

GEOGRAPHY

Paper-II

HUMAN GEOGRAPHY

B. A. Part-I

**Long, Short and Objective
Question-Answers**

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SYLLABUS

GEOGRAPHY Paper II : Human Geography COURSE INPUTS

- UNIT-I** **Concept and Nature** : Meaning, Scope and Development of Human Geography, Man and Environment relationship—Determinism, Possibilism, Neodeterminism, Probabilism, Basic principles—Principle of Activity or Change, Principle of Terrestrial Unity or whole.
- UNIT-II** **Habitation (Population and Settlement)** : Distribution of population and world pattern, global migration—causes and consequences, concept of over population and under population. Human Settlements—Origin, types (Rural-Urban) characteristics, size and distribution. House types and their distribution with special reference to India.
- UNIT-III** **Economy** : Evolution of Human Economy; Sequence of human occupation, Primitive Economics—Food gathering, Hunting, Pastoral herding, Fishing, Lumbering and Primitive agriculture. Later major innovations and their impact.
- UNIT-IV** **Society and Culture** : Evolution of man (Australopithecus, Homo Erectus, Hominids, Man's spread over the earth during the Pleistocene) cultural Diffusion, Cultural realms. World Human Races—Classification, Characteristics and Distribution.
- UNIT-V** **Population Tribes** : Some typical modes of life of world Tribes—Eskimos, Kirghiz, Bushman, Masai, Semang and Pygmies. Habitat, Economy and Society of Indian Tribes—Bhotias, Gaddis, Bhils, Gond, Santhal, Nagas (with reference to their present-day transformation).

CONTENTS

UNIT-I

LONG ANSWER TYPE QUESTIONS

1. What is Human Geography ?
Or
What do you understand by Human Geography ?
Or
Define Human Geography. How is it related to social, cultural and economic geography ? 9
2. Discuss the methods of Human Geography.
Or
Why is study of Human Geography important for us ? 12
3. What is the difference between man-made or cultural environment ? 14
4. Give the aims of Human Geography. 14
5. Explain the methods of Human Geography. 16
6. Explain the general and specific aims of Human Geography. 17
7. Discuss the growth of Human Geography in the historical perspective. 18
8. What do you mean by principle of activity and Environmental Adjustment in Human Geography ? 21
9. Explain the natural and cultural elements of geographical environment.
Or
What is Environment ? Discuss its main elements. 23
10. Explain the nature of environment.
Or
Explain the composite nature of the elements of environment. 30
11. "Man has changed natural landscapes by creating cultural landscapes." Explain with examples.
Or
What is Environmental Adjustment ? Discuss.
Or
Discuss the impact of environment on cultural attainments. 31

12. What is the relationship between man and environment ? 37
13. What do you mean by determinism and possibilism ? 40

SHORT ANSWER TYPE QUESTIONS

- * Q. 1 to Q. 4. 41-45

UNIT-II

LONG ANSWER TYPE QUESTIONS

1. Discuss the factors affecting the geographical distribution of different racial groups in multiracial societies.

Or

With reference to any one country you have studied, show how the distribution of population is related to the distribution of economic activity.

Or

With reference to any one country you have studied, comment on the distribution and economic functions of different ethnic groups.

Or

With the help of a sketch map, outline and comment on the distribution of urban and rural population in any one country you have studied.

46

2. What do you mean by houses ?

Or

Write a note on the house.

54

3. Migration alone can never solve the unbalanced distribution of world problem. Discuss.

Or

Migration only assumed international importance during the nineteenth and early twentieth centuries. Why was earlier migration restricted and why is migration less important today ?

Or

Write a note on international population movements.

Or

Outline the reasons for the migration of population to the towns and discuss the problems associated with migration movements (a) in the rural areas from which the migrants originate and (b) in the towns to which they go.

6 | Kumar Question Bank (B.A. : Part I)

Or

Describe and comment on the major international migrations which have contributed to the peopling of any one large area you have studied.

Or

Describe and comment on the major currents of internal migration in any one country you have studied.

58

4. Discuss the population scenario with special reference to population policy of Government in India.

64

5. Write a note on the population policy in India.

69

6. 'A rapidly growing population may be an asset or a liability.' Discuss this statement and illustrate with reference to (a) a densely populated rural area in the tropics and (b) a highly urbanised temperate industrial area.

Or

What is over population ? Name three areas which may be considered to be overpopulated and explain your reasons for choosing them.

Or

What are the factors that affect the rate of population growth and explain why this is an important aspect in the human geography of an area ?

72

7. With reference to any one country describe the problems encountered in providing satisfactory means of employment in a densely populated island with a rapidly growing population.

Or

How far is it true to say that metropolitan areas generate their own population problems ?

Or

Discuss the problems associated with a rapid increase of population in (a) the cities, and (b) the countryside.

78

8. Describe the bases of classification of human settlements.

Or

What are the relations of settlements with roads, highways and railways ?

Or

"In Human Geography houses and highways are the facts of first order." Comment.

83

SHORT ANSWER TYPE QUESTIONS

- * Q. 1 to Q. 6.

87-90

UNIT-III

LONG ANSWER TYPE QUESTIONS

1. Discuss the geographical factors influencing agriculture with examples. 91
2. Discuss the food gathering and pastoral economies with examples. 96
3. Discuss the industrial economies of the world with suitable examples. 99

Or

 Discuss the problems faced by industrial economies. 102
4. What problems hinder industrial development ? 103
5. Write a note on the pastoral economy. 107
6. What do you mean by hunter gatherer ? 107

SHORT ANSWER TYPE QUESTIONS

- * Q. 1 to Q. 4. 111-115

UNIT-IV

LONG ANSWER TYPE QUESTIONS

1. What do you mean by trans-cultural diffusion ? 116
2. Write a reasoned classification of human races of the world. 119

Or

 Griffith Taylor has based his classification of human races on cephalic index, while Hedden, on pattern of hairs. Explain this with reasons. 125

Or

 The conclusions of scientific research sponsored by UNESCO depict that there is a similarity among all the human races, regarding (i) intelligence, (ii) medical treatment, (iii) education and (iv) adjustment. Explain this statement clearly. 127
3. Write a note on the Indus Valley Civilization. 129
4. What do you mean by cultural realms ? 130
5. Explain the religious culture of the India. 133
6. Write a note on the clothing and languages of Indian culture. 139
7. "It is a blunder to use the terms 'Aryan and Dravid' in the classification of human races of India, because these are the names of languages." Write your views on this statement. 141

Or

 Discuss various classifications of human races in India. 144

SHORT ANSWER TYPE QUESTIONS

- * Q. 1 to Q. 4. 139-141

UNIT-V

LONG ANSWER TYPE QUESTIONS

1. What do you mean by Indian Tribal Society ? 142
2. What do you mean by Indian Tribes ?
Or
Write a short note on the Indian Tribes ? 143
3. Write a note on the economical and political conditions of the Indian tribes ? 146
4. Describe the ways of life of the Pygmies of Congo Basin. 150
5. Describe human behaviour in Arctic Tundra regions.
Or
Discuss the life style of Eskimos of Tundra regions. 155
6. Describe the environment and culture of Kirghiz of Central Asia. 157
7. Describe the life of Bushmen in Kalahari desert. 160
8. What do you know about the aborigines of Australia ? 164
9. Describe the life pattern of the Masai of Africa. 165

SHORT ANSWER TYPE QUESTIONS

- * Q. 1 to Q. 7. 170-174

OBJECTIVE TYPE QUESTIONS

- * Q. 1 to Q. 18. 175-176



UNIT-I

Concept and Nature of Human Geography

LONG ANSWER TYPE QUESTIONS

Q. 1. What is Human Geography ?

Or

What do you understand by Human Geography ?

Or

Define Human Geography. How is it related to social, cultural and economic geography ?

Ans. Meaning of Human Geography : If we observe human groups, their customs and natural and cultural aspects, we notice several varieties in them. Only natural surroundings may be considered to a great extent responsible for creating these varieties.

Man is not only a geographical agent but also an active creature. He makes an adjustment with physical surroundings and changes the shape of natural resources and makes the greatest use of them. In this way man influences his environment or surroundings. This mutual synthesis between man and natural surroundings is studied in Human Geography.

Not only this, even the factors of natural and cultural surroundings of two regions, their working and problems do not show similarity with one another. The study of such regional varieties as the subject matter of Human Geography. It can be said that Human Geography is, in fact a comparative study of the anatomy, customs, manners and activities of groups of men living in various regions, which treated an adjustment with surroundings on the regional basis. In Human Geography we study the mutual relationships between man and earth.

Human Geography in Human Ecology : The concept of human ecology was forward by the American geographers who were the believers of Social Darwinism. It was H.H. Barrows who in his presidential address to the Association of American Geographers in 1923 declared that "Human Geography is human ecology." The followers of this school tried to establish an interactive relationship between man and his biotic and abiotic elements of environment. They opined that a struggle for existence must take place; it followed that those who survived were better fitted to the

environment than their competitors. Relatively superior adaptations increase; relatively inferior ones are eliminated. The central idea of human ecology is that man, like plants and animals, has to struggle in his physical environment and in the process of struggle the weaker get eliminated.

Ecological Principles : The advocates of human ecology also believed that the ecological principles, e.g., 'the food-chain' 'the Web-Model' etc., are applicable to all aspects of biology, from plants to animals to people. The discipline of Human Geography as human ecology was further strengthened by the works of Lamarckian who emphasised that organism could consciously adapt themselves to their surroundings and pass on acquired characteristics to offsprings. The Ratzel's organismic conception of state, the Davison geomorphology, the environment determinism of Miss Semple, Huntington and Taylor, the regional geography of Herbertson, and the anthropological Human Geography of Fleure—all prove to some or greater extent that Human Geography is human ecology.

Criticism : The approach of taking Human Geography as human ecology has, however, been criticised on several counts. This definition puts man at par with plants and animals, who is also supposed to struggle in his environment for survival. But man is a tool making, tool using and culture making animal. Man, through his knowledge, scientific advancement and innovations, transforms the habitats and ecosystems drastically to fulfil his material needs. For his food, he may import cereals and other commodities.

Blache's View : According to Blache Human Geography is a new branch of the geographical science in which the mutual relationships of earth and man is concerned.

Human Geography as a branch of Geography is a recent growth. According to **Vidal De La Blache**, "Human Geography is a recent sprout from the venerable trunk of geographical science... Human Geography is the expression of a growth of ideas rather than immediate, one might almost say material result of discovery and the extension of Geographical Knowledge." The relationship of man and nature is the subject-matter of Human Geography, and it offers "a new conception of the interrelationships between the earth and man—a conception resulting from a more synthetic knowledge of the physical laws governing our earth and the relations between the living beings which inhabit it." Knowledge of the natural environment in which man is placed function and of the part of which physical factors play in the interpretation of human activities is in fact Human Geography. Efforts on the part of man to make adjustments to his natural setting are universal and involve some of the major and important problems in which the drama of human life and activity is consistently being enacted. The Human Geography is that functional relationship between man

and his environment on regional basis. Man being an active creature his actions and reactions are influenced by the environment and the surroundings. So we can say that an analysis of man and surroundings and their mutual active relations are studied in Human Geography.

Views of White and Renner : White and Renner have shown the relationship between human beings and vegetation and environment had established that the mutual relationship between human society and earth background is called Human Geography. They supported the notion of ecology. In ecology we study how men and animal living in a particular territory establish co-relationship while conforming to the environment around them. According to **White Renner**, "geography primarily human ecology, and they define it as the study of human society in relation to the earth background...the study of mankind adjusting itself to the natural environment." The authors go on to say that it might be defined as the study of the interrelationships between man and nature. Man was held to be part of nature, and geoecology focus its attention primarily on the study of inter-relations of man and his physical environment. Environment influences the higher, mental life of a people chiefly through the medium of their economic and social life. A people may present at any given time only a partial response to their environment for many reasons. The history and culture of a people embody the effects of their habitats and of other respective environment, but this environment means something more than local geographic conditions.

Definitions : According to these views definitions are changing as follows :

Semple, E. C. : "Human Geography is a study of the changing relationship between the unresting man and the unstable earth."

—**Influences of Geographic Environment, New York, 1911.**

Vidal De La Blache : "Human Geography offers a new conception of the interrelationships between earth and man...a more synthetic knowledge of physical laws governing our earth and of the relations between the living beings which inhabit it."

—**Principles of Human Geography, 1911.**

Huntington E. : "Human Geography may be defined as the study of the nature and distribution of the relationships between geographical environment and human activities and qualities."

—**Principles of Human Geography, New York, 1920.**

Dicken, S.N, and Pitts, F.R. : "Human Geography is looked upon as the study of Man and his works."

—**Introduction to Human Geography, Blaisdell, 1963, Preface.**

Human Geography is one of the important branches of geography. Though several definitions of geography have been given, the most

important in vogue is that given by Hartshorne in his monumental work—*Perspective on the Nature of Geography*—in which he stated that “Geography is concerned to provide accurate, orderly, and rational description and interpretation of the variable character of the earth’s surface.” Geography, though an integrative science, has a dichotomous character. The internal logic of geographical study has tended to split the subject into two parts : (i) physical Geography, and (ii) geography of human creations known as ‘Human Geography’.

Q. 2. Discuss the methods of Human Geography.

Or

Why is study of Human Geography important for us ?

Ans. The Subject Matter of Human Geography : The subject matter of Human Geography may be divided into two broad sections viz.,

1. Physical or Natural Environment
2. Cultural or Man-made Environment.

According to Finch and Trewartha the presentation of human facts on a regional basis of the systematic study and distribution of human facts on the surface of the earth is the subject matter of cultural or Human Geography. These regional differences themselves are responsible for innumerable factors and shapes. In this way we study man and his activities in the form of regional differences in Human Geography. But while describing cultural factors on human activity we should not lose sight of natural factors because, according to Buckle, man is influenced by natural factors to a considerable extent and modifies physical factors by his intellectual progress. Man and nature, both are mutually related to each other. If nature is a bond, man is the active creature who frees himself from that bond. They help each other in transformation.

The environment in which man lives in both cultural and physical. Problems, prospects and aspirations grow out of the relations of human beings with the contents of the environment and the intents of life lived in it. This is clearly demonstrated by the existence of a commensal reciprocity between the physical and cultural environments prevailing in various aspects of life of the people.

Physical Environment : Physical or natural environment consist of the physical or material phenomena such as surface configuration and drainage, earth resources, soils, and minerals and the cultural environment which include man-made features on the earth such as population, human establishments, agriculture, features associated with production and transportation etc. In spite of the vast number and great complexity of the problems of Human Geography, they can be classified into a few main types, as it will be clear from the systematic representation given below :

Relative Location

- | Physical or Natural | Cultural or Man-made |
|---|--|
| 1. Climate
a. Temperature
1. Of the warmest and coldest months.
2. Length of the forest free season.
b. Precipitation
1. Total annual amount.
2. Distribution throughout the year.
3. Reliability.

c. Type of climate

2. Surface configuration and drainage
a. Each materials-nature or underlaying rock.
b. Principal landform groups-relief and slope characteristics.
1. Plains.
2. Plateau.
3. Hill country.
4. Mountains.
c. Surface features of a smaller size.
d. Drainage.

3. Earth resources
a. Water resources of the land.
b. Native vegetation and animal life.
1. Forest.
2. Grass.
3. Shrub.
c. Soils
1. Physical and chemical properties.
2. Character of profile.
3. The great soil groups.
d. Economic minerals. | 1. Population
a. Number and density.
b. Distribution patterns.
2. Houses and Settlements
a. House types.
b. Settlements.
1. Dispersed.
2. Agglomerated.
3. Features associated with Production
a. Agriculture
1. Size and layout of farm and field.
2. Crop and animal specialisation.
3. Distribution pattern and agricultural land.
4. Types and agricultural and their world distribution.
b. Manufacturing
1. The Industrial Plants.
2. Raw materials. Power resources and finished products.
3. Manufacturing regions of the world.
c. Extractive Industries
1. Logging.
2. Fishing.
3. Hunting and trapping.
4. Mining.
4. Features associated with transportation.
a. Routes of travel-density and patterns.
b. The carriers.
c. The things transported foreign and domestic trade. |

Q. 3. What is the difference between man-made or cultural environment ?

Ans. MAN-MADE OR CULTURAL ENVIRONMENT

Material Needs : The life history of a normal human being is the record of a continuous sense of incompleteness. On the animal and plant there are numerous half-instinctive feelings which may be called the primary human physiological needs, such as food, sleep and clothing. A savage group in a thinly populated region well stocked with food finds little difficulty in satisfying its primary material needs, for nature provides the means of satisfaction of the wants essential to existence.

Fundamental Occupations : In supplying their material needs the people of different parts of the globe generally follow the occupations in which their geographic surroundings and their degree of progress give them the greatest chance of success.

Efficiency : Man's relations to food, however, has greatly changed. Man is less animal in his modes of satisfaction, and his desires are no longer satisfied by mere physical situation; he requires an improvement in the quality of his food, especially in health and energy. This hold good also with regard to the need for shelter, for civilized man requires greater comfort and a more beautiful environment than that provided by a primitive hut. The desire for better clothing has developed at the same time.

Higher Needs : Man's higher needs are much influenced by geographic surroundings even though they also depend largely upon racial character, accidents of historical development, and the presence of men of genius. Geographical influences act mainly through five agencies.

1. density of population;
2. degree of prosperity;
3. degree of isolation;
4. local differences in interests, resources and occupations; and
5. degree of energy.

Geographical conditions often have a direct effect on art, religion, government, education, and other phases of civilisation.

Q. 4. Give the aims of Human Geography.

Ans. AIMS OF HUMAN GEOGRAPHY

In Human Geography, the major thrust is on the study of human societies in their relation to the habitat or environment. Dealing with the special distribution of societies, Human Geography covers a very wide field or its scope is enormous. It embraces the study of human races; the growth, distribution and density of populations of the various parts of the world, their demographic attributes and migration patterns; and physical and cultural differences between human groups and economic activities. It also

covers the relationship between man and his natural environment, and the way in which his activities are distributed. Human Geography also takes into account the mosaic of culture, language, religion, customs and traditions; types and patterns of rural settlements, the site, size, growth and functions of urban settlements, and the functional classification of towns. The study of spatial distribution of economic activities, industries, trade, and modes of transportations and communications as influenced by the physical environment are also the important topics of Human Geography. In brief, in Human Geography we study the influence of physical environment on the economic activity, society, culture and religion of the people of a region. The influence of man on environment is also a topic of growing importance in Human Geography. The adjustment of man to his physical environment in typical geographical regions like Equatorial, hot deserts and Tundra is of great relevance in Human Geography as it helps in understanding the symbiotic relationship between social groups and their natural environment.

Integration of Sciences : Human Geography deals with the world as it might be made to be. Its emphasis is on people : where they are, what they are like, how they interact over space and time, and what kinds of landscapes of human use they erect upon the natural landscapes they occupy. It encompasses all those interests and topics of geography that are not directly concerned with the physical environment like cartography. Human Geography's content provides integration for all the social sciences, for it gives to those sciences the necessary spatial, temporal and systems viewpoint that they otherwise lack. At the same time, Human Geography draws on other social sciences in the analyses identified with its sub-fields, such as behavioural, political, economic, or social geography.

Liberal Education : Human Geography admirably serves the objectives of a liberal education. It helps us to understand the world we occupy and to appreciate the circumstances affecting peoples and nations other than our own. It clarifies the contrasts in societies and cultures and in the human landscapes they have created in different regions of the earth. Its models and explanations of spatial interaction allow us to better comprehend the economic, social, and political systems without which we all, singly and collectively, live and operate.

The comparative method as applied to Human Geography consists in a systematic observation of demonstrable agreement and differences in morphological, cultural, or social phenomena in two or more human groups in different environmental conditions of the earth, with a view either to establish casual connections between them or to determine the law according to which the phenomena vary. The historical method is the systematic observation coherences through period of time.

16 | Kumar Question Bank (B.A. : Part I)

Recent Developments : In the last fifteen years or so, the so-called 'quantitative and theoretical revolution has been generally accepted, but things have not settled down. Another new development has emerged known to some as behavioural geography. During the 1950s a new position emerged for Human Geography (hereafter abbreviated as geography), from nodes at Settle and Lund. A methodology was developed which aimed at theory-building, with techniques allowing precision of statement. Geography's contribution to the social sciences total understanding of society was to be a theory of spatial organisation, deriving much of its approach from geometry and using distance as a primary independent variable. Unfortunately some of this effort was diverted into the allied discipline of regional science—which was mainly an attempt by some economists to add the distance element to their formerly a spatial theories.

Roots of Approach : This approach to geography was not novel : its roots go back at least to Von Thunen's work, and it owes a lot to Christaller and Losch, both of whom made spatial deductions from largely economic assumptions. The search for geometric order introduced a new jargon and bag of tools. For many years, its research was reported in erudite, esoteric and electric papers in academic journals, causing immense frustration among the uninitiated, especially the teachers. Hence the welcome given Haggett's *Local Analysis in Human Geography*, which at least synthesised the material in an acceptable form for unconvinced academic and puzzled undergraduate. The book was organised around the geometry of spatial organisation, clearly enunciating the revolution's form.

The Data : For the rest, Human Geography, like other sciences, proceeds in its investigations by the collection and tabulation of data or facts or phenomena with a view to detecting connections between them and correlating, classifying and interpreting them. As in other sciences, Human Geography seeks the aid of what has been called scientific imagination or investigation to arrive at theories to interpret its facts. The enquire beings with a working hypothesis suggested by one or more sets of observed facts, and proceeds to test such facts by comparison with the results of previous and subsequent investigations (historical approach), and according as such a theory is found consistent or inconsistent with known facts as well as with the result of further investigation on the same or similar lines, the theory is finally accepted, modified or abandoned. Each subsequent concordance strengthens the theory, as subsequent disagreement may show the need for revision.

Q. 5. Explain the methods of Human Geography.

Ans. METHODS OF HUMAN GEOGRAPHY

Now, as for the method of our science : Like other sciences dealing with forms of living matter and concerned with types and classes. Human Geography, in its investigations, besides using the usual local methods of agreement and differences, and their associated methods, particularly

employs the methods known as the comparative and historical methods and the locational analysis based upon the statistical method.

Comparative and Historical Methods : Both the comparative and the historical methods are forms of what is known as inductive logic as the method of concomitant variations, which is a peculiar application of the method of difference, and postulates that whatever phenomenon varies in any manner whenever another phenomenon varies in some particular manner is either a cause or an effect of that phenomena, or is connected with it through some modification or abandonment of a hitherto accepted theory. This is the recognized method of all sciences. And Human Geography forms no exception. As Gollidge one of the greatest of living geographers suggested that studies in Human Geography can be categorised into three types : studies of spatial structures (the spatial form approach) studies of the behaviour of these structures (their changes over time), and studies of behaviour within these structures (of dynamics within the static pattern). The final two are termed process approaches. Kirk outlined a behavioural approach before even the quantitative revolution, White and his co-workers in *Paper on Flood Problems* in 1961; have studied man's perception and use of his environment for several years and two essays suggesting the need for a new approach appeared in the early 1960.

Q. 6. Explain the general and specific aims of Human Geography.

Ans. **IMPORTANCE OF HUMAN GEOGRAPHY**

The general importance of Human Geography is two fold :

1. Scientific for the development of geography, and
2. Practical for the planning of national economy in particular the full use of natural advantages the response to the adjustments of nature depends essentially on the technical skill and degree of civilisation of the human groups living in the region.

Its scientific importance derives from the basic facts that Human Geography cannot be reduced to more than ecology, as one of 'social science is concerned with the study of geographical location of production and with conditions and specific character of its development in different regions. Thus Human Geography is primarily the study of synecology.

Understanding Differences : The value of the studies in Human Geography is very great. In the first place, by understanding the cultural and social differences between human groups, and their relationship not only with the part of the earth in which they live but also with their economic activities, we can gain a knowledge and sympathy with their problems which we could acquire in no other way. An understanding of the geographical background will enable us to interpret their economic and political activities and attitudes, even though these may be entirely different from our own. Such an understanding will lead to less distrust and greater unity among different human groups, to greater cooperation and to more peaceful co-existence.

Knowledge of Interdependence : Another valuable aspect of economic and Human Geography is that it shows us how every part of the world is interdependent and cannot prosper in isolation. Physical factors as well as economic considerations have led to much specialisation in economic production, so that no country is truly self-sufficient. Industrial countries depend for their imports of raw materials and for their export markets on the basically agricultural countries. On the other hand such agricultural countries depend on the industrial countries to absorb their surplus production. The tropics depend on temperate foodstuffs such as temperate fruits and dairy products, while the temperate countries depend on tropical crops for beverages, fruits or oilseeds. So great is the interdependence of the various regions of the world that a natural disaster, or a war, in one region may affect trade throughout the world. Similarly, changing techniques in some areas make it necessary to introduce new methods elsewhere for the sake of competitiveness. A realisation of the interdependence of economies in different parts of the world will also promote a worldwide outlook rather than a narrow local or regional one.

Knowledge of Resources : Finally a knowledge of the earth's resources and their exploitation by Man can have very great importance for future generations. This mistaken or wanton destruction of soil, forests, fishes, whales, minerals and other natural resources, or the spoilation of the natural environment by urban sprawl, dereliction and pollution, may serve as lessons for the future, so that mistakes made in one part of the world need not be repeated in another. With the increasing development of hitherto underdeveloped countries, it is of great importance that the mistakes made by the industrial countries should be avoided.

Q. 7. Discuss the growth of Human Geography in the historical perspective.

Ans. Ancient History of Human Geography : Philosophers from ancient times attempted to explain the effect of geo-ecological features on the life and levels of progress of peoples. The Arabs, like Al-Battani, Al-Masudi, Al-Biruni, Al-Idrisi, Iban-a-Khaldun also attempted to illustrate the relationship between physical environment and cultural characteristics of races. The idea that environment controls the course of human action was revived in the countries of Western Europe during the Renaissance. It received its modern credentials during the later part of the eighteenth century and the beginning of nineteenth century when Alexander von Humboldt and Carl Ritter stressed on the relationship between social groups and their natural environment. The monumental work of Humboldt in the form of *Kosmos* and the *Erd Kunde* of Ritter testify the interrelationship between man and his environment. Human Geography became more popular after the publication of *Origin of Species* by Darwin in 1859. Ratzel is, however, known as the founder of modern Human Geography. His

pioneer work *Anthropogeography* is considered as a landmark in the history of Human Geography. In his book, Ratzel defined Human Geography as the "synthetic study of the relationship between human societies and the earth's surface."

Miss Semple's View : Miss Semple defined Human Geography as the "study of changing relationship between the unresting man and the unstable earth." Subsequently, Human Geography attained great popularity in France. The French geographer Vidal de la Blache wrote a classic entitled *Principles de Geographie Humaine* (published in Paris after his death in 1922 and translated into English in 1926). Vidal stated that "Human Geography offers a new conception of the interrelationship between earth and man...a more synthetic knowledge of the physical laws governing our earth and of the relations between the living being which inhabit it." He, however, recognised that the human's role was both 'active' and 'passive'. Miss Semple, while declaring "man to be a product of the earth's surface, a child of the earth, dust of her dust which has entered into his bone and tissue, into his mind and soul" gave enough weightage to *environmentalism* which enhanced the credibility of Human Geography. Huntington defined Human Geography as the "study of the nature and distribution of the relationships between geographical environment and human activities and qualities." G. Taylor formulated his 'Stop-and-Go' determinism stating that man is able to accelerate, slow or stop the progress of a country/community's development. But he should not, if he is wise, depart from the directions as indicated by the natural environment. In 1930s, the discipline of Human Geography was divided into 'cultural geography' and 'economic geography' and subsequently several new branches like political geography, social geography, agricultural geography, industrial geography, settlement geography, urban geography, transport geography, crime geography, statistical geography, medical geography and geography of gender emerged out of Human Geography.

Widening of Term : By the 1980s, Human Geography has widened an omnibus term, describing all those parts of geography which are not solely concerned either with the physical environment or with the technical issues dealt with under such geographical sub-fields as *cartography*. The broad sub-fields of Human Geography are cultural geography, economic geography, historical geography, political geography, regional geography, social geography, urban geography, geography of administration and geography of gender. In parallel with geography as a whole, Human Geography is made up of three closely linked components : (i) the spatial analysis of the human population, i.e., its numbers, its demographic characteristics, as spread over the earth's surface; (ii) the ecological analysis of the relations between the human population so defined and its

environment, *i.e.*, the human biosphere system; and, (iii) the regional synthesis which combines the first two themes in a real differentiation of the earth's surface. All these three themes are pursued at various spatial scales leading down from the macro-level (that of the globe itself and major world regions) to the micro-level (that of individuals and groups and their immediate local environment).

Origin : Human Geography has its origin in some countries from the earth sciences and in others from the social sciences. Human Geography, however, has continuing links with physical geography. It has created acute problems of philosophical orientation of human geographers. Some would argue that we need a much more fully specified model of human beings and their societies before the question of their geography can be understood; such an approach would point towards a more separate type of Human Geography, linked to social sciences. In this way, Human Geography can be consistently defined as that part of the social sciences which studies people solely in relation to space and place. It is currently dominated by several philosophical approaches, such as positivism, radicalism, humanism, behaviouralism, Marxism, realism, structuralism, and functionalism, each of which leads to separate geographical research and writing.

Character : Others would argue that it is precisely the link with the physical environment and with the analytical methods shared with other geographers that gives special character to the field, and allows it to contribute to problems which are, in the final analysis, multi-disciplinary or extra-disciplinary in character. The debate is continuing one with the bulk of opinion swinging strongly from the latter view in the 1960s to the 1980s.

Changes : Swings are partly associated with changes in scale of analysis. In both physical geography and Human Geography, the last four decades have seen a shift towards a concern with processes, and with this the intensive study of small geographical areas at a high level of resolution. Such studies are typified in Human Geography by research on the perception of environmental hazard, on voting behaviour, and on migration patterns. They demand a style of analysis different from the wider view of behaviour observed at the macro-scale. There are some contemporary parallels between Human Geography and economics. It is encouraging to note that in some parts of physical geography (notably climatology) suits of models have been developed which can take the analysis through from macrostructure at the world level, through mesostructures, to microstructures. Human Geography still lacks the conceptual or technical basis for achieving this cross-scale linkage. It is likely that it will continue to be structured as a cluster of loosely related fields, *i.e.*, economic geography, political geography, cultural geography, etc., until such suitable bases have been established.

Evolution in Thought : This evolution in thought about Human Geography can be summarised in a simple table as under :

Table 1 : Evolution of Human Geography

EARLY WRITERS		The influence of lands upon history. <i>Classical, e.g.</i>
Thueydides, Aristotle		
Modern, e.g.,	Montesquieu, Buckle, Humboldt, Ritter, Ratzel, Semple	
LATER WRITERS		Physical environment influences man.
	Vidal de la Blache	Society viewed ecologically and terrestrial unity as the twin principles of Human Geography.
	Huntington	Climate influences society, culture and history.

Q. 8. What do you mean by principle of activity and Environmental Adjustment in Human Geography ?

Ans. There are three fundamental principles of Human Geography. These are :

The Principle of Activity : The first fundamental principle is the principle of activity. There are various forces active upon earth causing constant change. These are : Earth's internal forces, solar force, gravitational force, human forces and the biotic forces.

The changes made by human being on the earth can be placed in constructional and destructive classes.

In it are included the changes that are made on the earth by vegetation and animals.

The earth is a planet that revolves round the sun and its revolving causes seasons. The earth rotates on its own axis which makes days and nights.

The Earth's Internal Forces : The earth's internal forces exert influence in two ways. First are those forces which bring about changes on the surface of the earth gradually. Their geological time is very long and their effect is noticed after a long time. The whole earth is heading towards change. Changes are taking place on its surface. As a result of erosion tall mountain ranges change into plateaus and plain. Rivers are bringing to the sea several thousand cubic metres of silt from the mountains and later on, after several thousand years, the matter deposited on the bottom of the sea is forced up by the geological disturbances and changes into mountain ranges. In the end those very mountain ranges, as a result of continued erosion, change into plains.

In the second class are included those geological forces which can be called sudden forces and their effect is noticed all of a sudden. Earthquakes

and volcanic eruptions are chief among such forces. These forces bring about sudden changes on the surface of the earth and their effect on human life has been studied and estimated. In volcanic areas as a result of the lava thrown out there is the growth of the farming of cotton or gardening. Java, Ukraine and the southern peninsular areas are chief instances of it.

Solar Force : Sun is the force that produces energy in creatures, animals and vegetation. It has been noticed that it affects man and vegetation in the same degree. Solar force is of the greatest importance in producing external forces. It makes changes on the surface of the earth. All the forces of the atmosphere are moved by the sun. Light and darkness, heat and cold, rain and sunshine, ice and snow, hail and frost, dusts and storms, heat and pressure, all are born of solar force and bring about some change or the other on the earth, which is believed to have direct or indirect influence on human life.

If we look at the atmosphere we notice change there too. Temperature and winds result in evaporation from the sea and clouds are formed. Condensation causes rain from the clouds and ultimately that water again collects into the sea through rivers and brooks. In this way a full circle is formed.

Gravitational Force : This force is always trying to maintain a balance in the density and quantity of various things on the face of the earth. Earthquakes are of great importance in balancing mountains and seas on earth. This work goes on until full balance is established. Not only this, all planets and stars in the universe are pulling one another in space with gravitational force. It is on account of this force that the cycle of water stays stable on the face of the earth. The earth pulls everything towards its centre with its gravitation.

Human Forces : Human forces cause changes on the face of the earth. Some creatures make pits and some soil on the earth. It has been found that coral reefs on the sea are formed by polypous.

Man is making changes on the surface of the earth. He develops the means of transport by constructive work, finds towns and cities, prepares the land for agriculture and plants trees. But, on the other hand, by destructive work he makes changes on the land, changes the shape of physical landscapes and creates cultural landscapes.

In this way, in accordance with the principle of change, movable and immovable have to pass through the various stages of development. "Every sequence has its causes and its laws, and this phenomena in the material sphere acquire a kind of personal life, having not only maxima and minima but birth, maturity and decay, and therein has one of the newest strongest branch of geography." Whether a city or a village, a creature vegetable the acts of progress and decay are continually influenced. But human incidents are not the same like physical incidents. considerable difference between them. Human incidents

indicators, of a definite fact that physical phenomena. Therefore, place and time are important factors for their study with the help of which the effect of the speed and direction of those movements on human life can be calculated. According to Brunhes these human phenomena, are all actuated by definite movement, and they must be studied as one studies moving bodies by determining the place and time at which they begin, and then indicating the direction and speed of their movement.

Brunhes proved that the natural and cultural facts of geography will always be changing and no fact or phenomena can be studied separately on this very account. But physical rules do not change like human facts and the field of their study too is different, although a study of the effect of these has an important place in Human Geography.

Principle of Terrestrial Unity or Interconnection : Alexander Von Humboldt first propounded the principle of terrestrial unit but it was given the shape of a principle by Friedrich Ratzel. Humboldt explained that behind the diversity seen on the face of the earth there is pervading a unity. Ratzel presented in the form of a principle the terrestrial unity that Humboldt had pointed out. According to Blache, terrestrial unity is the dominant idea in geographical progress and we cannot describe any territory of the earth only by itself. Not only this, for a full appraisal of regional conditions, we should follow the general principle of worldly unity or terrestrial unity. The phenomena of Human Geography are related to terrestrial unity and they can be explained with its help alone. At every place they are related to this environment which grows as a result of physical conditions. In all geographical progress the idea of terrestrial unity has the chief place. We study the surface of the whole earth in a fixed sequence and in Human Geography we study all these phenomena together. Blache goes on to say that "the dominant idea in all geographical progress is that of terrestrial unity." The conception of the earth as a whole whose parts are coordinated, where phenomena follow a definite sequence. The phenomena of Human Geography are related to terrestrial unity by means of which alone they can be explained.

Q. 9. Explain the natural and cultural elements of geographical environment.

Or

What is Environment ? Discuss its main elements.

Ans. Environment : According to Fitting "Environment is the totality of milieu factors of an organism." It is a set of surroundings which engulfs man from all sides and influences his life and activity. It includes all the facts, objects, situations and conditions which affect the development of human life.

Geographical Environment : Geographical environment has two aspects : natural and cultural.

Natural environment includes regional situation, structure of the earth, climate, soil, minerals, water resources, vegetation and animals etc. These

natural factors determine the limits of choice on the mode of life and activities of man and man adjusts his physical, economic and social activities within those very limits.

Cultural environment is the cultural landscape created by man which includes human habitat, houses, means of transport, means of irrigation, means of communication, economic, business, division of labour, fields, factories, banks, insurance company and literary, scientific, industrial and political institutions. Besides these it also includes social management, distribution of labour, customs and values of life.

ELEMENTS OF THE ENVIRONMENT

The essential concept of Human Geography is to study the surface of the earth in relation to man. Man's material progress depends partly on the resources of that part of the earth's surface which he inhabits and partly on the advancement of his civilisation. Human culture in all its diversity is the outcome of his capacity for conceptual thinking, but the leading factors in its development are tradition coupled with invention. Man cultures his inventions, but in order to be successful he must take into consideration the stage that has been set for him by nature. This stage is the physical environment which he cannot escape. It is true that man has mobility and can migrate from one type of environment to another. But wherever he goes he must obey or co-operate with the laws of Nature of one sort or the other.

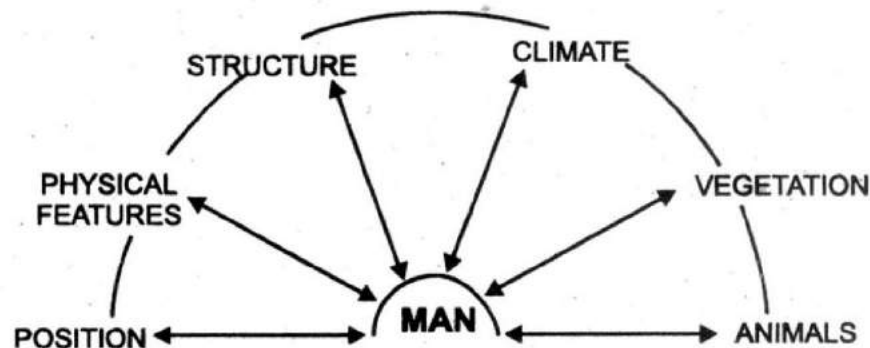


Fig. 1. Central Place of Man

In the early stages, the savage man was largely at the mercy of his physical environment. But as his understanding of the working of nature increased, he began to make an effective use of the materials, and natural forces existing around him. The forces include insolation, gravitation, global rotation and revolution, volcanic action, earth movement, and the phenomena of life itself. The processes include erosion, sedimentation, transmission of heat, evolution of organic species etc. According to White and Renner the environmental elements include a group of factors which form the descriptive traits of the earth's surface. These elements are the products of the forces and process of nature. The forces and processes, according to White and Renner are universal and inherent in all earth environment. Therefore, the natural environment is ever-present and highly

variable and complex. He began, therefore, to acquire a certain amount of control over his environment.

Slight Modification : It is true that most of the elements of physical environment are capable of only slight modifications by man. Nevertheless, even this slight control that he has over nature means a great deal towards his progress. For example, man knows very little about the atmosphere and can control atmosphere conditions even less. But he has studied some of the law that apply to it. Man's material progress is largely determined by his success in adjusting his actions to his physical environment. According to **Alfred C. Reed** "Human achievement is consummated by defying and conquering the forces or laws of nature. Invariably it is won by understanding and utilising those law." The natural environment affects large groups of people very directly and in a primarily manner. "Every community, tribe, state, nation and empire on earth is affected by it directly, vigorously and persistently. No major activity of human society is independent of its helps, hindrances, or directives. The natural environment does to human society what the social environment does to the human individual." Any part of that environment is a legitimate sphere of study for a geographer and he may indeed restrict his researches accordingly. In the diagram 1, recorded the central place of man. This diagram suggests the complex environment.

The natural environment of any part of the earth's surface can be classified into the fourteen elements.

A. Abstract Elements :

1. Areal space or size
2. Form of the region
3. Geometrical position
4. Natural situation
5. Geographical location

B. Physical Elements :

6. Landforms
7. Climate
8. Rocks and minerals
9. Soils
10. Surface waters of the land
11. Undergroun waters
12. The ocean and its coast (not present in all localities).

C. Biotic Elements :

13. Natural vegetation
14. Native animal life.

The abovementioned fourteen elements of natural environment may be expressed by simple diagram 2.

Size : The first factor of the environment is Areal space or size. The total surface area of the earth is 512,070,000 km or 71% of which 362,544,000 km is water and 149,526,000 km of land. The land and sea ratio in the northern hemisphere is 1 : 1.5 and in southern hemisphere it is 1 : 4. The smallness or bigness of the size affects of the destiny of the human beings therein. The space available to a people according to **White** and **Renner** "leaves a stamp on their industry and their psychology." Thus, the relation of life to the earth's area is the fundamental question of Human Geography. The amount of that area available for terrestrial life, the proportion of land and water, the reduction or enlargement of the available surface by the operation of great cosmic forces, all into this problem, which changes from one geologic period to another.

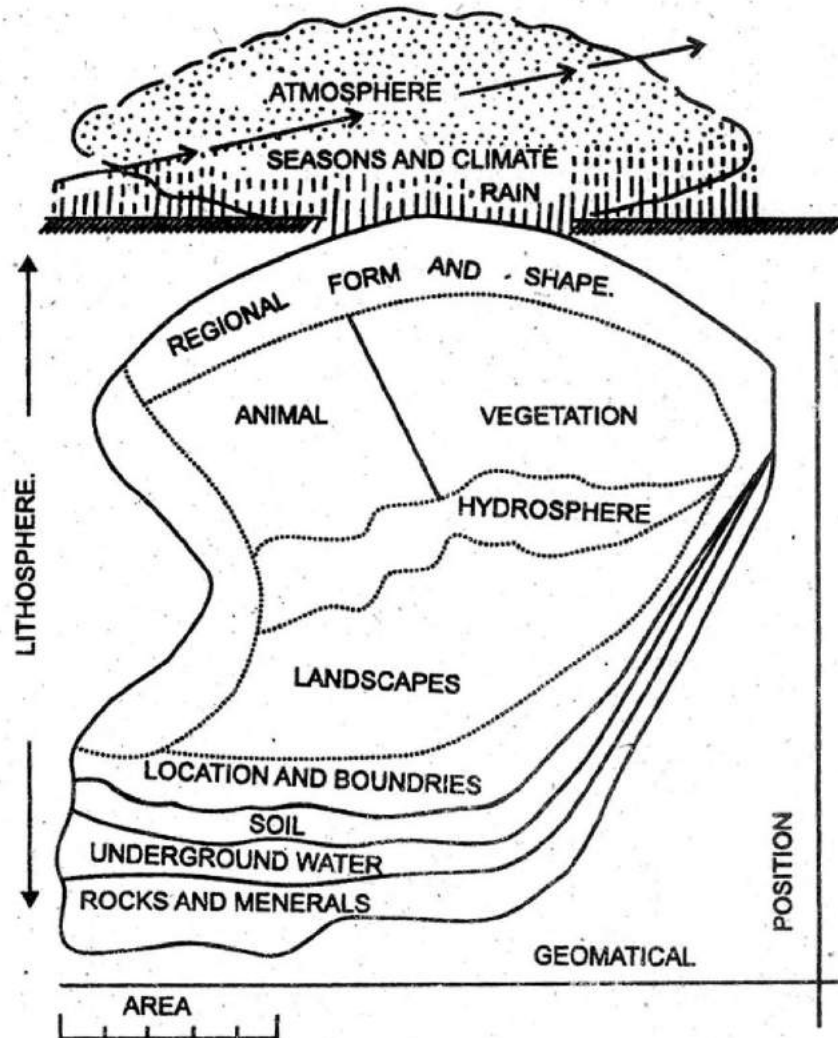


Fig. 2. Fourteen Elements of Environment

Form : Form of the region is another important factor of environment. Although the form of the regions are traditionally a central theme in geographical writing, geographers have always been seriously reticent about the ways in which regions could be built up. Regions occupy a central theme in geography and must of the classics of geographical literature—Demangeon on *Picardy* in 1905, Sorre on *Less Pyrenees Mediterraneennes* in 1913, Bowman on *The Andes* in 1916—are regional monographs.

Location : The third fact of the environment is Location. We can express this in absolute terms of latitude and longitude relative to the earth's surface as a whole. The mathematical position of a specific place can be found on globe or map by mean of the grid of meridians and parallels which served as coordinates.

Situation : Also called relative location or geographic position, shows how a place is related to other places. Geometrical position according to White and Renner, is one of the factors which helps to create differences in human society.

Landforms : The next factor of the environment we may call the factor of physical elements—the form of the land surface. A landform is any element of the landscape characterised by a distinctive surface expression, internal structure, or both, and sufficiently conscious to be included in a physiographic description. Some of man's basic activities—agriculture, trade and transportation—are virtually related to the nature of the landforms. How this element of the environment operates is shown by an example from Jammu and Kashmir. The Central South and Eastern part of that consists of two regions, one is very rugged area of the Eastern Hills, the other a fairly level plain of Vale of Kashmir. The cultures of the two areas have, however, came to be highly different. The Eastern Hills are marked by poverty, lack of education, backward people, and somewhat archaic social conditions. The Vale of Kashmir, on the contrary, is a land of tourists, lovely homes, education, beautiful women and floating gardens or *Sikara*. The character of the surface or relief of the land is here obviously the key to the difference.

Climate : Of all the factors of environment, the climate exercises greatest influence of human activities. The importance of many aspects of human life, that overemphasis would be difficult. The lines of economic development are more closely connected with climate than on physical features. According to Semple, "It is a potent factor in the beginning and in the construction of civilisation so far as this goes hand in hand with economic development." No other element of the physical environment plays so important a part in man's economy as climate. Climate strongly modified, living conditions for man and affects his sources of food supply; plant, animals and indirectly soil. Climate, according to White and Renner is often the measuring stick of human society.

Soil : If climate is a prime factor of the physical environment in economic activity, then certainly the soil of the earth's surface is another.

Among the results of weathering the formation of soil is to be classed by far the most important from the human standpoint, for it is thus softening and preparation of solid rock that makes possible the varied and extensive development of life on the lands. Whether transported or residual in original, the soil as the set of plant growth is of vital interest to man; for it contains mineral substances which he needs, and the plants have developed the power of abstracting these from the soil and transforming them to conditions in which they can be incorporated into human body. The soils provide a shape to the agricultural landscape of the region. According to Wilcox, "The history of civilisation is the history of the soil and the education of the individual begins from the soil."

Every society has developed into its own soil, and exploited its geographic gifts, utilised its geographic location for the betterment of social organisation. Society is more deeply rooted in the soil, the looser is the connection between land and people, and the looser the type of social organisation. Montesquieu has considered the soil in order to establish a relation between people and states.

Water Bodies : More than 70 percent of the earth's surface which is covered by oceans, seas, rivers and lakes exerts a great influence on man and his activities. River like the Ganga, Yamuna, etc., provided irrigation water for millions of people living on the Indo-Ganga plain. Oceans and rivers separate continents and regions from each other, and this separation has brought differences in culture. Man utilises the surface of the sea as a source of food and a means of transportation. The ocean is important to maintain in a number of ways—as a great highway of commerce, as a barrier to distribution of life, as a source of vapour for the atmosphere as a modifier of climate, and in other ways. It is also an important source of food supply. Some communities obtain a very large part of their food from the sea, for instance, in Norway and New Foundland; and they then have a surplus for distribution among other communities.

In the fisheries it is the coastline and the shallow waters and banks of the continental shelf that are the chief sources. Among the forms obtained are burrowing animals, like the calm fixed animals like the Oyster, crawling kinds like lobster, and free-swimming kinds like the fishes. All of the great groups of the animal kingdom contribute to the food supply from the sea but by far the most important are the true fishes. Besides food, the marine animals furnish a great number of other useful products—whale and seal oil, Whale-bone—seal skins, walrus, ivory, coral, sponges tortoise, shell pearls, etc. The annual value of the fisheries of all kinds in India is equal to 700 million rupees. Aside from which obvious relationship of man to sea coasts as have been already alluded to his use of harbours his fishing in shallow arms of the sea, and the perils to navigation through the wrecking of vessels upon reefs, the contact of sea and land touches his activities at many other points.

The Forms of Life : Animals and plants are the two principal food sources of man. Plants, as consumable and renewable sources of food, clothing, shelter and many other categories of life-essentials, form a great natural resource, base essential to man. The ways in which man has used these resources to his advantage—or has been hindered by plants in his progress—throughout the recorded history forms a vital role of Human Geography.

Vegetation is the geographic index of a region. According to Brunches, Plants form organic groups which reflect strong influences of environment in which they live. We take into consideration the entire environment, climatic, soil and finally living being and the other plants beside which and among which a certain plant is obliged to develop.

Animals also influence man in many ways. The most important in our daily lives are cows which give us the most perfect of all foods. Uses of animals do not stop with food production. Several land animals especially horses and oxen, provide draft and transport for many people than depend on mechanical means.

Due to his behaviour, activities and attitude, man can easily be ranked as the greatest pest of plants, most ruthless predator of animals and an unconcerned polluter of environment. He has done this in the name of civilisation, agricultural and industrial development, imaginary protection, national honour, and democracy. Very few people of the world admit that most of wildlife destruction was motivated by unnecessary fear superstition, green comfort and all too commonly—merely for the thrill of killing.

Cultural Environment : Different groups of people occupied different parts of the world with different environment. These groups adjusted themselves to their environment to gain control over it according to their experience. During this process of adjustment there was *Natural Selection* in which were weeded out the unfit and unadaptable only the most adaptable surviving. This is called the *survival of the fittest*. Different types of human civilisation, thus, slowly evolved on the surface of the earth. The development which is the expression of man's accumulated experience and achievement. Conscious and planned use of nature's gifts resulting in agriculture, industry, towns and communications is comprised in cultural environment. This environment according to White and Renner is highly important because it differs strikingly from place to place, and hence it reveals how man uses his natural environment. It is also the direct indicator or index of how effectively the area is being used by man. For these reasons, the cultural landscape is of great and immediate interest to the geography.

Elements of Cultural Environments : As pointed out earlier, the cultural environmental elements consist of the following :

A. Physiological Needs :

1. Man's food
2. Clothing
3. Shelter

B. Economic Patterns :

(a) *Primary Occupation*

4. Food gathering

5. Hunting

6. Fishing

(b) *Extractive Industries*

7. Pastoralism

8. Lumbering

9. Mining

10. Agriculture

(c) *Manufacturing Industries*

11. Manufacturing developments

12. Commerce and trade

13. Means of mobility

C. Pattern of Social Control :

14. Marriage

15. Family and kinship

16. Land system

17. Division of labour

18. Customs etc.

19. Social status and religion etc.

D. Political Organisation :

20. Boundaries, extension and military fortifications of the State

21. Use of resources

22. Health, recreation and public opinion

23. Arts and science etc.

24. Global relationship.

Q. 10. Explain the nature of environment.

Or

Explain the composite nature of the elements of environment.

**Ans. COMPOSITE NATURE OF THE ELEMENTS
OF ENVIRONMENT**

“The natural environment includes a great number of things, all these agents, forces, process, and material resources of the world of Nature.” These elements are the products of the forces and process of Nature. This abovementioned elements are not discrete parts of the natural environment. Instead, they are actually inseparable ingredients, in an integrated whole. It is with this composite whole that mankind must deal in occupying any portion of the earth. The natural environment, therefore, is composite not variable. How these elements of the environment are composite will be shown by an example from lithosphere and its impact on human life.

Lithosphere is constantly changing, though its changes commonly pass unnoticed. New lands are forming, while the old ones are being destroyed. Erosion and deposition, emerging and submerging etc. are the various phases of the change the characteristics lithosphere. The forces of nature go on doing their work irrespective of what use man may or may not make of them. These inexorable laws of nature keep the whole physical environment in perpetual change. The atmosphere is constantly changing from the stage to the other and thus affects human activity to a greater extent. The forces of nature make our weather and climate which have such a far-reaching influence on our life. They make our landscapes which determine our habitat and control our movement. Climate is closely related in determining the type of natural vegetation, agricultural activities, animals, settlements and human activities. According to **White and Renner** "almost every region has exhibited significant changes in the number and control of plants, lower animals, and human population. Similarly, the ecological relations to environments by which this population has maintained itself, have changed. As a consequence, the cultural landscape, which is the tangible expression of such ecological relations, has evolved undergoing progressive or retrogressive evolution. The evolution of the cultural aspects of a region may be called its *ecological succession*, and the various local sequences occurring in the evolution of any region may be termed its *sequence occupance*."

Human Geography studies, therefore, the physical as well as cultural environment on the earth's surface as affecting man's development. The physical and cultural environments cannot be separated in the study. Human Geography has to study not only the distribution of natural phenomena of the earth's surface but also how this distribution has been utilised by man for his material progress.

Q. 11. "Man has changed natural landscapes by creating cultural landscapes." Explain with examples.

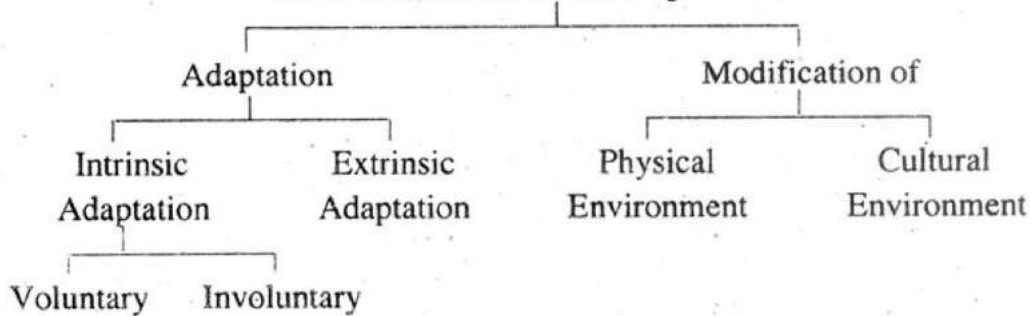
Or

What is Environmental Adjustment ? Discuss.

Or

Discuss the impact of environment on cultural attainments.

Ans. Impact of Environment on Cultural Attainments : Various factors of natural and cultural environment influence the food, clothes, residence, profession and social culture of man. Man adopts his mode of life in accordance with their effects and besides this makes some changes in environment too. These functions are called environmental adjustment. Man makes the changes in environment according to his needs, faculties and tastes. Table 1 shows the means of cultural attainments by human groups.

Table 1. Environmental Adjustment

Environmental adjustment has two aspects—(1) Adaptation and (2) Modification as shown in above table. Adaptation means man adapts himself to environment. It may be called self-change too. In adaptation the actions of man are of two kinds—(1) Intrinsic adaptation (2) Extrinsic adaptation. Intrinsic adaptation too is of two kinds—(1) Voluntary and (2) Involuntary. Modification too is (1) Natural and (2) of cultural environment.

Example : The following examples will make it clear. Suppose some human family from some cold region of Europe such as Germany, Britain or Sweden comes to India and settles in some part of Madras. On arrival here they find the climate of Southern India much hotter than that of their motherland and they feel the heat of the sun in summer somewhat unbearable. To escape the heat that European family has recourse to some artificial means such as air-conditioned rooms and cooler or refrigerator. These people take to cotton clothes in place of European woollens and begin to use the umbrella for protection against the sun.

After arrival in Southern India it becomes necessary for them to talk to fruit vendors and other shopkeepers when they go to market and buy vegetables and foodstuffs, and because the people of Madras speak the Tamil language, the Europeans too try to learn the names of some essential articles and common words of conversation in Tamil too. Sometimes they are invited to the functions in the institutions of cultural society. There they notice that Madrasis have their own peculiar modes of greeting one another, mixing in society and eating and drinking. In order to adjust themselves properly in the society of the Madrasis they pick up some necessary manners of Madras life and the modes of greeting etc. Even the European women of that family, when they sometimes attend Madras functions, wear sari like Tamil's women and the men too wear pyjamas instead of trousers. In their meal too, they often include, like the Madrasis idli and dosa, green coconut water and boiled rice, and in dinners with other people they eat such things. When they visit some village they travel for some distance by bullock-cart for amusement or for want of other kind of transport.

Analysis : Let us now analyse the above example. This European family, after coming to Southern India, have tried to adopt itself to cultural attainment. For this purpose they have learnt some words of Tamil and

while learning some new modes of greeting and of eating and drinking, have also begun to like some new dishes. This is their voluntary intrinsic adaptation. If this European family goes on living in the climate of bright sun and heat for several generations, after some generations black pigment will begin to form in the skins of their children so that the offspring of the European family will be able to bear the heat and sun of southern India. Thus, the slow pigmentation in the skin will be their involuntary intrinsic adaptation. We can call it natural adaptation too. Their partial adaptation of Indian dress to adjust themselves in Madras society is their extrinsic adaptation. For protection against the inclemencies of climate they have air-conditioned their house and have used refrigerators and used umbrella. This is modification of environment. They modified the environment for social attainments.

Regional Aspects of Cultural Attainment : The examples given above are of individual adjustment only. But we have pointed out above that Human Geography is studied on regional basis. It is therefore that environment adjustment in various regions is made by human groups, it will be clear by the following examples. The inhabitants of Tundra wear clothes of skin and fur, eat raw meat and subsist on fishing and hunting polar animals. They do not farming because the climate there does not allow it. No crop can ripen there. The human group in such an icy country has fixed its food and clothes on the material obtained from hunting and have made houses of the ice available there or of skin. This is adaptation or cultural attainment. These people burn fat of seal fish to warm the cold houses; this is modification of environment.

Cultural Attainments : Similarly, instances of cultural attainments or adaptation and modification of environment are seen in all regions. The inhabitants of Europe and America keep their houses warm even during the day in winter. The inhabitants of Himalayan regions make the doors and windows of their houses very small so that storm of ice and very cold wind may not enter them. In the regions of the Torrid Zone curtains are hung on the doors and windows of houses during summer so that the temperature in the house may remain bearable. In very hot days food, milk, butter and fruit are kept in refrigerators to save them from rotting. In the regions where there is too much of rain or snowfall, the roofs of houses are kept sloping and extra water is drained off; it is done in Bengal, Bihar or in regions of western Europe.

In Dry Regions : In dry regions farmers irrigate their harvests to make up for the deficiency of rain. Many canals and wells for irrigation have been built in Northern India, China, Russia, Turkistan, Egypt and Western United States etc. In Sahara and in the deserts of Australia water is obtained through artesian wells. Water from marshes has been pumped out and the ground made fit for habitation as in the basin of river Ob in Siberia.

Non-Fertile Regions : In the regions where the soil is less fertile man has grown very large crops by intensive cultivation through the use of manure. In USA, Britain, Germany, Japan, Russia, China and India, manure for agriculture is used in very large quantity. On the mountains there is very little land for agriculture, so in the mountainous regions people cut the slopes and make field terraces. At several places tunnels for transport have been cut into mountains. In the Alps mountains there are tunnels for railway trains from Italy to France and Switzerland. In the Himalayas too there is a Banihal tunnel in Kashmir for motor vehicles. On the railways to Shimla and Darjeeling too there are small tunnels at many places such as Bombay to Pune Road.

Cultural Attainment and Choice by Man : Climate has tight hold on agriculture that man can make changes in his cultural attainment and his choice. It has been observed that in the dry regions where rain is so little that it is not sufficient for crops man procures means of irrigation. But the effect of temperature is so great that it can be changed in closed houses and laboratories only. The temperature of the atmosphere cannot be controlled in the widespread fields and in orchards. In spite of the fullest use of modern science man has not been able to raise the temperature in the cold Tundra and Taiga regions and grow the crops of rice, sugarcane or rubber there or to bring down the temperature in the hot deserts like Sahara etc. and grow crops of apple in the fields there. So man has to make his choice within the crop limits fixed by the climate. For instance, any crop of rice, sugarcane, cotton, banana, coconut, rubber, coffee, tea and oilseeds etc. can be grown in the Torrid Zone climate in the temperature from 21°C to 27°C. Man, considering rain and soil, makes a choice according to his taste and needs as to what crops from the above he should grow in his field.

Choice of Occupation : We have seen how man makes a choice of the crops for his fields within the limits fixed by the climate. In the same way he makes a choice of his occupation and manner of life within the limits fixed by other factors of natural environment such as soil, water supply, mineral wealth, vegetation etc. Cultural attainment too determines limits of choice. For instance, while it is climate that has determined for the people living in the plains of India the need of wearing cotton clothes and not wearing woollens in summer, cultural environment has determined what kind of cotton clothes should be worn in the various states. Cultural attainments affects choice of such kind. Should one wear a cotton shirt or kurta, pyjamas or dhoti, and should he wear a five centimeter cap or a four and half centimeter one or remain bareheaded. For instance, Bengalis mostly wear a five centimeter cap or a four and half centimeter one or remain bare headed. For instance, Bengalis mostly wear dhoti but Punjabis mostly wear shalwar.

House Building : Similar choice is seen in house building too. In the plains where stone and timber are not abundant, houses are built of brick but

man has the choice whether he should build his house of one storey or two storeys and keep door towards the east or towards the west.

Social Institutions : There is a similar choice in respect of social institutions too. One can adopt any occupation provided it is not a criminal occupation in the eyes of society. One can embrace any religion, can study any branch of knowledge etc. But the limits determined by the cultural attainment of that region cannot be crossed. For instance, no American citizen can secretly make friends with an enemy country and set up in his house a secret office of the Russian or Chinese government. No person from the black race can enter Australia and set up his residence there without permission from the government of Australia. Not only this, the member of a society cannot break the social traditions and customs of his region.

Cultural Contact : Besides being a moving creature man wants to gain from the experience and knowledge of others too. Since the beginning of human civilisation, men have been going on journey from place to place. He has made journeys sometimes in search of prey and at other times in search of new pastures. So there has been cultural contact between the various regions of the world from the beginning of human development to this day. For no region can it be said that the implements and machines that are used there or the means of obtaining food used there were all indigenous to the place. It cannot be said with certainty in what parts of the earth man first discovered mines of copper or iron. But, as a result of cultural contact, people of all countries of the world have learnt the use of metals such as copper, iron and gold etc. In the same way, about the various creeds, social systems and literary thoughts of the world too we see that although they began in different regions, they reach other regions too through cultural contact. The environment and a region merely helps to decide whether the people there should or should not use the system or conduct that they have discovered. Knowledge has been spreading on earth to distant countries since very ancient times. Although men of some particular region must have learnt the farming of some particular plants, or the discovery of some metals and the invention of smelting them must have place in some particular region, that kind of farming and the use of those metals has been spreading in more and more regions day after day. Through such various ways the human beings came into cultural contact with one another and the culture of one region has influenced the cultures of other regions.

Factors of Cultural Attainments : There are four chief factors of cultural attainments :

1. People who establish contact and their capacity;
2. Components of culture;
3. Distance of the diffusion of culture;
4. Accident.

When two cultures come into contact they influence each other, but the amount of influence is different. One culture makes a deep impression on the other and effects many changes therein while the influence of the other is very negligible. The culture of Britain is an instance of it. In the nineteenth and twentieth centuries all the countries of the British Empire like India, Myanmar, Sri Lanka, South Africa, Australia, Canada, etc. adopted English dress, English language and the modes of English life to a great extent. But the English took neither dress, nor language, nor yet the modes of life in any considerable degree from India, Sri Lanka, Myanmar and Africa etc. only those English families who have set up factories and settled permanently at some places in these countries, have picked up some foreign languages for their smooth working and have begun to make some use of the foodstuffs growing in those regions.

Other backward countries adopt the culture and science of the country which has made remarkable progress in the economic field and in science and technology. From the eighth century of the Christian Era to five centuries ago Indian culture and science was adopted in other countries. Greece, Roman and Arabian countries had obtained considerable learning from India. Indian philosophy learning and culture spread to Central Asia and Indonesia etc. too.

In the present age the cultures, scientific learning, technology, machines and language of U.S.A., Russia, Britain and Germany are spreading more and more.

It is not necessary that the spread of knowledge and the flow of social customs by cultural contact will take only in those areas which have the best environment and where the people are most curious. According to **C. D. Forde** distance and accident have the chief influence in the spread of learning and culture. "Diffusion (of knowledge and culture) does not proceed automatically to the areas environmentally best suited to it or to the people most receptive : distance and accident play an important part."

Cultural Persistence or Conservatism : Although various cultures have been mixing together emigration, journeys, trade, education and invasion and mixed up has resulted in great development in culture, even then cultural dormancy continues in some degree. In some region of tribe primitive culture continues in the modern age and the people are shackled in conservatism.

Religious faith, social customs, special convictions about some actions and superstition yield great influence. They hamper the adaptation of the new manners of new culture. Instances of cultural conservatism are found clearly even now in the Semang and Sakai tribes of Malaya, in the Bushmen tribes of Kalahari, in many aboriginal tribes of Africa such as Bantu, Basuto, Hottentot, and some tribes of Patagonia, Chile, Bolivia and Brazil etc. These tribes have been following ancient culture.

Q. 12. What is the relationship between man and environment ?

Ans. The relationship between humans and environment has varied from the early periods of human settlement on the earth to the present day. The relationship between environment and human beings has also been varying from place to place at any given period of time. For example, early humans considered the environment to be dominant. They were afraid of lightning and thunder, dense forests, wild animals, vast oceans and large rivers, to name a few.

The environment has considerably affected human beings right from his evolution. The environment affects humans in many ways. Population on the earth varies due to variation in the environment. The main factors which affect the distribution of population and human settlement are :

1. Relief of Land : The populations in the high mountainous areas, such as the Himalayas in India, Andes in South America, Rocky in North America, etc., have very low settlement level. This is because the relief is rugged here which represents obstacles in the construction of roads, railways and communication. Due to steep slopes, agriculture is done with a great difficulty and industries also could not be established. These places having very less economic activity have less population and hence have small isolated settlements.

Whereas the plain areas of the world are most suitable for human settlement. Fertile plains of Ganga in India, Indus in Pakistan, Hwang-Ho in China and plains of Europe have huge population concentration having compact or huge semi-compact type of settlement.

2. Climate : Most of the areas of the earth having density less than two persons/sq. km are not favourable for settlement because of their unfavourable climate.

Areas of cold climate-North Siberia, North Canada, Alaska etc. have low density of population. Hot and arid regions of Sahara, Kalahari Desert in Africa, Great Australian Desert etc. are not suitable for human settlement. In tropical regions due to heavy rain and temperature, the density of population is very low, example in Amazon basin population density is less than two persons/sq. km. But places with favourable climate and favourable terrain, have dense population and hence have compact settlement.

3. Soils : Fertile alluvial soils encourage dense population which in turn gives rise to compact type of settlement. This is so because alluvial soils give rise to agricultural activities. Java Islands of Indonesia has fertile soil of young volcanic material and agriculture is an important activity, hence dense and compact settlements are found here. Whereas in Sumatra, due to infertile soil, the population density is very low.

4. Mineral Deposits : Mineral wealth is yet another factor responsible for population distribution and density. The presence of coal and iron-ore in different parts of the world has attracted huge population. Coal mining

regions have become regions of dense population for example, Jharkhand in India and gold mines in Australian desert.

5. Water supply : Population distribution is very much affected by water supply. The earliest settlements or civilizations developed on the banks of major rivers, example Nile, Indus etc. Adequate water supply provides irrigation facilities to farmers and hence population increases due to increase in primary activities. In dry regions, population is concentrated in those areas where there is water, hence nucleated-circular settlements are found.

Thus it can be said that the environment plays an important role in deciding population distribution, density, settlement type and pattern.

The Industrial Revolution which provided mechanical power, invention of steam engine and other machinery, greater use of metals etc. gave them opportunities to modify the environment. At the same time agriculture provided abundant food so that they could settle down permanently. The family grew in size and people migrated to different parts, via rail, road and sea, because of improvement in transport system, example the new lands in America and Australia were settled by people from Europe.

Another development which enabled humans to survive was the use of preventive and cumulative steps taken to protect them from epidemics and diseases—it increased the span of human life and reduced death rate.

With increase in the knowledge and skill and development of human economy there was a gradual increase in carbon di-oxide content. It is estimated that carbon di-oxide content has increased by 25% in last 100 years and the global temperatures have risen between 0.3 degree Celsius to 0.7 degree Celsius. Increase in carbon di-oxide is attributed to large scale deforestation and will lead to increase in sea level causing submergence of coastal regions.

Burning of coal, oil and petroleum adds sulphur dioxide to the atmosphere. Lead, carbon monoxide and nitrogen dioxide are added to the atmosphere from automobile exhaust. These gases result in acid rain which affects aquatic life, example acid rain in industrial regions of Europe and North America.

Even now substances which were not present previously, are introduced into the air, water and soils. The most dangerous one is radioactive substance spewed into the atmosphere by nuclear explosions. They have adverse effects on organisms including man and cause death, impairment of limbs, diseases and psychological disorders.

The catastrophe of nuclear disaster at Chernobyl in Ukraine (1988) is a burning example of adverse environmental effects of use of minerals like uranium, thorium etc. through most advanced and sophisticated technology.

The environment has already been degraded to such an extent in certain areas that people are forced to migrate. They are facing scarcity of resources like food and energy.

Man's impact on environment has resulted in pollution of environment which not only affects air, water and land but also organisms of biosphere. The main points summing up the impact of man on environment are :

Air pollution—burning of fossil fuels in large quantities from jet aircrafts, CFCs used in aerosol spray cans, refrigerators and farm blowing are responsible for depletion of ozone to 3-4% in last 100 years.

Water pollution—leakage of petroleum from huge ships and oil tankers into the sea, causes oil slicks which spread rapidly over water and spell disaster to marine life and to human depending on marine resources. The leakage of 100000 tons of crude oil near Spanish coast in 1976, leakage of crude oil off Alaskan coast in 1989 are a few examples of the many such incidents which tell the impact of negligence and failure of technology on environment.

The most widespread source of water pollution is disposal of sewage of urban centers into rivers. The Ganga and Yamuna are polluted in this way and the same rivers provide domestic water supply as well. Ocean waters are polluted by discharge of sewage from cities located along the coast.

Land degradation—dumping of solid waste from urban centers and waste materials from mining centers renders the land unsuitable for any use. Surface run-off from such areas pollutes streams and ground water seepage. Saline encrustation of irrigated lands is another example of land degradation. In the semi-arid region, wind action causes deposition of sand on a large scale over cultivated land rendering them unfit for cultivation. This marks the beginning of the process of desertification.

Depletion of resources—population growth in the recent past has resulted in rapid depletion of all kinds of resources. The most striking example of such resource depletion is the food deficit faced by about 100 countries of the world.

Forest and soil resources are getting depleted at a fast rate owing to population pressure. Tropical forests are depleting at a rate of 2% per annum. It is estimated that the world is losing 7% of top soil per decade.

Depletion of resources is most significant in respect of non renewable mineral and power resources. The world is facing energy crisis as existing oil resources may last for a few decades. Though coal reserves are adequate for a few centuries but it cannot replace oil, especially for transport.

Humans have come to realize that their economic activities are threatening their survival on earth. Their survival depends on their realization that they have to live in harmony with the various elements of environment which are interconnected. An understanding of the components and processes which take place in environment, the relationship between biotic and abiotic components, and the assessment of resources with reference to need of people in a region is essential for their survival.

Q. 13. What do you mean by determinism and possibilism ?

Ans. All human activity takes place in response to the demand for the satisfaction of human desires and needs. In supplying their material needs human groups in different parts of the earth generally follow different occupations in which their geographic surroundings and their degree of progress give them the greatest chance of success. In any human group, the ways in which a livelihood is got are denoted by the term, mode of life. Two different views are identified in the study of the interrelationship between man and his environment. The first view is to maintain the absolute nature of the relationship, which has been labeled Environmentalism or Geographical Determinism. The second view can be termed Geographical Voluntarism or Possibilism; which means that the will of man is a basic actor both in his own conduct and in his fundamental activities thus denying the influence, if any, of the natural elements on man.

Determinism is the doctrine which stubbornly postulates that all events are the inevitable result of antecedent conditions and that the human being, in acts of apparent choice is the mechanical expression of his hereditary and past environment. Determinism emphasizes the dominant influence of physical forces in shaping man's characteristics and his modes of thought and life. According to this view, the mode of life of different people is enforced upon them by the character of their habitat. Nature determines the kind of work and the mode of life of any people. Man is given only a passive role. **Ratzel** was responsible for the development of the concepts of determinism, which was further expanded by **Huntington**.

Vidal De La Blache, reflecting on this, often spoke of environmental possibilities, which led to possibilism. **Ferber** was the propounder of the concept of possibilism. This concept indicates that physical environment is passive and man is the active Agent at liberty to choose between a wide range of environmental possibilities.

According to possibilism, the pattern of human activity is the result of the initiative and mobility of man operating within the natural framework. Nowadays the role of natural elements in conditioning, though not controlling human activities, is often lost sight of. To counteract this degrading tendency and to rebuild the old Determinism on a newer footing, some leading geographers are preaching the determinists doctrines in an altered form, which approximates very closely to possibilism. It is the stop and Go-Determinism propagated by **Griffith Taylor**, which means one should regulate one's activity as Red light acts for traffic regulations.

Regional Concept : In the past the study of foreign lands has been classified as regional geography. The areas are described as regions by generalizing the complex distribution of activities that exhibited different frequencies of occurrence by location and though time. Regionalization is the identification of location that has similar associations of activities and the linking of the relatively homogenous locations into areas. A regional

classification is an intellectual concept. It exists only in terms of the criteria by which it is defined. Hence to identify a region or a set of regions, and to select a particular unit area and place it in a specific region, according to whether or not the unit area exhibits the properties of that region, is simply a matter of classification.

Therefore a region can be defined as an area

1. of any size,
2. homogenous in terms of specific criteria,
3. distinguished from bordering areas by a particular kind of association of related features, and
4. possessing some kind of internal cohesion.

It is convenient to divide regions into two classes : uniform and nodal.

A uniform region is an area in which one or more distinctive characteristics are similar over the region. This similarity is strongest near the center of the region and gradually weakens toward the margins, where it is replaced by a different type of homogeneity. The boundary of the uniform region is established along the line at which this replacement occurs.

The nodal region is centered on a single node or focus. The focus is usually urban, and most often is the center of trade, communication and circulation for the region. The unity of the region is based upon the inter-connection of the places within it. The boundary of the nodal region is located along the line that defines the end of the dominating influence of the node in question and the introduction of the dominating influence of some adjacent node.

The old term, Regional Geography, inexplicitly in itself, may be unsatisfactory. So the phrase 'area study' or compage has been adopted. Compage can be defined 'as an uninterrupted area possessing some kind of homogeneity in its core, but lacking its defined limits, an area throughout which, accordant a real relationships between the phenomena exist'.

SHORT ANSWER TYPE QUESTIONS

Q. 1. Write a short note on the geographic determinism.

Ans. Geographic determinism is the theory that the human habits and characteristics of a particular culture are shaped by geographic conditions. Coined by Ellsworth Huntington, the theory looked at the rise and fall of the Roman Empire from 400-500. Much of the fall of the empire had to do with a regional drought which decreased the fertility of the land and agriculture output. The lack of food from this event strained the empire and exacerbated the political situation to the point of collapse. Professor Jared Diamond extrapolates the theory in his Pulitzer Prize-winning work *Guns, Germs, and Steel*.

The theory has grown to encompass all environmental and geographic conditions and their impact on the social, political and economic forces of a society. Technology is seen as the only way to mitigate risks associated with geographic determinism.

Q. 2. What do you mean by possibilism in geography ?

Ans. Possibilism in cultural geography is the theory that the environment sets certain constraints or limitations, but culture is otherwise determined by social conditions. In Cultural ecology Marshall Sahlins used this concept in order to develop alternative approaches to the environmental determinism dominant at that time in ecological studies. Theory by Strabo in 64 BC that we, humans, can make things happen by our own intelligence over time. Strabo cautioned against the assumption that nature and actions of humans were determined by the physical environment they inhabited. He observed that humans were the active elements in a human-environmental partnership.

The controversy between geographical possibilism and determinism might be considered as one of (at least) three dominant epistemologic controversies of contemporary geography. The other two controversies are : (1) the "debate between neopositivists and neokantians about the 'exceptionalism' or the specificity of geography as a science and (2) the contention between Mackinder and Kropotkin about what is—or should be—geography."

Possibilism in geography is, thus, considered as a distinct approach to geographical knowledge, directly opposed to geographical determinism.

Q. 3. What is the meaning of real environment ?

Ans. Conditions influencing development or growth is how the dictionary defines the word environment. For the plant, as we know, sunlight, air and water are the environment. For insects and animals topography, climate, food resources as also the promixity of different animal species, or man, is the environment. Changes in the relationship or balance of any of these several factors determine the behaviour of the plant or the animal, although this becomes acutely evident only in the long-run.

The real environment

Now the environments that influence or determine plants and animals also mould human nature. But for the purposes of this workshop, as indeed in any context, the generality of men are rather less concerned with these environments and more with the vital human forces or factors fatefully shaping man. If I may say so, man's real environment is men. It is social behaviour that conditions human development in any crucial sense of that term. And what is it that moulds social behaviour—ideas, beliefs, notions, biases, presuppositions ? A child is born to all these and his unfolding character and physical nature reflect his mental inheritance. This is his real environment. All outwardly observable behaviour, all notable action could be traced to habits planted or shaped by belief.

The record of nations with vast differences in flora and fauna and in climate has shown us amazing similarity in outlook, temperament and attitude. Nations close in the first factors have shown an equal diversity in characteristics. History is replete with instances of the so-called national characteristics of a people, at once ranging from peaceable to warlike, from earthy to other-worldly, at different periods of their existence. These notable changes are due to a great many factors, but here, as I said, we must pay attention to those factors that, for our purpose, are the prime movers. Changes in dynasties, foreign conquests, floods, the havoc of drought, all these go to condition and influence man. And the aggregate of thus influenced men perpetuate the attitudes and the characteristics of the single individual. But many of the above-mentioned factors are only the outer determinants that passively shape man. The active element is the conscious shaping of the individual from man's own beliefs about himself, his nature, his destiny. It is these attitudes that determine man's relations to his time and life. When a man believes in predestination, his attitudes and behaviour are complementary. When a man believes that man makes history he assists at or is crucial to his own becoming. In other words, the state and nature of human awareness at a point of time in a cultural milieu are all important in the moulding or adapting of man to the total environment.

Two states

Now man's beliefs are expressed not always directly but through institutions, rituals, cults, ceremonials, and through the assertion of a host of group identities. These cultural or social artifices are almost of a hydraulic chemistry and of far-reaching effect on human conduct. As if in keeping with animal reflexes and instincts, they can through usage over time get to be solid, icy, inflexible, unpliable. In other words, they are not amenable to easy change or renovation. They perpetuate themselves because, in turn, human beings themselves are prone to act out of two different natures—the pre-rational and the rational, the one open to enquiry, prepared for adaptation. This second state, the fluid one, itself follows on a state of heightened awareness, of imaginative perception. It is to be in constant touch with essential human values, as also to be possessed of a realistic knowledge of the material means, in order so to effectuate those values. In the fluid state, as I term it, there is no sacrosanctity attached to means. Holiness inheres only in the essentials. On the other hand, in the 'iced state' of institutions the means themselves tend to become fixed, sacred; with the result that it becomes all but impossible to question them. Fresh adaptation, here, becomes quite improbable in relation to new environments. The truth of essential values is lost. Rigidity, inflexibility, conformity, these are the consequences.

Thus institutions, at once useful and inescapable in the pursuit of the necessary, the good or the truthful life, very often become ends in themselves. A great deal of human history is the chronicle of this predicament : that, on the one hand, without organizations and institution the

fruits of human insight, ingenuity, intelligence cannot easily be handed down to the individual, and on the other hand, that once come into being the authority which organizations or those who hold power exert creates the logic of its own vested interest. But with luck, and given a degree of sophistication, these institutions remain what they are—means to serve the individual, materially or spiritually. At these moments in history civilization has a chance of being at its peak. The too anarchical individual tends to be asocial, whereas the individual well ensconced in the vestments of social organization tends to be authoritarian. Either way there is faulty adaptation in the essential growth and development of the human self. As one knows, the visions and insights of seers, saints, savants often get to be stratified in the narrow religious orders that follow them, so there is not too much room here for the mind, heart or spirit to move about. Similarly political or social organizations often frown on freedom of thought. It is solitary men really, therefore, who keep the ship of life on an even keel. Captains of state, kings, others, are good enough to guide the destiny of a nation in its race for survival. But from the long-term perspective they function within the confines of settled ideas and established, stratified power. No matter how civilized, the rulers are unable to break new ground. It is for this that men without organizational power but only with the power of their spirit, heart or mind chart the longer path. It is from these sources that better adaptations related to the deeper values are consummated.

Q. 4. What do you mean by principle of activity or changes ?

Ans. Jean Brunhes was a disciple of Vidal de La Blache. After studying history and geography, he developed himself for the conceptual framework of human geography. On the lines of his master, he tried to identify the scope and method of human geography. His main work *Geographie Humaine : essai de Classification Positive* was published in 1910. He limited Human Geography to :

1. Unproductive occupation of soil;
2. Things connected with the conquest of plant and animal worlds;
3. The destructive economy ('robber economy') or violent attack on nature which may result into poverty.

Moreover, he stressed that three sets of observable phenomena do not set the limit of geographical regions. Beyond these phenomena 'the geography of history' i.e. distribution of population; production, transport exchange and political societies (territory, routes, frontiers, groups of states), social geography are also the important components of a geographical region. All these physical and cultural factors, therefore, need to be studied to make a comprehensive study of region. In his approach of geographical study, he emphasized the two principles i.e.,

- (i) The Principle of Activity; and
- (ii) The Principle of Interaction.

Jean Brunhes was of the opinion that the physical and cultural phenomena are in a state of perpetual change and they must be studied in the temporal change, instead of taking them as static in the time scale. He was of the opinion that 'everything is either growing or diminishing', 'expanding or shrinking' and nothing is 'stable and static'. For example, the heights of mountain peaks, the sea level, the ice-sheets, glaciers, size of valleys, deltas, volcanoes, and forest are continuously changing in their shape, size and altitude. So in order to understand the interrelationship of physical and cultural components of a meso or micro unit the principle of activity is to be kept in mind to arrive at a just synthesis.

The idea of 'Principle of interaction' Jean Brunhes borrowed from Vidal de La Blache, who advocated the 'Principal of Terrestrial Whole'. Bunches assumed that geographical phenomena (both physical and social) are closely interrelated with one another, and must studied in all their numerous combinations or with permutations and combinations. The idea of the terrestrial whole or the terrestrial unity was the fundamental concept, which later on inspired the 'regional synthesis'. All the physical and human forces are thus closely bound together because of the endless interrelations of the conditions they bring out.

Elisee Reclus was one of the disciples of Carl Ritter, and attended his lectures at Berlin in 1849-50. He wrote two volumes of *La Terre* and the approach in these volumes is deterministic. Reclus was condemned for anarchism and was imprisoned, but this sentence was later converted to exile. During the years of his exile he lectured in Edinburgh and Brussels where he had an important influence on the development of geography in Belgium.

In his work *L'homme et la Terre* (The Earth and its inhabitants) he asserted that man is not the product of his environment but an important part of it; which can be appreciated from the following statement of Reclus :

"Man may modify (his dwelling place) to suit his own purpose; he may overcome nature, as it were, and convert the energies of the earth into domesticated forces. 'One must seek the gradual changes in the historical importance of the configuration of the land' and in studying space 'we must take account another element of equal value-time'."

Reclus pointed out that man has destroyed natural flora and wild animals and replaced them with his own cultivated crops and domesticated animals. He has changed the balance of nature, sometimes to his disadvantage, by introducing ruptures in the harmony of Nature. What is needed is 'a robust education face to face with Nature'...This will give us the grandest development of the 'real love of nature'. Thus Reclus discussed the man-nature inter-relationship in a very scientific way.

UNIT-II

Habitation

LONG ANSWER TYPE QUESTIONS

Q. 1. Discuss the factors affecting the geographical distribution of different racial groups in multiracial societies.

Or

With reference to any one country you have studied, show how the distribution of population is related to the distribution of economic activity.

Or

With reference to any one country you have studied, comment on the distribution and economic functions of different ethnic groups.

Or

With the help of a sketch map, outline and comment on the distribution of urban and rural population in any one country you have studied.

Ans. In terms of continents and countries the world's population is very ill-balanced. More than half of the world's people live in Asia (excluding the USSR) which accounts for only one-fifth of the world's land area, while North, Central and South America together, occupying more than a quarter of the land surface, have only one-seventh of the population. The African continent also accounts for a quarter of the land surface but has just over one-tenth of the world population. On the other hand Europe, whose area is only one twenty-fifth of the total, has about one-ninth of the world's people.

The distribution within the continents is also uneven. In Asia, China, alone, with more than 1000 million people, accounts for half the Asian and a quarter of the world population. The Indian subcontinent has a further 1000 million people. In Europe too, the population is unevenly distributed. Far more people live in northern and western European countries than in southern and eastern Europe. The USSR is the largest country in the world and has 259 million people but only a quarter of them live in the Asian section. In Africa and Americas people are for the most part spread very thinly across the land, leaving large sections such as northern Canada, south-western USA, the Sahara desert, and the Amazon forests practically uninhabited.

Factors Influencing Distribution of World Population : The unevenness in the distribution of world population may be attributed to the following factors :

1. Availability of arable land and water.

2. Age of civilisation.
3. Accessibility of places.
4. Restrictions of national boundaries.

1. Arable Land : There is close relationship between the arable land and the concentration of population. The plain areas having fertile soils and suitable climate (temperature and rainfall) for the cultivation of crops are the regions of high density of population. Still over 60 percent of the world population is dependent on agriculture for their livelihood. Consequently, the areas of intensive agriculture have high density of population. In other words, there is a positive correlation between the distribution of arable land and the distribution of the world's population. It is not only the plain areas where agriculture is possible, because man through his efforts has developed agriculture on terraces, on mountains sides (e.g., Angami tribe near Kohima in Nagaland etc.), heating greenhouses in cold climates (Netherlands, Germany, Denmark, Sweden etc.), and irrigating deserts (Nile Valley, Turkmenistan; and Jaisalmer and Bikaner districts of Rajasthan, India etc.).

Nevertheless, a comparison of the distribution of arable areas and population reveals several similarities. In the great plains of India and the eastern plains of China, there are high densities of population. Same is the case with irrigated parts of Nile, Syria and Amu Valleys, where irrigation allows farming in what is climatically deserts.

2. Age of Civilisation : The second most important factor which influences the growth, density and concentration of population is the age of civilisation. Generally, the longer a place has been continuously used by farmers, the sense and large is the population. The Eastern China plains and the Indo-Gangetic plains have long history of intensive agriculture and they have high densities of population. Contrary to this the plains of Mississippi in USA, Pampas of Argentina, Down grasslands of Australia and New Zealand and Velds of South Africa though equally productive, there the cultivation was started only after the seventeenth century. Consequently, these areas are relatively sparsely populated.

3. Accessibility : Accessibility of places and regions is also a very important determinant of population growth and its distribution. In the agriculturally less productive but industrially advanced societies, the people are dependent on secondary and tertiary sectors and most of the industries have been located at places which are easily accessible. Accessible places are those which are easily connected by transportation to many other places. The factor of accessibility is most important in an economy based on manufacturing and trading. The economic advantages of locations like Calcutta, Mumbai (Bombay), Chennai (Madras), Karachi, Rotterdam, Chicago, Rome, Alexandria, Aden, Singapore and Tokyo create employment opportunities that attract large populations. These centres of dense population grow both by natural demographic increase and by producing the markets that generate even more economic opportunities for

additional population. Consequently, these agglomerations where people have been engaged in industrial activities for several generations (Western Europe) tend to be densely populated.

4. Restrictions of National Boundaries : Each country has its international boundaries. Crossing of these boundaries by the people of one country to another country is not allowed by the proviso of international law. Owing to this restriction, the people of overpopulated countries cannot enter the developed countries with less density of population. For example, Bangladesh has a large population density while Australia, Canada and USA have low density of population. In the absence of restrictions of national boundaries, the population from Bangladesh could have migrated to USA, Canada and Australia to earn a better living. Such international migration is very limited, mainly because most nations do not allow a mass influx of new immigrants. Australia has an enormous resource potential but it does not allow immigrants unless they are technically and educationally outstanding. In other words, political restriction to international migration of people is an important factor which helps to explain the existing distributional pattern of world population. Although major migration have altered the pattern of the world's population in the past, such movements have been drastically curtailed in recent decades. Most governments restrict immigration, and several countries control emigration as well.

Variation in Developing and Developed World : There are also striking variations in the population composition of the developing and the developed world. According to the estimated population of 1998 in the developed countries, only 20 percent of the population is in the under 15 age-group and 14 percent in the over 65 age-group, while in the developing countries 36 percent of the population is under the age of 15 and only 5 percent is aged over 60 years. Thus, improving health care, coupled with high fertility rates and a large proportion of people entering their reproductive years provide an in-built momentum for future high population growth even if fertility rates decline. This means that the annual addition to the global population, which is currently 85 million people, will continue to increase and the figure is projected to peak at about 90 million by the year 2000 A.D.

There are 17 countries in Europe in which more than 15 percent of the total population is over 65 years of age and only about 20 percent of their population is around or below 20 years of age. The names of these countries are : Austria, Belgium, Bulgaria, Croatia, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom (World Resources : 1998-99).

Density of Population : The spatial distribution of world population is not uniform. There are wide regional variations in the degree of population concentration. According to 1991 population data published by the United Nations, the average density of the world population is 38 persons per sq. km. Asia with a density of 108 persons per sq. km. is the most densely

populated continent of the world. Europe got the second rank with a population of 101 persons per sq. km. The continent of Latin America with a density of 21 persons per sq. km. has the third rank, which is followed by Africa, Anglo America and Oceania, having a density of 20, 14 and 3 persons per sq. km. respectively.

Population Distribution : The single most striking fact about the world population is that it is not uniformly distributed. Moreover, the population distribution has continuously changed in space and time, with migration and varying rates of population growth. In reality, nearly half of the world population is clustered on just 5 percent of the land, while about 33 per cent of the total land area is virtually uninhabited. The spatial distribution of people with its great unevenness is one of the important questions of human geography that demands exploration discussion and explanation.

If we examine a map of world population, it becomes clear that there are certain regions which are densely populated and other areas which seem to be empty and underpopulated.

Densely Populated Regions : There are four areas in the world where the average density of population is more than 100 persons per sq. km. These are :

1. East Asia (China, Japan, South Korea and Taiwan).
2. South Asia (India, Pakistan, Bangladesh, Sri Lanka and Nepal).
3. North-West Europe (UK, France, Germany, Netherlands, Poland, Belgium, Luxembourg, Ireland, Denmark, Spain, Portugal and Italy).
4. Eastern North America (North-East United States and South-East Canada).

All these areas of dense population lie in the northern hemisphere and are so placed that more than 75 percent of the world's population is now concentrated between the Tropic of Cancer and 70° north. Of these, China and the subcontinent of India were having large populations from the earliest times. Europe is less ancient, and the USA became densely populated only during the last two hundred years.

Rural Areas : Except in Japan, the population of East and South Asian countries is living mainly in rural areas. The people are directly or indirectly engaged in agriculture. They are largely dependent on primary activities (agriculture, forestry, fisheries, mining) which reflect the food-producing potential of the land. In these countries also, the areas having fertile alluvial soils, gentle slopes and available water (from surface and underground or rainfall) have the highest densities of population.

In China : In China the valleys of Yangtze-kiang, Hawang Ho, and Sikiang have great clustering of population. In India, the Sutlej-Ganga-Brahmaputra plains, the eastern coastal plains and the valleys of the perennial rivers are densely populated. In Pakistan, the province of Punjab,

traversed by the five rivers (Indus, Jhelum, Chenab, Ravi, Sutlej) and the delta of Indus are densely populated. The entire alluvial tracts of Bangladesh, excepting parts of the Chittagong Hills, have high density of population. The valley of Nepal and the coastal areas of Sri Lanka also have heavy concentrations of population.

South East Asia : In contrast to the distributional pattern of population is South East Asia, the European and North American areas of high population densities consist of urban agglomerations. The industrial development and tertiary activities (services) in cities and towns have drawn people from the villages and countryside over the last two hundred years or so, so that over three-fourth of the European and American populations live in cities.

Density : The highest population densities by country occur not in China and India but the highest urban densities are found in Singapore (100%), Belgium (95%), the Netherlands (88%), and the United Kingdom (90%). The European and American population agglomerations could become large because of certain other favourable physical factors. The climate of these regions is mild and temperate in which a variety of crops can be grown. Wheat, barley, oats, rye, sugarbeet, potatoes, fodder, maize, fruits, grapes, and oilseeds grow well up to Ireland, Scotland, Sweden, Norway, Faroes Islands (Denmark). The rise, development and expansion of large-scale manufacturing enabled working people to collect in masses around factories and caused the growth of cities. The cumulative improvement of the various kinds of work, and consequently of the workers show that the European population agglomeration is the result of physical and cultural factors. Trade relations and colonisation of the African, Asian and American countries greatly contributed to the increase in population of Europe. The expansion of British, Dutch, French, German, Portuguese and Spanish empires in other continents enabled the imports of food and raw materials. The fast growth of European population may thus be largely attributed to industrial development and exploitation of resources of the colonial countries for food and raw materials.

North America : The densely populated regions of North America have a very short history. Up to 1492, America was not known to Europeans and it was Columbus who discovered it (1492) and provided a virgin land for the growing population of Europe. The population of America started growing fast after the Industrial Revolution (1779). The North American concentration developed as an outlet for the European population. By 1750, small numbers of British, Dutch, German, French, Spanish, Portuguese and Italian emigrants had settled along the north-eastern coast of North America. They superseded the native Americans (Red Indians) who were displaced westward and were decimated by war, disease and other traumatic effects of cultural contact. The urbanised belt from Boston to Baltimore in the United States and the areas along the St. Lawrence river in Canada have remained the main regions of attraction for the European people. In fact this belt is

the hub of economic, commercial, cultural and political activities in North America.

Scattered Density : Apart from the above described four major regions of dense population, there are isolated and scattered nuclei of dense population. Among these small centres of dense populations, the deltas of Mekong, Menam, and Irrawaddy rivers as well as the Indonesian island of Java are noteworthy. Africa's most densely populated areas include the linear concentration along the Nile Valley in Egypt, the ring of settlement around Lake Victoria, and the coastal areas of Nigeria. The Latin American areas of high population concentration include the central part of Mexico, where nearly half the nation's population lives. In Central Mexico, rural densities exceeds 2,600 persons per square kilometre, and Mexico City (with a population of over 20 million) is one of the leading world metropolis. The coastal areas of Venezuela, Brazil and Argentina, with cores around the cities of Caracas, Rio-de-Janeiro, Sao Paulo and Buenos Aires, respectively, are also areas of high population density.

Sparsely Populated Region : As stated at the outset, over 70 percent of the land surface is sparsely populated. In general, the hot, cold, arid and mountainous areas are sparsely populated, which may be classified under the following categories :

1. Deserts, and semi-arid areas.
2. The polar caps (Tundra and Antarctica).
3. The lofty and rugged mountains.
4. The Equatorial dense forests.

1. Deserts and Arid Lands : All those areas where the rate of evaporation is higher than the rate of precipitation (arid lands) are most sparsely populated. The main problem with the settling of arid lands is the deficiency and non-availability of water. In the arid areas where water is available, agriculture is often successful because desert soils are generally rich in minerals and in many places the growing season is long. The Nile Valley, the Indus Valley, the Sonora Desert in Mexico and USA and other scattered oases in Eurasia are the main exceptions to the general condition of barrenness and relative emptiness. Excepting these fertile valleys and oases, the great series of deserts, especially along the Tropic of Cancer and Tropic of Capricorn on the western margins of continents, the population is most sparse. In the deserts of Libya, Algeria, Niger, Mali, Sudan, Chad and Mauritania, the average density of population is about one person per fifteen square kilometres. In such deserts of hostile climate and scarce water, people deliberately check the number of births by imposing monogamy or even celibacy on large scale proportions of their numbers, as is done in Ladakh and Tibet. In some cases, this anxiety of overpopulation may lead to the rise and survival of barbarous customs. For example, in some Somali tribes, until very recently, a man might not get married until he had killed with his own hands a certain number of men of his tribe.

Nomadic Hunters : In brief, the deserts (both hot and cold) are almost uninhabited or else thinly populated by nomadic hunters and gatherers (Bushmen of Kalahari), and nomads (Bedouins of Arabia and Sahara). In Central Asia and the peripheries of Australian desert, the communities keep sheep and goats and are living at a poor standard of living. There are exceptional cases in which the extraction of precious metals has attracted men into the heart of deserts. Many towns have emerged in deserts owing to the mining of gold and other precious metals. These miners and workers have to get their whole subsistence and even their drinking water from outside the region. In this way, gold mines right out in the desert have caused the growth of Kalgoorlie and Coolgardie in Australia, and Cripple Creek in the United States. In the heart of Arabia and Libya, oil has so far led to the presence of only a few groups of workers and scientists, who do not form a true self-supporting community. It is believed that at present, the desert areas are expanding and people are leaving, so the dry areas are being occupied by an increasingly smaller proportion of the world's population. Gold and petroleum have, however, made some of the regions of deserts as the areas of great attraction for labourers and technicians.

2. Ice Caps and Cold Regions : The second most sparsely populated are the areas of extreme cold, both in the northern and southern hemispheres. The Arctic region and the Antarctica continent are the regions of severe cold in which winters are dreaded, gloomy and long. The continent of Antarctica is almost exclusively uninhabited. In the Tundra region of Arctic, the hunting and fishing peoples live, who are few in number. In fact, only a few seal-hunting Eskimo tribes have been able to penetrate northward up to 82° north. Wherever minerals are available men have settled there to exploit them. For example, miners are extracting iron ore in Gallivare (Sweden), gold in the Yukon Valley in Canada and Fairbanks and Fort Yukon in Alaska, and gold, oil, coal, and salt are precious metals in Siberia and Asiatic Tundra. For their subsistence, these miners have to depend on the neighbouring developed areas.

3. Mountainous Regions : The rugged and folded mountains are also sparsely populated. In fact, on mountains population becomes sparse with altitude. Lofty mountains are almost uninhabited. In the Himalayas, Alps, Rockies and Andese mountains, the areas above 2,500 metres are almost uninhabited. In higher latitudes, sparseness of population descends to much lower levels. In Scotland, Wales, Norway, Canada and Greenland, sparseness begins only a few score metres above the sea. The areas of minerals are, however, exceptions. For example, in Peru and Bolivia, mining of precious metals is done above 4,000 metres. These mining places have quite substantial populations. In Kishtwar (Bhadarwah District of Jammu Division), precious stones are mined at an altitude of about 5,000 metres. At the source of Indus river, the gold mines at Tok-Dschalung have helped in the development of human settlements at an altitude of 5,000 metres above the sea level.

Tropical Regions : In the tropical regions where the climate at lower altitudes is not conducive, most of the towns, cities and settlements have developed around 2,000 metres above the sea level. Addis Ababa (Ethiopia), Kampala (Uganda), Quito (Ecuador), Nairobi (Kenya), Ooty (India), and Kandy (Sri Lanka) are all situated over 2,000 metres above the mean sea level. Throughout the interior of Western Asia, clusters of towns are found in the heart of mountain regions. For example, Sana (2,130 m) and Taiz (2,000 m) in Yemen, Tehran (1,130 m) in Iran, Pahalgam, Gulmarg (2,600 m) and Leh (4,600 m) in India, and Lhasa (3,550 m) in Tibet are situated at a fairly high altitude.

4. Tropical Rain Forests : The tropical rain forests are also sparsely populated. These are the low-lying areas on both sides of equator in which rainfall and humidity remain high and the mean monthly temperatures are over 30°C throughout the year. These regions are covered by dense evergreen equatorial forests. The Amazon basin, the Congo basin, and the islands of South-East Asia, excluding Java, are covered by such forests. The hot and humid climate, luxurious evergreen forests, infested with insects, mosquitoes, tse tse fly, etc. are least conducive for human habitation. Cultivation of crops, keeping of cattle for ranching and herding are difficult in these areas. Tropical rain forests offer some prospects for future frontier development. One advantage is the proximity to densely populated areas. It is difficult to form settlements in equatorial forested regions. At present, the Amazon and the Congo basin have a very scattered population. It is predicted that an increased population in these areas will result in a deterioration of earth's resources. In fact, often forest clearance has led to soil erosion, increased run-off, and siltation of rivers. The clearance of these forests in Thailand have adversely affected works downstream and thus reduced the country's agricultural output. Some experts even believe that destruction of the tropical rain forests will affect the world's climatic balance by reducing the amount of moisture that is returned to the atmosphere by transpiration from luxuriant vegetation. Encroachment in tropical rain forests may also destroy the culture of hunters, gatherers and shifting cultivators. It has been evidenced in Brazil, in the destruction of these societies through violence, disease and cultural disorientation.

Sporadic Settlements : All the sparsely populated areas have an irregular and sporadic type of settlement. In these regions, large areas remain uninhabited, whilst relatively small points swarm with people. The best examples of dense population are found in the larger oases of Africa and Western Asia, the islands of Java and Philippines, the isolated towns in the Congo and Amazon basins. The Himalayas and Alps have some of the large towns and resorts. It is believed that population in the sparsely populated region shall increase at a faster rate in coming decades, which may create many ecological and demographic problems.

Q. 2. What do you mean by houses ?

Or

Write a note on the house.

Ans. A **house** is a building or structure that has the ability to be occupied for dwelling by human beings or other creatures. The term house includes many kinds of different dwellings ranging from rudimentary huts of nomadic tribes to free standing individual structures. In some contexts, 'house' may mean the same as dwelling, residence, home, abode, lodging, accommodation, or housing, among other meanings.

The social unit that lives in a house is known as a household. Most commonly, a household is a family unit of some kind, though households can be other social groups, such as single persons, or groups of unrelated individuals. Settled agrarian and industrial societies are composed of household units living permanently in housing of various types, according to a variety of forms of land tenure. English-speaking people generally call any building they routinely occupy 'home'. Many people leave their houses during the day for work and recreation, and return to them to sleep and for other activities.

A growing point of interest is the energy consumption of a house; while many houses in Japan have no insulation at all, in Europe from 2018 all houses built should have no energy consumption at all.

ETYMOLOGY

House derives directly from Old English **Hus** meaning 'Dwelling, shelter, home, house,' which in turn derives from Proto-Germanic **Khusan** (reconstructed by etymological analysis) which is of unknown origin.

Inside the house

Layout : House plan

Ideally, architects of houses design rooms to meet the needs of the people who will live in the house. Such designing, known as 'interior design', has become a popular subject in universities. Feng shui, originally a Chinese method of moving houses according to such factors as rain and micro-climates, has recently expanded its scope to address the design of interior spaces with a view to promoting harmonious effects on the people living inside the house. Feng shui can also mean the 'aura' in or around a dwelling. Compare the real-estate sales concept of 'indoor-outdoor flow'.

The square footage of a house in the United States reports the area of 'living space', excluding the garage and other non-living spaces. The 'square meters' figure of a house in Europe reports the area of the walls enclosing the home, and thus includes any attached garage and non-living spaces. How many floors, or levels, the home is will play a big role in determining the square footage of a home.

Parts

Many houses have several large rooms with specialized several very small rooms for other various reasons. These may living/eating area, a sleeping area, and (if suitable facilities and services exist) washing and lavatory areas. Additionally, spa room, indoor pool, indoor basketball goal, and so forth. In traditional agriculture-oriented societies, domestic animals such as chickens or larger livestock (like cattle) often share part of the house with human beings. Most conventional modern houses will at least contain a bedroom, bathroom, kitchen (or kitchen area), and a living room. A typical 'foursquare house' (as pictured) occurred commonly in the early history of the United States of America where they were mainly built, with a staircase in the center of the house, surrounded by four rooms, and connected to other sections of the home (including in more recent eras a garage).

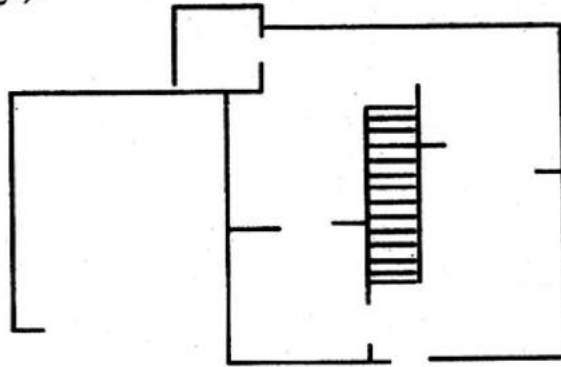


Fig. Floor plan of a 'foursquare' house

The names of parts of a house often echo the names of parts of other buildings, but could typically include :

- Atrium
- Attic
- Alcove
- Basement/cellar
- Bathrom (in various senses of the word)
 - Bath/shower
 - Toilet
- Bedroom (or nursery, for infants or small children)
- Box-room/storage room
- Conservatory
- Dining room
- Family room or den
- Hearth—often an important symbolic focus of family togetherness
- Kitchen
- Larder
- Laundry room
- Library
- Living room
- Loft
- Nook
- Window
- Office or study
- Pantry
- Parlour

- Fireplace (for warmth during winter; generally not found in warmer climates)
- Foyer
- Front room (in various senses of the phrase)
- Garage
- Hallway/passage/Vestibule
- Pew/perch
- Recreation room/rumpus room/television room
- Shrines to serve the religious functions associated with a family
- Stairwell
- Sunroom
- Workshop

Some houses have a pool in the backyard, or a trampoline, or a playground.

History of the interior

Room (architecture) : It is unknown of the complete origin of the house and its interior, but it can be traced back to the most simplest form of shelters. Roman architect Vitruvius' theories have claimed the first form of architecture as a frame of timber branches finished in mud, also known as the primitive hut. Philip Tabor later states the contribution of 17th century Dutch houses as the foundation of houses today.

"As far as the idea of the home is concerned, the home of the home is the Netherlands. This idea's crystallization might be dated to the first three-quarters of the seventeenth century, when the Dutch Netherlands amassed the unprecedented and unrivalled accumulation of capital, and emptied their purses into domestic space."

Communal rooms

In the Middle Ages, the Manor Houses facilitated different activities and events. Furthermore, the houses accommodated numerous people, including the likes of the family, relatives, employees, servants and their guests. Their lifestyles were largely communal, as areas such as the Great Hall enforced the custom of dining and meetings and the Solar intended for shared sleeping beds.

Interconnecting rooms

During the 15th and 16th centuries, the Italian Renaissance Palazzo consisted of plentiful rooms of connectivity. Unlike the qualities and uses of the Manor Houses, most rooms of the palazzo contained no purpose, yet were given several doors. These doors adjoined rooms in which Robin Evans describes as a 'matrix of discrete but thoroughly interconnected chambers.' The layout allowed occupants to freely walk room to room from one door to another, thus breaking the boundaries of privacy.

Once inside it is necessary to pass from one room to the next, then to the next to traverse the building. Where passages and staircases are used, as inevitably they are, they nearly always connect just one space to another and

never serve as general distributors of movement. Thus, despite the precise architectural containment offered by the addition of room upon room, the villa was, in terms of occupation, an open plan, relatively permeable to the numerous members of the household.'

Although very public, the open plan however encouraged sociality and connectivity for all inhabitants.

Corridor

It is believed that the segregation of rooms and the initiation of privacy may have been first founded in 1597, England at the Beaufort House, Chelsea. Designed by English Architect John Thorpe, he writes on his plans, 'A Long Entry through all'. The separation of the passageway from the room developed the function of the corridor. This new extension was revolutionary at the time, allowing the integration of one door per room, in which all universally connected to the same corridor. English-German Architect, Sir Roger Pratt states 'the common way in the middle through the whole length of the house, (avoids) the offices (*i.e.* utility rooms) from one molesting the other by continual passing through them.' Social hierarchies within the 17th century was highly regarded, as architecture was able epitomize the servants and the upper class. More privacy is offered to the occupant as Pratt further claims, 'the ordinary servants may never publicly appear in passing to and fro for their occasions there.' These prejudices between rich and poor soon influenced the integration of the corridor in housing by the 19th century.

Witold Rybczynski later states, 'the subdivision of the house into day and night uses, and into formal and informal areas, had begun.' Rooms were changed from public to private as single entryways forced notions of entering a room with a specific purpose.

Work-free house

Compared to the large scaled houses in England and the Renaissance, the 17th Century Dutch house was smaller, and was only inhabited by up to four to five members. This was due to their embracement of 'self-reliance', distinguishing the dependence on servants and encompassing lifestyles surrounded by family. It was important for the Dutch to separate work from domesticity, as the home became an escape and a place of comfort. This way of living and the home is noted to be highly similar to the contemporary family and their inhabitations. House layouts also possessed the idea of the corridor as well as the importance of function and privacy.

By the end of the 17th Century, the house layout was soon transformed to become work-free, enforcing these ideas within the long future. This came in favour for the industrial revolution, gaining large-scale factory production and workers. The house layout of the Dutch and its functions are still relevant today.

Technology and privacy

The introduction of technology and electronic systems within the house has questioned the impressions of privacy as well as the segregation of work from home. Technological advances of surveillance and communications allow insight of personal habits and private lives. As a result, the 'private becomes ever more public, (and) the desire for a protective home life increases, fuelled by the very media that undermine it' writes Hill. Work also, has been altered due to the increase of communications. The 'deluge of information', has expressed the efforts of work, conveniently gaining access inside the house. Although commuting is reduced, 'the desire to separate working and living remains apparent.' In Jonathon Hill's book 'Immature Architecture', he identifies this new invasion of privacy as Electromagnetic Weather. Natural or man-made weather remains concurrent inside or outside the house, yet the electromagnetic weather is able to generate within both positions.

Q. 3. Migration alone can never solve the unbalanced distribution of world problem. Discuss. Or

Migration only assumed international importance during the nineteenth and early twentieth centuries. Why was earlier migration restricted and why is migration less important today ?

Or

Write a note on international population movements.

Or

Outline the reasons for the migration of population to the towns and discuss the problems associated with migration movements (a) in the rural areas from which the migrants originate and (b) in the towns to which they go. Or

Describe and comment on the major international migrations which have contributed to the peopling of any one large area you have studied. Or

Describe and comment on the major currents of internal migration in any one country you have studied.

Ans. Reasons for Migration : People migrate for many reasons including economic and political ones, but underlying these is the desire for change and the challenge of life in a new environment. Only this can really account for the vast population movements, often under extremely difficult conditions, which have been taking place throughout history. It is often the idea of a new life or the search for a 'promised land', more than any concrete gain, which sets people on the move. Leaving such reasons aside however there are other clear-cut motives for migration.

1. Availability of Land : Agriculturalists who cannot make a living in their own country because there is a shortage of land or because their land is

too poor, migrate to countries where land is available. This was the motive for many migrations in the past such as that of the Norsemen or Vikings who spread out from their mountainous homeland in Scandinavia, or that of the Magyar pastoralists who moved westwards and settled on their better land of Hungary. It was also the chief motive behind most nineteenth century migrations. The USA, Australia and South Africa were settled by Europeans who were either landless peasants in search of farms or farmers who wanted larger areas of land instead of small plots.

2. Availability of Work : Unemployed town-dwellers may migrate to other towns within their own country or to urban centres overseas in order to obtain work. While in the nineteenth century most migrants to the 'New World' were rural people, in the early twentieth century most were from towns. Workers may also move to countries where they can earn higher wages, so that for instance Indians or Pakistanis may move to Britain, or southern Europeans to the industrialised countries of Germany and Switzerland.

3. Hope of Wealth : Most migrants hope to improve their income and living standards but some hope to 'get rich quick'. Mineral strikes, particularly of gold, have drawn people from all over the world. Hopeful miners are prepared to face gruelling conditions in deserts, e.g. in central Australia or polar regions, e.g. the Yukon. The search for the mythical *El Dorado* or land of gold led the Spaniards and Portuguese to conquer and later to settle in Central and South America in the sixteenth and seventeenth centuries. South Africa, too, gained population partly because of its gold mines. Many of the cities that grow up in new mineral regions are subject to rapid out-migration when the ore has been exhausted, and there are many 'ghost' towns in western USA which bear witness to this.

4. Religious Toleration : Where adherents of a particular religion are persecuted or where sects are not tolerated, people may move to escape repression to places where they may safely practise their religion. The movement of Jews to Israel and the huge transfers of population between India and Pakistan at the time of partition in 1948 are modern examples. The early settlers in the USA, whether Catholics in the South or Puritans in New England, left England at times when their branch of Christianity was not tolerated. Within the USA the Mormons, whose religion is not widely accepted, moved west to found the remote state of Utah.

5. Political Freedom : People may move to avoid political persecution or may move simply because they are dissatisfied with the form of government in their own country. Thus there has been a steady flow of refugees from communist countries since the war, in Europe and Asia. West Germany, South Korea and Hong Kong have received many of these migrants. Wars cause great numbers of people to migrate. Refugees may flee before an advancing army to avoid subjection to a new regime, to avoid the battle or because their homes and farms have been destroyed.

6. Forced Migration : While most types of the migration are undertaken voluntarily by people who want to improve their living conditions, some major population movements are effected by force, not for the benefit of the migrants but for the benefit of others. Certain groups may be thought undesirable. Racial, religious or political groups may therefore be forced to leave or criminals may be deported. Examples from the past include the 'transported' prisoners who formed the basis of the colony in Australia. Similarly, prisoners in Russia were often sent to Siberia.

More recent examples include the forcible movement of Kampuchean towns people to the countryside under the Pol Pot regime, the expulsion of Chinese from Vietnam (the boat people) and the expulsion of Asians from Uganda. Another form of involuntary migration is the forcible movement of slaves. Slave trading was practised in many areas for centuries, but that which took place in the seventeenth and eighteenth centuries to provide workers for the plantations of the USA, Latin America and the West Indies was on a very large scale. Negroes captured in West Africa were shipped across the Atlantic in such numbers that they now form a sizable proportion of the population of most American countries.

7. Push-Pull Factors : In many cases the reasons influencing migration are not clear cut and a combination of factors induces people to move. Present-day rural-urban migration in developing countries is governed not only by the pull or attraction of the cities but also by the poor incomes, hard conditions or lack of employment which push people into leaving the countryside.

KINDS OF MIGRATION

Migration takes many forms and can be classified in many ways. One basic division is between voluntary and involuntary migration outlined above; another is between short-term migration where people decide to move only for short periods and long-term where they move for good. Perhaps the most basic division is between internal and external or inter-regional migration, that is the difference between movements within a single country and movements to a new country.

1. Internal Migration : There is a constant movement of population from one part of a country to another in many countries. Only where a centralised government keeps a very tight control over people's movements, as for example in communist countries, can population movements be controlled. Elsewhere people move around in search for work, or homes or to improve their living conditions or to areas of the country with a better climate (this is a very important factor in the growth of the population in California in the USA) and governments can only hope to influence population movements by incentives to stay or move according to their policy.

(a) Long-term Internal Movements : Long-term movements from one part of a country to another are usually dictated by a search for employment or for better conditions. Political and religious motives are rarely important in internal migration. People may move away from overpopulated regions to new land. Landless farmers in Indonesia are encouraged to move to sparsely peopled regions in Sumatra and the outer islands from densely-peopled Java; Chinese people from China proper have colonised empty regions of Xinjiang (Sinkiang) and Inner Mongolia and there are also land settlement schemes in the Amazonian portions of northern Andean states. In Malaysia, too, Felda schemes help to resettle people in rural areas. New irrigation schemes or the opening up of new lines of transport, such as roads through the Amazon Basin in Brazil also encourage spontaneous rural migration.

Far more common, however, is rural to urban migration. Lack of land, underemployment or unemployment, low wages, dislike or hard conditions, the attractions of urban life, the hope of a better job, opportunities for better education and a better standard of living in towns are all inducements, especially in developing countries, to move to towns.

As cities grow with the influx of migrants or purely as a result of natural increase in population, they become congested, dirty, noisy, often dangerous because of the prevalence of hooliganism and crime. This sets off an urban to rural migration pattern with those who can afford to do so migrating to suburbs or to more distant dormitory towns where they can enjoy pleasant conditions and more spacious homes. Workers who live in the suburbs commute daily to their jobs in the city centre. This is a well established aspect of the city in the developed world and is increasingly important in developing countries as the better-off middle class expands.

In some cases urban to urban migration takes place when urban dwellers seek new jobs in another town or when excess population is encouraged to move to new towns or overspill towns. Moving a large government office or establishing a new university or setting up new industries can encourage many people to move from one town to another. In developing countries it is also a typical pattern for people leaving the rural districts to migrate first to small local towns and then on to the larger towns and cities as they become accustomed to urban life.

(b) Short-term Internal Migration : Workers may migrate within a country seasonally or even daily rather than permanently. Seasonal movements include agricultural workers who travel about to harvest crops, e.g. in California but are not required at other times of the farming year. Another form of short-term migration, especially in developed countries is holiday-making. People leave their homes for several weeks a year to stay in scenic regions, by the sea or in areas with a pleasant climate, e.g. hill stations in the tropics. In most developed countries, too, the daily migration of commutes to and from work is well established. Large cities are surrounded by rings of suburbs and other dormitory towns as much as 100-115 km (60-70 miles) from the city centres and travel to and from their work

each day. This puts great strain on transport services and also leaves the commercial centres of great cities such as London or New York virtually deserted at night.

Some continuous movements also occur. These may be related to a nomadic way of life, as already described, though nomads often move in a seasonal pattern. For instance pastoralists in the savanna may move away from the desert fringes in the dry season and back towards the desert when the rains come. Much smaller groups of people move about continuously as itinerant traders or may move around the country obtaining employment wherever possible. In Europe the Gypsies behave in this way. Some specialised workers may move continually from place to place to do the job which only they can do. The Irish 'nawies' of eighteenth and nineteenth century England moved around the country in this way constructing canals and later railways.

2. External Migration : The factors which induce people to move to a new country, often with a different language and different way of life, leaving their homes and friends far away, are necessarily stronger than those which trigger internal moves. Often they come about through a sequence of events which is described as chain migration. First the men may seek work overseas on short-term contracts, meaning to return to their families after a few years. Indentured labourers of Asian stock who went to the West Indies and Fiji, initially moved only for a period of years but when this expired they decided to stay on. Similarly Chinese and Indian migrants to Malaysia often came for a short spell and then remained. Southern Europeans today move to West Germany and Switzerland in search of better-paid employment and then eventually make their homes in their new countries. When the men settle permanently their wives and families come to join them, setting up homes and often moving from the jobs they originally came to fill to become traders and shopkeepers. Once immigrant settlements have been established other people from the home country come to join them, encouraged by the success of their compatriots. This is exactly the position with regard to Italian immigration into some British towns. Italians came to Bedford to work in the brickworks and then brought over their families. As they became more self-assured and saved some money they took to trade and bought up their families as British citizens. Bedford has the largest Italian population in Britain outside London and Italians make up about a fifth of the population. Almost all the Italians in Bedford come from a few small towns in southern Italy and have come because they know people who were in Bedford already.

Movement by Families : Not all external migration works in this way—settlement in the USA, Canada, Australia, New Zealand and parts of southern Africa and South America by Europeans has been based on the movement of whole families in search of new opportunities, although single men were initially more numerous among the migrants because they had

fewer ties, needed less money for their passages, and probably had more spirit of adventure.

One aspect of external migration in modern times is the movement of highly-qualified or skilled people as opposed to the poor in search of land or work. Skilled workers move to find better salaries and better jobs even though they could be employed at home. Thus Asian doctors and nurses choose to work in Britain while British doctors and nurses migrate to the USA in search of better conditions. This type of migration is often called the brain drain since it takes well qualified people, valuable to the community, out of the country.

Tourism : Short-term migration to foreign countries is very much on the increase today. Tourism is a constantly expanding industry and millions of holiday-makers, especially from North America, Europe and Japan, now spend holidays abroad. This is a reflection of high standards of living and also of the advances made in cheap air travel. Short-term migration, either on holiday, on professional visits, or short-term contracts of work, help to introduce people to conditions in other countries and may lead to more permanent migration. Some British people who have spent holidays in Spain subsequently buy houses there when they retire, encouraged by the lower costs of living and the warmer climate.

Slaves and Refugees : All external migration, however, is not voluntary. The movement of slaves from Africa to North and South America was entirely involuntary on the part of those moved. Refugees either from war zones or from political oppression are also forced to move to save their own and their families lives and livelihood. Examples are very numerous, the most recent being the Kampuchean and Vietnamese refugees still in camps in South-East Asia today.

Results of Migration : The results of population movements are far-reaching and can only be summarized there. Internal movements lead to the growth of towns and cities, the establishment of new towns and the spread of suburbs and urban sprawl, as well as the decline of older towns, and the rural depopulation. As a result of major population movements, especially regular ones by commuters, transport systems are developed which can benefit other aspects of the economy. In fact migration is intimately linked with the development of transport networks.

Depopulation : External migration can lead to depopulation, especially in rural areas, of the countries supplying the migrants, e.g. the depopulation of rural Ireland, depopulation of parts of West Africa by slave-raiding. On the other hand migration increases the population of the receiving countries. Migrants or their descendants account for almost all the population of the USA, Canada, Australia, New Zealand since the pre-existing indigenous populations were relatively small. In some countries migrants and their descendants are almost equally numerous as the indigenous peoples, for example in Malaysia or South Africa and this can lead to racial tension. Racial problems are not the only difficulties of plural societies however and

the case study of human diversity in South-East Asia shows that religion, way of life and external factors such as colonial competition can also contribute significantly.

Migration and Overpopulation : Large-scale migrations are usually related to overpopulation of the home country and underpopulation of the receiving country. Does it then solve the problems of population distribution ? The answer to this question is not always the same. In the past migration certainly helped to ease, if not to completely solve, overpopulation. Thus the emigration of rural workers from nineteenth century Europe and the later exodus of unemployed town-dwellers did help to relieve population pressure at critical periods when population was increasing much more rapidly than economic development. This was particularly true of basically agricultural countries such as Ireland. But present-day migrations are less effective. The world population has become so large that the movement of several thousand people from one country to another merely scratches to surface of the problem of overpopulated countries.

Combating Underpopulation : On the other hand, migration is the most effective way of combating underpopulation and shortage of labour. Slavery was one way of obtaining labour but this later gave way to the encouragement of people to migrate voluntarily by advertising the benefits to be found in the new regions, offers of free land and monetary assistance with passages. Many of these techniques are still used today to encourage people to move to sparsely populated areas. For example the Indonesian policy of '**transmigration**' encourages people to move from overcrowded Java to new land in the outlying islands. Population is continually growing in all countries, however, so that the underpopulated areas are becoming fewer. Moreover restrictions on migration are much more rigid. Not all immigrants are welcomed and only those with special skills or other advantages are encouraged—the poor, untrained or sickly whom migration could help most are not wanted by the receiving countries. Some racial groups are often considered undesirable. This is usually due to prejudice but may be partly because such groups do not conform to local ways of life. In Australia the '**White Australia Policy**' was applied at a time when the country was encouraging European immigration because it was thought that a large number of Asian immigrants would change the pattern of Australian life. In many African countries European and Asian immigration is discouraged and non-Africans already in the country may be forced to leave as from Uganda in the 1970s in pursuit of policy of Africanisation, that is the taking over by Africans of lucrative commercial and other functions hitherto performed especially by Asians.

Q. 4. Discuss the population scenario with special reference to population policy of Government in India.

Ans. Indian Population Scenario : India has the second largest population of the world. In June 1999, according to one estimate, the total

population in India was about 995 million, accounting for about 17.2 per cent of the world population. The growth trend of Indian population during the 20th century has been given in Table 1.

Table 1. India : Growth of Population (1901-2025)

Year	Population	Decade growth		Annual growth rate	Growth per cent since 1901
		Total	Per cent		
1901	238,396,327	—	—	—	—
1911	252,093,390	+ 13,697,063	+ 5.75	0.56	+ 5.75
1921	251,321,213	- 772,177	- 0.31	- 0.03	+ 5.42
1931	278,977,238	+ 27,656,025	+ 11.00	1.04	+ 17.02
1941	318,660,580	+ 39,683,342	+ 14.22	1.33	+ 33.67
1951	361,088,090	+ 42,420,485	+ 13.31	1.25	+ 51.47
1961	439,234,771	+ 77,682,873	+ 21.51	1.96	+ 84.25
1971	548,159,652	+ 108,924,881	+ 24.80	2.20	+ 129.94
1981	683,329,097	+ 125,169,445	+ 24.66	2.22	+ 186.64
1991	843,930,861	+ 160,601,764	+ 23.50	2.11	+ 254.00
1998*	983,064,225	+ 138,633,364	+ 23.25	1.90	+ 312.00
2025	1,330,201,561	+ 352,137,336	+ 22.85	1.50	+ 458.00

* Estimated population, December, 1998.

Sources : (i) Census of India 1991, and (ii) UNO, 1998-99, World Resources : A Guide to the global Environment.

Growth Pattern : The total population of India in 1901 was about 238 million which rose to 361 million in 1951 and became 843 million in 1991. The estimated figure of population in June 1999 is 995 million. The annual growth rate since 1971 is over 2 percent, while the growth percentages in 1991 and 1998 over the base year of 1901 are about 254 and 312 respectively.

Declined Birth Rate : For the country as a whole, the crude birth rate has declined during the period from 1982 to 1992 from 33.8 to 29.1. Moreover, the crude death rate has declined steadily between 1982 and 1992, from a level of 12.1 in 1982 to 11 in 1987 and 9.7 in 1992. Unfortunately, the infant mortality and maternal mortality rates are high in the Hindi-speaking states of Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan, Himachal Pradesh and Haryana. Poverty, malnutrition, a decline in breast-feeding and lack of sanitation and health facilities are all associated with high infant and female mortality rates.

India's population touched the billion mark in 2000. The population has multiplied over four times and almost tripled since 1941 (in 57 years). In the 90 years since 1901, almost 80 percent of the increase has come after 1951.

In terms of growth rates, though there has been a slight decline in the rates during the decade 1981-91 as compared to the previous one, it has been much less than expected in the context of the prolonged family planning campaign and substantial investment of financial and other resources therein. A comforting factor, however, is that the barrier of 2 per cent growth rate has been crossed, the rate estimated for 1988 being 1.90 per cent (Fig. 2).

Demographic Transition in India : On the basis of demographic transition the Indian states may be classified into three groups (i) Group A, comprising the states of Andhra Pradesh, Goa, Kerala and Tamil Nadu, which have already achieved the replacement level of fertility or are expected to reach that level in the next few years; (ii) Group B, where the pace of decline in fertility in the past decade has been substantial but not fast enough to make significant dents in growth rates, e.g., Punjab, Haryana, Karnataka, Gujarat and Maharashtra; and (iii) Group C, consisting of the states of Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan and Jammu and Kashmir where no substantial declines in fertility levels have been recorded in the past decade.

Projection : The projected population of the country as estimated by the Planning Commission shows that close to 330 million people are expected to be added in the next 20 years period, this is more than the total added during the previous two decades and almost equal to the population of India at the time of independence.

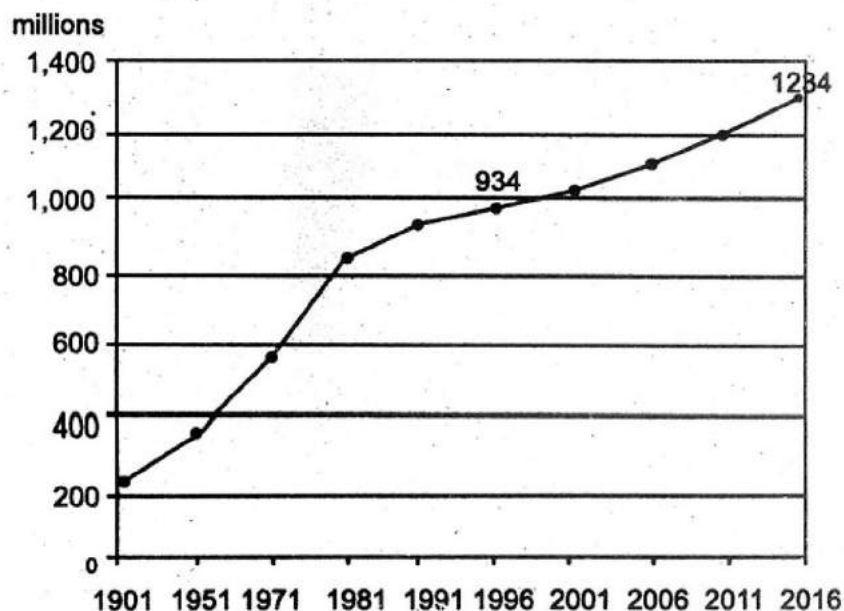


Fig. India : Growth of Population

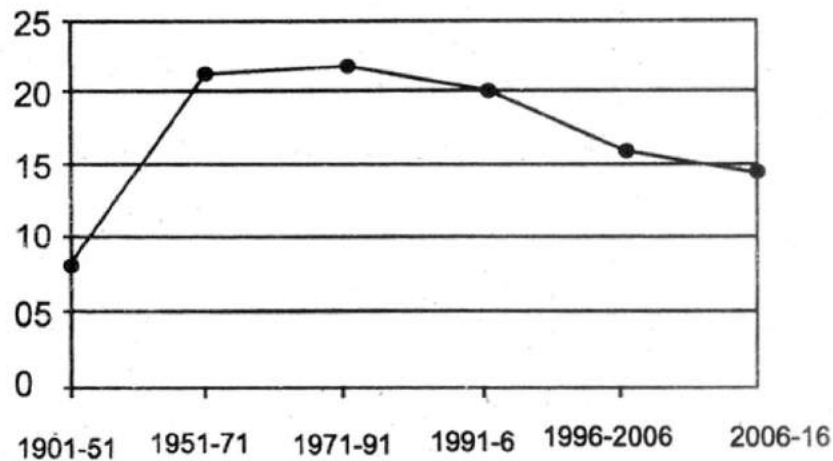


Fig. India : Declining Population Growth Rates Percentage

Growth Rate : Considering the increase in terms of growth rates, rather than numbers, India grew at 2.12 per cent per annum during 1981-1991 and during the next 20 years it is expected to grow at 1.5 per cent per annum—a fairly high growth rate considering the large population base.

The uneven growth of population will have a bearing on the political level as the states that have had a higher rate of population growth will have a proportionately large number of representatives in Parliament and hence will tend to acquire increasing political leverage. This will be a serious political issue after 2001 when the freeze on the existing number of MPs according to the Act of 1977 will come to an end.

India has 26 States and six Union Territories. The Union Territories are relatively small compared to the States, and directly administered by the Central Government. The States vary enormously in size and population. At one end of the spectrum is the mountainous State of Sikkim with a population of only 0.47 million (1996) and at the other end is the State of Uttar Pradesh with a population of 157 million. There are only four other countries in the world, namely, China, USA, Indonesia and Brazil, which have a population that exceeds the population of Uttar Pradesh.

Variations : The states vary not only in their geographical size and population count but also in terms of population density, socio-economic conditions, cultural practices, social norms regarding marriage, the status of women in society, and many other factors that influence the health-seeking behaviour and living conditions of the people, especially the productive health of women, and health and survival status of the female child.

The population picture turns kaleidoscopic when the states are looked at individually. During 1981-91, Kerala, Tamil Nadu and Goa registered growth rates for lower than the national average. These States have also

recorded a substantial decline in the growth rate as compared to earlier decades. On the other hand, among the Hindi-speaking States of Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan, growth rates continue to be disconcertingly high.

Projections Upto 2025 : Projections until 2025 (with the total population estimated at 1,380 million) reveal that it will be difficult to contain population growth even under assumptions of moderate decline in fertility. It is mainly because of the high fertility of the past and the resultant momentum of population growth. This is especially so in the case of the four large Hindi-speaking states of the North, even taking into account the fairly rapid future declines in fertility areas in these states as assumed in the projections. The combined population of these states in 2025 will be more than the population of India as a whole in 1971.

Sex Ratio : The sex ratio in India is highly skewed, *i.e.*, 927 : 1000 (1991). This is largely attributed to women's lower status in Indian society which has contributed to their higher mortality rate in all age groups upto 45. The declining trend of sex ratio may be seen from the fact that in 1901 there were 972 females per 1,000 males which declined to 930 in 1971, 934 in 1981 and only 927 in 1991.

It is the State of Kerala, in which the females have outnumbered males all along, but the ratio has been fluctuating. According to the census of 1991, the sex ratio in Kerala was 1,036 females per 1,000 of males. The overall deficiency in sex ratio in India can be attributed partly to higher mortality of females and partly to their underenumeration in the census.

Females in India have always suffered from a lower status, right from the time of conception. Women's lower status in Indian society contributes to early marriages, lower literacy, and higher fertility and mortality levels, especially during the reproductive age.

Surprisingly, the sex ratio has gone down between 1981 and 1991. The sharpest decline has occurred in Bihar, from 946 in 1981 to 911 in 1991. The possibility of relatively greater underenumeration in the 1991 census, on an especially large scale in Bihar, has also been conceded by the Indian demographers. India, except for Kerala, has had a deficit of females throughout this century.

Rural Areas : In rural areas, the sex ratio has declined from 949 in 1971 to 938 in 1991, whereas it has improved in urban areas from 858 to 894 during the same period. This is quite likely due partly to a change from male-dominated migration to family migration into urban areas and partly to an increase in rural female migration, towards urban centres.

Recently, the large metropolitan cities of Mumbai (Bombay), Calcutta, Delhi and Chennai (Madras) have experienced increasing incidence of female foeticide with the use of ultrasonography. The States of Haryana and Punjab are also having high incidence of female foeticide. It is unfortunate

that such modern techniques, meant primarily to identify genetic abnormalities or foetal growth disorders, are grossly misused, in a specific cultural context, to perpetuate biases and prejudices against the female child. Concerted efforts at the community and government levels are called for to remove such practices that discriminate against the female child.

Fertility Rate : The total fertility rate in India has gone up. If there had been no contraception, the total fertility rates among married women might now be close to nine children. The increase in natural fertility is mostly due to the relaxation of many traditional checks on fertility that prevailed in Indian society for ages and kept the fertility levels of Indian women well below the biological maximum, or the levels observed in Europe in the 18th and 19th centuries. Such checks are : (i) prohibition of widow marriage, (ii) abstinence even among married couples for a considerable period of time in their reproductive life for various religious or cultural reasons, (iii) prolonged period of lactation, (iv) terminal abstinence by couples at relatively young ages because of sons and daughters getting married or their becoming grandparents, and (v) febrile diseases that affect fecundity, such as malaria or tuberculosis, etc.

The relaxation of these traditional checks on fertility, because of modernisation and improvements in health of the couples and because of better nutrition and control of certain communicable diseases, have pushed up the natural fertility levels in Indian society. In the absence of family planning programme and increased availability and use of modern methods of contraception, the total fertility rate would have gone up in the Indian society. A more serious and rigorous family planning programme is required to reduce the fertility rate, especially in the rural areas, if the overall growth of population is to be arrested.

Life Expectancy : The average life span of a child born in India has increased over the past four decades from 32.1 years during 1941-51 to 57.3 years in 1981-91 and about 63 years in 1999. This increase is largely attributed to the implementation of various programmes of public health and control of communicable disease after independence.

Among the States, an expectation of life in 1990 of over 65 years has been observed only in Kerala and Punjab. Expectation of life below 60 years has been observed in Assam, Bihar, Gujarat, Himachal Pradesh, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh. These are also the States where the status of women, especially the female child, has been found to be considerably lower to that of the males.

It is expected that India should achieve by 2005 a life expectancy of birth greater than 70 years and by 2015 greater than 75 years.

Q. 5. Write a note on the population policy in India.

Ans. POPULATION POLICY IN INDIA

The Indian decision-makers realised the importance of population control as early as 1951-52, but a rigid policy was not adopted to arrest the

fast growth of population. In 1961-71, the population growth rate was 2.25 which was the highest at any decade after Independence. At present, the population growth rate has declined to 1.7 percent. During the post-independence period, the death rate has been controlled and medical facilities have been extended to the far-flung villages of the country, yet the explosion of population may be attributed to numerous physiological socio-economic and cultural factors.

Policy in the First Plan : When the population policy was designed in the First Five-Year Plan of India, it was realised that the base of population is already very large and the trend of population growth cannot be altered easily and quickly. The plan enunciated that the programme for family limitation and population control should : (a) present an accurate picture of the factors contributing to the rapid increase of population; (b) discover suitable techniques of family planning and devise methods by which knowledge of these techniques could be widely disseminated; and (c) give advice on family planning as an integral part of the service of government hospitals and public agencies. The meagre First Plan provision of ₹ 65 lakh for the family planning programme was too little to yield any far-reaching results.

The Second Plan : In the Second Five-Year Plan, the voluntary sterilisation population policy was introduced. The family planning programme was provided an amount of ₹ 5 crore and it was during this period that 1,650 family planning centres were established in the different parts of the country. Consequently, the family planning programme made an appreciable progress during the Second Plan.

Third Plan : The striking growth rate of population compelled the government to adopt a relatively more clear and less flexible policy of population. It was in this plan that the programme of family planning, involved intensive education, provisions of facilities and advice on the largest scale and widespread popular effort in every rural and urban community. Further, the clinical approach of the first two plans was replaced by an extension education approach aimed at bringing the messages and services to the people in the far off areas of the country through a network of family planning centres. The masses were educated about the merits of small family and the eligible couples were motivated to adopt the preventive methods of population growth. Moreover, there was more emphasis on education and employment of women. In the Third Five-Year Plan, logistics were provided for family planning which motivated about one million people to accept sterilisation.

Fourth Plan : More emphasis was laid on the family planning programme in the Fourth Five-Year Plan. The most distinctive feature of the Fourth Plan was that it set a time-bound target of reducing the birth rate from 39 per thousand to 23 per thousand by 1979. The outlay for the Fourth Plan was raised to ₹ 286 crore. Consequently, by the end of the plan, about

nine million couples were covered under sterilisation and about six million couples were covered by other family planning methods. About seven million births were estimated to have been averted during the plan period.

Fifth Plan : In the Fifth Five-Year Plan, ₹ 500 crore were provided for the family planning programme. The programme sought to integrate most of the basic services including education and public health services with family planning and nutrition of children, expectant and nursing mothers. A more rigid policy with an element of compulsion, monetary incentives, penalties and legalisation of abortion during the Fifth Plan made the Indian population policy more effective.

Sixth Plan : High priority was given to the family planning programme in the Sixth Five-Year Plan. The strategy during the plan was to integrate health, family welfare and nutrition services at all levels. Monetary incentives and full rebate in income tax for specified donations for welfare purposes were given by the government. The birth rate was to be reduced to 30 per thousand by the end of 1982-83. The vigorous population policy, followed by the Indira government in the late seventies, was opposed by the masses.

Seventh Plan : In the Seventh and Eighth Plans, a more pragmatic policy was adopted. There is more emphasis now on persuasion, publicity and family and individual well-being.

Failure : Despite all these plans and policies, the population of India is growing at a faster pace and taking the shape of population explosion. The economic development and rising standard of living are not adequate to bring down the population growth rate. The time factor is so pressing, and the population growth so formidable, that we have to get out the vicious circle through a direct assault on this problem. In the middle of the last decade, an attempt has been made to rejuvenate the National Family Welfare Programme. The Ministry of Health and Family Welfare has set up three market research organisations to conduct independent evaluation of the family planning programme and to make a diagnostic study on the perception, attitudes and practices of the people towards family planning and use of contraceptives.

Revised Strategy : The revised strategy seeks to broaden the area of family planning by including areas beyond the health sector, such as child survival, women's status and employment, literacy and education and socio-economic development including anti-poverty programmes. It also stresses to make family welfare a multi-disciplinary and integrated effort of all relevant departmental agencies and to make the programme a genuine voluntary people's movement. It is with this objective that the age of marriage is being raised for women from eighteen to twenty years. For raising the status of women, female education is getting adequate emphasis. Efforts are also being made to involve the voluntary organisations to promote family planning. Committees have been set up at the stage, district,

block and panchayat levels to discuss population growth and family welfare projects. None of these steps individually can bring the growth rate low, their package application is essential to achieve the goal of slow growth of population without affecting the declining death rate.

Q. 6. 'A rapidly growing population may be an asset or a liability.' Discuss this statement and illustrate with reference to (a) a densely populated rural area in the tropics and (b) a highly urbanised temperate industrial area.

Or

What is Over Population ? Name three areas which may be considered to be overpopulated and explain your reasons for choosing them.

Or

What are the factors that affect the rate of population growth and explain why this is an important aspect in the human geography of an area ?

Ans. According to *World Resources 1997-98* (World Resource Institute, 1998), the population of the world is about 6,000 million, but what is more significant in relation to future food production is the rate of population growth that has characterised the post-1950 and which forms the basis for the exploration of global and inter-regional population growth rate into the twenty-first century.

The population growth rate has increased dramatically since 1950, doubling in just thirty-seven years which is in contrast to the previous doubling period of population from 1,250 million to 2,500 years B.P. The growth rate of population even between 1850 and 1950 was much slower.

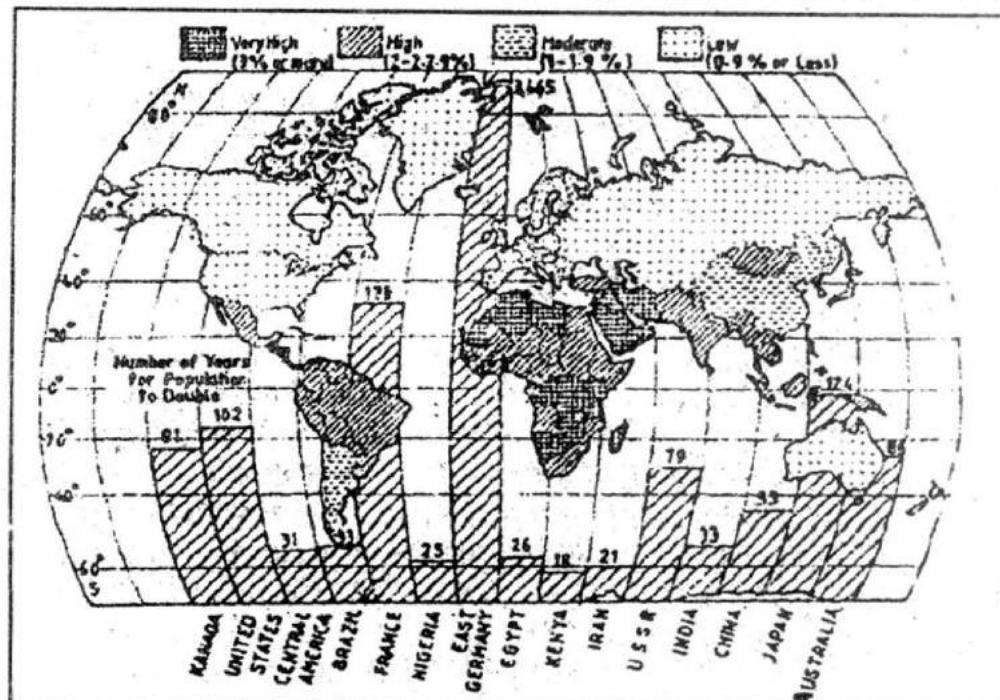


Fig. Annual Rates of Natural Increase

These trends are startling, and while they reflect increased life expectancy and improved health care, they also reflect increase in pressure that has been brought to bear on earth resources and on food producing system.

In Developing Nations : The most significant population increase has been in the developing nations where some 75 percent of the world's population is now concentrated. Although global population growth rates are gradually declining and many nations, especially in the developed world, they have undergone a demographic transition from a state of growth to one population equilibrium, there are still 31 developing countries where population growth rates are in excess of 3 percent per annum. Most of these countries are in Africa in which populations are expected to be doubled in less than twenty-three years. Elsewhere in the developing world, population growth rates are declining.

MALTHUSIAN THEORY OF POPULATION GROWTH

Thomas Malthus was an English clergyman who, in 1798, published an *Essay on the Principle of Population* in which he put forward the view that, 'the power of population is indefinitely greater than the power of the earth to produce subsistence for man'. He thought that a balance could only be maintained if famine, disease or war periodically increased the death rate and reduced population growth. His pessimistic ideas were accepted by several other nineteenth-century scholars in England and France and many people still hold similar views today. Is this pessimistic view really justified.

Context : In the first place it is important to realise the context of Malthus' work. He was not considering the world as a whole but only England. Moreover he wrote almost 200 years ago when conditions certainly justified some of his conclusions.

At the end of the eighteenth century the population of England was only about 10 million, but much of their food supply had to be produced from the limited agricultural land of the country. The Agricultural Revolution of the late eighteenth century had brought about many improvements, but farming methods and crop yields were still much lower than they are today. Changes in land tenure, brought about the enclosure of the old common fields and the formation of large farms in the place of small scattered plots, led to rural depopulation. The towns, especially those where the new factory industries had been established, grew very rapidly and were overcrowded, dirty and unhealthy. The people who lived in them were poor, under-fed, overworked and had little resistance to disease. Thus, had food supplies been reduced or population expanded too rapidly, these people would have suffered and starvation and epidemics would have reduced the population. This had already happened twice during England's history; the Black Death of the fourteenth century and Great Plague of the seventeenth century coincided with period when harvests were bad and there were food shortages. Hunger reduced resistance to diseases and bubonic plague caused the death of many thousands of people.

Malthus' Apprehension : Malthus was afraid that something similar would happen again. In his time great advances were being made in the treatment and control of diseases such as cholera, typhoid and smallpox which were still rife in England and Europe. This meant that death rates, and particularly infant mortality rates, were falling. Malthus calculated that population could double every 25 years, but no similar increases in food supplies could be expected falsifying him entered the economic and social conditions in Britain and Europe.

1. Great improvements have taken place in agricultural production as a result of better farm management, increased use of fertilisers and pesticides, use of better seeds and livestock breeds, application of soil-conservation methods and so on. These improvements led to considerable increases in the yields of most agricultural products and also allowed hitherto unusable land to be brought into profitable use.

2. During the nineteenth century vast new agricultural regions in America, Africa and Australia were opened up and large-scale plantation agriculture was established in tropical countries. Improvements in transportation not only allowed migrants to reach new areas and bring them into production, but also meant that their crops could be easily transported to Britain and Europe to supplement local food supplies.

3. The population did not expand anything like as fast as Malthus predicted. The rate of increase declined largely as a result of decreasing birth rate although death rates continued to fall. Improved standards of living, the costs of maintaining a large family and especially the difficulties of the depression and the two World Wars in the first half of the twentieth century all contributed to the trend towards smaller families and a slower rate of population growth.

Falsified in Europe : Thus, in Europe at least, Malthus' predictions were proved wrong by events. But many people still apply his ideas to underdeveloped countries, where advances in agriculture are slower and population growth much more rapid. Death rates in many underdeveloped countries have been reduced but can still be lowered considerably. In some ways this gives these countries a breathing space for if current high birth rates were combined with the low death rates of advanced countries, populations would expand so rapidly that it would indeed be impossible to feed them. On this basis, for instance, India's population could far exceed than its capacity to avail basic necessities of life in the coming century.

Reasons for Optimism : There are several reasons to hope that the future of underdeveloped countries is not as bleak as it seems.

1. Rapid and efficient means of transportation have benefited not only Europe but the rest of the world. Thus if there is famine in one area food supplies can usually be brought in from elsewhere.

2. On a world scale there is no real food shortage and in many fields, such as livestock and dairy products, output could be greatly expanded in a

very short time. But financial considerations prevent poor countries from purchasing as much food as they need or could absorb. Thus huge surpluses of wheat, for example, cannot be sold to the countries which need them most. Other food crops such as coffee, tea and sugar, of which surpluses are often produced, cannot be sold in underdeveloped countries because incomes are low and therefore demand is low. The lack of an effective market is also the chief obstacle to the production and sale of highly nutritious meat and dairy produce.

Thus the problem is not one of food shortage but of economic inequality. This inequality is, however, gradually being reduced by the development of natural resources, agriculture and industries in underdeveloped countries, which in turn earns foreign exchange and provides them with the financial resources for further development. Such improvements in agriculture and industry should eventually improve incomes and standards of living.

3. Tremendous advances have been made in agriculture in underdeveloped countries, which, with foreign aid and technical advice, are growing more staple crops and are introducing more nutritious crops not previously grown. Research into plant varieties has produced improved hybrids which have greater resistance to disease, greater tolerance to unfavourable climatic conditions and give much higher yields. The most important achievements have been in producing 'miracle' rice strains. IR8 and IR15 grown in Philippines, turned that country from a rice importer to a price exporter in the course of a few years. Moreover the nutritional value of rice has been improved in certain recently developed strains. (See Point 4).

4. Education in underdeveloped countries is being steadily improved and is gradually reaching a larger and larger proportion of the population. In the long-term education has a tremendously important role to play in the fields of agriculture, technical training to equip people for industrial employment and in spreading the idea of family planning.

All these changes in underdeveloped countries are gradual and the real test of Malthusian views of population and food supplies will depend upon the speed with which these countries can be modernised and the rate at which improvements in living standards affect birth rates.

Demographic Transition Theory : The demographic transition theory is one of the most important population theories which is the best documented by the data and statistics of recent demographic history. In its original form, the demographic transition theory was put forward by W. S. Thompson (1929) and Frank W. Notestein (1945). These scholars based their statements and arguments on the trends in fertility and mortality, being experienced in Europe, America and Australia.

The theory postulates a particular pattern of demographic change from a high fertility and high mortality to a low fertility and low mortality when a society progresses from a largely rural agrarian and illiterate society to a

dominantly urban, industrial, literate and modern society. The three very clearly stated hypotheses involved in the process are :

- (i) that the decline in mortality comes before the decline in fertility;
- (ii) that the fertility eventually declines to match mortality; and
- (iii) that socio-economic transformation of a society takes place simultaneously with its demographic transformation.

In the present-day world, as would be true of any point in time, different countries of the world are at different stages of the demographic transition. In the opinion of Trewartha, this is largely due to the dual nature of man. According to him, biologically, man is same everywhere and is engaged in the process of reproduction but culturally man differs from one part of the world to another. It is the cultural diversity of man that gives rise to varying fertility patterns in different areas resulting in different stages of demographic transition.

Stages of Transition : The demographic transition theory is characterised by conspicuous transition stages. The transition from high birth and death rates to low rates can be divided into following five stages :

- Stage I High and fluctuating birth and death rates, and slow population growth.
- Stage II High birth rates and declining death rates and rapid population growth.
- Stage III Declining birth rates and low death rates, and declining rate of population growth.
- Stage IV Low birth and death rates, and slow population growth.
- Stage V Birth and death rates approximately equal, which in time will result in zero population growth.

Causes of Rapid Population Growth : The unprecedented growth of population in the world is not due to the lower wages, unemployment and under-employment but mainly owing to the extension in the medical facilities and health care services which substantially reduced the death rates without arresting the birth rates.

Good land, flat or undulating terrain, the existence of mineral resources, a good climate suitable for a wide range of crops or a less equable climate suitable to the production of specialised crops which have a good market are all important factors in encouraging people to settle in a particular region. Similarly the extension of roads and railways into hitherto empty areas will encourage population growth because people who move to the empty region will no longer feel isolated.

It should always be remembered however that, as regards population size, the most important element in growth is the number of people there already. The most densely settled areas have the greatest increases in numbers—mainly from natural reproduction. Densely settled regions also attract migrants in search of work or an urban lifestyle. Areas of sparse

population are often prone to rural depopulation today because the densely settled regions and the major cities provide more services:

Optimum Population : The distributional pattern and density of population are highly unevenly distributed over the earth surface and same is the case with natural resources. The pressure of population on the resource base and the available technology determine whether the region is overpopulated or underpopulated. In other words, the extent to which resources are utilised and the way in which they are used determine whether an area is underpopulated or overpopulated. A country is said to have an optimum population when the number of people is in balance with the available resources. Optimum conditions can only be maintained if the exploitation of new resources or the development of other forms of employment keeps pace with increases in population. If the population becomes too large the law of diminishing returns begins to operate. Up to a certain point an increase in the number of people working on the land leads to a marked increase in production. Once the optimum population has been reached, however, a further increase may increase production but at a decreasing rate, so that output per capita declines. As more people become dependent on the same resource base, each individual will become poorer.

Inadequate Population : Contrary to this, if there are not enough people to develop all the resources of an area, its standard of living may remain lower than it could be, were its full potential realised. Thus, Brazil, with about fourteen people per sq. km., may be considered underdeveloped today. Yet, before it was colonised by the Europeans, it may not have been underpopulated even though there were fewer people, because the range of resources utilised by the indigenous population was also far smaller than the resource base exploited today. Similarly, in terms of present-day technology, Central Asia is considered underpopulated. There are vast mineral resources which could support industrial development in Kazakhstan, Uzbekistan, Turkmenistan and Russian Siberia. But, in the past, Central Asia was inhabited mainly by pastoralists who knew nothing of modern technology. The resources which they were capable of exploiting were often overstrained. Consequently, during the medieval period, waves of Central Asian people outmigrated and invaded the neighbouring and distant areas in search of food and land, and spread as far afield as Eastern Europe, South-West Asia, South Asia and China.

Underpopulation or overpopulation, therefore, must be considered mainly in terms of stage of development of the country/region concerned, and the standard by which this is measured in that of the industrial countries. An advanced country can be considered as one where agriculture, industry, communications, trade and commerce, and social services are all well-developed and the resources of the country are fully utilised.

Q. 7. With reference to any one country describe the problems encountered in providing satisfactory means of employment in a densely populated island with a rapidly growing population.

Or

How far is it true to say that metropolitan areas generate their own population problems ?

Or

Discuss the problems associated with a rapid increase of population in (a) the cities, and (b) the countryside.

Ans. Population Problems : The growing pressure of population on resource base, especially on arable land, has created many socio-economic, cultural, political, ecological and environmental problems. The population problems vary in space and time and differ from region to region. These problems may be more systematically examined if we take the problems of the developed and developing countries separately.

Problems of Developing Countries : Most of the world population lives in the developing countries. China and India support over 21 percent and 17 percent of the total world population respectively. Taking together the developing countries have over three-fourth of the total world population. The level of technological development in these countries is, however, low which is affecting the agricultural efficiency and coming in the way of industrial development, despite the availability of local resources. India, Pakistan, China, Brazil, Bangladesh, Myanmar (Burma), Nepal, Indonesia, Malaysia, Philippines, and most of the African countries are such of the developing countries. There are many countries which are underdeveloped because they have small and inadequate population (workforce) to utilise their abundant resources. Such countries include Brazil, Columbia, Peru, Zaire, Russia, Siberia, Kazakhstan, Uzbekistan, Turkmenistan, Kirgystan and Tajkistan. These countries have tremendous resources which cannot be developed because of lack of population. Their problems are often accentuated by adverse climatic conditions. Rapid growth of population, unemployment, inadequacy of housing and health, under-utilisation of resources and slow growth of industries are their main problems. Some of the important population problems of the developing countries have been briefly examined in the following parts :

1. Rapid Growth of Population : In most of the developing countries, the birth rate is high as the death rate has been checked because of the development and extension of medical facilities. Moreover, family planning in most of these countries is not practised sincerely on a large scale.

2. Unemployment : The rural areas are the places wherefrom large number of unskilled workers face the problem of unemployment. The educated and skilled technocrats also have very limited opportunities of employment. Consequently, both the educated and uneducated, skilled and unskilled workers try to emigrate to other countries in search of employment. Those who find it difficult, migrate to big towns where it is often even

more difficult to find employment. Moreover, the towns become overcrowded, making living conditions poorer, and resulting into socio-economic and environmental problems.

3. Poor Standard of Living and Malnutrition : There is shortage of nourishment, especially that of balanced diet in the developing countries. The standard of living is low and housing conditions are often poor. The standard of hygiene and quality of nutrition are also low, which lead to health problems such as deficiency diseases. The ignorance of people, the inadequacies of medical facilities, and lack of financial resources come in the way of improving the housing and health conditions.

4. Mismanagement of Agricultural Resources : By and large, most of the developing and underdeveloped countries have agrarian economy. The agriculture is mostly done by traditional methods, obsolete equipments and inadequate financial resources. Owing to the lack of funds and finances, the farmers are unable to apply chemical fertilizers and other inputs in required quantities. Consequently, the production per unit area is low. The fragmentation and small size of holdings and land tenancy systems are also some of the serious barriers in the modernisation of agriculture. In such countries, land, their ultimate asset, is thus either underutilised or misutilised. Many of the farmers, being tradition bound, do not accept the innovations and new ideas and their agricultural techniques remain traditional and production much below than their potential.

5. Slow Growth of Industrial Sector : In most of the underdeveloped and developing countries, the industrial sector is generally not very strong. There is lack of local capital which makes the actual exploitation of resources or setting of factories difficult. The work-force, though large in number, is generally unskilled and has no background of industrial development. Similarly, although the large population should provide a good market for the finished goods, the majority of the people are poor and cannot afford to buy the products. The poor industrial base, lack of capital, and poverty of people create a vicious circle and the growth of industries is hampered. The pressure on agricultural resources continuously increases.

6. Orthodoxy : As said earlier, the people in the underdeveloped and developing countries are tradition bound, and less exposed to the outside world. Moreover, they are religious in their attitudes who do not accept new ideas and modern style of life. Being religious, they do not observe family planning. Birth control is forbidden by the Catholic Church. In India, caste restrictions on occupation also help to slow down transformation of society and process of development. Most of the villagers do not adopt new cropping patterns easily. For the removal of such attitudes and for the eradication of blind faith and orthodoxy, large-scale literacy and mass education are necessary.

7. Problems of Under-population : Some of the underdeveloped countries/regions are underpopulated. The population of such countries are

different from those of the densely populated countries. In the sparsely populated countries, the growth of population, despite high birth rates, is slow. Immigration is an important source of population but it is usually to the towns. At the same time, the towns with their better social amenities attract people from the already sparsely settled countryside. Imbalance between town and country is a major problem of underpopulated countries.

(a) Being the areas of isolation and relative isolation, it is difficult to increase settlement in sparsely populated areas because people are generally unwilling to forego the amenities of the town. The government of the erstwhile Soviet Union provided lucrative incentives in the form of heavy amounts for the construction of houses in Siberia but people remained reluctant. In areas of sparse population, it is expensive and uneconomic to provide elaborate communications, health, education and other social amenities.

(b) In the sparsely populated areas, a judicious utilisation of resources is not possible. Agricultural resources are more difficult to develop because they require more and harder work over a long period of years before they show a good return. The sparsely populated countries also have slow growth of industries. There is generally a shortage of skilled labour as in the case of African, Latin American and many of the South-West, Central and South-East Asian countries. Where skilled labour is to be brought from other countries, the cost of the production of industrial goods goes up. Moreover, the small population does not provide good market even where the standard of living is high.

(c) Many underpopulated countries have hostile climatic or terrain and topographical conditions. These hostile conditions make settlement difficult or dangerous for immigrants. Such conditions obstruct development. To open up underpopulated areas is both difficult and very expensive. A sound immigration policy however, can help in the rational utilisation of resources of underpopulated regions.

Problems of Developed Countries : The developed countries are highly industrialised and urbanised. In these countries, the per capita income is not only high, most of their population is dependent either on secondary or tertiary sector. These countries, despite high degree of development, efficient agriculture and large-scale industrial production, are also confronted with many of the population problems.

1. Long Span of Life : In the developed countries, the birth and death rates are low. Moreover, the proportion of younger people in the population is relatively small and the low death rate and high life expectancy mean that there is an ever-increasing proportion of older people in the population. For example in Germany, UK and Belgium about 17 percent of their population is over 65 years of age. These retired people remain dependent on the working population.

2. Small Work-force : As standard of education improves, children remain longer at school and join the work-force later. This, combined with low birth rate, means that the labour force expands only slowly while industrial and other employment opportunities continue to multiply. Despite a high degree of mechanisation in most industries many countries are short of workers. In Europe, for example. Germany, Switzerland and Russia are short of workers. Another problem is that work-force is generally well-educated and skilled and there is a serious shortage of unskilled workers. Because the majority of workers are skilled and the work-force is relatively small, wages of unskilled workers are very high. For example, a coal miner in UK and Germany gets as high a salary as that of a university professor. Moreover, the coal miners have to work only three days or twenty-four hours per week.

3. Rural Population : There are more social amenities like universities, colleges, hospitals, banks and places of recreation in the urban areas. For this reason, the rural youth outmigrate from their villages and start their career in towns and cities. The fewer, especially the old people, living in villages. The agricultural sector suffers adversely because of the non-availability of work-force. The rural area get depopulated and consequently, less social amenities are provided in the countryside. The standard of living of the villages suffers a decline.

4. Urbanisation : As town expands, the pressure of transport, water supplies, sewage and refuse disposal grows and creates problems. Smoke and chemical effluents from factories produce air and water pollution. Traffic congestion and noise are other problems. Tension created by urban life lead to a far higher incidence of mental illness, heart troubles, breathing problems and madness in developed countries than that in underdeveloped ones.

Common Problems : Urban sprawl and slums expansion in some of the developed countries e.g., USA, are the other major issues which create many social and environmental problems. The highly productive agricultural land is encroached by urban houses, roads and industries, resulting into a decline in arable land.

Thus, the underdeveloped, developing and developed countries have some problems in common. Most of the developed countries have areas where agriculture or industry could be improved or where the population is too large and dense. Similarly, the developing countries have large towns where the problems are similar to those of urbanised societies everywhere. It is also important to bear in mind the differences between underdeveloped countries. Some have a much better resource base or a smaller population, such as Argentina, Brazil, Mexico and Malaysia. They are much more likely to be able to overcome their problems than those countries with weak resource base and a large population with rigid traditional ideas and orthodoxy, e.g. Ethiopia, Iran, Nigeria and Pakistan.

Population Dilemma of Europe : Although world population has been increasing especially in the developing countries, at an unprecedented rate since the World War and there is dismay at the international level about the fast pace of population growth, some of the European countries are facing an opposite domestic concern about population. At present, the salient features of the Europe's population are :

1. It is older than that of any other continent.
2. Population of many of the European countries is stagnating.
3. The fertility rates of the European countries (15) were below the replacement level in 1991 of 2.1 per 1,000. None of the European countries, except Albania, Bosnia, Estonia and Latvia is at present replacing its population through natural increase.
4. The total fertility rates in all the countries of Europe except Albania and Iceland are below 2 percent.
5. West Germany has the oldest population in the world, 69 per cent with small proportion of young (15%) and large share of middle-aged (69%) and 16 per cent retired people over 65 years of age.
6. Europe's population has begun to decline since 1990.

During the last three decades, the demographers of Europe emphasised on *Zero Population Growth*—a condition achieved when births plus immigration equals deaths plus emigration. An exact equation of birth and death means an increasing proportion of older citizens, fewer young people, and a rise in the median age of the population.

Problems of Zero Growth : The zero growth rate of population is creating many problems for the society and economy of Europe. Some of such pertinent problems are :

- (i) In some areas, kindergarten, nurseries and schools are closing and universities cut back in the face of permanently reduced demand.
- (ii) It is projected that by the end of the century the present unemployment will be replaced by a shortage of workers. Germany, Greece, Italy, Spain and Portugal are already facing this problem.
- (iii) There will be more burden on the government exchequers as they shall have to provide pensions and social services for about 25 per cent of their citizens older than 65 years of age. Already in Germany there are four pensioners for every ten workers, and it is hoped that by 2025 the number of pensioners will be half to that of workers.

If the present pattern of population growth (which is almost zero in most of the European countries) is not reversed, the consequences may be serious and catastrophic, which may endanger the very survival of Europeans.

Population Policies : The size of population, its structure, composition and growth rate as well as the migration pattern are closely influenced by the population policy of the respective government. Each country has its

own population policy. These policies range from encouragement of high fertility to varying degrees of discouragement. Some of the developed countries follow the policy of slow growth, also known as the policy of *pronatalism*. The countries following the policy of slow growth of population include Canada, the United States, Australia, Japan and Singapore. In these countries, the population growth rate is below one per cent. This means that their populations are near the replacement level and the birth and death rates are almost equal. In other words, the next generation of children will be about the same size as the parental generation. Contrary to this, the population policies in some of the Afro-Asian and Latin American countries are to reduce the size of population, while in Germany, Russia, Italy, France, UK etc. where the population growth rate is around or below 0.5 per cent the governments are adopting the policies of population increase. The population policies of the different countries have been formulated to achieve either of the following objectives :

- (i) to reduce the population growth rate not necessarily to zero;
- (ii) to stabilise the population by achieving a zero population growth rate; and
- (iii) to achieve a negative rate of growth with a view to reduce the size of population.

Q. 8. Describe the bases of classification of human settlements.

Or

What are the relations of settlements with roads, highways and railways ?

Or

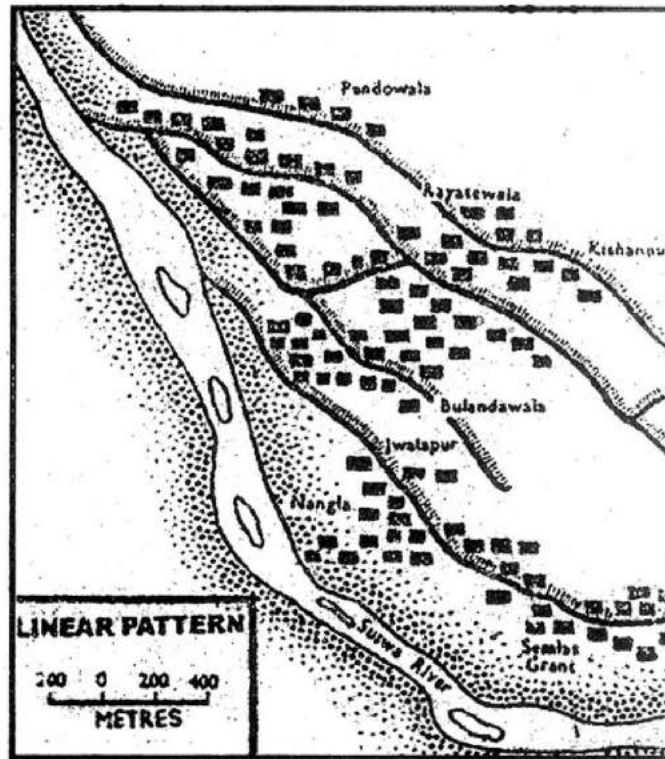
"In Human Geography houses and highways are the facts of first order." Comment.

Ans. Settlement : The study of settlement is basic to Human Geography because the form of settlement in any particular region reflects Man's relationship with the environment. Settlements have gradually grown up and evolved over a long period of time and by studying the site, pattern and arrangement of settlements we can see something of the history of Man's exploitation of the surrounding land. This is true both in Europe, where, throughout history, each new innovation in agricultural techniques has had its effect on settlement patterns, and also in underdeveloped countries, where more recent changes have modified long established settlement patterns. For instance, the Nuba tribesmen of Sudan traditionally lived on fortified hilltops where farming land was restricted, but, now that the area is more stable politically, they are moving down to new villages on the plains. The new villages have many advantages : the growing of cash crops such as cotton is easier, land is restricted and irrigation is possible. In other areas settlement patterns have been changed by an influx of immigrants who established distinctive towns and villages. European colonists often greatly modified traditional settlement patterns by bringing in styles with which they were familiar. Similarly, the introduction of new

crops and new ways of life can change settlement patterns. Thus in Malaysia, for example, where the traditional *kampung* settlement was a rather loose group of buildings, new, more compact villages were built by miners in the tin areas and on newly-established rubber estates.

Reflection of Culture :

Settlements reflect not only Man's response to his environment but also the religious and social customs of his society. Some buildings in a town or village are always reserved for public use, such as a town or village hall, a church, mosque or temple, administrative buildings or the palace of a local ruler. The type and number of such buildings help to give settlements their distinctiveness. Similarly in settlements



where several different groups of people are thrown together, the town or village may be divided into separate 'quarters' each distinguished by particular building styles or house arrangement or by different religious or other communal buildings. There is often a 'European quarter' in the towns of former colonies; African towns may have distinctive Indian sections; and many South-East Asian towns have large Chinese sections.

Classification : In fact the almost endless variety of settlements can be classified in several different ways. The most obvious division is into towns and villages. This is not merely a matter of size. In some areas of dense population villages may be very large, e.g. in China villages may house several thousand people. On the other hand, towns may be very small, smaller than many villages. Thus for instance in Germany some small towns may only



have a population of several hundred. The basic difference between towns and villages is that in towns the chief occupation of the people is trade or industry of one kind or another while in villages most of the people are engaged in agricultural work. Some other occupations are found in villages such as fishing, lumbering or mining, but such villages can be distinguished from towns with similar occupations by the smaller scale of their operations, the lack of a commercial or shopping centre and by their lack of industries.

Pattern or Shape : Settlements can also be classified by their pattern or shape. For instance, in some areas large numbers of scattered farms or homes may be spread over an area to produce a dispersed pattern of settlement. Elsewhere the people may prefer to live close together in compact or nucleated settlements. In turn such nucleated settlements may be classified according to their shape. They may be square and compact like the New Villages of Malaysia, or star-shaped, with houses spreading out in several directions. This pattern is common to both villages and towns and is caused by new development spreading out along the major roads. Another very common form of settlement in linear settlement, where houses are arranged along either side of a road, along a river bank or levee, along the edge of a valley above flood level or along the coast.

Site : Another way of classifying settlements is by their site and by their position or situation. Few settlements have grown up at random and the site on which people choose to build their town or village always has some particular advantages.

Situation : Site refers to the actual piece of ground on which the settlement is built.

Situation or position refers to the location of the village or town in relation to surrounding areas. Thus a village may be sited on a river bank above flood level. Such a site will be convenient because although water is always available the village will not be subject to inundation. This site may also

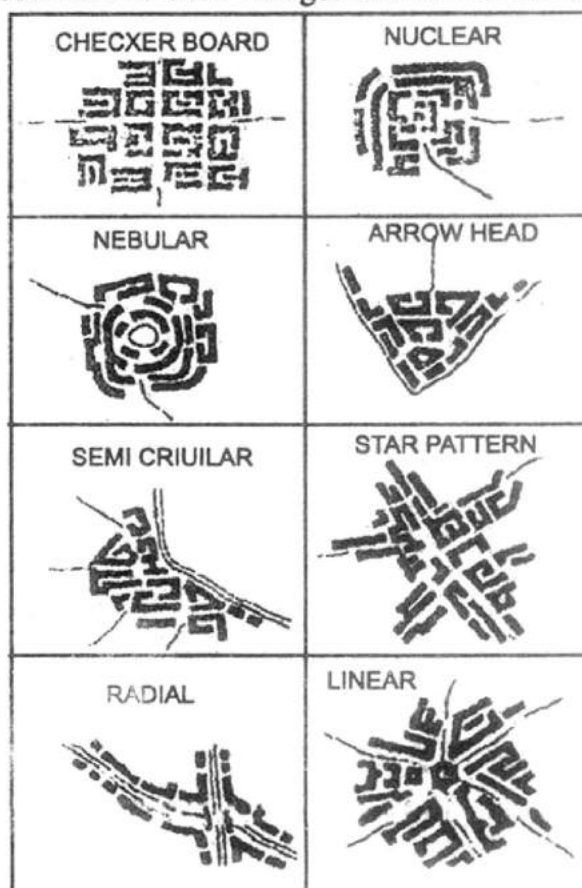


Fig. Main Patterns of Rural Settlement

have a favourable situation if the river is navigable and can be used for transport to neighbouring towns and if the land in the vicinity is fertile and easily reached from the village. On a large scale, a town may be sited at a particular point on a river where it is easy to build a bridge. The bridging-point site will have a favourable position or situation if it is a place where a number of routes converge or where it can draw supplies of a variety of materials from the surrounding area and thus establish industries. Settlements situated in the centre of fertile agricultural areas may grow into market towns. Towns situated at the borders of two contrasting areas such as mountain and plain may draw different resources from each region and thus be a centre of trade.

Interrelation : The size and pattern of settlements are often related to their sites and situations. This island settlements are often compact because the room for expansion is limited, while riverside settlements are often linear because this enables everyone's house to front the water.

Functions : In turn the site and situation of settlements are often determined by their functions. It is obvious that villages, whose function is to house and serve agricultural workers, will grow up in fertile agricultural areas but will not be built in areas with little farming potential. Towns may grow up for several purposes, some of which are more closely related to factors of site while others are related to factors of situation, e.g. mining towns are sited near mineral resources and fishing ports must be sited by sheltered anchorages, whereas industrial towns may be situated at nodal points where all the raw materials for their manufactures can be obtained, rather than where only coal, for example, is present. The major functions of towns are trade, transport, resource extraction, industrial production, defence, administration, culture and recreation. In many cases a town may have more than one major function and it is then said to be diversified in function.

Change in Function : Towns and villages may change their functions in the course of time and this may mean that the present function of a town is unrelated to its original site. Many towns for instance were sited on easily defended hilltops or islands but now that defence is not longer of paramount importance they may have become administrative or industrial towns.

In the study of settlements it is important to take all the aspects of size, shape, pattern, site, situation and function into consideration because they are closely dependent one upon the other. This makes the classification of settlements difficult but there is one fairly clear-cut division, that between rural and urban settlements. They differ in function for rural settlements are concerned mainly with one activity, usually agriculture, while towns have a number of occupations, usually including trade. Because of their different

purposes they also differ in their relationship with the environment, and the most important factors of site and situation are rather different for villages and towns. It is therefore most convenient to treat rural and urban settlement separately.

SHORT ANSWER TYPE QUESTIONS

Q. 1. What do you mean by the human settlement ?

Ans. A **settlement** is a general term used in archaeology, geography, landscape history and other subjects for a permanent or temporary community in which people live, without being specific as to size, population or importance. A settlement can therefore range in size from a small number of dwellings grouped together to the largest of cities with surrounding urbanized areas. The term may include hamlets, villages, towns and cities.

In both England and Wales, and Scotland, the term is used to denote an urban area when analysing census information.

A settlement conventionally includes its constructed facilities such as roads, enclosures, field systems, boundary banks and ditches, ponds, parks and woods, wind and water mills, manor houses, moats and churches.

Settlements can be ordered by size or other factors to define a settlement hierarchy.

Landscape history studies the form (morphology) of settlements—for example whether they are dispersed or nucleated.

Q. 2. Discuss the ecological factors affecting growth and development of settlements.

Ans. Factors Affecting Growth and Development of Settlements : Let us have a critical resume of the factors that have brought about dispersion and nucleation of settlement in the world. 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. Ecological Factors : Ecological groupings of settlements with similar or interrelated human factor attributes are dependent upon the operation of human forces. Those factors affecting the patterns of settlement include the relief, soil, conditions, climate and water supplies etc. These are the ecological forces that conditioned the modes of life of human settlements which in turn are manifested in the habitat which they inherit and transform.

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.

Q. 3. Explain the functions of rural settlement.

Ans. 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, dairying, cattle keeping, 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, gurdwara or church—with one or two shops is a centre of religious and social activities. The village panchayats (in India), and village councils in other countries perform some administrative and judicial functions. In socialist countries like Russia, Ukraine, Poland, North Korea and China, the village councils decide where, and when certain crops should be sown, irrigated or harvested.

Fishermen : 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 to the land to get their livelihood. Although the main occupation of these villages is fishing, but this may be combined with some agricultural activity.

Forest Areas : There are numerous rural settlements in the forest areas in 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.

Q. 4. What is the pattern of rural settlement ?

Ans. Patterns of Rural Settlements : Pattern of settlement has been defined as the relationship between one house or building to another. The pattern of settlement may be easily identified by reading and observing a large-scale map, like that of the topographical maps prepared by the Survey of India or the Ordnance Survey of Britain. The term 'pattern of settlement' deals with compact and semi-compact settlements only as each of the

dispersed settlements has its own shape. The rural settlements have different shapes and sizes. The site of the village, and the surrounding topography and terrain influence the shape and size of a village. In fact, the pattern of rural settlement is the result of a series of adjustments to the environment which have been going on for centuries. Moreover, socio-cultural factors like caste structure of the people living in a village and the functional needs of the people also have a close bearing on its shape and size. In the valleys in mountainous areas, the pattern of settlement is generally linear, while in the fertile plains their shapes may be rectangular; near the lakes and ponds the settlements are of circular or semi-circular type, while at the cross roads, the shape may be rectangular, circular, or triangular. In exceptional cases the settlement pattern resembles to nebular form and on the river terraces of their staircase type. The rural settlements may be broadly classified under the following patterns :

1. Rectangular pattern
2. Linear pattern
3. Circular and semi-circular pattern
4. Star-like pattern
5. Triangular pattern
6. Nebular pattern.

Q. 5. Define urban settlement. Describe the origin of towns.

Ans. What is Urban Settlement : The settlements in which most of the people are engaged in secondary, tertiary and quaternary activities are known as urban places. In other words, urban relates to cities and towns. If urbanisation is regarded as a demographic process only, then urban places are those which exceed a population size and/or density threshold. Size, density and occupations are the criteria frequently used in census and other definitions of urban places, though the particular division between urban and rural is arbitrary.

The study of urban places has been central to several social sciences, including geography, because of their importance in the distribution of population and in the organisation of production, distribution and exchange. The origin of urban places, their hierarchy, functions, morphology and demographic attributes have been briefly examined in the following pages.

The Origin of Towns : Towns, like villages, must possess the basic requirements which make settlement possible. These are water and food supplies, shelter and building materials, and some protection against natural hazards, such as floods and human enemies. But this does not mean that any village can grow into a town. This does sometimes happen but more often than not, towns and villages were developed separately because of their

different functions and the reliance of towns on certain advantageous situations. In modern times, villages may develop into towns as a result of residential and sub-urban development but in the past town and countryside were quite separate.

Q. 6. Write a short note on rectangular and linear pattern of rural settlement.

Ans. 1. Rectangular Pattern : Over 60 per cent of the world population lives in rural settlements, and most of the people inhabit in settlements of rectangular pattern. Rectangular settlements mainly develop in productive alluvial plains and wide intermontane valleys. The lanes in the rectangular settlements are almost straight, meeting each other at right angles. The rural settlements of the Sutlej-Ganga plains, especially those which developed on the crossroads, fall in this category. The well-planned settlements of Germany, Russia, Central Asian Republics, China, North and South Korea, Vietnam, Malaysia, Israel and France also fall under this category.

2. Linear Pattern : Linear pattern is the other most important design of settlements. In the linear settlements, houses are arranged along either side of a road, railway line, river or canal. Such settlements also evolve along the edge of a valley, especially in the mountainous areas, above flood level or along the coast.

The development of linear settlements in the hilly areas is largely controlled by terrain and topography. Along the river banks and the sea shore, the flood and water level influence linear settlements. Such settlements are numerous in the Middle Himalayas, Alps, Rockies, Andese, Pyrenees, Pamir, Hindukush, Zagros, Elburz Siwaliks and along the roads in the plains of Ganga-Yamuna Doab.

UNIT-III

Economy

LONG ANSWER TYPE QUESTIONS

Q. 1. Discuss the geographical factors influencing agriculture with examples.

Ans. Geographical Factors Influencing Agriculture : The distribution of crops and farm activities is everywhere influenced by environmental controls. In some environments, farming is favoured by climate, soil or relief, so that very little effort is needed to raise crops. In others, farmers are at the mercy of nature; and great skill is required to modify the environment to obtain even the barrest subsistence. The following are some of the major geographical factors that influence farmers and their work.

Climate : Climatic factors exert the greatest control over the world distribution of agricultural types. It is essentially a question of climate when grapes are not grown in the tropics and date palms flourish only in the deserts. Despite all the advances made in science, Man can do little to control climate. He cannot prevent the Siberian rivers from freezing in winter, nor is he able to lower the high temperature of the Sahara. He can at best adapt himself to the climatic environment or moderate the climatic extremes by using green houses, central heating or irrigation.

Landforms : Landforms greatly influence human economic activity. For example mountainous regions, therefore, remain sparsely settled or virtually unpopulated. Thus, physical as well as climatic controls over agriculture are profound and man can do little to alter them, except in such directions as land reclamation from swamps, marshes or shallow seas. The annual increases in the world's food production come mainly from greater intensification of farming on existing agricultural land, *e.g.* by use of multiple-cropping, use of higher yielding seeds and use of fertilizers, which all improve yields per hectare. Extension of farmlands is possible only in areas where potential croplands have not yet been fully utilized.

Soil : The soil, which is composed of a variety of minerals and organic substances, forms the physical support of plants and is fundamental to any form of agriculture. As soils are so varied in their physical and chemical composition, being so closely related to their climatic and vegetational