International Institute for Educational Planning, Paris, 1973, pp. 6-14.


DISTRIBUTION PATTERN OF
EDUCATIONAL INSTITUTIONS-1979
N
SCALE 1"=1 MILE
LEGEND:
U. C. Boundary
Municipal Boundary
Greater Rajshahi Boundary
Primary School
High School
College
Madrasha
DAMKURA
NAOHATA
BARAGACHHI
HARAGRAM
SHOPURA
PARILA
PABA
HARIPUR
RAJSHAHI
MUNICIPAL AREA
KAZLA
HARIAN
YUSUFPUR
PADMA (RIVER)

MAP-3.2B

adaptability, utilities, public services, population base, political implications and Master Plan.[30]

The highest number of primary and high schools are located in the central zone i.e., within a radius of only half a mile from the city centre. Within the radius of one and half a mile 70 per cent of the colleges are located. The highest number of colleges are located in the second zone i.e., half a mile away but within one mile radius from the city centre. The second highest number of primary schools are located in the sixth zone and next to that in the fourth zone. But if the density of these educational institutions per unit square mile is considered, it becomes obvious from Table 3.1 that the density of primary schools is the highest being 14.67 per square mile in the central zone and the next being 3.76 per square mile in the twelfth zone i.e., at a distance of six miles from the city centre. More than 80 per cent of the high schools are located within a radius of three miles from the centre of the city and there is no primary school or any high school beyond six miles from the city centre but one college.

The locational distribution of these educational institutions reveals the fact that these institutions have been established sponteneously and without proper locational planning.[31] Clustering of primary and high schools in two or three zones

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[30] Gould, W.T.S. op. cit.
[31] Ibid.

testifies the fact. Perhaps the reason behind this unplanned growth of these institutions is that most of these schools and colleges were established initially with the private individual or group initiative and were later placed under the management of government. This private initiative played important role in the locational distribution of these institutions. The clustering of schools and colleges around the central zone and towards west of the city centre took place probably because of the growth of residential area in and around these places from where the potential number of pupils attend these institutions. Besides the availability of potential number of students, the transportation net-work i.e., accessibility played vital role in the location of these institutions.

Furthermore, in order to give a quantitative expression to the pattern of distribution of primary and high schools in Greater Rajshahi, the near-neighbour statistical technique[32] had been employed here. This technique have also been used by Haque[33] in her study of the distribution pattern of banks in Dacca city in 1975 and by Hossain[34] in his study of the optimum location criteria for high schools in Dacca city in 1977.

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[32]King, L.J. 'A quantitative expression of the pattern of Urban Settlements in selected areas of the United States in Brian Berry, J.L. and Duan M.F. (eds.), Spatial Analysis - A Reader in Statistical Geography, Prentice-Hall Inc., Englewood, New Jersey, 1968, pp. 159-167.

[33]Haque, S. 'Distribution Pattern of Banks in Dacca city' Oriental Geographer, Vol. xix, No. I, 1975, pp. 7-18.

[34]Hossain, M., op. cit.

The near-neighbour statistical technique involves the measurement of the straight line or direct airline distance between each particular kind of nearest school. Thus the observed distance (rA) was calculated for separately fcr primary schools and for high schools. The expected mean distance (rE) was obtained first by calculating the density of a particular kind of school per square mile (P) and then using the law of mathematical probability for (rE) which is in the case of random spacing points, equal to $\frac{1}{2}P^{-\frac{1}{2}}$ and the near-neighbour statistics (R) was computed as a ratio of the observed mean distance (rA) to the expected mean distance (rE) of the particular kind of school (Table 3.2).

The near-neighbour statistics (R) provides quantified expression of the distribution pattern of primary schools and high schools for municipal area, suburban area and for Greater Rajshahi. It appears from Table 3.2 that the distribution of primary schools and high schools in the municipal area is random. In the suburban area, the distribution pattern of primary schools is random approaching uniform and for high schools, it is clustered or aggregated. In the Greater Rajshahi area, the distribution pattern for both primary schools and high high schools is random approaching uniform depending on the values of (R).

Besides these schools and colleges, there are a number of other educational institutions scattered scattered throughout the city. The University of Rajshahi and the Engineering College

are located outside the municipal area and at a distance of two and half a mile away from the city centre. This shows that these two institutions of higher general and technical education are in the fifth, sixth and seventh zone. The other educational institutions that are also existing in the city include one Medical College, one Teachers' Training College, one weaving institute, one Polytechnique Institute, four technical schools, two deaf and dumb schools, one Primary Training Institute and three vocational schools. Except the Polytechnique Institute and the Weaving Institute, all are located within the existing municipal area.

3.3 Distribution pattern of industrial and commercial establishments

The major establishments in the area consists of commercial and industrial enterprises of large, medium and small size. The number of large industrial establishments is very small. The Rajshahi Jute Mills, Rajshahi Sugar Mills, Rajshahi Textile Mills, and the Sericulture are the important industrial establishments. Medium sized establishments include the Match factory Zarda[35] factory, some Engineering workshops, Pharmaceutical industries and some food industries including Coldstorage and Automatic Rice Mills. Most of the service industries are classified under the caption of small establishments. A detailed list of the establishments has been furnished in Appendix- V.

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[35] Zarda is a kind of preparation from tobacco used as an ingredient in taking betel leaf.

TABLE 3.1

1979 DISTRIBUTION AND DENSITY OF PRIMARY SCHOOLS, HIGH SCHOOLS AND COLLEGES IN GREATER RAJSHAHI.

Circle/ Zones	Area in sq.miles	No.of primary schools	No.of high schools	No. of colle-ges	Density per sq. mile		
					Pry. school	High school	Colle-ge
I	0.75	13	5	1	14.67	6.67	1.33
II	2.35	5	2	4	1.70	0.85	1.70
III	3.25	6	5	2	1.54	1.54	0.62
IV	5.02	8	5	0	1.39	1.00	0
V	4.99	7	1	1	1.20	0.20	0.20
VI	5.18	9	4	0	1.74	0.77	0
VII	4.62	5	1	0	0.87	0.22	0
VIII	6.89	6	2	0	0.73	0.29	0
IX	5.14	4	2	1	0.78	0.19	0.19
X	4.73	6	0	0	1.27	0	0
XI	3.45	2	0	0	0.58	0	0
XII	1.86	7	1	0	3.76	0.54	0
XIII	1.17	0	0	0	0	0	0
XIV	0.44	0	0	1	0	0	1.27
Total	49.84	78	28	10	1.40	0.54	0.20

Source: Field survey.

TABLE 3.2

NEAR-NEIGHBOUR STATISTICS

Kind of School	Total No. of School	Density of Schools per sq. mile	Observed mean distance in miles (rA)	Expected mean distance in random distribution in miles(rE)	Near-neighbour statistics $R = \frac{rA}{rE}$	Pattern of distribution
A. MUNICIPAL AREA: 6.35 sq. miles						
Primary Schools	34	5.345	1.134	0.216	5.250	Random
High Schools	18	2.835	0.898	0.297	3.024	Random
B. SUBURBAN AREA: 43.49 sq. miles						
Primary Schools	44	1.012	0.957	0.497	1.926	Random approaching uniform
High Schools	10	0.230	0.400	1.043	0.384	Clustered or aggregated
C. GREATER RAJSHAHI: 49.84 sq. miles						
Primary Schools	78	1.565	0.980	0.400	2.450	Random approaching uniform
High Schools	28	0.562	0.463	0.667	0.694	Clustered or aggregated

Mean Observed Distance (rA): Straight line or direct airline distance

Expected Mean Distance (rE): In the case of random spacing points according to the law of mathematical probability equal to $\frac{1}{2}P^{-\frac{1}{2}}$

Near-neighbour Statistics(R): Ratio of the observed mean distance to the mean expected distance.

Pattern of distribution: When the value of (R) is less than 0.5, the pattern of distribution will be regarded as clustered or aggregated, up to I, it will be clustered approaching random and when more than 1, it will be random approaching uniform.

Map 3.3 shows the distribution pattern of industrial establishments by their approximate location and classified in large, medium and small industries.[36] In showing the distribution pattern of these establishments on the map, locational addresses of all kinds of establishments were first collected and then they were spotted on a map to a scale of one inch to a m mile of Greater Rajshahi. The locations shown in the map are approximate. The usefulness of this kind of locational map may be justified for grasping a city scene of industries at a glance.

It appears from the map that all the large sized industrial establishments are located outside the municipal area and at a distance of not less than five miles from the city centre except the Match factory and the Sericulture factory which are located within a radius of only one mile. Though these two industries are located within one mile radius from the city centre still these are outside the existing municipal boundary. The locational efficiency of all the large industrial enterprises may be accepted as justified because of transportation network by road and railways except that of the Rajshahi Textile Mills which is located at Naodapara by the side of Rajshahi-Nawhata road. Except a few almost the medium and small sized industries are located within the municipal area. The majority of the industrial establishments are located in the Sopura Industrial Estate.

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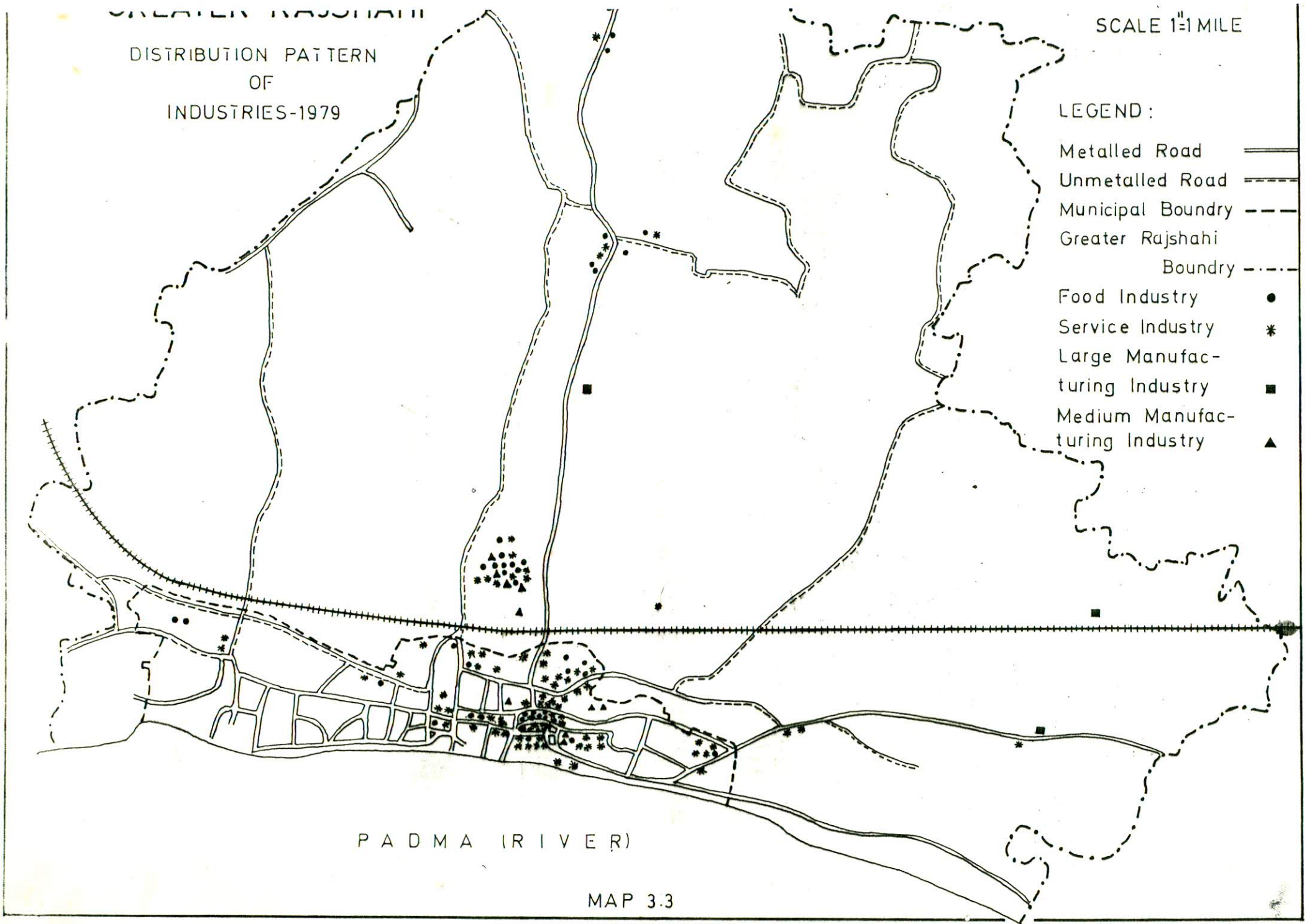
[36] Only food and service industries have been classified as small industries in the present study.


GREATER RAJSHAHI
DISTRIBUTION PATTERN
OF
INDUSTRIES-1979
SCALE 1"=1 MILE
LEGEND :
Metalled Road
Unmetalled Road
Municipal Boundry
Greater Rajshahi
Boundry
Food Industry
Service Industry
Large Manufac-
turing Industry
Medium Manufac-
turing Industry
PADMA (RIVER)

MAP 3.3

The above fact seems to be natural since in most of the developing countries, the bulk of the manufacturing sector consists of small-scale and household establishments. These are neither adequately machanized nor do they employ skilled labour and their levels of productivity are low. The problem here is to modernize, mechanize and rationaize the whole small-industry sector. Many of these countries have launched schemes in this field as part of their development plans. Among these programmes, the most promising is that of industrial estates which are designed to establish planned industrial communities of small and medium size in which a pool of modern services needed by small individual enterpreneurs is provided. In the developing countries there is considerable scope for modernizing the private, unorganized manufacturing sector through the instrument of industrial estates.[37]

A study of the year of establishment of the different industrial and commercial enterprises reveals that majority of these were established during the sixties and early seventies. Prior to this period, there were a few medium sized industrial and commercial establishments in the study area. The reasons behind this fact was the non-availability of necessary infra-structure of communication, market and financial facilities. Besides these, the public sector investment policy for industrial

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[37] Bose, A. Studies in India's Urbanization 1901-71, Tata McGraw-Hill Publishing Co. Ltd., New Delhi, 1973, p. 200.

and commercial development, the necessity of planned decentralization of the economic activity and regional economic development were greatly lacking.

The commercial establishments are clustered around Shaheb Bazar and Rani Bazar, and a few of them are scattered throughout Greater Rajshahi. There are a number of shopping centres besides these two which include the Municipal New Market, Haragram Bazar, Talaimari Bazar, Binodepur Bazar, Kantakhali Bazar, Naohata Bazar and a growing market place at Laxmipur. From the locational and functional point of view and according to Michael Proudfoot[38] Shaheb Bazar and Rani Bazar is the Central Business District of Rajshahi because in this area there is a concentrated multiplicity of functions, including retailing, finance, wholesale and administration as well as light industries. The Municipal New Market, Haragram Bazar, Talaimari Bazar, Binodepur Bazar, Kantakhali Bazar and Nawhata Bazar may be classified as the Outlying Business Centres[39] since these are miniature types of Central Business District grew at the focal points of intra-city transportation. Laxmipur market may be classified as Neighbourhood Business Centre[40] because it has formed the real centre of neighbourhood economic life with groceries, meat, fruit and vegetable, drug and other convenience

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[38] Mabogunje, A.L. Urbanization in Nigeria, University of London Press Ltd., 1968, p. 180.

[39] Ibid.

[40] Ibid.

goods. The Station Road i.e., from Shaheb Bazar to railway station may be classified according to Proudfoot as the Principal Business Thoroughfare since it combines the functions of a traffic artery and a business street although it has little depth beyond the street frontage.[41] Besides these, there are a number of Clusters of Isolated Stores scattered throughout the study area. The Isolated Store Clusters comprises of two or more complementary convenience-goods stores and representing the final and individually the least significant type of city retail structure.[42]

To understand the internal structure of Rajshahi town it is necessary to appreciate the nature of the interaction among these centres of economic activity. Up to now, Rajshahi town has no important area of industrial concentration so that no other nucleus needs to be considered at this stage. Clearly, Shaheb Bazar-Rani Bazar is the major centre of gravity of economic activity in Rajshahi town. As a result, it tends to dominate the other market places and to influence locational decisions everywhere in the town. For most people there is invariably a need to go to Shaheb Bazar-Rani Bazar either to work or to shop and there is therefore, great advantage in living not too far away from this business district. Theoretically, such a situation would tend to encourage a high concentration of residences around this centre. Since, however, in urban life there

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[41] Ibid.
[42] Ibid.

are other values and satisfactions e.g., spacious dwellings, quiet, privacy, open grounds, etc., not everyone reacts equally to this pull of this centre.[43]

3.4 Landuse pattern of the town: its determinants and consequences

A study of urban land will reveal that there is a perceptible and systematic order in the arrangement of its uses, and such ordering tends to be repeated from one urban centre to another. The overall spatial distribution of activities within a town reflects adjustments to the factor of distance. The location decisions, by and large, appear to incorporate an attempt to minimize the travel distance and transfer cost. There is a tendency for activities to localise, some to take advantage of scale of economies, other to associate for social and functional reasons with like or related landuses. In a way, a landuse pattern evolves an order, though not always regular.

Classification of landuse in any oriental city is a highly tricky job as uses are not segregated in housing units unlike in the western cities and more so in the American cities. But they are juxtaposed and mixed. Multipurpose uses of building is the rule rather than an exception.[44] Structures facing the main streets are invariably used for commercial purpose wherever

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[43] Mabogunje, A.L., op. cit., pp. 213-214.

[44] Sinha, B.N. Sirsi: An Urban Study in Application of Research Models, Karnatak University, Dharwar, Mysore State, India, 1970, p. 147.

TABLE 3.3

DIFFERENT KINDS OF LANDUSE IN THE MUNICIPAL AREA, SUBURBAN AREA AND GREATER RAJSHAHI IN PERCENTAGE OF THE TOTAL AREA

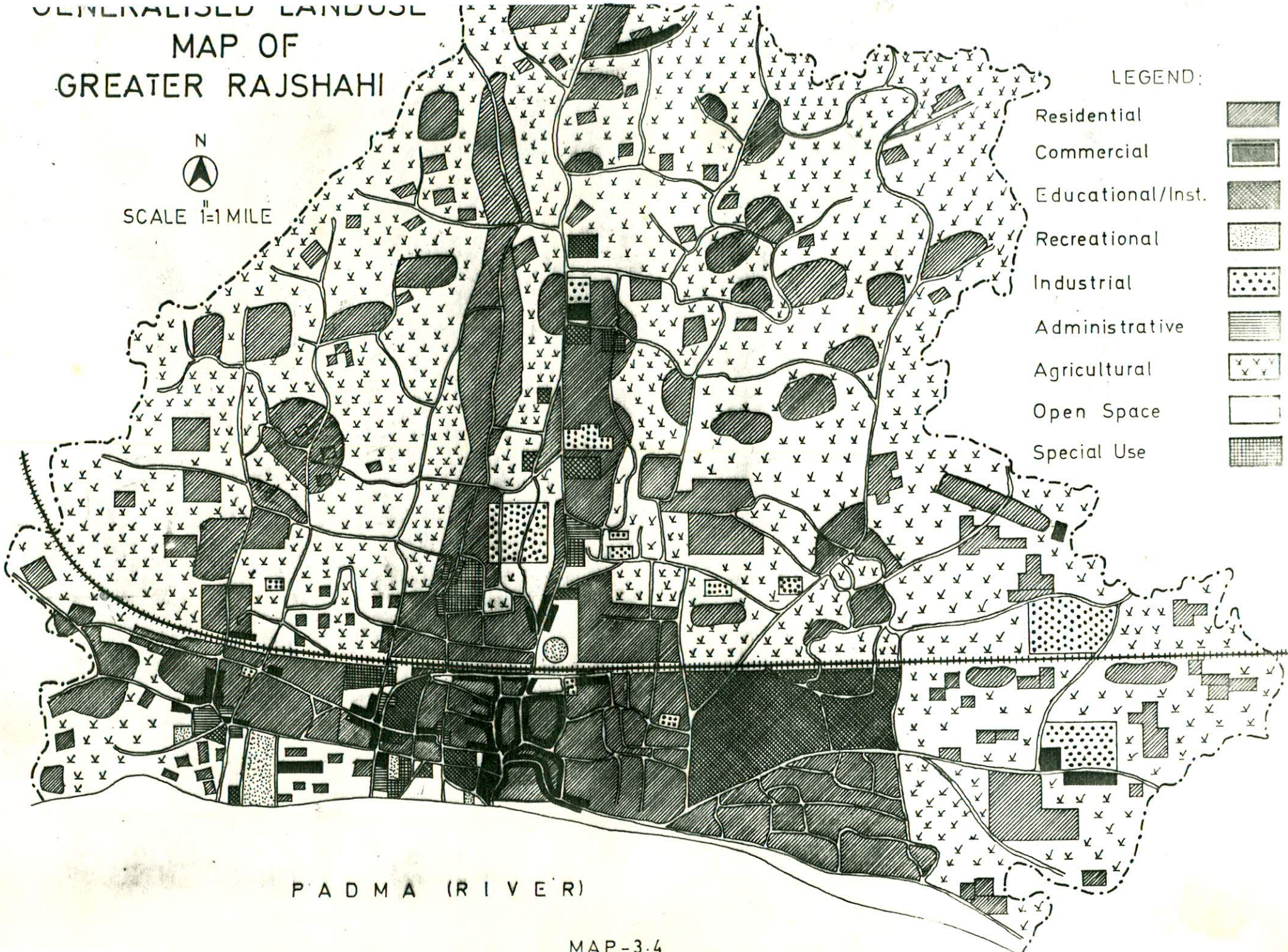
Kinds of landuse	Municipal Area: 6.35 sq.miles	Suburban Area: 43.49 sq. miles	Greater Rajshahi Area: 49.84 sq. miles
i) Residential	32.76	12.30	13.74
ii) Commercial	1.71	0.05	0.16
iii) Administrative	1.78	0.16	0.28
iv) Educational	10.16	3.04	3.57
v) Industrial	0.17	0.75	0.72
vi) Recreational	2.55	0.04	0.22
vii) Open space, water bodies, canal and drain	20.72	5.33	6.08
viii) Agricultural and horticultural	15.70	73.00	68.80
ix) Road, embankment, public utilities, communication, transport and special use	14.47	5.29	6.43
Total	100.00	100.00	100.00

Source: Rajshahi Town Development Authority.

locational factors are conducive while the back portion are utilised by the owners for residential purposes so that the members of the family can have an effective control over their small family enterprises. Even in the commercial use, as in the CBD, the range of commodities sold in the stores often vary from office stationary to baby food and medicines to daily use grocery, although they are not departmental stores in the western sense of the term. Hence landuse classification of these is an extremely tricky job and an element of personal judgement had to be used.

Like other towns of Bangladesh, the spatial structure of Rajshahi have been mostly the results of natural growth. Needless to mention, therefore, there is a haphazard and unplanned growth. Efforts have been made here to introduce the major landuse pattern with the help of a generalised landuse map 3.4. The map shows nine kinds of landuses and these are (i) Commercial, (ii) Residential, (iii) Educational and institutional (iv) Recreational, (v) Industrial (vi) Administrative, (vii) Agricultural, (viii) Open spaces and (ix) Special kind of landuse.

i) Commercial landuse: The commercial landuse of any urban community can be studied by an analysis of the area occupied by various commercial institutions, their composition, their values and above all their employment capabilities. If these criterions are considered individually, the analysis of the


GENERALISED LANDUSE
MAP OF
GREATER RAJSHAHI
N
SCALE 1"=1 MILE
LEGEND:
Residential
Commercial
Educational/Inst.
Recreational
Industrial
Administrative
Agricultural
Open Space
Special Use
PADMA (RIVER)

MAP-3.4

commercial landuse would be less effective than the multiple criterions like the ratio of the area occupied and values of the commercial establishments or both together, rated with the employment potentials. But for the consideration of commercial landuse, perhaps, the area under commercial establishments, equated with other types of uses, is the most effective approach.[45] Keeping this end in view, commercial landuse by municipal area, suburban area and Greater Rajshahi has been measured in percentage against the total area of their respective area under jurisdiction.

It appears from Table 3.3 that commercial landuse in the municipal area is 1.71 per cent, in the suburban area 0.05 per cent and in Greater Rajshahi it is 0.16 per cent of the total area. The highest percentage of land used for commercial purpose is in the municipal area and the reason for this is the location of the central business district (Shaheb Bazar-Rani Bazar) in the area. Within the municipal boundary, the other commercial establishments concentration are located in the Government New Market, Haragram Bazar, Laxmipur Bazar and Ghoramara Bazar. Outside the municipal area, commercial landuse is only 0.05 per cent in the suburban area. The main commercial establishments in the suburban area are concentrated in Talaimari Bazar, Binodepur Bazar, Baya Bazar and Nawhata Bazar. In Greater Rajshahi, the percentage of commercial landuse is

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[45] Sinha, B.N., op. cit., p. 168.

the municipal area and the suburban area. The total land use in the municipal area and the suburban area. The total land utilisation for commercial purpose in Greater Rajshahi is comparatively insignificant than other types of landuses.

ii) Residential landuse: In most of the urban communities, residential areas dominate and account for a large portion of urban land.[46] It appears from the map 3.4 and the Table 3.3 that a significant quantum of land is used for residential purpose. The percentage of residential land utilization in the municipal area is 32.76, in the suburban area 12.30 and in Greater Rajshahi it is 13.74 of the total land under their respective jurisdiction.

In describing the residential areas of Rajshahi town one interesting feature may be mentioned. A good number of offices, show and sales room are cramped up in privately owned residential buildings. One reason behind this fact is the non-establishment of public offices with the governmental initiative and the other is the availability of hired accommodation for office purpose at a comparatively lower rent. Because of road frontage, many of the front portion of residential buildings are used as show and sales rooms.

The social and economic characteristics provide an important background to understanding the types of residential

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[46] Sinha, B.N., op. cit., p. 160.

areas in the city. In an economic system characterized by private ownership of dwelling units without governmental restrictions on rent controls or price ceilings, it can be assumed that rent structure is the best measure of classifying residential areas.[47] In classifying the residential areas, however, it is important, as in Rajshahi to include the special case of government staff quarters of different types and bunglows where senior officials reside. Although rents are paid here, they are calculated on the basis of certain percentage of the monthly salary of the occupier and, in general, they tend to be much lower than the rent for comparable accommodation elsewhere in the city. Yet there is no doubt that these bunglows belong to the very highest grade of those found in the township of Rajshahi. The quality of residential structures like pucca,[48] semi-pucca,[49] and kutcha[50] can also be helpful in delineating the socio-economic structure of the urban area in an order, roughly, like upper, middle and lower income groups.

Map 3.5 shows the classification of residential areas of Greater Rajshahi. The upper class residential area includes

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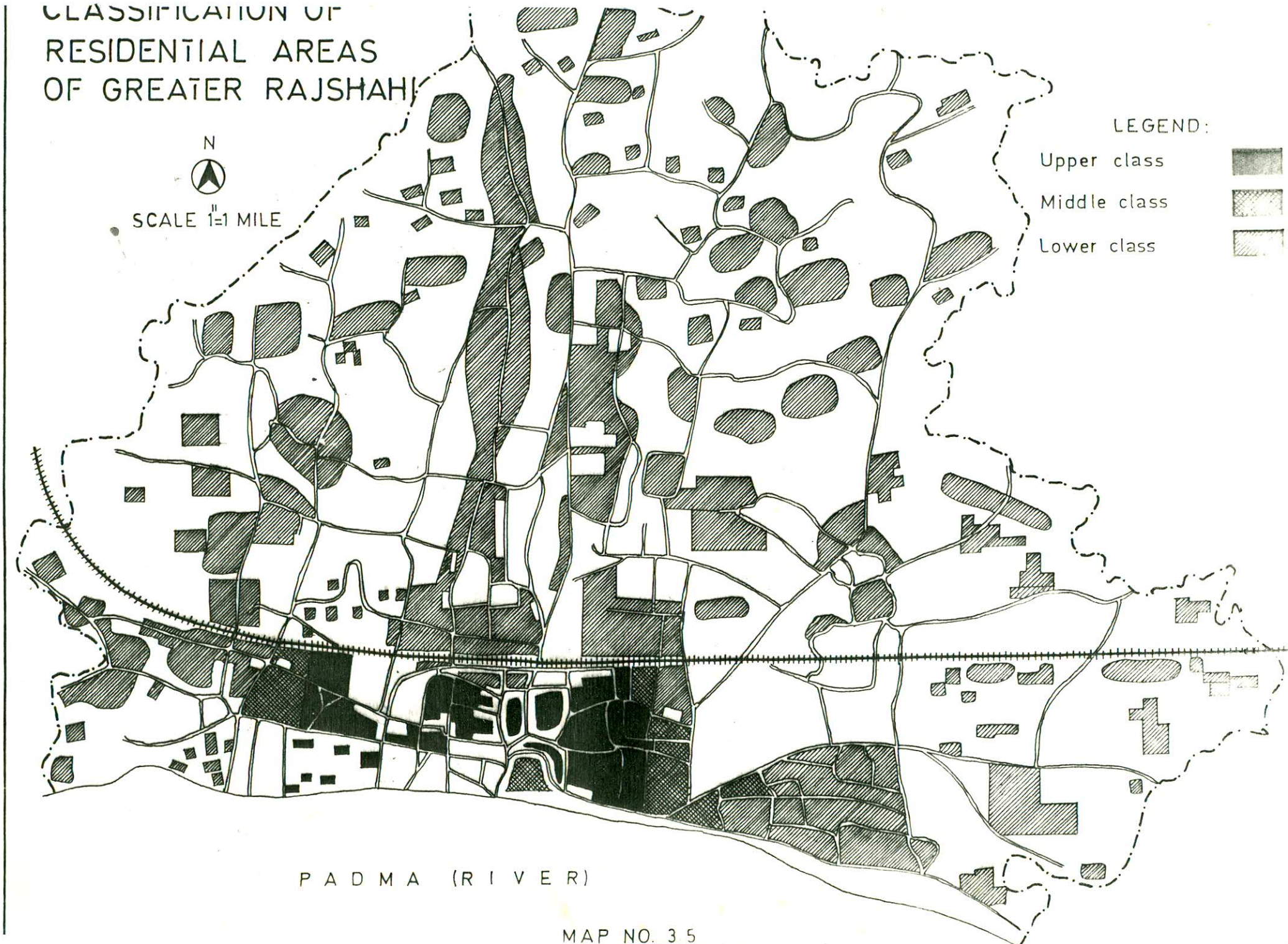
[47] Quinn, J. Urban Sociology, American Book Company, New York, 1955, pp. 55-61.

[48] Pucca means completely brick-built house with r.c.c. roof.

[49] Semi-pucca means brick-built wall with c.i. sheet roofed house.

[50] Kutcha means houses built up with materials that are temporary in nature.


CLASSIFICATION OF
RESIDENTIAL AREAS
OF GREATER RAJSHAHI
N
SCALE 1"=1 MILE
LEGEND:
Upper class
Middle class
Lower class
PADMA (RIVER)

MAP NO. 35

the civil, military and police lines, government and semi-government residential quarters elsewhere and private housing areas in Laxmipur, Kazihata, Sagorpara, Bosepara, Ranibazar and Seroil. The upper class residential area is characterized by pucca houses with all the municipal and civic facilities available and the rent structure is comparatively high enough. The areas having semi-pucca structures and kutcha structures with limited or no municipal or civic facilities constitute the middle and lower class residential areas respectively. The middle class residential area exists in the eastern part of the town including Sepoypara, Tikapara, Mianpara, Hetemkhan and parts of Raninagar, Ramchandrapur, Talaimari and Kazla. The over crowded inner areas, mostly containing old congested buildings with medium rent structure may also be included in this category. The lower class residential area is characterized by lower rent structure and kutcha houses with very poor civic amenities. The refugee colony in the satellite town at Sopura, Bihari colony, Maldah colony, Assam colony and the area along the south of the town protection barrage and some parts of Raninagar, Ramchandrapur, Kazla, Talaimari and Seroil.

iii) Educational and institutional landuse: It is evident from Table 3.3 that educational and institutional landuse in the municipal area is 10.16 per cent, in the suburban area 3.04 per cent and in Greater Rajshahi, it is 3.57 per cent of the total area. The highest percentage of land used for educational and

institutional purpose is in the municipal area. The reason for this is the location of so many schools and colleges namely, Collegiate School, Lokenath High School, Bholanath Academy, P.N. Govt. Girls' High School, Mission School, Helenabad Govt. Girls' School, Survey Institute, Rajshahi College, New Govt. Degree College, Teachers' Training College, Primary Training Institute, Medical College, Women's College and a number of nursery, primary and vocational schools in the municipal area. Outside municipal area, the most important educational institutions are the University of Rajshahi and the Rajshahi Engineering College. Both of these institutions are residential in Character and are located in their own campuses to the east of the municipal boundary.

iv) Recreational area: The busy urban life demands some kind of refuge in the recreational centres of the city after the day's hard work. The recreational centres provide a break in the drudgery of the daily routine work. These recreational centres are very essential in the residential, commercial and industrial areas. Recreational areas include parks, gardens, zoo, cinema houses, town halls, theatre houses, public libraries, museum etc. Since Rajshahi has not yet reached the stage of urban sprawl and because of the existence of a lot of vacant space, the general look particularly outside the municipal area is rural. The life is not that much mechanical here as it would have been in an industrial community of a similar size in the

western world. All these have led to the conclusion that neither the municipal authorities nor the people are fully alive to the need of the recreational centres in the true sense of the term.

Out of the total land 2.55 per cent land is utilized for recreational purpose in the municipal area, 0.04 percent in the suburban area and only 0.22 per cent in Greater Rajshahi. The reasons behind the highest percentage of land utilization for recreational purpose in the municipal area is the existence of the two parks, four cinema houses, one town hall, one theatre house, one public library, one museum and a number of social clubs. Out of two parks, one is located in the central business district and is known as Bhuban Mohan Park. This park has lost its character as a park long ago and now is used as an occasional public meeting place and in most time though unauthorized, in use as a push-cart stand. The other park is located near the Commissioner's office and is known as the District Council Park. All the cinema houses and other recreational centres are located within a radius of one and a half miles from the city centre. Outside municipal area, one cinema house and a few clubs are the recreational centres.

v) Industrial landuse: A careful assessment of the industrial land utilization reveals that industrially Rajshahi is backward. This stems from the fact that only 0.72 per cent of the total land is used for industrial purpose in Greater Rajshahi, 0.17

per cent in the municipal area and only 0.75 per cent in the suburban area. All these accounts point at one inevitable conclusion that Rajshahi is not primarily an industrial town rather it is essentially an educational and administrative town with a small commercial and industrial base.

The three large manufacturing industries are the Rajshahi Sugar Mills, the Rajshahi Jute Mills and the Rajshahi Textile Mills. These industries employ a good number of the total available labour force in Greater Rajshahi and operate with a huge capital investment. These industries are located in the suburban area of Greater Rajshahi. Within the municipal boundary, some zarda factories, silk factories, one pharmaceutical unit, a good number of bakeries, confectioneries, wheat and rice crushing mills, furniture marts, saw mills and printing presses are located and at a distance of one and half a mile radius from the central business district. All these small and medium scale industries are not manufacturing industries in the true sense of the term as from the inputs of raw materials finished products do not roll out of the production line. They are merely either food processing industries or service industries which mostly base and thrive on the local availability of the raw materials and market. Many of them are manually operated or make use of power in a limited form.

Outside the municipal area, there is also a planned industrial estate for small and medium sized industries including

match factory, biscuit factory, coldstorage etc. established in early sixties. Besides these, there are also other servive and small industries located in a very scattered manner throughout the municipal and its fringe area and includes such industries as tailoring, auto-vehicles engineering and repair workshops, laundry, saw mills, etc.

vi) Administrative landuse: An one of the four administrative divisional headquarters, it is quite obvious that Rajshahi town is busy with administrative activities and since there is no such high rise building, a handsome quantum of land is utilized for this purpose. Since its inception as a district headquarter in 1825 and the divisional headquarters in 1947, a good number of administrative offices were established and are still being established.

It appears from Table 3.3 that 1.78 per cent of the total land in the municipality, 0.16 per cent in the suburban area and 0.28 per cent in Greater Rajshahi is utilized for administrative purpose. The Rajshahi municipal area accommodates offices ranging from thana level to the region level offices including the sub-division, district and division level offices of the government, semi-government and autonomous bodies. Outside municipal area, the administrative landuse include the offices of the Bangladesh Agricultural Development Corporation at Sopura, Bangladesh Fisheries Development Corporation at Terokhada, Postal Complex at Barabanagram, Airport Development

Authority, Animal Husbandry and Livestock Office, Bangladesh Small and Cottage Industries Corporation etc. at Sopura, UNICEF office at Kazla etc.

From the above description it seems that the administrative landuse in Rajshahi town do not form any distinct pattern because of the absence of landuse zoning. A hazy zone of administrative landuse is marked in the western extreme of the municipal area and in the northern side along Nawhata road of the suburban area. Besides these, some public offices are scattered in different parts of the town interwoven with commercial, residential and educational institutions.

vii) Agricultural landuse: Agricultural landuse is contrary to the urban landuse. It appears from Table 3.3 that 15.70 per cent of the total land is utilized for agricultural and horticultural purpose in the municipal area. Outside the municipality, the dominant is the agricultural landuse and it occupies 73.00 per cent of the total land. In Greater Rajshahi, 68.80 per cent land is utilized for agricultural purpose. In the municipal area agricultural landuse includes mango gardens, vegetable gardens and horticultural nursery. Outside municipal area agricultural landuse includes paddy, jute and sugarcane growing fields, mango gardens, horticultural nurseries, etc.

viii) Open spaces: Apparently as one sees there are many land parcels without any structure which are open spaces oftenly unorganized. In the present study, open spaces has been considered those spaces which are vacant i.e. without any structure including play fields, children play-lots, stadium, walking strip, water bodies like tank, lake, canal etc., public meeting places, spaces infront of public and private buildings, play fields of different institutions etc.

It appears from Table 3.3 that 20.72 per cent of the total land is utilized as open space in the municipal area, 5.33 per cent in the suburban area and 6.08 per cent in Greater Rajshahi. Among the organized open spaces, mention may be made for Idgah Maidan, Jailkhana Maidan, Panchani Maidan, play fields in different educational institutions within the municipal area. Outside municipal area, the stadium, Talaimari play field, Rajshahi University stadium, other play fields and vacant spaces, Engineering College play field etc. may be mentioned as organized open spaces. Besides these, there are a huge number of unorganized open spaces scattered throughout Greater Rajshahi.

ix) Special landuse: In the present study, special types of landuse include those land which are utilized for the purpose of public utilities including hydrants, electric supply transformer and sub-station, telephone and communication line, transportation including railway track and station, bus stand,

vehicular parking place, roads, embankment, graveyard, trenching ground, mosque, temple, church, dargah, air strip, and other regimental landuse like the police lines, B.D.R. lines, military cantonment, central jail, T & T wireless station, radio transmission and broadcasting centre etc.

Table 3.3 shows that 14.47 per cent, 6.43 per cent and 5.29 per cent of total land is utilized for special purposes in the municipal area, suburban area and Greater Rajshahi respectively.

From the above description of land utilization for different purposes, it appears that urban landuse is determined by social and economic factors and each parcel of land occupies a unique physical relationship with every other parcel of land. Because in every community there exists a variety of landuses, each parcel is the focus of a complex but singular set of space relationships with the social and economic activities that are centred on all other parcels.[51] Thus certain locations are more highly valued for residential than other sites because of greater convenience to shops, schools, centres of employment, and recreational facilities. Corner locations command a higher price for certain types of retail use because of greater convenience to streams of pedastrian traffic.[52]

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[51] Chapin, Jr. F.S. Urban Landuse Planning, University of Illinois,Press, Urbana, U.S.A., 1965, p. 9. Quoted from Richard U. Ratcliff, Urban Land Economics, McGraw-Hill Book Company,Inc. New York, 1949, pp. 283-284.

[52] Ibid.

From the existing landuse pattern, an urban sprawl is evident as urban expansion taking place on the eastern side along Natore Road and on the northern side along Nawhata Road. The urban functions have started gravitating towards the east because of the establishment of the university campus as well as the engineering college at Kazla, Motihar and Keogachhi mouza. The present trend appears to have eventually produced a satellite urban agglomeration around Kantakhali Bazar which is about seven miles off from the central business district (Shaheb Bazar-Rani Bazar).

The location of Rajshahi Sugar Mills at Harian, agricultural and horticultural farm, Rajshahi Jute Mills and BCSIR Laboratory between Kantakhali and Kazla and the potential growth of market place at Binodepur have already raised the land value in this area and set the stage for a speculated development. In the north along Nawhata Road, with the establishment of the Industrial Estate, Housing Estate, Polytechnic Institute, Stadium, Commercial Area of the Rajshahi Town Development Authority, Shah Mokhdum Residential Area, Uttara Automatic Rice Mills, Himalaya Coldstorage, Uttara Coldstorage etc. testifies a distinct pattern of urban expansion.

CHAPTER - 4

4. DEMOGRAPHIC CHARACTERISTICS

Demography is a term derived from the two Greek wards, 'demos', the people, and 'graphie', to draw or write. It is used now-a-days to denote the study by statistical methods of human populations, and deals primarily with their size and growth or diminution, with the numbers and proportions of persons living, being born or dying within some area or region with the measurement of related functions such as rates of fertility, mortality and marriage.[1] The term 'demography' was first used in a rational or scientific way by Guillard in 1855.[2]

Demography have been defined in a number of ways by the economists, geographers and social scientists. Obviously, some of the definitions are narrow in scope and some are very wide. Bogue defined demography as the mathematical and statistical study of the size, composition, and spatial distribution of human population and changes over time in these aspects through the operation of the five processes of fertility, mortality, marriage, migration and social mobility.[3] Hauser and Duncan defined demography as the study of the size, territorial

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[1] Cox, P.R. Demography, (3rd edition), The Syndics of the Cambridge University Press, Great Britain, 1959, p. 1.

[2] Raj, H. Fundamentals of Demography: Population Studies with special reference to India, Surjeet Publications, Delhi, 1978, p. 8.

[3] Bogue, D.J. Principles of Demography, John Wiley and Sons, Inc. New York, 1969, p. 1.

distribution, and composition of population, changes therein, and the components of such changes, which may be identified as natality, mortality, territorial movement and social mobility (change of status).[4]

From the above definitions, it appears that demography is a vast subject and is therefore very difficult to cover the whole range of its scope in the present study. Efforts have been made here to study the important features of the demographic characteristics in the study area including the size, density and distribution pattern of population, age-sex composition, pattern of migration, literacy, population growth and projection for the year 2000 A.D.

4.1 Size, density and distribution pattern

Table 4.1 presents the size, density and distribution pattern of population by municipal wards and suburban unions for 1961, 1974 and 1979. The population size, density and distribution for 1979 has been estimated[5] taking 1974 as base year population. It appears from the table that the density of population for Greater Rajshahi was 6.59 persons per acre in 1979 and it was 2.82 and 5.12 persons per acre in 1961 and

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[4] Hauser, P.M. and Duncan, O.D. The Study of Population: An Inventory and Apprisal, The University of Chicago Press, 1959, p. 30.

[5] U.N. Department of Economic and Social Affairs, Manual on Methods of Estimating Population No. VI, Population Studies No. 47, New York, 1970, p. 16.

1974 respectively. In the municipal area the density of population was 14.04, 23.26 and 28.47 persons per acre in 1961, 1974 and 1979 respectively. In the suburban area of Greater Rajshahi the density of population was 1.58, 3.21 and 4.41 persons per acre in 1961, 1974 and 1979 respectively. It is obvious from the table that the density of population is doubled within less than twenty years in the municipal area and almost three times in the suburban area of Greater Rajshahi.

From map 4.1 and table 4.1 it can be seen that the highest density is recorded in Ward IV followed by ward III and Ward VII in the municipal area which were 113.08, 101.54 and 93.06 persons per acre respectively in 1979 retaining their same hierarchical position of 1961 and 1974. In the suburban area the highest density of population was marked in Kazla union followed by Yusufpur and Haripur union. The density of population was 20.20, 13.19 and 8.78 persons per acre respectively in 1979. The density of population was recorded highest in Kazla union which was about six times more than the density of 1961. The lowest density of population was recorded in Damkura union in Greater Rajshahi which was only 1.78 persons per acre. The possible prime reason behind the highest growth of density of population per acre in Kazla union is because of in-migration of people from surrounding rural areas for employment opportunities since the union has been identified as a potential growth-pole.[6]

[6]Misra, R.P. 'Growth poles and growth centres in the context of India's urban and regional development problems' in Kuklinsk, A.R. (ed.) Growth Poles and Growth Centres in Regional Planning, The Hague, 1972, pp. 141-168.

Table 4.1

POPULATION SIZE, DENSITY AND DISTRIBUTION BY MUNICIPAL WARD AND SUBURBAN UNION OF GREATER RAJSHAHI FOR 1961,1974 & 1979

Municipal ward/union	Area in acre	Population size			Density per acre		
		1961	1974	1979*	1961	1974	1979
Municipal Area	4064	57067	94527	115702	14.04	23.26	28.47
I	508	5936	11068	14569	11.69	21.79	28.68
II	197	6845	10832	12956	34.75	54.98	65.77
III	109	5743	9197	11067	52.69	84.38	101.54
IV	95	6062	9173	10743	63.81	96.56	113.08
V	445	6946	12885	16763	15.61	28.96	37.67
VI	2161	9540	16610	20853	4.42	7.69	9.65
VII	127	6594	10056	11819	51.92	79.18	93.06
VIII	422	9401	14706	17492	22.28	34.85	41.45
Suburban Area	27834	44049	89378	122747	1.58	3.21	4.41
Paba	2330	4100	8310	11394	1.76	3.57	4.89
Sopura	3508	5532	12567	18592	1.58	3.58	5.30
Damkura	580	437	801	1032	0.75	1.38	1.78
Parila	2729	2937	5839	7914	1.08	2.14	2.90
Kazla	1067	3718	11406	21553	3.49	10.69	20.20
Haragram	3490	4236	7914	10330	1.21	2.27	2.96
Haripur	457	1975	3278	4012	4.32	7.17	8.78
Harian	4445	9056	17734	23825	2.04	3.99	5.36
Nawhata	6039	7560	13050	16305	1.25	2.16	2.70
Baragachhi	2810	2820	4925	6182	1.00	1.75	2.70
Yusufpur	380	1678	3554	5012	4.42	9.35	13.19
Greater Rajshahi	31899	101116	183905	210214	2.82	5.12	6.59

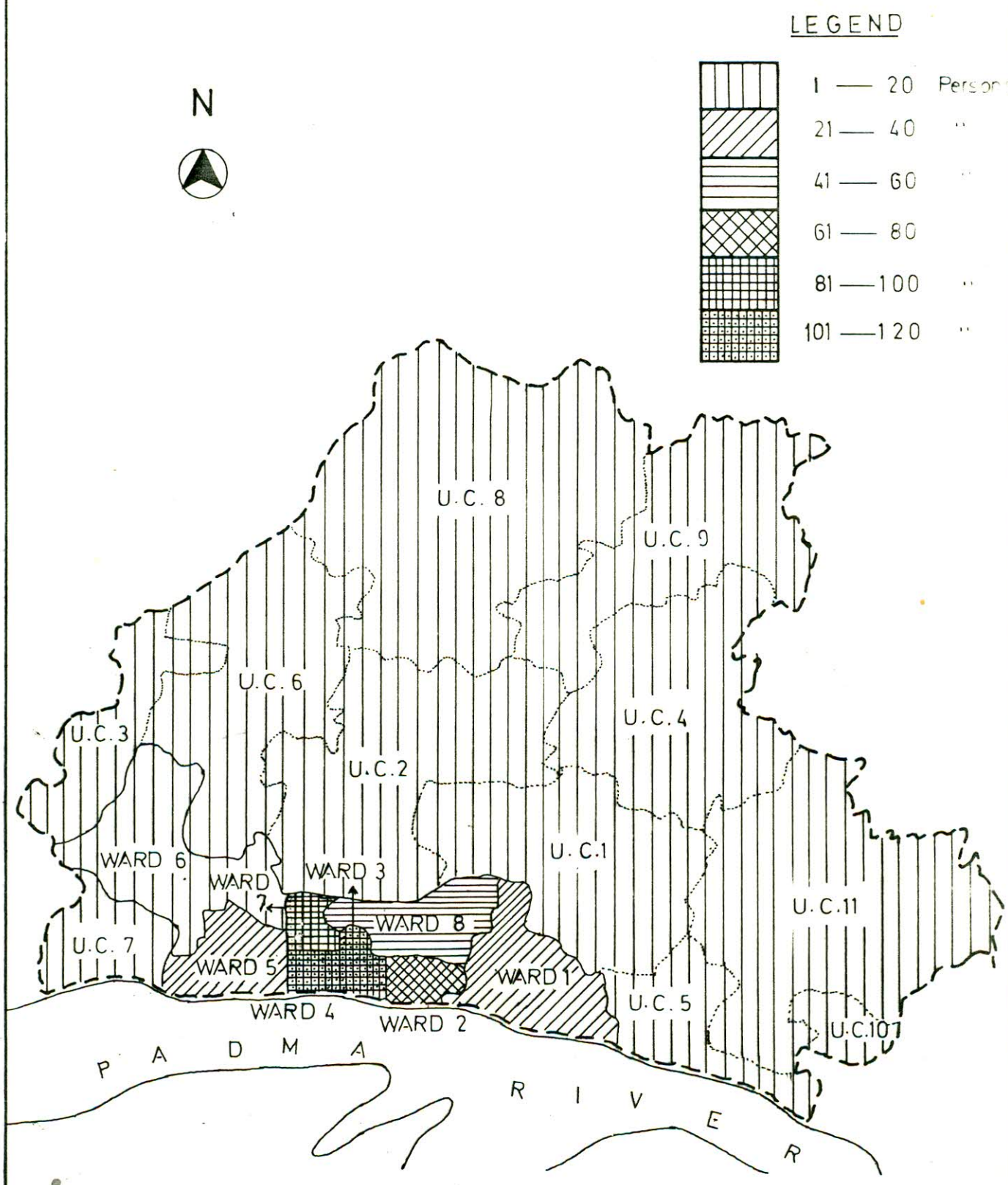
*Estimated population.

Source: Census Report, Rajshahi District, 1961
Village Population Statistics, Rajshahi District, 1974.

Note: Estimated population of 1979 has been calculated taking 1974 census population as base year population.

GREATER RAJSHAHI

DENSITY OF POPULATION (PER ACRE) 1979



MAP - 4.1

4.2 Age-sex composition

The age structure is an indication of the future pattern of population growth. It also indicates the degree of economic dependency of child and old age groups on the economically productive age groups.[7] An analysis of the sex-composition is of vital importance in the present study as it not only indicates the future population growth but also degree of urbanization. Usually, when urban communities reach an advanced stage of life cycle male-female ratio declines because of problems arising out of urbanization, like acute shortage of housing, rising cost of living and a host of other related problems.[8]

Table 4.2.1 sets out the information regarding the age-sex composition of the population in the conventional quinquennial age-groups (ending in zero and five) for the municipal area for 1961. For want of data on age structure, Table 4.2.2 provides information on only sex composition of suburban area for 1961. It appears from Table 4.2.1 that more than 46 per cent of the total population were of the age-group (0-14) years and 4.22 per cent were of the age-group more than 60 years in the municipal area in 1961. It is obvious from Table 4.2.6 that the dependency ratio[9] in 1961 in the municipal area was more than 100 per cent.

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[7] Sinha, B.N. op. cit., pp. 46-48.

[8] Ibid.

[9] Dependency ratio: $\frac{\text{Total population of age-group (0-14) yrs. plus population age 60 and above}}{\text{Total population of age-group (15-19) yrs.}}$

Table 4.2.1

1961 POPULATION AND PERCENT DISTRIBUTION BY 5-YEAR AGE GROUPS AND SEX OF RAJSHAHI MUNICIPALITY

5-year age-group	Male	Percentage	Female	Percentage	Total	Percentage
0-4	4595	14.66	4667	18.15	9242	16.20
5-9	5109	16.30	5100	19.82	10209	17.89
10-14	3611	11.52	3193	12.40	6804	11.92
15-19	2823	9.01	2177	8.46	5000	8.76
20-24	3166	10.10	2212	8.60	5378	9.42
25-29	2544	8.12	1941	7.55	4485	7.86
30-34	2315	7.38	1462	5.68	3777	6.62
35-39	1917	6.12	1089	4.23	3060	5.36
40-44	1457	4.65	1011	3.93	2468	4.32
45-49	974	3.11	647	2.52	1621	2.84
50-54	1075	3.43	693	2.69	1768	3.10
55-59	523	1.67	326	1.27	849	1.49
60 & above	1239	3.95	1167	4.54	2406	4.22
Total	31348	54.93	25719	45.07	57067	100.00

Source: Rajshahi District Census Report, 1961, pp. IV-32 to IV-33.

Table 4.2.2

1961 POPULATION AND PERCENT DISTRIBUTION BY SEX OF THE SUBURBAN AREA UNDER GREATER RAJSHAHI (UNIONWISE)

Name of the Union	Male	Percen-tage	Female	Percen-tage	Total population
Paba	2052	50.05	2048	49.95	4100
Sopura	2909	52.58	2623	47.42	5532
Damkura	228	52.17	209	47.83	437
Parila	1500	51.07	1437	48.93	2937
Kazla	1921	51.67	1797	48.33	3718
Haragram	2158	50.94	2078	49.06	4236
Haripur	1007	50.99	968	49.01	1975
Nawhata	3863	51.10	3697	48.90	7560
Baragachhi	1486	52.70	1334	47.30	2820
Yusufpur	484	50.54	830	49.46	1678
Harian	4652	51.37	4404	48.63	9056
Total	22619	51.35	21430	48.65	44049

Source: District Census Report, Rajshahi, 1961 pp. V-87 to V- 98 & V- 177.

Table 4.2.3 shows that more than 35 per cent of the total population were of the age-group (0-14) years and 3.74 per cent were of the age-group more than 60 years in the municipal area in 1979. There have been significant shifts in dependency ratio from more than 100 per cent to 64.91 per cent over 18 years i.e., during 1961 to 1979 in the municipal area. Table 4.2.2 shows that in 1979 there were 38.79 per cent of the total population in the age-group belonging to (0-14) years and 2.83 per cent were of the age-group more than 60 years in the suburban area. Table 4.2.6 shows that the dependency ratio was 71.02 per cent in 1979 in the suburban area of Greater Rajshahi. It therefore, becomes obvious that the dependency ratio in the suburban area is higher than that of the municipal area. The reasons behind the higher dependency ratio in the suburban area may be because of the facts of poor response to the family planning programme, lower literacy rate and other socio-economic conditions including income, standard of living etc. In Greater Rajshahi, the dependency ratio for 1979 was 68.03 per cent.

Figure 4.1 shows the age-sex population pyramid for the municipal area 1961, municipal area 1979, suburban area 1979 and Greater Rajshahi 1979. In 1979 the combined age pyramid has a large base of age-group (0-14) years which consists of 37.10 per cent in the municipal area, 39.51 per cent in the suburban area and 38.37 per cent for Greater Rajshahi when compared to the biologically reproductive age-group of only (15-29)

Table 4.2.3

1979 AGE-SEX COMPOSITION OF THE SAMPLE POPULATION
(Municipal Area)

Age group	Male	Percent	Female	Percent	Total	Percent
0-4	95	7.48	102	8.23	197	7.85
5-9	148	11.65	156	12.58	304	12.12
10-14	191	15.04	202	16.29	393	15.66
15-19	197	15.51	187	15.08	384	15.31
20-24	171	13.46	162	13.06	333	13.27
25-29	127	10.01	116	9.35	243	9.68
30-34	62	4.88	57	4.60	119	4.74
35-39	74	5.82	64	5.16	138	5.49
40-44	47	3.70	46	3.71	93	3.70
45-49	45	3.54	41	3.31	86	3.42
50-54	38	3.00	36	2.90	74	2.95
55-59	27	2.13	25	2.02	52	2.07
60 & above	48	3.78	46	3.71	94	3.74
Total	1270	100.00	1240	100.00	2510	100.00

Source: Field survey.

Table 4.2.4

1979 AGE-SEX COMPOSITION OF THE SAMPLE POPULATION
(Suburban Area)

Age group	Male	Percen-tage	Female	Percen-tage	Total	Percen-tage
0-4	133	9.66	141	10.49	274	10.07
5-9	190	13.79	201	14.96	391	14.36
10-14	199	14.45	189	14.06	388	14.26
15-19	212	15.38	203	15.11	415	15.25
20-24	177	12.84	171	12.80	348	12.78
25-29	129	9.36	123	9.14	252	9.26
30-34	77	5.59	73	5.44	150	5.52
35-39	72	5.22	68	5.06	140	5.15
40-44	40	2.90	38	2.83	78	2.87
45-49	44	3.19	40	2.96	84	3.09
50-54	37	2.69	34	2.53	71	2.61
55-59	28	2.03	25	1.86	53	1.95
60 & above	40	2.90	37	2.76	77	2.83
Total	1378	100.00	1343	100.00	2721	100.00

Source: Field survey.

Table 4.2.5

1979 AGE-SEX COMPOSITION OF THE SAMPLE POPULATION
(Greater Rajshahi)

Age-group	Male	Percen-tage	Female	Percen-tage	Total	Percen-tage
0-4	228	8.61	243	9.41	471	9.00
5-9	338	12.76	357	13.82	695	13.29
10-14	390	14.73	391	15.14	781	14.93
15-19	409	15.45	390	15.10	799	15.27
20-24	348	13.14	333	12.89	681	13.03
25-29	256	9.67	239	9.25	495	9.46
30-34	139	5.25	130	5.03	269	5.14
35-39	146	5.52	132	5.11	278	5.31
40-44	87	3.28	84	3.25	171	3.27
45-49	89	3.36	81	3.14	170	3.25
50-54	75	2.83	70	2.71	145	2.77
55-59	55	2.08	50	1.94	105	2.01
60 & above	88	3.32	83	3.21	171	3.27
Total	2648	100.00	2583	100.00	5231	100.00

Source: Field survey.

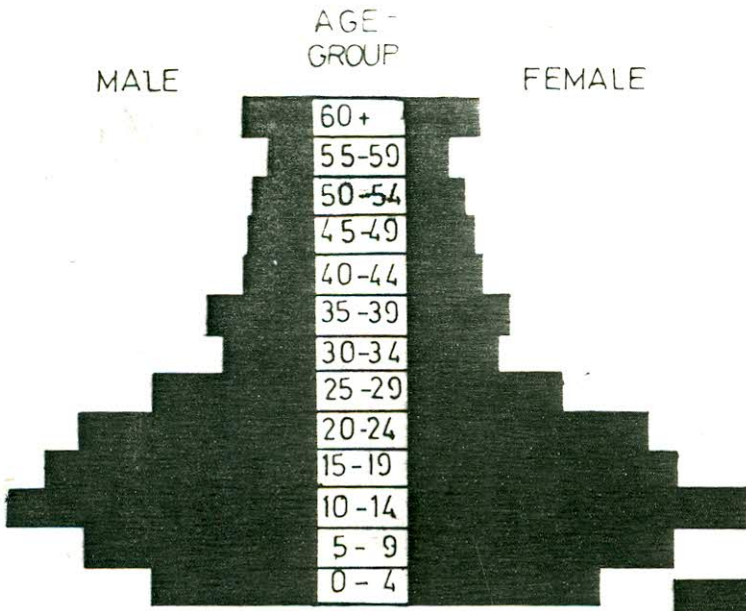
Table 4.2.6

SEX RATIO, DEPENDENCY RATIO AND CHILD-WOMAN RATIO OF THE MUNICIPAL AREA, SUBURBAN AREA AND GREATER RAJSHAHI FOR 1961 AND 1979

	Sex Ratio		Dependency Ratio		Child-Woman Ratio	
	1961	1979	1961	1979	1961	1979
Rajshahi Municipal Area	820	976	100.90	64.91	934	312
Suburban Area	947	974	-	71.02	-	405
Greater Rajshahi	874	975	-	68.03	-	360

1979-AGE-SEX COMPOSITION IN PERCENT

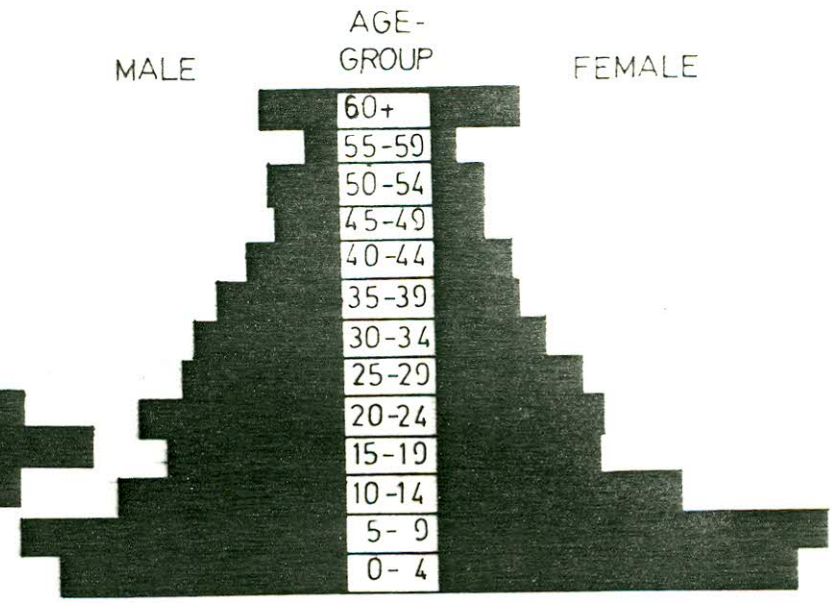
(RAJSHAHI MUNICIPALITY)



(A)

1961-AGE-SEX COMPOSITION IN PERCENT

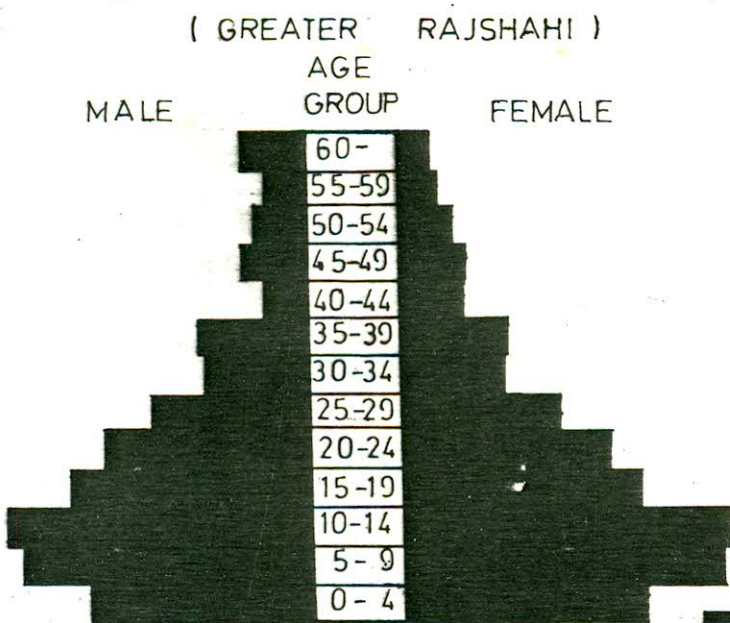
(RAJSHAHI MUNICIPALITY)



(B)

1979-AGE-SEX COMPOSITION IN PERCENT

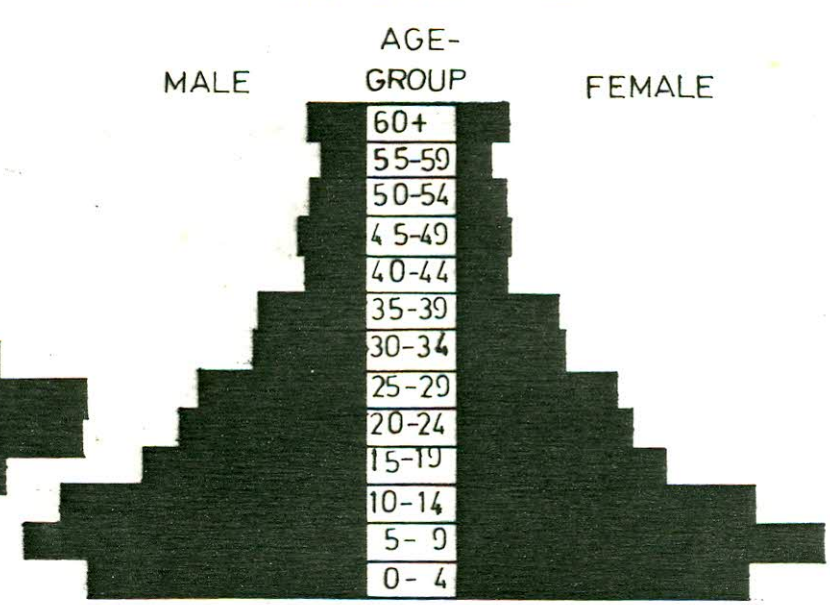
(GREATER RAJSHAHI)



(C)

1979-AGE-SEX COMPOSITION PERCENT

(SUB-URBAN AREA)



(D)

FIGURE = 4.1

years being 37.49 percent in the municipal area, 37.06 per cent in the suburban area and 37.24 per cent in Greater Rajshahi. From the above, it appears that reproduction will not be significantly slower in the next one and a half decades when the present child age-group (0-14) years will enter the biological reproduction age-group of (15-29) years in Greater Rajshahi.

Table 4.2.6 also provides information on sex ratio[10] and child-woman ratio[11] for the municipal area, suburban area and Greater Rajshahi. It is interesting to note that the sex ratio has increased in 1979 over 1961 for the municipal area, suburban area and also for Greater Rajshahi. It may therefore be said that Rajshahi has not yet reached an advanced stage of life cycle common to urbanized communities.[12]

The child-woman ratio for the municipal area has tremendously come down from 934 to only 312 in 1979 over 1961. In the suburban area, the child-woman ratio was 405 and in Greater Rajshahi it was 360 in 1979. The reason behind the decline in child-woman ratio may be because of growing women employment opportunity, literacy and the acceptance of the family planning programme.

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[10] Sex ratio: $\frac{\text{Total female}}{\text{Total male}} \times 1000.$

[11] Child-woman ratio: $\frac{\text{Total children of age-group(0-4) yrs.}}{\text{Total women of age-group(15-44) yrs.}} \times 1$

[12] Sinha, B.N. op. cit., p. 48.

4.3 Pattern of migration

Demographic characteristics of an area may significantly be changed by the pattern of migration of its inhabitants. Rural-urban migration is one of the principal features of urban studies.[13] Historically, rural areas have produced populations, and urban areas have consumed them. The growth of larger cities prior to the Industrial Revolution was probably due solely to in-migration.[14] However, there are no laws of migration. The migration of human beings not an instinctive action. It is generated by simple or single impulse that may vary in intensity only from one person to another. The population of the Indian region is characteristically immobile in comparison to many other peoples. The rural-urban movement, strong enough to expand towns and cities, therefore, stands out as peculiar, and it could have been produced only by powerful factors.[15]

In Rajshahi, because of the fertility of the soil, people are not driven by necessity to seek occupation elsewhere. Even the high wages in the town and industries do not normally

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[13] Sinha, B.N. op. cit., p. 63.

[14] Thompson, W.S. and Lewis, D.T., Population Problems McGraw-Hill Series in Sociology, McGraw-Hill Book Company, (5th edition), New York, 1965, p. 149.

[15] Davis, K., The Population of India and Pakistan, Princeton University Press, New Jersey, 1951, p. 135.

attract them as long as the land will support them.[16] Though not very significant, still there was migration in the past and still there is migration in Rajshahi. The reasons behind migration spring from economic, social, political, medical and psychological aspects of life.[17] An evaluation of the forces shaping migration can be attempted in terms of "push" and "pull" factors from the limited data available on the social condition, demographic composition and economic aspirations of the migrants.[18] This "push-pull" theory is an abstraction which is made in order to classify the specific forces at work.[19] In each case of migration, several variables of both types may be operating and interacting, so that the move can not be attributed wholly either to "push" or to "pull" factors alone.[20]

Among the most important "push" factors, the incentives to leave rural areas, are population pressure on land. Other major "push" factors that force migrants out of rural areas are generally poverty, unemployment or under-employment, and lack of family cohesion. The most important "pull" factors of

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[16] District Census Report, Rajshahi, 1961, op. cit.,p. 1-21.

[17] Bogue, D.J., 'Internal Migration' in Hauser, P.M. and Duncun, O.D. (eds.), op. cit., p. 499.

[18] Kondracki, G. and Shah, J.P. 'Population Trends in the ECAFE region' in Planning for Urban and Regional Development in Asia and the Far East, United Nations, New York, 1971, p. 35.

[19] Bogue, D.J. Principles of Demography, John Wiley and Sons, Inc., New York, 1969, p. 753.

[20] Ibid.

migration in urban areas is the employment opportunity. Other major "pull" factors that attract people to migrate in urban areas are generally the opportunity to earn more, educational facilities, preferable environment and living condition, marriage and lure of cultural, intellectual and recreational activities. Besides these "push" and "pull" factors, the strategic location of Rajshahi on the international border of India and Bangladesh played an important role in the international migration in Rajshahi. Because of its importance from administrative and academic point of view, this divisional administrative town also attracted a large number of people from different parts of the country to migrate in Rajshahi. More recently the town is having more and more intricate linkage with the up-to-date national and regional socio-economic affairs at different levels.

Table 4.3.1 provides information on the previous residence of the sample population of 1979 by municipal wards and suburban unions of Greater Rajshahi. It appears from the table that in the municipal area more than 37 per cent of the population were living in villages before coming to this town; while more than 62 per cent of the population of the suburban area were living in villages before their coming here. The data presented in the table actually show the pattern of rural-urban migration. It can also be seen that 73.63 per cent of the inhabitants of Greater Rajshahi were previously living in

Table 4.3.1

1979 PREVIOUS RESIDENCE OF POPULATION BY MUNICIPAL WARDS AND SUBURBAN UNIONS

Municipal wards/ Suburban union	Previous residence			
	Village		Town	
	Frequency	Percentage	Frequency	Percentage
Rajshahi Municipality	221	37.52	204	96.68
I	17	2.89	33	15.64
II	28	4.75	22	10.43
III	11	1.87	39	18.48
IV	19	3.23	31	14.69
V	36	6.11	14	6.64
VI	41	6.96	34	16.11
VII	31	5.26	19	9.00
VIII	38	6.45	12	5.69
Suburban area	368	62.48	7	3.32
Paba Union	50	8.49	0	0
Sopura Union	48	8.15	2	0.95
Damkura	5	0.85	0	0
Parila	25	4.24	0	0
Kazla	50	8.49	0	0
Haragram	44	7.47	1	0.47
Nawhata	50	8.49	0	0
Haripur	15	2.55	0	0
Baragachhi	23	3.90	2	0.95
Harian	48	8.15	2	0.95
Yusufpur	10	1.70	0	0
Total	589	100.00	211	100.00

Source: Field survey.

the rural areas of different parts of the country; while only 26.37 per cent of the total inhabitants had, in fact, their homes in towns or cities. In the municipal area, 52.00 per cent of its inhabitants have come from different rural areas and 48.00 per cent are from towns or cities. In the suburban area, 98.13 per cent of the total population are from rural areas and only 1.87 per cent from towns or cities. Thus it becomes obvious that urban to urban migration in Greater Rajshahi is 26.30 per cent, urban to rural migration is 0.88 per cent which is low but very usual and rural to urban migration is 27.63 per cent. This means that rural to urban migration is much higher than that of urban to rural areas. This is a sign of unusual population increase due to migration. This situation may lead to the emergence of many urban problems.

The reason behind a small percentage of urban to rural migration may be explained as the people once acquainted with the amenities of urban life they usually do not want to go back to the rural areas. Because the amenities that are available in urban areas are not available in the rural areas. A large number of respondents who are found to be permanently settled in urban areas leaving their former ancestral home in rural areas are supposedly either for assuming a new job or for employment or for the general tendency for living in the town where relatively modern amenities of life are available; and the life and property are more secured. This happens particularly to the well-to-do citizen.

Table 4.3.2 shows the distribution of sample population by their country, and district of origin by municipal wards and suburban union of Greater Rajshahi. It appears from the table that in the municipal area 26.35 per cent have migrated from outside Bangladesh. 15.30 per cent and 6.67 per cent population have migrated from outside Rajshahi district in the municipal area and suburban area respectively. In Greater Rajshahi 20.88 per cent of the total population have migrated from outside Bangladesh, and only 11.25 per cent from outside Rajshahi district. 67.88 per cent of the total population is covered by the people of Rajshahi district. Of the total migrants 67.07 per cent are living in the municipal area and the rest in the suburban area.

A more close look to the settlement pattern of the migrants from outside Bangladesh reveals that out of the total migrants 40 per cent and 34 per cent have settled in the Ward VIII in the municipal area and Kazla union in the suburban area respectively. The reason behind this is that, before the partition of the Indian subcontinent in 1947, in Ward VIII of the municipal area, most of the upper class Hindus lived there. After the partition, they mutually exchanged their residential buildings and other immovable properties with the Muslims who have migrated from bordering districts of India particularly from the districts of Murshidabad and Maldah. Kazla union being not very far away from the existing township, near to the

Table 4.3.2

1979 DISTRIBUTION OF SAMPLE POPULATION BY THEIR COUNTRY AND DISTRICT OF ORIGIN BY MUNICIPAL WARD AND SUBURBAN UNION

Municipal ward/Union	Total sample	Outside Bangladesh	Percentage	Outside Rajshahi	Percentage	Rajshahi District	Percentage
Municipal area	425	112	26.35	65	15.30	248	58.35
I	50	4	8.00	5	10.00	41	82.00
II	50	15	30.00	12	24.00	23	46.00
III	50	15	30.00	7	14.00	28	56.00
IV	50	9	18.00	9	18.00	32	64.00
V	50	8	16.00	6	12.00	36	72.00
VI	75	29	38.67	7	9.33	39	52.00
VII	50	12	24.00	10	20.00	28	56.00
VIII	50	20	40.00	9	18.00	21	42.00
Suburban area	375	55	14.67	25	6.67	295	78.66
Paba	50	7	14.00	8	16.00	35	70.00
Sopura	50	7	14.00	7	14.00	36	72.00
Damkura	05	0	0	0	0	10	100.00
Parila	25	7	28.00	2	8.00	16	64.0
Kazla	50	17	34.00	7	14.00	26	52.0
Haragram	45	7	15.56	0	0	38	84.4
Haripur	15	3	20.00	0	0	12	80.0
Nawhata	50	4	8.00	1	2.00	45	90.0
Baragachhi	25	2	8.00	0	0	23	92.0
Harian	50	1	2.00	0	0	49	98.0
Yusufpur	10	0	0	0	0	10	100.0
Total	800	167	20.88	90	11.25	543	67.8

Source: Field survey.

university campus and the availability of comparatively cheaper land have attracted the migratory people to settle there.

The high percentage of migrants from outside Bangladesh to Greater Rajshahi is primarily caused by its strategic location on the international border of India and Bangladesh. Its status as a divisional administrative headquarters and importance as a seat of higher education have also attracted the migratory people to settle in Rajshahi from outside Bangladesh at the time of partition of India in 1947.

Table 4.3.3 shows the reasons of migration of the sample population in percentage. Of the total respondents 24.63 per cent either did not respond because they do not know why they live here or are living here as it is their ancestral home. However, it appears that majority of the respondents have migrated and finally settled in Greater Rajshahi because of employment or for economic reasons. 20.88 per cent have migrated because of the partition of India, and only 14.13 per cent for educational facilities in the area. In the municipal area, 26.35 per cent for the partition of India, 16.47 per cent for educational facilities and 39.06 per cent for economic reasons or for employment, the migration took place. In the suburban areas the migration took place for the partition of India is 14.67 per cent, for educational facilities 11.47 per cent and for employment opportunities 41.87 per cent.

Table 4.3.3

1979 DISTRIBUTION OF SAMPLE POPULATION IN PERCENT BY MUNICIPAL WARD AND SUBURBAN UNION ON THE REASONS FOR COMING AND LIVING IN THE STUDY AREA

Municipal ward/Union	Total sample	For partition of India	For education	For employment	Ancestral home or no response
Municipal area	425	26.35	16.47	39.06	18.18
I	50	8.00	34.00	46.00	12.00
II	50	30.00	16.00	38.00	16.00
III	50	30.00	12.00	48.00	10.00
IV	50	18.00	14.00	32.00	36.00
V	50	16.00	24.00	44.00	16.00
VI	75	38.67	14.67	33.33	13.33
VII	50	24.00	8.00	40.00	28.00
VIII	50	40.00	10.00	34.00	16.00
Suburban area	375	14.67	11.47	41.87	31.99
Paba	50	14.00	12.00	54.00	20.00
Sopura	50	14.00	26.00	30.00	30.00
Damkura	05	0	0	0	100.00
Parila	25	28.00	0	0	72.00
Kazla	50	34.00	12.00	40.00	14.00
Haragram	45	15.56	24.44	51.11	8.89
Haripur	15	20.00	0	0	80.00
Nawhata	50	8.00	8.00	66.00	18.00
Baragachhi	50	2.00	4.00	72.00	22.00
Yusufpur	10	0	0	0	100.00
Total	800	20.88	14.13	40.38	24.63

Source: Field survey.

It is interesting to note that out of the total respondents 14.13 per cent have migrated in Greater Rajshahi for reasons of education. It is to be sure, that including the University of Rajshahi there are a good number of higher educational institutions both technical and general. Migration in the suburban area is also fairly high and is 41.87 per cent. This is because of the establishment of some major industries like Rajshahi Textile Mills, Jute Mills and Sugar Mills located in the periphery of the municipal boundary.

4.4 Literacy

Literacy is an important index to study the pattern of urbanization of a region or country. Centres having population characterised by high literacy rate are sometimes defined as an urban area.[21] Again, literacy plays a dominant role in the growth rate of population in a country.[22] Therefore, literacy is an important factor in analysing the demographic characteristics of an area.

Persons having "ability to read and write" have been defined as literates.[23] The ability to write a letter in any language naturally includes the abilities to read with understanding the same language.[24] In the present study this definition

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[21] Chaudhury, R.H., op. cit., p. 3.
[22] Thompson, W.S. and Lewis, D.T., op. cit., pp. 553-555.
[23] District Census Report - Rajshahi, 1961, op. cit., p. v-ii.
[24] Ibid.

of literacy have been used. Efforts have also been made to collect information on the pattern of literacy by municipal wards and suburban unions of Greater Rajshahi.

In the municipal area, the total population was 57,067 in 1961 and out of which 23423 were literates. The percentage of literacy was 41.19. Male literacy was 52.00 per cent, while female literacy was 30.00 per cent. Ratio of effective literacy was rather small.[25] Of the literate persons, 39 per cent received education upto the primary stage, 34.5 per cent upto the middle school stage, while 7.00 per cent were but having passed no grades at all. Only 17.00 per cent were matriculates and 2.5 per cent degree holders. Among the males 244 persons hold certificates and 220 had degrees. The number of such persons among the females was 32 and 19 respectively.[26]

Table 4.4.1 shows the distribution of population by literacy by municipal wards and suburban unions of Greater Rajshahi. It appears from the table that the percentage of literacy has increased from 41.19 in 1961 to 42.68 in 1974. It means over a period of 13 years the rate of increase in literacy was only 1.49 per cent. In the suburban area the literacy was 12.77 per cent in 1961 and it increased to 17.59 per cent in 1974. It means that 4.82 per cent literacy has increased in the suburban area over 13 years. In Greater Rajshahi, the literacy

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[25] District Census Report - Rajshahi, 1961, op. cit.,p.1-31.
[26] Ibid.

Table 4.4.1

DISTRIBUTION OF POPULATION BY LITERACY BY MUNICIPAL WARD AND SUBURBAN UNION AND THEIR VARIATION IN PERCENT OVER 1961-1974

Municipal ward/union	Literacy in % 1961	Literacy in % 1974	Variation of total population 1961-74	Variation in literacy in % 1961-74
Rajshahi Municipality	41.19	42.68	65.64	44.95
I	30.04	27.24	86.46	24.00
II	53.28	46.94	58.25	36.04
III	57.80	53.60	60.14	46.64
IV	46.93	49.95	51.32	55.83
V	39.00	46.77	85.50	55.85
VI	23.77	35.69	74.11	51.77
VII	44.84	32.48	52.50	8.93
VIII	42.34	51.10	56.43	66.64
Suburban area	12.77	17.59	102.91	22.26
Paba	15.29	17.04	102.68	18.74
Sopura	15.76	23.97	127.17	30.42
Damkura	11.53	15.61	130.84	18.72
Haripur	11.90	9.09	65.97	4.83
Haragram	6.02	11.27	86.83	17.32
Nawhata	9.74	20.45	72.62	35.23
Baragachhi	13.21	11.89	80.82	10.26
Parila	10.55	9.49	91.85	8.34
Kazla	23.10	18.83	206.78	16.27
Harian	11.66	18.57	95.83	25.78
Yusufpur	16.21	12.32	111.80	24.52
Total	28.81	30.49	81.88	32.53

Source: Census Report, Rajshahi District, 1961 and Village Population Statistics, Rajshahi District, 1974.

was 28.81 per cent in 1961 and it rose to 30.49 per cent in 1974. Therefore, it becomes obvious that the overall increase in literacy rate was only 1.68 per cent during this period in Greater Rajshahi.

When the variation in total population is considered against the variation in literacy for the period 1961 to 1974, it would be seen that the variation is very high and it is always less than the rate of population growth throughout Greater Rajshahi. In the municipal area the variation in total population was 65.64 per cent; while the variation in literacy was only 44.95 per cent. In the suburban area the variation in literacy was only 44.95 per cent. In the suburban area the variation in population growth was 102 per cent against the literacy of 22.26 per cent. The variation in total population in Greater Rajshahi during the period 1961 to 1974 was 81.88 per cent against the variation in literacy of only 32.53 per cent. Of course, it does not necessarily mean that the literacy rate is declining. Since the total population growth also include the population aged 0-5 years but is not counted in calculating the literacy rate this happens statistically.

Table 4.4.2 provides information on the population aged 5 years and above by municipal ward and suburban union classified by literacy and sex. It appears from the table that the literacy rate in municipal area for the sample population was

Table 4.4.2

1979 DISTRIBUTION OF POPULATION (AGED 5 YEARS AND ABOVE) BY MUNICIPAL WARD AND SUBURBAN UNION CLASSIFIED BY LITERACY AND SEX

Municipal Ward/Union	Total		%	Total		%	Total		%
	Popn.	Lite-rate		Male	Lite-rate		Fe-male	Lite-rate	
Rajshahi Municipality	2279	1497	65.69	1223	847	69.25	1056	650	61.5
I	249	156	62.65	126	86	68.25	123	70	56.4
II	239	153	64.20	137	93	67.88	102	60	58.8
III	231	156	67.53	121	87	71.90	110	69	62.7
IV	210	121	60.00	116	75	64.66	94	51	54.2
V	360	244	67.78	201	141	70.15	159	103	64.7
VI	413	277	67.07	218	151	69.27	195	126	64.6
VII	188	131	69.68	106	80	75.47	82	51	62.2
VIII	389	254	65.29	198	134	67.68	191	120	62.8
Suburban area	2327	942	40.48	1264	546	43.20	1063	396	37.2
Paba	138	56	40.58	77	34	44.16	61	22	36.0
Sopura	416	204	49.04	219	112	51.14	197	92	46.7
Damkura	31	6	19.35	17	3	17.65	14	3	21.4
Parila	136	25	18.38	19	17	21.52	57	8	14.0
Kazla	397	166	41.81	208	92	44.23	189	74	39.1
Haragram	328	154	46.94	174	87	50.00	154	67	43.5
Haripur	73	20	27.40	44	14	31.82	29	6	20.6
Nawhata	224	68	30.36	116	40	34.48	108	28	25.9
Baragachhi	79	29	36.71	43	19	44.19	36	10	27.7
Harian	462	197	42.64	259	116	44.79	203	81	39.9
Yusufpur	43	17	39.53	28	12	42.86	15	5	33.3
Total	4606	2439	52.95	2487	1393	56.01	2119	1046	49.3

Source: Field survey.

65.69 per cent in 1979. In the suburban area and in Greater Rajshahi it was 40.48 per cent and 52.95 per cent respectively. But when considered by sex, the literacy rate for male is always higher that the female. The male literacy rate for the municipal area was 69.25 per cent, for suburban area it was 43.20 per cent and for Greater Rajshahi, it was 56.01 per cent. The female literacy rate for the municipal area was 61.55 per cent, for suburban area it was 37.25 per cent and for Greater Rajshahi, it was 49.36 per cent in 1979.

It appears from Table 4.4.1 and Table 4.4.2 that the trend of literacy rate is quite high in 1979 being 52.95 per cent in Greater Rajshahi. It also appears that the highest percentage in population variation was marked in Kazla union which was 206.78 per cent followed by Damkura union and Sopura union which were 130.84 per cent and 127.17 per cent respectively in the suburban area during the period 1961 to 1974 against the variation in literacy of 16.27 per cent, 18.72 per cent and 30.42 per cent respectively. In the municipal area the highest percentage in total population variation occured in Ward I which was 86.46 per cent followed by Ward V and Ward VI which were 85.50 per cent and 74.11 per cent respectively against the variation in literacy of 24.00 per cent, 55.85 per cent and 51.77 per cent respectively during the same period. The lowest variation in total population was occured in Ward IV in the municipal area and Haripur union in the suburban area; while

the lowest literacy variation occured in Ward VII in the municipal area and Haripur union in the suburban area of Greater Rajshahi.

4.5 Population growth and population projection

Population growth and its projection for the future is one of the important aspects in analysing the demographic characteristics of any defined area. The history of population projections is, on the whole, a history of failure.[27] But it does not mean that it is useless.[28] It is very important that population studies should be made more meaningful and result-oriented. In case these are not done, there is every possibility that the planners and administrators might not become quite conscious of the magnitude of the problems. Efforts have been made here to describe the casual relationship of the trend of population growth and its effect.

Table 4.5.1 shows the average growth rate, base year population of 1974, estimated population for 1979 and projected population for 1985, 1990 and 2000 A.D. by municipal ward and suburban union of Greater Rajshahi. It appears from the table that the average growth rate in the municipal area was 5.05 per cent per year during the period 1961 to 1974, in the suburban area it was 7.92 per cent and for Greater Rajshahi it

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[27] Bose, A., op. cit., p. 128.
[28] Petersen, W., op. cit., p. 272.

Table 4.5.1

POPULATION PROJECTION

Municipal Ward/Union	Base year popn. 1974	Growth rate 1961-74	Estimated popn. 1979	Projected population 1985	1990	2000
Rajshahi municipality	94527	5.05	115686	156629	201619	334079
I	11068	6.65	14568	19723	25388	42067
II	10832	4.48	12957	17542	22580	37414
III	9197	4.63	11068	14985	19289	31916
IV	9173	3.95	10743	14545	18722	31022
V	12885	6.58	16764	22694	29216	48410
VI	16610	5.70	20863	28246	36359	60246
VII	10056	4.04	11819	16001	20597	34128
VIII	14706	4.34	17493	23684	30486	50514
Suburban area	89378	7.92	122691	197328	293203	647335
Paba	8310	7.90	11398	18331	27237	60134
Sopura	12567	9.78	18583	29887	44408	98044
Damkura	801	6.41	1035	1664	2472	5457
Parila	5839	7.60	7913	12726	18909	41747
Kazla	11406	15.91	21553	34664	15106	113715
Haragram	7914	6.68	10338	16626	24704	54541
Haripur	2378	5.07	4014	6455	9591	21175
Harian	17734	7.37	23814	38300	56908	125641
Nawhata	13050	5.59	16319	26246	38998	86100
Baragachhi	4925	5.74	6136	9868	14662	23370
Yusufpur	3554	8.60	5013	8062	11879	26447
Total	183905	6.29	238377	353957	494822	981414

Note: Population for 1979 has been estimated on the basis of growth rate during 1961-74 for each municipal ward and suburban union.

Projection of population was made for municipal wards using average growth rate 5.05% and for suburban union 7.92%. In both the situation, 1974 population was considered as base year population. The common formula used for the purpose was:

$$P_t = P_o e^{rn}$$

Where, P_t : Population of the current year
P_o : Population of the base year
e : Constant
r : Rate of growth
n : No. of years between the base year and current yea

was 6.29 per cent per year for the same period. Aparently, the rate of growth seems to be high in comparison with the average rate of growth of population in Bangladesh which was 2.8 per cent per year during the same period of time. But when it is compared with the growth rate of only urban population of Bangladesh, it would be seen that the rate of growth was lower. The percentage of urban population in Bangladesh has increased from 5.19 per cent in 1961 to 8.78 per cent in 1974.[29]

The most important reason behind this is the lack of employment opportunity. It is sure that the town has a weak economic base and activity because of the fact that the town could not as yet, flourish potentially with an industrial and commercial base which can generate sufficient employment opportunity. The other reasons include the poor transportation and communication network with the other parts of the country, comparatively hot weather in the dry season etc.

The average population growth that has been shown in the table has been calculated on the basis of population variation between 1961 and 1974 available from the census report. It is obvious from the table that the average growth in the municipal area ranges from 3.95 per cent to 6.65 per cent. In the suburban area, the growth rate was between 5.07 per cent to 15.91 percent. Therefore, it can be ascertained that the growth rate

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[29] 1974 Census Report, National Volume, op. cit., p. 14.

in the suburban area of Greater Rajshahi was much higher than that in the municipal area. The highest growth rate i.e. 6.65 per cent was in Ward I of the municipal area and the lowest rate i.e., 3.95 per cent was found in Ward IV. In the suburban area, the highest growth rate i.e., 15.91 per cent was found in Kazla union; while the lowest growth rate i.e., 5.07 per cent was recorded in Haripur union.

The lower rate of population growth in the municipal area may be justified on the grounds of non-availability of further space, lack in employment opportunity, higher rate of literacy and last but not the least, the better response to the family planning programmes. The higher rate of population growth in the suburban area may be because of the availability of space for new settlement, illiteracy and poor response to the family planning programmes and also for less female employment opportunity. The highest growth rate in Kazla union may also be justified for its potentiality as a growth pole which is again justified with the existence of the educational institutions like the University of Rajshahi and the Engineering College and a growing daily market at Binodepur of the same union.

Table 4.5.1 also shows the estimated population by municipal ward and suburban uion. The population has been estimated on the basis of the growth rate for each ward and union as has been found over 1961 and 1974. But the population has been

projected on the basis of average growth rate for municipal and suburban area.

It appears that there were 2,38,377 people in Greater Rajshahi as has been estimated in 1979 and of whom 1,15,686 were in the municipal area and the rest 1,22,691 were in the suburban area. The projected population shows that there will be 3,53,957 people in Greater Rajshahi by 1985 if the growth rate of population of 5.05 per cent for the municipal area and 7.92 per cent for the suburban area are considered. It further appears that there will be 3,34,079 population in the municipal area, 6,47,335 population in the suburban area and a total of 9,81,414 population in Greater Rajshahi in the year 2000 A.D. if the rate of growth remain the same. The population has been projected considering the same rate of growth since the prevailing trend of population growth in Rajshahi do not demand for consideration of any higher but prevailing rate.

Table 4.5.2 shows the urban population growth of Rajshahi municipality since 1872 and inter censal variation with a comparison to Bangladesh. It appears from the table and Fig.4.2 that except in 1881 and 1951 there has been a steady growth in urban population in Rajshahi municipality. An unusual growth occured during the period 1931-41 which was 50.6 per cent and for which no adequate explanation can be offered but that as the census was taken at a time of great communal competition for

Table 4.5.2

URBAN POPULATION GROWTH OF RAJSHAHI MUNICIPALITY AND BANGLADESH

Census Year	Rajshahi Municipality			Bangladesh		
	Total popn.	Inter censal increase	Variation in %	Total popn.	Inter censal increase	Variation in %
1872	22291					
1881	19228	-3063	13.7			
1891	21407	2179	10.8			
1901	21589	182	0.85	702000		
1911	23406	1817	8.4	807000	105000	14.96
1921	24598	1192	5.0	878000	71000	8.80
1931	27045	2448	10.0	1076000	198000	22.55
1941	40778	13732	50.6	1537000	461000	42.85
1951	39993	-1116	2.7	1820000	283000	18.41
1961	56885	17223	43.4	2641000	821000	45.11
1974	132909	39760	133.7	6274000	3623000	137.56

Source: Census of Pakistan, 1961, Vol. 2.
Bangladesh Population Census, 1974, Bul. 2.
District Census Office, Rajshahi.

GRAPH SHOWING CENSUS AND PROJECTED POPULATION OF RAJSHAHI MUNICIPALITY, SUBURBAN UNION AND GREATER RAJSHAHI.

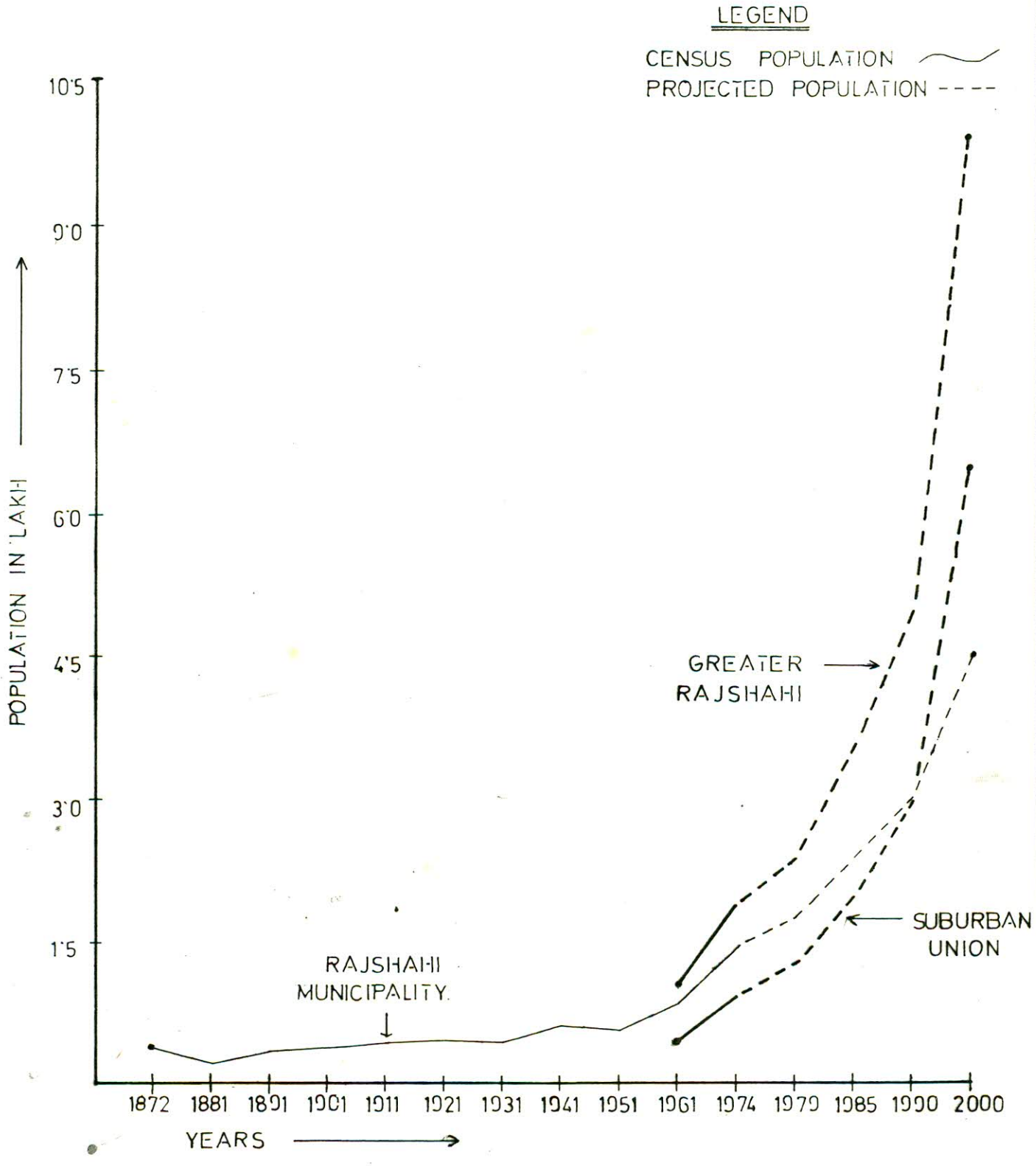

FIGURE - 4.2

numerical strength, the count might have been exaggerated.[30] Migration of people from Calcutta due to World War II might also be partly responsible for the increase. It also appears from the table that the percentage of variation in urban population was always less than the national variation in Rajshahi town except in 1941.

After the partition of India, in 1951, the total population of Rajshahi municipality was 39,993 and that rose to 56,885 in 1961, registering an absolute increase of 35,296 persons. This was certainly a striking increase. The growth of Rajshahi town during 1950's was responsible for the shifting of new divisional headquarters, establishment of such institutions as the University of Rajshahi, the Medical College, etc., the Radio Centre, and a large immigrant settlers from the bordering districts of India. The tempo was not maintained in the next decade. During the period 1961 to 1974, Rajshahi town recorded a growth of 133.70 per cent which was nearly equal to the national rate of urban population growth being 137.56 per cent.

Table 4.5.3 shows the phenomenal increase that led the town of Rajshahi to acquire the seventh position among the eightysix urban agglomeration of Bangladesh in 1961, and eventually the first position among the district municipal towns of North-Bangladesh.

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[30] Siddique, A. (ed.), op. cit., pp. 47-49.

Table 4.5.3

DECENNIAL CHANGES IN POPULATION OF THE DISTRICT MUNICIPAL TOWNS OF NORTH-BANGLADESH

Towns	1901	1911	1921	1931	1941	1951	1961
Bogra	1094	9113	12322	14819	21681	25303	33784
Dinajpur	13430	15946	18025	19150	28190	33687	37711
Pabna	18424	19274	19343	219043	32299	32240	40792
Rangpur	15960	16429	19076	20749	34039	31759	40634
Rajshahi	21589	23406	24598	27040	40778	39993	56885

Source: Census of Pakistan, 1961, Vol. 2.
Bangladesh Population Census, 1974, Bul. 2.

Table 4.5.4

10 MAJOR URBAN CENTRES OF BANGLADESH BY SIZE AND RANK 1961 AND 1974

Urban centre	1961		1974		Variation over 1961	
	Size	Rank	Size	Rank	Number	Percentage
Dacca city	521034	1	1679572	1	1158538	222.4
Chittagong	364202	2	889760	2	525555	144.3
Khulna	127970	4	437304	3	309334	241.7
Narayanganj	162054	3	270680	4	108626	67.0
Mymensingh	53256	9	182153	5	128897	242.0
Rajshahi	56885	7	132909	6	76024	133.7
Barisal	69936	5	98127	7	28191	40.3
Saidpur	60628	6	90132	8	29504	48.7
Comilla	54504	8	86446	9	31942	58.6
Jessore	39304	14	76168	10	36864	93.8

Source: Bangladesh Population Census Report, 1974, National Vol., p. 15.

Table 4.5.4 shows the ten major urban centres of Bangladesh by size and rank for 1961 and 1974. It appears that the rank of Dacca and Chittagong remained the same as of 1961 in 1974. Rajshahi ranked above Mymensingh in 1961 but within 13 years the town of Mymensingh has achieved higher position in rank and size to Rajshahi. This happened because of the variation in the growth of population during this period. The percentage of variation of population in this period for Mymensingh was 242.00 percent; while for Rajshahi it was only 133.70 per cent.

CHAPTER - 5

5. FAMILY, INCOME AND CONSUMPTION PATTERN

The object of the present chapter is to assess the standard of living of the population in Rajshahi town. The standard of living is a function of two factors: the total income of the family and its expenditure liability.[1] Total income of the family and its consumption pattern depends on the family typology and the size of the family. Therefore, data has been presented here on the family typology, family size, total income of the family classified according to different major sectors of employment and consumption pattern by municipal ward and suburban union of Greater Rajshahi.

5.1 Family typology and family size

Types of family and size of the family are important features in the study of socio-economic characteristics of an area. The family is the oldest of human social institutions.[2] There are various types of families. In the present study the major two types of families has been considered: nuclear or elementary family and joint or extended family. These nuclear and extended families are either matriarchal or patriarchal or democratic according to geneological kinship ties and social

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[1] Gadgil, D.R., Sholapur City: Socio-Economic Studies, Gokhale Institute Studies No. 46, Gokhale Institute of Politics and Economics, Poona, 1965, p. 221.

[2] Lynton, R. 'The Natural History of the family' in Anshen, R.N. (ed.) The Family: Its Function and Destiny, Harper & Bros., New York, 1949,

custom and legal basis of the society in question.[3] The generally acknowledged meaning of nuclear or elementary family is a group composed of a man, his wife and their children. This is in fact a geneological model.[4] Joint family or extended family means two or more elementary or nuclear families joined together.[5] Family size means the number of members in a family.

Table 5.1.1 sets out the family typology by municipal ward and suburban union of Greater Rajshahi. It appears from the table that there were 29.18 per cent extended families and 70.82 per cent nuclear families in the municipal area; while in the suburban area there were 46.67 per cent extended families and 53.33 per cent nuclear families. In Greater Rajshahi, the percentage of extended families were 37.38 per cent and nuclear families were 62.62 per cent. The fact that revealed from this table is quite normal. Because of social hetrogenity, generally, in the urban areas, the percentage of nuclear families are higher than that of suburban areas.

Table 5.1.2 shows the distribution of family size by municipal ward and suburban union for 1961, 1974 and 1979. It appears from the table that the average family size in the

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[3]Khan, F.R., 1969, op. cit., pp. 171-210.
[4]Shah, A.M., op. cit., pp. 107-108.
[5]Ibid.

Table 5.1.1

FAMILY TYPOLOGY BY MUNICIPAL WARD AND SUBURBAN UNION OF GREATER RAJSHAHI

Municipal Ward/Union	No. of families	Types of families			
		Extended	%	Nuclear	%
Rajshahi municipality	425	124	29.18	301	70.82
I	50	12	4.01	38	7.58
II	50	18	6.02	32	6.39
III	50	15	5.02	35	6.99
IV	50	12	4.01	38	7.58
V	50	11	3.68	39	7.78
VI	75	26	8.70	49	9.78
VII	50	14	4.68	36	7.19
VIII	50	16	3.35	34	6.79
Suburban area	375	175	46.67	200	53.33
Paba	50	15	5.02	35	6.99
Sopura	50	16	3.35	34	6.79
Damkura	5	4	1.34	1	0.12
Parila	25	13	4.35	12	2.40
Kazla	50	23	7.69	27	5.39
Haragram	45	19	6.35	26	5.19
Haripur	15	9	3.01	6	1.20
Harian	50	29	9.70	21	4.19
Nawhata	50	27	9.03	23	4.59
Baragachhi	25	15	5.01	10	1.99
Yusufpur	10	5	1.67	5	0.99
Greater Rajshahi	800	299	37.38	501	62.62

Source: Field survey.

Table 5.1.2

DISTRIBUTION OF FAMILY SIZE BY MUNICIPAL WARD AND SUBURBAN UNION

Municipal Ward/Union	1979 sample household	1979 sample population	Average family size 1961	1974	1979
Rajshahi municipality	425	2510	6.36	6.00	5.19
I	50	279	6.14	6.78	5.58
II	50	268	6.16	6.63	5.36
III	50	260	6.03	5.15	5.20
IV	50	239	8.40	9.21	4.78
V	50	390	8.84	6.22	7.80
VI	75	437	5.29	6.19	5.83
VII	50	218	5.74	7.53	4.36
VIII	50	419	6.23	6.40	8.38
Suburban area	375	2721	5.18	5.72	7.26
Paba	50	172	4.78	6.32	3.44
Sopura	50	452	5.13	5.03	9.04
Damkura	5	42	5.83	6.16	8.40
Parila	25	206	5.34	6.31	8.24
Kazla	50	437	5.45	5.05	8.74
Haragram	45	260	5.54	6.30	5.78
Harian	50	364	4.91	5.41	7.28
Nawhata	50	534	5.44	5.81	10.68
Baragachhi	25	94	5.08	6.35	3.76
Yusufpur	10	62	4.65	8.11	6.20
Total	800	5231	5.79	5.86	6.54

Note: Average family size for 1961 and 1974 has been calculated from the data available in the census report of 1961 and 1974 while for 1979 on the basis of sample survey.

municipal area was 6.36 in 1961, 6.00 in 1974 and 5.19 in 1979; while in the suburban area it was 5.18 in 1961, 5.72 in 1974 and 7.26 in 1979. The family size in Greater Rajshahi was 5.79 in 1961, 5.86 in 1974 and 6.54 in 1979. This shows that there is an increase in family size in the successive years from 1961 for the suburban areas as well as for Greater Rajshahi; while a decrease in the municipal area. Increase in the size of the family is contrary to urbanization and the decreasing trend is an indicator of urbanization. Therefore, it is apparent that the rate of urbanization in the municipal area is higher and in the suburban area the prevailing rate of urbanization has declined if the family size is considered. The reason behind the declining trend of urbanization in the suburban area lies with the fact that the economic activity has not increased and as such the families which were nuclear has become extended in course of time.

The largest family size was recorded in Nawhata union of the suburban area being 10.68 and Ward VIII of the municipal area being 8.38 in the year 1979. The reason behind this may lies with the fact that the people of these two union and ward are more tradition bound and paid poor response to the family planning. The smallest family size was recorded in Paba union of the suburban area being 3.44 and in Ward VII of the municipal area being 4.36 in 1979. The reason behind this lies with the fact that the people of these two unions and ward are less

tradition bound, more literate, and good response to the family planning programme.

5.2 Income, employment and consumption pattern

In order to analyse the standard of living in the study area data have been collected on the levels of income, employment situation and the family consumption pattern. Table 5.2.1 sets out the distribution of average working member per family, average annual income of the family and per capita income for 1979 by municipal ward and suburban union of Greater Rajshahi.

It appears from Table 5.2.1 that the average working member per family in the municipal area was 1.49, in the suburban area it was 1.93 and for Greater Rajshahi it was 1.70 in 1979. It is obvious that the average working member per family in the municipal area is less than that of the suburban area. The reason behind may be many including family typology, age-sex composition and higher levels of education of the working age-group population in the municipal area. In the municipal area, inter-ward variation in average working member is not significant. It ranges between 1.31 in Ward VI and 1.90 in Ward VIII. In the suburban area, inter-union variation in average working member per family is also not significant. It ranges between 1.47 in Haripur union and 2.52 in Parila union.

Table 5.2.1

1979 DISTRIBUTION OF AVERAGE WORKING MEMBER, AVERAGE ANNUAL INCOME AND PER CAPITA INCOME PER HOUSEHOLD BY MUNICIPAL WARD AND SUBURBAN UNION

Municipal Ward/Union	Average family size	Total working member	Average working member	Average income in Taka	Average per capita income in Taka
Rajshahi Municipality	5.19	633	1.49	23857	4597
I	5.58	76	1.52	23409	4195
II	5.36	73	1.46	23116	4313
III	5.20	69	1.38	25989	4998
IV	4.78	71	1.42	21843	4570
V	7.80	84	1.68	22760	2918
VI	5.83	98	1.31	23419	4017
VII	4.36	67	1.34	22996	5274
VIII	8.38	95	1.90	27531	3285
Suburban area	7.26	727	1.93	19147	2637
Paba	3.44	87	1.74	13944	4053
Sopura	9.04	94	1.88	29771	3294
Damkura	8.40	9	1.80	11686	1391
Parila	8.24	63	2.52	21152	2567
Kazla	8.74	121	2.42	28617	3274
Haragram	5.78	83	1.84	17961	3107
Haripur	6.53	22	1.47	14028	2148
Harian	7.28	102	2.04	19203	2638
Nawhata	10.68	89	1.78	27870	2609
Baragachhi	3.76	41	1.64	12429	3306
Yusufpur	6.20	16	1.60	13954	2251
Total	5.86	1360	1.70	21130	3606

Source: Field survey.

Table 5.2.1 also presents data on average annual income of the family and per capita income by municipal ward and suburban union of Greater Rajshahi for 1979. Average family income includes the income of the one or more adult or juvenile male and or female member of the family. The per capita income has been calculated from the average annual income and the average family size. It appears from the table that the average annual family income and per capita income in the municipal area is higher than that of the suburban area. The average annual family income in the municipal area was Taka 23,875; while in the suburban area it was Taka 19,147 only. In Greater Rajshahi it is Taka 21,130. The higher income in the municipal area may be because of the difference in the sector of employment. In the suburban area, the percentage of employment in the informal sector is quite high which may be an important cause of lower annual income. The same is the cause of higher per capita income in the municipal area and lower in the suburban area. The per capita income in the municipal area was Taka 4,597, in the suburban area it was Taka 2,637 and for Greater Rajshahi it was Taka 3,606.

The table also shows high ratio of non-working population to the total population i.e., the high dependency ratio and correspondingly low ratio of employed persons to the total population i.e., the employment ratio in all the wards and unions i.e., for the whole of Rajshahi also. It should be noted,

however, that neither the dependency ratio nor the employment ratio can be used as an indicator of unemployment and under-employment situation in Greater Rajshahi. This is because the numerator of the dependency ratio includes employable as well as unemployable persons. The employment ratio too cannot be accepted as a true indicator of the unemployment situation in so far as the numerator of the ratio includes underemployed persons and the denominator includes persons who are actually unemployable. Although an attempt was made to distinguish between persons unemployed and underemployed, it was later abandoned due to the absence of any rigorous and universally accepted definition of underemployment. Underemployment is generally treated as a qualitative expression indicating inadequate incomes which may reflect only part-time employment but may also reflect full time but too poorly paid employment. Because of these two quite different basis of underemployment, the normal practices of presenting only two variables, viz., employed and unemployed, is followed in the present study. Unemployed in this context has been defined as not gainfully employed but actively seeking work. As these two variables belong to two mutually exclusive categories, it is expected that there should be no confusion about their meaning in the study.

Fluctuation in employment situation compelled wage earners to seek informal occupations as opportunity permits them. Though there arises some problems in distinguishing 'formal sector of employment', in some cases where the broadline is not clearly

defined, efforts has been made to define the terms in a way to conform to the use of the term 'informal sectors of employment' in the extensive literature on the subject. Thus, informal enterprises (and consequently informal employment within them) signifies informal organization, informal or non-existent business records, and informal responses to official (formal) regulations, law, etc. Thus, according to this definition, casual or day to day work with a major construction firm or government is treated as formal while a casual rickshawpuller, daily market trader or most small-scale farming activities, etc. are included in the informal sector. It appears from Table 5.2.2 that the percentage of people informally employed was much higher in the suburban area than in the municipal area and obviously, the percentage of employment in the formal sectors in the municipal area is higher than in the suburban area of Greater Rajshahi.

Agriculture constituted the principal sector of formal employment for the suburban area, whereas it provided formal employment for small percentage in the municipal area. The percentage of the working people employed in the agriculture sector of formal employment in the municipal area ranged between 2.63 per cent in Ward I and 8.42 per cent in Ward VIII, whereas the comparable percentage for suburban unions showed a wide range between 4.50 per cent in Kazla union and 75.00 per cent in Damkura union. The principal sectors of formal employment

Table 5.2.2

1979 DISTRIBUTION OF WORKING MEMBER BY SECTORS OF EMPLOYMENT AND PERCENTAGE DISTRIBUTION PATTERN OF OCCUPATION IN THE FORMAL SECTOR BY MUNICIPAL WARD AND SUBURBAN UNION

Municipal Ward/ Union	Total No. of employment		Occupation in the formal sector in %						
	Formal	Informal	Agril.	Manufacture	Trade & Comm.	Service	Construction	Transport	Other
Rajshahi Municipality	613	20	4.40	6.85	26.43	41.27	7.34	7.18	0.16
I	76	0	2.63	19.74	17.11	42.11	7.89	10.53	0
II	72	1	5.55	13.89	25.00	38.89	5.56	8.33	2.78
III	63	6	6.35	7.94	33.33	42.86	6.35	4.76	0
IV	69	2	2.90	7.24	31.88	47.83	5.89	4.34	0
V	80	4	5.00	1.25	46.25	42.50	5.22	1.25	2.50
VI	95	3	4.21	0	33.68	44.21	7.37	8.42	2.10
VII	63	4	3.17	3.17	22.22	50.79	11.11	9.52	0
VIII	95	0	8.42	4.21	36.84	26.32	10.53	9.47	4.21
Suburban area	649	78	22.03	6.63	28.35	26.35	5.86	8.63	2.16
Paba	78	9	10.26	19.23	33.33	24.36	2.56	10.26	0
Sopura	88	6	6.82	6.82	35.23	30.68	5.68	13.64	1.14
Damkura	4	5	75.00	0	25.00	0	0	0	0
Parila	54	9	57.41	3.70	9.26	12.96	11.11	0	6.86
Kazla	111	10	4.50	0.90	21.62	40.54	12.61	17.12	2.70
Haragram	78	5	25.64	0	34.62	21.79	5.12	10.25	2.56
Haripur	16	6	25.00	0	25.00	25.00	6.25	18.75	0
Harian	98	4	21.43	12.24	24.48	36.73	2.04	2.04	1.02
Nawhata	76	13	27.63	9.21	42.11	17.11	2.63	0	1.32
Baragachhi	36	5	55.55	0	16.66	5.55	5.55	11.11	5.55
Yusufpur	10	6	40.00	0	40.00	10.00	0	0	10.00
Total	1262	98	13.47	6.74	29.79	33.60	6.58	7.92	1.90

in the municipal area ranged between 2.63 per cent in Ward I and 8.42 per cent in Ward VIII, whereas the comparable percentage for suburban unions showed a wide range between 4.50 per cent in Kazla union and 75.00 per cent in Damkura union. The principal sectors of formal employment in the municipal area were Services and Trade & Commerce, arranged in descending order of percentage of the people employed. These sectors, no doubt, provided formal employment for significant percentage in the suburban area but nowhere played the same role as the agriculture sector did in offering employment opportunities for the suburban people. The percentage of employment in the service sector of formal employment in the municipal area ranged between 26.32 per cent in Ward VIII and 50.79 per cent in Ward VII, whereas the comparable percentage for the suburban area showed a wide range being zero per cent in Damkura union and 40.54 per cent in Kazla union. Service sector employed the highest percentage of employment in the municipal area of Greater Rajshahi and was as high as 41.27 per cent of the total employment. Trade and commerce was the largest employment sector in the suburban area and was 28.35 per cent and next to that was the service sector and was 26.35 per cent. It becomes obvious from Table 5.2.2 that the principal sectors of formal employment in Greater Rajshahi were Service sector and Trade & Commerce sector and provided 33.60 per cent and 29.79 per cent of the total employment respectively.

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Trade & Commerce sector of employment includes such persons who are engaged in small business, retail shop keeping, wholesallers and even the persons who do not own these business enterprises but are serving these commercial and trading organizations. Service sector includes such persons who are engaged in public administration, educational institutions, bank and other financial institutions, public utilities services, professionals and the like.

The manufacturing sector provided formal employment for small percentage of people in most of the wards in the municipal area and unions in the suburban area. In the municipal area only in Ward I and Ward II provided 19.74 per cent and 13.89 per cent and in the suburban area only in union Paba and union Harian provided 19.23 per cent and 12.24 per cent employment in the manufacturing sector respectively. The reasons behind this concentration of people employed in the manufacturing sector in Ward I and Ward II in the municipal area and the two unions in the suburban area may be justified by the location of small manufacturing industries in Ward I and Ward II in the municipal area and medium and large manufacturing industries namely, the Industrial Estate, Jute Mills, Sugar Mills and Textile Mills in Paba and Harian unions of the suburban area.

The construction sector provided formal employment of 6.58 per cent in Greater Rajshahi, 5.86 per cent in suburban area and

7.18 per cent in the municipal area. In the municipal area Ward VII and Ward VIII and in the suburban area Parila and Kazl union provided maximum percentage of employment in this sector.

The construction sector includes those persons who are engaged in the civil construction including the masons, contractors and also the manufacturers of bricks. If a close look to the land use map of Greater Rajshahi is made, it would be found that most of the brick manufacturing fields are located in the suburban area and mostly in the periphery of the municipal area and this is the reason for so many employment in this sector in Parila and Kazla union.

The transportation sector provided 7.92 per cent of formal employment in Greater Rajshahi, 8.63 per cen in suburban area and 7.18 per cent in the municipal area. The transportation sector includes those persons who are engaged in transportation jobs including the drivers of buses, rickshaw pullers, boatman, railway workers and the like. In the municipal area, Ward I and in the suburban area Haripur union provided the highest percentage of employment in this sector.

Agriculture, manufacturing, trade and commerce, service, construction and transportation are the major formal employment sectors and these sectors provided 98.10 per cent of the total formal employment in the formal sector in the present study has been shown in 'others' and this include the persons who are not

engaged in those major sectors of employment and those who did not and could not respond about their nature of employment. Only 1.90 per cent of the total employment of this category in Greater Rajshahi, 2.16 per cent in the suburban union and 0.16 per cent in the municipal area.

Table 5.2.3 provides information on the distribution of households income by municipal ward and suburban union of Greater Rajshahi. The income ranges from taka one thousand to taka more than one hundred thousand and grouped into eleven groups. It appears from the table that in the municipal area the highest percentage of income was in the group of taka five thousand to taka ten thousand and this was also the highest percentage for the suburban area as well as for the Greater Rajshahi. Only 2.80 per cent in the municipal area 9.95 per cent in the suburban area and 1.67 per cent in the Greater Rajshahi had income of take more than one hundred thousand 3.87 per cent in the municipal area, 10.48 percent in the suburban area and 7.92 per cent in Greater Rajshahi had income only between Taka 1000 to Taka 5000 annually. More than 75 per cent in Greater Rajshahi, 81.77 per cent in suburban area and 64.87 per cent in the municipal area the households had annual income up to Taka twentyfive thousands. 23.66 per cent households in municipal area, 14.29 per cent households in suburban area and 17.91 per cent households in Greater Rajshahi had annual income between taka twentyfive thousands and taka fifty thousands. 7.10 per cent in municipal

Table 5.2.3

1979 DISTRIBUTION OF HOUSEHOLD INCOME BY MUNICIPAL WARD AND SUBURBAN UNION AND GREATER RAJSHAHI

Income groups in Taka	Municipal area in percentage	Suburban area in percentage	Greater Rajshahi in percentage
1000-5000	3.87	10.48	7.92
5001-10000	17.20	28.57	24.17
10001-15000	16.13	21.36	19.33
15001-20000	15.48	12.11	13.44
20001-25000	11.61	9.25	10.17
25001-30000	7.96	5.31	6.33
30001-40000	11.40	6.67	8.50
40001-50000	4.30	2.31	3.08
50001-75000	7.10	2.49	4.25
75001-100000	2.15	0.54	1.17
Over 100001	2.80	0.95	1.67
Total	100.00	100.00	100.00

Source: Field survey.

area, 2.49 per cent in suburban area and 4.25 per cent in Greater Rajshahi, the households had annual income between fifty thousands taka and seventyfive thousands taka. Only 2.15 per cent households in municipal area, 0.54 per cent households in suburban area and 1.17 per cent households in Greater Rajshahi had annual income between taka seventyfive thousands and taka one hundred thousands. From Table 5.2.1 it appears that the average per capita income in Greater Rajshahi was taka 3606 which was not less than the average national per capita income. Therefore, it can be said that the average income in Greater Rajshahi was quite reasonable.

Table 5.2.4 shows the distribution of consumption or expenditure pattern of the total income of the household of different income groups for Rajshahi municipality, suburban area and for Greater Rajshahi. It appears from the table that there was no significant difference in the consumption pattern between and among the municipal wards and suburban unions. Consumption or expenditure pattern seemed to vary more consistently with the levels of income and enquiry in this particular direction revealed some interesting aspects. Assuming the sum of consumption expenditure and savings to be equal to income, households has been classified in to eleven income groups and efforts were made to know how the people distribute their income on various heads of consumption expenditure as well as savings or investment and to know how this pattern of allocation differs among various

Table 5.2.4

1979 DISTRIBUTION OF EXPENDITURE PATTERN IN PERCENTAGE OF THE TOTAL EXPENDITURE OF DIFFERENT INCOME GROUPS FOR RAJSHAHI MUNICIPALITY, SUBURBAN AREA AND GREATER RAJSHAHI

Income groups in 000 Taka	Food	Cloth-ing	Hou-sing	Health	Educa-tion	Trans-port	Other	Savings/ Invest-ment
RAJSHAHI MUNICIPAL AREA								
1-5	74.71	5.75	2.76	4.94	1.38	0.13	10.33	0
5-10	68.37	6.73	6.67	4.49	1.32	0.96	10.91	0.55
10-15	62.06	8.08	5.59	5.52	2.62	1.85	12.05	2.23
15-20	57.65	7.16	7.97	5.59	3.85	2.07	11.69	4.02
20-25	56.19	7.72	7.97	5.29	3.81	2.64	11.39	4.95
25-30	48.62	6.36	8.54	5.73	5.41	4.66	13.07	7.61
30-40	44.39	7.51	9.65	7.03	4.05	3.72	13.13	10.52
40-50	37.97	6.57	13.93	4.12	3.27	2.72	9.25	22.17
50-75	29.84	5.12	10.21	4.11	3.67	2.89	8.81	35.35
75-100	21.87	3.65	23.52	3.02	1.70	1.97	5.22	39.05
Over 100	15.00	1.44	9.90	1.10	1.00	1.96	6.29	63.31

contd.

Table 5.2.4 (contd.)

Income groups in '000 Taka	Food	Cloth-ing	Hou-sing	Health	Educa-tion	Trans-port	Other	Savings/ Invest-ment
SUBURBAN AREA								
1-5	83.15	5.92	2.81	2.65	0.03	0.17	4.03	1.24
5-10	76.74	6.37	3.93	3.19	0.59	0.76	6.88	1.54
10-15	72.30	6.83	4.54	3.48	0.65	1.37	7.31	3.52
15-20	63.64	7.01	6.61	4.39	1.51	2.56	10.24	4.04
20-24	62.68	6.14	7.80	4.63	1.99	1.87	9.63	5.26
25-30	59.12	6.91	5.87	5.45	2.75	2.86	9.52	7.52
30-40	58.80	5.36	6.76	4.10	3.33	2.32	9.30	10.03
40-50	53.96	5.71	9.07	3.94	1.33	1.31	14.29	10.39
50-75	51.56	4.72	11.20	3.47	2.31	1.53	8.84	16.37
75-100	26.35	4.86	26.15	2.86	2.96	1.00	5.67	30.15
Over 100	34.22	4.01	20.78	1.84	1.84	1.42	7.72	28.17
GREATER RAJSHAHI								
1-5	81.35	5.89	2.80	3.13	0.32	0.16	5.37	0.98
5-10	74.38	6.47	4.69	3.55	0.79	0.82	8.07	1.27
10-15	69.05	5.23	4.87	4.12	1.28	1.52	8.83	3.10
15-20	60.84	7.08	7.22	4.93	2.66	2.34	10.91	4.03
20-25	59.65	6.83	7.86	4.91	2.78	2.22	10.53	5.22
25-30	53.81	6.63	7.22	5.59	4.10	3.77	11.32	7.56
30-40	51.50	6.45	8.23	5.59	3.70	3.03	11.22	10.28
40-50	45.42	6.17	11.66	4.03	2.37	2.06	11.61	16.68
50-75	37.03	4.99	10.54	3.90	3.22	2.44	8.83	29.05
75-100	22.66	5.99	23.75	2.91	2.01	1.66	5.24	35.78
Over 100	21.22	2.24	13.31	1.33	1.26	1.76	6.57	52.31

Source: Field survey.

income groups by municipal area, suburban area and in Greater Rajshahi.

It appears from the table that food is the single most important item of consumption expenditure. Even households belonging to high income rankings spend more than 50 per cent of their expenditure for food. It appropriates nearly 80 per cent of the total income of the lowest income group and slowly but steadily as a percentage as income level rises. This trend is unbroken in case of municipal area. In the suburban area there is a slight departure in as much as the highest income group spends a rather larger portion on food. The reason behind this may be explained in this way that in the suburban area, a wealthy household is most often a joint family with many members and servants to feed and that rises the high consumption expenditure on this single account of food. But the sequence is restored in aggregated figures for Greater Rajshahi. The expenditure on food in the suburban area seemed to be higher than in the municipal area. After food, clothing is the next essential item of basic human needs. Expenditure on account of clothing ranges from 1.44 per cent to 8.08 per cent in the municipal area, 4.01 per cent to 7.01 per cent in suburban area and 2.24 per cent to 7.08 per cent in Greater Rajshahi. The pattern of consumption of expenditure on this account seemed to have no significant difference between the municipal area and suburban area and for Greater Rajshahi. The highest percentage

of consumption expenditure on clothing is made by the income group of 10-15 thousand take annual in the municipal area, suburban area as well as in Greater Rajshahi. It also can be seen from the table that expenditure on clothing first increases and then falls with rising income. It might have been continually declining, but the below-subsistence level of income of the lowest income group in the income-spectrum precludes this possibility. However, once the needs of bare existence have been met, expenditure on clothing tend to increase, and subsequently starts decreasing as income level rises and the needs are saturated. Here too, a difference is obvious among the municipal wards and suburban unions. For the suburban area, the figures tend to be sticky, once again pointing to the existence of larger households with more members to clothe.

Shelter or housing is the next basic human needs after food and clothing. Up to a certain level of income, the amount spent for housing is modest. The figure ranges between 2.76 per cent to 23.52 per cent in municipal area, 2.81 per cent to 26.15 per cent in suburban area and 2.80 per cent to 23.75 per cent in Greater Rajshahi. It would be rational to assume that up to a certain percentage of total expenditure may be made for renting and repairing of houses and beyond that percentage must be used for construction of new houses. As a corollary, it suggests that fresh construction of houses is confined to well-to-do households or upper income group.

After meeting the basic human needs of food, clothing and shelter then comes the question of expenditure on the major heads of health, education and others. It is evident the table that the major consumption expenditure is made to meet the basic needs i.e., food, clothing and shelter and after that on health and education. Expenditure on health ranges between 1.10 per cent to 7.03 per cent in municipal area, 1.84 per cent to 5.45 in suburban area and 1.33 per cent to 5.59 per cent in Greater Rajshahi. In the municipal area, the highest percentage of total expenditure on account of health is made by the income group of Taka 30-40 thousand annually, in the suburban area, it is made by the income group of Taka 25-30 thousand annually and in Greater Rajshahi, it is made by the income group of Taka 25-40 thousand annually.

The middle income group that is the people who have an annual income of Taka 25-40 thousands, spend the highest percentage towards education, in the municipal area, in suburban area and in Greater Rajshahi. The lowest income group spends least for the purpose of education in the municipal area, in suburban area and in Greater Rajshahi. Expenditure on education followed a definite pattern for all the study areas, increasing at first, attaining the highest level for the middle income groups, and then falling again.

Expenditure on transportation is least in the lowest income group for all the areas and then it rises untill it reaches the

highest in the middle income group and then it falls steadily untill it becomes a normal curve. On the head of other expenditure, that includes consumption of fuel, entertainments, durables etc. the pattern seemed to be higher up to a level of income of Taka 40 thousands in municipal area and lower to the more higher income group. In the suburban area, the consumption expenditure on others account was the highest in the income group of Taka 40-50 thousands annually. In Greater Rajshahi, the expenditure pattern on others account seemed to be higher in the income groups ranging from Taka 15 thousands to Taka 50 thousands annually. In other income groups, it was moderate.

It also appears from Table 5.2.4 that savings or investment too followed a definite pattern, increasing steadily and consistently with the rise of income. In the municipal area, the lowest income group had no savings. From this, it can be assumed that the minimum subsistance level of income was around Taka 5 thousands annually. Up to annual income of Taka 30 thousands, the savings was moderate and moves unions between the municipal wards and suburban unions. Income above Taka 30 thousands per annum in all the area, had higher savings or investment. The range of investments in municipal area was between 10.52 per cent to 63.31 per cent in suburban area between 10.03 per cent to 30.15 per cent and in Greater Rajshahi between 10.28 per cent to 52.31 per cent. The rate of savings for the highest income group was more than 50 per cent which was an encouraging figure holding promise of availability of local capital for local development.

CHAPTER - 6

6. HOUSING PATTERN

Patterns of housing plays a dominant role in the aesthetic look to the city scene. The distaste of a city is attributed with the crowded, dismal, and unhealthful conditions of urban housing.[1] In the developing countries, the housing situation is far from satisfactory because of the low income level of the people and the high rate of population growth.[2] However, housing, should be understood to include not only 'house' but the related services which packaged together provides housing, e.g., access, sanitation, transportation etc.

Over the years, rapid urban population growth resulting from high natural growth rate and from rural-urban migration, skyrocketing prices of land and conventional building materials, and housing finance policy have all combined to create serious housing problem in the urban areas of Bangladesh.[3] Rajshahi as one of the major urban centres of Bangladesh is not except to this situation.

In this chapter, data has been presented in respect of housing conditions by municipal ward and suburban union of Greater Rajshahi. The data gathered pertained to such items

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[1] Davis, K., op. cit., p. 144.

[2] Bose, A., op. cit., p. 223.

[3] Urban Development Directorate, National Housing Policy, Ministry of Public Works and Urban Development, Govt. of the People's Republic of Bangladesh, Dacca, 1981, p. 3.

as the ownership pattern of houses, quality of structures of those houses, number of rooms per house and sanitary provisions, and the adequacy of space.

6.1 Ownership pattern

Table 6.1.1 presents data on the ownership pattern of houses for 1979. It appears from the table that 63.00 per cent houses in Greater Rajshahi are occupied by the owners of the houses; while 37.00 per cent are occupied by the tenants. In the municipal area, 63.53 per cent houses are occupied by the owners themselves; while 36.47 per cent are occupied by the tenants. In the suburban area, 62.40 per cent of the houses are occupied by the tenants. In Ward V and Ward VII of the municipal area, 54.00 per cent and 52.00 per cent are occupied by tenant respectively. In Haragram, Sopura and Harian union of the suburban area 49.00 per cent, 58.00 per cent and 48.00 per cent are respectively occupied by tenant occupier.

Information on owner-occupier and tenant-occupier of houses provides a good basis for analysing the migration pattern also. In general, the tenant-occupiers are migrants and the owner-occupiers are the original inhabitants. It is very natural that in the existing township i.e., in the municipal area, the percentage of tenant-occupier would be higher than that in the suburban area. The reason behind this is the higher rate of

Table 6.1.1

1979 OWNERSHIP PATTERN OF SAMPLE HOUSES BY MUNICIPAL WARDS AND SUBURBAN UNIONS

Municipal Ward/Unions	Total sample	Own house		Rented house	
		No.	Percentage	No.	Percentage
Rajshahi Municipality	425	270	63.53	155	36.47
I	50	35	70	15	30
II	50	41	82	9	18
III	50	28	56	22	44
IV	50	31	62	19	38
V	50	23	46	27	54
VI	75	49	65	26	35
VII	50	24	48	26	52
VIII	50	39	78	11	22
Suburban area	375	234	62.40	141	37.60
Damkura	5	5	100	0	0
Haripur	15	14	93	1	7
Haragram	45	23	51	22	49
Sopura	50	21	42	29	58
Nawhata	50	29	58	21	42
Baragachhi	25	23	92	2	8
Parila	25	23	100	0	0
Harian	50	26	52	24	48
Kazla	50	30	60	20	40
Paba	50	28	56	22	44
Yusufpur	10	10	100	0	0
Greater Rajshahi	800	504	63	296	37

Source: Field survey.

employment opportunity in the municipal area. On the same ground, the percentage of tenant-occupier in the suburban area should be much less. But 37.60 per cent tenant-occupier in the suburban area is significantly high. The reason behind this fact lies with the growing urban sprawl outside the existing municipal boundary and the existence of a number of industrial units in the suburban area where professionals, skilled and unskilled labours migrate for employment opportunity. Non-availability of rented houses with desired amenities may be another reason.

6.2 Quality of houses

On the basis of the kinds of the material used in the construction of houses, four classes of houses has been distinguished in the present study. Table 6.1.2 provides information on the nature of sample houses by municipal ward and suburban union of Greater Rajshahi.

It appears from the table that the first category of houses having plinth and built with brick, cement and M.S. rod represented the modern type and accounted for 49.25 per cent in Greater Rajshahi, 56.47 per cent in the municipal area and only 41.06 per cent in the suburban area. The second category of houses are semi-pucca or semi-permanent in nature and the plinth and wall are built with brick and cement and the roof with C.I. sheet. This type of houses represented 26.88 per cent

Table 6.1.2

1979 DISTRIBUTION OF THE NATURE OF SAMPLE HOUSES BY MUNICIPAL WARDS AND SUBURBAN UNIONS IN PERCENTAGE

Municipal Ward/Union with sample size	Nature of Houses			
	Pucca or perma-nent	Semi-pucca (Brick wall & C.I. sheet roof)	Temporary (Mud wall & C.I. sheet roof)	Kutcha (Mud or thachet wall & clay tiles roof or huts
Rajshahi Municipality	56.47	26.59	11.53	5.41
I (50)	44	32	16	8
II (50)	62	26	8	4
III (50)	68	24	6	2
IV (50)	58	22	18	2
V (50)	46	42	8	4
VI (75)	49.34	26.66	17.34	6.66
VII (50)	46	26	14	14
VIII (50)	82	14	2	2
Suburban area (375)	41.06	27.20	12.80	18.94
Damkura (5)	0	40	20	40
Haripur(15)	20	33.33	13.33	33.34
Haragram(45)	48.89	28.89	15.56	6.66
Sopura (50)	52	18	24	6
Nawhata (50)	36	46	8	10
Baragachhi(25)	24	20	12	44
Parila (25)	20	16	16	48
Harian (50)	48	10	12	20
Kazla (50)	56	28	2	14
Paba (50)	42	30	8	20
Yusufpur(10)	10	20	40	30
Total: Greater Rajshahi(800)	49.25	26.88	12.13	11.75

Source: Field survey.

in Greater Rajshahi, 26.59 per cent in the municipal area and 27.20 per cent in suburban area. The third category of houses are built with mud wall and C.I. sheet roof and represented 12.80 per cent in the suburban area, 11.53 per cent in the municipal area and 12.13 per cent in Greater Rajshahi.

The first and second category of houses are inhabited by upper and middle income group people; while the third and fourth category of houses are occupied by the comparatively lower and lowest income group of people.

6.3 Number of rooms in houses

Table 6.1.3 presents data on the number of different kinds according to use of rooms in the sample houses by municipal ward and suburban union of Greater Rajshahi in percentage. On the basis of use, in the present study, rooms have been classified as bed room, kitchen, drawing or living room, store room and others.

It appears from the table that except in Ward V, VII and VIII more than 50.00 per cent of the houses are comprised with more than 2-bed rooms in the municipal area; while in the suburban area, only in Parila union 50.00 houses are comprised with more than 2-bed rooms and the rest unions, upto 2-bed rooms. Since the number of bed-rooms are directly related with the density of people per room, it can be said that the density of

Table 6.1.3

1979 DISTRIBUTION OF DIFFERENT KINDS AND NUMBER OF ROOMS IN THE SAMPLE HOUSES BY MUNICIPAL WARDS AND SUBURBAN UNIONS OF THE STUDY AREA (IN PERCENTAGE)

Municipal Wards/ Unions	Number of Different Kinds of Rooms											
	Bedroom		Kitchen		Drawing		Store		Other		Latrine	
	1-2	3& more	1-2	3 & more	1-2	3 & more	1-2	3 & more	1-2	3 & more	Nil	1-2
I	60	40	100	0	100	0	100	0	100	0	0	100
II	54	46	100	0	100	0	100	0	83	17	0	100
III	55	45	100	0	100	0	100	0	100	0	0	100
IV	53	47	100	0	100	0	100	0	100	0	0	100
V	48	52	97	3	100	0	100	0	88	12	0	100
VI	58	42	100	0	100	0	100	0	92	8	0	100
VII	40	60	100	0	100	0	100	0	100	0	0	100
VIII	34	66	100	0	100	0	100	0	100	0	0	100
Damkura	66	34	100	0	100	0	100	0	80	20	20	80
Haripur	75	25	100	0	100	0	100	0	95	5	14	86
Haragram	83	17	100	0	100	0	100	0	100	0	0	100
Sopura	74	26	100	0	100	0	100	0	64	36	0	100
Nawhata	74	26	100	0	100	0	100	0	100	0	8	92
Baraga-chhi	54	46	100	0	83	17	100	0	100	0	16	84
Parila	50	50	100	0	100	0	100	0	100	0	20	80
Harian	66	34	100	0	100	0	100	0	100	0	4	96
Kazla	70	30	100	0	100	0	100	0	33	67	12	88
Paba	69	31	100	0	100	0	100	0	100	0	8	92
Yusufpur	52	48	100	0	100	0	100	0	83	17	30	70

Source: Field Survey.

people per room in the municipal area is comparatively less than that in the suburban area. This has happened because of the alertness of the people of the municipal area about the hygenic condition and privacy.

The houses of all the wards and unions of Greater Rajshahi are comprised with upto 2 kitchens except in Ward V, where 3.00 per cent houses are comprised with more than 2 kitchens. 100.00 per cent of the sample houses in Greater Rajshahi are comprised with upto 2 numbers drawing or living rooms except in Baragachhi union where 17.00 per cent houses are comprised with more than 2 numbers. The reason is difficult to analyse. One probable reason may be the understanding of the meaning of drawing or living rooms by the respondents. These living or drawing rooms are big out-houses and serves the purpose of both living and sleeping. In Greater Rajshahi including both municipal and suburban area, all the houses are comprised with upto 2 numbers store rooms. In the present study, other rooms include the guest room, out-house, servants room etc. In all the houses of five municipal wards are comprised with upto 2 numbers other rooms; while the houses in the rest three wards are comprised with more other rooms. The reason of this may be that these are quite old houses with a few number of rooms. In the suburban area most of the houses are comprised with upto 2 numbers other rooms. These rooms are used as out-house, servants living room, etc.

In the present study, only one essential housing amenities: latrine has been considered. Table 6.1.3 also sets out the provisions of latrines in the houses. It appears that in all the houses in the municipal area are comprised with upto 2 number of latrines. In the suburban area, except in Haragram and Sopura union where 100.00 per cent of the houses are comprised with upto 2 numbers of latrines, in all the unions certain percentage of houses has no provision of latrine. In Yusufpur union 30.00 percent, in Damkura and Parila union 20.00 per cent, Haripur, Baragachhi and Harian union upto 16.00 per cent houses have no latrine provisions.

6.4 Density and overcrowding

The density in tenements may be gauged by various types of indices in which the number of structures, families or persons are related to a unit of area. An idea regarding the nature and degree of the pressure of population on the existent living area in Rajshahi may be had from the data set out in Table 4.1 and Table 6.1.4.

It appears from these tables that, in the municipal area only 26.47 per cent houses are provided with adequate space and sufficient number of rooms; while in the suburban area it is 62.40 per cent against that of 48.63 per cent in Greater Rajshahi. Only in all the houses in Damkura, Parila and Yusufpur unions of Greater Rajshahi are comprised with sufficient number of rooms

Table 6.1.4

1979 RESPONDENTS OPINION ABOUT THE ADEQUACY OF ROOMS IN THEIR HOUSES IN PERCENTAGE

Municipal Ward/Unions	Total sample	Adequate		Inadequate	
		Number	Percentage	Number	Percentage
Rajshahi Municipality	425	155	26.47	270	63.53
I	50	15	30	35	70
II	50	9	18	41	82
III	50	22	44	28	56
IV	50	19	38	31	62
V	50	27	54	23	46
VI	75	26	35	49	65
VII	50	26	52	24	48
VIII	50	11	22	39	78
Suburban area	375	234	62.40	141	37.60
Damkura	5	5	100	0	0
Haripur	15	14	93	1	7
Haragram	45	23	51	22	49
Sopura	50	21	42	29	58
Nawhata	50	29	58	21	42
Baragachhi	25	23	92	2	8
Parila	25	25	100	0	0
Harian	50	26	52	24	48
Kazla	50	30	60	20	40
Paba	50	28	56	22	44
Yusufpur	10	10	100	0	0
Greater Rajshahi	800	389	48.63	411	51.37

Source: Field Survey.

required by the population living in those houses. It also from Table 6.1.4 that inadequacy of space and insufficient number of rooms are more acute in the municipal area where 63.53 per cent houses are lacking in sufficient number of rooms and open space. But this is just reverse in case of suburban area where only 37.60 per cent houses have insufficient number of rooms and open space.

A study of density and over-crowding can be made more preciously by relating the number of persons to unit of area. Broadly speaking, from the opinion of the respondents in table 6.1.4. it appears that density and overcrowding in tenements depends on the number of members in the family.

CHAPTER - 7

7. SUMMARY OF THE FINDINGS AND CONCLUSION

The present study through normative approach provides valuable information on the socio-economic condition of Greater Rajshahi which in turn help understand the patterns of urbanization of the town. The major findings are summarised below:

The study reveals that economic base activities of the area comprise mainly pursuits in agriculture, trade and commerce, manufacturing industry, construction, transport and service sectors. Although the economy of Rajshahi district is predominantly agricultural and the relative size of different sectors of employment is small, it can be singled out that agriculture, trade and commerce, and service are the most important sectors of employment.

The study of the major industrial and commercial establishments reveal that the number of large industries is rather very small. Majority of the establishments are set up during the mid-sixties and early seventies. These units are scattered throughout the study area with a limited locational efficiency and without planned policy for their growth and future development.

The study further reveals the high ratio of non-working population to the total population and correspondingly low employment ratio in all the municipal wards and suburban unions

of Greater Rajshahi. The overall employment situation in Greater Rajshahi is stagnant as the trend of establishment of new enterprises are found almost nil. It is further observed that the percentage of people employed in informal sector is much higher in the suburban area; while it is just opposite in the municipal area.

The average family size ranges between 3.44 and 10.68 with a significant difference between the municipal wards and suburban unions. The average number of working members per family in the study area reveals that there is a homogenous feature varying between 1.37 to 2.52 without any significant difference between wards and unions. Thus it appears that the composition of households are not similar in the existing township and the surrounding suburban area.

Family income in the municipal area ranges between Taka 21,843 and Taka 27,531; while in the suburban area the range is between Taka 11,686 and Taka 29,771. Thus the family income in the unions of the suburban area shows a much wider range of variation than those in the wards of the municipal area. It is also obvious that the lower income families are concentrated in the suburban area. In case of per capita income, the relative richness in the municipal wards are evident and it ranges between Taka 2,918 to Taka 5,274. In the suburban unions, the per capita income ranges between Taka 1,391 to Taka 4,053.

Consumption pattern seems to be very consistent with the levels of income. Food is the single most important item of expenditure. Expenditure on clothing first increases and then falls with rising income. Amount spent on housing varies greatly ranging from 2.76 per cent to 23.52 per cent of the total income. The highest percentage for housing purpose is spent by the income group of Taka 75,000 to Taka 100,000 in the municipal area. Savings or investment pattern show a very definite consistent pattern, increasing steadily with the rise in income.

Landuse pattern shows that 32.76 per cent of the total land is utilized for residential purpose in the municipal area; while only 12.30 per cent in the suburban area and 13.74 per cent in Greater Rajshahi is used for the same purpose. In the municipal area 10.16 per cent land is utilized for educational purpose; while in the suburban area only 3.04 per cent land is used for educational purpose. The most interesting pattern of landuse is the agricultural landuse in the study area. 68.80 per cent of the total land is utilized for agricultural purpose in Greater Rajshahi; 73.00 per cent in the suburban area and 15.70 per cent in the municipal area. Another interesting findings in the study of landuse pattern is that of industrial purpose. Normally, in the urban areas, higher percentage of land is utilized for industrial purpose. But in the present study it is found that the higher percentage of land is utilized for industrial purpose in the suburban area being 0.75 per cent of the total land against

that of only 0.17 per cent in the municipal area. This happened because of the establishment of large industrial units and Industrial Estate outside the municipal area.

The age-sex distribution is pyramidal in shape. The sex ratio for Greater Rajshahi is 975 and child-woman ratio is 360.

The density of population in the municipal area is 28.47 persons per acre varying a wide range from 9.65 to 113.08 persons between the wards. In the suburban area, the density of population is 4.41 persons per acre ranging widely from 1.78 persons to 20.20 persons per acre in unions. The study therefore reveals that the distribution of population in the study area is 6.59 persons per acre.

The migration pattern shows that 20.88 per cent people have come to Rajshahi from outside Bangladesh, 11.25 per cent outside Rajshahi district and 67.88 per cent from other areas of Rajshahi district. On the basis of previous residence, it is found that in the municipal area 37.52 per cent of the total population had their homes in the villages and in the suburban area, only 3.32 per cent of the total population had their homes in towns. The reasons of migration to Rajshahi have been found to be 20.88 per cent for the partition of India, 14.13 per cent for educational facilities, 40.38 per cent for employment opportunity and the rest 24.63 percent for other reasons.

The distribution pattern of educational institutions in the municipal area for both primary and secondary schools are at random; while in the suburban area the distribution pattern for primary schools is random approaching uniform and for secondary schools it is clustered or aggregated. It is also evident that the distribution pattern of educational institutions for Greater Rajshahi is random approaching uniform in case of primary schools and clustered or aggregated in case of secondary schools.

In 1974 the literacy rate in Greater Rajshahi was 30.49 per cent of the total population; while for municipal area it was 42.68 per cent and for suburban area it was only 17.59 per cent. The highest variation in literacy during 1961 and 1974 has been recorded in Kazla union and lowest in Ward VII of the whole study area. The variation was 206.78 and 52.50 per cent respectively. The percentage of literacy was recorded 52.95 per cent in Greater Rajshahi in 1979.

The rate of population growth in Rajshahi is very significant being 137.56 per cent during 1961 and 1974. The total population of Greater Rajshahi in 1974 was 183,905. The estimated population is 238,377; 353,957; 494,822 and 981,414 for 1979, 1985, 1990 and 2000 A.D. respectively. This means the estimated population of Rajshahi will be four times larger within next twenty years.

Conclusions

Rajshahi is the administrative headquarter of the division and also a university town. The city accounts for 14 per cent of total urban population of the northern region of Bangladesh.[1] In the next twenty years the population of the town will be four times larger than what it is today. The consequences of this population growth is not hopeful. It is apprehended that there will be a serious agravating situation in the town on the delivery of social services resulting in acute shortage of housing and transportation and in a higher unemployment rate if the country's overall economic condition does not improve signigicantly.

It is to be sure, urbanization is not a discrete local process but a part of a larger societal coalescence. Of course, the pattern of urbanization of Rajshahi town does not differ greatly from other major urban centres of Bangladesh. According to an index constructed to demonstrate the relationship between urbanization and economic development,[2] Bangladesh ranked close to the end of a list of many developing countries.[3] This means that the rapid urbanization in Bangladesh is not justified by its economic development: a situation which is called "hyper-

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[1] Choudhury, R.H., op. cit., p. 16.

[2] Ratio of Urban population per capita to real income.

[3] Choudhury, R.H., op. cit., p. 2.

urbanization" or "pseudo-urbanization" by some western scholars.[4]

In this context, it is also important to know whether Bangladesh is 'over-urbanized' or has no relevance to it. 'Over-urbanization' has been defined by Hoseltiz[5] in three different ways:

(a) "when urbanization in a country is running ahead of industrialization and the development of administrative and other service occupations which are characteristically concentrated in cities;

(b) when there is great disproportion between the costs of urban growth and the maintenance of proper facilities for urban dwellers and the earning capacity of the people congregated in cities;

(c) when the migration to city is due less to the 'pull', i.e., the attractiveness which the city exerts, and more to the 'push' experienced in the rural areas".

Based on the above definition, Bangladesh may be described as 'over-urbanized', Firstly, there are as many as 108 urban centres in Bangladesh. Most of these urban centres are not industrial in the modern sense and in these urban centres a large number of people are living without urban employment. Secondly, because of the greater concentration of social amenities in urban centre, the annual rate of growth has been much higher

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[4]Keles, R. Urbanization in Turkey, International Urbanization Survey, The Ford Foundation, New York, 1972, p. 152.

[5]Hoseltiz, B.F. quoted in Mabogunje, A.L., op. cit., p. 313.

than the average for the country being 6.70 and 2.33 per cent respectively.[6] Thirdly, the rural influx to urban centres is not for the attractiveness of the urban centres rather for high manpower and farm area ratio.[7]

Urbanization is considered inevitable. While our society like each society seeks to raise levels of living, planning for development of cities faces handicaps of uncontrolled urban growth which is neither conducive to economic growth nor to an environment of better living. In the absence of a planned socio-economic and physical development of the towns and in the absence of a country's policy on urbanization, it is very difficult to control the imbalanced growth of cities. It is therefore suggested that there should be a healthy policy on urbanization of the government. Since it is not possible to turn the tide and stop rural to urban migration, the only alternative seems to be the industrialization of the country, which might, in the long run, strike a balance between urbanization and development.

Decentralization of industries through the development of new towns is often suggested as the major remedy for the problems created by concentration of urban population in major urban centres. However, it will be unrealistic to assume that such an

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[6] Chaudhury, R.H., op. cit., p. 2.

[7] Urban Development Directorate, op. cit., p. 1.

attempt will necessarily prevent the growth of the larger cities. Economies of scale and other infrastructure already available in the major cities like Rajshahi will always attract people for investment of other purposes. Decentralization attempts at best can slow down the rapid growth rate but can not stop it.

The findings of the present study, though based on limited data, demonstrate a positive correlation between socio-economic development and patterns of urbanization of Rajshahi town. However, the empirical interrelationship among the various aspects of socio-economic development found hereby no means demonstrate that increased urbanization in itself will transfer or improve the socio-economic condition of Rajshahi town. The effect of urbanization on the living quality has already began to deteriorate atleast in the sectors of public utility services, housing, transportation, education and employment. In this situation, there is a need for further research to understand the degree and dimensions of the relationship between urbanization and development in Bangladesh.

APPENDICES

APPENDIX - I

(Questionnaire used for socio-economic survey)

Institute of Bangladesh Studies, Rajshahi University, 1979

(Research project on Pattern of Urbanisation of Rajshahi Town - A Socio-Economic Study, 1979).

Nature of sample _____ Respondent's name _____

Sample No. _____ Age _____ Sex _____ Date _____

1. Locality identification

1.1 House No. _____ (If any)

1.2 Name of locality/village _____

1.3 Ward number _____ 1.4 Road No. _____ (If any)

1.5 Name of the union _____ 1.6 Name of the Mouza _____

2. Information on population of the household

Sl. No.	Name of the family mem.	Relation with the head of the family	Sex		Age	Marital Status	Ednl. Qln.	Employment status (use code)
			M	F				

Employment status code:

I: Gainfully employed 2: Unemployed 3: Seeking employment 4: Student 5: Housewife 6: Family member engaged in household work 7: Retired 8: Invalid 9: Old (Over 65 years) 10: Infant (Below 6 years)

3. Information on religion

3.1 Name of the religion: Islam/Christianity/Hinduism/Buddhism/Zoinism/Other

3.2 Caste (for Hindus only): Brahmin/Kshatria/Sudra/Kaistha

3.3 Sect (for Muslims only): Sunni/Shia

3.4 Patronymics: _____

3.5 Sect (for Christianity): Protestant/Roman Catholic

4. Information on fertility

4.1 Number of ever born live birth: _____

4.1.1 Male: _____ Female: _____

4.2 Number of children who died after birth: _____

4.2.1 Male: _____ Female: _____

4.3 Number of present living children: _____

4.3.1 Male: _____ Female: _____

4.4 Number of live births in last one year in the household: _____

4.4.1 Male: _____ Female: _____

5. Information on mortality

5.1 Number of deaths in the household in last one year:_____

5.1.1 Age of the deceased person/s: _____

5.1.2 Male: _____ Female: _____

5.1.3 Causes of death: _____

5.2 Name of the disease if attacked: _____

5.3 Kind of treatment undergone: Allopathic/Homeopathic/ Ayurvedic/ Pseudo-religious/Other

6. Information on habitation/Migration

6.1 Are you a permanent resident of this town? Yes/No

6.1.1 If yes, how long are you living here? _____ years.

6.1.2 For how many generations you are living? _____ generations.

6.2 Where were your previous residence? _____

Village/Town _____ P.S. _____ Sub-Divn._____

District _____ Country _____

6.3 Distance of your present residence with the previous one:_

6.4 Why have you come here? _____

6.5 Do any of your family members reside in the previous residence yes/No

6.5.1 If yes, what is your relationship with him/them?_____

6.6 Do you have any relative in this town/village? Yes/No

6.6.1 If yes, what is your relationship with him/them?____

6.7 Have any member of your family gone elsewhere for permanent settlement in last one year? Yes/No

6.7.1 If yes, where have they gone? Town/Village

6.7.2 Number of persons: _____

6.8 Has any one come to live permanently in your family from elsewhere in last one year? Yes/No

6.8.1 If yes, how many? _____

6.9 If you are not permanent resident of this place, from where you have come? Village: _____ P.S. _____ Sub-Division _____ District _____ Country _____

6.9.1 How long are you living here? _____ years.

6.10 Why are you living here? _____

6.11 Distance between your original home and present residence _____

6.12 Is any of your family member living in your original home Yes/No

6.12.1 If yes, what is your relationship with him/them?____

6.13 Do you have any relative in this town/village? Yes/No

6.13.1 If yes, what is your relationship with him/them?____

6.14 Did any member of your family go elsewhere for permenent settlement in last one year? Yes/No

6.14.1 If yes, where did they go? Town/Village

6.14.2 Number of persons _____

6.14.3 Has any one come to live permanently in your family from elsewhere in last one year? Yes/No

6.14.4 Number of persons _____

7. Information on residence

7.1 Is it your own/rented house? Own/Rented

7.2 How many rooms are there in your house? Living _____

Kitchen _____ Store room _____ Sitting room _____

Other room _____

7.3 Nature of house: Pucca _____, Pucca wall, tin roof _____

Mud wall, tin roof _____, Kutcha _____

7.4 Are these rooms sufficient to meet your requirements? Yes/No

8. Information on occupational distribution and employment

Sl. No.	Name of the employable member	Occupation (specify)	Sector of employment	Nature of empl.			Nature of unemployment		
				Gainfully employed	Under employment	House hold works	Temp.	Voluntary	Inv lun- tar

9. Nature of household expenditure

Heads of expenditure Class	Items	Daily intake	Daily expenses	Normal monthly expense	Last month expen.	Last year's expenditure (in Taka)
Food	Rice Wheat Others					
Proteins	Fish Meat Others					
Pulses						
Milk and milk prod.						
Vegetables						
Fruits						
Spices						
Edible oil						
Fuel	Wood Kerosene oil Others					
Housing	Construction Repair Rent					
Health care	Medicines Doctor's fees Other medical expenses Toiletry Cosmetics					

Brought forward

Heads of expenditure Class	Items	Normal monthly expenditure	Last month's expenditure	Last year's expenditure
Education	Tuition, books, etc.			
Transport				
Clothing				
Recreation				
Household durables	Furniture, utensils, etc.			
Payment for household services				
Utilities	Water supply T&T, Posts, etc.			
Premium, taxes & fees	Land revenue, Municipal Taxes, T.V. etc.			
Other	Donation, remittances			

Total consumption expenditure Tk. _____

Savings/Investment		Tk.
Loans/Sales of assets/ Disinvestment	(-)	Tk.

10. Information on income of the household

Sl. No.	Name of the earning member	Cash income from occupation				Income in kind		Grand Total
		Pry.	Sec.	Other	Total	Quantity	Value	
.								
.								
.								

11. Information on productive assets of the household

Sl. No.	Description	Nos./Qty.	Value	Income
1.	Land			
2.	Houses			
3.	Shops/godowns			
4.	Share/security bond			
5.	Push cart			
6.	Bullock/Buffalo cart			
7.	Tom-tom			
8.	Rickshaw/Rickshaw van			
9.	Auto rickshaw			
10.	Taxi/Microbus			
11.	Bus			
12.	Truck			
13.	Poultry			
14.	Livestock			
15.	Fruit/Vegetable garden			

12. Information on important household assets

Sl. No.	Description	Numbers	Value
1.	Cot		
2.	Chowki		
3.	Sofa set		
4.	Almirah/Wardrobs		

Continued from prepage

Sl. No.	Description	Number	Value
5.	Dressing table		
6.	Dinning table		
7.	Carpet		
8.	Radio		
9.	Tape Recorder/Two-in-one		
10.	Television		
11.	Refrigerator		
12.	Sewing machine		
13.	Electric iron		
14.	Electric cooker/Heater		
15.	Electric fan		
16.	Bicycle		
17.	Motor cycle		
18.	Motor car		
19.	Watches/clocks		
20.	Dinning set		

APPENDIX - II

(Questionnaire used for survey of establishments)

Institute of Bangladesh Studies, Rajshahi University, 1979

(Research project on pattern of urbanisation of Rajshahi Town - A Socio-Economic Study, 1979).

Nature of sample _____ Respondent's Name _____

Sample No. _____ Position _____

Date of interview _____

Name and address of the establishment _____

Mouza _____ J.L. No. _____ Ward/Union _____

1. Preliminary information on establishments

Name of establi-shments	Year of establi-shment	Location Ward/Uni-on	Nature of estb.	Owner-ship	Descrip-tion of goods/ service	No. of employ-ees	Capital invest.

2. Information on the demand of manpower and nature of employment

Manager-ial per-sonnel	Tech. perso-nnel	Super-visor personnel	Personnel engaged		Total	Directly producti			
			Purchase	Sale		Skilled		Unskilled	
						P	T	P	T

3. Do you think that your establishment is under staffed?Yes/No

   3.1 If yes, please specify which kind of staff should be recruited Managerial personnel/Technical personnel/ Supervisory personnel/Skilled labour/Unskilled labour.

4. Do you think that if you could invest more capital, you could earn more and your establishment would flourish? Yes/No

   4.1 If yes, have you explored the possible sources (please specify

   _____

   _____

   _____

5. What, in your opinion, are the main reasons for non-development commercial and industrial establishments in Greater Rajshahi? (Please list the factors chronologically in order of importance

Factors	Number
(a) Enterpreneural initiative	
(b) Loan facility	
(c) Marketing facility	
(d) Transport facility	
(e) Physical facility	
(f) Energy facility	
(g) Infrastructure facilities	
(h) Labour facility	
(i) Govt. control including licence, permission, etc.	
(j) Tax exemption	

APPENDIX - III

Area, total population and total households of Greater Rajshahi by Municipal Ward and Union Mouza (Suburban)

A. Municipal Area

The Rajshahi municipal area comprises of the following Mouza and divided into eight wards covering 4064 acres i.e., 6.35 square miles according to the Rajshahi Pourasava (Municipality) records. The Rajshahi municipality was established in 1876 covering an area of 3.25 square miles including the Mouza Kazla (part), Ramchandrapur (part), Tantipara, Arojiseroil, Rampur, Sagarpara, Boalia (part) Dargapara, Sreerampur, Chandipur, Nabinagar (part) and Kazihata. The area of the municipality was further extended in 1952 including the remaining parts of Mouza Ramchandrapur, Boalia, Nabinagar and new parts of Mouza Seroil, Baharampur, Laxmipur, Mohishbathan, Haragram and full of Keshobpur Mouza and till to-day this is the area of Rajshahi Municipality.

B. Suburban Area

Greater Rajshahi includes some suburban areas besides the area under municipality. The suburban area under Greater Rajshahi are certain Mouza of these Unions: Damkura, Haripur, Haragram, Sopura, Nawhata, Baragachhi, Parila, Harian, Kazla, Paba and Yusufpur. The Mouza of these Unions are shown in the following page. The total

area of these suburbs is 27833 acres i.e., approximately 43.49 square miles. Thus the Greater Rajshahi covers an area of approximately 49.84 square miles.

Source: Rajshahi Municipality Records
Bangladesh Gazette, 22nd October, 1976.

APPENDIX- IV

A. MUNICIPAL AREA

Ward No.	Area in acres	1961		1974	
		Total Population	Total Households	Total Population	Total Household
I	508	5936	967	11068	1640
II	197	6845	1111	10832	1633
III	109	5743	953	9197	1785
IV	95	6062	722	9173	996
V	445	6946	786	12885	2073
VI	2161	9540	1805	16610	2685
VII	127	6594	1140	10056	1335
VIII	422	9401	1487	14706	2298
Sub-Total:	4064	57067	8971	94527	15747

B. SUBURBAN AREA

Name of Union and Mouza	Area in acres	1961		1974	
		Total Population	Total Household	Total Population	Total Household
I. Paba Union	2330	4100	854	8310	1316
Paba	350	578	133	2269	345
Meherchandi	1000	1996	388	3292	533
Chhotobangram	501	504	109	728	120
Jamalpur	329	260	59	599	109
Bhadra	150	770	169	1422	209

Name of Union and Mouza	Area in acres	1961		1974	
		Total Popn.	Total Household	Total Popn.	Total Household
2. Sopura Union	3508	5532	1078	12567	2499
Mushrail	397	377	79	760	132
Bajesilinda	239	299	45	697	99
Baraipara	118	394	71	71	11
Basua	223	301	66	610	72
Terokhada	193	260	58	392	48
Sopura	540	1523	296	6732	1494
*Barabanagram	1726	2207	427	3068	593
*Kayerdara	72	171	36	237	50
3. Damkura Union	580	437	75	801	130
Harishardaing	302	437	75	784	126
Baisbalad	74	Uninhabited	-	17	4
**Gosainpur	99	Uninhabited	-		
**Deluabari	105	Uninhabited	-		
4. Parila Union	2729	2937	550	5839	926
Maria	410	350	55	744	83
Bhagirathpur	63	290	43	83	11
Ujipukur	221	240	57	529	83
Kechuatail	540	289	57	1000	156
Narikelbari	131	110	19	231	37
Kharkhari	85	153	24	398	62
Kalumeir	114	205	37	357	52

Name of Union and Mouza	Area in acres	1961		1974	
		Total popn.	Total Households	Total popn.	Total Households
Lalitahar	398	418	55	988	149
Purapukur	82	48	11	91	16
Bamansikar	386	475	93	803	166
Balanagar	299	359	72	615	111
5. Kazla Union	1067	3718	682	11406	2257
Motihar	115	129	24	693	294
Keogachhi	179	315	32	812	249
Dharampur	203	536	103	1881	408
Dansmari	133	297	66	1461	243
Khojapur	96	410	84	2735	439
Satbaria	96	1220	202	1978	348
Mirzapur	245	811	171	1846	276
6. Haragram Union	3490	4236	765	7914	1257
Kasiadanga	304	707	123	1702	289
Jhuzkai	437	511	90	860	130
Kulpara	276	238	47	364	58
Barabaria	137	374	74	615	100
Bilbarabaria	138	11	2	16	3
Khirsan	819	537	93	1311	202
Bahra	73	92	19	297	47
Mianpur	182	179	35	203	30
Aliganj	537	769	143	1245	184

Name of Union and Mouza	Area in acres	1961		1974	
		Total popn.	Total Households	Total Popn.	Total Households
Goalpara	115	437	76	250	49
***Mollapara	109	-	-	661	103
Pukuria	363	381	63	390	62
7. Haripur Union	457	1975	339	3278	537
Harupur	337	1864	325	3049	508
**Ashbabpur	56	Uninhabited		-	-
Basori	64	111	14	229	29
8. Nawhata Union	6039	7560	1390	13050	2216
Tikri	299	195	38	221	38
Sreepur	261	250	40	382	43
Mohanandakhali	288	507	88	850	129
Nawhata	291	1180	255	1755	419
Duari	246	625	111	1022	165
Majhigram	136	257	54	448	70
Daulatpur	191	84	14	137	17
Thatta	201	135	25	229	34
Pukuria	322	333	51	516	78
Baroipara	559	288	46	831	111
Tokipur	387	371	68	625	96
Bhugrail	404	506	90	1206	184
Sontoshpur	180	265	48	369	67
Bholabari	314	327	59	530	90
Baya	131	297	67	510	103

Name of Union and Mouza	Area in acres	1961		1974	
		Total Popn.	Total Households	Total Popn.	Total Households
Sindurkusumbi	1712	1940	336	3419	527
**Sitlaipukur	117	Uninhabited	-	-	-
9. Baragachhi Union	2810	2820	555	4925	776
Goaldaha	157	198	35	387	61
Kanpara	186	164	38	224	43
Joykrisnapur	389	359	95	808	129
Panishail	202	298	59	521	78
Birastail	592	802	146	1410	219
Bhawanipur	1094	723	604	6164	967
Kayra	190	276	54	325	41
10. Yusufpur	380	1678	361	3554	438
Belgharia	380	1678	361	3554	438
11. Harian Union	4445	9056	1843	17734	3275
Kukhandi	568	547	121	1043	177
Kismatkukhand	298	357	71	557	92
Kaliurpara	200	99	20	375	67
Budhpara	551	444	79	1239	199
Harian	534	872	182	2538	440
Rupasidanga	91	66	17	471	148
Sucharan	348	510	108	953	153
Mohanpur	67	419	91	721	132

Name of Union and Mouza	Area in acres	1961		1974	
		Total Popn.	Total Households	Total Popn.	Total Households
Hazrapukur	119	410	87	707	115
Maskatadighi	184	406	91	693	127
Bakhrabad	146	509	80	699	130
Samsadipur	392	696	142	1818	513
Emadpur	329	399	90	532	87
Shayempur	618	3322	664	5388	895
Sub-Total:	27834	44049	8496	89378	15627
Grand Total:	31899	101116	17467	183905	31374

Source: Census Report, Rajshahi District, 1961
Village Population Statistics, Rajshahi District, 1974.

*There is no mention of this Mouza in the census report of 1974 but mentioned in the census report of 1961. The population has been estimated here at the rate of 3 per cent annual growth and the household number has been estimated at the same ratio as of 1961.

**There is no mention of this Mouza in the census report of 1974 but mentioned in the census report of 1961 and this Mouza was uninhabited in 1961 and hence population or households could not be estimated.

***There is no mention of this Mouza in the census report of 1961 but mentioned in the census report of 1974. It is perhaps because of the fact that certain Mouza has been divided and this new Mouza emersed.

APPENDIX - V

List of Industrial and Commercial Establishments

Sl. No.	Name, Location and Year of establishment	Number of employees
	Large Manufacturing Industries	
1.	Rajshahi Sugar Mills, Harian	
2.	Rajshahi Jute Mills, Shayempur	
3.	Rajshahi Textile Mills, Naodapara, 1974	900
	Medium Sized Industry	
1.	Aziz Match Factory, Sopura, 1953	379
2.	Aroma Food Industries, Sopura, 1973	141
3.	Dainik Barata, Alupatty, 1976	220
4.	Shukur & Co. Zarda Factory, Kumarpara, 1951	65
5.	ADDCO(Bangladesh) Ltd. Pharmaceutical Industry, Sopura, 1952	58
6.	Garib Nawaj Rice & Oil Refining Industry, Sopura, 1978	72
7.	A. Jalil Brick Manufacturing Industry, Chhoto Banagram, 1965	93
8.	Padma Textiles Industry, Reshampatty, 1973	50
9.	Ladies Garments Tailoring, Shaheb Bazar, 1969	50
10.	Rupsha Transport Industry, Dargapara, 1966	49
	Small Establishments	
(a)	Food and allied establishments	
1.	Bangladesh Flour Mills, Sopura, 1971	20
2.	Bangla Kohinur Biscuit & Bread Factory, Kadirganj, 1967	30

3.	Sada Food (Vermicellis) Factory, Sopura, 1978	27
4.	Shahi Rice/Wheat Milling, Sopura, 1975	25
5.	Hasan Zarda Factory, Sagarpara, 1976	17
6.	Al-Sabah Flour Mills, Rani Bazar, 1972	37
7.	Rahman Flour Mills, Sopura, 1963	9
8.	Shelly Rice Mills, Kadirganj, 1976	8
9.	Rajshahi Oil Mills & Chemical Industries, Ganakpara, 1964	5
10.	Kadirganj Oil Mill, Bosepara, 1973	7
11.	Sopura Rice Mill, Sopura, 1977	4
12.	Hossain Oil Industries, Sopura, 1979	4
13.	Sohail Rice Mill, Naodapara, 1978	4
14.	Uttara Dhan O Ata Kal, Sopura, 1976	2
15.	Golam Rasul & Sons Oil & Atta Mill, Ward- VIII,1962	5
16.	Hossain Ali Oil Mill, Ward- I, 1976	2
17.	Mirza Confectionary, Kumarpara, 1968	5
18.	D.M. Ansary Zarda Factory, Ghoramara, 1948	10
19.	Rajshahi Mistanna Bhandar, Shaheb Bazar, 1924	13
20.	Janata Oil Mills, Kumarpara, 1966	4
21.	Aziz Confectionary, Kumarpara, 1973	6
22.	Tutu Icecream Factory, Ganakpara, 1973	4
23.	Raj Zarda Factory, Bosepara, 1978	8
24.	Shafiqul Weat Milling Industry, Sopura, 1973	2
25.	Noor Rice and Wheat Milling, Sopura, 1977	5
26.	Dayan Rice Mill, Sopura, 1978	1
27.	Bhai Bhai Tel O Atta Mill, Professorpara, 1972	5

28.	Keramat Husking Mill, Sopura, 1962	5
29.	Sekendar Wheat/Rice Milling Industries, Sopura, 1977	3
30.	Happy Icecream Factory, Natore Road, 1964	3
31.	Jalojog Sweets, Shaheb Bazar, 1935	6
32.	Kohinoor Bakery & Confectionary, Shaheb Bazar, 1953	6
33.	Niagra Soda Water Factory, Malopara, 1960	1
34.	Serajul Islam Daal Mill, Ganakpara, 1969	1
35.	Jahangir Lozenge Factory, Miapara, 1958	7
36.	Shamrashi Atta O Tel Kal, Ward- I, 1970	4
37.	Emajuddin Oil, Ata and Rice Mill, Ward- I, 1974	2
38.	Iman Oil Mill, Ward- I, 1974	6
39.	Khairul Hossain Molla Oil and Oil Mill, Ward-I, 1973	2
40.	Naimuddin Oil, Ata and Rice Mill,Ward-I, 1965	2
41.	Quayium Rice and Ata Mill, Ward-I, 1976	1
42.	Majid Rice and Ata Mill, Ward-I, 1974	2
43.	Naziruddin Rice and Ata Mill, Ward- I, 1979	2
44.	Shamsuddin Rice and Ata Mill, Ward- I, 1979	2
45.	Chandulla Dhan O Ata Kal, Ward- I, 1976	2
46.	Tripti Biscuit Factory, Ward- VIII, 1965	4
47.	Mannan Brothers Oil and Wheat Mill, Ward- VIII,1975	5
48.	Afsar Ali Tel O Wheat Mill, Ward- VIII, 1971	7
49.	Jubilee Icecream Factory, Ward- VIII, 1965	3
50.	Chowdhury Rice and Wheat Mill, Ward- VIII, 1973	5
51.	Halima Ata Mill, Ward- V, 1978	2

52.	Naimuddin Ata Mill, Ward- V, 1966	2
53.	Nazrul Islam Rice and Ata Mill, Ward- VI, 1968	1
54.	Tuhin Rice and Flour Mill, Ward- V, 1976	1
55.	Babul Bread and Biscuit Factory, Ward- V, 1969	12
56.	Khawaja Ahmed Rice and Flour Mill, Ward- VI, 1973	1
57.	Asha Ata Mill, Ward- VI, 1962	1
58.	Diamond Ata and Rice Mill, Ward- VI, 1974	2
59.	Jibon Ata O Dhan Kal, Ward- VI, 1976	1
60.	Mizanur Rahman Wheat Mill, Sepoypara, 1964	2
61.	Ekramul Ata Mill, Dargapara, 1974	6
62.	Hosseniganj Rice and Wheat Mill, Hossainiganj, 1965	3
63.	Saida Ata Mill, Sepoypara, 1976	3
64.	Wahab Confectionary, Ward- III, 1967	15
65.	Biscuit Bipani, Ward- III, 1971	12
66.	Firoze Ata Mill, Ward- II, 1973	1
67.	Reza Ata Mill, Ward- II, 1973	2
68.	Amiruddin Ata Mill, Ward- II, 1970	2
69.	Happy Icecream Factory, Ward- II, 1966	3
70.	Badaruddin Ata and Rice Mill, Ward- VI, 1977	2
71.	Siddiqur Rahman Ata and Rice Mill, Ward- VI, 1972	2
72.	Reshdan Ata Mill, Ward- VI, 1974	2
73.	Idris Ali Ata and Rice Mill, Ward- VI, 1963	2
74.	Shayeb Ali Chowdhury Ata and Rice Mill, Ward-VI,1963	2
75.	Aftabuddin Ata and Rice Mill, Ward-VI, 1976	2
76.	Abu Ansar Ata and Rice Mill, Ward- VI, 1969	2

77.	Obaid Ali Ata and Rice Mill, Ward- VI, 1965	2
78.	Shawkat Ali Ata and Rice Mill, Ward- VI, 1963	2
79.	Roushanara Ata and Rice Mill, Ward- VI, 1978	3
80.	Abdul Hakim Ata and Rice Mill, Ward- VI, 1964	3
81.	Bazlur Rahman Ata and Rice Mill, Ward- VI, 1976	2
82.	Pramanik Brother Rice, Oil and Wheat Mill, Shaheb Bazar, 1978	3
83.	Shapla Confectionary, Rani Bazar, 1976	10
84.	Biscuit Biponi, Shaheb Bazar, 1970	12
85.	Yusuf Confectionary, Shaheb Bazar, 1955	9
86.	Yasin Confectionary, Rani Bazar, 1962	5
87.	Alam Biscuit and Bread Factory, Shaheb Bazar, 1947	6
88.	Hasina Bakery, Kumarpara, 1977	3

Hotel Industries

1.	Hotel Gulshan Residential, Station Road, 1966	28
2.	Hotel Rajmahal Residential, Ganakpara, 1977	21
3.	Cafe Kshania, Hossainiganj, 1977	12
4.	Naz Boarding, Rani Bazar, 1958	19
5.	Monzu Boarding, Shaheb Bazar, 1957	26
6.	Hotel Paradise, Ganakpara, 1960	16
7.	Hotel Elegant, Reshampatti, 1978	12
8.	Hotel Moon Residential, Shaheb Bazar, 1978	29

(b) Service Industries and establishments

1.	Milon Cold Storage, Sopura, 1969	12
2.	B.A.D.C. Himagar, Sopura, 1969	12

3.	Obaidur Rahman Saw Mill, Sopura, 1970	6
4.	Stylish Furniture Mart, Sopura, 1972	13
5.	Fresh-up Automatic Steam Laundry, Sopura, 1971	11
6.	North Bengal Automobile Engineering Works, Sopura	18
7.	Bangladesh Hardware, Malopara, 1951	14
8.	Hannan Steel Fabrication Industries, Gorhanga,1969	18
9.	M.F. Automobile Workshop, Alupatti, 1977	22
10.	Friend's Iron and Steel Works, Hossainiganj, 1958	13
11.	Abdur Rahim & Co. Grocery Shop, Shaheb Bazar, 1889	9
12.	A. Fafur & Sons Cloth Shop, Shaheb Bazar, 1962	13
13.	My Press, Sopura, 1968	4
14.	James Repairing Workshop, Laxmipur, 1967	9
15.	Mannan Brother Furniture Mart, Shaikhpara, 1968	9
16.	Faruk Mechanical Industries, Sopura, 1975	9
17.	North Bengal Metal Industries, Sopura, 1959	10
18.	Uttar Banga Shilpa Sramik Samabaya Samity Steel Fabrication Industry, Rani Bazar, 1970	20
19.	Nishat Metal Industries, Kadirganj, 1961	10
20.	Khan Store Electric Equipments, Hetemkhan, 1974	2
21.	Porsha Green Electric Traders, Boalia, 1972	3
22.	Kancher Dokan, Rani Bazar, 1977	3
23.	Taslimuddin Iron and Steel Industries, Haragram, 1977	4
24.	Shilpasree, Kadirganj, 1964 (Musical Instrument)	4
25.	City Soap Factory, Rani Bazar, 1966	10
26.	Bengal Furniture Mart, Sagarpara, 1973	28
27.	F.B. Cane Furnitures, Kadirganj, 1978	4

28.	Habu Bucket Manufacturing Factory, Sopura, 1977	4
29.	Shilpi Tailors, Kumarpara, 1972	10
30.	Majidia Photographers, Bosepara, 1950	6
31.	Mina Jewellery House, Ghoramara, 1955	4
32.	Beauty Agricultural Implements, Pathanpara, 1968	12
33.	The New Press, Rani Bazar, 1968	3
34.	Rahmania Umbrella Factory, Hossainiganj, 1954	5
35.	Modern Furniture, Ghoramara, 1965	8
36.	Adhunik Ashbab Kendra, Kumarpara, 1967	4
37.	Shamim Automobiles, Ghoramara, 1969	5
38.	Studio Moon, Ganakpara, 1972	4
39.	Udayan Nursery, Haragram, 1968	7
40.	Horticulture Base, Haragram, 1972	11
41.	Mirth Printing Press, Reshampatty, 1969	3
42.	Hossain Metal Industries, Sopura, 1967	5
43.	Makhan Richshwahood Factory, Ranibazar, 1958	10
44.	Razzak & Co. Tailors, Shaheb Bazar, 1946	9
45.	Star Studio, Shaheb Bazar, 1957	14
46.	Quality Timber Saw Mill, Shekherchak, 1961	9
47.	Unique Tailors, Shaheb Bazar, 1949	12
48.	Kader Shoe Manufacturing Factory, Hossainiganj, 1972	7
49.	Adhunik Karat Kal, Talaimari, 1962	11
50.	Dress Co. Tailoring, Rani Bazar, 1950	12
51.	Haque Metal Industries, Ward- I, 1975	7
52.	Janata Auto-Engineering Works, Ward- I, 1975	7

53.	Sagar Karat Kal, Ward- I, 1965	8
54.	Golam Motor Repair Works, Ward- I, 1966	5
55.	Shamim Battery Recharging Works, Ward- I, 1975	2
56.	National Auto Engineering Works, Ward- I, 1977	3
57.	Zamzama Furniture Mart, Ward- I, 1977	3
58.	Sueet Auto Repairs, Ward- VIII, 1977	8
59.	Saiful Islam Auto Engineering Works, Ward- VIII,1979	2
60.	Hannan Furniture Mart, Ward- VIII, 1976	3
61.	Lovely Iron and Steel Works, Ward- VIII, 1976	4
62.	Shahinoor Auto Engineering Works, Ward- VIII, 1978	4
63.	Al-Madina Saw Mill, Ward- VIII, 1979	6
64.	Rahman Motor Workshop, Ward- VIII, 1979	10
65.	Monzu Petroleum Kerosene Agency, Ward- VIII, 1970	5
66.	Raju Cycle Store (Hardware), Ward- VI, 1979	1
67.	Ansar Ali Grocery Store, Ward- V, 1966	3
68.	Shaheda Battery and Dynamo Works, Ward- VI, 1972	4
69.	Studio Runa, Ward- V, 1973	2
70.	Shahara Metal Industries, Ward- V, 1978	2
71.	Iqbal Hardware Store, Ward- VI, 1979	1
72.	Sohail Auto Repairs, Sepoypara, 1974	16
73.	Sanguine Tailors, Sepoypara, 1964	3
74.	Nazmul Hasan Furniture Mart, Sepoypara, 1974	8
75.	Biplob Furniture Mart, Sepoypara, 1978	3
76.	Zaman Furniture Mart, Sepoypara, 1977	3
77.	Suravi Furniture Mart, Sepoypara, 1971	4
78.	National Furniture Mart, Sepoypara, 1978	5

79.	Janata Furniture Mart, Sepoypara, 1974	4
80.	Mannan Brothers Furniture Mart, Shaikhpara, 1972	10
81.	Kamal Furniture Mart, Shaikhpara, 1976	3
82.	Moznu Furniture Mart, Shaikhpara, 1978	3
83.	Rupam Press, Ward- II, 1979	6
84.	Mukul Press, Ward- II, 1976	3
85.	Udayan Press, Ward- III, 1975	2
86.	Tamoghna Jantralaya, Ward- III, 1964	8
87.	Unique Press, Ward- II, 1970	3
88.	Tuhin Ashbab Bipani, Ward- III, 1975	7
89.	The Royal Printing Press, Ward- III, 1966	3
90.	Subarna Photo Studio, Ward- III, 1974	3
91.	Moon Variety Store, Ward- II, 1974	1
92.	Suravi Radio-TV Repairing, Ward- V, 1979	2
93.	Sunrise Tailors, Malopara, 1954	4
94.	Khaleque Brothers Quilt Maker, Shaheb Bazar, 1950	10
95.	Eastern Watch Maker, Shaheb Bazar, 1948	7
96.	Hossain Metal Industries, Sultanabad, 1961	7
97.	Gafur & Sons Cloth Shop, Shaheb Bazar, 1962	13
98.	North Bengal Ayurvedic Oushadhalaya, Seroil, 1970	10
99.	Khawaja Ahmed Silk Weaving Factory, Sopura, 1975	17
100.	Padma Textiles, Reshampatti, 1973	20
101.	Nirala Mudrani, Ghoramara, 1966	4
102.	Barnali Cinema, Boalia, 1968	40
103.	Silk Textile Ltd. Sopura, 1977	20
104.	Seba Laboratories, Siroil, 1970	25

105.	S.R. Pharmaceutical Industries, Kadirganj, 1970	5
106.	Rupali Chemical Industries, Kadirganj, 1974	6
107.	Munnu Weaving Factory, Sopura, 1974	10
108.	Janaseva Clinic (Health), Ward- VI, 1978	10
109.	Young & Co. Tailors, Ganakpara, 1950	5
110.	D.K. Basak & Co. Radio-TV Dealer, Shaheb Bazar, 1959	3
111.	Gulnar Mahila Bitan, Ganakpara, 1979	3
112.	Bangladesh Book Corporation, Shaheb Bazar, 1962	3
113.	Rahman Brothers Aratdari, Shaheb Bazar, 1978	6
114.	Shantos Kumar Mojumder (Aratdari), Rani Bazar,1968	4
115.	Nalini Mohan Samaddar & Sons (Aratdari), Ranibazar, 1952	5

N.B. The list of establishments furnished above is not the exhaustive one. Besides these, there are a few hundreds small establishments, the list of which could not be furnished here because of time and resources constraint.

APPENDIX - VI

List of Educational Institutions

A. Primary Schools (Municipal Area)

1. Ranchandrapur Primary School
2. Khademul Islam Primary School
3. Jubilee Primary School
4. Kharbana Primary School
5. Bholanath Primary School
6. Monnujan Primary School
7. P.N. Primary School
8. Collegiate Primary School
9. Dargapara Primary School
10. Pathanpara Primary School
11. Loke Nath Primary School
12. Chandipur Primary School
13. River View Kindergarten Primary School
14. Laxmipur Primary School
15. Laboratory Primary School
16. Julfia Primary School
17. Keshobpur Primary School
18. Court Academy Primary School
19. Mission Primary School
20. Halanabad Primary School
21. Helenabad Colony Primary School

22. Hossainiganj Primary School
23. Muslim Primary School
24. Hetemkhan Primary School
25. Rajshahi Primary School
26. Kadirganj Primary School
27. Seroil Primary School
28. Sabitry Primary School
29. Railway Colony Primary School
30. Gourhanga Primary School
31. Darikharbana Primary School
32. Shahid Nazmul Haque Primary School
33. Tikapara Primary School
34. P.T.I. Experimental Primary School

B. <u>High Schools (Municipal Area)</u>

1. Khademul Islam Girls' High School
2. Raninagar Adarsha High School
3. Bholanath B.B. Hindu Academy
4. P.N. Govt. Girls' High School
5. Collegiate High School
6. Lokenath High School
7. Laxmipur Girls' High School
8. Court Academy High School
9. Mission Girls' High School
10. Helenabad Govt. Girls' High School
11. Rajshahi Girls' High School

12. Muslim High School
13. Govt. Laboratory High School
14. Seroil Govt. Boys High School
15. Govt. High Madrasha
16. Govt. Deaf and Dumb High School
17. Sabitri Girls' High School
18. Shaheed Nazmul Haque Girls' High School

C. Primary School (Suburban Area)

1. Vadra Primary School
2. Namo-Varda Primary School
3. Chhoto Banogram Primary School
4. Mushrail Primary School
5. Seroil Colony Primary School
6. Seroil Match Factory Primary School
7. Upashahar Primary School
8. Naodapara Primary School
9. Atekoshi Primary School
10. Shilinda Primary School
11. T&T Primary School
12. Damkura Primary School
13. Sitlaipukur Primary School
14. Tikore Primary School
15. Maria Primary School
16. Harian Primary School
17. Sucharan Primary School

18. Kukhandi Primary School
19. Maskatadighi Primary School
20. Budhpara Primary School
21. Samshadipur Primary School
22. Parila Primary School
23. Kharkhari Primary School
24. Kayara Primary School
25. Baragachhi Primary School
26. Kulpara Primary School
27. Nawhata Primary School
28. Baya Primary School
29. Duari Primary School
30. Kasiadanga Primary School
31. Kulpara Primary School
32. Khirsan Primary School
33. Harupur Primary School
34. Haripur Primary School
35. Kazla Primary School
36. Danshmari Primary School
37. Mirzapur Primary School
38. Nabinagar Primary School
39. Sindurkusumbi Primary School
40. Bhawanipur Primary School
41. Mollapara Primary School
42. Shayempur Primary School

43. Khojapur Primary School

44. University Experimental Primary School

D. High School (Suburban Area)

1. Rajshahi University Experimental High School
2. Danshmari High School
3. Kharkhari High School
4. Maskatadighi High School
5. Naodapara Hamidpur High School
6. Nawhata High School
7. Upashahar High School
8. Bargachhi High School
9. Damkurahat High School
10. Kashiadanga High School

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