

Density and Distribution Pattern of Population of Rural Settlements of Rohtak District of Haryana: An Analysis

Dr. Dalbir Singh
Associate Professor
Department of Geography
Pt. NRS Govt. College Rohtak Haryana.

Abstract

The quantity and quality of population is a significant element to study and also is the main consideration in regional planning. Hence the paper, examines the density and distribution pattern of population of 147 rural settlements of District Rohtak. On the basis of census data 2001, the density of each village has been worked out, and subsequently concentration of population has been reviewed in accordance with regional perspectives. In order to delineate these demographic attributes, various secondary sources have been consulted and analyzed the required demographic attributes in a systematic way.

Key Words: Density and Distribution of population, demographic attributes regional analysis, population characteristics and rural settlements.

Introduction

The study of settlement has been the most significant branch of human geography. Its consideration runs like a thread through almost the whole fabric of geographic thought. Settlement, in a broader sense, refers to the humanization of the natural landscape by man. In settlement geography, the rural settlement is generally defined as a cluster of houses including the surroundings lands, usually grouped at a convenient site and generally without any formal plan. Rural settlement geography studies man in the context of rural environment particularly the habitat and the activities. Subsequently these settlements may be ranging from little hamlets to metropolitan cities. With size the economic character and social structure of settlements changes and so does it ecology and technology. Settlements could be small and sparsely located; they may be also being large and closely located. The sparsely located small settlements are called villages specializing in agriculture, some of the salient features of these rural settlements are mentioned below:

- (i) The rural settlements derive their life support or basic economic needs from land based primary economic activities.
- (ii) The rural settlements depend on land to carry out their primary economic activities. Since each family needs a fairly extensive area of crop, pasture or forest land, villages are normally small in size.

The geographical analysis of rural settlements, however, began with Ritter's work in the early nineteenth century. His theme of inter-dependence among the elements of a landscape gave broad base to early settlement geography, which included studies of various phenomena and processes resulting from the complex man-land relationships. The man-land relationships are best expressed through settlements which are concrete expression of human occurrence on the earth's surface. Stone, in 1965 suggested that geography of rural settlements be defined as the description and analysis of the distribution of building by which people attach themselves to the land for the purpose of primary production. In very recent works, size, spacing patterns, types, functions, distribution and evolution of rural settlements have been emphasized as the essential constituents of the subject matter of rural settlement geography. For instance, Chatterjee(1966) in

his address to the 35th meeting of Geographical Review of India suggested the “rural settlement geography deals with the size, form and function of settlements build up by man and traces their historic growth”. According to R.L. Singh (1975), “Rural settlement geography is concerned with the orderly description and interpretation of processes, patterning, function and spatial organization of human occupancy within rural environment over the earth’s surface”.

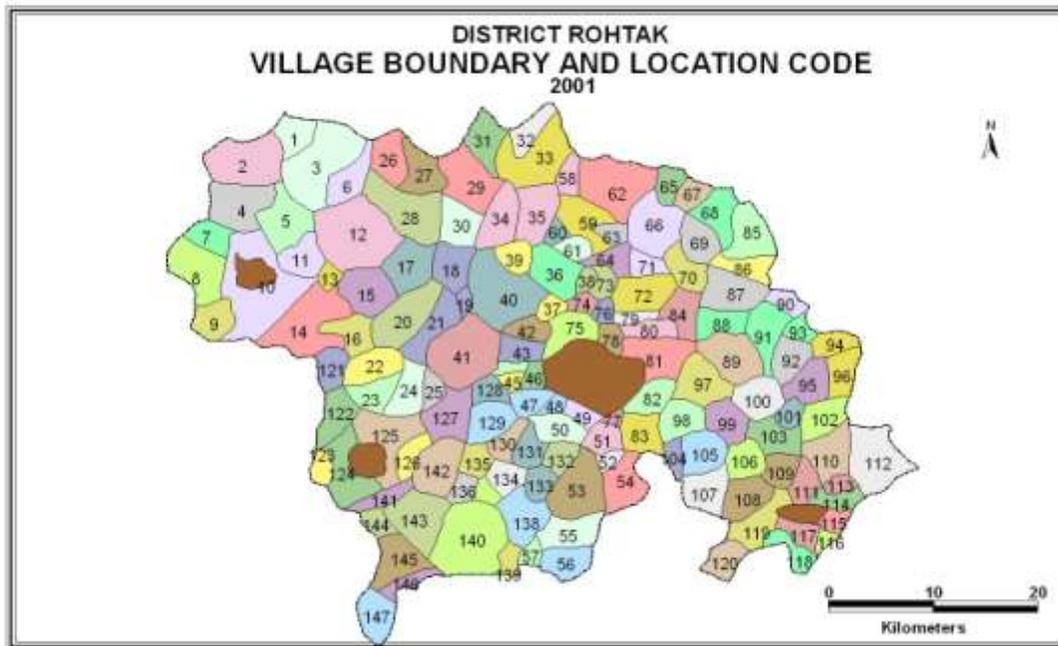
SOURCES OF DATA & METHODOLOGY:-

The present paper is based on primary and secondary data sources. Primary data have been based on the actual observation, enquires, interviews etc. Handbook of Census of Rohtak District, district gazetteers, revenue survey, records settlement, reports of Patwari and maps of published or unpublished nature derived from various agencies and places formed the basis of secondary data. Both qualitative and quantitative methods have been applied to analyze the density and distribution pattern of rural settlements.

ABOUT STUDY AREA:-

The present Rohtak District comparing the Rohtak Tehsil and Maham Tehsil . Rohtak District has 147 villages. The district lie between $28^{\circ} 38' 54''$ and $29^{\circ} 03' 36''$ North and $76^{\circ} 09' 12''$ and $76^{\circ} 52' 30''$ East. Rohtak district lies in the middle of Haryana State. It is bounded by District Jind in the North East and by district Sonipat in the West. Thus the location plays a vital role for the development of the district. Due to proximity to National capital, the developmental activities are taking place very rapidly. The district has witnessed rapid landuse/landcover changes such as industrialization, urbanization, diversification in agriculture, and change in occupation structure.

The district is situated on the National Highway No. 10 leading from Delhi to Hissar.



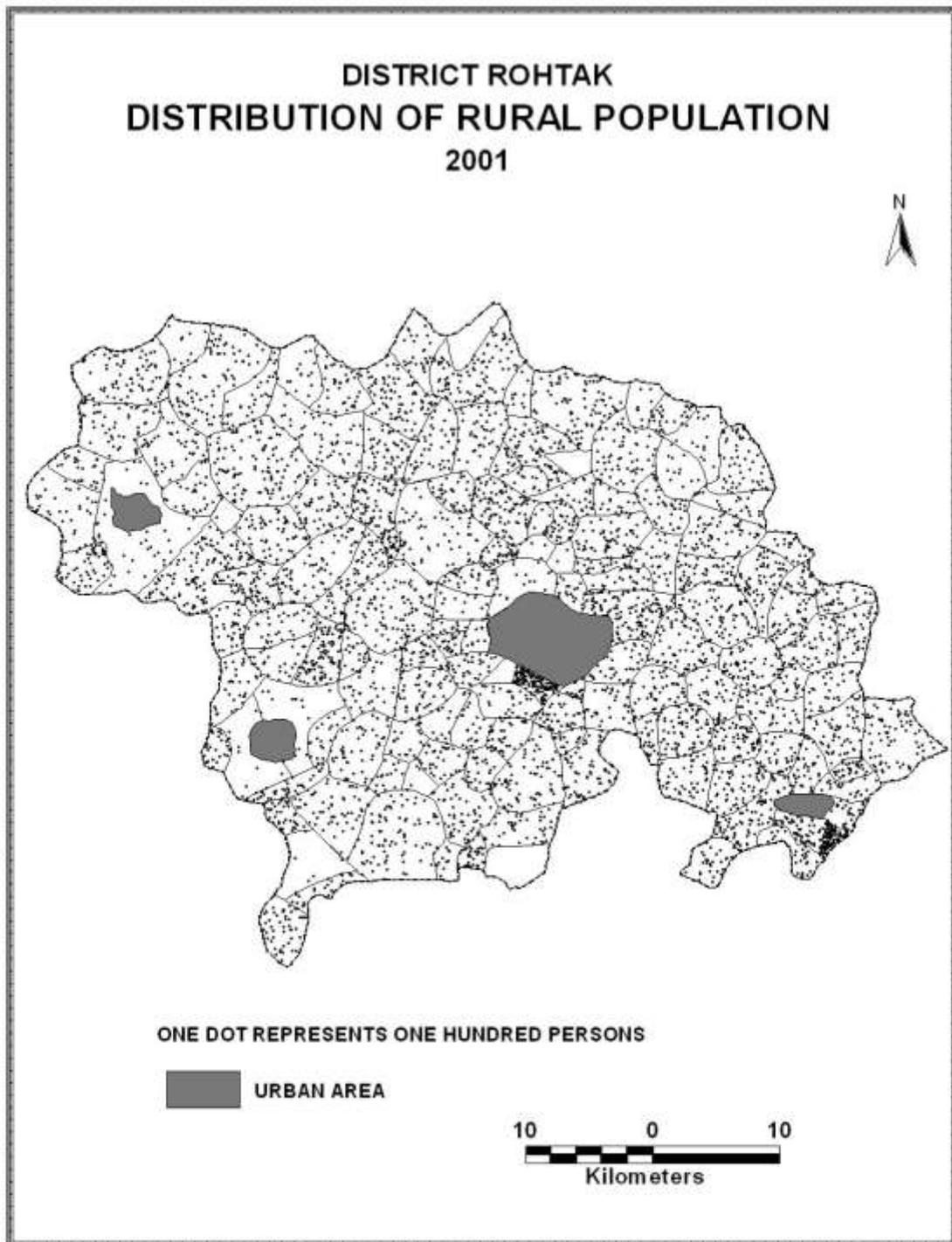
The study of population characteristic is appropriate and one of the most significant topic to the analysis of any cultural area or region. The settlement geography is also closely related to demographic feature. It is therefore, essential to study the human groups composed of man as the molecule of society. The study of population dynamics is one the most significant and appropriate topics in the geographical analysis of any region. According to Finch and Trewartha(1957) the settlement geography is closely related to demographic features. Blache(1952) described that population everywhere seems to be composed of a multitude of groups; as living cells, like those of the body, which have a life in common In the words of Petrov(1985), “Demography is the science that studies the composition and movement of population.” People then, for themselves as geographical features and for the work they do as geographical agents are of prominent importance for geographical study. Human habitat as is lightly understood comprises of two elements in complex integration viz; man and land. The

element of man has many facets, but the most fundamental is its number, distribution and movement aspects. All these are the fabric of demography.

Distribution of population of rural settlements:-

Distribution of population is, in fact, a process, ceaselessly operating between the land resources and human aspirations. It is not only a static assessment of number and location, but also the symbioses between different nuclei of human habitations and the integrated growth of a geographic region. The importance of these phenomena has underlined by many scholars. Steel (1955) stated that the distribution of population over space is governed by the general habitability of the area and its occupancy in historical perspective. The direct impact of the physical environment depicts the patterns of population spread. In 1971, Kumar described that “Economy of a region, state of production and activities of society are the major components of cultural aspects of population distribution”. The temporal factor intermit plays an important role in shaping the size and location of a population, thus it forms the changing human influences and values. Therefore, Clark (1972) stated that “population distribution is a dynamic process which is ever changing, and cause and effect vary in time and space.”

Therefore, its population as a resource, which propels social progress and determined the economic pattern of resource utilization. Since man is a dynamic factor as a creator and also a consumer guiding the entire development, hence, the study of demographic characteristic and population traits in gaining importance in the planning of development processes.



The distribution of rural population of Rohtak district in 2001 is represented in the map by dot method. Although a general glance reveals rather uniform distribution of the study area but a closer look reveals sub patterns. The regional contrasts in the population distribution are governed by a variety of factors. All the factors affecting the population distribution may broadly classified in to three major categories of physical, socio-cultural, and demographic factors (Chandna 2001). Broadly the study region can be divided into two sectors i.e. eastern sector and western sector. Eastern side is having densely population the main reason for it is distribution pattern of these areas are near to urban area Delhi apart from this fertile land availability good employment opportunity near Delhi, location of industries, facilities availability of basic infrastructure like railways, road network moreover the, local vendors like milkmen, oil traders, hosiery products, vegetables are being supplied to urban areas of Rohtak and Delhi. Migration is the other form of distribution pattern of population in Eastern sector of the district. In the recent amendments of the industrial policies some of the industrial units of Delhi were decentralized during 90's decade in the surroundings of Delhi therefore people migrated from Delhi, UP, Bihar, Rajasthan in search of the job opportunities and they have settled permanently in the Eastern side of Rohtak. Another cause of dense population in Eastern side is population pressure in Delhi city, people approached to Rohtak district especially in the Eastern sector of the district, small scale industries are also responsible for the dense population on the Easter side. On the other hand the denser concentration of the population in the East seems to be corresponding with plains fertile soils and good transport facilities.

Whereas in the western sector the distribution of population is sparsely located. The major cause for lesser distribution of population are lack of water availability, poor soil fertility, unpredictable agricultural crop growth, non availability of transport facilities like rail network and road network. The western sector is not influenced by migration trend because of non availability of industries and poor economic activity. Apart from this village size of this western sector are bigger as compare to the eastern sector. In the western sector the social thoughts of the people are very different they prefer low category jobs like vegetable vendors, drivers, cobblers etc.

Pattern of Rural Density :

Population density is an often reported and commonly compared statistic for places around the world. Population density is the measure of the number per unit area. It is commonly represented as people per square mile (or square kilometer), which is derived simply by dividing...

total area population / land area in square miles (or square kilometers)

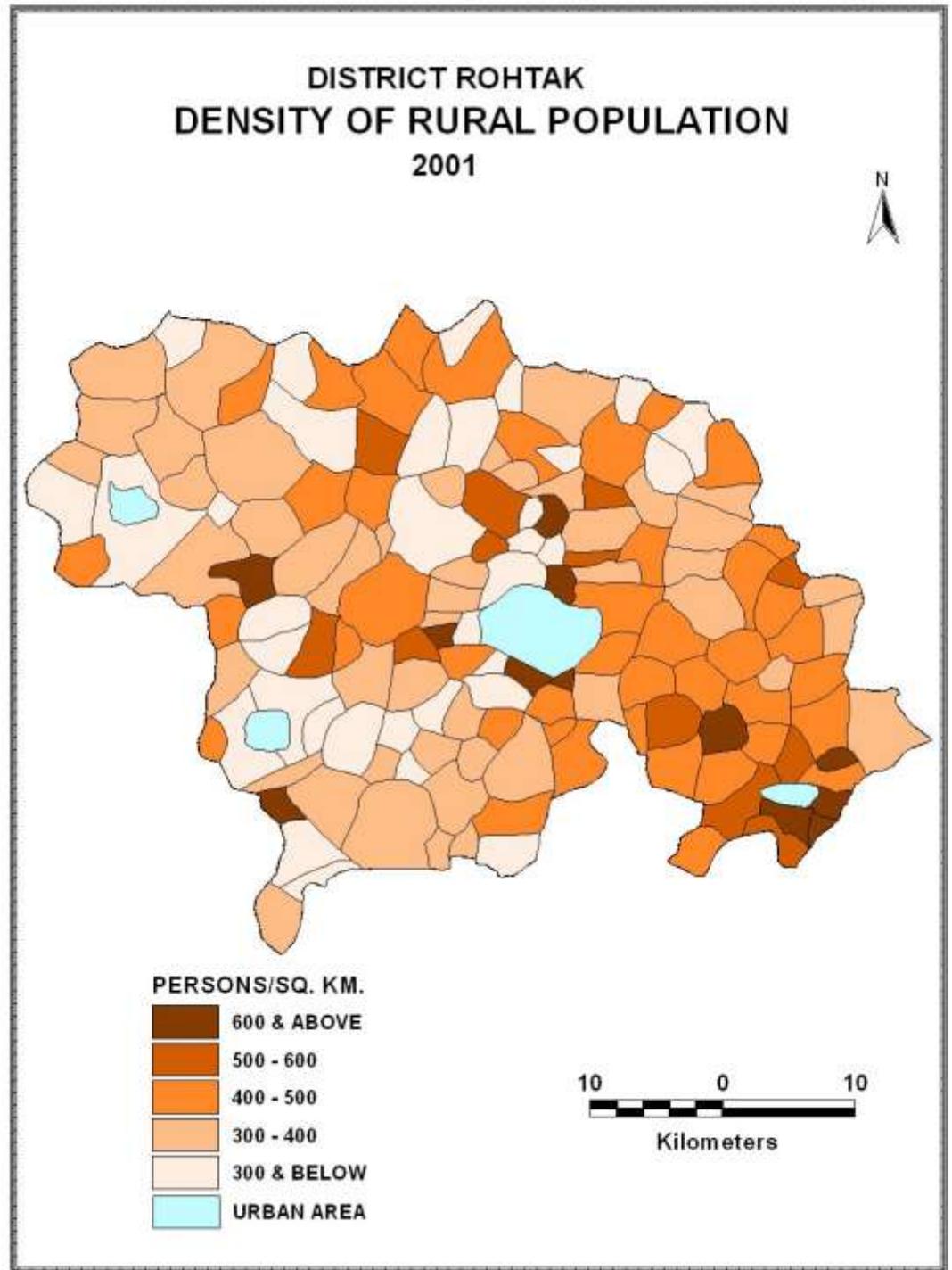
Density gives a relative picture of population distribution a region. It provides a tool to signify relative population pressure upon the resource base. The concept of density, or the relationship between man and land, is usually expressed as a simple arithmetic ratio which divides total population by total area (Trewartha, 1953). Density can be measured in relation to total area, arable area, cultivated area and inhabited house etc. which gives their different geographical values. Density is a simple concept of relating population size to the land area with a view to assessing crudely the pressure of population upon the resources of the area. Thus, it is measured of the incidence of population concentration and is generally expressed in term of persons per square kilometer or per square mile of land area rather than of gross area (Chandna, 2001).

The density pattern gives a relative picture of the population distribution in a region and it also provides a tool signifies relative population pressure upon the resource base. The concept of density or the relationship between man and land is usually expressed as a simple Arithmetic ratio which device total population by total area. Density can be measured in relation to total area, cultivated area and inhabited house etc. which give their different geographical values. According to 2001, census data of Haryana the total population density of Rohtak city is 8531 person per sq. Km, while the Rohtak district population density is 539 persons per sq km. In the study area there are great variations in the rural density pattern.

Density of Rural Population:-

The density of rural population of Rohtak district in 2001 is shown in fig.(a). The range varies from less than 200 persons per sq. Km to more than 700 persons per sq. Km. A general study of area reveals 5 broad categories of density pattern i.e.

- i. Very high density more than 600 persons per Sq. Km.
- ii. High density having 501 to 600 persons per Sq. Km.
- iii. Medium density having 401 to 500 persons per Sq. Km.
- iv. Low density having 301 to 400 persons per Sq. Km.
- v. Very low density below 300 persons per Sq. Km



Area of Very High Density (more than 600 persons per Sq. Km.)

The very high density of Rural population is confined in very few villages. Only 12 villages have density of rural population more than 600 persons per Sq. Km. The highest density of rural population in the study area are exhibited by Sunaria Kalan (1353)* followed by Kheri Sampla (1056) Para(part)(1028), Sampla(799) Chamarian(744) Kanheli (716) and Kharkada (685) Naya Bans(646), Gadhi Kheri(638), Bhansru Kurd(638), Gandhra(624), Katisara(606). The main reason for very high density population are availability of National Highway (NH 10), proper rail network, road network, nearness to urban areas and frequent migration from rural to urban like Sunaria Kalan, Para Part to Rohtak city and Sampla.

Area of High density (501 to 600 persons per Sq. Km)

The region of high density of population occupied by 12 villages which shared 28% of Rural area and 33% of rural population of the study area. The high density of rural population is found mainly in Gadhi Sampla(580), Mungan(575) Mokhra(570), Ismaila 11-B (552), Basantpur(549), Titoli(549), Sunderpur(549), Bhali Anandpur(544), Khewrawar(532), Maukroli Kurd(528) & Gijji(524), Kherainti(511). The main reason for high density of population in these areas are closer to the city areas like Rohtak city, Sampla and Delhi. Most of the villages of this particular category are located in the eastern sector. The soil fertility and agricultural productivity are another responsible factor for high density of population. The sector is highly influenced from secondary activities like manufacturing industries and availability of services.

Area of Medium density (401 to 500 persons per Sq. Km)

This category covers 42 villages shared rural area. The medium density of rural population is found in village like Lakhan Majra, Baliana, Pakasma, Maina, Bhainsry Kalan, Garhi Bohar, Karountha, Ladhot, Kultana, Kheri Sath, Muradpur Takna, Atail, Rurki, Sisar Khas, Chiri, Ghilor Kalan, Kansala, Ajaib, Bohar (Part), Bataur, Ismaila-9B, Nunond, Dobh, Simli, Nandal, Morkheri, Chulliana, Karaur, Jasia, Kherari, Ritauli, Samchana, Busana, Khadwali, Gurawar, Rithal Photat, Kharak Jatan, Bahu Akberpur, Polangi, Farmana Badshahpur, Gurnauthi, Asan. The soil fertility and agricultural activities and availability of water play an important role for average contribution of population. Employment opportunities is also an

important factor for medium dense population. Most of the rural population prefers lower category works.

Area of Low density (301 to 400 persons per Sq. Km)

The low density of population is mainly confined in 46 villages which shared 11% of rural area and 8% of rural population of the study area. The low density of rural population is found in villages such as Pahrawar, Humayunpur, Kabulpur, Makrouli Kalan, Kistranti, Singhpura, Kiloj Khas, Kakrana, Bhagotipur, Balab, Jindran, Bhaini Maharajpur, Taja Majra, Bahmanwas, Sanghi, Bakheta, Sundana, Hassangarh, Ghari Balab, Dhamar, Madina Kaursan, Pilana, Nidana, Farmana Khas, Kiloj Dopana, Ghuskani, Bharan, Kheri Maham, Bhaini Surjan, Bhalot, Seman, Baland, Bhiyan Pur, Nindana, Bahelba, Banyani, Rithal Narwal, Madina Gindhran, Gudhan Bhaini Chanderpal, Maroudi Jatan, Kahnapur, Nigana, Bahu Jamalpur, Lahli, Sampal. In these villages the soil fertility and agricultural productivity are very poor and due to that the working force migrated to the urban areas. Most of the young population of the villages are engaged in army services and other jobs. The sizes of the villages are bigger as compare to the other side of the villages. Non availability of economic activities, industrial units and social backwardness also exist which leads low density population. Non availability of basic infrastructure like railways and road networks and most of these villages are located far away from the urban areas because of that people cannot commute for long distance though they are remotely located.

Area of Very Low Density (less than 300 persons per Sq. Km)

The Area Very Low density of population is covered by 34 which shared 11% of rural area and 3% of rural population of the study area. The Very low density of rural population is found in villages such as Masudpur, Sunari Khurd, Ghilor Khurd, Kutana (Part), Patwapur, Sanga Hera, Mokhra Kheri Rogh, Gurauthi, Jindran Kalan, Samar Gopalpur, Anwal, Maroudi Rangan, Bainsi, Gugaheri, Bhaini Bharon, Sasrouli, Katwara, Mokhra Kheri, Kahni 7½ Biswa, Chandi, Nasirpur, Kahni 12 ½ Biswa, Tamirpur, Sarai Ahmed, Kalanaur Kalan (Part), Shekhpur Titri, Kalanaur Khurd (Part), Manjha, Jalalpur, Sahan Majra, Matana, Kharak Chulanga. The surface landforms like topography, ephemeral streams, poor soil fertility are major responsible factors for very low density of population, apart from this most of these villages are remotely

located where lack of availability of water is there. Their Lands are not productive in terms of agriculture instead of loamy soil, the soil texture is sandy in nature.

Conclusion:

Density and distribution of population is one of major attributes of demographic study. The present study throw an adequate light on “cause-effect relationship” of growth and development of both these demographic phenomenon. On the bases of regional study of rural settlements of Rohtak district, it is obvious that the density and distribution pattern of population is higher towards eastern zone. On the other hand, density and distribution of population towards western zone of the district show relatively lower density and sparsely pattern of distribution of population. In the northern and southern zone, the density and distribution of population is more or less uniform in both the zones. It is obvious that the density and distributional aspect of population is determined by the rural infrastructure, developed by state sponsored rural development program within these zones. Besides rural infrastructure, higher density and distribution of population is also determined by the vicinal location of villages, nearer to the urban settlement, give an obvious impact on higher density and concentration of population within these settlements. Hence, the density and distribution pattern has been influenced by the cumulative effects of development rural infrastructure, the amenities and services, rendered by the district headquarters and the nodility of the village with their locational advantages, which cumulatively given rise to growth of density and distributional pattern of population of rural settlements in Rohtak district.

References:

1. Finch, V.C. and Trewartha, G.T et.al. (1957) Elements of Geography, Physical and Cultural, McGlow Hill Book Company, Inc. London.
2. Blache, Vidal De, La, (1952) Principles of Human Geography, London.
3. Petrov, V. (1985) India, Spot Hight on Population; A Demographic Outline, Progress Publishers, Moscow.
4. Steel, R.W. (1955) “Land and People in British Tropical Africa”, Geography, vol. 40.
5. Kumar, A. (1971) “Distribution and Displacement of population in Bihar”, Geographical Review of India.
6. Clark, J.I. (1972) Population Geography, Pergamum Press, Oxford.
7. Chandna, R.C.(2001) Geography of Population Concept, Determinants And Patterns, Kalyani Publishers, New Delhi, p.36
8. Trewartha, G.T.(1953) “A Case of Population Geography”, Annal Association of American Geography, vol. 43.
9. Chandna, R.C.(2001) Geography of Population Concept, Determinants And Patterns, Kalyani Publishers, New Delhi.
10. Mandal, R.B. (2001) Introduction to Rural Settlements, Concept Publishing Company, New Delhi.
11. Asha A. Bhende and Tara Kanitkar, (1985) Principals of Population Studies, Himalaya Publishing House.