CHAPTER I

INTRODUCTION
SIGNIFICANCE OF THE STUDY
OBJECTIVES AND HYPOTHESIS OF THE STUDY
DATA BASE
METHODOLOGY
CHAPTERIZATION
LITERATURE REVIEW
The state of Nagaland with an area of 16575 sq km lies between 25°6" - 27°4" north latitude and between 93°20" - 95°15" east latitude in the north eastern part of India. It is bounded in the north by Arunachal Pradesh; in the west and northwest by Assam; in the south by Manipur; and in the east by Myanmar (Fig. 1.1). Nagaland is entirely hilly except a narrow belt of foot plains bordering Assam and small valleys in between lower ranges of the western and northwestern flank. It can be broadly divided into three main topographical divisions: The foot hills with undulating areas to rolling topography; the lower ranges in the western part and; high hills and mountainous regions in the eastern part which enjoy sub tropical type of climate with variation at different altitudinal zones. The average annual rainfall is between 200-250cms.

According to 2001 census report, Nagaland has a population of 1990036 persons with an average density of 120 persons per sq km. The rural population constitutes 82.77% and the urban population constitutes 17.23% of the total population, the study of demography shows remarkable decadal increase.

The population composition of Nagaland is unique in that it is composed primarily of tribal people with various and distinct dialects, customs, occupation, social and cultural features. The indigenous tribal populations of Nagaland called commonly as Nagas are divided into different sub-tribes; namely the Angami, Zeliang,
Fig.1.1

NAGALAND
1.2 SIGNIFICANCE OF THE STUDY

Population growth is pivotal to a region's demographic dynamism. It is this attribute with which all other characteristics of population are intimately related and from which they derive significance. The phenomenon of population dynamism is a vital index of a region's economic development, social awakening, historical and cultural background and political ideology. However, the rapid change of population leads to an imbalance between population and the available resource of the region and create adverse consequences for socio-economic and environmental conditions. These consequences with long term implications have definitely drawn the attention of social and environmental scientists to focus on the ever increasing population dynamism.

1.3 OBJECTIVES OF THE STUDY

1. To analyze and understand the nature of demographic change in the state, and how the natural growth of population and migration effects the change.

2. To understand the spatial characteristics of various demographic elements and their impact on socio-economic and environmental change.
3. To analyze the impact of demographic change on the quality of living environment in the rural and urban areas in the state.

1.4 HYPOTHESIS
The main hypothesis will be as follows:
1. Is it the change in demographic character or the migration both internal and external which is affecting the nature of population in the state?
2. Is it the rapid demographic change responsible for environmental deterioration and the state of socio-economy prevailing in the state?

1.5 DATA AND INFORMATION BASED
For such a study as this, the required information is based on government publications issued by various departments in the state, particularly by the Directorate of census for both the state and for the districts as well. The other source of information includes the published books and articles from various authors and sources. But the primary information and data especially for the case study of urban and rural areas has been collected through personal participation and observation.

1.6 METHODOLOGY
Since it is a geographical study it is empirical as well as analytical in nature. Cartographic and quantitative methods of analysis have been extensively used and
in order to make it a comprehensive study holistic focus has been placed on variables responsible for demographic, socio-economy and environmental change in the state.

1.7 CHAPTERIZATION

Chapter I: It includes introduction, significance of the study, objectives of the study, hypothesis, data and information base, methodology, literature review.

Chapter II: Physical and geological foundation, climate and rainfall, soil types and natural vegetation, economy, transport and communication network, administrative divisions, the word ‘Naga’, the composition of Naga tribes, and their settlement in Nagaland form the chapter.

Chapter III: Deals with the pattern of population growth, determinants of population growth, distribution of population, density of population, population composition, literacy, religious composition.

Chapter IV: Migration pattern, inter-district migration, intra-district migration, socio-economic status of migrants.

Chapter V: Economic composition, occupational composition, working force, urbanization.

Chapter VI: It focuses on the impact of population growth on the socio-economy at the local and regional level. In the case study of rural and urban areas, Dimapur
town, Mokokchung town, Kikruma village, Alisopur village, Viswema village, Waromung village are included.

Chapter VII: It touches upon the important aspects of socio-economic implications of population dynamics.

Chapter VIII: Summing up of the analytical works along with the population policy options, findings suggestions, etc are incorporated in the last chapter.

1.8 LITERATURE REVIEW

One of the main tasks in Geographical studies is the regional analysis of natural condition, economy and population and their interconnections. In analyzing this dynamic system arising as a result of the interconnection in various countries and regions, population functions as the most active component. Being the chief productive force and the aggregate of consumers, study of economic aspect in particular is closely linked with the study of distribution of population and the composition and dynamics of territorial groups of population taking shape at various populated points.

At the end of the 19th century, special disciplines; viz, human geography and anthropogeography which study population to some extent were developed in Western Europe. Methodologically speaking, anthropogeography stemmed from a vulgar materialist conception of geographic determinism and attempted to explain all the phenomena of geography of population basing on the peculiarities and effects
of the natural environment. On the other hand, the task of human geography consisted in studying the interconnections of nature and population in the concrete conditions of different regions and areas. However, both disciplines paid little attention to demographic analysis of population, and limited themselves mainly to descriptive characteristics, occasionally vivid and interesting but more or less superficial (Kovalev, 1978).¹

Demography, another discipline which is comparatively old as compared to the population geography used to focus on the study of population characteristics. Though population is the content of study in both Demography and population geography, the approach in each case is quite different. Population geography as an organized branch of geography deals with the understanding of regional differences in the earth's covering of people; while demography, according to Mouser and Duncan (Desai, P.B 1975)² "is the study of the size; territorial distribution and composition of population, changes therein, and the components of such changes, which may be identified as natality, mortality, territorial movements and social mobility." Or in other words, it is concerned with the static as well as dynamic aspects of population. As such, while the demographers emphasize the numbers and


absolutely depend upon statistical methods, the geographers relate numbers to area and rely upon maps.

In some of the capitalist countries, population geography began to be differentiated as early as 1950 and specialised works under it started featuring. Basing on historical, economic and demographic conceptions, mathematical methods were put into use for analyzing settlements and the areal distribution of population. The growth of specialised work fragmenting the domain of population geography, however led to the development of a number of isolated approaches and it has weakened the general methodological approach to population geography. In the socialist countries, where population geography began to develop along new lines after World War II and a new social system got established, scientist started working from the prospective of Marxist-Lenninist doctrine of social development (Kovalev, S.A, 1978)³. In most of these countries, study of population geography has a leading place in geographical science. Its main job according to Kovalev, “is to analyze the complex interrelations of population and territory, population geography concerns itself with this problem in the broadest, most all-round way” Kovalev (1978).⁴ As a matter of fact population studies have for long been the subject of concern for social scientists including geographers since the traditional classification

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of geography into physical and human made the place of man in geography a matter of academic debate even among geographers themselves.

However, the shift in the focus of geographers from the study of environment to that of man is being taken place following the increasing acceptance of the notion that geography is one of the social sciences (Clarke, 1965). Population geography was initiated by Beajeu-Garnier in the first half of the 20th century in France. However, it was perhaps Glenn Trewartha of the United States who was the most important personality to elevate population studies to the status of a systematic branch of geography. According to Trewartha man is the pivotal point from which all other elements are observed and derived meaning and significance (1969). While defining population geography he stressed that it is concerned with understanding the regional differences in the earth's covering people. Such a contention of Trewartha was to be viewed in the context of other sciences, the central theme of which was the understanding of the process of spatial organization wherein population contributes the most dynamic element. Just as area differentiation is the theme of geography in general, so it is of population geography in particular. Since man is not only the utilizor of physical earth but also the creator of cultural earth; Trewartha is justified in placing man at the centre of geographic thinking.

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Preston E. James (1954),\textsuperscript{7} recognized population geography as a distinct topical speciality which serves as a central theme, around which the entire geographic investigation could be organized. He also supports Trewartha’s plea for the development of population geography as a systematic branch of geography. According to him, the understanding of demographic phenomena operating in an area can help in discovering the wide variety of casual connection between population and total physical, biotic and cultural environment. Accordingly, four major frontiers of research is recognized by James: (a) the development of more satisfactory methods of mapping the distribution for population; (b) the reconstruction of past population patterns; (c) the search for methods to reveal more clearly the dynamic of population changes; and (d) the correlation of studies of cultural characteristics of population with other geographic phenomena. This concept of four major frontiers emphasized the need for developing better methods for reconstructing the past population patterns, better methods for revealing the process of change, and better methods for correlating demographic phenomena with other geographic phenomena. Another noteworthy work is that of John, I. Clarke, (1965)\textsuperscript{8} the former Chairman of Population Commission of International Geographic Union. He opines that population geography is concerned with


demonstrating how spatial variations in distribution, composition, migration and growth are related to the spatial variations in the nature of places. He stressed that the population geography should endeavor to unravel the complex inter-relationship between physical and human environment on one hand and population on the other. Thus, the real substance of population geography is its effort to explain and analyze interrelations. Hungarian Geographer Janos Kolta (1963)\(^9\) considers that population geography should "strictly speaking, study not only population itself but the interconnection existing between demographic, physico-geographical, and economico-geographical process and phenomenon." Hence, it follows that the main and most specific element of population geography incorporates the connections between the natural environment, the economy, and the population in the concrete conditions of a certain area with a varying degree of economic development and settlement.

Wilbur Zelinsky (1966)\(^10\) defines population geography as "the science that deals with the ways in which the geographic character of place is formed by, and in turn reacts upon a set of population phenomena that vary within it through both space and time as they follow their own behavioral laws, interacting one with another and with numerous non-demographic phenomena." Wilbur suggests that population

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geography studies population phenomena in the context of space relationship and aggregate nature of places. His definition of population geography can be complemented as the most comprehensive definition among the prevalent definitions of population geography. Zelinsky classifies the phenomena to be covered by a population geographer into three broad categories: biological, economic and socio-cultural and those constituting the element of dynamism, which further signifies that the subject matter of population geography cannot be limited only to the study of characteristics of population in isolation but the understanding of interrelations among various demographic phenomena themselves, and between non-demographic phenomena and the demographic phenomena. Population geography, according to George E. Demko, Harold M. Rose, George E. Schnell (1970) is that "branch of the social science which treats the spatial variation in demographic and non-demographic qualities of human populations and the economic and social consequences stemming from the interaction associated with a particular set of conditions existing in a given areal unit. As it is considered highly sensitive to the time dimension, it leads to an increasing emphasis on process that accounts for spatial expression of population phenomena through time." Here, they stressed the development of analytical techniques to produce any given set of population attributes in a spatial context.

R.C. Chandna and M.S. Sidhu (1980)\textsuperscript{12} attempt to explain the concept of population geography by defining population geography as "the temporal-spatial expression of population attributes; the explanation for such temporal-spatial expressions; and the process involved in the creation of these temporal-spatial expression". They put accent on the spatial distribution and regional patterns which become more meaningful for the study of the process that creates and influences particular spatial distribution.

From the above, it is clear that though different scholars have conceptualized population geography with certain degree of variations the overall theme of population geography is to study the spatial distribution of population, its various attributes in the spatial context and its response and reaction to the given set of natural phenomena. However varied the definitions may be, man is considered the most undisputed and well established core of population geography; and the various aspects of man have come to be emerged as its subject matter. It is in this light that population geography attained significance, and logically became an important branch of geography.

Having dealt with the approaches, concepts and development of population geography, a review of a few works on the regional scale is attempted herewith. To begin with, T.Lynn Smith (1960)\textsuperscript{13} explains all the major elements of population


\textsuperscript{13} Smith, T. Lynn (1960), "Fundamentals of population study" Lippincott Co, New York.
from statistical viewpoint. Since the author is a sociologist his treatment is more of sociological than that of geographic. However, it does not help one to understand the basic elements of population study such as, distribution, rural and urban settlement, race, age, sex, migration, growth, etc.

The work of Zelinsky (1965)\(^{14}\) is a praiseworthy one which explains the nature, uses and meaning of population geography, its issues, boundaries, and major ideas. In a systematic treatment, the author explains the structure of population geography, i.e. impact of physical factors on cultural man, cultural and social determinants of population numbers and distribution, migration, class, occupation, race, language, population regionalization, balance of people and resources. “Population geography” (1965)\(^{15}\) by John I. Clark deals comprehensively with the meaning, evolution and scope of the subject. Clarke explains that the inter-relationship between physical and human environments on one hand and population on the other forms the basic ideas of population geography.

Peter Hagget in his “Locational Analysis in Human Geography” (1965)\(^{16}\) introduces the models of locational structure in human geography emphasizing the locational order of human settlement shown by phenomena. Thompson and Lewis (1953)\(^{17}\) in their work emphasized age, sex, race, colour, natural increase, migration, urban

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15 Op cit (Clarke, John, I. 1965). P, 2
growth, economic and educational composition, rural, urban and metropolitan composition from the sociological point of view and elaborated with the help of statistical data.

“The Place of Population Geography in the System of Population Sciences” by D.I. Valentey and N.Y. Kovalskaya (1967)\textsuperscript{18} is a systematic study of population geography, its concept, approaches, methods and the place of population geography in the system of population sciences. They brought about the problem analyzing the complexity in the inter-relations of population and territory and the interdependence and relationship between various population elements of a region. “Geography of Mankind” (1968)\textsuperscript{19} by Brock and Webb is mainly based on cultural factors which have marked influence upon forming various traits and behaviors of population. The authors discuss the influence of language, religion, settlement pattern, density, occupation, growth, and migration from cultural point of view and as such it becomes helpful for the study of population structure. “Population geography, a Reader” (1970)\textsuperscript{20} is a compilation of works of different writers where a few aspects of population are elaborated. Besides, it discusses the importance of the study of population geography and population data analysis and transformation. Arthur Haup


\textsuperscript{19} Brock & Webb (1968). “Geography of Mankind” p.p, 23-25

and Thomas T. Kane (1998) "Population Handbook" is a general and comprehensive literature on the elements of population. It gives a clarified explanation of demographic terms with a purpose to help those who need to understand and communicate about population. Thus, in course of the last one quarter of a century contributions had been made by many scholars be it geographers, sociologist as well as demographers towards population geography with quantitative and qualitative analysis of high standards.

Works on Indian situation

The pressure of population in Indian sub-continent attracted attention of many scholars from different disciplines such as economics, sociology and anthropology, etc even in the past. It is found that since the early part of the last century, certain aspects of the population of the country such as distribution, density, growth, occupational structure, religious composition, urbanization and areal studies have received special treatment in the hands of different scholars. Gyan Chand (1910-40) "India's teeming millions" is a treatise which retains, after three decades of its publication, its relevancy not merely as a link in the chain of demographic writings, but also as an authoritative book on the policy approaches to the population problems of today.

So far as the studies on population in India are concerned, the earliest known contributor is Krisnaswamy who wrote an article on ‘Distribution of population in Coimbatore district’ in 1930. Since then several articles and research papers dealing with various population characteristics have been published.

An important contribution towards population studies is that of Kingsley Davis (1942)23 “Population of India and Pakistan” It traces the evolution of India’s population between 1881 and 1941, and tries to interlink the situation of population, growth of population to economic development during the industrial revolution. However, in those days a systematic approach to population geography was not yet fully developed in India. Therefore, the works though related to population lacks systematic conceptual analysis.

A systematic study of population geography dealing with all the aspects of population was brought about by G.S.Gosal in 1956 in his doctoral thesis ‘A geographical analysis of India’s population”, followed by Krishnan in 1968, “Changes in the demographic character of the Punjab’s border district of Amritsar and Gurdaspur”.

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Chandna (1963) and Mehta (1970) compiled their research work on the population of Haryana’s district bordering on the Union territory of Delhi and Bist Doab in Punjab respectively. One of the most recent works in population geography is “Introduction to population geography” (1980)\(^{25}\) by R.C.Chandna and Manjit, S.Sidhu. The authors widely deal with some important aspects of population structure and as such it provides useful information to the subject as a whole.

In spite of many works in population geography, it is found that in our country this branch of geography has not acquired much attention and many of its elements like population pressure, regional analysis of fertility and mortality, migration, population characteristics of Schedule castes and tribes, regional changes and occupational structure, population regionalization, etc are yet to be studied.

Quite a good number of studies have been done on various aspects of population geography in the North-East India. “Population geography of Assam- A study of Dibrugarh district (1871-1971)” by Borooah (1985)\(^{26}\) discusses in detail the evolution of population structure and other associated characteristics of the district. Mathew (1983)\(^{27}\) too has made a comprehensive analysis of the population of Meghalaya from spatio-temporal perspective covering all the important aspects of

\(^{25}\) Op cit(Chandna,R.C &Sidhu,M.S 1980) p.p, 31-33


population. Another noteworthy work is that of Singh (1986)\(^{28}\) which makes an in-depth study on the population of Manipur. In his works, apart from focusing on the population characteristics of the state, he made an attempt to divide the state into some population regions. Bora (1990)\(^{29}\) carried out a micro-regional study of Adi-dominated Siang region of Arunachal Pradesh; he made an attempt to identify the population regions of the state.

In spite of the scarcity of vital statistics on migration data, a good number of studies on population growth and migration in the region have been undertaken.

"Immigration population of Assam: An analytic-synthetic study with a special treatment of Darrang district" by Bhuyan (1977)\(^{30}\) is a pioneering work in the sphere of migration influence on population growth. In a collaborative work of Goel and Rai (19781)\(^{31}\) studies the growth pattern of population in Meghalaya during 1901 to 1971. In a similar study, Sharma (1988)\(^{32}\) has made an appraisal of the

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\(^{30}\) Bhuyan, M.C (1977). "Immigrant Population in Assam: An Analytic-Synthetic Study with Special Treatment to Darrang"


demographic and socio-economic consequences of the rapid growth of population influenced by immigration in Assam. Nennong (1990)\(^3\) also examines the pattern of rural-urban migration in Meghalaya with special reference to Shillong city in Meghalaya state.

The work of Mitra and Singh (1971)\(^4\) can be considered pioneering and innovative in respect of the study of population distribution and density in the North East Indian region. They analyse the population concentration patterns at various spatial levels in Brahmaputra valley in Assam. In the same vein Kumar (1983)\(^5\), Hussain (1984)\(^6\) and Das (1990)\(^7\) study the distribution pattern of population in Nagaland, Garo Hills of Meghalaya and Golpara district of Assam respectively in relation to the varying ecological conditions.

The study of demographic characteristics clearly reveals physical properties of population and associated socio-economic conditions. However, works on sex


composition and other singular demographic parameters are scanty in the region. The work of Goel (1983)\(^3\) studies the demographic structure of the entire North East India, by applying different statistical technique and using district level data. It reveals differential patterns of growth aspects fertility and mortality and sex ratio of population in different states of the region.

The study on work participation and occupational structure in a region clearly reflects the economic character of the population. However, such studies are limited in the North East region. A pioneering work in this regard is of Goel (1983)\(^3\) which analyses the changing characteristic of the urban male workforce in the region during 1961 to 1971.

A number of works on the theme of population composition has appeared during the last three decades. “Population geography of North-East region” by Taher (1982)\(^3\) explains the process of peopling in the region. Hussain and Ganguly (1984)\(^4\) also study the spatial pattern of population composition of North-East Indian region in respect to tribal and non-tribal groups. Similar studies have been carried out by

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Studies on the population-resource relationship have currently assumed immense importance both from academic and utilitarian point of view in making strategies for sustainable development. In the North East Indian Region, studies made by Rai and Chatterji (1984) in this line discuss the changing pattern of land ratio in Assam. The work of Hussain (1985)\(^{47}\) focusing on the spatial pattern of population pressure in relation to the carrying capacity of land is a commendable one.

The work dealing with identification of linguistic and tribal regions in North East India have been attempted by Bhattacharya (1990)\(^{48}\). Besides, Singh (1986)\(^{49}\) and

\(^{42}\) Sarma, S (1989) “Spatio-Temporal Distribution of Tribes of North East India, With Special Reference to Assam” The Proceedings of NEIHA, Shillong.


\(^{49}\) Op cit, Singh D.K (1986).
Bora (1999)\textsuperscript{50} attempt to regionalize the state of Manipur and Siang region of Arunachal Pradesh respectively on the basis of certain population parameters. Though a good number of literature on Naga society and on different facets of Nagaland have been written by different scholars, the studies are mostly selective and not from the perspective of population geography. Hardly is there any systematic study of population of Nagaland.

Among the studies on Nagaland and its people Mackenzie, A. (1884)\textsuperscript{51} is the pioneering one which touches upon the relationship of the Nagas with the British, British expedition to Naga country, political suppression by the British, and social structure with reference to Angami Nagas and Patkai Nagas during the late 19\textsuperscript{th} century and early part of the 20\textsuperscript{th} century. Ghosh (1981)\textsuperscript{52} "History of Nagaland" emphasises on the history and social structure of the state and its people. It also takes note of its geographical framework, flora, fauna, climate, population, religion, linguistic composition and economy of the state.


\textsuperscript{51} Mackenzie, A (1884) "North East Frontier of India" Mittal Publication, N.Delhi.

The study done by Lanusosang (1983)\textsuperscript{53} is another important literature that needs to be taken into account. He gives an overall geographical view of social, culture and economic bases of the people in the state. Major emphasis is laid on the process of peopling, pattern of population characteristics and composition structure, religious and linguistic composition and social mobility, etc. It also stresses the relationship between human institution and a particular natural setting. As such, it can be said that his work seems to be a major landmark in the study and development of social geography in Nagaland. Serna , H (1986)\textsuperscript{54} gives an account of the origin of Nagas and their social and religious system, the bases of economy and political scenario during the post independence period in the state. Sardeshpande, S.C. (1987)\textsuperscript{55} examines the regional context of Naga tribes particularly of the Khaimungan Naga and Upper Konyak tribes, their origin and expansion, social structure, religion and social change among these tribes.

The work of Roland .Y.C. (1988)\textsuperscript{56} is also an important literature on Naga tribal society. He gives a detail account of the geographical spread of Naga Hills and the


features of its people, the historical and probability of the origin of the Naga tribe, the racial affinities, customs and tradition, religion, administrative system and traditional Naga philosophy. In a similar way Ashiko-Daili-Mao (1992)\textsuperscript{57} undertakes a major study of the evolution and composition of Naga society from the early British colonial period.

Among the recent studies on Nagaland and its people, the work of Hargovind Joshi (2001)\textsuperscript{58} stresses on the social, economic and cultural scenario from historical perspective and also on the settlement pattern of the Nagas. The work of Nuh, V.K. (2002)\textsuperscript{59} is a commendable one. It is a compilation of articles by various authors containing even the analysis on the evolution of Naga movement and its urge for redefining new status. The work of Venuh, N (2004)\textsuperscript{60} is another notable addition to the literature on the Nagas. It evaluates the socio-cultural aspects of the Nagas, the forces and factors of changes in the economic scenario in the state. The work of Pushpanjoli Deori (2005)\textsuperscript{61} is also an important literature on Nagaland, wherein he examines the impact of colonialism and the control of natural resources under

\textsuperscript{57} Ashiko-Dali-Mao (1992) "Nagas Problems and Politics" Asish Publishing House, N.Delhi

\textsuperscript{58} Hargovind Joshi (2001) "Nagaland Past and Present" Akansha Publishing House, Delhi.


\textsuperscript{61} Pushpanjoli Deori (2005) "Environmental History of Naga Hills 1881-1947"
colonial rule. Besides, he also studies critically the relationship of forest and the people; and the economic determinant of environment that exist in Nagaland.

It is observed that a detail population study from geographical angle on the state as a whole or any section of it is highly limited. Whatever works has been done so far is from the perspective of sociology, anthropology, history, and political science. As such, one makes an effort to study the major aspects of population within the framework of population geography in the state.