Chapter I

Meaning and Development of Human Settlement

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Chapter I

Meaning and Development of Human Settlement

1.1 Introduction

Population Geography is one of the branch of human Geography. Geography has made valuable contribution towards the understanding of spatio-temporal patterns of population. The study of population distribution has been the focus of human Geographers, since long population and associated problems have been studied in the population geography. The Arthus geddes sighted the growing awareness among Geographers about the significance of population studies in Geography. Population developed relatively rapidly after the second world war. Settlements are the man- made habitats on the earth’s surface and these settlement units depict distinctive forms of the Cultural landscape. Habitats are a colonized by human beings in an organised manner where they work resides and store. Lanes by Lanes foot paths tracks, streets and roads expedite movements both men and materials. The term settlement refers to humanization of the natural landscape by man. As such settlement may be defined as cluster of house at a convenient site with very little planning. Habitats along with the street patterns are relatively permanent and become elements of the landscape which man has superimposed on the natural landscape of a certain region.

The study of settlement is a recent most sprout from the vulnerable trunk of Human Geography. Geographic thoughts have spread and spanned around the different settlements over the globe. Early geographers like Thucydides, Polybus and Strabo were not mistaken in observing ancient cities as the symbol and explicit evidence of a superior civilization. They have also pointed out the contrasts presented by the people living in towns and tiny
villages. The systematic development of settlement as a scientific discipline started after the first world war. Some important works have been published particularly pertaining to urban settlement which have facilitated the present attempt at defining the field classifying the facts and elucidating the concepts of settlements.

Broadly speaking settlements deals with the facilities developed in the process of human occupancy of the land and their grouping. The nature and distribution of these facilities are related to the art and mode of living on the one hand and on the other, to such physical factors as water supply, slopes, forests and swamps, these are designed and grouped to serve specific purposes and as such carry functional meanings. Houses and highways the two fundamental facts of human geography are the fundamental facilities and settlements are topographic expression of their grouping of arrangements, settlements. Thus cover the entire hierarchy from rural to urban settlement and from nomadic to sedentary. It concerns not only with the buildings grouped around the permanent forms of dwellings but also with the temporary camps of the hunters of herders or with settlement clusters of agglomerations, running the scale from hamlet to village to town to city and to metropolis.

In the post world war II period this branch of the discipline of Geography has undergone a remarkable transformation both in its content of study and research as well as its approaches and methodology. There has been almost a revolution in the field of general information, ideas and concepts as well as intellectual awareness and the applied aspects of the results. As a result there has been a great branching off in the discipline of Geography of all the areas of studies settlement Geography has had a much more conceptual and empirical revolution, however in this particular field. Urban Geography has really come of age and both in field of theoretical construction and
approaches the Geography of Rural settlements has been comparatively lagging far behind however there is a growing interest in the field of rural settlement and more regions on our globe.

The geographical study of rural settlements in Modern context begin with Ritters work in the early nineteenth century. His theme of interdependence among the elements of landscape gave a broad base to early settlement Geography, which included studies of Such phenomena as rural house types, settlement patterns and colonization as the results of complex man-land relationship in context to rural landscape features give rise to different ways of rural life in different cultural areas.

Demangeon was the first geographer who raised the issue of the establishment of a separate commission for rural settlement Geography in I.G.U. general meeting in 1932. Thus finally a commission was established but after his death the commission got abolished. After a long gap again in Delhi venue of the list international Geographical congress (1968) a full commission on ‘Rural Settlement in monsoon Asia’ was established. As a result of the success of the works and publications in first tenure (1968-72) and growing enthusiasm from the scholars all over the world, the commission has been redesigned as the commission on Rural settlements in monsoon Lands under the extended Chairmanship of professor R. L. Singh Rural settlements constituting essential parts of the cultural landscape basically concern with study of occupancy features distributed over space. The real meaning of rural settlement Geography is attached to the cultural landscape developed by men in the process of occupancy, stone ¹ postulated a more restricted definition of rural settlement geography as the description and analysis of the distribution of buildings by which people attach themselves to the land for the purpose of primary production.” This definition amounts to
the exclusion of an examination of such phenomena as building materials styles. Land use and fence types etc while these elements form some of the significant parts of rural settlement geography. The narrow views of stone have been challenged by Jordan\(^2\) who defined the subject as the study of the form of the cultural landscape involving its orderly description and attempted explanation\(^7\). In a more precise way rural settlement geography concerns with the orderly description and interpretation processes, patterning functions and spatial organization of human occupancy with in rural environments over the earth’s surface, In fact other branches of geography the core concern of rural settlement geography is space and sequent occupancy. This approach concerns with the form function and genesis parallel to that of geomorphologic structure process and stage\(^3\).

1.2 Human Settlement System:

Geography is integrating concepts and processes concern the worldwide ecosystem of which man is the dominant part\(^4\) man in the context of geographical man-machine analogy is composed of a complex of interlocking socio-economic systems which operate on the above machine by means of decision making mechanisms of great complexity and bias, not without their own important stochastic elements \(^5\). In the geographical context the machine is made up of those systems structure of the physical and geological environment which man is increasingly able to manipulate together with the physical artifacts of man’s activity buildings, lakes, polluted air and the like\(^6\). The same notion is obvious from the writings of Blache \(^7\) when he suggests that the phenomena of human geography are related to terrestrial unity by means of which alone they can be explained Bruhnes also emphasized interrelationships between man and environment with in some
complex system. Thus the notion of a system is not new to geographic thought. It is easy to identify elements of system thinking in the work of geographers such as Ritter 8 vidal de la Blache, Bruhnes and Sauer 9 etc. Now a day any suggestion concern with restricting of geography and its need increase its relevance with respect to current environmental problems involves by all means, the application of some measure of systems analysis. **But the concept of system has tended to remain on the periphery of geographic thought rather than at its very center.** A number of recent publication during the second half of twentieth century have discussed the virtues of system approach and efforts have also been made to define it as a set of objects together with relationship between those objects and their attributes 10. Thus a system is an object 11 of study which is made up of a number of interrelated components Geographers Grewed the plant ecologists concept of ecosystem which was explained through models by Gimmingham, Odum, Word Fitz-Patrick, Wilson and others 12. Tansley and stoddart developed the ecosystem concept and claimed that it is monistic structured and also that it functions and a type of general system. To take a Geographical example the system involves not only the frame work of the communication net but also the goods and people flowing through it, once the framework has been defined it may be possible to quantify the interactions and interchanges between the components parts and at least in simple ecosystem the whole complex may be quantitatively defined13. While Dice 14 suggested the concept of human ecosystem at successively larger scale in terms i.e. tribe, homestead, village, town, city National and international levels many geographers have implied that man in society might be viewed as forming part of a complex ecosystem. Chorley status in clear terms that geographers might temper their preoccupation with the ecological types of model in favor
of the application of that of the control system so that adapting Glacken's terminology "God's design have been replaced by nature's design" may be in turn supplanted by man's design. 15 Berry rightly concludes Geography's integrating concepts and processes concern the world wide ecosystem of which man is the dominant part 16 Wolden-burg and Berry 17 also used system concepts to analyze central place and river patterns curry. 18 on the other hand attempted to analyze settlement location in a system framework. Haggett's account of location analysis. 19 Well demonstrates the use of systems approach to study spatial organization which are actually mega system of "man society and environment" 20.

Weavers 21 classified systems into three types the third being of organized complexity which is well reflected through human settlement. These settlement not only show multi relational dimensions structurally but also exhibit variation in behavior boundaries environment state or condition and parameters as a whole.

1.3 Definition scope and approaches:
During his adoption with the environment man came in close contact to various environmental features and this reaction brought forth changes in his physical landscape. These changes are identified as cultural landscape and present mans relation to man upon earth. The author agrees with the American Philosopher who Philosopher who Philosophizes over geography that more than an inventory of man and things geography at heart is a concern to depict man's relation to man upon earth as though earth were his home 22. In a geographer word . It is a way of under standing man in a matrix of human and physical relation ship and interrelationships 23. These in the inter relationship are best expressed through the settlement which are concrete
expression of human occupancies of the earth's Surface. If human geography which depicts the interrelationships may be defined as the study of "who gets what where and how." The settlement geography is concern which who build settlements where and how. In the present context 'who' means the man a part of the terrestrial space, along with the way he has historically emerged and the process through which he has observed the divers waves of races cultures and technologies. Simply means the act of construction by putting parts of materials together as well as the style of construction related to the house and other facilities attached to it. Inhabit points towards the occupancies of such houses settlement means the settlement units representing an organized settlement means the settlement 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. Where focus immediate attention on the most sensible subdivision of territory for the purpose of investigate in. how requires the identification and understanding of the structure process and casual mechanisms at work leading to particular pattern of who build settlements where. Thus the discipline covers the entire hierarchy from rural to urban settlement from nomadic to sedentary. It is concerned not only with the buildings grouped around the permanent farm dwelling but also with the temporary camp of the hunter or herder or with settlement clusters or agglomerations, running the scale from hamlet to village, to town, to city and to metropolis.

During the sixties stone suggested that geography of rural settlements be defined as the description and analysis of the distribution of buildings by which people attach themselves to the land for purpose of primary production. But he existed some significant constituent like building materials, are hetaetural styles land use and fence types. A year after his ideas were
challenges by Jordon who wrote on the nature of settlement geography and defined settlement geography as the study of the form of the cultural landscape involving its orderly description and attempted explanation later on he emphasized three aspects of the cultural landscape (1) the settlement Patterns or distribution of Farmstead (2) the field patterns of the forms resulting from division of land for productive use and (3) house and farmstead types including the building materials and folk architecture. As referred to above the Gernal word siedlung does indicates the process of human occupancy as well as its arrangement and groupings.

Chatterjee’s view is that the settlement geography deals with the size, form and function of settlements built up by man and traces their historic growth. Various significant aspects of the study have also been emphasized by him, viz rural houses and architectural styles, relationship between rural settlements on the land and roads farms and field pattern on the other type of rural settlement and their origins, rural settlements a service centers, pioneer settlements and morphological and regional character of rural settlements. These definition add new vista to the rural settlement geography and it is clear that the core concern of rural settlement geography is space and sequent occupancy. A definition incorporating both the themes in best possible way is that rural settlement geography is concerned with the orderly description and interpretation of processes patterning, functions, and the spatial organization of human occupancy with in rural environment over the earth surface."

1.4 Aims, Objectives and Approach.

Orientation to a systematic approach has taken significant position in any scientific inquirer. In fact it has become the basic and fundamental need of any attempt of research in any discipline. As such there have been revolution in the research methods and approaches to great extent tools and
approaches. These methods and approaches to great extent serve the purpose. The main objectives of the present research is to study the forms and characteristics of rural settlement as attempt has been made to identify and measure three definable forms of rural settlement dispersion a) clustering b) randomness and c) uniformity. This study provides an example of the introduction of house as variable for identification of settlement dispersion. The village is selected as the unit of study to analyze the distribution pattern of house. An application of nearest neighbour measurement and Quadrature measurement Techniques has made to measure the forms of dispersion. The relative merits and demerits of the two techniques have been examined. The study further attempts to classify and describe rural settlement dispersion values in this study the emphasis has been made on settlement dispersion as an effect of dependent variable. As such the purpose of the study becomes to discover a set of explanatory variables to explain the observed areal variation in the settlement dispersion.

For the purpose of investigation of dispersion characteristics some villages have been selected on sampling basis. Houses have been mapped as points on the map. Clark and Evans first order nearest neighbour measurements statistics and quadrature measurement techniques have been treated as dependent variable and five independent variables like water level, irrigated land, agricultural labours, literacy and scheduled castes population have been treated as independent variables. Karl pears one's coefficient of correlation method and regression methods have been used to find out the nature of relationship between and independent variables.

The following objectives have been fruitful in the present study.

1) To examine the determines of settlement and factors affecting on types and distribution of settlement in study region.
2) To study the settlement pattern of the study region and find out the 
geographical factors associated with these aspects.

3) To describes the classification or rural settlements based on different 
indices of local and regional scale describe earlier.

4) To study the rural settlements are usually classified in to two 
distinctive types compact and dispersed with several intermediate stages.

5) Shape and patterns are both important aspects of settlement dispersion.

6) To make in depth study of three sample villages in each 
Tashil of the study region to identify the level of settlement development.

7) To prepare a suitable plan and strategy for worth while development of 
settlement of the study region.

**Following are the main Approaches**

a) Approaches to rural settlement Geography.

I) Relation to rural settlement geography.

II) Field survey and first hand observation and data collection.

III) Pioneer settlement areas and their problems and

IV) sequence of occupance neolithic, bronze, iron, ages, ancients

   Medieval and modern periods.

b) Histogeriesis of rural settlements and settlement pattern.

I) Historic culture areas (various culture groups , mapping of their 
   occupancy units.)

II) System of land division proprietary grant system and water rights etc 
   and their relation to settlement growth patterns

III) Pioneer settlement areas and their problems and

IV) Sequence of occupance Neolithic, bronze, iron, ages, ancients

   Medieval and modern periods.

c) Basic regional types and patterns of rural settlements.
I) Relation of settlement types and patterns to various physical, ethnic and social factors and

II) Relation to system of agriculture water and soil management and land tenure theories of land use intensity zoning labour and input output costs etc marketing of products and other locational spatial theories.

d) Morphogenesis of Rural settlements.

various geomorphologic form pattern and their relation to various factors.

e) Functional pattern of Rural settlement.

I) Analysis of functional types of rural settlements methodology development etc.

II) Functional analysis of service villages and service and trading centers hierarchy of such centers in relation to general central pace theory and

III) Rural seasonal migration, community pattern etc.

1.5 Data base and Methodology:

Methodology as a comprehensive term is a system of methods rules and techniques as well as a product of scientific enquire and research focusing on the Philosophical issue a subject searching for truth objectivity and explicitly and in the nature of things also bordering on imagination and speculation. It has been rightly remarked by late Prof. Schaofer\textsuperscript{28} that methodology proper deals with the position and scope of the field with in the total system of the sciences and with character and nature of its concepts quite naturally with the advancement of knowledge and research frontiers established or indicated methods or techniques are under constant stress of modification, change and even transformation or even total discard and rejection which after all according to Schaofer is a 'sign of good health' in a discipline.
Geography traditionally being the so-called mother of all science imbrues the spirit of 'give and take' of methodologies right now since many of its offspring have grown up in to more development full fledged sciences themselves, quite naturally it is taking more than it is giving settlement geography for instance has thrived on may of the methods developed in the mathematical, biological, natural and social sciences. Urban geography has become very important branch of knowledge in settlement geography. Rural settlement geography has been by comparison much weaker. Only a few methodological studies are available in the field of rural settlement geography. Suitable research method have been applied to analysis dispersion of settlements and others characteristics like functional attributes and relationship with physical and cultural conditions preventing in thus study area.

This study is based on primary as well as secondary data collected from different sources primary data will be collected from different sources. The field survey involved two method i.e. the sample survey method and observation method. The data for the village study were collected partly from the village records and partly through personal observation and questionnaires, would be admin started to collect information which is not available by secondary sources. The suitable cartography techniques would applied to present the pattern and distribution of settlement since single variable cannot explain the level of development and there fore this will be considered humorous factors which have influence on the pattern and general characteristics of settlement in the study region. To find out influence of certain factors, simple statistical method mean median mode, co-relation would be applied and level of settlement would be measured by applying statistical techniques i.e. component analysis The secondary data will be
collected from different sources mainly from the Government published records like district census Hand book Akola, Statistical hand book. Reports of socioeconomic abstract of Akola. The present research work district of Akola is a picturesque representative of multicultural settlement types in Maharashtra Agglom eration of cultural, social ecological, racial and many other human factors have caused diffusion and complexities in Akola district for the purpose of analytical investigation of dispersion characteristics of settlements in the in the research area. Three villages of each tahsil have been selected and gramps as clustered, random and regular settlement types have been mapped and first order nearest neighbour measurement technique and quadrature measurement techniques with ample modification suiting local conditions have been used to measure dispersion values. I have treated the dispersion values as dependent variable and selected five independent variable viz water level, irrigated land, agricultural labours literacy and scheduled castes as independent variables.

1.6 Pattern of Studies:

Research work in rural settlement Geography has developed in many direction. Numerous Geographical studies have been concerned with tracing the evolution of rural settlements through time and have drawn upon a wide range of evidence, Singh 29 analysed the origin and evolution of rural settlements in middle Ganga plain. In addition a beginning has how been made towards the elaboration of the theoretical models for the study of the expansion of settlement through time sequent occupancy and consequent transformation of the cultural landscape has been an important subject of research. The study of social and cultural history and spatial diffusion process provide clues to the dynamics of rural settlements.
Singh examined the territorial basis of medieval town and villages in a part of the Satpura plain presented a semi deterministic simulation modes to explain the volitionally processes of rural territorial and settlement pattern. Singh and Singh presented the pattern and processes of spatial diffusion of the Rajput clan settlement in a part of middle Ganga Valley Based on some case studied of the processes and pattern of civilization in the middle Ganga Valley. Singh traced the evolution of clam territorial units through land occupancy and pleaded for developing meaningful models for analysis of the origin and growth of clan oriented territorial units and their hierarchy orders in other region of the country.

Following above line of reasoning R. B. Singh studied Rajput Clan settlement in Varnasi district and Singh clan settlement in saran plain other examples of same research embodying aspects of diffusion clan settlement are Singh. Singh and Singh Attempts have also been made to study the size functions, architectural styles, building materials and house types of villages. The regionalization of house and building types through the statistical analysis is another achievement. The study of individual building soon added an examination of the relationship of one building to another of settlement pattern other studies have used size and shape of settlement in attempts to produce regional classification of settlement patterns. The study of the distribution of rural settlement has occupied important position and indices of measurements have been made to interpret the distributional pattern and the interrelationship. Adopting the conceptual frame of plantecology scholars have attempted to analyze settlement dispersion and finally classified them into different groups.
1.7 Types of Rural settlements:

The term type according to Ahmand \(^{34}\) signifies "The Characteristic grouping of rural dwelling in that well defined parcel of the ground which is known as Mauza." but this definition only in local consideration. In a regional framework the term type identifies the relationship between settlements with in space." this means that it symbolized a set of relatively homogenous units defined by specific criteria, various scholars have presented many possible methods for classifying human settlements in accordance with size, sitting functions time- prehistoric, ancient medieval villages. The present classification of rural settlements is based on different indices of local and regional scale described earlier in the context of the distribution of occupancy units with in space.

Rural settlements are usually classified in two distinctive types i.e. compact and dispersed with several intermediate stages. Former type is distinguished by clustering of all occupancy units at one place. While latter is identified by the scattering of occupancy units. Types is an important aspect of rural settlement. Its explanation depends upon many factors, physical factors play an important role in determining rural settlement types and forms in any region but Aurousseau expressed types and forms of rural settlement depends upon physical economic and social factors. Fowler \(^{35}\) studied the de-colonization of Libyan settlement and indicated how the rural inhabitants de-colonization are due physical factors were not studied at length of them and the existence or rural settlement may not take place unless it is supported by various physical factors.

Caste is the another factor influencing rural settlement types. It has affected the village communities in various ways Agglomeration and dispersion of habitations are also controlled by caste present in the village. The agglomerated settlements develop in areas having intensive farming and
scattered settlements grow in unproductive areas. The affluent people occupy
the hubs of settlements where as satellite habitations occupied by agricultural
labours like chamars, pasis, mushhars and dusadhs, smaller habitations are
known as ‘Tolas’ located generally with in half a kilometer of the principle
settlements, besides Tolas hamlets of the depressed and economically
backward people grow nearby their working place. This cause earlier studies
about settlement classification and dispersion are more descriptive and less
analytical. They deal with classification and Characteristics of rural settlement
dispersion. Two basic drawbacks which are reflected a) Subjective
classification of rural settlement dispersion and b) Lack of causal analysis.
The influences of physical economic and social factors on rural settlement
dispersion has not been measured quantitatively. Only a few of the published
research papers and books attempt have been made to explain the causal
factor affecting the rural settlement dispersion. The notion of cause and effect
has been extremely important in scientific investigation. The study of causes
and effect provides a powerful model for the analysis of geographical
problems. The formulation of causal laws may lead us to infer that causal
determinism is the only principle upon which we can obtain realistic
understanding of the world around us.

1.8 Study Area:

Considering the role of several cash crops like cotton, oil seeds fruit
garden on settlement dispersion the district of Akola has been taken into
consideration because this district has various forms of settlement dispersion
especially in the northern part. Akola district is located between 19°-15 north
latitudes to
21°-16 north latitudes and 76°-138 to 77°-144 East longitudes covers an area
of 10567 square kilometers before 1982 there were Akola, Akot, Murtijapur,
Magrulpir, Washim and Balapur tahsils in the district. After 1982 all tahsils
divided and 13 new tahsil came into existence i.e. Akola, Barshitakli, Akot, Telhara, Murtijapur, Karnja, Magrulpir, Manora, Washim, Malegaon, Risod, Balapur and Patur in 1991 there were 10 municipality 13 panchayat samitties, about 1574 villages were having human settlement, from 1st July 1998 Akola district was divided into Akola and Washim districts. Newly formed Washim covers tahsils like Washim, Karanja, Magrulpir, Manora, Risod and Malegaon tahsils. Another has considered 13 Tahsil for the study because these tahsils are having time series data from 1980-81 to 2004-05.

Secondary some part of satpuda range is located at northern part of the district and it is known as Gawilgad range. Central part is flat. Ajanta range is found in some part of Patur and Malegaon tahsils it means that Gawilgad range. Ajanta range are not favorable for agricultural activities. Thirdly, river Tapi is major river in the north therefore this river basin is known as Puranghat or Tapighat. Southern part of region is covered by Painganga river basin which is fertile region for agriculture. Purna river flows through Murtijapur Akola, Balapur, Tahsisl, Pendi, Katepurna Morhi, Nirguna, man are the tributaries of Purna, Painganga is having water through out the year. Fourthly, the climate of the district is uneven summer season is very hot some times. Temperature in summer goes up to 45°c to 50°c. In December temperature decrease up to 8°c to 10°c. The average rainfall is 750 to 1000 mn. It varies from place to place out of the total soil medium black soil cover 72.29 % area.

Fifthly there are four major projects nine medium and 160 minor projects in the district. Sixthly about 77.32 % total geographical area was under cultivation where as 6.92 % area was found under foresees in 1996-97.

Seventhly the road length of the study region was 6236.46 Kilometers where as Railway length was 244 km. in the study region. Lastly the
settlement pattern of rural areas are very different to each other. Due to the all consideration this district is selected for the study.

In this district scattered and sprinkled settlement are found. Higher costs growth of population and palicity of space in the parental villages cause migration around them and consequently hamleted settlement grow, social enigma have also helped hamlated settlements.

1.9 Rural Settlement Dispersion:

Rural settlement dispersion reflects the Physico-cultural effects that have contributed to the character of a particular landscape. Analysis and understanding of the spatial characteristics of settlement dispersion may help to promote the construction of settlement models. The term dispersion viewed as one dimensional characteristic of a spatial arrangement of points indicating villages. It may be defined as the degree of deviation of a set of points from random, relative to some delimited area. Dispersion is function of several factors including the processes of evolution the time lag. Changing socio-economic forces under the guidance of fast growing knowledge of science and technology and the application of the same towards adjustment pertinent quantifiable properties of dispersion are a) Agglomeration b) Haphazardness and c) uniformity. The former of settlement dispersion conveniently termed as compact semi compact and the dispersed depending on the inter dwelling space relationship and the degree of cohesion and compactness of homesteads.

Shape and patterns are both important aspects of settlement dispersion, shape is a two dimensional characteristic of a spatial arrangement. Geographical data are always enclosed in an area which is defined by a boundary Orzone of some kind and as a sequence it has a shape. Clarity in
boundary provide a definite shape and undefined boundary make the settlement amorphous.

Pattern should not be confused with shape. Pattern is characterised by separate geometrical properties. It is a zero dimensional characteristic of a spatial arrangement, which describes the spacing of a set of objects with respect to one another. It is not related to the size of area under consideration where as shape is the external form of settlement. It is the exact appearance, expression and proper conditioning of settlements. Complex processes of agglomeration haphazardness and regularity of dispersion require quantitative measurement. Application of quantitative measurement is made to measure the settlement dispersion processes and for determining the causal interrelationship.

1.10 Chapter Scheme:

The present study is organised in to seven chapters. The first chapter deals with the introduction of the study. In this chapter emphasis is given to the objectives, Approaches settlement and meaning and methodology of rural settlement Geography, study area. Database and pattern of settlement and chapter scheme review of literature In the second chapter an attempt has been made to focus the its physiography, drainage, climate, soil, vegetation. Third chapter agriculture, irrigation, population and rural settlements. The fourth chapter size, spacing, house types, rural services, centers and amenities of Rural settlement. The fifth chapter presence an account of the origin and evolution of rural settlement and their growth in different time period in the study area. The sixth chapter deals measurement and classification of settlement dispersion in sample villages and correlates between settlement dispersion value and selected independent variables. Five villages from each region have been selected for pattern of settlement. The last seventh chapter
presents the summary and conclusion of the work and emphasizing possible
direction for further research.

1.11 Review of Literature:

1. Demangeon (1920)\textsuperscript{36} emphasized the study of field ownership
cultivation, building materials, house types and the distribution of towns, rural
settlements and human habitations have been studied during the period of
second decade of twentieth century.

2. Bruhnes (1953)\textsuperscript{37} I his study has explained that houses and highways
are the two fundamental facilities and settlements are topographic expressions
of their groupings or arrangements. He also studied rural settlement
geography include the study of men, use of plants, an animal, to procure food
and clothing an economic area than the dwelling and of direct relationship
between economic area and the dwellings.

3. Kollmorgen and Jents (1951)\textsuperscript{38} have found a like pattern of rural
settlements developing in an area originally laid out on a rectangular pattern
in the wheat lands of western kansas. In this area main east west roads have
developed from three to eight miles apart and there are few north south roads
to connect them.

4. Hudson (1976)\textsuperscript{39} The work of handsome is directed towards the
introductory ideas of rural and urban habitations he has opened that just as an
economist is confronted with problems peculiar to marginal or submarginal
land regarding the possibilities of their economic utilization a geographer
approaches the pioneer fringe as places of potential or new settlement. The
pioneer traingeisa is a laboratory of exceptional scientific worth because there
human intelligence is pitted against extremes or unusual environment
conditions.
5. Mills (1972)⁴⁰ All most all studies on rural settlement in England put emphasis on house types villages morphology and field patterns. Recently he Studied and they have also classified the rural settlements on the basis of origin and their physical ad social form. He classified the villages as close and open villages on the basis of single ownership and multiple ownership respectively.

6. Garosaman(1971) of European has emphasize the theory of location of rural settlement with the process of the migration of people from one settlement to the other and he also presented his ideas of settlement diffusion in space through determination of models specially applied to the Lappland area of Sweden.

7. Deshpande (1942)⁴¹ has analysed types of settlement in Bombay Karnataka in relation to geographical factors and his study reveled that the site of rural settlements in drier was mainly determined by fresh water supply and that although relief and transport system did influence the pattern of settlement nature of agricultural operations also has decided influence especially where the field and the crop therein needed frequent attention as in kakan.

8. B.Mukharjee ⁴³(1947) has made a valuable contribution in her doctoral thesis on the changing settlements in the Hoogle region of the lower Ganga plain.

9. Ahmad (1948)⁴⁴ Ahemad’s doctoral thesis is a detailed study of settlements both rural and urban in the long settled fertile state of Uttar Pradesh. The rural settlements types and their regional distribution in Uttar Pradesh are analysed by him in one paper and the four cities of Uttar Pradesh have been studied in another paper. He describes the Indian village pattern
based largely in the study of 1 inch to topographical sheets. The rural and urban settlements have also been studied by him in his book on Bihar 1965.

10. Buschman (1954)\textsuperscript{45} has dealt with a number of topics of rural settlements in his exhaustive field study of settlement pattern and human types in different regions of India. A glance at his sketch map illustrating his paper exhibits that villages surrounded by wall are still to be found in Assam, Rajasthan, Maharashtra and Karnataka. The open type of villages with detached hamlets are the characteristics features of the Ganga plain, liner villages predominate in Orisa and Andhra Prades and isolated homesteads without any village limit on the west coast this observation of the Todo villages in the Nilgiri, the Khasi villages in Khasi hill and tribal villages in other parts of India in dicta the close relationship between the natural environment and settlement types.

11. Anas (1954)\textsuperscript{46} has studied the settlement pattern of the foothill of Himalaya in Tarai region and the Trans Ghagara plain of Eastern U.P. He has distinguish four types of settlement I) A some of compact settlements in Tarai region, which should have developed dispersed type of settlement of account of the abundance of surface water and recent occupancy. II) The cluster and hamlet types in Bhat region III) the fragmented typed in the southern half of the trans Ghagara plain. IV) The dispersed type in the Khadar portion of the Ghagara valley where the water table is fairly high making it easier for constructing open well for irrigation and soil is extremely fertile.

12. Sharma (1972)\textsuperscript{47} has studied in detail the settlement of the Indian desert. He has deduced that general distribution pattern of rural settlements shows clearly the effect of physical relief rainfall distribution extant of cultivated areas and of irrigation and the impact of the network of transport lines. He has found that the settlement types and house types in the area are
the result of the adaptation to local physical conditions. He has also written another book entitled “structure of settlement Geography.”

13. In the year (1972)\textsuperscript{48} Mandal wrote Ph.D thesis on rural settlements Geography in Bihar plain. He also published a number of books on settlements his one book is on introduction to settlement (1979) where discussion are based on the settlements of North Bihar, His another book “Planned Development of Rural Settlements (1981)

14. The work of Singh \textsuperscript{49} (1976) are mainly oriented to the study of rural settlements Singh \textit{et.al.} have collectively edited a book in 1976 entitled Geographic dimensions of rural settlements. This book contain a number of research papers on rural settlement which lie in different part of India. For example the rural settlement structure of Mewar has examined by Pathak and Dhabo. Some trends of spatial distribution pattern of rural service centers in Eastern Gujarat has been studied by Singh and Masum. Hierarchy of rural settlements and identification of location functional gape in upper Charmanvati Basin and house types and settlements pattern in Nepal Himalaya are studies by Singh and Kleinert.

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