NORTHEASTERN REGION IN INDIAN SPACE: A GEOGRAPHICAL INQUIRY

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MILI SARMA BARUA



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जवाहरलाल नेहरू विश्वविद्यालय JAWAHARLAL NEHRU UNIVERSITY NEW DELHI-110067

CERTIFICATE

I, Mili Sarma Barua, certify that the dissertation entitled "NORTHEAST REGION IN INDIAN SPACE: A GEOGRAPHICAL INQUIRY" for the degree of MASTER OF PHILOSOPHY is my bonafide work and may be placed before the examiners for evaluation.

> Mil' Sarne Bame (MILI SARMA BARUA)

Forwarded by

Su chanta

Dr. SUCHARITA SEN (SUPERVISOR)

Prof. SARASWATI RAJU (SUPERVISOR)

Prof. ASLAM MAHMOOD

(CHAIRPERSON) Chatrperson for the Study of Beg. Dev School of Social Sciences. School of Social Sciences. School Nebru Universit New Delhi-110 067

DEDICATED TO MY PARENTS

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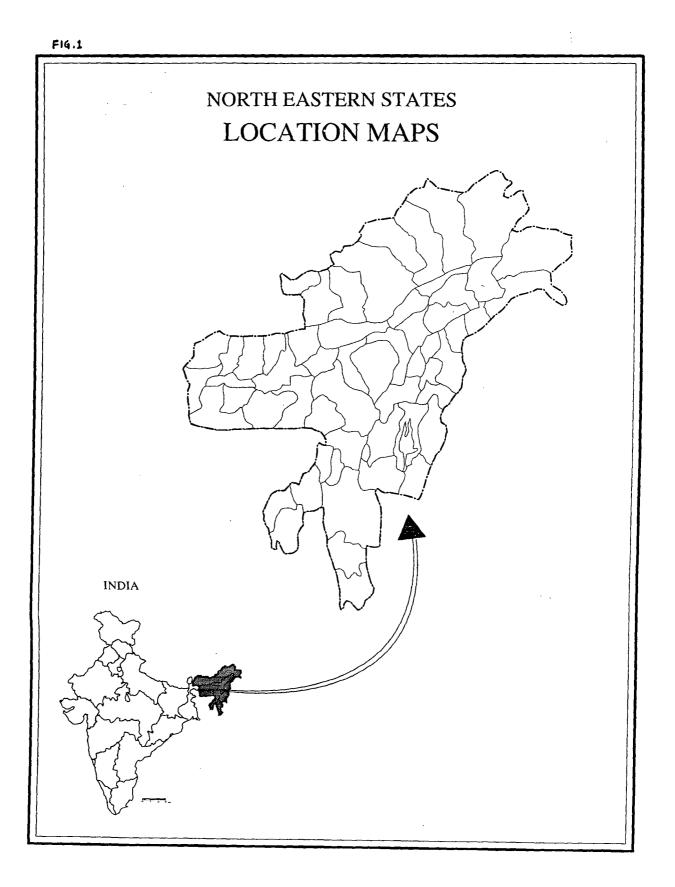
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CHAPTER-1

Introduction

INTRODUCTION

"AS A PERCEPTIVE TRIBAL LEADER OBSERVED MANY YEARS AGO, THEY WANTED TO JOIN THE MAINSTREAM BUT THEY DID NOT WANT TO BE DROWNED IN IT(Singh, 1990)

The fear and insecurity that prevailed among the tribal people in the Northeastern region of India was mainly due to the fact that since time immemorial they have been facing the same treatment that is of being guests in their own land. Moreover the increasing domination and control of resources by the outsiders have also helped in this feeling of alienation or marginalization. Moreover, there are other factors responsible for this feeling and these issues are being taken up in subsequent chapters.

1.1: Marginalization in the context of development:

The dictionary meaning of the word 'marginalize' is to reduce person or place to an insignificant status. We define marginalization as the deliberate disempowerment of a group of people in the federation politically, economically, socially and militarily, by another group or groups, who during the relevant time frame wield power and control the allocation of materials and financial resources at the centre of federation. So it entails the apparent deliberate exclusion of any particular group or groups from having access to any common key positions and common resources, as manifested in the political, economic, educational and bureaucratic realms. For a group to marginalize the other, that group must of necessity, have a functional apex control of any given situation or environment. In the regional context, it is the feeling of the people as being treated inadequately or being deprived of necessary requirements and facilities (Mark, 2001).

1.2: Problem of Regional Imbalance in Development:

The existence of regional inequalities is present in almost all countries of the world; though the intensity differs. It is common in developed countries like USA, Japan etc or countries like Yugoslavia, Poland etc. But in the developing countries, the severity of the problem is much higher. One of the simple explanations of this varying rate of problem is much higher. One of the simple explanations of this varying rate of development is that the development does not take place simultaneously at all points within a country. Variety of reasons may be responsible for this differential rate of development in various regions; they may include historic growth based on natural advantage, non- uniform distribution or high concentration of natural resources, the region which was initially endowed with advantageous position and rich natural resources will attract traders, investments etc. leading to the development of different activities there. The external economies will get generated and thus some regions go ahead of others in the process of development, while others continue to stagnate and the gap between the two categories of regions becomes wider and wider.

Prof. Gunner Myrdal (Myrdal, 1957) believes that economic development results in circular causative process whereby rich are awarded more favour and the efforts of those who lag behind are thwarted. The backwash effect predominates and the spread effect dampened. This circular and cumulative process also known as "vicious cycle of poverty" operates notoriously in underdeveloped economies and in depressed regions within the economy and thereby increasing imbalances. The main cause of regional disparities, according to Myrdal, has been the strong backwash effect and the weak spread effect in under developed countries and hence a higher level of development will strengthen the spread effect and tend to hamper the drift towards regional inequalities; this will sustain economic development and at the same time create more favourable conditions for policies directed at decreasing regional inequalities still further.

Prof. A.O.Hirschman believes that economic development cannot start at the same time and at the same speed in all places. It is his contention that since no underdeveloped country possesses capital and other resources in such quantities as to invest simultaneously in all the sectors, therefore, investment should be made in a few selected sectors for their rapid development and the economies accruing from them can be utilized for development of other sectors. So a region to be developed, developmental activities to be started at a few points of comparative more resources. With increasing concern for distributive aspect of economic development, the policy makers all over the world have considered balanced regional development as an explicit goal.

In India, concentration of economic activities in some parts in some parts of the country has given rise to different policy designs to diffuse growth to wider areas. The central policy issue is how to achieve rapid socio- economic development in backward region without slowing down the development of the more progressive and dynamic region. In the First five-year plan, much attention could not be given to this sector; while in the Second Plan specific attention was given to the pattern of investment in different sectors for balanced regional development. Third plan also dealt with the balanced regional development aspect. However in the mid- term appraisal of the Fourth plan, it has been mentioned that the removal of the intra- state disparities in socio- economic development is the responsibility of the state govt. The planning commission has asked the states to identify their backward areas on rational basis and prepare integrated development plans for such areas. The Planning Commission has also prepared certain guidelines and formulas to find out such backward areas. In the matter of removal of intra- state imbalances, only state govt. are in a position to handle the problem as local planning is the main strategy for development.

1.3: REVIEW OF LITERATURE:

A variety of issues have emerged while going through the literatures related to the topic of study here. They are:

1.3a: In the Context of Regional Growth and Disparities:

The major issue of regional disparity, emerged after the starting of the five year plans, has been discussed in the article, "Sectoral linkages and Strategies of Development In North-east", by Shri Prakash, A.C.Mohapatra and N.P.Goel (1998); where they are discussing the differences between actual goals of the regional planners and the resultant scenario after the planning process. It was felt that once the productive capacity of economy is raised enough, the problem of just distribution of gains of development, both among the regions and groups of persons could be taken care of. But the developmental process itself as certain states like Punjab, Haryana etc have accentuated the interpersonal inequalities have succeeded in recording impressive growth with chosen strategies of development, while others like Bihar, Rajasthan, North-eastern states etc. have lagged behind. Northeastern region's economy, being an integral part of nation's economy needs an appropriate regional growth strategy keeping the natural resource endowments, available human capital and the current structure of economy in view. While discussing the inequalities within northeast, Sreeradha Datta (March 2000) in the article, "Northeast Turmoil: Vital Determinants" makes the British administration responsible for treating the different regions on separate footings. Administrative convenience and strategic considerations led the British to group and regroup territories and Assam emerged as a nodal point and gradually a series of decisions were taken for separate and distinct identities of the different areas in Northeast. Moreover the inner line was drawn marking the extent revenue administration beyond which tribal people were left to manage their own affairs enhancing the political and cultural distance perpetuating the isolationist tendencies. In another article, "Some Reflections... of the Northeast India" (1985), Mr. B.R. Choudhury is looking for reasons behind the lack of development in the region. There was no such concerted effort for development here and there were lots of real obstacles in the region. Moreover the continuing social and ethnic unrest in most of the places of this region are some other reasons of the economic backwardness of the region. While talking about the disparities in the region, the author emphasized on locational advantages and disadvantage in the region and that particular section of people who are holding the steering wheel of progress in the region but do not have any prudence or far sight. Moreover, the main problem lies in the fact that the whole region is unable to utilize the opportunities, which come in its way. R. Vishwanathan, in the context of regional development of northeastern region in the article "Investment and Financing for Development of the North-eastern Region"(1990), focuses on financial and other developmental aspects of industrial development in the region. But he is concentrating

more on suggestions for future development of the industrial sector while the other sectors have mostly remained untouched.

1.3b: In the Context of Economic development:

In the book "Insurgent North-eastern region of India", it is found that economy has developed as a result of colonial commercial interest along with several other factors. All of these cumulatively influenced the separate development of the diverse sub-regions in Northeast. The development processes started in order to reduce disparities and minimize isolation at different levels. It is also believed that infrastructure facilities and initiation of developmental activities will lead towards better forms of integration between diverse people and the region. Policy measures have been undertaken for the development of the inhabitants; while certain measures like Inner line etc. are curbed further alienation and certain other autonomous district councils the ownership and control of land. Among all the economic indicators, bank plays a major role. In the article, "An Empirical Study on the Financing Pattern of DBs and its Impact on Development of the North-eastern region", by A.P.Pati (2001), it has been tried to study the financial pattern of DBs like IFCI, ICICI, IDBI and SIDBI and their impact on the growth of SDP of the North-eastern states and it is found that Assam, being relatively advanced state, have got maximum assistance by DBs to the industrial sector, mainly tea and natural oil industries. In the article, "Economic conditions and Changes in north-east India" (Ganguly, 1986), author J.B. Ganguly talks about the historic processes of state formation as well as the economic changes that took place both in hilly and plain areas of this region. It also talks about the changes taking place during British period as well as in the post independence period. The economy of the hilly regions are completely dominated by jhum cultivation, which was a typical case of stationary economy where most of the production was for selfconsumption; but in the plain economy there was circular flow of economic life where the surplus was appropriated by the so- called 'unproductive class'. It also discusses the role of North Eastern Council in the development of the region regarding the financing and other processes to the different states. The same author, in another article, "Economic

Development and Social tensions in the Northeastern region"(Ganguly, 1984), throws light on yet another aspect of economic development and the increasing social tension in Northeastern region of India. The tension emerged in different themes- as developmental processes caused the emergence of the literate elite class of people, who use to raise their voices against the political and economic instruments used for development of their area; the tribal society has undergone the changes with economic development as they have been stratified into 2/3 groups and conflicts started in society between tribals and non-tribals or among different tribal groups. A.K.Agarwal, in the book "Northeastern Economy- Problems and Prospects", discusses different aspects of economy of Northeast India. In the chapter, 'Efficiency of Planning in Northeastern region'(Agarwal, 1989), he tries to look at the plan investment pattern in different states of Northeast starting from First five year plan up to the Seven plan and discusses the various problems arising in economy this region.

While looking for agendas for the region's development the study will remain incomplete if we do not include the possibility of the region's trading operations. Mr. C.P.Saikia (2002), in the editorial of Assam Tribune has talked about the importance of cross- border trade for the region's development, which was severely affected after the partition of the country. For its restoration funds may be available from Asian Development bank and this fund to be utilized mainly in construction and maintenance of roads for trading and transportation purposes. In another article, Kalyan Baruah(2002) in Assam tribune had discussed the official and unofficial trading items along with an unreleased report on the cross-border trade between Northeast and nearby countries. Certain suggestions have also been made so that the region can form an important gateway to expanded trade with more affluent Asian markets. The Economic Survey Report of 1999-2000 by govt. of India (Dept. of Economic Survey, 1991-2000) has also mentioned the opening of border trade between India and Myanmar during 8th plan period by which both the countries will be highly profited.

1.3c: In Social Context:

Like other aspects of Northeastern states, the society or other social aspects also mostly remained untouched in the literatures. Dr. A.P.Sinha, in his article "Social change in northeast India" (1986), discusses the social changes taking place in northeast India-both hills and plains through the decades. There is prominent social change in the region one during the time of entry of the British about one and a half-century ago and also during the time of Independence. Missionaries also entered northeast at the same time when the Britishers entered the region. Missionary activities included the spreading of education and Christianity had a far-reaching effect on the society mainly on the tribes; while the post- independence developments were responsible for a different kind of social change mainly in infrastructure sector. With development and modernization, the tribals took time to get adjusted to the changes in the society- most of them had gone through two prominent crisis- crisis of culture and crisis of exploitation. B.K.Royburman, in the article, "Issues in the Northeast: An Appraisal" (1984), tries to look at the different social factors leading to the feeling of alienation among the people inhabiting the region. Though in brief, here it has been tried to question the viability of the smallness of the different states of northeast most of which were together at one time. Again the lack of prominent caste structure is another differentiating factor for the people of this region from the rest of India. Lack of participation of local people in the process of nationbuilding and certain objective indicators for northeast in relation to other Indian states have also fuels the feeling of alienation among the people of the region. Blame has been put on the colonial rulers who did not make any productive investment in the region and also on the faulty developmental policies. Sreeradha Datta, in her paper, "Northeast Turmoil: Vital Determinants", has cited migration as one of the major determinant of the socio-political changes in the Northeastern region.

1.3d: In Context of Infrastructure sector:

P.Krishnan, in the paper, "Development of transportation Infrastructure"(), talks about the inadequate transport infrastructure in the Northeastern region; which is a major reason of its backwardness. It looks at the different modes of transportation in the region during 1980's and search for ways to improve it. The author realizes the need to develop this infrastructure for the overall development of this region. B.R.Choudhury, in the article "Some Reflections on the Strategy of the Economic Development Of the Northeast India" (1985), also looks at transport infrastructure as one of the pre- requisite for development of Northeast-, which has already been recognized as the priority sector, and also Crores of rupees have been allotted with very little development. Choudhury therefore asks for a planned development of this sector. A.K.Agarwal, in "Northeastern economy- Problems and Prospects" (1988), talked about the insufficient coverage and capacity of transport infrastructure in the region and due to which developmental activities could not be reached to the remote areas in the region; moreover, railways can not be constructed in most of the hilly areas and therefore roads are to be properly constructed there.

1.3e: In context of Regional Isolation/ feeling of Marginality:

The isolation of the Northeastern region from the rest of the country has mostly been discussed in locational terms. But Sreeradha Datta in the article" Northeast Turmoil: Vital determinants", has also discussed in terms of historical, geographical and psychological terms where it is said that Northeast as a region is a postcolonial concept. Its geographical isolation is being aggravated by partition as prior to it northeast used to have traditional economic linkages with its neighbouring countries. H.K.Borpujari, in his book "Northeast India: Problems, policies and Prospects"(1998) has mentioned the stepmotherly treatment and utter neglect of the centre towards Assam and other Northeastern states which is at the root of the region's backwardness. There is mention of resource exploitation by taking out raw material to feed industries elsewhere and total neglect of insurgency which finds its origin with the feeling of separate identity in terms of ethnicity, culture and history combined with the feeling of neglect and being discriminated and lack of good governance by the central authority or government. The other instance of neglect can be seen from the time of partition, with the tenuous Siliguri

land link with the rest of the country and bordering foreign countries. The Northeast has virtually become land-locked and entrepot of Chittagong (presently Bangladesh) was lost and so was the use of Brahmaputra waterway for commerce. In the article 'Fifty years of India's independence" (1998), Harish K. Puri is trying to find out the significant aspects of the regions peripherality and marginality; where he also points out the after effects of partition in respect of transport and communication with rest of the country and neighbouring countries. In the book "History of Arunachal Pradesh", author M.L.Bose tries to look at the process of historical development of the concept of 'Inner line', 'Outer line' and how are they leading to the demarcation of the indigenous tribes from the people living in the plains. The role of government was very minimal beyond the 'Inner line' since its inception and it plays a major role in the alienation of the hill people in the region. The Outer line was for the benefit of the British govt. which was purposely undefined so that any tract of territory could be brought under the jurisdiction of district officers when need arises. B.K.Roy Barman, in article "Issues in the Northeast: An Appraisal"(1984), discusses the different situations leading to the feeling of alienation among the people of the Northeastern region. Smallness of the states, lack of understanding and participation of the native people in the nation-building process and policy failures are some of the important reasons, which are discussed here. Sreeradha Datta, in her paper, "Northeast Turmoil: Vital Determinants", talks about the role of inner line in enhancing the cultural and political distance between the tribal people and the plainsman and the perpetuation of the isolationist tendencies which continued even after the reorganization of the region in 1956. Moreover, due to cultural chasm and lack of psychological integration with rest of the country, the tribal Northeast remained aloof to the unifying influence of the freedom struggle. Again the post independence activity led the tribals to feel that their identity will get submerged into the mainstream India and this was another important reason for them not to mingle up with the rest of India.

1.3f: In the Context of Core-periphery Relationship:

S.C.Srivastava has described the locus of northeast within the cultural map of India as a core-periphery relationship in the book "Levels and Structures of Development- An

Inter- district study of Northeast India" (2001). Sreeradha Datta, in "Northeast Turmoil: Vital Determinants" talks about the strategies of Britishers to group and regroup territories according to their convenience and strategic considerations and after a long granulating period emergence of Assam as a nodal point. R.Gopalakrishnan(1999) has made another similar kind of attempt in his book, "Northeast India- From a Geographical Expression to a Regional Accommodation" to evolve a framework of territorial politics of Northeastern region with the core- periphery theme as a focus. For Northeast at least 60% of the study area comes within the category of hills and mountains section, the centre play a consequential role and determine the pattern of interaction. Here author discusses the development of Upper Assam as dominant core with Middle Brahmaputra valley as semi- periphery during the Ahom period; while during post- British phase, more number of regional focis developed either due to Missionary activities or because of new policies. More traditional cores developed in Brahmaputra valley with increasing linkages for trade and commerce and also due to oil exploration, tea cultivation, railroad development etc. Certain negative zones also developed which became the area of sociopolitical instability and helped in increasing disparities. The contribution of the core areas in Northeast economy is ninety percent.

1.3g: In Context of Centre-State relationship:

Most studies regarding the centre- state relations have been done on financial terms. In the article "Northeast Turmoil: Vital Determinants", Sreeradha Datta has talked about The central Governments generosity in allocating aids towards Northeastern states. In comparison to the other states, northeast has the highest percapita investment in the country and also enjoys the Special category Status for the development of the backward areas; still not being able to develop much. The paper "Financing of State's Plans: A Perspective for Regional Development" (Ansari, 1987), is a study of pattern of plan expenditures among different states especially in the light of fiscal constraints faced by the states. This study finds out that rate of increase in central assistance to backward state was observed marginally higher than to other states, though in absolute terms it is not sufficient. Therefore it recommends a higher magnitude of public investment in the underdeveloped regions to provide infrastructure facilities, which, in turn will attract private investment. Hemlata Rao, in her Book " Centre State Financial Relations"(1981), is concerned with the horizontal transfer of funds among the states rather than the vertical transfer from centre to the states as a whole. Here, the author is more concentrating on the relative magnitude of the central transfer to the individual states, which is based on recommendations of both planning commission and successive finance commissions; and has concluded that the present system of horizontal fiscal transfer needs a thorough overhauling. In "Economy of the Northeast- Policy, Present Condition and Future Possibilities", Gulshan Sachdeva finds out that except for institutional finance Northeastern region is not financially neglected; though major portion of the overall receipt comes from Central Government as state Governments failed to develop their own resources. The present financial situation of many Northeastern states is not sustainable even in medium run, so either the Central funding to be increased or the expenditures to be cut down or raise internal resources. He suggests that the time has come when income tax for tribals in the region could be introduced.

1.4: Objective of Study:

While balanced development is the talk of the hour, it has been noticed that most of the time it remains in the text or in the policies only. India, being a vast country, presents a picture of extreme regional variations in terms of development. The Northeastern part of the country comprising the seven mostly hill states has its own identity. Despite of being endowed with vast natural resources, the region is still lagging much behind in the process of development. Therefore, the major thrust of the present study is to understand whether the Northeastern region really stands as a marginalized one? And if so, then what are the areas where it is being marginalized and what are the major processes behind it.

Since a major portion the existing literature is mainly dealing with the political and economic Marginalization sides, here an attempt has been made to look at it from an inter and intra regional viewpoint. It also attempts to look at the region from a core-periphery viewpoint to find out the inter- dependencies and also an attempt is made to look at the social and economic indicators of development in the region.

Specific objectives of this present study are:

- To asses if the Northeast India occupied a marginal space vis-à-vis rest of India on the basis of distance emerging from various economic, social and political factors.
- If indeed the Northeast occupied a marginalized space then to what extent marginality is shared within different states of Northeast India.
- To examine the temporal inter- regional and intra- regional developmental pattern within the Northeastern region.

1.5: Selection of the Study Area:

The area for which the present study is proposed to be undertaken is Northeast India, comprising the seven states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura. Many studies have been done at state and district level in many states of India; but for Northeast India, the number of studies are quite less. But it is generally argued that spatial disparities at the levels of socio- economic development of any economy can be better assessed when the data collected are for smaller units. In the present study, the main limitation was the lack of comparable data. For the purpose of studying inter- temporal disparities in the level of socio- economic development within the region, the three decades i.e. 1971, 1981 and 1991 have been taken. For state level study, these three time periods were used; but for district level analysis however, because of the above-mentioned data limitations, only 1981 and 1991- have been taken into account.

1.5a: Introduction to the Study Area:

Northeast India is in itself a miniature world. For nowhere else in the world can so much scenic, ethnic and cultural diversity be found in such a relatively small geographical area.

The Northeastern region of India, comprising Assam, Arunachal Pradesh, Manipur, Mizoram, Meghalaya, Nagaland and Tripura, has a different identity. Representing about 7.97 percent area of Indian Territory and less than 4 percent of its population, this region has been surrounded by parts of Bhutan, Tibet, Bangladesh and Myanmar and is connected to the mainland India by a very narrow strip of land in West Bengal. While the territory remains same for all the years, the boundaries of these states have seen a lot of alteration. In 1947, Arunachal Pradesh, Nagaland, Meghalaya and Mizoram, all formed parts of Assam. Manipur was merged with India on 15th October 1948; while Tripura was added on 9th September 1949. Arunachal Pradesh became full-fledged state in 1975 and Nagaland in 1963.

Arunachal Pradesh, spread over an area of about 83578 sq km provides an interesting picture of an amalgam of diverse physiographical features. The total population is almost completely tribal. The economy is predominantly agricultural with 80 percent of the total landholding in the small and marginal sector and maximum workforce is mainly engaged in shifting cultivation; while the rest is engaged in the gradually emerging tertiary sectors. The secondary sector employment is mainly in the forest based industries and also handloom and handicraft sector. The tertiary sector employment is mainly in government jobs.

Assam comprises an area of 78,523-sq km. Except for the districts of Karbi Anglong and North Cachar Hills; Assam is generally composed of plains and river valleys. The Brahmaputra Valley is the dominant physical feature of Assam. The elongated valley of the mighty river Brahmaputra wholly occupies the northern part of Assam. Most of Assam's population lives in these valley and Himalayan foothills in the north and another lower range of hills and mountains in the south bound the valley. In the centre part of Assam, to the south of the hills is Barak valley, which is contiguous with the densely populated country of Bangladesh. Economy of Assam is acutely dependent on the agricultural sector. A majority of state's population, almost 90 percent of an estimated 22.4 million in 1991, live in rural areas where the mainstay is production agriculture. Tea industry is important in Assam along with Natural Oil and Gas etc. Other activities include the forest based industries, handicraft and handloom etc

Manipur was once a princely state. There have been waves of Dravidians to Manipur over the centuries. The Meitis, usually referred to as Manipuris constitute most of the population. Nagas and Kukis also live in Manipur. Agriculture and allied activities provide the backbone to the economy. Weaving, pisciculturea, logging, handloom and handicraft are some of the traditional activities in the state.

Meghalaya's population is mostly comprised of indigenous people. The main tribes of Meghalaya are the Hynniew Trep, a conglomerate of Khasis and the Jaintia or Pnars, and the Achiks or garos. Meghalaya is rich in natural resources like limestone, coal, granite, uranium and only state with surplus power generation. Most of these natural resources are extracted and sent outside the region in raw form. Agriculture is the mainstay of people and plays a predominant role in the region's economy. Over the years it is observed that there is little fluctuation in the sectoral contribution in the state's economy.

The Nagas, inhabit the hilly Patkai range running roughly parallel to the Brahmaputra valley. The Hukwang valley in Myanmar in the northeast bound this region, the plains of Brahmaputra in the northwest, Cachar in Assam in southwest and Chindwin in Myanmar in the east. The Nagas, who are demographically Mongolian, are divided into about forty tribes such as Angami, Sema, lotha, Ao, Tangkhul, Chasesang, Konyak, Rengma, Mao. In Nagaland, Assamese based Nagamese is commonly spoken as the lingua franca. Agriculture and animal husbandry, including poultry are the main occupations of the Nagas. Bamboo, cane, Spear making, weaving is traditional occupations of the people of Nagaland. Secondary sector is small; traditional village industries based on local forest product are important. The state possesses natural oil reserves too. It shares border with Myanmar and has huge potential of developing border trade.

Mizoram has a diverse population of communities such as the Lushais, Chakmas, ralte, paite etc. Most tribes are Christian. Riangs and Chakmas are Buddhists. The main language of Mizoram is Mizo, Hmar, Chakma, lai, Mara, Ralte etc.

Tripura shares 80 percent of its borders with Bangladesh. The indigenous population is called Boroks and their language is called Kok-borok. The geographical location of the state led the state to a demographic sea change caused by migration of hundreds of thousand of Bangladeshis. The economy is agrarian here too. Agriculture generates about 64% of employment in the state. Tripura's geographical isolation and poor development in infrastructure have gone a long way to hinder the scope of its economic progress.

1.6: Selection of Indicators of Development:

In the present study, the following three sets of indicators were considered to study Northeastern India. They are:

- Social Indicators
- Economic Indicators
- Infrastructural Indicators

For each of these categories, a number of indicators have been selected. The selection of these indicators has been done on the basis of the understanding of the concept of development in conjunction with various empirical studies conducted in the field. Also the duplication of variables has been avoided. The variables selected are as follows: Group I: Social Indicators-

- i) Sex ratio (below 6yrs of age)
- ii) Percentage of literates
- iii) Old-age dependency ratio
- iv) Percentage of women workers

Group II: Economic Indicators-

i) Net sown area as percentage to total reporting area

- ii) Net irrigated area as percentage to net sown area
- iii) Percentage of industrial workforce (both household and non-household)
- iv) Percentage of urban population

Group III: Infrastructural Indicators-

- i) Credit- deposit ratio
- ii) Surface road length as percentage to total road length
- iii) Hospital beds per lakh population
- iv) Percapita bank credit
- v) No of primary school per lakh population
- vi) Percentage of household electrified.

1.6a:Rationale of Selecting the Above Indicators:

"While collecting, compiling and analysing the data for a study, it is, therefore important to ensure comparability over time and space" (Kundu, 1980). Here the indicators in social sector includes Sex ratio (below 6 yr. of age); as otherwise there is chance of including data on general sex ratio which is very much influenced by migration. Percentage of literate population is helpful in measuring social awareness and level of social development; while old- age dependency ratio measures the rate of dependant old- age people on the working group of population, which is very important for a society. Percentage of women workers provides an insight into the participation rate and status of women in a society

Among the economic indicators, lack of data restricted this study to include certain more effective indicators of development. Percentage of net sown area to the total reporting area and percentage of net irrigated area to the total net sown area provides information regarding the agricultural sector. Owing to the slow process of industrialisation and data availability, only percentage of industrial workers is taken into account here. Percentage of urban population is not a direct economic indicator, but as we know that due to more and more concentration of secondary and tertiary activities urbanisation takes place in a region.

While choosing the infrastructure indicator, here it is tried to incorporate almost all the sectors of infrastructure- banking, transport, electricity and other social indicators.

1.7:DataBase:

Primarily the present study is based on the data collected from secondary sources. They are:

- 1) Economic Intelligence Survey- Profiles of Districts, October 2000, CMIE
- 2) EIS Basic Statistics- relating to States of India, September 1994, CMIE.
- 3) EIS- "India's Social Sector", February 1996, CMIE
- 4) EIS- "Infrastructure in India", November 1996, CMIE.
- Census of India, Statistical handbook of Assam (1974, 1980, 1982, 1996), Arunachal Pradesh (1970-71, 1986, 1990), Manipur (1983-84, 2000), Nagaland (1974, 1980), Meghalaya (1976, 1994, 1998-99)
- 6) Census of India- Primary Census Abstract, General Population Tables, Series I, Part II B (i), 1971, 1981 and 1991.
- 7) Statistical abstract of India, 2000 and 2001.
- 8) Census of India, "State Profile 1991", India.
- 9) National Human Development Report, 2001.
- 10) Indo- Myanmar Trade, Economic Survey, 1999-2000, Govt. of India.
- 11) RBI Report on Currency and Finance, 1997-1998.
- 12) Basic Statistics of Northeastern Region.

1.8: Methodology:

Once the relevant variables reflecting the level of socio- economic development have been selected, the next job would be to remove the degree of bias in the unit of measurement for each variable by an appropriate method of transformation. The different indicators of development involve different units of measurement e.g. percentage, per 1000 etc. If this bias of scale were not removed, the measures of disparities would be affected. To avoid this, it is necessary to transfer the variables to a uniform scale by some standard method. In the present analysis, it is proposed to use the method of 'Division by Mean' to remove the degree of biasness in the unit of measurement of each variable. The advantage of this method lies in the fact that one can get rid of the bias of scale without affecting the dispersion or the relative position of observations in the series.

After removing the biasness of the selected indicators for different sectors, the following methodologies have been applied in order to test the proposed research objectives.

- (i) In order to find out the position of the Northeastern states among the other Indian states and also to compare or find out the socio- economic distance from that of Indian average, *Simple Average Method* has been applied here. The average is one of the most common tools used to give a representative figure for a collection of numerical information. Here the data for each indicator in three sectors- social, economic and infrastructure for all the Northeastern states are being compared with that for all India average, Eastern state's average. As Assam displays somewhat different characters from that of other Northeastern states in certain aspects, so the average of six Northeastern states are also being compared with that of Assam's average.
- (ii) Distance Matrix: Because of their intuitive appeal, distance measures have enjoyed widespread popularity. Technically, they are best described as ' dissimilarity' measures; most of the more popular coefficients demonstrate similarity by high value within their ranges. Two cases are identical if each one is described by variables with the same magnitude. In this case the distance between them is zero. Distance measures normally have no upper bounds, and are scale dependant. Among the more popular representations of distance is Euclidean Distance, defined as:

$$Dij = \underbrace{\mathbf{x}}_{\mathbf{K} \ge 1} \left(\dot{\mathbf{x}}_{i\mathbf{K}} - \dot{\mathbf{x}}_{j\mathbf{K}} \right)^{\mathcal{L}}$$

Where, dij = distance between

Xik = value of kth variable for the ith case.

To avoid the use of square root, the value of distance is often squared and this is usually indicated by term dij². As might be expected, this expression is referred to as "Squared Euclidean Distance".

- (iii) Cluster analysis: The term 'Cluster Analysis' (first used by Tryon, 1939) actually encompasses a number of different classification algorithms. Most of the literatures on cluster analysis have been written during the past two decades. Important was the book " principles of Numerical Taxonomy", published in 1963 by two biologists, Robert Sokal and Peter Smeath. In 1967, Johnston presented techniques for partitioning objects into optimally homogeneous groups on the basis of empirical measures of similarity among the objects. In 1967, Beale developed the method of performing Euclidean Cluster Analysis. The primary objective of cluster analysis is to classify units into specific clusters according to some chosen criteria. Here the Average Linkage method (Between Groups) has been used for the analysis. This method was proposed by Sokal and Michener (1958), and developed as an antidote to the extremes of both single and complete linkage. Here the average is calculated of the similarity of the case under consideration with all cases in the existing cluster and subsequently joins the case to that cluster if a given level of similarity is achieved using this average value. The most commonly used variant of average linkage is designed to calculate the similarity between the centroids of two clusters that might be merged
- (iv) Coefficient of Variation: In order to find out the variation of various indicators, coefficient of variation has been calculated here. The formula of calculating the Coefficient of variation is:

C.V.= Standard Deviation/Mean*100

The methodologies adopted here are mainly to look at the status of Northeastern states in relation to the other Indian states, i.e. to find out the distance of the Northeastern states from rest of the country. The Simple Average Method helps here to find out the socioeconomic distance of the Northeastern states. The other measure adopted here, i.e. Cluster Analysis helps us to see when certain specific indicators are taken, whether it forms any specific region of similarity or not and how are the regions getting changed with time. Distance Matrix has also proven to be a useful tool in this context.

1.9: Design of the Study:

The present study has been organised into five chapters. The first chapter deals with introduction to the concept of marginalization, review of available literatures, objectives, database, methodology, brief introduction to study area and chapterization. The second chapter deals with evolution of Northeast as a region in context of marginalization; while the third chapter tries to measure the scale of marginalization of the Northeastern states in relation to all India level. The fourth chapter looks at the same issue to a deeper extent, where a district level analysis is being done. The fifth and the last chapter summarise the findings of the whole study.

CHAPTER-2

Evolution of Northeast as a Region

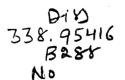
Chapter-2

Introduction

"The Northeast is another India, the most diverse part of a most diverse country, very different, relatively little known and certainly not too well understood, once coy but now turbulent and in transition within the Indian transition. The rest of India and Northeast have much to learn about one another, and the Northeast is still to know itself."¹

The statement itself is a definition, which sees Northeast evolved as a separate unit in relation to the larger Indian Territory. The Northeastern states, comprising Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura has a distinct identity. This land-locked area representing as much as 7.97 percent of Indian Territory and less than four percent of its population has Bangladesh, Bhutan, Myanmar, and Tibet as its immediate neighbours and a tenuous link with India in the west. Topographically the entire region is the eastern Himalayan extension within the encatchment of the great Brahmaputra river system (Singh, 1990). Historically it had strong links with the Gangetic plains, though its natural orientation had been towards the north to Tibet and the east to Southeast Asia. Ethnologically, though there have been distinct Caucasoid and Austroloid strains in its population, the main ethnic stream belongs to the larger Mongoloid stock and their legendary ethnic origin bind them to their northern and eastern neighbours. The region has a variety of social formations from highly complex state systems, such as the Ahoms, and small isolated nomadic band organizations.

2.1: Historical Background:



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From the 13th century till the British conquest, Ahoms from Thailand and Burma, who invaded the region, ruled Assam (then covered most part of the Northeastern region). The advent of Ahoms across the eastern hills in 1228 AD was the turning point in Assam

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¹ 'Ethnicity, Identity, Insurgency', *India's Northeast Resurgent*, Konark Publishers Pvt. Ltd., New Delhi, 1996.

history. They ruled Assam nearly for six centuries. The Burmese entered through eastern borders and overran the territory at a time when court intrigues and dissentions were sapping the vitality of the Ahom royalty. It became a British protectorate in 1826 when the Burmese ceded Assam to British under the provision of Treaty of Yandaboo.

There are practically no record relating to the history of Arunachal Pradesh, except some oral literatures and a number of historical ruins found mainly in foothills. Subsequent excavations have identified the ruins as dating back approximately from the early Christian era. The modern history of Arunachal Pradesh begins with the inception of British rule in Assam after the Treaty of Yandaboo concluded on 24th February 1826. Before 1962, the area was popularly known as the North Eastern Frontier Agency (NEFA) and constituted a part of Assam. Because of its strategic importance, however, the Ministry of External Affairs administered it until 1965 and subsequently by Ministry of Home Affairs, through the Governor of Assam. In 1972, it was constituted as a Union Territory renamed as Arunachal Pradesh. On 20 February 1987, it became the 24th state of Indian Union.

Not much of recorded history of Manipur is available though it has been in existence since time immemorial. According to historians, 'Pakhangba' ascended the throne of one of the seven main principalities in 33 AD and founded a long dynasty which ruled Manipur till 1891. Manipur came under British rule in 1891 and later on it was merged in Indian Union as part 'c' state on 15th October 1949. A territorial council of certain selected members replaced this. Manipur attained full-statehood on 21st January 1972.

Nagas are basically tribal people who had own effective system of self- governance from time immemorial. In 12th and 13th centuries, gradual contacts with Ahoms of present day Assam was established but this did not have any significant impact on the traditional Naga way of life. In 19th century British appeared in the scene and the area was brought under British administration. After independence, the territory was made a centrally administered area in 1957, administered by Governor of Assam. It was known as Naga-Tuensang area. It failed to quell popular aspirations and unrest began. Hence in 1961, this

was renamed as Nagaland and given the status of State of Indian Union; formally inaugurated on 1st December 1963.

Tripura has a long historic past. The history of Tripura can be understood from 'Rajmala' chronicles of Tripura and writings of ancient visitors. There is a reference to rulers of Bengal helping Tripura kings in 14th century. Rulers of Tripura had to face frequent Mughal invasions with varying successes. Nineteenth century marked the beginning of modern era in Tripura when then king modeled his administrative set up on he British India and brought in various reforms. His successors ruled over Tripura till 15th October 1949, when it merged with Indian Union, a part 'c' state. With the reorganization of states in 1956, it became a centrally administered territory. In 1972, this territory attained a status of full-fledged state.

No separate history of Meghalaya can be found. It was a part of Assam, the present Meghalaya capital, Shillong, was once the summer capital of Assam. Meghalaya was created as an autonomous state within the state of Assam on 2nd April 1970. The full-fledged state came into existence on 2nd January 1972.

Mizoram became the 23rd state of Indian Union in February 1987. It was one of the districts of Assam till 1972 when it became a Union Territory. After being annexed by the British in 1891, for the first few years, Lushai Hills in north remained under Assam while the southern half remained under Bengal. Both these parts were amalgamated in 1898 into one district called Lushai Hills district under the Chief Commissioner of Assam. With the implementation of Northeast Reorganization Act in 1972, it became a Union Territory and as a sequel to the signing of the historic memorandum of settlement between Government of India and Mizo National Front in 1986, it was granted statehood on 20th February 1987. Sandwiched between Myanmar and Bangladesh, Mizoram occupies an area of great strategic importance.

2.2: The Root of the Feeling of Alienation/ Marginalization; From a Historical to Contemporary Perspective:

2.2a: The Ahoms:

The Ahoms, who had ruled most of the Northeastern region for such a long period, had mainly entered the region across the Himalayan-Patkai divide. They had come from Thailand and Burma and brought with them their rich cultural and social heritages. They were the descendants of the Mongoloid race (also known as 'Thai' or 'Shan' race) and their legendary ethnic origin binds them to their northern and eastern neighbors. It is said that they have made their homes in the space that was first bi- geographically and then historically India. The Northeast was the eastern gateway to India from the Upper Yagtze, Mekong, Salween and Irrawaddy valleys and thence by the Brahmaputra and Barak waterways to the plains and oceans beyond. And at the same time the rest of India was ruled by the Mughal and until but they could not make any headway in the Northeastern region. Thus the region mostly left untouched by the mainland India's influence for a long time. This situation had given the region a separate identity and the historical records show that the inhabitants were more linked/ inclined towards the neighboring countries of which boundaries were also not very clearly defined. By looking at their social formation, which was highly complex and the regional characteristics, which were so pronounced, even the scholars find it convenient to emphasize its closeness to the Southeast Asian communities (Sinha, 1998). During the Ahom period, Assam had extensive trade relations with neighbouring countries. Through Bhutan, she had trade relations with Tibet and through Tibet with china. Through Bhutan there was a trade route to Kabul. It had relation with Bengal (including present Bangladesh). This also helped in the feeling of more nearness towards the neighbouring countries.

2.2b:The Ahoms towards the Tribals:

While entering the Northeastern region, the Ahoms were also resisted by different tribal communities inhabiting the region. The first Ahom ruler Sukapha is considered to be a great historic hero who defied all the resistance on his way and finally found the land 'Charaideo' to establish his dynasty (Dutta, 1998). During their rule they had to fight

with lots of indigenous tribes ruling the area, mostly with the Nagas and Kacharis. And mostly the Ahoms also left the tribes alone to their own world. They even built some forts in strategic places to check the raids by the tribes. There were lots of problems emerging such as the variety of dialects among the tribes makes it difficult for them to intermingle with other people. Frontiers ran along the hill- plain divide or on the margin of forests. It helped in isolating the people, mainly the tribals from the rest.

2.2c: The Burmese Attack and Entry of Britishers:

During the early part of the nineteenth century, the supremacy of Ahoms got reduced mainly due to the lack of proper rulers. And during one such time, a haughty, arrogant and oppressive Ahom was given a higher position in the ruling, who tried to oppress the people and also went to Burma to request the then King to attack the then Assam. As a result, the Burmese attack took place in four different phases. The Burmese had occupied Manipur in 1819, between 1817 and 1822 they gained complete mastery over the Brahmaputra valley, then in 1824 they made some British naval man captive and in the same month they attacked Cachar and came very near Sylhet frontier. By this time British were convinced that a war is inevitable and Burmese resistance was defied everywhere and finally in December 1925 Burmese offered terms for the termination of hostilities and the Yandaboo Treaty was signed on 26th February, 1826.

2.3: The Mughals:

During the Ahom rule, Mughals also tried to conquer Assam and everytime either Ahoms or the natural barriers prevented them from conquering it. Records show how nature vied with men in repulsing the attack of the invaders. Aurangzeb's general Mir Zumla made the most desperate attempt. But those attacks were foiled not so much by people of Assam as by her forest- clad mountains, torrential rains and furious currents of her rivers. These geographical factors also play an important role in alienating the area from the mainland.

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2.4: The Britishers:

With the defeat of Burmese, the whole of Northeast India came under the control of the British. Though at first they denied any intention of ruling the region, but finally they made up their mind to settle the affairs of the region in their own way. Various units of the region experienced differing periods of exposures to British rule like, Goalpara district of Assam had the longest period of British rule and the northern parts of Arunachal Pradesh the shortest spell. In between Meghalaya felt it for about eight decades, the Nagas for seven decades and the Mizos for five decades only.

The colonial interest dictated the political and administrative arrangement of the region. The prolonged colonial rule consolidated and accentuated separateness. Administrative convenience and strategic considerations led the Britishers to group and regroup the Northeastern territories. For British administration Assam appeared as a nodal point after going through a long granulating period. They introduced the 'Inner Line' with the objective of keeping outside the boundary all "tracts over which semi- savage tribes wandered or in which they lived", for their free intermingling with the people of plains might lead to complications (Bose, 1997). It was drawn marking the extent of revenue administration beyond which the tribal people were left to manage their own affairs. Outsiders were prohibited from crossing the Inner Line without permission. The Inner Line became the frontier within a frontier adding to the seclusion of the hill tribes and increasing the political and cultural distance between them and the plains. This Inner Line system had perpetuated the isolationist tendencies among the people of the region. While Inner Line separated the tribes, the Missionary activities also helped in increasing this tendency in another way. By civilizing the savages they tried to create an impregnable Christian fortress around them.

Another form of Marginalization had come when the Britishers brought Bengalis from the Bengal to appoint in different jobs. The British economic ventures mainly absorbed Bengali clerks and officials and the central Indian tribal people and Bihari labourers were absorbed in tea gardens and oil fields. The natives feel that they were dominated by the Bengalis and therefore, entertained a certain amount of antagonism towards them. The growth of tea industry was one of the most remarkable developments that took place in Assam during British rule, who discovered the existence of tea in Upper Assam. The other industries they developed with foreign capital include coal, oil railways etc. But the major part of the profit were taken out of Assam and paid as dividends to the shareholders in Great Britain.

2.4: The Post- Independence Scenario:

It is said that during the India's freedom struggle, the Northeastern region is said to have lacked the active participation except Assam to some extent. It did not reach out to many of the Northeastern areas, due to constrains of Inner Line regulation and lack of adequate effort on the part of the leaders of freedom movement. This lack of participation failed to incline the mindset of the Northeastern people towards the 'nationality' feeling (Dutta, 1998).

The independence had brought about lots of changes to the mainland India. Similarly it created amongst the tribal elite a sense of expectation which was partly romantic and partly political, and which they could not articulate except through a projection of identity in the vastness of India. But the constituent assembly failed to meet these expectations or to adequately involve the hill tribes in the process of determination of the ways in which their territories were going to be governed in a free India. Violence is contagious. It spread from Naga Hills to Mizo Hills, and then moved on to Manipur, Tripura, Assam and Meghalaya.

The construction of the region called Northeast is a post- 1947 development. The partition aggravated its geo- political isolation as the region is linked with the rest of the country by a narrow land corridor and is surrounded on all sides by international borders. After the partition, traditional lines of communication and transit by water, road and rail were snapped and markets denied or disrupted by cutting off the existing Chittagong port and CHT area and being awarded to Pakistan. Some produce rotted while there was an

acute scarcity of other commodities. This partition deepened the geographical isolation of the region.

The peoples inhabiting the region had, as Jawaharlal Nehru stated candidly at that time, 'little sensation' of belonging to India. The primary concern in the thinking of the Indian leadership after independence related to holding the vast country together. But all that appeared alien and repugnant to the peoples in the region and it was not unnatural that most of the communities in the region felt threatened by the prospect of subjugation to the Indian authority in Delhi and of exploitation by the wily 'outsiders'. The partition, on one hand closed access to goods, markets and communication channels between Bengal (present Bangladesh) and Northeastern region and on the other hand the less guarded boundary and domestic turmoil in Bengal opened the doors to an unending influx of migrants from East Pakistan. By 1991 total number of illegal immigrants rose to seven million generating a nightmare of swamped by the 'hordes of foreigners'. This resulted into violent movements like 'Chakmas' in Arunachal Pradesh, Bengalis in Tripura, Chin refugees (from Myanmar) in Mizoram and Manipur and Bengalis and non- Assamese in Assam.

After independence, the immigrants had caused a lot of trouble. Immigration was not only viewed as the perpetuation of the economic differences between the populations but also as an intended move to attain dominance numerically. The migrants started getting engaged in different sorts of work in the region where the natives were very reluctant to join. Migrants were in majority or near majority in manufacturing, construction, trade and communication sectors. Moreover, substantial proportion of employers in statecontrolled sectors was non- native. It generated some sort of feeling of alienation among the natives and these all gradually lead to a variety of movements in the region.

Prior to commencement of the Constitution, the Hills Districts of Assam were administered as Excluded and Partially Excluded areas. The administration was ore or less of a patriarchial type and was vested in the Deputy Commissioner under the control of Governor acting in his discretion. But a sub- committee of constituent assembly carefully examined the position in these areas before independence. And they realized that there was a need enable the tribal people to safeguard and conserve their way of life and to make it possible for them to participate fully in the political life and administration of the state. Thus the Sixth Schedule of the Constitution provides for the administration of tribal areas in Assam, Meghalaya and Mizoram, which was simple and inexpensive. This is mainly to safeguard their tribal customs and ways of life and secure to them maximum autonomy in the management of their characteristically tribal affairs. Though the Sixth schedule basically for the improvement of the tribals, but it also helped them to get alienated more and more from the rest of India.

The starting of the Five-year plans also influenced the Northeastern part of India. But it failed to link- up resource mobilization and developmental investment policies with the structural specificity of the region. It may be mentioned that over 70 percent of the area in the Northeast consist of hilly terrain, the bulk of which is owned or controlled or managed communally by clans or tribes or village communities; this basic reality is generally ignored in the preparation of records of rights, extension of institutional finance, and the adoption of land- based productive activities like horticulture (Roy Burman, 1984).

The link of the Northeastern region with the rest of India is through a chicken- neck corridor near Siliguri in North Bengal. But despite of large planning and other steps on part of the Indian government, the link has not been improved till date. Though Britishers first encouraged transportation to develop in the region for their own interest, it mainly remained concentrated in Upper Brahmaputra valley, while the remaining parts of the region were loosely linked with main centers. Besides, with the consolidation of the hill territories of the region and relative absence of resources that could be exploited commercially further reinforced the growth of economic core that had already started to develop in the region. This led to disparity in development of the region. All these cumulatively influenced separate development of the diverse sub- regions of the Northeast.

In general the Northeastern region as it evolved through historical time, shared a more or less common historical past. One could, therefore, argue that it would eventually emerge as a cohesive region, a proposition that informs the subsequent analysis. Also one could assume that administrative boundaries carved out later, would have minimal effect on social formations.

CHAPTER-3

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Positioning the Northeastern region in India:

The Issue of Marginalization?

Chapter-3

Introduction

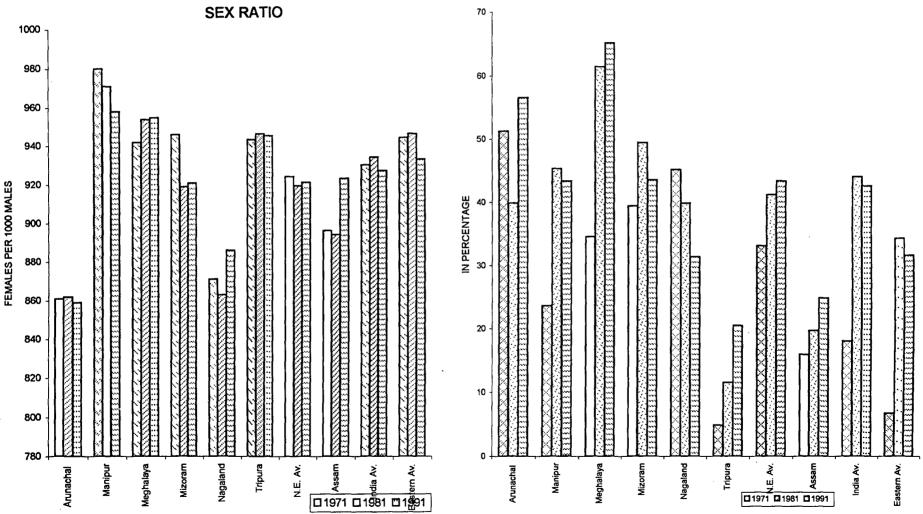
In all regions, irrespective of their level of economic attainment or political system, development at the regional level has come to be felt as an issue of prime importance. Balanced economic development of different regions or states of a large country like India is of great importance not only from the economic point of view but also for political stability and unity of the country. Persistent differences in the level of development enjoyed by various regions within the country have received considerable attention from the government and various policy makers and promotional measures have been attempted to tackle the problem of imbalances in economic growth.

Variations in regional development take place mainly due to unequal natural resource endowments and lack of infrastructure and proper funding. In case of Northeastern part of India, though they are rich in their natural resource base, there seems to be prominent lack of proper initiation processes in the region; while some other states, without their own resource base are doing quite well.

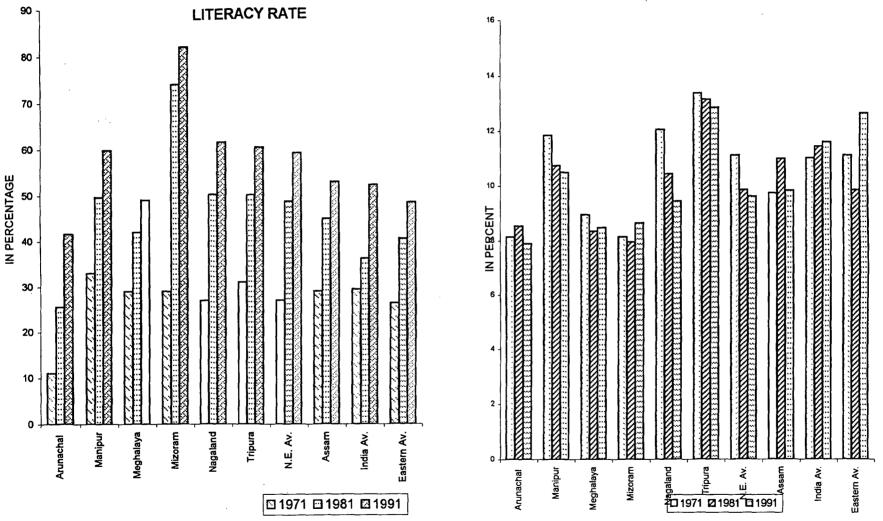
Therefore here it has been tried to look at all the Northeastern states in relation to their other neighbouring states vis-à-vis other developed and developing states of India and also a comparison has been made with the all India average. It is important to take into account the different sectors of development to make these comparisons. Therefore here it is tried to separate out the different sets of indicators into social, economic and infrastructure based on the availability of relevant data.

3.1: The Social Sector:

The social components of any region are unique. In order to understand the process of development in a region, it is very important to look at its various components, whether it is economic, social or infrastructure of any kind.



PERCENTAGE OF WOMEN WORKERS



OLD AGE DEPENDENCY RATIO

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In this section the Northeastern states are being looked at from the point of view of a few social indicators including juvenile sex ratio (below 6 yrs of age), percentage of literates, old age dependency ratio and percentage of women workers.

Juvenile Sex ratio is one of the important social indicators, which shows the general status of women in a society. It helps us to understand the prefencial treatment of society towards male child and encapsulate a whole range of discriminatory practices towards girls. Over the three decades Northeastern states have shown a considerable variation in terms of sex ratio. While there has been very less fluctuation in Indian average sex ratio; a few Northeastern states like Arunachal Pradesh and Nagaland have shown a very low sex ratio which they maintained throughout the three decades. Manipur, Meghalaya and Tripura displayed better sex ratios in 1971, which declined in 1981 and 1991; though it remained higher than the Indian average sex ratio. And within the states, the ratio has remained more or less stable during three decades in Arunachal Pradesh, Tripura and Meghalaya; while it is improving in the states like Nagaland and Assam

The trends in literacy are considered an index of the pace at which the socio- economic transformation of a society is taking place (Chandna, 1996). In 1971, the percentage of literates in almost all the Northeastern states was quite low, as was the all India average; but at the same time Manipur had a literacy rate higher than the all India average. In 1981, almost all the Northeastern states maintained their level of literacy with that of the all India average; although Mizoram shown a major increase between 1971 and 1981 and it remained high in 1991 also. Arunachal Pradesh again remained at the bottom with the lowest rate since 1971. The old-age dependency ratio refers to the structure of population, the ratio between the economically active population and the old dependent ones. A higher dependency ratio implies greater burden on working age population. If work opportunities are not correspondingly available, then the dependency ratio would have a negative bearing on overall standard of living. There has not been much fluctuation among the different states of Northeast as well as Indian average over the decade except in Nagaland, where it is declining. In 1971, the ratio was more for Nagaland and Manipur than the Indian average; while rest of the states had lower ratios. Then in 1991, the old- age dependency ratio was lower than the national average in states like Mizoram, Meghalaya

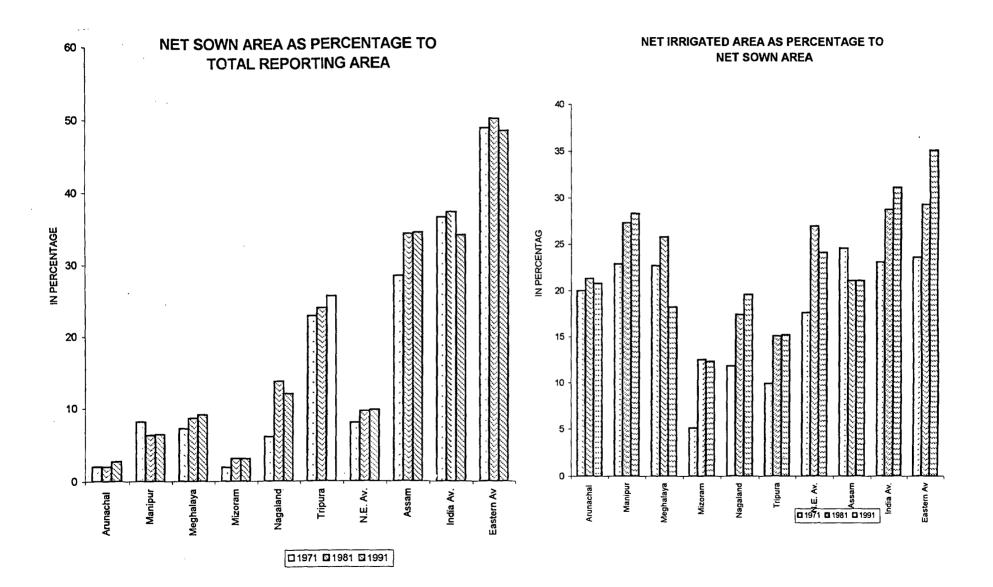
and Arunachal Pradesh. In Arunachal Pradesh, Manipur, Nagaland, Tripura and Assam the dependency ratio is going down; while it is increasing for all India average.

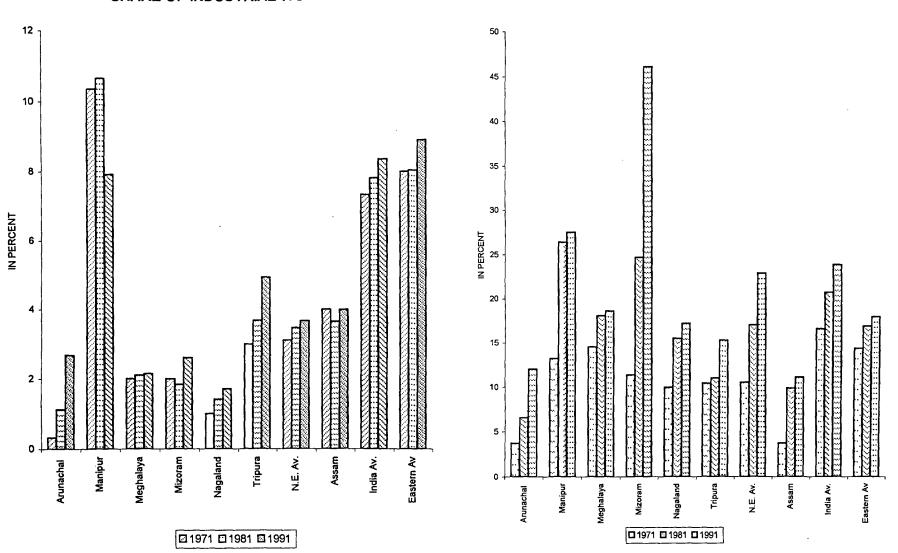
The status of women in a society and consequent social acceptance of female participation in activities outside the four walls of the house is another social determinant of magnitude of working force (Chandna, 1996). From the graph it is clear that Northeastern states, in general, have maintained a better position in terms of female workforce participation compared with Indian average essentially tribal nature of the region as a whole may be one of the reasons for this characteristic.

3.2: The Economic sector:

Agriculture being the primary occupation of most of the people in the region, the percentage of net sown area and percentage of net irrigated area are important indicators of economy in the region among all the data constraints. The percentage of industrial workforce and level of urbanization are the other indicator considered here, as these are representatives of economic transition of any developing region.

Being mostly hilly in character, the Northeastern states have a very low percentage of net sown area as compared to the other Indian states (relatively plain). Majority of the areas in Northeastern states are adapted to shifting cultivation because of its terrain and related ecological constraints. Except Assam and to some extent Tripura, the Northeastern states have significantly lower availability of agricultural land compared with the Indian average. The figures are particularly low in Arunachal Pradesh, Mizoram, Nagaland, Meghalaya and Manipur in 1971. On the other hand in Assam, Brahmaputra and Barak Valley provides the main sowing field of crops. Rice being the main staple food of the region, most of the areas is devoted to its cultivation. In 1981, only Nagaland had shown a remarkable increase in its percentage of net sown area, which has doubled during 1971-81. In Manipur percentage of net sown area declined by 2 percent; while in Meghalaya, Mizoram and Tripura, percentage slightly increased in 1981. Assam's share increased by 6 percent and it came nearer to the national average. In 1991, there was a slight change in





SHARE OF INDUSTRIAL WORKERS

URBAN POPULATION

percentage of net sown area-, which may be due to high population pressure, more areas are being reclaimed from agricultural fields for other purposes; or use of traditional methods in agriculture etc. In 1991, there was a decline in the percentage of net sown area both in national average and in the eastern state average. Thus in terms of availability of agricultural land, Northeastern states except Assam and Tripura are disadvantaged, and bearing some changes and there has been no substantive changes.. Besides the sizes of most of the holdings are very small and uneconomic and pose an obstacle to their operational improvement in a scientific way.

The main source of irrigation in Northeast India is well irrigation. Canals are also used to divert river water to the agricultural fields. In 1971, Manipur, among all the Northeastern states had maximum percentage of net irrigated area, where irrigation potential of Logtak/Imphal Lake has been harnessed for using in agriculture and other purposes. Both in Manipur and Nagaland, the percentage of net irrigated area is increasing; while in Meghalaya it is declining over the period. In Mizoram, Nagaland and Tripura the percentage is quite low; while Assam, in spite of the large potentialities of irrigation, has not been able to develop so much.

The percentage of industrial workers is very low in the whole of Northeastern states; of which majority of the workers are engaged in small scale and household industries. Except Manipur, the percentage of industrial workforce in Northeastern India is quite low in comparison to the all India average. It is seen that the percentage of industrial workers are increasing in the states like Tripura, Arunachal Pradesh, Mizoram and Nagaland; while the percentage remains almost stagnant in states like Meghalaya and Assam. In comparison to the Indian average, in 1971 and 1981 Manipur was in a better position, where major industries include furniture industry, handicrafts, weaving etc.

Percentage of urban population to total population is an important indicator of regional development. In every state it shows an increasing trend; but in case of Mizoram it is a sharp increase mainly in 1991. One of the main reasons is that the state with a relatively less population had just bifurcated from being a part of the state of Assam in 1980s. In

1971, percentage was maximum in Meghalaya followed by Manipur and Mizoram. It was lowest in Arunachal Pradesh; followed by Assam. The all India average was 16.57percent and for eastern states it was 14.39percent. In 1981, percentage of urban population increased everywhere as new urban centres emerged. Only in Tripura the process was a bit slower than the rest.

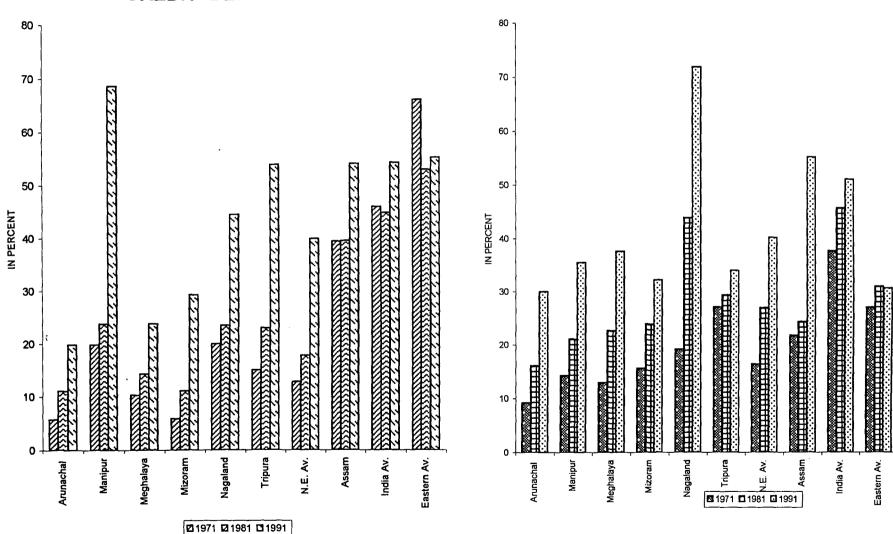
Therefore here it is seen that the Northeastern states are improving slowly in relation to the all India average in terms of economic indicators, but except one or two states (for one or two indicators) the process is taking much more time.

3.3: The Infrastructural Sector:

The state of infrastructure in a region provides important focus on the level of development in a region. Therefore, here it is tried to look at the status of infrastructure development in the region through the three time periods starting from 1971.

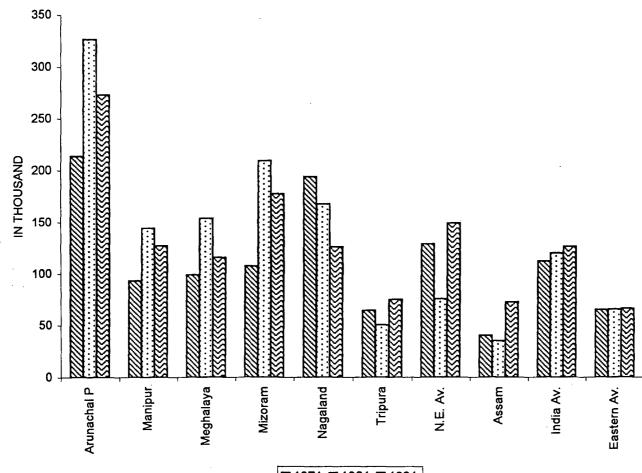
The credit- deposit ratio is increasing in all the Northeastern states. There has been a sharp increase in Manipur, Nagaland and Tripura. In relation to the Indian average in 1971 and 1981, all the Northeastern states had a lower credit- deposit ratio. But in 1991, in Manipur and Tripura the ratio was more than the Indian average and it was much similar in case of Assam. In Arunachal Pradesh, Meghalaya and Mizoram, the credit- deposit ratio has remained low during these three decades.

Roads are said to be the veins of a nation, which connects the different parts of the country and helps in interaction among them. In all the Northeastern states the percentage of surface road length to the total road length is quite low. But there has been a sharp increase in Nagaland, which was more than the Indian average too. In 1991, Nagaland continued with maximum percentage of surface road length followed by Meghalaya, Manipur, Tripura and Mizoram. Arunachal Pradesh had the lowest percentage among all the Northeastern states. Connectivity of Northeastern states with that of rest of India and among them is very poor and it is a major cause of the remoteness of the region. Moreover,



CREDIT- DEPOSIT RATIO

SURFACE ROAD LENGTH



SCHOOLS PER LAKH POPULATION

⊠ 1971 ⊡ 1981 ⊠ 1991

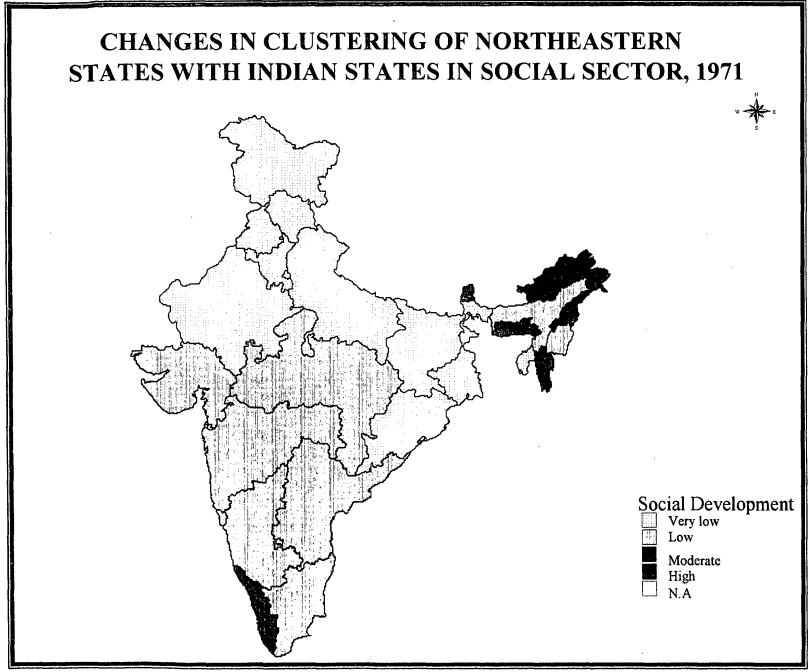
flood and other calamities are omnipresent and affect the developmental activities very much.

In terms of Hospital beds per lakh population the Northeastern states have shown an interesting scenario. It is found that Arunachal Pradesh had the highest share of hospital beds per lakh population (the population is quite low there); while in Assam and Tripura the share is very low in comparison to the Indian average. Another important thing that has come out is that the share is declining in all the Northeastern states except in Assam and Tripura in terms of hospital beds per lakh population.

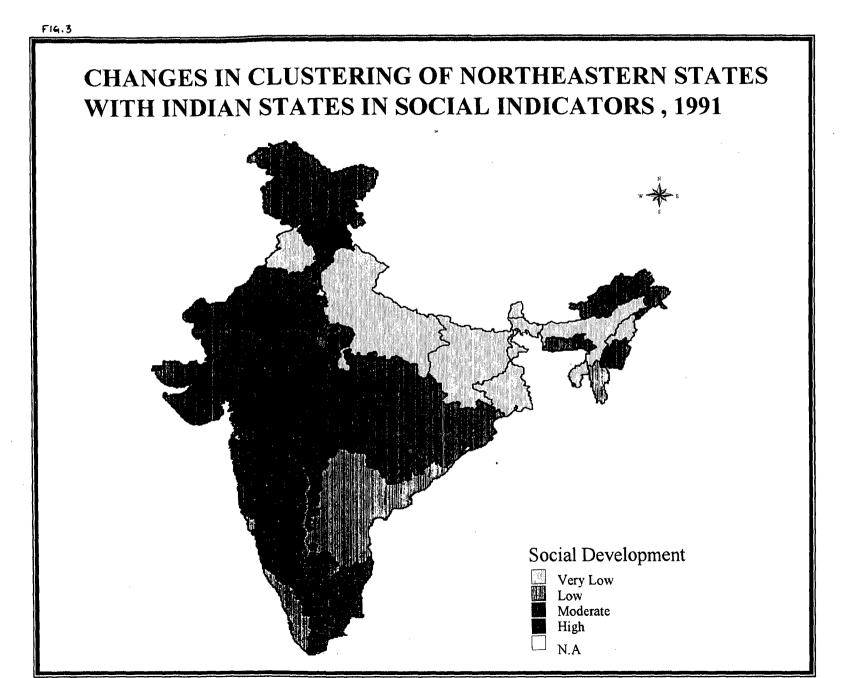
Per capita bank credit is another important banking infrastructure to measure the economic development of a region. Here it is seen that during 1981 and 1991, it is increasing in all the Northeastern states. It is highest in Tripura followed by Arunachal Pradesh and Assam. But the Indian average per capita bank credit rate is much above the Northeastern states.

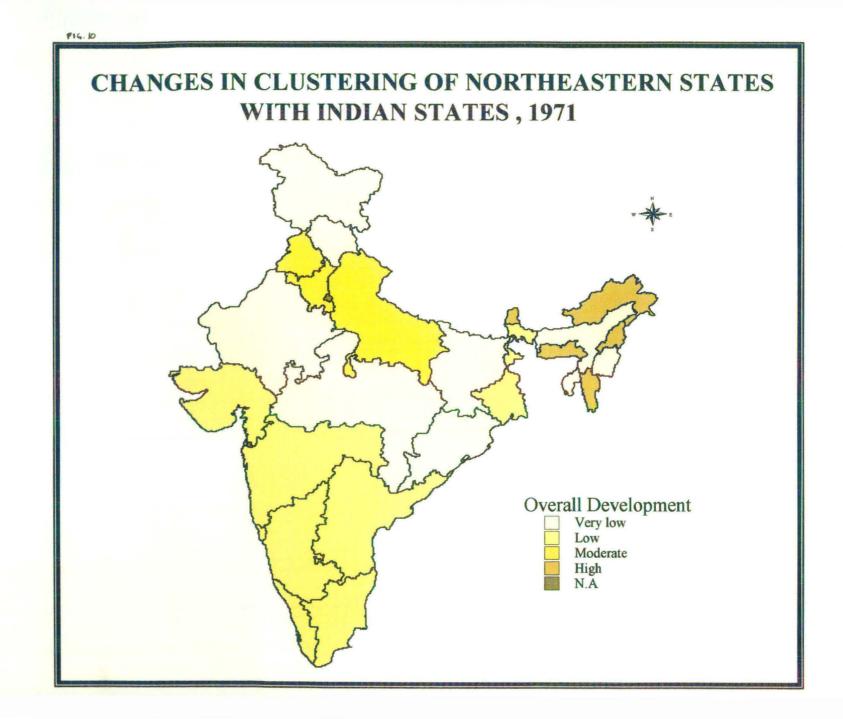
Education is an important social infrastructure to measure the level of development in a region. Among many indicators, number of primary schools per lakh population is being taken into account here. The Northeastern states have shown a better position in terms of percentage of primary schools. But the 1981 and 1991 data shows that Meghalaya had a higher rank in 1981, which was better than the Indian average, but in 1991, its percentage share declined. In Arunachal Pradesh, Manipur, Nagaland too it got reduced. But Mizoram has shown an upward movement and also Assam has a slight increase. Assam's percentage is nearby to the Indian average.

The graph shows an increase in the electrified household in all the Northeastern states except in Assam. The electrified household shows the development of the power sector in a region and their spread. In 1981, the percentage of electrified household of Assam could be compared to that of the all India level, while in 1991, the Indian average was almost similar to Manipur and Arunachal Pradesh. There has been sharp increase in the states like Mizoram, followed by Nagaland and Manipur, which have more percentage than the Indian average.



F14.2





3.4: Mutual Clustering of Northeastern states vis-à-vis India:

The main objective of cluster analysis is to classify individuals or groups into specific clusters based on chosen criteria. This analysis aims to allocate a set of individuals to a set of mutually exclusive exhaustive groups so those individuals within a group are similar to one another while individuals in different groups are dissimilar. As mentioned in the section on methodology, cluster analysis was attempted to analyse the following:

- Whether Northeastern states behave as a homogeneous region as a whole with respect to rest of India.
- Whether there has been a change in relative position of these states in terms of social, economic and infrastructure and overall development to other states of India.

3.4I: Social Distance in the Northeastern States, 1971, 1981 and 1991

The selected social indicators for the state level analysis have shown a major reshuffling in terms of their position in the clusters over the decades. States like Sikim, Kerala, which were occupying higher positions in the hierarchy, in 1971, have shifted their location to lower positions. On the other hand states like Himachal Pradesh, Jammu and Kashmir have shifted to upper levels during the decades.

Table3.1: Changes in Social Clustering of Northeastern States vis-à-vis Other Indian states on the basis of selected social indicators, 1971, 1981 and 1991.

Clusters	1971	1981	1991
Very High	Arunachal Pradesh, Nagaland, Mizoram, Meghalaya	Mizoram	
High			Meghalaya, Arunachal Pradesh, Manipur
Moderate	Assam, Manipur	Nagaland, Tripura, Assam, Arunachal Pradesh	Mizoram
Low	Tripura	Meghalaya, Manipur	Assam, Nagaland, Tripura

From the social indicators, it is seen that in 1971, except three states rest of the Northeastern states were in a better position. Three relatively backward states were Assam, Manipur and Tripura. But in 1981, there has been a major reshuffling of the states in terms of the given social indicators, when it was seen that Mizoram had maintained its level, but other states like Nagaland, Arunachal Pradesh, Meghalaya and Manipur shifted their position to a lower cluster. Assam, though at a lower level maintained its cluster and Tripura improved a bit. Then in 1991, Meghalaya, Arunachal Pradesh and Manipur improved their positions and Mizoram, Assam, Nagaland and Tripura coming down the ladder of social development in terms of the given indicators.

From table 3.1, it is observed that, firstly, there has been little consistency in terms of the positioning of the Northeastern states with respect to rest of India in terms of the sociodemographic characteristics in totality. In other words, there has been lots of repositioning over the decades- thus regional consistency with respect to the social sector has not been maintained. Secondly, the different states of Northeast India have not behaved as one homogeneous region in terms of the selected social indicators. While relatively more populated states in the plains like Assam and Tripura along with Nagaland have been relegated to the lowest category over time. States like Andhra Pradesh, Meghalaya and Manipur occupy the second cluster (higher within Northeast India) from the top in the terminal period indicating that none of the states in the region occupy the highest slot when seen in context of rest of India.

Here it is seen that the Northeastern states have behaved in different ways over the decades. But the status of these states in terms of the social indicators is seemed to be declining over the period of time and this pattern is not only observable in this part of the region, but also some other Indian states are also behaving in the same manner. So in terms of selected social indicators they can not be said to be marginalized alone, but in association.

3.4II: Economic Distance in the Northeastern States, 1971, 1981 and 1991

The pattern of development varies with regions and economic indicators are very much important in deciding a region's level of development. The data constraints have made the study limited to a very narrow span and here infrastructure indicators related to economy are being taken into account. There has not been much changes taken place in the economic sector in the region. The Northeastern states are occupying a lower position in terms of the selected economic indicators. It is also been observed that the economically developed states like Punjab, Haryana Uttar Pradesh etc are occupying a higher location in the hierarchy and they are maintaining their position through the decades.

Table.3.2: Changes in Economic Clustering of Northeastern states vis-à-vis Other Indian States, 1971, 1981 and 1991.

Clusters	1971	1981	1991
Very high			
High			
Moderate	Manipur	Manipur	
Low	Assam, Tripura,	Nagaland, Arunachal	Mizoram, Manipur,
	Meghalaya, Arunachal	Pradesh, Meghalaya,	Tripura, Assam,
	Pradesh, Mizoram,	Mizoram, Assam,	Nagaland, Meghalaya,
	Nagaland	Tripura	Arunachal Pradesh

In terms of the economic indicators, it is seen that the Northeastern states are being positioned at a lower level in the clustering. Apart from all, though Manipur has shown a bit improvement during 1971-1981, its position has gone down in 1991.

The Indian states that have appeared with the northeastern states include Jammu and Kashmir, Bihar, Andhra Pradesh, Rajasthan, Madhya Pradesh, Orissa, Sikim etc. and they are more or less maintaining this association through the decades.

Looking at the clusters for the Northeastern states, it can be said that the Northeastern states have maintained a cohesiveness regarding the economic indicators; but the level of economic development is very low for these states. And it is a very clear-cut evidence of the region's backwardness and the feeling of marginalization and alienation can find its root here. As some of the Indian states are also grouped in the same cluster like the Northeastern states, it can be said that though Northeastern states are being marginalized in terms of the selected economic indicators, they are not in isolation (or alienated as a region) but some other Indian states are also clubbed with them.

3.4III: Infrastructure Distance of Northeastern States, 1971, 1981, and 1991

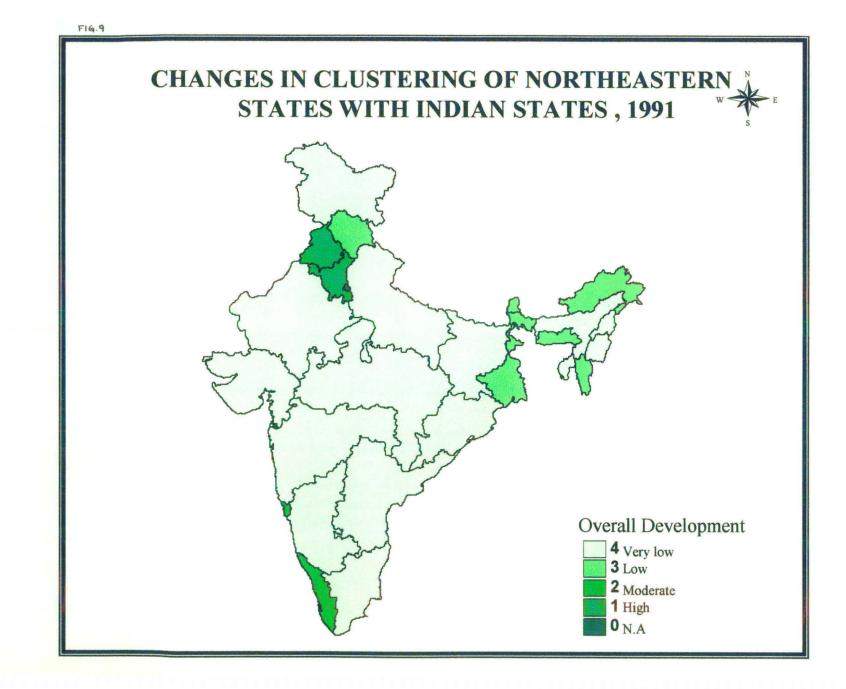
Different regions behave differently to the different infrastructural indicators. Both social and economic infrastructure indicators are being taken into account here. Here also the Northeastern states are being grouped with many other Indian states. Though in 1971 and 1981, Northeastern states were in majority in third and second cluster respectively.

Table 3.3: Changes in Infrastructure Clustering of Northeastern States vis-à-vis Other Indian states,1971, 1981 and 1991.

Clusters	1971	1981	1991
Very High			
High		Mizoram, Nagaland, Meghalaya, Manipur	
Moderate	Nagaland, Arunachal Pradesh	Arunachal Pradesh	Manipur, Tripura, Assam, Mizoram, Meghalaya, Arunachal Pradesh
Low	Tripura, Manipur, Mizoram, Meghalaya, Assam	Tripura, Assam	Nagaland

In terms of infrastructure, we all know that Northeastern states are lagging much behind (Ganguly, 1993) the infrastructurally developed states. And it is one of the major reasons for the region's lack of development. Mainly the transport infrastructure in the region is not helping the region to cope up with the development in other parts of the country. But in terms of the social infrastructure, some of the states in the region are doing quite well.

From the table showing the clustering, it is clear that the Northeastern states were fairly backward regarding the infrastructure sector during 1971. But in 1981, states like Mizoram, Nagaland, Meghalaya and Manipur had been improved, while Tripura and Assam retained the bottom level. Again in 1991, the level of infrastructure had declined to the third and the fourth levels.



Therefore, as different sets of infrastructure indicators have been combined here, it is seen that the Northeastern states are behaving differently; they are not forming any particular region, but over the time, the development in this sector is not taking place the way it should have been.

3.4IV: Overall Distance of the Northeastern Region, 1971, 1981 and 1991

The level of development based on all the indicators always gives a rough idea about the region's status in relation to the other Indian states. Here mostly the hilly and other remote and less developed states are seemed to be clustered with the Northeast Indian states.

Table3.4: Changes in Overall Clustering of Northeastern States vis-à-vis other India States, 1971, 1981 and 1991.

Clusters	1971	1981	1991
Very High	Nagaland, Arunachal Pradesh, Mizoram, Meghalaya	Arunachal Pradesh, Mizoram	
High			
Moderate			Mizoram, Arunachal Pradesh, Meghalaya
Low	Manipur, Tripura, Assam	Nagaland, Meghalaya, Manipur, Tripura, Assam	Nagaland, Tripura, Assam, Manipur

While all the indicators i.e. social, economic and infrastructure are taken into account, it is seen that Northeastern states have appeared mainly in two clusters in all the three time periods; though their location and association got changed. In 1971, Nagaland, Arunachal Pradesh, Mizoram and Meghalaya had shown a better position in terms of all the indicators, while Assam, Tripura and Manipur were lagging much behind. In 1981, Arunachal Pradesh and Mizoram maintained the cluster, but rest of the states came down and clubbed with Assam and Tripura in the fourth cluster, which showed a downward movement. Then in 1991, the position of Mizoram and Arunachal and Manipur further declined in terms of all the indicators; while Meghalaya improved a bit.

While some states like Punjab, Haryana, Uttar Pradesh, Goa, Kerala had occupied a lower position in the hierarchy in 1971, Northeastern states were at a upper level then; but gradually Northeastern states have deteriorated their positions and these other states have improved themselves to occupy the higher levels.

Here it is found that though in 1971 and 1981, there were a vast difference between the two clusters, one being located in the very highly developed category and the other lowly developed category. But in 1991, all the Northeastern states have come together in two nearby clusters and formed a cohesive structure in terms of all the developmental indicators taken here. Another important feature that has come out from the analysis is that most of the other hilly states of India like Himachal Pradesh, Jammu and Kashmir, Sikim etc are being grouped with the Northeastern states; while Punjab, Uttar Pradesh, Haryana, Goa etc states are being placed in separate clusters than the Northeastern states.

CHAPTER-4

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Changes in Levels of Regional Development in Northeast India in 1981 and 1991: A District Level Analysis

Chapter-4

Introduction

As has been emerged from the earlier chapter that the Northeastern region has undergone a differential growth process in terms of various sectors of development. An attempt has been made to look at the changes that has been taking place in the region in terms of economy and also in the social sector. The earlier chapter has already revealed that in terms of economy there has not been much development in the Northeastern region during these two decades and almost all the Northeastern states have maintained a cohesive structure in terms of economic development. Therefore it has become important to look at whether the components of different states, i.e. the districts are also behaving in the same manner or not; or whether there emerges certain pockets of development within a state or in between two or more states irrespective of their administrative boundaries.

4.1: Levels of Economic Development in Northeast India; a District Level Analysis:

Economic and related infrastructure indicators of development had taken up for this study in the Northeastern region. The indicators taken into account are: value of output of major crops per hectare (X1), value of output of major crops per capita (X2), road length per 100 sq. km (X3), bank branches (X4), per-capita bank credit (X5), per-capita bank credit to agriculture (X6) and per-capita bank credit to industry $(X7)^1$

Indicators	Mean	Max	Min	Dist. With Max. Value	Dist. with Min. Value
X1 .	1379.42	2513.67	87.65	Cachar	Tirap
X2	352.21	897	66	K. Anglong	Lohit
X3	13.85	45.58	2.12	Sibsagar	Dibang
X4	4.91	9.99	1.14	L. Subansiri	. Tirap
X5	126.07	533.5	13	Dibrugarh	Wokha
X6	41.22	188	1	K. Anglong	Zunheboto
X7	86.23	832	1	Dibrugarh	E. Kameng

Table4.1: Indicators of Economic and Infrastructure Development, 1981

Source: Census of India, 1981; CMIE Profiles of Districts, 2000.

¹ Because of unavailability of adequate data at district level for the Northeastern states, these few indicators are being taken into account.

Indicators	Mean	Max	Min	Dist. With Max. Value	Dist. with Min. Value
X1	3994.07	7619	1258	E. Garo	Wokha
X2 .	709.41	1655	289	Dibrugarh	Tuensang
X3	25.03	67.57	3.18	Sibsagar	Dibang
X4	7.17	12.63	2.67	E. Khasi	Mon
X5	437.03	2401	58	Kamrup	E. Kameng
X6	134.32	516	36	Dibrugarh	Tirap
X7	307.81	3046	4	U. Subansiri	E.Kameng

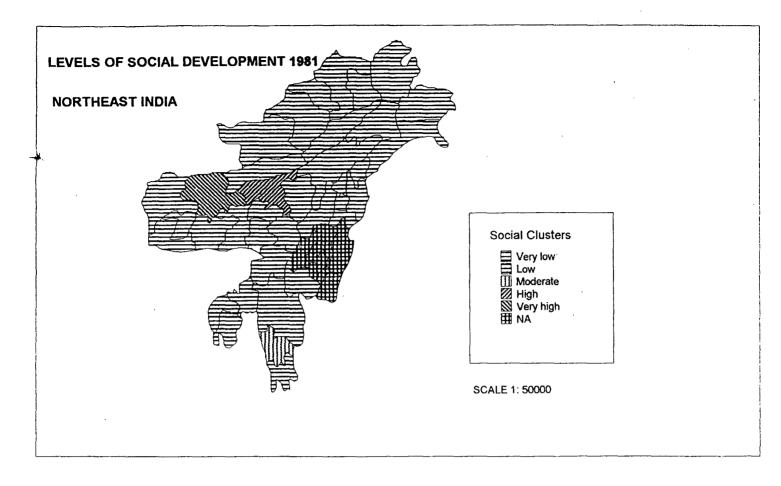
Table4.2: Indicators of Economic and Infrastructure Development, 1991.

Source: Census of India, 1981; CMIE Profiles of Districts, 2000

In 1981, per hectare value of output of major crops was highest in Cachar district of Assam and was lowest in Tirap district of Arunachal Pradesh. There was a huge gap between the maximum and the minimum value of the major crops. But per capita value of output was highest in Karbi Anglong and lowest in Lohit district of Arunachal Pradesh. But in 1991, there has been improvement in the sector, where the value of output is seemed to be increasing. In 1981, all the districts of Arunachal Pradesh, Kohima and Mokochang of Nagaland etc. had lower value of output of major crops both per hectare and per capita. But in 1991, the value of output of major crops increased in almost all areas and the former picture was reversed.

Regarding road length per 100 sq. km, in 1981 and in 1991, it was maximum in Sibsagar district of Assam and lowest in Dibang district of Arunachal Pradesh. All the districts of Tripura had the value more than the Northeast average, where the road infrastructure is developed than the other parts. In Assam, Goalpara, Dibrugarh, Sibsagar, Nagaon, Cachar, Kamrup, Darrang and N.C.Hills have shown a better position with the road length above average. But the state of Arunachal is lagging much behind, as only Dibang and Tirap districts have managed to have a road length more than the average. Moreover, being larger in size and having most of the areas in the remote jungles, most of the times it is very difficult to construct road in Arunachal Pradesh. In 1991, too all the districts of Tripura maintained their position above average road length.

In post- independent period, the financial institutions have been playing a yeoman's role in reshaping the economy of every region. Among all the institutions banks occupy the vital position by providing the much-needed finance to various sectors of economy. The state of Arunachal Pradesh has seen a large variation in terms of share of bank branches; as in 1981, the share of maximum bank branches was found in the district of Lower Subansiri in Arunachal Pradesh and minimum share of bank branches was in Tirap district. There were four districts of Arunachal Pradesh, Kamrup, Karbi Anglong, Sibsagar and N.C.Hills of Assam; Aizawl and Lunglei of Mizoram; E.Khasi, W.Khasi, Jaintia districts of Meghalaya etc. which have more than average share of bank branches in the region. In 1991, East Khasi has the maximum share of bank branches while Mon district of Nagaland had the lowest share. In 1991, per-capita bank credit was maximum in Dibrugarh district and minimum in Wokha district on Nagaland. The condition of percapita bank credit was better in most of the Assam's districts and West Tripura and North Tripura districts. In 1991, Kamrup had the maximum percentage of per-capita bank credit while East Kameng had the lowest share. In 1991, the mean per-capita bank credit increased from 126.07 to 437.03 and only nine districts of Northeast India had share more than the average. The scene was better in Tripura; while only Sibsagar, Dibrugarh and Kamrup of Assam continued with more than average share of per-capita bank credit. Agriculture, being the main occupation of the people of the region, the share of agricultural credit is also very important. In 1981, the share of per capita bank credit to agriculture was maximum in Karbi Anglong district of Assam and lowest in Zunheboto district of Nagaland. All the districts of Tripura and Goalpara, Cachar, N.C.Hills, Nagaon, Sibsagar, Darrang, Kamrup, Dibrugarh and Karbi Anglong of Assam were the districts above the mean per capita bank credit to agriculture in 1981. But in 1991, only Kamrup and Dibrugarh of Assam were above the average, while other districts from other states have also improved their agricultural credit share. The industrial sector in Northeast India is not much developed mainly due to lots of reasons and lack of capital is one of them. Therefore, here the banks have a major role to play. In 1981, per-capita bank credit to industries was maximum in Dibrugarh district of Assam and minimum in E, Kameng district of Arunachal Pradesh, Kamrup. Lakhimpur, Goalpara, Sibsagar, Cachar, Darrang Dibrugarh of Assam; Tirap and Upper Subansiri of Arunachal Pradesh and Kohima of Nagaland were the districts above the mean bank credit value in 1981;



LEVELS OF SOCIAL DEVELOPMENT, 1991 NORTHEAST INDIA	
	Social Clusters Very low Low Moderate High Very high MA
·	SCALE 1: 50000

whereas in 1991, Upper Subansiri received the maximum share of per-capita bank credit and East Kameng received the minimum share.

4.2: An Inter- District Pattern of clustering on the basis of Economic and related Infrastructure indicators:

The pattern of development varies with regions. There are varieties of reasons behind these differential patterns. Here it is tried to compare the pattern of cluster of districts on the basis of a set of selected indicators for two time periods i.e. 1981 and 1991. The indicators that have been taken into account are already mentioned above. In 1981, three distinct clusters appeared, but at a lower level, one cluster can be seen having two subclusters. Following are the four *clusters of districts* that appeared in *1981 and 1991*:

Economic Clusters	1981	1991
Very High	Dibrugarh, Darrang	Dibrugarh, Kohima, Kamrup
High	Nagaon, Cachar, Lakhimpur, Goalpara, Sibsagar, Kamrup, K. Anglong, W. Tripura, S. Tripura, N. Tripura	E. Khasi, Nagaon, Darrang
Moderate	E. Garo, W. Khasi, W. Garo, N.C. Hills, E. Khasi	E. Garo, Sibsagar, Lakhimpur
Low	Tirap, U.Subansiri, Kohima, W. Siang, L. Subansiri, W. Kameng, E. Siang, Lohit, Dibang, Mokokchang, Zunheboto, Mon, Tuensang, Chimmtuipui, Phek, Jaintia, Wokha, Lunglei, Aizawl.	L. Subansiri, W. Tripura, Tirap, Mon, Phek, Dibang, U. Subansiri, Lohit, W. Siang, E. Siang, Wokha, Mokokchang, Tuensang, E. Kameng, Zunheboto, N. Tripura, S. Tripura, Goalpara, Cachar, Aizawl, W. Kameng, W. Garo, K. Anglong, W. Khasi, Chimmtuipui, Jaintia, N.C.Hills, Lunglei

Table: IV.3 Changes in clustering of Northeastern Districts for Economic Sector, 1981 and 1991.

4.2a: Economic Regions, 1981:

Here it is tried to examine/see whether the dangers of the location/positions of different states are reflected at district level too. But due to data constraints- here only two time periods- 1981 and 1991 are being taken into consideration.

From the table as well as from the map prepared on the basis of the clustering, it is found that in 1981, Dibrugarh and Darrang districts of Assam emerged as the most developed points on the basis of economic and infrastructure indicators (mainly banking). Dibrugarh is located at the south-east corner of the state while Darrang is located at a north central location and both of these districts share their boundaries with districts of Arunachal Pradesh. Darrang shares a part of its northern boundary with that of Bhutan also. These districts/nodal points enjoy the locational advantage – of being situated on the bank of River Brahmaputra. Moreover, other factors like, (i) evolution of Tinsukia in Dibrugarh as a major commercial centre of the whole of Northeast and its link with the nearby hilly districts of the region (its role as a supplier of different goods to the nearby hilly districts of the region) also helps in the development of banking and other infrastructures here; (ii) moreover, the development of petroleum and tea industries in Upper Assam- mostly in Dibrugarh district- also helps in the development of the region. These industries, mainly the tea industry, attracted the Britishers here and they improved the road infrastructure of the area for their own benefit. While Darrang district of lower Assam is another important nodal point. Two important towns of the district are Mangaldai and Tezpur situated in the west and eastern sides of the district. Mangaldai is very near to Guwahati, the capital city of Assam and has a good communication link with it (Bora, Bhagawati, Kar, 2001). The improvement of banking infrastructure in the region- different rural banks, which started providing, loans and other facilities play an important role in the region.

The second group- i.e. Moderately developed group in 1981- include Nagaon, Cachar, Lakhimpur, Goalpara, Sibsagar, Kamrup and Karbi Anglong districts of Assam and all districts of Tripura. Here continuous patches of districts of same intensity of development evolved. Starting from Lakhimpur the chain of districts surrounded the node Darrang includes: Sibsagar, Karbi Anglong, Cachar, Nagaon, Kamrup, and Goalpara. The three districts of Tripura made the other patch of districts. Here, Kamrup, Nagaon, Sibsagar and Lakhimpur share boundaries with the nodal point Darrang; while Lakhimpur and Sibsagar share their boundaries with Dibrugarh. Here, among all the districts, Lakhimpur and Sibsagar are situated between the two nodes i.e. Dibrugarh and Darrang and have been affected by the developmental activities in these two nodes.

The third group- i.e. lowly developed group of districts includes mostly four districts of Meghalaya and N.C. Hill of Assam. Here West Garo, East Garo, West Khasi and East Khasi made a continuous chain/patch of districts and N.C.Hills district of Meghalaya. The hilly character of the districts may be the main reason of these districts for coming together in the same patch. Here the political boundary between Assam and Meghalaya makes little sense if we see the clustering- we can say that in 1981, N.C. Hills had more similarities with Meghalaya than the rest of Assam in terms of the given indicators. In 1991, N.C.Hills is found just next to Jaintia which is true in reality also- of course other districts of Meghalaya are also in the group- but we can say that the former distance between N.C. Hills and Jaintia got reduced by this time.

The fourth group i.e. group of relatively underdeveloped districts (based on selected indicators) in 1981 include all the districts of Arunachal Pradesh, Nagaland and Mizoram. These districts of Arunachal Pradesh and Nagaland have formed a continuous realm and Manipur separates them from Mizoram. It is clear that they were relatively underdeveloped than the rest of the Northeastern districts. These districts cover the northeastern and southern part of the region and formed a continuous realm, which can be said to be the outer realm of development of the region. Though certain districts of Arunachal Pradesh (East Kameng, West Kameng, Dibang, Lohit, Tirap) are closer to the nodal points of Assam i.e. Darrang and Dibrugarh, the rate of interaction (economic) seemed to be quite low in 1981- as there has not been much impact of these nodes on their development.

4.2b. Economic Regions, 1991

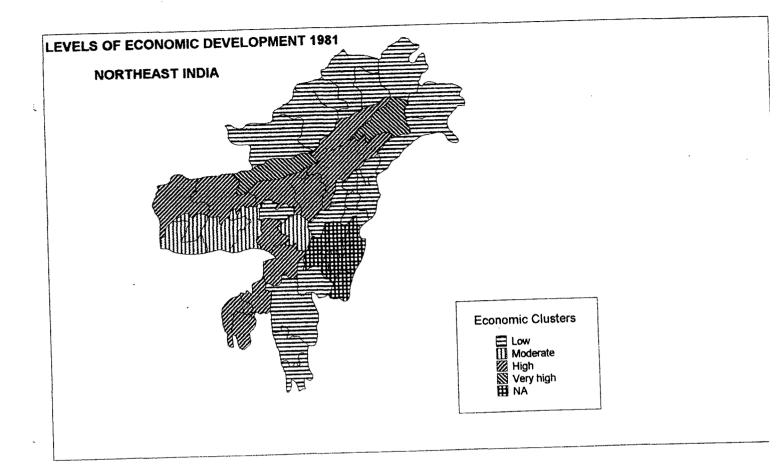
In 1991, Dibrugarh, Kohima and Kamrup appeared as three nodes of development at the uppermost level in the hierarchy of economic clustering. Dibrugarh continued as a node since 1981, while Kamrup shifted its position from the second group of districts in 1981 in the hierarchy to the first group. Kohima, district headquarter of Nagaland, was in the last cluster in the hierarchy in 1981, which shifted its position to the first cluster in 1991; an important improvement on its part.

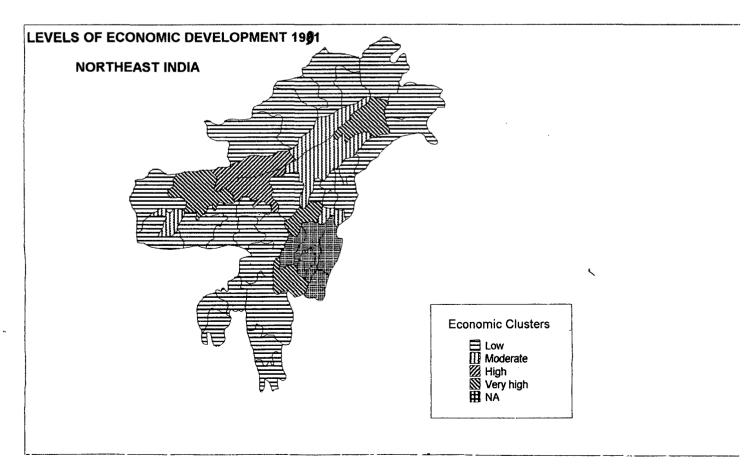
In the second group appeared districts like East Khasi of Meghalaya and Nagaon and Darrang of Assam and they make a continuous patch on the eastern and southern side of the node Kamrup. Here Darrang district has shifted to this group from the topmost position in 1981; while Nagaon is maintaining the same level and East Khasi has improved from the third group in 1981 to the second in the hierarchy.

In the third group appeared districts like East Garo, Sibsagar and Lakhimpur; occupying an important location in the region. While East Garo district had maintained its position in the third cluster; Lakhimpur and Sibsagar have shifted from the second level. These three districts are occupying the eastern and southern side of the nodal Kamrup district.

The last group in the hierarchical level includes all other districts of the Northeastern region and they have formed a continuous patch both on eastern and western sides of the developed regions. On the northern and eastern sides this patch occupies districts of Arunachal Pradesh; Wokha, Mokokchang, Tuensang, Phek, Zunheboto of Nagaland; Jorhat, K. Anglong, N.C.Hills, Cachar of Assam; all districts of Mizoram and Tripura and Jaintia hills of Meghalaya. On the western side Goalpara district of Assam and West Garo and West Khasi districts of Meghalaya formed the western patch.

Here it is found that the in 1981, the northeastern districts emerged as a patch of lowly developed realm and central and western districts of the region were at a different level





of development in comparison to this realm. But in 1991 western and a few central districts have appeared in the same patch as with the northern and eastern districts.

4.3: An Inter- District Pattern of Clustering on the basis of Social and Related Infrastructure Indicators:

Social Clusters	1981	1991
Very high	Kamrup	Chimmtuipui
High	Nagaon	Lunglei
Moderate	Lunglei	Zunheboto, W. Kameng,
		Wokha, W. Tripura, W. Khasi,
	~	W. Garo, W. Siang
Low	Kohima, K.Anglong,	Kamrup, Tuensang, U.
	Lakhimpur, L. Subansiri,	Subansiri, Tirap
	Jaintia Hills, E. Siang	
V	Upper Subansiri, Tirap	Nagaon
VI	Sibsagar, S. Tripura, N.	Lohit, K. Anglong, Lakhimpur,
	Tripura, W. Siang, Phek, W.	Kohima, Goalpara, L.
	Garo, Tuensang, Goalpara,	Subansiri, Jaintia, E. Siang,
	N.C. Hills, W. Khasi,	Mokokchang, N.C. Hills, Mon,
	Zunheboto, Wokha, Mon,	N. Tripura, E. Garo, Dibang,
	Mokochang, Lohit,	Phek, Sibsagar, S. Tripura,
	Chimmtuipui, Cachar, E.	Dibrugarh, Cachar, Aizawl, E.
	Kameng, Aizawl, Dibrugarh,	Khasi, E. Kameng, Darrang.
	Darrang, W. Tripura, W.	
	Kameng, E. Khasi, E. Garo,	
	Dibang.	

Table: 4.4: Changes in Clustering of Northeastern Districts in Social Sector, 1981 and 1991.

The social sector is quite important in determining a region's level of development. In the previous chapters it had been noticed that the social indicators are as important as the economic indicators; and most of the times they are the most effective determinants.

Therefore, here it is tried to look at the social and related infrastructure indicators at a micro level, i.e. at district level, whether the shifting of position of different states at

different time periods are reflected at district level too. Like the economic indicators, the social indicators also behave in association with many related indicators.

4.3a: Social Regions, 1981:

In 1981, Kamrup occupied the topmost position regarding the selected social indicators among the al Northeastern states. The shifting of capital of Assam from Shillong to Guwahati led to large-scale migration of people and more and more concentration of urban population in the district. Moreover, lots of social and infrastructure facilities had to be provided/ created for these people. Moreover, the location of the capital automatically renders lots of perks to the district. The different schemes of the state government are always easy to implement in the nearby areas. The literacy is much better in this district than any others in the region. Also in the rural sector, percentage of electrified villages is quite high in this district.

The second rank in the hierarchy is occupied by Nagaon district of Assam, which is situated on the eastern side of Kamrup district. It occupies a better position in terms of percentage of electrified villages and Literacy rate in the region. Moreover Nagaon has good communication link with that of Kamrup and has been affected by the developments in the later.

Lunglei district occupies the third rank in the hierarchical cluster in 1981. It is situated between Aizawl and Chimmtuipui districts of Mizoram. Being situated in Mizoram, Lunglei, like other districts has also undergone a long-lasting effect of the Missionary activities in the state. Mizoram is one of the important states where Christian missionaries have left quite prominent imprint of their presence. The social sector has been affected by their activities, especially the urbanisation and literacy level is very high in the state. Moreover, other social indicators have also developed here.

The next group in the hierarchy includes Kohima district of Nagaland, K. Anglong and Lakhimpur districts of Assam; Lower Subansiri and East Siang districts of Arunachal Pradesh and Jaintia of Meghalaya. Among them, Jaintia of Meghalaya and Karbi Anglong (west) and Kohima of Nagaland and Karbi Anglong (east) make a continuous cluster transcending the administrative boundaries. On the other hand, Lower Subansiri, Lakhimpur and East Siang have also made another continuous stretch. *Here it is seen that* socially a few districts are more closely linked with the districts of neighbouring states rather than districts of own state.

The next in the hierarchy comes the districts of Upper Subansiri and Tirap of Arunachal Pradesh. They are not continuous, but form two fragments.

The lowest group in the hierarchy includes the rest of the districts of Northeastern states. They appear in continuous patches and includes the districts like Goalpara, West Garo, East Garo, West Khasi, East Khasi in one patch; N.C. Hills, Cachar, West Tripura, North Tripura, South Tripura and Aizawl in another. West Siang, East Kameng, West Kameng, Darrang, Dibrugarh, Sibsagar, Phek, Zunheboto, Wokha, Mon, Mokokchang, Lohit and Dibang formed the other continuous patch of districts.

4.3b: Social Regions, 1991

The Chimmtuipui and Lunglei districts of Mizoram occupied the first and second levels in the hierarchy. Chimmtuipui improved itself from the last level of hierarchy in 1981 to the topmost level in 1991; while Lunglei occupied the third level in 1981 and reached the second level in 1991.

The third level in the hierarchy is occupied the districts like Zunheboto and Wokha of Nagaland; West Khasi and west Garo of Meghalaya; West Kameng, West Siang of Arunachal Pradesh and West Tripura district. They are not appearing in any continuous area but in patches.

The fourth level in the hierarchy is occupied by Kamrup district of Assam, which has shifted down to the fourth level from that of the first level in 1981. The other districts I

this category are Upper Subansiri and Tirap district of Arunachal Pradesh and Tuensang district of Nagaland.

Nagaon district has been shifted down from the second level in the hierarchy and now occupies the fifth level. It shows that in comparison to other districts, this district has not been able to make much improvement in the social sector.

The rest of the Northeastern districts are occupying the lower most level in the hierarchy in 1991; which includes the districts like East Kameng, Dibang, East Siang, Lower Subansiri, Lohit, Lakhimpur, Darrang, K. Anglong, Sibsagar, Dibrugarh, Cachar, N.C. Hills, Aizawl, North Tripura, South Tripura, Jaintia, East Khasi, Kohima, Mokokchang, Mon, Phek and all these districts have formed a continuous stretch. In the Western side, Goalpara and East Garo district formed another stretch.

In the previous chapter it was found that though Nagaland had shifted from the first cluster in 1981 to the third cluster in 1991 regarding the social indicators, three districts within the state namely Zunheboto, Wokha and Tuensang behaved in different ways in 1991. It is also found that the clusters are appearing bypassing the political boundaries in most of the areas. So it can be said that social clustering particularly do not follow any administrative bounds, but the similarities in different social traits surpass them most of the times.

4.4: Changes in Disparities of Developmental Indicators in Northeast India:

To understand whether the disparities among the Northeastern states regarding various developmental indicators are following the Indian pattern, we have selected certain common indicators. Here it is tried to observe two main things. They are: whether the Northeastern states are following the Indian pattern in terms of regional disparities or it is emerging as a region with higher level of disparities regarding the developmental indicators.

	Northeast India	India						
Decreasing	 Per capita Bank Credit Schools per Lakh Population 	 Literacy Surface Road Length Per capita Bank Credit Schools per Lakh Population 						
Increasing	 Literacy Urbanisation Surface Road Length 	• Urbanisation						

Table 4.5: Changes in Regional Disparities of Development Indicators, Northeast India vis-à-vis India, 1991 over 1981.

The table represents the pattern of disparity among the Northeastern states vis-à-vis India as a whole. The data shows that in the social sector regarding literacy rate, disparities are increasing among Northeastern states, while it shows a declining trend at all India level. Again regarding the schools per lakh population disparities are declining both among the Northeastern states and also at all India level. Though disparities regarding the literacy rates are increasing in Northeastern states, which shows despite of less disparity in school infrastructure in the region, the literacy rate has not been affected much. Regarding other indicators like urbanisation and surface road length, the Northeastern states have seen an increase in disparity level, while they are either almost constant or declining at all India level. Higher disparity means that regarding these economic indicators Northeastern states are less cohesive as compared to broad regional structure of India. The increasing disparity in terms of Surface road Length as percentage to total in the Northeastern region means that better connected areas in the region have remained better connected, while there has been very less improvement in the remote areas. The rate of per capita bank credit has shown a declining disparity level both in Northeastern states and also at all India level; which depicts the improvement in banking infrastructure as a whole.

 Table 4.6: Changes in Regional Disparities of Development Indicators within Northeast India- 1991

 over 1981.

Dec	reasing	Increasing
٠	Per Capita Bank Credit	Output of major crops per hectare
•	Schools per lakh population	Output of major crops per capita
•	Hospitals per lakh population	Urbanisation
		Literacy rate
		Surface Road length as percentage total road length
		Bank Branches
		Percapita bank credit to Agriculture
		Percapita bank Credit to Industry
		Villages electrified per lakh population

In agricultural sector, there has not been much changes in terms of productivity per hectare, but in relation to population (production per capita) there is some increase. This is also supported by similar increase in Percapita Bank Credit to agriculture. Certain districts of Assam and Manipur have done much better in terms of these indicators. In spite of this observation, there is no observable increase in applied technology (per hectare Productivity).

In terms of social infrastructure, disparities are generally decreasing which indicates that the investments are increasing in these sectors and poorer districts are doing better during this period. On the other hand, in terms of literacy rates disparities are increasing in several districts. Though other social indicators have shown a decline in disparities, the disparity in terms of literacy rate are increasing; which might imply that in spite of better distribution of social infrastructure, the implementation has not been done properly.

In terms of other sectors like Urbanisation, economic infrastructures like surface road length, bank, electrified villages etc. disparities are increasing; it is particularly sharp for surface road length and electrified villages. Other indicators show diverse levels of increase. There appears to be different regional structure and changes in terms of urbanisation and related indicators. Other infrastructural indicators have followed urbanisation.

CHAPTER-5

Summary and Conclusion

Summary and conclusion:

In context of balanced development, it has been noticed that there are lots of variations across space. Even within a same country, all regions are not equally developed. India, being a large country with lots of variations in terms of topography, economy, resources and many other aspects does not experience the similar level of development in all its parts. The Northeastern part of the country comprising the seven mainly hilly states has its own identity. Despite being endowed with vast natural resources, the region is still lagging behind in the process of development.

Here an attempt has been made to explore whether Northeast India emerges as a separate, distinctly identifiable region or entity vis-à-vis rest of India on the basis of the different social, economic and other related indicators and if this separate identity is also a marginalized one? And a follow of enquiry to see if within Northeast certain regions emerges as a core and others as periphery? The study is situated in three time periods at state level and 2 time periods at district level.

Mostly the different reports of Census of India and Economic Intelligence Service are the main database in this regard. The data constraints are also very important in that they restricted the study from taking up certain important aspects of development in the region.

The study has been done mainly at two levels: a) state level analysis to find out the distances of northeastern states from the rest of Indian states and b) district level analysis to measure inter- district variations in the level of development and also to identify whether there emerges any specific cores of development within the region or not.

A common past shared by the Northeastern states has provided a basis for proposing that the region may emerge as a cohesive entity. On the other hand, however, common policy perspectives and planning interventions, particularly during the Post- independence period would aim at bringing Northeast to the 'mainstream' India. The methodologies adopted here are mainly to look at the status of Northeastern states in relation to the other Indian states, i.e. to find out the distance of the Northeastern states from rest of the country. For this cluster analysis method has been used to see in what manner Northeastern states cluster together vis-à-vis other states of India. Distance Matrix has also proven to be a useful tool in this context. The level of disparity of different indicators is being measured with the help of coefficient of variation method. Appropriate cartographic tools have also been used to depict data wherever applicable. S

Positioning the Northeastern Region in India:

Northeastern states have behaved in different ways over the decades. But the status of these states in terms of the social indicators seems to have declined over the period, a pattern replicated by some other states of India too. Within the Northeastern region, all the states do not behave in the same manner and there was a widespread fluctuation in the temporal ranking of states within the region. This implies that I terms of social indicators Northeast is not a cohesive region.

In terms of economic indicators, Northeastern states have maintained cohesiveness; but the level of economic development is very low for these states. And it is a very clear-cut evidence of the region's backwardness and the sense of marginalization and could have found its root here. Having said this it may also be noted that some of the Indian states are also grouped in the same cluster like the Northeastern states, it can be said that though Northeastern states are being marginalized in terms of the selected economic indicators, they are not in isolation (or alienated as a region) but some other Indian states are also clubbed with them.

The infrastructure sector, which plays a very important role in a region's overall development, is also being discussed here. And as far as the different indicators are concerned, it is seen that the Northeastern states are behaving differently, they are not forming any particular region, but over the time, the development in this sector is not taking place the way it has been expected.

Inter- District Pattern of Development:

But this analysis has evolved certain other questions, which needs some more explanations. It is important to look at whether the pattern emerging at state level are being reflected at district level too; or whether there are certain pockets, which are developing within the states and behaving in a way to form a core. Here it has been observed that in *economic sector*, in 1981, majority of the northern and eastern districts in the region emerged as a continuous patch of lowly developed realm and central and western districts of the region were at a different level of development in comparison to this realm. But in 1991 western and a few central districts have appeared in the same patch as with the northern and eastern districts. But mainly Dibrugarh district of Assam continues to be the core for both the time periods, while in 1991, two other districts joined the ranks of Dibrugarh thus forming two additional cores. In the social sector, it can be said that social clustering particularly does not follow any administrative bounds, but the similarities in different social traits surpass them most of the times. Here it has been observed that socially some districts are more closely linked with the districts of neighbouring states rather than districts of own state. Much of the similarities are being observed among the hilly states of western Assam and eastern Meghalaya and also with districts of Mizoram. The probable reason may lie in their common historical past. Regarding other indicators like urbanisation and surface road length, the Northeastern states have seen an increase in disparity level, while they are either almost constant or declining at all India level. Higher disparity means that regarding these economic indicators Northeastern states are less cohesive as compared to broad regional structure of India. The increasing disparity in terms of road density in Northeastern region, the better connected areas are either remained at the same level or improved whereas there has been very less improvement in the remote areas.

In terms of level of disparities two major features have emerged. They are:

1) The level of disparities in both the time periods I general higher within Northeastern region as compared to India as a whole.

2) On an average the increase in disparities have sharpened within Northeast as compared to all India.

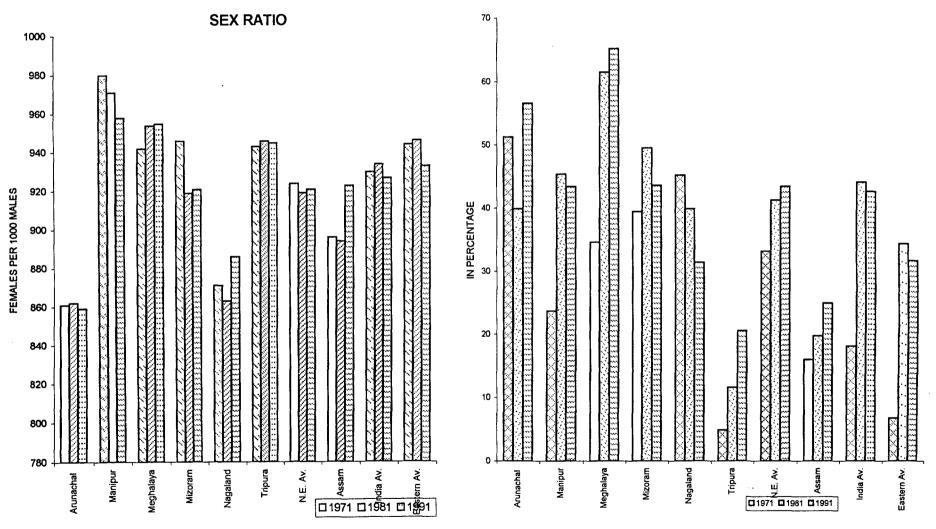
From this discussion it can be said that though in all Indian context the Northeastern region represents a cohesive structure in terms of economy, but the disparities are generally increasing there. Therefore, it can be said that certain parts of the region are developing which leads to the formation of certain economic cores like Dibrugarh, Kamrup, Kohima etc. Then in terms of social indicators, like literacy rate, disparities are increasing among Northeastern states, while it shows a declining trend at all India level.

In sum, first, there emerges a disjuncture in terms of social and economic indicators. That is to say that social and economic developmental paths do not always converge, as one would expect them to. Second, the Northeastern region does not emerge as a cohesive whole vis-à-vis rest of India. Within the Northeastern region the inter- regional disparities are higher as compared to disparities within India and thus the concept of marginalization, if at all applicable, is true only for parts of Northeast and not for the region as a whole.

Policy Implications:

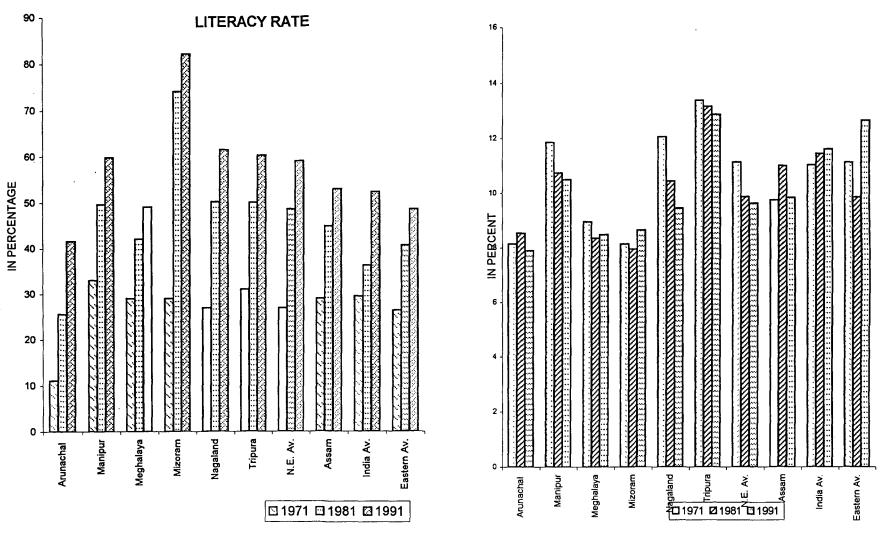
The planning process that the country has been following focuses on the needs to bring parity in regional development. The states, because of their backwardness and strategic location in border areas, combined with sparse population and high concentration of tribal, already enjoy 'Special category Status' for favourable financial dispensation from the Government of India in the form of ninety percent grants and ten percent loans as against thirty percent grants and seventy percent loans to other states in terms of Central Assistance for State Plan activities. Further, the Government of India has made it mandatory for all the ministries of Central Government to earmark/ allocate ten percent of their budget to the Northeastern States (Naik and Singh, 2003). The study indicates that in spite of improved availability of health and educational facilities, their actual utilisation has not increased correspondingly. Another important policy for the benefit of the Northeastern region is 'Look East' policy of the Government (Barooah, 2002). It seeks to release the economic energies and the potentialities of the Northeastern region. The first phase of this policy included economic development in the region, while the second phase, which started in April 2002, includes both economic development and strategic security in the region. This policy tries to transfer Northeast from the 'land of security burden' to the 'land of economic development'. This second phase recognises that the road to prosperity of Northeast passes through South- East Asia. Under this policy, a 160 km long border road has connected Tamu (Manipur), close to Indo- Myanmar border with Kalemyo and kaluma in Myanmar and also has linked Imphal with Yangon. Further this road is a part of Asian Highway, inaugurated in February 2001 and named as FRIENDSHIP HIGHWAY between India and Myanmar. This would improve trade between two countries and enable the two governments to control the insurgency in Northeast and also in the western part of Myanmar. The present study which sees the formation of peripheries in relation to regional development, are mainly at the bordering district of these foreign countries. Therefore, it can be assumed that the development of these roads and tackling of the insurgency problems would definitely help these regions to develop.

Certain important issues have emerged that could not be covered because of the limited scope of the present study. These issues include the question of insurgency; to what extent developmental issues are interlinked with insurgency and vice- versa. Another important issue is that even though the whole region has been given the 'special category' status, yet the results of this special treatment have not been surfaced. So, whether the reasons lie I the directives of the Government or it is restricted to the region's lack of initiatives; is another important issue open for discussion.

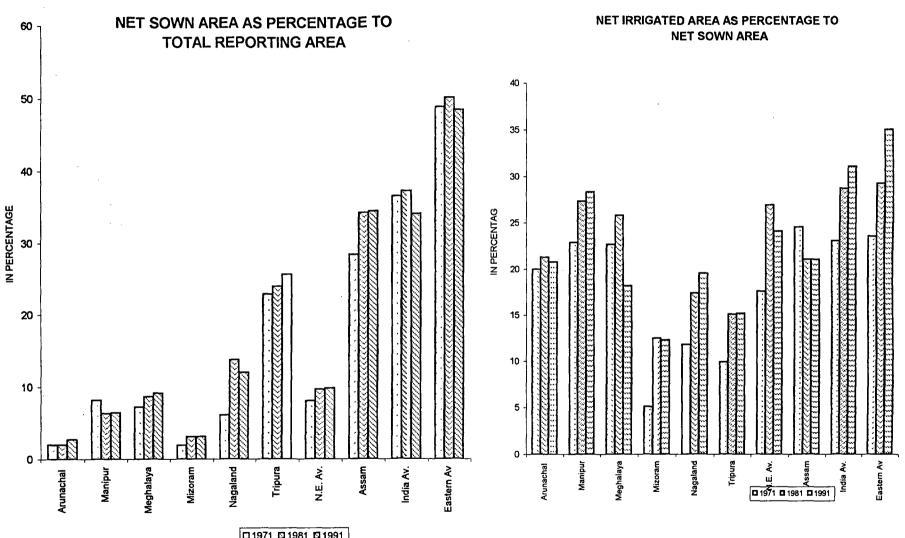


PERCENTAGE OF WOMEN WORKERS

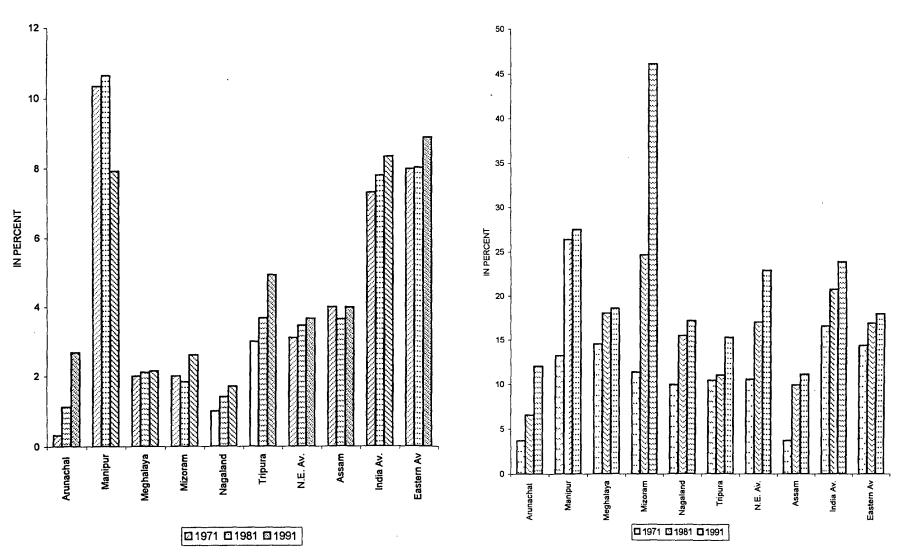
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OLD AGE DEPENDENCY RATIO

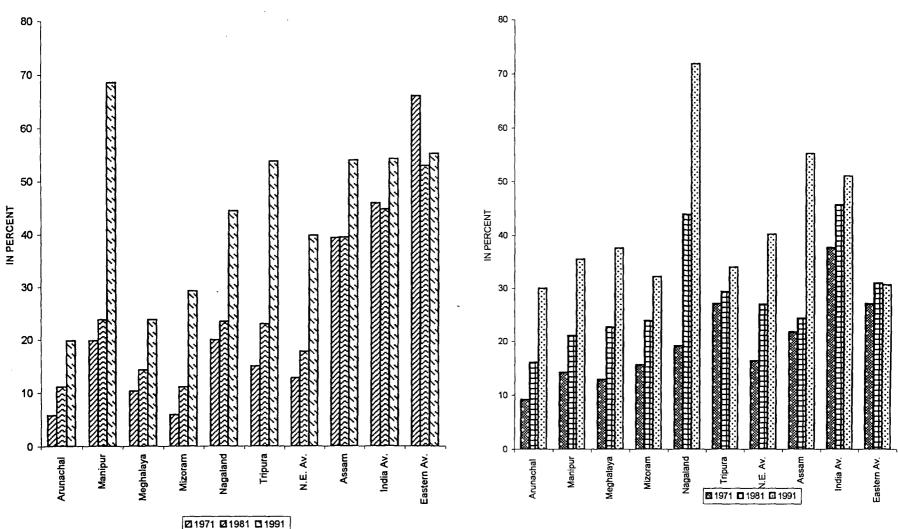


□ 1971 □ 1981 □ 1991



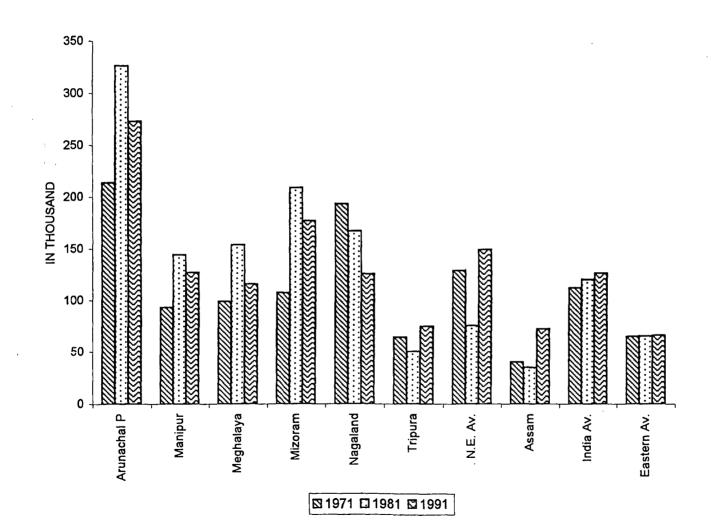
SHARE OF INDUSTRIAL WORKERS

URBAN POPULATION



CREDIT- DEPOSIT RATIO

SURFACE ROAD LENGTH



SCHOOLS PER LAKH POPULATION

CODES FOR APPENDIX 1, 3, 4.

- 1- Value of Output per Hectare
- 2- Value of Output per Capita
- 3- Surface Road Length
- 4- Bank Branch

- 5- PCB Credit
 6- PCBC to Agriculture
 7- PCBC to Industry
 8- Percentage of Urban Population
 9- Literacy in Percentage
- 10- Percentage of Villages Electrified
- 11- School Per Lakh Population
- 12-Beds Per Lakh Population in Hospital PHC's

CODES FOR APPENDIX 2

- 1- Value of Output per Hectare
- 2- Value of Output per Capita
- 3- Urbanisation
- 4- Literacy
- 5- Surface Road Length
- 6- Bank Branches
- 7- PCB Credit
- 8- PCBC to Agriculture9- PCBC to Industries
- 10- Villages Electrified
- 11- School
- 12-Hospital PHC's

CODES FOR APPENDIX 5,9 AND 10

- 1- Sex Ratio
- 2- Literacy Rate
- 3- Old Age Dependency Ratio
- 4- Women worker
- 5- Net Sown Area as % to Total Reporting Area
- 6- Net Irrigated area as % to Net Sown Area
- 7- Industrial Worker in Percentage
- 8- Urbanisation
- 9- Credit Deposit Ratio
- 10- Surface Road Length
- 11- Hospital beds
- 12- PCB Credit
- 13- Primary School
- 14- Houses Electrified

CODES FOR APPENDIX 6

- 1- Sex Ratio
- 2- Literacy
- 3- Old Age Dependency Ratio
- 4- Women Worker
- 5- Net Sown Area as % to Total Reporting Area
- 6- Net Irrigated Area as % to Net Sown Area
- 7-Industrial Worker
- 8- Urbanisation
- 9- Credit deposit Ratio
- 10- Surface Road Length
- 11- PCB Credit
- 12- Hospital Beds
- 13- Primary School
- 14- Houses Electrified

Appendix1.						1981						
DISTRICT	1	2	3	4	5	6	7	8	9	10	11	12
Tirap	87.65	66	2.12	1.14	13	1	1	0.64	7.73	2.36	23.56	8.94
LowerSubansiri	93.64	79	2.65	1.21	15	2	4	0.98	12.64	3.62	32.9	11.19
Dibang Valley	96.54	82	2.65	1.23	19	3	5	1.65	19.33	4.12	42.67	12.61
W. Siang	96.54	83	3.11	2.16	21	3	6	2.31	19.52	4.36	45.21	12.98
U. Subansiri	106.83	88	3.12	2.19	22	4	8	3.48	19.89	5.95	81. 47	16.11
E.Kameng	116.78	91	3.65	2.31	32	4	9	4.13	20.04	6.35	94.78	17.56
Lohit	135.21	103	4.36	2.36	34	4	9	4.19	20.79	7.1	98.36	18.41
W.Kameng, Tawa	178.76	124	4.36	3.06	36	5	9	4.69	20.88	7.56	98.98	21.22
E.Siang	183.69	145	4.44	3.11	45	6	12	5.33	22.5	7.98	99.2	21.65
Wokha	214	166	5.23	3.26	46	7	12	6.12	23.61	8.08	102.11	27.31
Mon	665	187	5.33	3.56	47	7	14	6.18	26.13	8.36	102.3	27.59
Lunglei	763	189	5.84	3.91	53	7	14	6.56	26.28	8.85	104.36	28.96
Dibrugarh	789	218	6.25	3.97	53	7	15	6.92	28.26	8.98	109.4	30.42
Zunheboto	893	221	6.25	3.98	56	7	18	7.18	30.49	9.19	111.24	31.06
Aizawl	979	265	6.35	4.01	59	7	22	7.36	34.08	9.88	112.4	31.19
Kohima	996	265	7.21	4.14	60	11	22	7.48	35.56	11.33	118.13	31.7
Mokokchung	1046	281	7.25	4.24	61	16	24	8.01	35.64	11.91	118.51	34.61
Phek	1154	312	8.53	4.33	75	18.5	32	8.33	35.94	12.3	123.46	34.66
Nagaon	1532.5	314	9.11	4.36	88	21	34	8.74	37.99	12.66	123.96	35.21
Jaintia	1542	326	9.23	4.36	94	23	35	9.87	39.23	13.12	137.84	35.62
Goalpara	1564.5	357.33	11.21	4.56	97	23	36	10.34	39.87	13.13	141.26	35.97
Chhimtuipui	1625	362	12.36	4.72	98	25.5	36	10.63	42.12	13.66	156. 68	38.75
Lakhimpur	1674.5	389	12.58	5.17	102	29	38.5	10.84	45.59	14.36	165	39.27
S. Tripura	1765	404	14.77	5.31	116	35	39	11.67	45.6	16.2	166.19	41.64
Tuensang	1852	429	17.64	5.47	119	38	72	12.55	47.45	16.66	166.56	42.56
K. Anglong	2018	452	18.17	6.36	134	43.75	84	14.21	47.83	19.32	168.98	44.05
N.Tripura	2024	454	19.56	6.52	167	45.33	84	14.84	48.94	26.51	177.36	44.45
E.Khasi	2354	486	20.97	6.63	193	47	90	15.52	49.69	26.52	179.57	46.12
Darrang	2400	520.33	24.31	6.7	202	61	94	16.83	50.11	27.54	181.01	47.43
Cachar	2456.67	542	25.11	7.02	209	71	115	17.33	50.46	33.33	184.86	49.56
W.Tripura	2465	558.75	25.98	7.58	223	74.5	143	17.94	53.16	51.88	198.98	50.17
N.C.Hills	2467	625	27.61	7.59	248	104	160	18.07	53.62	51.92	215.36	60.57
Sibsagar	2500	638.5	28.73	7.97	284.33	124	175	24.67	56.35	60.99	229.6	69.81
Kamrup	2513.67	754	30.35	8.42	296.75	147	182	24.76	57.18	68.03	236.19	75.31
W.Garo	2987	771.33	32.65	8.93	303	152.5	216	26.88	59. 88	72.79	268.54	80.79
W.khasi	3124	786.5	37.86	9.69	410	153	489	36.51	61.78	76.14	300.58	108.22
E.Garo	3579	897	45.58	9.99	533.5	188	832	58.94	61.87	179.67	300.76	122.27
av	1379.418	352.2092				41.21838			37.51432			40.16054054
st dev	1020.592			2.376017				11.15668				24.91914714
C.V.			82.18872				180.7264		39.892		47.24677	62.04883401

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E.Kameng1.781.012.070.812.261.102.110.050.210.490E.Siang1.180.750.450.730.170.560.060.130.530.301Lohit1.741.771.270.621.661.815.670.380.750.320	11 12 .80 0.40 .78 0.53 .63 0.44 .70 0.28 .23 0.98 .72 0.22 .17 1.06 .30 0.31 .73 0.69 .84 0.86
Dibang Valley0.710.800.661.620.120.560.210.190.700.140.70E.Kameng1.781.012.070.812.261.102.110.050.210.490E.Siang1.180.750.450.730.170.560.060.130.530.301Lohit1.741.771.270.621.661.815.670.380.750.320	.78 0.53 .63 0.44 .70 0.28 .23 0.98 .72 0.22 .17 1.06 .30 0.31 .73 0.69
E.Kameng1.781.012.070.812.261.102.110.050.210.490E.Siang1.180.750.450.730.170.560.060.130.530.301Lohit1.741.771.270.621.661.815.670.380.750.320	.630.44.700.28.230.98.720.22.171.06.300.31.730.69
E.Siang1.180.750.450.730.170.560.060.130.530.301Lohit1.741.771.270.621.661.815.670.380.750.320	.700.28.230.98.720.22.171.06.300.31.730.69
Lohit 1.74 1.77 1.27 0.62 1.66 1.81 5.67 0.38 0.75 0.32 0	.230.98.720.22.171.06.300.31.730.69
LowerSubansiri 0.07 0.35 0.15 0.44 0.42 0.70 0.45 0.50 0.52 0.17 0	.72 0.22 .17 1.06 .30 0.31 .73 0.69
	.17 1.06 .30 0.31 .73 0.69
Tirap 0.57 2.23 1.88 0.82 4.23 3.70 9.65 0.28 0.52 0.32 0	.30 0.31 .73 0.69
W.Kameng, Tawang 2.59 2.14 0.67 0.86 0.44 0.17 0.17 0.34 0.56 0.24 0	.73 0.69
	.84 0.86
	.88 0.79
	.17 0.76
	.31 2.01
	.28 2.69
	.67 1.11
	.18 1.10
	.20 1.18
	.88 0.46
	.84 3.04
	.58 1.25
	.67 1.23
	.32 0.77
	.13 0.78
	.13 1.04
	.53 0.88
	.90 0.68
	.41 0.32
	.27 1.74
•	.55 1.88
	.11 1.51
	.18 0.90
•	.98 1.15
	.79 0.54
	.00 0.96
	.70 0.89
	.70 0.86
Zunheboto 0.65 0.29 0.19 0.47 0.25 0.02 0.14 1.03 1.22 0.39 0	.74 0.72

1 2 3 4 5 6 7 8 9 10 11 Aizawi 0.90 0.60 1.10 1.69 0.88 1.16 0.54 0.27 0.88 0.48 1.39 0. Cachar 1.29 1.06 1.52 0.72 0.75 0.97 0.47 0.38 0.49 0.63 1.03 0.0 Darrang 1.34 1.28 1.51 0.67 0.63 0.92 2.26 0.41 0.93 0.72 1.23 0.0 Dibang Val 1.61 2.21 0.13 0.67 0.55 0.05 0.52 0.72 0.74 0.44 1.6 E.Gero 1.91 1.80 0.86 0.61 1.67 1.06 0.54 0.72 0.74 0.47 1.1 E.Knasi 1.51 0.46 1.12 1.33 0.54 0.81 0.72 1.74 0.47 1.14 0.70 0.55 0.56	Appendix 4:S	Standardize	ed data				1991						
Cachar 1.29 1.08 1.52 0.72 0.75 0.97 0.47 0.38 0.49 0.63 1.03 0 Chhimtuip 1.01 0.56 0.50 0.84 0.57 0.60 0.17 0.40 0.84 3.69 0 Dibang Val 1.61 2.21 0.13 0.65 0.31 0.81 0.41 0.83 0.72 1.23 0.0 Dibrugarh 1.80 2.33 2.18 0.94 2.21 3.84 1.98 0.47 0.60 0.64 1.18 0 E.Garo 1.91 1.80 0.86 1.11 0.58 0.75 0.05 0.52 0.72 0.74 0.47 1.14 E.Khasi 1.12 0.48 0.61 1.67 1.06 0.54 0.85 1.41 0.91 0.17 1.21 1.27 0.0 Galapara 0.91 1.01 1.65 0.58 0.61 0.50 0.57 1.06 0				3	4	5	6	7	8	9	10	11	12
Chhimtuipi 1.01 0.56 0.50 0.84 0.57 0.60 0.17 0.40 0.84 0.44 3.69 0 Darang 1.34 1.28 1.51 0.67 0.63 0.92 2.26 0.41 0.93 0.72 1.23 0 Diburgarh 1.80 2.33 2.18 0.94 2.21 3.84 1.98 0.47 0.60 0.64 1.18 0.02 0.45 1.1 Diburgarh 1.80 2.86 1.11 0.55 0.13 0.34 0.01 0.53 0.66 0.74 1.14 0.0 E.Kameng 1.53 1.35 0.51 0.55 0.13 0.34 0.01 0.53 0.66 0.72 1.27 0.49 0.61 0.50 0.57 1.06 0.72 1.27 0.49 0.61 0.50 0.57 1.06 0.76 1.15 0.3 Jaintia 0.56 0.46 1.12 1.99 0.56 <t< td=""><td>Aizawl</td><td>0.90</td><td>0.60</td><td>1.10</td><td>1.69</td><td>0.88</td><td>1.16</td><td>0.54</td><td>0.27</td><td>0.88</td><td>0.48</td><td>1.39</td><td>0.50</td></t<>	Aizawl	0.90	0.60	1.10	1.69	0.88	1.16	0.54	0.27	0.88	0.48	1.39	0.50
Darrang 1.34 1.28 1.51 0.67 0.63 0.92 2.28 0.41 0.93 0.72 1.23 0 Dibrug Val 1.61 2.21 0.13 0.65 0.31 0.61 0.42 0.78 1.02 0.45 1.18 0 Dibrugarh 1.80 2.33 2.18 0.94 2.21 3.84 1.88 0.47 0.60 0.64 1.18 0 E.Knasi 1.53 1.53 0.51 0.55 0.13 0.34 0.01 0.53 0.86 0.74 1.14 0.91 E.Knasi 1.12 0.48 1.39 0.56 0.46 0.57 1.06 0.76 1.15 0.91 0.91 0.91 0.91 0.91 0.91 0.93 0.51 0.56 0.49 0.12 0.56 0.49 0.12 0.56 0.49 0.12 0.56 1.33 0.51 1.52 1.06 0.55 0.57 1.06 0.57	Cachar	1.29	1.08	1.52	0.72	0.75	0.97	0.47	0.38	0.49	0.63	1.03	0.58
Dibang Val 1.61 2.21 0.13 0.65 0.31 0.81 0.61 0.42 0.78 1.02 0.45 1. Dibrugarh 1.80 2.33 2.18 0.94 2.21 3.84 1.98 0.47 0.60 0.64 1.18 0.65 E.Garo 1.91 1.80 0.86 1.11 0.55 0.05 0.52 0.72 0.74 0.47 1.14 0.66 E.Khasi 1.12 0.48 1.39 1.76 0.18 1.96 1.33 0.54 0.81 0.72 1.27 0.6 E.Siang 0.70 1.27 0.49 1.68 0.61 1.67 1.06 0.54 0.82 1.25 1.06 0.74 1.15 0.59 0.37 1.06 0.76 1.15 0.15 0.13 0.59 0.82 1.25 1.06 0.78 1.51 1.15 1.78 1.1 1.43 2.62 1.44 0.75 2.12 0.62	Chhimtuipu	1.01	0.56	0.50	0.84	0.57	0.60	0.17	0.40	0.84	0.44	3.6 9	0.41
Dibang Val 1.61 2.21 0.13 0.65 0.31 0.81 0.61 0.42 0.78 1.02 0.45 1 Dibrugarh 1.80 2.33 2.18 0.94 2.21 3.84 1.98 0.47 0.60 0.64 1.18 0. E.Garo 1.91 1.80 0.86 1.11 0.58 0.57 0.05 0.52 0.72 0.74 0.47 1.14 0. E.Knasi 1.12 0.48 1.39 1.76 0.18 1.96 1.33 0.54 0.81 0.72 1.27 0. Galpara 0.91 1.01 1.65 0.58 0.67 0.61 0.50 0.57 1.06 0.76 1.15 0. Jaintia 0.56 0.46 1.12 0.97 1.14 0.71 0.93 0.13 0.59 1.02 0.78 1.51 1.1 Lakingup 0.44 7.7 2.12 0.62 1.18 1.76 1.1 <td< td=""><td>Darrang</td><td>1.34</td><td>1.28</td><td>1.51</td><td>0.67</td><td>0.63</td><td>0.92</td><td>2.26</td><td>0.41</td><td>0.93</td><td>0.72</td><td>1.23</td><td>0.34</td></td<>	Darrang	1.34	1.28	1.51	0.67	0.63	0.92	2.26	0.41	0.93	0.72	1.23	0.34
E.Garo 1.91 1.80 0.86 1.11 0.58 0.75 0.05 0.52 0.72 0.74 0.47 1. E.Kameng 1.53 1.35 0.51 0.55 0.13 0.34 0.01 0.53 0.86 0.74 1.14 0.01 E.Khasi 1.12 0.48 1.39 1.76 0.18 1.67 1.06 0.54 0.85 1.41 0.91 0.0 Gaepara 0.91 1.01 1.65 0.56 0.67 0.61 0.50 0.57 1.06 0.76 1.15 0.0 Jaintia 0.56 0.46 1.12 1.39 0.56 0.49 0.12 0.58 0.82 1.25 1.06 0.0 K.Anglong 1.05 1.28 0.72 1.88 1.06 5.49 2.00 2.43 0.61 1.05 1.31 1.43 2.20 1.14 1.45 1.78 1. Lakhimpur 1.46 2.00 2.30 0.70 0.74 0.88 0.45 0.69 1.03 1.32 2.0	-	1.61	2.21	0.13	0.65	0.31	0.81	0.61	0.42	0.78	1.02	0.45	1.13
E.Garo 1.91 1.80 0.86 1.11 0.58 0.75 0.05 0.52 0.72 0.74 0.47 1. E.Kameng 1.53 1.35 0.51 0.55 0.13 0.34 0.01 0.53 0.86 0.74 1.14 0.0 E.Khasi 1.12 0.48 1.39 1.76 0.18 1.96 1.33 0.54 0.81 0.72 1.27 0.0 E.Siang 0.70 1.27 0.49 1.68 0.61 1.67 1.06 0.54 0.85 1.41 0.91 0.0 Jaintia 0.56 0.46 1.12 1.39 0.56 0.49 0.12 0.58 0.82 1.25 1.06 0.0 K.Anglong 1.05 1.28 0.79 1.14 0.71 0.93 0.13 0.59 1.02 0.78 1.51 1. Kampup 0.98 0.72 1.88 1.06 5.49 2.00 2.43 0.61 1.05 1.31 1.43 2. 0.46 1.26 1.18 1.15	Dibrugarh	1.80	2.33	2.18	0.94	2.21	3.84	1.98	0.47	0.60	0.64	1.18	0.38
E.Khasi 1,12 0.48 1.39 1.76 0.18 1.96 1.33 0.54 0.81 0.72 1.27 0. E.Siang 0.70 1.27 0.49 1.68 0.61 1.67 1.06 0.54 0.81 0.72 1.27 0. Goalpara 0.91 1.01 1.65 0.56 0.61 0.50 0.57 1.06 0.76 1.15 0. Jaintia 0.56 0.46 1.12 1.39 0.56 0.49 0.12 0.58 0.82 1.25 1.06 0.0 Kamup 0.98 0.72 1.88 1.08 5.49 2.00 2.43 0.61 1.05 1.31 1.43 2. Kohima 0.47 0.55 0.37 1.04 4.47 2.75 1.21 0.61 1.03 1.32 2.02 1 Lohit 1.19 1.18 0.24 0.76 0.83 0.30 1.88 0.70 0.86 0.81 1.32 2.02 1 Lohit 1.19 1.18 <td< td=""><td></td><td>1.91</td><td>1.80</td><td>0.86</td><td>1.11</td><td>0.58</td><td>0.75</td><td>0.05</td><td>0.52</td><td>0.72</td><td>0.74</td><td>0.47</td><td>1.11</td></td<>		1.91	1.80	0.86	1.11	0.58	0.75	0.05	0.52	0.72	0.74	0.47	1.11
E.Siang 0.70 1.27 0.49 1.68 0.61 1.67 1.06 0.54 0.85 1.41 0.91 0. Goalpara 0.91 1.01 1.65 0.58 0.67 0.61 0.50 0.57 1.06 0.76 1.15 0. Jaintia 0.56 0.46 1.12 1.39 0.56 0.49 0.12 0.58 0.82 1.25 1.06 0. K. Anglong 1.05 1.28 0.79 1.14 0.71 0.93 0.13 0.59 1.02 0.78 1.51 1. Kamrup 0.98 0.72 1.88 1.08 5.49 2.00 2.43 0.61 1.05 1.31 1.43 2. Kohima 0.47 0.55 0.37 1.04 4.47 2.75 2.12 0.62 1.18 1.15 1.78 1.12 Lohit 1.19 1.18 0.24 0.76 0.83 0.30 1.84 0.69 </td <td>E.Kameng</td> <td>1.53</td> <td>1.35</td> <td>0.51</td> <td>0.55</td> <td>0.13</td> <td>0.34</td> <td>0.01</td> <td>0.53</td> <td>0.86</td> <td>0.74</td> <td>1.14</td> <td>0.34</td>	E.Kameng	1.53	1.35	0.51	0.55	0.13	0.34	0.01	0.53	0.86	0.74	1.14	0.34
Goalpara 0.91 1.01 1.65 0.58 0.67 0.61 0.50 0.57 1.06 0.76 1.15 0. Jaintia 0.56 0.46 1.12 1.39 0.56 0.49 0.12 0.58 0.82 1.25 1.06 0. K. Anglong 1.05 1.28 0.79 1.14 0.71 0.93 0.13 0.59 1.02 0.78 1.51 1. Kamrup 0.98 0.72 1.88 1.08 5.49 2.00 2.43 0.61 1.05 1.31 1.43 2. Kohima 0.47 0.55 0.37 1.04 4.47 2.75 2.12 0.62 1.18 1.15 1.78 1. Lakimipur 1.46 2.00 2.30 0.70 0.74 0.86 0.45 0.69 1.03 1.32 2.02 1 Lohit 1.19 1.18 0.24 0.76 0.33 0.30 1.88 0.70 <td>E.Khasi</td> <td>1.12</td> <td>0.48</td> <td>1.39</td> <td>1.76</td> <td>0.18</td> <td>1.96</td> <td>1.33</td> <td>0.54</td> <td>0.81</td> <td>0.72</td> <td>1.27</td> <td>0.62</td>	E.Khasi	1.12	0.48	1.39	1.76	0.18	1.96	1.33	0.54	0.81	0.72	1.27	0.62
Jaintia 0.56 0.46 1.12 1.39 0.56 0.49 0.12 0.58 0.82 1.25 1.06 0 Kanglong 1.05 1.28 0.79 1.14 0.71 0.93 0.13 0.59 1.02 0.78 1.51 1. Kamrup 0.98 0.72 1.88 1.08 5.49 2.00 2.43 0.61 1.05 1.31 1.43 2.2 Kohima 0.47 0.55 0.37 1.04 4.47 2.75 2.12 0.62 1.18 1.15 1.78 1. Lakhimpur 1.46 2.00 2.30 0.70 0.74 0.68 0.45 0.69 1.03 1.32 2.02 1. Lohit 1.19 1.18 0.24 0.76 0.83 0.30 1.88 0.70 0.86 0.82 1.33 0.97 1.26 1.13 0 Lunglei 0.84 0.55 0.80 1.38 0.57	E.Siang	0.70	1.27	0.49	1.68	0.61	1.67	1.06	0.54	0.85	1.41	0.91	0.97
K. Anglong 1.05 1.28 0.79 1.14 0.71 0.93 0.13 0.59 1.02 0.78 1.51 1. Kamrup 0.98 0.72 1.88 1.08 5.49 2.00 2.43 0.61 1.05 1.31 1.43 2 Kohima 0.47 0.55 0.37 1.04 4.47 2.75 2.12 0.62 1.18 1.15 1.178 1. Lakhimpur 1.46 2.00 2.30 0.70 0.74 0.68 0.45 0.69 1.03 1.32 2.02 1 Lohit 1.19 1.18 0.24 0.76 0.63 0.30 1.88 0.70 0.86 0.28 1.36 1 LowerSube 0.88 0.85 0.35 1.52 1.48 0.27 1.12 0.78 0.97 1.26 1.13 0 Lugiti 0.84 0.55 0.80 1.38 0.55 0.62 0.30 0.84 1.09 0.46 0.77 3 Mokokchur 0.45 0.50	Goalpara	0.91	1.01	1.65	0.58	0.67	0.61	0.50	0.57	1.06	0.76	1.15	0.95
Kamrup 0.98 0.72 1.88 1.08 5.49 2.00 2.43 0.61 1.05 1.31 1.43 2 Kohima 0.47 0.55 0.37 1.04 4.47 2.75 2.12 0.62 1.18 1.15 1.78 1 Lakhimpur 1.46 2.00 2.30 0.70 0.74 0.68 0.45 0.69 1.03 1.32 2.02 1 Lohit 1.19 1.18 0.24 0.76 0.83 0.30 1.88 0.70 0.86 0.62 1.31 1.43 2 0.20 1.32 2.02 1 LowerSube 0.88 0.85 0.35 1.52 1.48 0.27 1.12 0.78 0.97 1.26 1.13 0 LowerSube 0.84 0.55 0.62 0.30 0.84 1.09 0.46 0.77 3 Mon 0.44 0.54 0.36 0.37 0.56 0.75 <	Jaintia	0.56	0.46	1.12	1.39	0.56	0.49	0.12	0.58	0.82	1.25	1.06	0.81
Kamrup0.980.721.881.085.492.002.430.611.051.311.432.Kohima0.470.550.371.044.472.752.120.621.181.151.781.Lakhimpur1.462.002.300.700.740.680.450.691.031.322.021.Lohit1.191.180.240.760.830.301.880.700.860.281.361.130LowerSubz0.880.850.351.521.480.271.120.780.971.261.130Lunglei0.840.550.801.380.550.620.300.841.090.460.773Mokokchur0.450.500.370.790.951.480.490.891.141.460.851Mon0.440.540.360.370.560.751.330.910.971.540.431N.C.Hills0.850.700.891.480.640.820.230.961.241.370.570N.Tripura1.191.071.360.981.581.270.300.960.910.760.290Nagaon1.131.281.830.620.770.431.771.021.131.042.130Phek0.400.560.340.8	K. Anglong	1.05	1.28	0.79	1,14	0.71	0.93	0.13	0.59	1.02	0.78	1.51	1.38
Lakhimpur 1.46 2.00 2.30 0.70 0.74 0.68 0.45 0.69 1.03 1.32 2.02 1. Lohit 1.19 1.18 0.24 0.76 0.83 0.30 1.88 0.70 0.86 0.28 1.36 1. LowerSube 0.88 0.85 0.35 1.52 1.48 0.27 1.12 0.78 0.97 1.26 1.13 0 Lunglei 0.84 0.55 0.80 1.38 0.55 0.62 0.30 0.84 1.09 0.46 0.77 3 Mokokchur 0.45 0.50 0.37 0.79 0.95 1.48 0.49 0.89 1.14 1.46 0.85 1 Mon 0.44 0.54 0.36 0.37 0.56 0.75 1.33 0.91 0.97 1.54 0.43 1 N.C.Hills 0.85 0.70 0.89 1.48 0.62 0.23 0.96 0.91 0.76 0.29 0 Nagaon 1.13 1.28 1.83		0.98	0.72	1.88	1.08	5.49	2.00	2.43	0.61	1.05	1.31	1.43	2.48
Lohit1.191.180.240.760.830.301.880.700.860.281.361LowerSubz0.880.850.351.521.480.271.120.780.971.261.130Lunglei0.840.550.801.380.550.620.300.841.090.460.773Mokokchur0.450.500.370.790.951.480.490.891.141.460.851Mon0.4440.540.360.370.560.751.330.910.971.540.431N.C.Hills0.850.700.891.480.640.820.230.961.241.370.570N.Tripura1.191.071.360.981.581.270.300.960.910.760.290Nagaon1.131.281.830.620.770.431.771.021.131.042.130Phek0.400.560.340.820.660.870.621.030.670.511.860S. Tripura1.080.901.360.871.070.740.181.030.740.841.420Sibsagar1.781.792.700.841.240.890.811.050.950.461.110Usubansii1.561.350.620.58 <th< td=""><td>Kohima</td><td>0.47</td><td>0.55</td><td>0.37</td><td>1.04</td><td>4.47</td><td>2.75</td><td>2.12</td><td>0.62</td><td>1.18</td><td>1.15</td><td>1.78</td><td>1.11</td></th<>	Kohima	0.47	0.55	0.37	1.04	4.47	2.75	2.12	0.62	1.18	1.15	1.78	1.11
LowerSub0.880.850.351.521.480.271.120.780.971.261.130Lunglei0.840.550.801.380.550.620.300.841.090.460.773Mokokchur0.450.500.370.790.951.480.490.891.141.460.851Mon0.440.540.360.370.560.751.330.910.971.540.431N.C.Hills0.850.700.891.480.640.820.230.961.241.370.570N.Tripura1.191.071.360.981.581.270.300.960.910.760.290Nagaon1.131.281.830.620.770.431.771.021.131.042.130Stagaon1.131.281.830.620.770.431.771.021.131.042.130Stagaon1.131.281.830.620.740.431.771.021.131.042.130Stagaon1.131.280.871.070.740.181.030.740.841.420Sibsagar1.781.792.700.841.240.890.811.050.950.461.110Tirap0.700.551.270.650.950.2	Lakhimpur	1.46	2.00	2.30	0.70	0.74	0.68	0.45	0.69	1.03	1.32	2.02	1.34
Lunglei0.840.550.801.380.550.620.300.841.090.460.773Mokokchur0.450.500.370.790.951.480.490.891.141.460.851Mon0.440.540.360.370.560.751.330.910.971.540.431N.C.Hills0.850.700.891.480.640.820.230.961.241.370.570N.Tripura1.191.071.360.981.581.270.300.960.910.760.290Nagaon1.131.281.830.620.770.431.771.021.131.042.130Phek0.400.560.340.820.660.870.621.030.670.511.860.85S. Tripura1.080.901.360.871.070.740.181.030.740.841.420Sibsagar1.781.792.700.841.240.890.811.050.950.461.110Tirap0.700.551.270.650.950.271.361.111.660.970.631U.Subansit1.561.350.620.580.530.319.901.381.471.000.631W.Garo0.860.890.960.43 <td< td=""><td>Lohit</td><td>1.19</td><td>1.18</td><td>0.24</td><td>0.76</td><td>0.83</td><td>0.30</td><td>1.88</td><td>0.70</td><td>0.86</td><td>0.28</td><td>1.36</td><td>1.45</td></td<>	Lohit	1. 19	1.18	0.24	0.76	0.83	0.30	1.88	0.70	0.86	0.28	1.36	1.45
Mokokchur0.450.500.370.790.951.480.490.891.141.460.851Mon0.440.540.360.370.560.751.330.910.971.540.431N.C.Hills0.850.700.891.480.640.820.230.961.241.370.570N.Tripura1.191.071.360.981.581.270.300.960.910.760.290Nagaon1.131.281.830.620.770.431.771.021.131.042.130Phek0.400.560.340.820.660.870.621.030.670.511.860S. Tripura1.080.901.360.871.070.740.181.030.740.841.420Sibsagar1.781.792.700.841.240.890.811.050.950.461.110Tirap0.700.551.270.650.950.271.361.111.660.970.631U.Subansii1.561.350.620.580.530.319.901.381.471.000.631W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kameng1.311.090.301.610	LowerSuba	0.88	0.85	0.35	1.52	1.48	0.27	1.12	0.78	0.97	1.26	1.13	0.64
Mon0.440.540.360.370.560.751.330.910.971.540.431N.C.Hills0.850.700.891.480.640.820.230.961.241.370.570N.Tripura1.191.071.360.981.581.270.300.960.910.760.290Nagaon1.131.281.830.620.770.431.771.021.131.042.130Phek0.400.560.340.820.660.870.621.030.670.511.860S. Tripura1.080.901.360.871.070.740.181.030.740.841.420Sibsagar1.781.792.700.841.240.890.811.050.950.461.110Tirap0.700.551.270.650.950.271.361.111.660.970.631U.Subansii1.561.350.620.580.530.319.901.381.471.000.631W. Siang0.881.230.171.240.580.931.101.491.301.620.210W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kameng1.311.090.301.610.	Lunglei	0.84	0.55	0.80	1.38	0.55	0.62	0.30	0.84	1.09	0.46	0.77	3.37
N.C. Hills0.850.700.891.480.640.820.230.961.241.370.570N.Tripura1.191.071.360.981.581.270.300.960.910.760.290Nagaon1.131.281.830.620.770.431.771.021.131.042.130Phek0.400.560.340.820.660.870.621.030.670.511.860S. Tripura1.080.901.360.871.070.740.181.030.740.841.420Sibsagar1.781.792.700.841.240.890.811.050.950.461.110Tirap0.700.551.270.650.950.271.361.111.660.970.631U.Subansit1.561.350.620.580.530.319.901.381.471.000.631W. Siang0.881.230.171.240.580.931.101.491.301.620.210W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kameng1.311.090.301.610.410.720.211.660.681.540.210W.Khasi0.860.600.551.27<	Mokokchur	0.45	0.50	0.37	0.79	0.95	1.48	0.49	0.89	1.14	1.46	0.85	1.17
N.Tripura1.191.071.360.981.581.270.300.960.910.760.290Nagaon1.131.281.830.620.770.431.771.021.131.042.130Phek0.400.560.340.820.660.870.621.030.670.511.860S. Tripura1.080.901.360.871.070.740.181.030.740.841.420Sibsagar1.781.792.700.841.240.890.811.050.950.461.110Tirap0.700.551.270.650.950.271.361.111.660.970.631U.Subansit1.561.350.620.580.530.319.901.381.471.000.631W. Siang0.881.230.171.240.580.931.101.491.301.620.210W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.Khasi0.860.600.551.270.431.050.051.971.181.630.210W.Tripura0.850.811.280.89 <t< td=""><td>Mon</td><td>0.44</td><td>0.54</td><td>0.36</td><td>0.37</td><td>0.56</td><td></td><td>1.33</td><td>0.91</td><td></td><td></td><td></td><td>1.07</td></t<>	Mon	0.44	0.54	0.36	0.37	0.56		1.33	0.91				1.07
Nagaon1.131.281.830.620.770.431.771.021.131.042.130Phek0.400.560.340.820.660.870.621.030.670.511.860S. Tripura1.080.901.360.871.070.740.181.030.740.841.420Sibsagar1.781.792.700.841.240.890.811.050.950.461.110Tirap0.700.551.270.650.950.271.361.111.660.970.631Tuensang0.340.410.330.420.270.330.021.131.110.830.631U.Subansir1.561.350.620.580.530.319.901.381.471.000.631W. Siang0.860.930.890.960.430.740.051.591.471.210.210W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.khasi0.860.600.551.270.431.050.051.971.181.630.210W.Khasi0.860.600.551.270.431.050.051.971.181.630.210W.Khasi0.860.811.280.89	N.C.Hills	0.85	0.70	0.89	1.48	0.64		0.23	0.96	1.24			0.89
Phek0.400.560.340.820.660.870.621.030.670.511.860S. Tripura1.080.901.360.871.070.740.181.030.740.841.420Sibsagar1.781.792.700.841.240.890.811.050.950.461.110Tirap0.700.551.270.650.950.271.361.111.660.970.631Tuensang0.340.410.330.420.270.330.021.131.110.830.631U.Subansit1.561.350.620.580.530.319.901.381.471.000.631W. Siang0.881.230.171.240.580.931.101.491.301.620.210W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.khasi0.860.600.551.270.431.050.051.971.181.630.210W.thasi0.850.811.280.892.000.780.862.260.911.350.210	N.Tripura	1.19	1.07	1.36	0.98	1.58	1.27	0.30	0.96	0.91	0.76		0.73
S. Tripura1.080.901.360.871.070.740.181.030.740.841.420Sibsagar1.781.792.700.841.240.890.811.050.950.461.110Tirap0.700.551.270.650.950.271.361.111.660.970.631Tuensang0.340.410.330.420.270.330.021.131.110.830.631U.Subansit1.561.350.620.580.530.319.901.381.471.000.631W.Siang0.881.230.171.240.580.931.101.491.301.620.210W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.khasi0.860.600.551.270.431.050.051.971.181.630.210W.Tripura0.850.811.280.892.000.780.862.260.911.350.210	Nagaon	1.13		1.83	0.62	0.77							0.24
Sibsagar1.781.792.700.841.240.890.811.050.950.461.110.70Tirap0.700.551.270.650.950.271.361.111.660.970.631Tuensang0.340.410.330.420.270.330.021.131.110.830.631U.Subansir1.561.350.620.580.530.319.901.381.471.000.631W. Siang0.881.230.171.240.580.931.101.491.301.620.210W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.khasi0.860.600.551.270.431.050.051.971.181.630.210W.Tripura0.850.811.280.892.000.780.862.260.911.350.210	Phek	0.40	0.56	0.34	0.82	0.66	0.87	0.62	1.03	0.67	0.51		0.67
Tirap0.700.551.270.650.950.271.361.111.660.970.631Tuensang0.340.410.330.420.270.330.021.131.110.830.631U.Subansir1.561.350.620.580.530.319.901.381.471.000.631W. Siang0.881.230.171.240.580.931.101.491.301.620.210W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.khasi0.860.600.551.270.431.050.051.971.181.630.210W.Tripura0.850.811.280.892.000.780.862.260.911.350.210	S. Tripura	1.08			0.87	1.07	0.74						0.44
Tuensang0.340.410.330.420.270.330.021.131.110.830.631.11U.Subansii1.561.350.620.580.530.319.901.381.471.000.631.11W. Siang0.881.230.171.240.580.931.101.491.301.620.210W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.khasi0.86C.600.551.270.431.050.051.971.181.630.210W.Tripura0.850.811.280.892.000.780.862.260.911.350.210	Sibsagar	1.78		2.70	0.84	1.24	0.89				0.46		0.53
U.Subansir1.561.350.620.580.530.319.901.381.471.000.631W. Siang0.881.230.171.240.580.931.101.491.301.620.210W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.khasi0.860.600.551.270.431.050.051.971.181.630.210W.Tripura0.850.811.280.892.000.780.862.260.911.350.210	Tirap	0.70											1.79
W. Siang0.881.230.171.240.580.931.101.491.301.620.210W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.khasi0.860.600.551.270.431.050.051.971.181.630.210W.Tripura0.850.811.280.892.000.780.862.260.911.350.210	Tuensang												1.97
W.Garo0.860.930.890.960.430.740.051.591.471.210.211W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.khasi0.860.600.551.270.431.050.051.971.181.630.210W.Tripura0.850.811.280.892.000.780.862.260.911.350.210	U.Subansii												1.66
W.Kamenç1.311.090.301.610.410.720.211.660.681.540.210W.khasi0.860.600.551.270.431.050.051.971.181.630.210W.Tripura0.850.811.280.892.000.780.862.260.911.350.210	W. Siang	0.88		0.17		0.58	0.93	1.10	1.49	1.30			0.97
W.khasi 0.86 0.60 0.55 1.27 0.43 1.05 0.05 1.97 1.18 1.63 0.21 0 W.Tripura 0.85 0.81 1.28 0.89 2.00 0.78 0.86 2.26 0.91 1.35 0.21 0	W.Garo	0.86		0.89	0.96	0.43	0.74	0.05	1.59	1.47	1.21	0.21	1.11
W.Tripura 0.85 0.81 1.28 0.89 2.00 0.78 0.86 2.26 0.91 1.35 0.21 0	W.Kamenç					0.41		0.21	1.66	0.68	1.54	0.21	0,53
	W.khasi					0.43					1.63	0.21	0.88
Wokha 0.31 0.53 0.65 1.52 1.05 2.21 0.14 2.60 1.39 1.55 0.21 0.	W.Tripura					2.00	0.78	0.86		0.91	1.35	0.21	0.90
	Wokha					1.05	2.21	0.14	2.60	1.39	1.55	0.21	0.82
Zunheboto 0.47 0.56 2.04 0.87 0.55 0.74 0.07 3.53 1.21 1.23 0.21 0	Zunheboto	0.47	0.56	2.04	0.87	0.55	0.74	0.07	3.53	1.21	1.23	0.21	0.72

Appendix 5

States	sexratio	literates	oldagedep	womenwrk1	netsown	netirr	indtwrk	urbanpop	credep	surfrdl	hospbeds
Andhra Prad	977	25.0	11.98			26.	6 7.10	19.31	100.8	57.5	73.56
Arunachal Pi	861	11.0	8.14	51.28	2	2	0 0.32	3.7	5.8	9.2	213.90
Assam	896	29.0	9.75	15.92	28.5	24.	6 4.00	8.82	39.4	21.8	40.11
Bihar	954	20.0				28.	B 5.00	10	30.8	24.5	42.59
Goa	989	45.0	11.99	15.4	36.7		6 12.00	25.56	40.8	37.4	233.16
Gujrat	934	36.0	10.18	10.26	51.6	14.	4 12.00	28.08	48.6	51.1	74.91
Haryana	867	27.0	12.07	2.41	81	43.	9 10.00	17.67	46.9	78.1	79.71
Himachal Pr	958	32.0	13.88	20.79	18.6	16.	5.00	6.99	25	23.7	144.49
Jammu 'n Ke	878	19.0	9.32	3.86	15.2	40.	4 7.00	18.59	5.6	63	108.30
Kamataka	957	32.0	12.24	14.2	54.1	. 13.	3 9.67	24.31	76.1	32.5	105.81
Kerala	1016	60.0	11.62	13.49	55.9	20.	1 14.52	16.24	65.8	35.9	112.43
Madhya Prac	941	22.0	11.46	18.65	41.5	8.	9 6.32	16.29	58.9	49.4	40.81
Maharashtra	930	39.0	10.81	19.7	57.4		8 12.91	31.17	100.9	47.8	87.28
Manipur	980	33.0	11.85	23.62	8.1	36.	3 10.35	13.19	19.8	14.2	93.22
Meghalaya	942	29.0	8.95	34.57	7.2	22.	7 2.00	14.55	10.3	12.9	98.84
Mizoram	946	29.0	8.14	39.46	1.9	5.	1 2.00	11.36	5.9	15.6	107.66
Nagaland	871	27.0	12.06	45.24			B 1.00	9.95	20	19.2	193.63
Orissa	988				36			8.41		18.9	50.13
Punjab	865	34.0	14.61	1.18	80.6	72.	5 11.00	23.73	27	49.9	81.17
Rajasthan	911	19.0			44.5			17.63	51.4	47 .1	69.86
Sikkim	863								6.8	78	428.89
Tamil Nadu	978							30.26	133.5	56.7	101.94
Tripura	943	31.0			22.9	9.	9 3.00	10.43	15	27.1	64.25
UttarPradest	879		13.17		58.1			14.02	45.7	32.5	50.94
West Bengal	891	33.0	10.26	4.43	61.7	27.	3 13.52	24.75	115.4	37.9	101.55
st dev	47.11	9.90	1.98	14.23	23.88	15.8	7 4.44	7.68	36.01	19.64	83.20
C V.	5.07	33,50	17.90	6 75.86	65.26	68.7	1 60.70	463	4 78.41	52,14	74.31

Appendix 5:							1981						,	
	1	2	3	4	5	6	7	8	9	1	11	12	13	1
Andhra Pradesh	975	35.66	10.05	58.1	39.1	32.6	7.60	23.32	70.5	50.1	46.96	221	6.63	21.4
Arunachal Pradesh	862	25.55	8.54	39.9	2	21.3	1.12	6.56	11.1	16.1	326.62	33	12.39	15.1
Assam	894	44.91	11.01	19.7	34.3	21.1	3.65	9.88	39.5	24.4	34.94	97	7.71	29.3
Bihar	946	32.05	13.99	36	48	38.2	3.24	12.47	41.4	34.7	40.9	95	5. 6 8	9.
Goa	981	65.7	11.7	57.1	35.8	9.7	13.62	32.03	36.2	44.6	283.94	1500	7.88	58.0
Gujrat	942	52.21	10.78	48.5	50.9	22.3	14.00	31.1	51.7	76.9	104.67	370	2.76	44.8
Haryana	870	43.88	12.22	32	81.8	61.4	10.84	21.88	65.8	87.1	71.35	427	2.97	51.5
Himachal Pradesh	973	51.18	14.18	67.3	19.2	1 6 .1	5.11	7.61	28.6	22.6	119.03	113	13.37	54.8
Jammu 'n Kashmir	892	32.68	10.81	36.1	15.3	42.9	8.21	21.05	36.4	66	85.66	131	10.47	60,8
Karnataka	963	46.21	12.32	49.8	52	14.2	10.23	28.89	78.7	59.7	42.33	352	5.08	32.9
Kerala	1032	81.56	13.05	47	56.1	11	14.33	18.74	68.3	23.3	199.08	307	2.14	28.7
Madhya Pradesh	941	36.63	12.33	58.1	42.3	12.8	6.54	20.29	51.4	51.5	39.25	100	8.06	17.1
Maharashtra	937	55.83	11.58	54.2	58.5	11.2	12.99	35.03	77.3	50.3	62.23	6 84	5.17	40.6
Manipur	971	49.66	10.74	45.4	6.3	46.6	10.65	26.42	23.8	26.1	144.41	41	14.62	20.0
Meghalaya	954	42.05	8.35	61.5	8.6	25.8	2.11	18.07	14.3	22.7	154.04	56	22.87	16.8
Mizoram	919	74.26	7.95	9.5	3.1	12.5	1.84	24.67	11.1	23.9	209.41	15	7.97	16.2
Nagaland	863	50.28	10.45	39.9	13.7	40.6	1.41	15.52	23.5	43.9	167.57	61	13.71	26.1
Orissa	981	40.97	11.85	39.6	39.4	19.5	6.16	11.79	56.7	14	46.9	78	9.86	17.7
Punjab	879	48.17	14.12	39.8	83.3	80.9	11.33	27.68	38.5	77.6	124.85	617	6.66	60.
Rajasthan	919	30.11	11.71	59.1	44.6	18.6	7.11	21.05	67.1	56	62.85	148	4.95	20.5
Sikkim	835	41.59	7.84	38.2	11.9	12.3	2.81	16.15	10	95	324.09	105	13.32	23.1
Tamil Nadu	977	54.39	10.95	53.3	41.2	47.2	13.98	32.95	90.1	56.3	98.62	362	5.36	37.2
Tripura	946	50.11	13.16	11.5	24	15.1	3.69	10.99	23	29.4	50.17	75	6.71	25.0
UttarPradesh	885	33.35	13.16	35.4	57.9	55.2	7.56	17.95	43	47	48.92	125	5.19	12.9
West Bengal	911	48.65	13.29	27.6	62.9	30.3	14.64	26.47	60.4	44.4	108.64	373	5.88	21.0
Average	929.92	46.7056	11.4452	42.584	37. 288	28.776		20.7424	44.736	45.744	119.897	259.44	8.2964	
st.dev	48.118	13.221	1.86396	15.0086	23.272	18.5713	4.60077	8.14902	23.414	22.5363	88.3019	316.273	4.67457	
C.V.	5.174	28.307	16.286	35.245	62.411	64.537	59.054	39.287	52.337	49.266	73.648	121.906	56.345	52.7

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Appendix 🕃:						1991								
DISTRICTS	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Andhra Pradesh	972	89.81	14,53	69.20	82.00	93.40	15.97	46.10	87.30	53.30	1180.00	49.35	6.99	46.30
Arunachal Pradesh	859	82.27	14.50	65.20	60.30	74.00	15.85	41.01	19.80	30.00	694.00	273.07	10.53	40.85
Assam	923	75.51	14.41	60.30	58.60	60.00	15.45	38.69	54.00	55.20	673.00	72.24	8.89	18.74
Bihar	911	64.87	13.76	57.20	57.80	46.40	14.17	34.49	37.80	35.70	384.00	47.32	4.88	12.57
Goa	967	63.86	13.17	56.60	57.50	44.10	14.03	34.15	31.70	61.50	3749.00	303.43	7.74	84.69
Gujrat	934	62.66	12.87	54.10	56.20	42.50	13.21	30.92	61.20	84.40	1597.00	162.87	3.14	65.93
Haryana	865	61.65	12.87	53.40	45.60	40.40	12.28	29.55	60.30	89.60	1603.00	68.45	2.38	70.35
Himachal Pradesh	976	61.29	12.74	53.00	44.60	38.60	10.70	27.52	38.80	27.20	915.00	157.66	12.78	87.01
Jammu 'n Kashmir	894	60.44	12.40	49.80	43.50	35.80	10.56	27.48	32.20	33.20	689.00	105.62	10.62	47.23
Kamataka	960	59.89	12.38	49.40	43.50	32.00	9.31	26.89	92.00	61.80	1609.00	104.25	4.44	52.47
Kerala	1036	58.51	12.25	45.30	40.40	29.10	8.83	26.39	63.70	23.70	1440.00	278.63	2.19	48.43
Madhya Pradesh	931	57.70	12.13	43.60	40.40	24.30	7.91	24.63	67.90	56.80	699.00	43.33	8.74	43.30
Maharashtra	934	56.94	12.06	43.40	39.60	23.30	7.75	23.83	80.10	61.40	2768.00	97.97	5.22	69.40
Manipur	958	56.04	11.95	42.90	38.40	21.10	7.45	23.18	68.60	35.50	366.00	127.01	13.10	50.92
Meghalaya	955	55.85	11.90	39.00	34.50	20.80	6.81	22.88	23.80	37.60	409.00	115.94	17.97	29.16
Mizoram	921	54.67	11.16	35.20	25.70	19.60	6.64	19.84	29.30	32.20	404.00	177.18	12.65	59.20
Nagaland	886	52.89	11.11	35.00	17.30	18.90	5.14	18.60	44.00	71.90	589.00	125.68	8.89	53.42
Orissa	971	49.10	11.00	31. 4 0	16.00	18.20	4.94	17.21	76.60	9.70	704.00	51. 47	11.49	23.54
Punjab	882	49.09	10.49	30.90	13.40	17.00	4.03	15.30	45.40	80.90	2013.00	121.49	6.04	82.31
Rajasthan	910	44.20	9.85	27.90	12.00	16.80	4.01	13.38	62.30	49.80	666.00	79.22	5.29	35.03
Sikkim	878	44.09	9.45	27.40	9.10	15.20	3.99	13.14	28.30	96.20	1195.00	252.27	8.35	60.66
Tamil Nadu	974	41.60	8.66	27.10	6.30	14.80	2.68	12.80	98.00	63.40	1965.00	110.78	5.18	54.74
Tripura	945	41.59	8.48	25.10	3.30	12.30	2.61	11.10	53.90	34.00	796.00	74.71	6.81	36.93
UttarPradesh	879	38.55	8.29	24.90	3.10	10.20	2.15	9.10	46.30	45.70	5666.00	53.74	4.44	21.91
West Bengal	917	38.48	7.89	20.50	2.70	9.50	1.71	8.69	51.00	46.80	1256.00	99.11	6.74	32.90
Average	929.52	56.862	11.612	42.712	34.072	31.132	8.3272	23.8748	54.172	51.1	1361.16	126.112	7.8196	49.1196
st dev	42.735	12.746	1.955		22.00094	20.61437	4.62869	10.1511	21.796	22.0258	1205.233	76.589	3.82844	20.4357
C.V.	4.598	22.416	16.836	32.370	64.572	66.216	55.585	42.518	40.235	43.103	88.545	60.731	48.960	41.604

Appendix 8: Standardized data

States	sexratio	literacy	oldagedep	womenwrł ne	tsown	netirri	indwrk	urban	credeprat	surfrdlen	hospbed
Andhra Pradesh	1.05	0.85	1.09	1.34	1.17	1.15	0.97	1.16	2.20	1.53	0.66
Arunachal Pradesh	0.93	0.37	0.74		0.05	0.87			0.13	0.24	1.91
Assam	0.96	0.98	0.88	0.88	0.78	1.06	0.55	0.53	0.86	0.58	0.36
Bihar	1.03	0.68	1.04	0.49	1.33	1.25	0.68	0.60	0.67	0.65	0.38
Goa	1.07			0.85	1.00	0.26	1.64	1.54	0.89	0.99	2.08
Gujrat	1.01	1.22	0.92	0.57	1.41	0.62	1.64	1.69	1.06	1.36	0.67
Haryana	0.93	0.91	1.09	0.13	2.21	1.90	1.37	1.07	1.02	2.07	0.71
Himachal Pradesh	1.03	1.08	1.26	1.15	0.51	0.72	0.68	0.42	0.54	0.63	1.29
Jammu 'n Kashmir	0.95	0.64	0.84	0.21	0.42	1.75	0.96	1.12	0.12	1.67	0.97
Kamataka	1.03	1.08	1.11	0.79	1.48	0.58	1.32	1.47	1.66	0.86	0.94
Kerala	1.09	2.03	1.05	0.75	1.53	0.87	1.99	0.98	1.43	0.95	1.00
Madhya Pradesh	1.01	0.74	1.04	1.03	1.13	0.39	0.86	0.98	1.28	1.31	0.36
Maharashtra	1.00	1.32	0.98	1.09	1.57	0.35	1.77	1.88	2.20	1.27	0.78
Manipur	1.06	1.12	1.07	1.31	0.22	1.57	1.42	0.80	0.43	0.38	0.83
Meghalaya	1.01	0.98	0.81	1.92	0.20	0.98	0.27	0.88	0.22	0.34	0.88
Mizoram	1.02	0.98	0.74	2.19	0.05	0.22	0.27	0.69	0.13	0.41	0.96
Nagaland	0.94	0.91	1.09	2.51	0.17	0.51	0.14	0.60	0.44	0.51	1.73
Orissa	1.06	0.88	1.06	0.38	0.98	0.64	0.74	0.51	1.13	0.50	0.45
Punjab	0.93	1.15	1.32	0.07	2.20	3.14	1.50	1.43	0.59	1.32	0.72
Rajasthan	0.98	0.64	0.99	0.46	1.22	0.61	0.82	1.06	1.12	1.25	0.62
Sikkim	0.93	0.68	0.52	2.32	0.17	0.35	0.14	0.57	0.15	2.07	3.83
Tamil Nadu	1.05	1.32	0.92	0.84	1,30	1.85	1.87	1.83	2.91	1.50	0.91
Tripura	1.02	1.05	1.21	0.27	0.63	0.43	0.41	0.63	0.33	0.72	0.57
UttarPradesh	0.95	0.74	1.19	0.37	1.59	1.75			1.00	0.86	0.45
West Bengal	0.96	1.12	0.93	0.25	1.69	1.18	1.85	1.49	- 2.51	1.01	0.91

Appendix 9: Standardized data

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STATES	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Andhra Pradesh	1.05	0.76	0.88	1.36	1.05	1.13	0.98	1.12	1.58	1.10	0.39	0.85	0.80	0.70
Arunachal Pradesh	0.93	0.55	0.75	0.94	0.05	0.74	0.14	0.32	0.25	0.35	2.72	0.13	1.49	0.50
Assam	0.96	0.96	0.96	0.46	0.92	0.73	0.47	0.48	0.88	0.53	0.29	0.37	0.93	0.96
Bihar	1.02	0.69	1.22	0.85	1.29	1.33	0.42	0.60	0.93	0.76	0.34	0.37	0.68	0.30
Goa	1.05	1.41	1.02	1.34	0.96	0.34	1.75	1.54	0.81	0.97	2.37	5.78	0.95	1.90
Gujrat	1.01	1.12	0.94	1.14	1.37	0.77	1.80	1.50	1.16	1.68	0.87	1.43	0.33	1.47
Haryana	0.94	0.94	1.07	0.75	2.19	2.13	1.39	1.05	1.47	1.90	0.60	1.65	0.36	1.69
Himachal Pradesh	1.05	1.10	1.24	1.58	0.51	0.56	0.66	0.37	0.64	0.49	0.99	0.44	1.61	1.80
Jammu 'n Kashmir	0.96	0.70	0.94	0.85	0.41	1.49	1.05	1.01	0.81	1.44	0.71	0.50	1.26	2.00
Karnataka	1.04	0.99	1.08	1.17	1.39	0.49	1.31	1.39	1.76	1.31	0.35	1.36	0.61	1.08
Kerala	1.11	1.75	1.14	1.10	1.50	0.38	1.84	0.90	1.53	0.51	1.66	1.18	0.26	0.94
Madhya Pradesh	1.01	0.78	1.08	1.36	1.13	0.44	0.84	0.98	1.15	1.13	0.33	0.39	0.97	0.56
Maharashtra	1.01	1.20	1.01	1.27	1.57	0.39	1.67	1.69	1.73	1.10	0.52	2.64	0.62	1.33
Manipur	1.04	1.06	0.94	1.07	0.17	1.62	1.37	1.27	0.53	0.57	1.20	0.16	1.76	0.66
Meghalaya	1.03	0.90	0.73	1.44	0.23	0.90	0.27	0.87	0.32	0.50	1.28	0.22	2.76	0.55
Mizoram	0.99	1.59	0.69	0.22	0.08	0.43	0.24	1.19	0.25	0.52	1.75	0.06	0.96	0.53
Nagaland	0.93	1.08	0.91	0.94	0.37	1.41	0.18	0.75	0.53	0.96	1.40	0.24	1.65	0.86
Orissa	1.05	0.88	1.04	0.93	1.06	0.68	0.79	0.57	1.27	0.31	0.39	0.30	1.19	0.58
Punjab	0.95	1.03	1.23	0.93	2.23	2.81	1.45	1.33	0.86	1.70	1.04	2.38	0.80	2.00
Rajasthan	0.99	0.64	1.02	1.39	1.20	0.65	0.91	1.01	1.50	1.22	0.52	0.57	0.60	0.67
Sikkim	0.90	0.89	0.69	0.90	0.32	0.43	0.36	0.78	0.22	2.08	2.70	0.40	1.61	0.76
Tamil Nadu	1.05	1.16	0.96	1.25	1.10	1.64	1.79	1.59	2.01	1.23	0.82	1.40	0.65	1.22
Tripura	1.02	1.07	1.15	0.27	0.64	0.52	0.47	0.53	0.51	0.64	0.42	0.29	0.81	0.82
UttarPradesh	0.95	0.71	1.15	0.83	1.55	1.92	0.97	0.87	0.96	1.03	0.41	0.48	0.63	0.42
West Bengal	0.98	1.04	1.16	0.65	1.69	1.05	1.88	1.28	1.35	0.97	0.91	1.44	0.71	0.69

STATES	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Andhra Pra	1.05	0.78	1.02	1.41	1.19	1.24	1.06	1.13	1.61	1.04	0.39	0.87	0.89	0.94
Arunachal	0.92	0.73	0.68	1.33	0.08	0.67	0.32	0.54	0.37	0.59	2.17	0.51	1.35	0.83
Assam	0.99	0.93	0.85	0.58	1.01	0.68	0.48	0.46	1.00	1.08	0.57	0.49	1.14	0.38
Bihar	0.98	0.68	1.04	0.59	1.31	1.30	0.48	0.55	0.70	0.70	0.38	0.28	0.62	0.26
Goa	1.04	1.33	0.95	0.82	1.16	0.31	1.86	1.72	0.59	1.20	2.41	2.75	0.99	1.72
Gujrat	1.00	1.08	0.96	1.06	1.13	0.78	1.90	1.44	1.13	1.65	1.29	1.17	0.40	1.34
Haryana	0.93	0.98	1.25	0.91	2.41	2.38	1.27	1.03	1.11	1.75	0.54	1.18	0.30	1.43
Himachal F	1.05	1.12	1.25	1.62	0.51	0.55	0.62	0.36	0.72	0.53	1.25	0.67	1.63	1.77
Jammu 'n I	0.96	0.96	0.96	1.16	0.47	1.37	1.12	1.00	0.59	0.65	0.84	0.51	1.36	0.96
Karnataka	1.03	0.99	1.07	1.17	1.65	0.63	1.28	1.30	1.70	1.21	0.83	1.18	0.57	1.07
Kerala	1.11	1.58	1.24	0.82	1.69	0.48	1.70	1.11	1.18	0.46	2.21	1.06	0.28	0.99
Madhya Pr	1.00	0.78	1.07	1.25	1.28	0.61	0.82	0.97	1.25	1.11	0.34	0.51	1.12	0.88
Maharasht	1.00	1.14	1.05	1.24	1.72	0.33	1.59	1.62	1.48	1.20	0.78	2.03	0.67	1.41
Manipur	1.03	1.05	0.90	1.02	0.18	1.49	0.95	1.15	1.27	0.69	1.01	0.27	1.68	1.04
Meghalaya	1.03	0.86	0.73	1.53	0.27	0.58	0.26	0.78	0.44	0.74	0.92	0.30	2.30	0.59
Mizoram	0.99	1.45	0.75	1.02	0.09	0.40	0.31	1.93	0.54	0.63	1.40	0.30	1.62	1.21
Nagaland	0.95	1.08	0.81	0.74	0.35	1.03	0.21	0.72	0.81	1.41	1.00	0.43	1.14	1.09
Orissa	1.04	0.86	1.10	1.00	1.19	0.93	0.80	Q.56	1.41	0.19	0.41	0.52	1.47	0.48
Punjab	0.95	1.03	1.18	0.64	0.10	3.00	1.47	1.24	0.84	1.58	0.96	1.48	0.77	1.68
Rajasthan	0.98	0.68	1.03	1.34	1.34	0.75	0.89	0.96	1.15	0.97	0.63	0.49	0.68	0.71
Sikkim	0.94	1.00	0.71	0.65	0.39	0.54	0.48	0.38	0.52	1.88	2.00	0.88	1.07	1.23
Tamil Nadı	1.05	1.10	1.04	1.27	1.28	1.42	1.68	1.43	1.81	1.24	0.88	1.44	0.66	1.11
Tripura	1.02	1.06	1.11	0.48	0.75	0.49	0.59	0.64	0.99	0.67	0.59	0.58	0.87	0.75
UttarPrade	0.95	0.73	1.11	0.72	1.70	1.93	0.93	0.83	0.85	0.89	0.43	4.16	0.57	0.45
West Beng	0.99	1.01	1.13	0.63	1.77	1. 15	1.92	1.15	0.94	0.92	0.79	0.92	0.86	0.67

1991

Appendix 10: standardized data

INDICATORS	1981	1991
VALUE OF OUTPUT OF MAJOR	73.98	42.97
CROPS (PER HECTARE)		
VALUE OF OUTPUT OF MAJOR	64.86	51.50
CROPS (PER CAPITA)		
% OF SURFACE ROAD LENGTH	82.18	68.53
TO TOTAL		
BANK BRANCHES	48.43 ·	25.64
PER CAPITA BANK CREDIT (94.83	67.62
PCBC)		
PCBC TO AGRI	124.13	38.35
PCBC TO INDUSTRY	180.72	107.02
% OF URBAN POP	91.18	74.40
% OF LITERATES	39.89	166.46
<pre>% OF VILLAGES ELECTRIFIED</pre>	132.04	39.03
SCHOOLS PER LAKH POP	47.24	71.67
HOSPITAL BEDS PER LAKH	62.05	63.09
POP		I

TABLE 4.5: CALCULATED COEFFICIENT OF VARIATION FOR NORTHEASTERN STATES

INDICATORS	1971	1981	1991
SEX RATIO	5.07	5.174	4.598
% OF LITERATES	33.50	28.307	22.416
OLD- AGE	17.96	16.286	16.836
DEPENDENCY RATIO			
* OF WOMEN WORKERS	78.86	35.245	32.370
& OF NET SOWN TO	65.26	62.411	64.572
TOTAL REPORTING			
AREA			
& OF NET IRRI TO	68.71	64.537	66.2,16
NET SOWN AREA			
& OF INDUSTRIAL	60.79	59.054	55.585
WORKFORCE			
% OF URBAN	46.34	39.287	42.518
POPULATION			
CREDIT-DEPOSIT RAT	78.42	52.337	40.235
SUFRACE ROAD LENTH	52.14	49.266	43.103
HOSPITAL BEDS PER	74.31	73.648	88.545
LAKH POP			
PER CAPITA BANK		121.906	60.731
CREDIT			
RIMARY SCHOOLS		56.345	48.960
PERLAKH POP			
& OF ELECTRIFIED		52.769	41.604
HOUSES	l		

TABLE 4.6: CALCULATED COEFFICIENT OF VARIATION FOR INDIAN STATES.

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INDICATORS	1981	1991
VALUE OF OUTPUT OF MAJOR	73.98	42.97
CROPS (PER HECTARE)		
VALUE OF OUTPUT OF MAJOR	64.86	51.50
CROPS (PER CAPITA)		
% OF SURFACE ROAD LENGTH	82.18	68.53
TO TOTAL		
BANK BRANCHES	48.43	25.64
PER CAPITA BANK CREDIT (94.83	67.62
PCBC)		
PCBC TO AGRI	124.13	38.35
PCBC TO INDUSTRY	180.72	107.02
8 OF URBAN POP	91.18	74.40
ቼ OF LITERATES	39.89	166.46
% OF VILLAGES ELECTRIFIED	132.04	39.03
SCHOOLS PER LAKH POP	47.24	71.67
HOSPITAL BEDS PER LAKH	62.05	63.09
POP		

TABLE 4.5: CALCULATED COEFFICIENT OF VARIATION FOR NORTHEASTERN STATES

INDICATORS	1971	1981	1991
SEX RATIO	5.07	5.174	4.598
8 OF LITERATES	33.50	28.307	22.416
OLD- AGE	17.96	16.286	16.836
DEPENDENCY RATIO	17.50	10.200	10.030
8 OF WOMEN WORKERS	78.86	35.245	32.370
8 OF NET SOWN TO	65.26	62.411	64.572
	65.20	02.411	04.572
TOTAL REPORTING			
AREA	<u>(0.71</u>	CA 505	66.016
% OF NET IRRI TO	68.71	64.537	66.216
NET SOWN AREA			
<pre>% OF INDUSTRIAL</pre>	60.79	59.054	55.585
WORKFORCE			
% OF URBAN	46.34	39.287	42.518
POPULATION			
CREDIT-DEPOSIT RAT	78.42	52.337	40.235
SUFRACE ROAD LENTH	52.14	49.266	43.103
HOSPITAL BEDS PER	74.31	73.648	88.545
LAKH POP			
PER CAPITA BANK		121.906	60.731
CREDIT			
RIMARY SCHOOLS		56.345	48.960
PERLAKH POP			
% OF ELECTRIFIED		52.769	41.604
HOUSES	1		

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TABLE 4.6: CALCULATED COEFFICIENT OF VARIATION FOR INDIAN STATES.

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