

# DEMOGRAPHIC STRUCTURE OF NORTH EAST INDIA

By

**NIRANJAN PRASAD GOEL**

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DEPARTMENT OF GEOGRAPHY  
SCHOOL OF ENVIRONMENTAL SCIENCES  
NORTH-EASTERN HILL UNIVERSITY  
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## INTRODUCTION

In order to study the demographic aspects of any area, one should be clear as to the meaning of Demography. Demography is the word which can be understood by breaking it into two parts, "Demos" and "Graphy", which mean human beings and measurement. The word demography commonly symbolises the study of human beings. Most of those interested in population are concerned also with other disciplines, notably economics, geography, history, human biology, sociology and anthropology. In all of these it is always useful to have knowledge of one or more aspects of demography. For example, in economics, population size and distribution are clear factors affecting total production and consumption. Social policy is influenced by the relative number of infants, youngsters, adults and aged persons. Human biology is concerned inter alia with reproduction with control, genetic constitution,<sup>1</sup> Geography, physical structure and population.

The study of demographic aspects of population under any regional setting, occupies a pivotal place in the field of population. To have a comprehensive geographical understanding about a region, geographers generally analyse its physical envi-

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1. P.R. Cox: Demography, Cambridge University Press, London, (fifth edition) 1976, p.4.

ronment and its impact on social and economic conditions of the region. Population is perhaps the most difficult component to deal with. Many of the aspects of population have been studied in different parts of the world and there appears to be a growing awareness of the importance of the study in relatively recent years.<sup>2</sup>

In India, the study of demographic characteristic of population has been started quite late and it is only during the last 30 years that demographers, geographers, economists and sociologists have shown interest in this field.<sup>3</sup> While the main

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2. For example see D.J. Bogue, Principles of Demography, New York John Wiley, 1969; P.R. Cox, Demography, Cambridge University Press, 1970; P.M. Hauser and U.D. Duncan, The Study of Population: an Inventory and Appraisal, University Press, Chicago 1959; Determinants and Consequences of Population Trends, United Nations, New York, 1973; G.J. Demko et.al, Population Geography, A Reader, McGraw Hill Book Co., New York, 1970; J.B. Garnier, Geography of Population, St. Martin's Press, New York 1967; Kingsley Davis: The Population of India and Pakistan, Princeton University Press, Princeton, New Jersey 1951.
3. For example see: S.N. Agarwala, India's Population Problems, Vora Press, Bombay, 1966; S.Chandrashekhar, Asia's Population Problems, New York, Prager, 1967; P.V. Sukhatme, Feeding India's Growing Millions, Asia Publishing House, London, 1965; A. Bose, (ed.) Studies in Demography, Allen and Unwin, London 1970; Patterns of Population Change in India, 1951-61, Allied Publishing Co., Bombay 1967; G.S. Gosal: 'Population Geography, A Trend Report' in A Survey of Research in Geography; Popular Prakashan, Bombay, 1972 and some other references may be seen under general bibliography.

focus of Indian Demographers and Geographers was on the distribution and growth of population at the earlier stage, other aspects, such as Population Composition, Migration, Literacy, Religion, Occupational Structure and Urbanisation have started receiving attention since the sixties. In this respect IIPS Bombay and Geography Department of Punjab University have been playing key roles and some other universities have also taken up various studies on different parts of the country.\*

Interestingly enough the study of population in general and its demographic characteristics in particular have received only slight and fragmentary attention from the Demographers and others of the North Eastern Region of India. The present study is an attempt to understand the demographic characteristics of the region.<sup>4</sup>

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\* In this connection special reference may be made to the works of J.B. Ambenawar, S.N. Agarwala, J.R. Rele, N.B. Lal, C.S. Gosal, B.C. Mehta, K.N. Singh, Asok Mitra, A. Bose, D. Natarajan, K.C. Zachariah, M.K. Premi, S. Manzoor Alam, and others.

4. For example, the works of B.K. Roy-Burman "Socio-Economic and Demographic Structure of Hill Areas of North East Region of India" Census of India Monograph 1967, M.C. Bhuyan, "Immigrant Population of Assam, Analytical Synthetic Study" Unpublished Ph.D. thesis, Geography Deptt. Gauhati Univ. Gauhati, 1977; P. Chittaranjan, "Urbanisation in the North East Region of India" M.Phil. Dissertation, Geog. Deptt. NEHU, Shillong 1978; T.K. Chaudhury, "Demographic Trends in Assam", B.R. Publishing Corp., Delhi, 1982, and some research articles given under general bibliography require special mention in this regard.

## CHAPTER VII

## CONCLUSION

The temporal and spatial analysis of the composition of population in North East India reveals the following facts.

(1) On district level, the growth rate pattern is relatively uniform but there appears to be significant differences in composition and growth at state level of aggregation. These findings may lead to the fact that there exists homogeneity within the state with respect to population growth and structure but the differences are more and more prominent among the states and union territories.

(2) From the analysis of the age distribution through 'aging index' and 'maturity index', the overall economic and social conditions of the region are being reflected. It is interesting to note that while the aging index is lower in the region than that of the country, the maturity index of the population is also lower than that of the national figure. Both the indices reflect the general inadequacy of survival facilities in the region and its backwardness.

(3). In the North Eastern Region, there exists a sharp spatial variation with respect to the sex composition and distribution. As a whole the urban areas have relatively more males than its rural counterpart. It clearly indicates the social immobility

of the females. There also exist a high variation in sex ratio among different districts/union territories and as well as among various religious groups. Smaller religious groups show higher variation in sex ratios, may be due to the age-selectivity of the in-migrants to the region.

(4) The analysis of the religious composition and the composition of Scheduled Caste and Scheduled Tribes of the region throws some interesting lights. For example, while the major religious groups of the region viz., Hindus and Muslims are wide spread, the other minor groups are relatively clustered. Similar nature may be observed in case of the distribution of Scheduled Castes and Scheduled Tribes. But examining the temporal trend it has been found that the variation have been declining.

(5) As a whole the literacy rate of the region is lower (28.72 percent) than that of the national average (29.45 percent). Although the literacy rate is increasing steadily, the picture becomes more disappointing when the rate of literacy has been studied separately for males and females. Female literacy in the region is very very low (only 19.34 percent in 1971). Among the states and union territories of the region in 1971, Mizoram tops (53.8 %) the list followed by Meghalaya (29.47%), Manipur (32.91 percent), Assam (28.95 percent) and Tripura (30.98 percent), and Nagaland (27.4 %). Arunachal Pradesh recorded the lowest literacy (11.29 %). At the district level, some of the plain

districts have higher literacy rates than that of the state average. It is also interesting to note that the urban areas are much more advanced whether in the plains or in the hills (more than 50 percent literacy) as compared to their rural counterparts, only with a few exceptions (viz. in Mizoram rural literacy is very high). Looking at the temporal perspective, it can be seen that the variations have been declining for all categories including males and females, Scheduled Castes and Scheduled Tribes, Urban-rural and the people of plains and of hills.

In the growth of population, the total population of the region increased at a considerably high rate and added nearly 22 million people during the last 80 years. The increase of population is quite significant during the decade of fifties. The intra-regional variations of growth are quite sharp and so is the case for decade variations. The growth rate has been explained in terms of coefficient of variations and rank correlation coefficient. From the analysis, it can be observed that the variations are quite significant for different decades since 1901. Similar analysis has been carried out for different states and union territories, which reveals the same pattern of high variations.

The trend of the population growth in the region is explained with the help of fitting exponential growth curves on inter-state level and the variations of growth have been examined

by comparing them with the observed data. The sex-wise growth of population in the region reveals that there is a general paucity of sex-ratio in the region except in Tripura, where the sex-ratio is the lowest. On the other hand, Mizoram recorded the highest sex-ratio. The religion-wise growth of population reveals that different religious groups have different growth patterns. For example, Hindus recorded higher growth rates than the Muslims shortly after the independence of the country, which may be attributed to the influx of Hindu immigrants from nearby East Pakistan (now known as Bangla Desh). Similarly the analysis of caste-wise population growth shows that Scheduled Caste population have registered higher growth than Scheduled Tribe population.

Interestingly, the universally accepted principle in the study of Demography (Logistic Law) does not fit to the population growth, mainly may be due to the higher rate of immigrants to this region. However, Makeham's Law, which takes into account of the migration and natural growth seem to be fits well to the population data of this region.

An attempt has also been made to estimate the birth rate and death rate of female population in the region for different states and union territories by using three different methods viz., Coale and Demney, Bourgeois Pichat and Reverse Survival

Ratio. It will be worthwhile to use these estimates to the existing population to forecast the future growth of population in the region.

In Chapter Four, emphasis has been given to the migration of population in the North Eastern Region of India. From the analysis of migration data, one thing becomes very clear that the process of migration is a very complex and any conclusion drawn is entirely based on the published census informations. Analysis relating to place of birth, place of residence, sex-ratio, duration of stay, direction of movement have been discussed in detail for the periods 1961 and 1971.

Following are the main findings of the analysis,

- (1) A significant amount of migration of people from outside the region has taken place since  $\frac{1826}{a}$  time when this region was annexed to British Raj.
- (2) At the initial stage, almost all the migrants came as plantation labourers, agricultural labourers and labourers brought by Britishers for maintaining official works and constructions (mainly roads and railway lines) followed by different waves of im-migrants coming from the neighbouring states.
- (3) The main characteristic of the migrants coming from outside the region is the overwhelming majority of male migrants, particularly among the groups who were staying at one place for less than one year. As the time passes, the sex-ratio of

migrants increases. This may reflect that male migrants proceed the female counterpart and after settling down brings their families.

(4) Another interesting aspect of migration within the region is that, the intra-district migration is much higher (58.9 percent) than that of the inter-district migration (10.5 percent). This may lead to conclude that there may be a significant difference in socio-cultural and economic opportunities in the region.

(5) As regards to the percent of net migrants to gross migrants, although Arunachal Pradesh (66 percent) tops the list followed by Nagaland (59 percent) and Assam (47 percent) for males, in absolute terms, Assam has nearly 2,56,000 male net migrants during 1961-71. The female net migrants during the same decade is very low. The only exception is Tripura, which loses nearly 4 percent of males and 2 percent of female migrants.

(6) From the analysis of inter-state migration, it is seen that there exists a heavy flow of migration to the plains of the region (specially Assam) and to some extent to Meghalaya in which Shillong is acting as the focus of attraction being the seat of many Central Government Agencies.

(7) The analysis of four major classes of migration viz. Rural to Rural, Rural to Urban, Urban to Rural and Urban to Urban, reveals that Rural to Rural migration seems to be a most important followed by Rural to Urban migration. The first aspect may be

the indicator of social interaction, whereas, the second aspect indicates the lure for economic betterment to that of the rural areas. The urban to urban migration reflects the mobility of people and jobs available to them, while the urban to rural migration may reflect the implementation of planning policy envisaged by the Government of India in regards to the balanced regional growth in the rural areas. It is interesting to note that the percentage of net migration to gross migration from the urban areas to rural areas in Arunachal Pradesh is abnormally high (96 percent) followed by Nagaland (54 percent). Meghalaya, on the other hand, registered the lowest (3 percent) in the region.

From the available data published by the various censuses are of limited nature from the point-view of comparability and exhaustive nature. Therefore, further improvements in the analysis of population migration in the region can be made by selecting other demographic indices like- place of birth (actual birth place), direction of movement, religions and linguistic variations that were beyond the scope of the present study.

The spatial distribution of the occupational structure of North Eastern Region of India is of varied nature. The analysis given in this chapter of the study reveals that the participation rate among male and females are quite conspicuous and female

participation is invariably high in the hills region than that of the plains. That may be due to the subsistence type of Agricultural system and comparatively lower socio economic development in the hills. Similarly the rural areas registered higher participation rates of females. It is also interesting to note that the participation rates are higher among the Scheduled Tribe population. This may also indicate the same picture as outlines above.

The structural analysis of the Labour force of 1971 and 1981, reveals that Agriculture occupies the leading sector of economy engaging nearly 69 percent of the total workers in the region in 1971 and 71 percent in 1981. Among the non-agricultural occupation, workers in other services is quite low for total population as well as for the females. The spatial variations between the rural and urban areas is also very wide in terms of agricultural activity and other non-agricultural activities. Further, there is a sharp variations in the workers among the states and union territories of the region. Most of the hill states registered higher proportion of agricultural workers to that of the plains of the region.

The changes in the occupational structure has been examined since 1911. The analysis reveals that cultivators recorded a declining trend till 1971 except for 1961. On the

other hand, the proportion of workers in the non-agricultural activities recorded a constant and slow increase (29 percent in 1911 to 31 percent in 1971).

In the last section of this chapter, changes of urban male work force for the region has been examined through a multivariate statistical technique viz., Principle Component Analysis for the years 1961-71. Two independent components have been identified which together explained 85 percent of the total variations. The first component may be termed as the indicator of economic development and occupational shift, which alone explained as much as 65 percent. The second component which can be termed as Rural-Urban shift in the occupational structure, that explained 20 percent of the variations. With the help of these two dimensions of change, the spatial distribution of the districts of North East Region has been studied and the areas of rapid change and least development have been identified. The present study may throw some light into the better understanding of the structural characteristics and associated changes that have taken place in the region.

In the North Eastern Region, urbanisation in true sense has not prevailed even after three decades of independence. A review of urbanisation acquires great importance in focussing attention on the comparatively low level of urban development

which can be compensated by an overall economic transformation of the region. Keeping this view, this study intends to highlight some of the demographic aspects of urbanisation in this region.

In the North Eastern Region, out of 28 districts only 22 districts were urbanised accounting 1.85 million urban population in 1971, the remaining 6 districts viz. Subansiri, Tirap districts of Arunachal Pradesh, Manipur East, North and West districts of Manipur and Tuensang district of Nagaland are completely rural in character. In 1981<sup>\*</sup>, out of 33 districts for which the information is available, 28 districts are urbanised accounting around one million urban population, the remaining 5 districts viz., East Kameng, Upper Subansiri, Dibang Valley, Tirap in Arunachal Pradesh and Phek in Nagaland are yet to see the light of urbanisation. Out of these five districts four are new entrants in this census. There are 67 towns in North East Region excluding Assam in 1981 (as no information is available for Assam due to some unavoidable reasons) and 98 towns in 1971 including Assam. In 1981, Manipur accounting for 32, Meghalaya 12, Nagaland 7, Tripura 10, Arunachal Pradesh 6 and Mizoram 6. Out of these, 3 towns namely Imphel, Shillong and Agartala have attained Class I status, Class II - 1, Class III - 6

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\* Assam figures are not included in 1981.

Class IV - 12, Class V - 24 and Class VI - 22 in 1981 census.

There is great disparity in the levels of urbanisation between Arunachal Pradesh on the one hand and rest of the constituent units of the region on the other hand. Arunachal Pradesh, the union territory accounts for just 6.3 percent in 1981 whereas in 1971 it was just 3.7 percent of urban population while Manipur which has highest level of urbanisation accounts for 26.40 percent in 1981. The reason for the low level of urbanisation in Arunachal Pradesh is that only during 1971, 4 towns viz., Bomdilla, Tezu, Allong and Pasighat were treated as such for the first time for strategic reasons, especially after Chinese aggression and 2 towns were treated as urban centres only in 1981.

The urban and rural growth coefficient of population of this region, for the past 7 decades has increased 11 fold and 4 fold respectively as compared to the national average of 4 and 2 folds. This tremendous increase in this region has been brought out by natural growth and streams of in-migration that this region has witnessed since the colonial past.

The rank-size rule depicted for 5 decades (1901, 1951, 1961, 1971 and 1981) for the towns of this region does not have a perfect fit, as can be expected in an under-developed region. It brings out a pyramidal distribution on top of which there are

few large towns (Shillong, Agartala, Imphal in 1981), many medium sized urban centres and large number of small urban centres (Class IV-VI). It is also to be noted that few towns viz., Silchar, Pandu, Karimganj, Dibrugarh, Aizawl, Kohima, Jowai, Lilong, Dharmanagar, Dimapur etc. have registered rank-size regularity to a considerable extent at various decades. Furthermore, the correlation coefficient in all the decades under study has been highly significant (negatively) ranging from -0.93 to -0.98.

An attempt has been made to study the spatial pattern of urban settlement in the hilly areas of the region in 1981 through statistical model based on probability. The hill region of the North East India is still less accessible and economic exploitation is also of limited nature. Most of the urban settlements growing in these parts of the region are backed by political consideration rather than of economic consideration. Among all the urban settlements, most of them are growing to meet the administrative requirements. The process is reflected in random manner and significant deviations are yet to be generated to show the human decision biases. The results obtained in this study by using Poisson Probability Law is encouraging in this direction. On the basis of probability law, we may conclude that every small sub-areas with a region have had equal chance of having at least one urban settlement as other sub-areas

of equal size. In reality, the chance of having an urban settlement is very very small in those areas where the impact of physical, environment is unfavourable for the growth of urban centres and economically also these areas are backward. Therefore, in those regions, the urban settlement distribution pattern would essentially be random and could be well explained with the help of Poisson Model. Any deviation from the randomness may be accounted for by the impact of locational biases of human limitations.

#### Suggestions for future studies

In the present study all the aspects of demographic structure and growth of population in North East India could not be incorporated mainly due to the limitations of time and space. Only some of the major aspects have been discussed and analysed. Therefore, there is a need to study the aspects which were beyond the scope of the present study by the researchers in the field of population in order to have a better understanding of the subject.

It has been felt that the impact of transport and communications on population is of significant importance which should be studied in a greater detail in future. Secondly, it is also interesting to note that there is no adequate life tables available for the region which also stands as a major challenge

to the researchers in the field. Similarly, studies relating to marital status, mortality rates for both males and females and for rural and urban areas, fertility rates and infant mortality rates could well be undertaken by the future researchers. Lastly, another important aspect of population which may pose a great challenge to the researchers is the population projections, particularly in this region, where, there is tremendous influx of migrants from outside the region.

A better understanding of the above aspects alongwith the findings of the present study will certainly throw some major insights into the demographic structure and growth of population in the region.

Due to unavoidable circumstances the Census operation of 1981 could not take place in Assam and thus due to absence of data for Assam, the study of population growth, density, literacy and process of urbanization etc. could not be compared with 1971 data. On the other hand this study has been taken to analyse the data upto district level. It was done only because of vastness of the area and variation in size of the smaller units of states and union territories. In future, the demographic study on further smaller units may give better results in understanding of population growth, composition, literacy and working force etc. This study may enrich the knowledge in the field of demography. It will also fill the gap in better understanding of the region.