Chapter 1: Introduction
1.1 Conceptual Framework

Population studies have been the subject of concern for social scientists for a very long period. But population geography is a new and recently developed branch of geography, which studies population, its characteristics, growth, composition, movement, and distribution. Population is the central focus of geography; it is necessary to know the dynamic ideas about the place of population in geographic literature. Population has become a special and separate sub-field of geography. The past some decades increasing acceptance of the notion that geography was one of the social-sciences, the publication by geographers pertaining to population and associated problem have been multiplying. This shift in the focus of geographers from the study of environment to that of man has been gradual.

The contribution of Vidal-de-la Blache, Jean Brunhes and Maximilien Sorre were significant in giving anthropocentric orientation to geography in France. In United Kingdom the contributions of Arthur Geddes (1941) signaled the growing awareness among geographers about the significance of population studies in Geography. In the United States apart from population studies by Baker (1928), Mc Carty (1942), which were incidental to investigations of economic questions, Aurousseace (1923) and Jafferson (1909) had contributed several papers emphasizing the need for greater attention to his sub-field.

Professor Glenn. T. Trewartha of the University of Wisconsin, in his presidential address to the Association of American Geographers in 1953, pleaded for the development of Population Geography since then
has emerged as an independent systematic branch of Geography. According to Trewartha (1969) "Man is the pivotal point from "which all other elements are observed and derive meaning and significance. It is the axis around which all natural and cultural resources revolve". Soviet geographer Pokhishevesky (1972) rightly remarks "Today man has established himself as the central element around which all economic, social, and political phenomena take place".

John I. Clarke, former chairman, Population Commission of International Geographical Union, is credited with bringing out the first text on Population Geography in 1965. According to Clarke (1965) "Population Geography is concerned with demonstrating spatial variations in the distribution, composition, migration and growth are related to spatial variations in the nature of place".

W. Zelinsky (1966) provided an introductory text on this newly emerging sub-field. In his book 'A Prologue of Population Geography' he observed that Population Geography can be defined as the science that deals with the extent and ways in which the geographic character of place is formed by, and in turn reacts upon a set of population phenomena which vary within it through both space and time".

J. Beaujeu-Garnier brought out a volume on 'Geography of Population' in French (1956-6flitch" translated in English by S.H. Beaver (1966). According to J.B. Gamier (1966) population Geography is concerned with describing the demographic factors in their present environmental context, studying also the causes, their original characteristics and possible consequences".

The population Geography is concerned with a real variations in population and their relation with physical, cultural and economic phenomena. Population Geography attempts to answer questions like-
What is the size of population in a particular area? What is the rate of its growth? How is it distributed? What is the structure of age, sex-ratio, literacy a marriage in spatial context?

1.2 **Overview of Literature**

It was March 30, 1953 that Population Geography emerged as a recognized systematic branch of geography, when Trewartha, who used the platform of his presidential address to the Association of American Geographers. His case for Population Geography stimulated geographers to study man as area characterizing and are differentiating element. Consequently, both the quantum and the quality of work that could be described as Population Geography increased since 1953. In 1969 Trewartha attempted a book 'A Geography of Population : World Patterns', wherein he slightly modified the contents by dividing the book into only two parts.-First dealing with the geography of population in the past and the second with all the characteristics of population (biological, social, cultural and economic). He has provided a detailed framework for geographical studies of population. Preston E. James (1954) has studied certain aspect of population in geographical context. His conceptualization of the 'four major frontiers of research' emphasized the need for developing better methods of showing population distribution, better methods for reconstructing the post population pattern, better methods for revealing the processes of change and better methods for correlating demographic phenomena with other geographic phenomena. Clarke (1965) has contributed immensely in this field. His book 'Population Geography' became a base for the investigation on population problems. Later on he studied the geographic conditions of other parts of the world and wrote several
books and paper concerning developing nations (1971). Glass and Grebenik (1954) have examined the trend and pattern of fertility in Great Britain. Belshaw (1956) has done work on population growth and levels of consumption. Frankin (1956) has studied the pattern of sex-ratio in New Zealand. Scott (1957) examined the changing pattern of population in Tasmania. Duncan (1957) has worked on the measurement of population distribution. Glass (1960) has worked on population growth, fertility and population policy. Hoosan (1960) postulates that the essence of geography is concerned with the problem of uneven distribution of population over the earth. Distribution of population acts as a master thread capable of weaving into a coherent pattern, otherwise disparate strands of the subject and expressing into philosophical unity particularly in the context of regional geography. Howe (1961) has examined the geographical variation in disease, mortality in England and Wales in mid-twentieth century. Zelinsky (1962) has studied changes in the geographic patterns of rural population in United States from 1770 to 1960. Pokshishevsky (1962) has done detailed work on the population of C.I.S. In principle, the population geography of C.I.S. has played a practical role in planned organisation and development. Murray (1962) has written on the geography of death in England and Wales. Melezin (1963) describes 'Soviet Geography of Population' as the study of population distribution and productive relationship existing within various population groups. Clarke (1966) says that population was concerned with "demonstrating how spatial variations in distribution, composition, migration and growth are related to spatial variation in the nature of places".
Wilber Zelinsky (1966) has written a textbook 'A Prologue to Population Geography'. This book is divided into three parts. The third and last section of his book concentrates upon the interrelation among demographic traits and typology of population regions. True to his conceptual framework, he devotes significantly greater attention to the last section, which by all means, is the most valuable contribution. Caldwell and Okenjo (1969) have studied the spatial growth and distribution of population in the upper region of Ghana.

Kosinski (1970) has studied the population of Europe. In course of which he discovered that spatial differences in population distribution have developed in response to variations of the natural environment, but they are the functions of spatial disparities in economic and social life. Sultan (1972) has worked on changes in population in Algeria. He has found that the coastal areas are densely populated and the rest have a thin population concentration. Glenn T. Trewatha (1972) has studied the geography of population in the less developed area. Clarke (1972) has examined the changing population pattern of Iran. He has deduced that the greatest impact on the geography of the country has been a result of the increased government investment in health and welfare services, educational facilities, infrastructure and planning and industrial and agricultural development policies. Hauser (1979) edited a book World Population and Development. Woods (1979) wrote a book on Population Analysis in Geography in which geographical aspects of population have been given more emphasis. The book is devoted to the analysis of various population attributes like fertility, mortality and mobility. Gray, L. Peters and Robert, P. Larkin (1979) wrote a book Population Geography: Problems, Concepts and Prospects. The contents
of the book cover a vast variety of population characteristics including
distribution, composition, fertility, mortality, mobility, residence,
population policy, population and food supply etc.

Geography' in which almost all aspects of population geography has
been analyzed in detail.

1.3 Population Study in India

The study of Population Geography has become significant in
India during recent years. Only a few Indian scholars got attracted to
various aspects of Indian population in the post independence period.
The government too was forced to pay more attention towards
population study in view of the rapid growth of population, increasing
population size of the country and emerging food shortage due to
unbalanced population growth. The census of India started providing
detailed population data, which contributed immensely towards
developing to population studies. The micro level data are of distinct
importance in welfare democratic set-up, which are available through
District Census Handbook during the post independence period. They
are needed for running democratic institutions, district level planning
and district administration besides catering the assorted needs of
researchers, scholars and common man.

The first systematic research conducted in Population Geography
in India was the doctoral dissertation of G.S. Gosal under the guidance
of G.T. Trewartha in 1956. But population studies on individual districts
were popular in Madras University during 1930. Krishna Swami (1930)
studied the 'Causes for the variation of population density and
distribution within Coimbatore district'. Kuriyan (1938) has discussed
the distribution of population in Kerala against the background of the physical, climatic, soil and agricultural conditions of three regions—lowlands, foothills and high hills. Rajgopal (1940-1941) has studied the demography of Tirunelveli and Chittur districts of Tamil Nadu with particular reference to the growth of population—Rural and Urban since 1921, occupational structure, education and sex ratio.

Ahmed (1941) has analysed the distribution of population in India in relation to the elements of physical and cultural environments. Yunus (1941) has examined the problem of growing population in Uttar Pradesh during the decade 1931-41 in relation to the production of food grains. Geddes (1942) has dealt with the theme of variability in the rate of population growth in India from decade to decade. He later (1953) on studied regional variation in variability in population change. Chaterjee and Ganguli (1943) have critically examined the growth of population in Nadiad district of West Bengal and Tirunelveli district of Tamilnadu. Bose (1946) has examined the population of Damodar Valley in respectively Bengal and Bihar. He found that the density pattern of population in Lower Damodar Valley is varying character depending on the mineral and agricultural resources. In the Upper Damoder Valley the pattern of population in rural as well as urban areas reflected even better, the effects of topography, forests, agriculture and accessibility in 1952. Singh (1947) has studied in detail the trend of the growth of population in Uttar Pradesh with particular reference to the influence of geographical phenomena on the distribution and growth of population, total, rural, urban, and block wise.

Raza (1950) has given facts and figures to prove that India is not over populated. There will be no difficulty in feeding the increasing
population of the country develops her industries. Davis (1951) analysed various aspects of population of India and Pakistan. His work provides an analysis of population of Indian subcontinent before independence and reveals through investigation of population characteristics and determining geographical conditions of different areas. Geddes and Learmonth (1953) have followed up the earlier studies of Geddes by examining the total change of population in India during 1921-40 along with an estimate of variability. Their study points out the impact of epidemics in 1918 and concludes that the turning point in demographic history was reached only after 1931. Spate (1956) has concluded in his study on population that India is over populated. His analysis of food trends' indicated no possibility of increase of staple food grains in near future. Verma (1956) in his study of the density and patterns of population in Punjab has observed that there is greater concentration of rural population in areas, which are highly irrigated and intensively cultivated. Prasad (1956) in his research on population distribution and dynamics of supply of labour in Bihar concluded that the flow of population between North and South Bihar was the direct result of economic difference between these two. Kayastha (1956) has studied the demography of the Himalayan Beas Basin. He has established definite relationship between density and distribution of population and the physical setting. Khan (1956) has studied the bearing of geographical conditions on the pattern of population in Allahabad district. The work of Gosal (1956) in the field of population Geography in India is appreciable. He studied all significant aspects of population in his doctoral thesis titled as "A Geographical Analysis of India's Population". Anantapadmanabhan (1957) has indicated a method of
choosing the density grades and examined their relationship with relief, soil and availability of water in Madras.

Trewartha and Gosal (1957) have provided geographic treatment to the spatial pattern of population change in India during 1891-1951. Mamoria (1957) has traced the growth of population during each successive decade of India since 1891. Sinha (1958) has analysed the population distribution in Orissa (1871-1951) and he has found that the rate of population growth has remained slow in earlier decades and has witnessed a much faster rate during later decades, outstripping the means of subsistence. Sinha (1962) has further examined the influence of population growth on the economy of Orissa concluding that the carrying capacity of the land has far outstripped its limit. Works of Chaterjee (1959) are also worth mentioning in the field of population geography in India. He organised the National Atlas Organisation and prepared maps showing distribution of population in detail. The Atlas consists of several sheets depicting physical background, administrative boundary, distribution of population by villages in terms of their size and dominance of agricultural or non-agricultural population and distribution of urban centres by size and functions. The back of these sheets provide useful description of population in the area covered. He has contributed several valuable research papers. In the year 1962 he analysed the density and distribution of population in India.

Padhye (1961) has worked on population in Gwaligarh hills of the Satpura range. He brings out the relationship between population density, physical climate and other geographical factors. Gosal (1962) has conducted a study for regional aspects of population growth during 1951-61. Through a comparative study of maps, it brings out inverse co-
relation between density and population growth. Gosal and B.S. Ojha (1964) have made an elaborate study on the pattern of population growth in Punjab during 1951-61. Gosal (1964-1067) has further made an interpretative study of literacy in India in which he has discussed the regional variations in literacy, mentioning a variety of factors with which these variations are associated. In 1967 he analysed the regional aspects of rural literacy in his presidential address to the Indian Council of Geographers. Dayal (1963) analysed growth and distribution of population in Bihar plain. He is worth mentioning in the field of Population Geography. E. Ahmad (1965) analysed growth, distribution and other aspects of population of Bihar in his book named "Bihar: A Physical, Economic and Regional Geography". He has also made contribution in the field of population geography. Ramchandran (1965) has studied the trend of population in Malnad. Mitra (1965) has reviewed the position of India with respect to its population and food supply. Singh (1965) has studied the demographic features of Nagaland. Tirath (1966) has studied the Arial patterns of literacy in India. Nitya Nand (1966) has published a paper 'A study on Distribution and Spatial Arrangement of Rural Population in East Rajasthan'. He also discussed arithmetic, physiological, agricultural and nutritional densities. Metha (1967) has studied some aspects of changes in the demographic characteristics of Bist Doab 1951-61. Krishan (1968) has studied changes in the demographic character of Punjab's Border Districts of Amritsar and Gurdaspur 1951-61. Krishnan (1968) has studied the distribution and density of population in Orissa. Chandana (1969) analysed the changes in the Demographic character of the Rohtak and Gurgaon districts of Haryana 1951-61.
Basu (1974) analysed differential growth of education in India. Visaria (1974) described relationship between religion and fertility. Roy (1977) has studied the growth of population in Bhojpur and Rohtas districts of Bihar. He concluded that the growth of population has a direct bearing on land use. Bhattacharya (1978) has studied the distribution of population in India. Bhende and Kanitkar (1978) have written a textbook 'Principles of Population Studies of the World and India'. Jha (1978) has worked on agricultural land use and population in the Kamla-Balom Plain, North Bihar. S. N. Prasad (1980) has studied the land use and population in Ranchi district. Das (1981) has studied the spatial character of population pressure in North Bihar, West of the River Kosi. He has studied it in relation to geographical factors. Prasad (1982) has studied the all aspects of population in Rajasthan. Kumar (1983) examined the impact of environment on the distribution of population in Nagaland. Bhatia (1983) has studied the density of population and social pathology in India. Mehta (1990) has studied the Migration: A Spatial Perspective.


1.4 Design of Study

The present study has been undertaken with the objective of providing a coherent picture of the population in Lucknow district. The study aims at a thorough analysis of the distribution, growth, density, composition, migration and resource relationship aspects of population. Considering the nature of previous works, it is realized that there is no study on population aspects at micro level. This work is designed to fulfill this shortcoming of the earlier approaches. It is also an attempt to study some correlation of inferences based upon secondary data as well as primary data. Thus, this is an effort to know the authenticity and validity of the census information. Micro level work is based upon Community Development Block and Village levels. It consists of Eight Community Development Blocks, Seven town’s area and 4 Tehsil. The work has become voluminous due to multidimensional treatment of secondary information. Hence only fifteen sample villages have been randomly selected from each Block. These fifteen villages have 0.47% area and 0.91% population of the district. From these villages, 7456 households which are 0.82% of total household are taken and the information provided by those households is taken as the bases of micro level study.
The present study has been organized into Nine Chapters. Chapter I\textsuperscript{st} deals about population Geography. Chapter II\textsuperscript{nd} discusses location and extent, historical background, geology and relief, drainage, soils, climate, natural vegetation, physiographic divisions, land use, cropping pattern, cropping intensity, etc. Chapter III\textsuperscript{rd} is devoted to the study of population distribution at various levels. Different population density and concentration of population have been discussed in Chapter IV\textsuperscript{th}. Chapter V\textsuperscript{th} seeks with growth of population. Chapter VI\textsuperscript{th} analyses on different components of migration. Chapter VII\textsuperscript{th} throws light on population composition, sex- ratio, age- structure, age pyramids and age-sex structure etc. Literacy, improvement in literacy, level of education, marital status, religion, language, caste structure, occupational structure etc., form the theme of Chapter VIII\textsuperscript{th}. Chapter IX\textsuperscript{th} is devoted to the population problems and planning for the betterment of this valuable resource. Summary and conclusion followed by a few appendices and selected bibliography is annexed at the end of the text.

1.5 Methodology

Every research work needs a systematic approach to analyse the problems raised during the work. Methodology is a process of reaching to valid conclusions.

The methodological approach involves:

(a) Sources of Data: The availability of data is an important aspect of the study. The data must be authentic and correct to arrive at reliable conclusions. The work is based mainly on secondary data as well as some primary data. In this study reliance has been placed mostly on secondary sources and data have been collected from successive
census reports. This was supplemented by government reports and documents both published and unpublished. These include India's Reference manual, District Census Handbooks, State Census Reports, Economic Survey of India as well as documents and journals of the planning dept. Besides published sources personal visits were made to various departments of the government and institutions. The author has extensively used the census data of 2011 obtained in the form of computer floppy and printout from the Directorate of Census Operations, Uttar Pradesh, Lucknow, which have not been published till date.

Primary information has now become an important tool for geographical investigation. Although the basic framework of this work is based upon secondary data but care has been taken to verify the validity of secondary information on the basis of sample survey. Fifteen villages of Lucknow district have been chosen for this purpose. Detailed study of the sample villages has been done in Chapter IXth.

Tertiary data collected from library involving study of relevant literature have also been used at some places. In course of library work the author visited a number of libraries including the Departmental Library of Geography, Lucknow University; Tagore Library Lucknow University; Department of Geography, B.H.U. Varanasi; Central Library, B.H.U. Varanasi; and Central Library, Udai Pratap Autonomous College, Varanasi.

(b) Sources of Maps: Sir H. Mackenzie has rightly viewed that, map is the tool of geographer and no research in Geography can be called complete without the use of maps. The following maps have been used in this study-
(i) 1 cm = 40 km. Map of Uttar Pradesh furnished by Survey of India is the base map for the present study. It is published by Census of India 1991 Series- 25, Uttar Pradesh Provisional Population Totals, Director of Census Operations, and Uttar Pradesh Lucknow.

(ii) The All part of the study area comes under Metro area, therefore the, the base has been map of District adopted from the Census of India 2011 Administrative Atlas, Uttar Pradesh Volume I published by the office of the Registrar General and Census Commissioner, India. The scale of the map is 1:500000 (1 cm= 5 km.).

These maps have been used in this thesis, both in original and modified forms at appropriate places. Enlargement and reduction of maps have been done according to the need of the work the author has prepared other maps and cartograms, her. Regarding the techniques of mapping and construction of diagrams general principles have been followed. Autocad maps, bar diagrams, Wheel diagrams, Line graphs etc. have been extensively used for the analysis and representation of data in this study.

(c) Data Analysis: A systematic approach based on firm statistical techniques and a critical eye has been adopted to obtain a balanced geographical account of the attributes of population growth and distribution.

Several methods have been adopted for the scientific analysis of secondary as well as primary data. After collecting information from different sources the author proceeded with the task of evaluating the validity of data. Some irrelevant data were left out. Relevant information were computed and tabulated in the suitable form of statistical analysis. The statistical arrangement of data followed the method given below:-
(i) Some information is presented in the form of statements as and when required.

(ii) Processed information is presented in tabular form. In fact several tables are self-explanatory. Utmost care has been taken to maintain greater accuracy in presenting the data in the form of tables.

(iii) Information is also presented through various cartographic methods. Line graph, Polygraph, Climograph, Centogram, Hythergraph, Choropleth maps and several other graphs and diagrams are used in this research work.

It has been rightly remarked that any data that cannot be subjected to cartographic analysis may not be treated as geographical (Monk house and Wilkinson, 1976, p. 506). As such maps using suitable cartographic methods have depicted most of the data. All the tables and appendices, prepared on crude data are original. Numerous statistical techniques have been employed to calculate standard scores, standard deviation, location quotient, mean point location, population potential and coefficients of correlation.

1.6 Problem under Study

Every research work is directed to investigate some problems. This work proposes to examine the following problems:-

(1) What are the causes of phenomenal population growth trends in Lucknow district?

(2) What are the causes of high density and intra-regional density variation in the study area?
(3) What is the changing pattern of the quality of population resource in the study area?

(4) There is an urban population explosion in general but no rural explosion. Explanation is needed.

(5) What are the micro level trends in the characteristics of population?

(6) What is the impact of educational status, marital status, and occupational structure and per acre dependency on the trends of population growth?

(7) What are the migration trends in the characteristics of population?

(8) What are the developmental trends in the human resources in the urban slum areas?

These above questions are raised in this study and specific answers through analytical explanations have been sought. The level of urbanization is an index of transformation from traditional to modern one. It an established generalisation that an increase in urbanisation which boosts the secondary sector and reduces the dependence on primary sector is considered as a symbol of economic growth and development. Urbanisation is an integral part of economic development. Most modern economic activity takes place in cities, and growth in productivity and income is easier in an urban context. Economics growth influences the urbanisation while urbanisation in turn affects the rate of economic growth of that place.
REFERENCES

- Ahmad, E. (1965), Bihar: A Physical, Economic and Regional Geography, Ranchi University Press, Ranchi.


• Mitra, D. R. (1965), "India's Population and Food Supply", Observer, pp. 11.


• Pokshishevsky, V.V. (1972), "Problems of Planned Development of Economic Regions in Developing Countries in Economic and Socio-Cultural Dimensions of Regionalisation", Census Centenary Monograph, No.7, New Delhi, pp. 1.


• Tirath, Ranjit (1966),"Areal Patterns of Literacy in India." Manpower Journal, pp.88-118.


• District Gazetteer’s Lucknow (1959) Sh. Vinod Chandra Sharma

• District Statistically Journal of Lucknow 2006, 2013

• State Census Report 2001 Series 10 Vol 1 Table A-5, A-6, A-7

• Registrar General and Census Commissioner Report 2003


• A. S. Kadi, Growth of Urbanisation in India , The International Journal Of Science & Technoledge (ISSN 2321 – 919X)


• Registrar General and Census Commissioner Report 2011

• Census of India 2001 District Census Hand book Part Lucknow XII A & B Series 10

• Census of India 2011 District Census Hand book Lucknow Part XII B Series 10