

**CHAPTER - I**

**RURAL SETTLEMENTS :**

**A GEOGRAPHICAL PROFILE**

1.1.0. INTRODUCTION

1.2. 0. THE CONCEPT OF RURALITY

1.3. 0. MEANING AND DEFINITIONS OF SETTLEMENTS

1.4. 0. RURAL SETTLEMENT SYSTEM IN THE WORLD

1.5. 0. RURAL SETTLEMENT SYSTEM IN INDIA

1.6. 0. CHARACTERISTICS OF RURAL SETTLEMENTS

1.7. 0. FUNCTIONS OF RURAL SETTLEMENTS

1.8. 0. TYPES AND PATTERNS OF RURAL SETTLEMENTS

1.9. 0. FACTORS INFLUENCING THE SETTLEMENT SYSTEM

## CHAPTER - I

### RURAL SETTLEMENTS : A GEOGRAPHICAL PROFILE

---

#### 1.1.0. INTRODUCTION:

Food, Shelter and Clothing are the three basic needs of man. The available information reveals the fact that the man was initially a hunter and food gatherer. It is during the Neolithic time the man became a sedentary agriculturist and started to live in his own house more or less permanently. Since then man has been living. Men construct houses and develop settlements to protect themselves from all the varying weather conditions and to enjoy social life. In fact settlement adopting himself to his physical and socio-economic environment.

The problem of rural and urban settlements has increasingly been probed by anthropologists, sociologists, ethnographers, economists and geographers they however examine this issue with different objectives and methodologies. Few people live in isolation most people of the world reside in some form of settlement - a permanent collection of houses, buildings, and inhabitants. Settlements occupy a very small percentage of the earth's surface but exert a far greater influence on the world's culture. Settlements are both the storage centers of the world's cultural heritage and the point of origin for the dissemination of innovative economic, social, and political patterns. It is

because of cultural functions the study of settlement is most basic to human geography. In fact, settlement in any particular region reflects man's relationship with his natural environment, and also socio-economic environment.

### **1.2.0. THE CONCEPT OF RURALITY:**

Until recently planners have discussed and analyzed on sociological theories of rural urban relationship. Two basic models have been invoked in this context. The original idea of "Rural" and "Urban" as two poles of a dichotomy was soon found to be unrepresentative of the rural world situation (Stewart-1958). As Sarokin and Zimmerman (1929) pointed out "In rurality the transition from a purely rural community to an urban one.... Is not abrupt but gradual." Realization that the extremes of the dichotomy were easily recognized but that the threshold between their respective influences was not readily identifiable, lead to the conceptualization of the rural (or folk) urban continuum pioneered by Redfield (1941). Support for this concept came from investigators such as Queen and Carpenter(1958). Who noted a "continuous graduation in the United States from rural to urban rather than a simple rural-urban dichotomy."

However, the continuum model has also been seen to be unrepresentative in that it is both oversimplified and misleading (Mitchell,

1973). By way of compensation increasing complexity has been introduced into the theory of rural-urban relations. Pahl (1966) argues that the continuum concept might be replaced by Bailey (1975), who argues that the crux for the sociologists is that 'the defining parameters of social problems are the same for rural as for as urban areas'. Thus the treatment of the rural-urban distinction in sociology has changed from the study of two extremes to the recognition of common social variables in these extremes, which allow a unified field of study, the preclude the separation of 'rural' from 'urban'.

When faced with a fluid conceptual framework such as this is seems likely that an inductive approach might yield more positive and useful results when attempting a definition of rurality for use in the planning of rural areas. This approach inherently accepts some form of continuum model, and rightly so, for geographers and planners are not yet ready to follow sociologists into a non - spatial view of rural and urban as a unitary area, simply because of the vast differences in scale, resources and environment between the two extremis.

An inductive approach suggests that certain selected variable may be measured to ascertain whether an area inclines towards the rural or urban pole. The definition of rurality is therefore inherent in the choice of these variables, and so it is necessary to include some test of significance to ensure that the selected variables are inductive of rural or urban (and therefore non -

rural) inclination. Schnore (1966) warns that all such definitions incorporate a degree of arbitrariness. 'In this case, the major difficulties stem from the fact that the characteristics which have been singled out for attention..... are literally variables, i.e., they exhibit differences in degree from place to place and time to time.' However, these difficulties would appear to be advantageous in the construction of an index. Areal variation is necessary to gain a widespread pattern of the distribution of rurality, and variation over time is likely to offer an interesting insight into the changing nature of rurality.

In 1971, the department of the Environment (1971a, 1972) reported on an investigation into the nature of rural areas and small towns in England and Wales. The study report that the measurement of three variables to define rurality and the calculation of an index by which degrees of rurality could be measured. This study pioneered the inductive approach in this field but an updated index has since been developed which makes use of multivariate statistical techniques (Cloke, 1977a). The need to replace subjective and nebulous expressions of rurality with a more objective statistically - based view is paramount as a foundation to the study of rural areas and their settlements. It is therefore important to produce a definite positive statement of the different types of rural area, which exist, with particular reference to those areas using the key settlement for planning system, (Paul Cloke, 1979).

### 1.3.0. MEANING AND DEFINITIONS OF SETTLEMENTS:

Generally the human settlements are considered as points of population concentration. Etymologically the word finds its roots in the old English "Selt" (Seat) or "Setlan" (to place) and is not a specialized scientific term. It has as many as eleven meanings (Chambers's -1961) of which two important from geographer's point of view, "a settled colony" (Group of houses where people dwell) and "the act of setting" (forming a permanent residence). But as is evident from Stone's review, the term has been employed to mean several things in geographical literatures.

However the human settlements are classified as Urban and Rural on the basis of Socio-Economic characteristics, Occupational Structure, Way of life and Population Size etc. The definitions given by some of the scholars shed light on the meaning of settlements.

According to Brunches (1952) "Settlement is the topographic expression of the grouping and arrangement of two fundamental elements, houses, and highways." In his statement three things appear to be dominant in defining a settlement viz, topographic expression this means the settlements as a physical entity houses i.e., dwelling for man, highways this appears to a network system for movement of people. This also shows that Brunches observed such settlements which are / were connected by major roads. Dicken and Pitts said, "Settlement refers to the grouping of people and houses into hamlets, village's towns, and cities." Daniel,P & Hopkinson.M.

Stated that "A settlement as a place which people inhabit and where they carry on a variety of activities: Trade, Manufacturing, Defense and so forth. This study of settlement will touch upon almost all aspects of human social and economic activities." According to Finch.V.C. (1977) Settlement means "The units representing an organized colony of human beings together with the buildings in which they live or that they otherwise use and the paths and streets over which they travel". According to Haggett.P(1965) "Settlement are the concrete expression of human occupation of the earth's surface." That means man is engaging various occupations like Agriculture, Timbering, Fishing, Mining, Health, Transportation, Commerce etc, to full his needs, these are all the activities are taking place on the earth's surface. Muller - Wille, W (1954) stated that " A settlement might be any human overnight area whether it be that of unspecialized hunter and gatherer whose family is huddled, around a camp fire and perhaps sleeps in a rock niche or under a lean-to or the longer - used dwelling spot of a nomadic herdsman house of any city dweller." According to Rubenstein, J.M. (1990) "Settlement refers to a permanent occupation of a site by group of individuals." Stone.H.K. (1965) stated that "Settlement is defined as the place where one person or more dwellers regularly or the act of establishing a permanent residence." Rechtthofen.F(1908) defined that "Settlement as the natural manner in which man established himself on the earth's surface." According to Singh.R.L. "Settlement is the occupancy unit representing an organized colony of

human beings starting from simple and sedentary camp of a hunter or herder and culminating into metropolis which exhibits highly complex features and spatial patterns." According to Sumith Gosh (2003) "Settlement as a collection of man - made structures, put up with the intention of habitation or Social / Economic use which forms a spatial unit for human interaction." According to Trewarthe.F & Hanmond. R (1942) Settlements refers to the "Characteristic grouping of population into occupancy units together with the facilities in the form of houses and streets which serve the inhabitants".

In general the rural settlements are the settlements "which consist the activities like hunting and gathering, shifting cultivation and traditional farmers." Particular forms of rural settlement are associated with each of these activities ranging from the temporary dwellings of hunters to long lasting villages of farming communities. (Stoddard.R.H.-1986). though the rural settlement has been important form of the settlement fabric of each and every country of the world from the ancient time. A rural settlement is often been called an "Agricultural Workshop"

Numbers of scholars have defined the term rural settlements in different ways. R.B.Mandal (1989) stated that "The grouping and arrangement of houses in rural area is known as the rural settlement." Rubenstein.J.M.(1990) said, that "The settlements which have agriculture as the predominant occupation are called rural settlements." In his view Agriculture, i.e. Primary economic activity is the dominant factor in rural



settlements. Rather than secondary i.e. Industries, and tertiary activities i.e., Transportation, Communication, Recreation.etc, According to Webberley(1972) "Settlement of the rural areas is a sign of extensive use of land, or it may be extensive of the city resulting from the development of the commuter train and the private motor car."

Though scholars have given a number of definitions, still no universally acceptable definition has so far emerged. It may be noticed that the definition of rural settlement varies from country to country. For Ex: - In England the distinction is based on population size, a hamlet being smaller than a village. Any settlement below the population of 1000 is considered as rural settlements, in Australia (1971) and in Canada (1971) while in USA (1971) the village is an unincorporated settlement unit with a population of 2500.

In India the term rural settlement is usually regarded as the revenue "Mauza" as defined in 1961 census. The current term rural settlement (1971 Census) generally follows the limits of a revenue village, which has a definite surveyed boundary, and each village is a separate administrative unit with separate village accounts. It may have one or more hamlets, each bearing a different name. Thus village is merely that tract of lands inhabited or not which has been demarcated as a unit for revenue purpose.

#### 1.4.0 RURAL SETTLEMENT SYSTEM IN THE WORLD:

The settlement system and pattern relatively varies in the different parts of the world. According to the study carried out by R.B.Mandal in his book 'Introduction to rural settlements' (2001). The distribution and type pattern of rural settlements in different parts of the world is as given in the following table.

**Table No: 1.1**

**Distribution of Rural Settlements in the World**

Continent	Number of Villages	Settlement Types	Patterns
Asia	15,00,000	Compact	Rectangular
North America	3,00,000	Dispersed	Farmstead
South America	5,00,000	Semi - Sprinkled	Amorphous
Europe	9,00,000	Semi - Compact	Square / Rectangular
Africa	10,00,000	Semi - Sprinkled	Liners
Australia	1,00,000	Semi - Sprinkled	Amorphous

**Source:** Compiled by R.B.Mandal, 1993.

In Asian countries, the Scattered or Dispersed settlement predominates in the South and East of Altai mountain ranges, in Russian Turkistan, Sikiang, China Mongolia, and Tibet. Dispersion is also prevalent in peninsular India, the hills of Burma and Pakistan and throughout the

mountainous belts of Baluchistan, Iraq and Iran. In Southern Arabia human settlement tends to be concentrated on or close to the coast, in the border valleys and valley beaches where water and good soil are available.

In connection with European countries, According to Houston, the dispersed settlement predominated in the "Northern Belgium, the lower Rhine plain, most of the Netherland, the high palteaux of central Germany and throughout the mountainous belts of the Carpanthians, Alps, Pyrenees, Cantabrian ranges, Apennines and Balkans." In case of Mediterranean region scattered over the Southern slopes of the Sierra Nevada are not usually found above the upper boundary of the live, and although here and there in Sicily large towns at considerable heights do exist. Dispersed settlements are also found in Scotland, Ireland, and Wales.

Along with the places mentioned above the dispersed type of rural settlement are also found in the places like United States, Canada, Australia, Newzeland, Western France, Southern Portugal, Argentina, Urugeay, Northern Manchuria, Szechwan Province of China, and small areas in the highlands of Mexico, Costa Rica, and Western Panama, and low lands of Venezuela and Colombia. In Japan the majority of population resides in rural settlements but due to increased influence of Industrialization they may be called urbanized villages, because shop is located in one corner of the house, in the plains of Kwanto and Ishikari nucleated rural settlement is found but on the slope of mountains settlements are found in a terraced fashion. On the Western mountains of Honsu and Hakaido dispersed rural settlements is found.

In Compact or Clustered or Agglomerated settlements the houses are close together. Such settlements are found where there are level plains, ample water, plenty of means of transport and where life and property are safe. But on contrary, even in places where life and property is safe and vast agricultural land is available; there are more of dispersed settlements than compact ones. Agglomerated or Clustered settlements predominate in Latin America, most of Asia, and the part of USSR. In the agricultural tracts of Italy Compact settlements are found since long. A mixture of the two types is found in Europe. Agglomerated settlements are found in very few areas of United States of Canada primarily in the Mormon villages in Utah. (See table no.1).

#### **1.5.0. RURAL SETTLEMENT SYSTEM IN INDIA:**

Rural Settlements in Northeast India are arranged in a remarkable variety of forms and patterns. These are related to marked changes in physical geography within relatively short distances and to successive movements of people from different parts of India and adjoining countries since time immemorial.

A study of toposheets supplemented by personal fieldwork has revealed that the plan of the villages has been mostly adjusted to the relief features of the region, some are along the edges of the hill slopes and others developed on different sites of the hills. Thus in the selection of sites, man is

usually guided by some attractive and restrictive forces of nature and among the physical elements the role of rivers and mountain streams in the distribution of settlements is most significant.

The physical factors are not alone sufficient to explain the patterns of rural settlements. Economic factors like markets, village cart - tracks, footpaths, roads and railways have also mattered to self - sufficient village communities.

In the light of historical analysis of the growth of settlements, various geographical factors and their regional effects, four systems of rural settlements are recognized, viz, a) Indigenous system in the plains, b) Tribal system in the hills, c) Immigrant system and d) Estate latifundium system. In the highly dissected plateau of Kashi and Jaintia hills, geological, topographical and micro - climatic conditions have exerted their influence on the distribution and sitting of settlements besides cultural and historical factors. The complexity of structure, terrain, and drainage has caused relatively uneven distribution of settlements. The rugged areas of the plateau possess more uneven or irregular distribution of settlements. While the relatively flat area (The central part of Khasi hills and northern part of Jaintia hills), shows more or less even distribution of settlements. In the more dissected and uneven areas settlement grew only on small plains adjacent to river basins, while the scarps, steep slopes, divides and ridges remained forest covered. In the rugged areas it is seen, isolated hamlet or isolated

homestead associated with isolated patchy agricultural land. On the other hand in the relatively flat plains and tablelands, Semi - Compact fragmented and dispersed settlements are seen. Though a number of roadside linear settlements have been evolved through time along the national Highway. The hilly and highly dissected area (the Western part) of the plateau is dotted with widely spaced small villages and isolated hamlet. The eastern part of the plateau has relatively gentle slope than the Southern scarp. A large number of large size settlements with permanent agricultural land along the river valleys as well as along the National and State highways are a marked characteristic of this part of the plateau.

In Kashi and Jaintai hills there is a wide variation of rural settlement distribution. The Western part of Kashi hills district thinly settlements indicating a Dispersed or Random distribution. The settlements found here are mainly in hamlet and isolated house form. This part of Kashi hills is thickly forested and the terrain is very much dissected, with a number of large and small streams flowing north and southwards. Settlements are located near the streams and on the hill slopes. The central plateau is thickly settled with Compact and Semi - Compact settlement pattern. The important settlements found in this region are Mairang, Nonghwlew, lawbyrtun, Marngar, Mawthapdoh, and Jakrem Nongspung, Mawphlang, Myllem, Llaithngkot, Smith, Barapani, Shrynstaw and Thynrott etc. The northern part of Kashi hills is showing two distinct areas of settlement

distribution, one east of the Shilling - Gauhati road and the other, west of the Shillong Gauhati road, here settlements are found in Compact as well as Semi - Compact pattern. In some places, settlements are evenly distributed. The most important settlements are Nongkhraw, Umla, Mawhati, Umtnga, Mawsopah, Mwkynring, Lumsynteng, Umroi, and Bhoilymbong etc.. On the other hand, towards the Western part of Shilong - Gauhati road, settlements are found Scattered and isolated farmstead predominates. The Southern parts of Khasi hills (around Mawsynram and Chirapunjee area and Umngi, Umiew river basin) represent a dissected topography with narrow valleys and gorges. In this part the settlements are evenly distributed. In some places, one finds Compact settlements most of the settlements are found along the river valleys and steep slopes, for Ex: - Nongshyluit Nongstein, Umblai, Theidding, Mawphu village are located along the steep of the Umiew river valley.

The settlement of Khasi and Jaintia hills are found more or less in Compact form in comparison to the Western and North - Western parts of Khasi hills. This is because most of the settlement sites chosen in Jaintia hills are near the springs. In the Ganga - Yamuna Doab area, owing to its level topography, fertile soils, adequate irrigational facilities, and well developed system of transport and communication has given rise to almost uniform distributional patterns of rural settlements, but locally this uniformity is broken by the varying physico - cultural factors like variation in local relief,

sources of water supply, drainage pattern, soil characteristics, pattern of land use, land tenure, crop combination, transport accessibility, social attributes and population density etc.,

#### **1.6.0. CHARACTERISTICS OF RURAL SETTLEMENTS:**

Rural settlements have a much longer history of development than urban settlements, and so their human characteristics have a much deeper foundation. These characteristics include demography, way of life, intellectual outlook, environmental perception, aspects of behaviors, and sociological interaction are the direct result of man's long and involved relationship with his surrounding and they represent the most natural and human conditions.

Unlike Urban, Industrial, and Scientific settlements is the one aspect of modern human existence that maintains a link with earliest history. Modern technological and consumer settlement stem from human advances within the last hundred years. Only rural settlement has origins in prehistory since it, alone, is solely based on primary activity.

For these reasons, rural settlement is essentially different from any other form of settlement. This is true all over the world, in both developed and less developed areas, and it can be seen in any comparative study of behavioral patterns in town and country. In general the essential characteristics of the rural way of life are marked by conservatism, stability, introversion, and phlegmatism.



Compared with other settlements, rural settlement tends to be slower, calmer, quieter, and less stressful. Such characteristics can be seen in many economic, sociological, and geographical aspects. In country districts, people tend to be healthier and to live longer. They are less mobile (Occupationally and spatially) more superstitious and traditional, more introvert and suspicious of strangers, and more wary of change and progress. They tend to have closer horizons and a narrower view of world affairs.

Rural settlement is purely residential, and shops are few and far between the villagers getting their supplies at the periodical, weekly or biweekly markets (hats or pants) or the fair (mela) to which people flock in from the neighborhood. In this respect rural India is not unlike mediaeval England, where nearly all selling and buying took place at weekly markets or annual fairs. We see that in India, as in all countries, society is arranged in strata, which are based upon differences of social or political importance, or of occupation. Each society expects men and women to behave differently, what men do is one thing; what women do is another. In rural society, there is a sharp line between men's work and women's work and in the respective attitudes of the sexes towards their work.

Most of the rural settlements of the world are stable and permanent. The rural are dominated by open countryside extensive land uses relatively low population densities and simple mode of life dominates the rural areas. It is often supposed as opposite to urban. Most of the world settlements are rural.

### 1.7.0. FUNCTIONS OF RURAL SETTLEMENTS:

The people living in the rural areas all over the world are engaged and dependent on various primary occupations, viz, agriculture, fisheries, forestry, and mining. Out of these, agriculture is the most important occupation. Consequently, the functions of most of the peoples of rural settlements are generally agricultural. Apart from cultivation of crops and domestication of animals the rural settlements perform other functions. Its religious place - Mosque, Temple, Gurdwaara or Church - with one or two shops is a center of religious and social activities. The village panchayats (in India) and village councils in other countries perform some administrative and judicial functions. In the socialist countries like Russia, North Korea, and China, the village councils decide when certain crops should be sown, irrigated, or harvested. In the rural settlements where fishermen live, the main activity is fishing. The fishing villages are sited on rivers, lakes and sea - coasts and the people look to the water rather than the land to get their livelihood. Although the main occupation of these villages is fishing but this may be combined with some agricultural activity.

There are numerous rural settlements in the forest areas, which the dominant economic activity is gathering of forest products and lumbering. Such villages are generally small in size and may be found in the Taiga region, forest areas of the Sub-Himalayan region and hilly tracts like North-East India. In the forests where lumbering is on a large scale and timber industry has developed, Urban rather than rural settlements are more usual.

The fishing, mining or lumbering villages are like agricultural settlements in which there are a few shops and some small - scale administrative functions, but they differ from towns, as do all villages in the relatively narrow range of their activities and their lack of commercial and industrial development. Along with these functions, dairying will become an important economic activity in all most all parts of the country.

Generally villages function as small trade centers. They are necessarily exporting their surplus products, which need an efficient means of transport and trading facilities in the nearby areas for the movement of goods and people. Nowadays, the increases in communication, electric power, and machineries in each and every field besides the rise in education have brought many small rural settlements for greater contact, interactions, and increased trade. As the immediate surrounding is instrumental in agricultural production, hence the settlements function as the linking thread in between inhabitants and the fields, water site, natural environment, gardens, markets neighboring villages, and in combination together give a million of ethnic and professional groups.

The house as a human settlement is a place of social exchange and sometimes spending leisure hours. In rural areas, the courtyard has multiple use and functions on different occasions of festivals, ceremonials and even in day - today life. Hence the house is a place of rest, discussion and for receiving visitors. It is also the privileged space of family and social cohesion.

The habitation is also a place of greater or lesser convenience, providing for Example. Drinking water, lighting smoke outlet, elimination of mosquitoes and other insects, etc, such considerations are probably as important as kinds of materials used or the interior arrangement, which does not imply that the disposition of one room to another, or of the house in relation to its outbuilding is unimportant.

Rural settlement also performs a pedagogic function. First of all, the village and habitation are for many people miniature reproductions of what a give group considers as an ideal environment. Thus through the rural habitation we can grasp the esthetic and cultural manifestation of rural inhabitants.

#### **1.8.0. TYPES AND PATTERNS OF RURAL SETTLEMENTS:**

##### **1.8.1. Types of rural settlements:**

Upon a glance on the topography of the world we find that there are wide variations in the patterns of settlements. Broadly, these may be grouped into two - types, the First is Nucleated or Agglomerated or Clustered or Compact, and the Second is Dispersed or Isolated or Scattered, ( In Asia and Europe the wide range of types indicated that there are many variations from these two main types of settlement). In parts where farming is carried on with machines, as in Europe and America, the rural colonies are sparse, and in Asian countries rural settlements are found in nucleated forms.

Types and patterns are the term find place in a geographical literature, particularly in rural settlement geography, eyeing various meanings, some times as synonymous, at others interchangeable and yet other as one being element / part of the other. But actually, these are neither of them. Let us see a few examples. Finch and Trewartha refer to two primary types of settlements a) The Isolated or Dispersed and b) The Nucleated. Hudson says that the major patterns in rural areas then are either a) Nucleated or b) Dispersed.

#### **1.8.2. Pattern of Settlements:**

Pattern of settlement has been defined by Emrys Jones, as the relationship between one house or building and another and to isolate this relationship he refers to a large scale map. He thinks that often pattern is unrelated to site and site may have little or no bearing on pattern. But Finch and Trewartha attributes the contrasts in the arrangement of streets and houses, i.e., patterns, to the site as well as historical causes. Thus identifying factors are clear 1) Pattern refers to geometric and shape of the settlement which may be of different types and 2) the latter refers to relationship of number of dwelling and number of sites. It is the analysis of patterns, which brings before us various classified types of settlement with various shapes and forms.

The first report of the commission on types of rural settlements published by the International Geographical Union in 1928 recognized only two types of settlements, compact and dispersed. This classification has been recognized universally by now. Several generalized classifications have been attempted by different authors, but no general laws, covering these generalizations, have been formulated as yet. Types express the relationship between the number of houses and the number of sites. Theoretically, there can be only two extreme types of rural settlements the agglomerate and the dispersed. The classification made by others include the following Ex: - Money.D.C.in his book "Introduction to Human Geography" broadly classifies as

- i) The single large nucleated settlement
- ii) Hamlets scattered throughout the countryside
- iii) Single homesteads.

Enayat Ahmed classified into four types 1) Compact 2) Cluster and Hamlet types 3) Fragmented or Hamleted 4) Dispersed settlement.

Singh.R.C. Describes four main types 1) Compact Settlements 2) Semi - Compact or Hamleted cluster, 3) Semi - Sprinkled or Fragmented or Hemleted settlements and 4) Sprinkled or Dispersed type.

Settlements can also be classified by their types, pattern or Shape (Design), the major types of settlements are;

1. Compact or Nucleated or Clustered Settlements
2. Semi - Compact or Semi - Nucleated
3. Dispersed Settlements

#### **1.9.0. FACTORS INFLUENCING THE SETTLEMENT SYSTEM:**

There are several factors responsible for the uneven distribution of settlement in the world. All the factors, which more or less control the unequal distribution of settlement over the surface of the world, can be studied under two heads.

##### **1.9.1. Ecological Factors:**

Ecological groupings of settlements with similar of interrelated human factor attributes are dependent upon the operation of human forces. Those factors affecting the patterns of settlements include the relief, soil conditions, climate, and water supplies etc, these are the ecological forces that conditioned the mode of life of human settlements, which in turn are manifested in the habitat, which they inherit and transform.

##### **1.9.2. Non Ecological Factors:**

These reflect what Preston James has often called the "attitudes, objectives, and technical abilities of persons. The non - ecological factors fall into three categories." Economic, Cultural and Political such as defence and agricultural systems.

##### **1. Ecological Factors :**

The following Ecological factors were influencing on the settlement system.

### **A) Relief Features of the Earth:**

Among the ecological factors, influencing the settlement, relief occupies a prominent place. Vidal - de - La Blache noted that nucleation was most apparent in areas where the area of arable was continuous enough to permit uniform abrasion - practice. Dispersed settlement was more often associated with broken relief in mountainous areas. "The scattered manner of grouping suits localities where as a result of the dissection of relief, soil, and hydrography. The arable land is itself divided up."

The influence exerted on settlement by the landform is partly direct and partly indirect. The relief of the land exercises a direct influence is that of elevation and landforms on settlements. It is well known that settlement in the world virtually ceases at certain elevation above 1800 meters are reached. In fact it may be that in the mountainous areas of the world, where relief of the land and geological structure present obstacles of human settlement and development and where the disadvantages of configuration are reinforced by disadvantages of climate, soil etc., human activities have resulted in discontinuous cultivation and settlement.

### **B) Geological Structure:**

Associated with relief, another important series of factors, which greatly influence the settlement, and often the population, are those, which are associated with its geological structure. The direct influence of geological



structure of the world on settlement is primarily, through the deposition of minerals of economic importance. (Minerals attract) settlement and population are attracted by the places, which are having minerals. Ex: - The areas of gold mines of Australia and Peninsular India. In the mining areas of Alaska and Greenland the settlement pattern resemble that of temporary rather than that of permanent settlements.

### **C) Soil Conditions:**

Soil conditions are now recognized to be one of the most important series of factors in the distribution of settlement. The sterile laterite soil is fairly common in the areas occupied by the Deccan traps and some Achaean gneiss, particularly in the Western Ghat of Karnataka and Kerala. There is no doubt, however, that these belts of poor sterile laterite soil have been zones of negative influence upon human establishments.

### **D) Settlement in relation to Water:**

One of the greatest problems of large human settlement is that of water supply. Thus from its simplest to its most extensive from its human dwelling must be always closely connected with a certain quality of water. According to Jean Brunches, "There is no house or human habitation in the building of which man has not had to take into account the proximity of water. The smallest chalet (temporary hut type houses) in the mountains is situated primarily near a streamlet or a spring, and a village has of necessity its spring

of well. In countries where the climatic conditions include a longer or shorter dry period, the roofs and terraces are so constructed as to collect all the rainwater in tanks."

Scarcity of water limits settlement in many parts of the world. But most rivers, springs, and river terraces provide opportunity of dense settlement. Thus, the Nile Valley is one of the Egypt's most densely settled areas in Europe the part of the Rhine near Ruhr industrial region has thousands of people, in North America, the St. Lawrence valley is not only the boundary between Canada and USA but it is densely settled as well and in China the Hwang Ho Valley contains many of the people living on the densely populated region.

In temperate and in hot desert of Africa and Arabia, permanent settlement mostly depends on water supply, and the population generally wells in scattered villages or small hamlets whose site is determined by the accessibility to reliable and available supplies of water. The actual distribution of settlement is clearly associated with ecological factors, particularly rainfall, underground water resources, and land formation. In Arabia and Sahara, settlement is mostly confined to desert oases that are separated by vast sparsely inhabited expanses. Settlements are generally small. Water is important for both man and animals and human settlements are found either near streams or where water can be easily obtained.

### 1.9.2. NON ECOLOGICAL FACTORS:

The pattern of settlement of the world is mainly influenced by the ecological as well as cultural features of the region. "Human establishments have felt their attraction and have concentrated in such places like coasts whose colonies." According to Blache (Blache.1952) "do not extend outside of certain zones. Because they are so close together they are mutually dependent, finding the proximity a guarantee of safety in time of trouble." Among the non-ecological factors, defence has played an important role, especially in areas recently liable to invasion.