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SOCIAL SCIENCES FOR BEGINNERS VOLUME 1

GEOGRAPHY AND ECONOMICS

CHAPTER 1 DEFINITION, SCOPE AND BRANCHES OF GEOGRAPHY

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INTRODUCTION

Geography, the study of the diverse environments, places, and spaces of Earth's surface and their interactions, seeks to answer the questions of why things are as they are, where they are. The modern academic discipline of geography is rooted in ancient practice, concerned with the characteristics of places, in particular their natural environments and peoples, as well as the relations between the two. Its separate identity was first formulated and named some 2,000 years ago by the Greeks, whose **geo** and **graphe** in were combined to mean "earth writing" or "earth description." However, what is now understood as geography was elaborated before then, in the Arab world and elsewhere. Ptolemy, author of one of the discipline's first books, *Guide to Geography* (2nd century CE), defined geography as "a representation in pictures of the whole known world together with the phenomena which are contained therein."

This expresses what many still consider geography's essence—a description of the world using maps—but, as more was learned about the world, less could be mapped, and words were added to the pictures. The first recorded use of the word geography was by Eratosthenes, a Greek scholar who lived from 276–194 BC who is credited with creating the discipline of geography. Kish (1978) described Geography to be as old as man's search for soil to dig for planting, for a path that leads to water, for a trail to a place where hard rock for arrow heads may be found. Also, Livingstone (1992) asserts that geography has been intimately involved in exploration, at least since the time of Muslim scholar-travelers, the voyages of the Scandinavians, Chinese, and medieval Christian adventurers. But it was with the European voyages of reconnaissance, during the fifteenth and sixteenth centuries, that this first-hand knowledge of the world contributed most decisively to coherent body of geographical knowledge of the terrestrial globe.

Geography is the study of locational and spatial variation in both physical and human phenomenon on earth; Balasubramanian (2007). To most people, geography means knowing where places are and what they are like. Discussion of an area's geography usually refers to its topography—its relief and drainage patterns and predominant vegetation, along with climate and weather patterns—together with human responses to that environment, as in agricultural, industrial, and other land uses and in settlement and urbanization patterns. Although there was a much earlier teaching of what is now called geography, the academic discipline is largely a 20th-century creation, forming a bridge between the natural and social sciences. The history of geography is the history of thinking about the concepts of environments, places, and spaces. Its content covers an understanding of the physical reality we occupy and our transformations of environments into places that we find more comfortable to inhabit (although many such modifications often have negative long-term impacts). Geography provides insights into major contemporary issues, such as globalization and environmental change, as well as a detailed appreciation of local differences; changes in disciplinary interests and practices reflect those issues.

A Brief History of Geography as a Field of Study

The Greeks are the first known culture to actively explore geography as a science and philosophy, with major contributors including Thales of Miletus, Herodotus, Eratosthenes, Hipparchus, Aristotle, Dicaearchus of Messana, Strabo, and Ptolemy. Mapping by the Romans as they explored new lands added new techniques. During the Middle Ages, Arabs such as Idrisi, Ibn Battuta, and Ibn Khaldun built on and maintained the Greek and Roman learnings. Following the journeys of Marco Polo, interest in geography spread throughout Europe. During the Renaissance and into the 16th and 17th centuries the great voyages of exploration revived a desire for solid theoretical foundations and accurate detail. The *Geographia Generalis* by Bernhardus Varenius and Gerardus Mercator's world map are prime examples. By the 18th century, geography had become recognized as a discrete discipline and became part of a typical university curriculum. Over the past two centuries the quantity of knowledge and the number of tools has exploded. There are strong links between geography and the sciences of geology and botany. In the 1950s the regional science movement arose, led by Walter Isard to provide a more quantitative and analytical base to geographical questions, in contrast to the more qualitative tendencies of traditional geography programs. Regional Science comprises the body of knowledge in which the spatial dimension plays a fundamental role, such as regional economics, resource management, location theory, urban and regional planning, transportation and communication, human geography, population distribution and environmental quality.

Definitions of Geography by Different Scholars

Geography is a term with a wide variety of meanings and there is no single definition that covers the variety of activities that are performed by people that call themselves geographers or are in some way associated with the discipline of geography. Like the word globalization, the term geography is another empty signified that will have a different meaning depending on who you talk to. Indeed, there are probably as many definitions of geography as there are geographers and the question of what geography is has triggered many (sometimes vicious and, arguably, pointless) debates among geographers. Many famous geographers and non-geographers have attempted to define the discipline in a few short words. The concept has also changed throughout the ages, making it difficult to create a concise, universal geography definition for such a dynamic and all-encompassing subject. After all, Earth is a big place with many facets to study. It affects and is affected by the people who live there and use its resources. But basically, geography is the study of the surface of Earth and the people who live there—and all that encompasses.

Early Definitions of Geography

Geography, a study of Earth, its lands, and its people, started in ancient Greece, with the study's name defined by the scholar and scientist **Eratosthenes (240 BC)**, who calculated a relatively close approximation of the circumference of Earth. Thus, this academic field started with mapping the land. Greco-Roman astronomer, geographer, and mathematician **Ptolemy (AD 150)**, defined its purpose as providing "a view of the whole" earth by mapping the location of places. "Later, Islamic scholars developed the grid system to make maps more accurately and discovered more of the planet's lands. Then, another major development in geography included the use in China of the magnetic compass (invented for divination) for navigation, the earliest known recording of which is 1040. European explorers started using it in the century to follow."

Immanuel Kant (1802), *Physische Geographie* described geography as nothing less than the "foundation of history": not "an adjunct to," not "useful knowledge to have in the study of," but the very foundation of the political, economic, social, and cultural life of mankind. He summed up the difference between history and geography as history as being when something happened and geography being where certain conditions and features are located. He thought of it more descriptive than a hard, empirical science and defined geography as a synoptic discipline synthesizing finding of other sciences through the concept of area or space. **Alexander Von Humboldt (1845)**, defined Geography as a synthesizing discipline that connects the general with the special through measurement, mapping, and a regional emphasis. **Mackinder (1887)**, a political geographer, included people in his definition of the discipline, as "man in society and local variations in environment." At the time members of Britain's Royal Geographic Society wanted to ensure that it was studied in schools as an academic discipline, and Mackinder's work aided that aim.

20th-Century Definitions of Geography

In the 20th century, **Semple (1863-1932)**, the first female president of the National Geographical Society, promoted the idea that geography also encompasses "how environment apparently controls human behavior" including affecting culture and the history of people, which was a controversial view at the time.

Barrows (1923), was influential in establishing the sub disciplines of historical geography and the conservation of natural resources and the environment defined geography as the "study of human ecology; adjustment of man to natural surroundings."

Schaefer (1953), rejected the idea that geography wasn't a hard science and said that the study should include the search for its governing scientific laws, defining the discipline as "the science concerned with the formulation of the laws governing the spatial distribution of certain features on the surface of the earth." Throughout the 20th century, more sub disciplines thrived under targeted research.

Darby (1962), a historical geographer, was radical in that his area of interest was geographical change over time defined geography as "both science and art." Social geographer **Broek (1965)**, worked in the area of the field of how man affects the earth, not just the other way around, and said geography's purpose was "to understand the earth as the world of man."

Holt-Jensen (1980), has been instrumental in the study in sub disciplines of settlement geography as well as environmental, local and regional planning, defined geography as "study of variations in phenomena from place to place." Also, **Yi-Fu Tuan (1991)**, defined geography as "the study of earth as the home of people," has written about how people think and feel about space and place in a personal sense, from their home and neighborhood to their nation, and how that's affected by time.

According to Ackermann (1958), the fundamental approach of geography is the differentiation of the content of space on the earth surface and the analysis of relations of the same universe.

Vidal De La Blache (1845-1918): Defined Geography is the science of places, concerned with the qualities of potentialities of countries. The particular character of a country is expressed by the totality of its features, the social diversities associated with the diversities of places.

Geography is the chorological science of the earth or the science of the earth areas and places in terms of their differences and their spatial relations. The goal of the chorological point of view is to know the character of regions and places through comprehension of the existence together and inter-relations amount the difference realms of reality and their varied manifestation; and to comprehend the earth surface as a whole in its actual arrangement in continents, larger and smaller regions and places Hettner (1895).

Geography provides accurate, orderly, and rational description and interpretation of the variable character of the earth surface. It is that discipline that seeks to describe and interpret the variable character from place to place of the earth as the world of man. His areas of specialization were economic and political geography and the philosophy of geography and he was a proponent of geography as a chorological science. From the Nature of Geography:

The ultimate purpose of geography, the study of areal differentiation of the world, is most clearly expressed in regional geography; only by constantly maintaining its relation to regional geography can systematic geography hold to the purpose of geography and not disappear into other sciences. On the other hand, regional geography in itself is sterile; without the continuous fertilization of generic concepts and principles from systematic geography, it could not advance to higher degrees of accuracy and certainty in interpretation or its findings. (Hartshorne 1959).

Geography tells us what is where, why and what it is. Geography is the study of the areal differentiation of the earth surface, as shown in the character, arrangement, and inter-relations over the earth's elements such as climate, relief, soil, vegetation, population, land use, industries, or states, and of the unit areas formed by the complex of these individual elements. Geography is the science that describes the earth's surface with a particular reference to the differentiation and relationships of areas Bowman (1934).

Geography seeks to discover the spatial relationships of the manifold features, physical and human Woolridge and East (1951).

Ullman (1954): Geography is the interaction between spaces.

Geography is closely related to its location, specific characteristics and interrelationships of the region as a whole. This opinion was later called the Concept of Natural Attribute of place Strabo (1970).

Haggett (1969) defined geography as the study of the earth surface in the space within which human population lives.

Preston (1935): According to Preston, Geography is that field of learning in which the characteristics of particular places on the earth's surface are examined. It is concerned with the arrangement of things and with the association of things that distinguish one from another. Geography seeks to interpret the significance of likenesses and differences among places in terms of causes and consequences.

Geography is the science of interpretation of the distribution charge of holding the facts, finding the relationship between human beings with the physical environment. It explains the strength of the interaction between man and nature Debenhams (1950). Geography is the study of the patterns and processes of human (built) and environmental (natural) landscapes, where landscapes comprise real (objective) and perceived (subjective) space Wassmansdorf (1995).

Gritzner (2002): asserted that geography seeks to answer three types of questions: What is where: This is probably what most Americans think geography is based on their experience in elementary school geography memorizing the names of state capitals. The map is an exemplar of this idea as a graphical representation of where things are on the surface of the earth. "What is where" questions are commonly answered with geospatial technologies. Why is it there: This aspect of geography deals with the processes and causes that put things where they are. These questions can be more interesting than "what is where" questions in that they give an understanding of how the past led to the present, and allow us to build models to anticipate what might happen in the future

Why do we care: This aspect of geography deals with values and ethics? Values questions are often embedded within and hidden under the representations used in geospatial technology.

Rubenstein (2005): Defines geography as addressing three key issues:

How do geographers address where things are? (tools).

Why is each point on earth unique? (Idiopathic questions).

Why are different places similar? (Nomothetic questions).

Maps: Visual tools for recording and communicating spatial information.

Contemporary tools: Technology for capturing, storing and communicating spatial information (GIS, GPS, Remote Sensing)

Place: Unique location of a feature (names, coordinates, meanings).

Regions: Areas of unique characteristics (landscape, association, factors).

Scale: The size or geographic extent of a phenomenon being studied (global, regional, national, local).

Space: The distribution of features.

Interconnections: The relationships and interactions between places and regions.

International Encyclopedia of the Social Science: What geography, and geography alone, studies the areal character of the earth in which man live, the content, and the function of each areal part, region, or place and the pattern of and interactions between the areal parts.

Webster Third New International Dictionary: Geography is a science that deals with the earth and its life; especially the description of the land, sea, air and the distribution of plant and animal life including man and his industries with reference to the mutual relations of these diverse elements.

BRANCHES OF GEOGRAPHY

Geography is a synoptic science that uses the same elements as the other sciences but in a different context. It integrates data spatially, making elaborate use of maps as its special tool. Geography may be studied by way of several interrelated approaches, i.e., systematically, regionally, descriptively, and analytically. The systematic approach organizes geographical knowledge into individual categories that are studied on a worldwide basis; the regional approach integrates the results of the systematic method and studies the interrelationships of the different categories while focusing on a particular area of the earth; the descriptive approach depicts where geographical features and populations are located; the analytical approach seeks to find out why those features are located where they are.

In the study of geography two main branches may be distinguished, physical geography and human (or cultural) geography, originally anthropogeography. The first, based on the physical sciences, studies the world's surface, the distribution, delineation, and nature of its land and water areas. Climate, landforms (geomorphology), and soil are examined as to origin and are classified as to distribution. Drawing on the biological sciences, fauna and flora (biogeography) are brought into an areal pattern. Through the mathematical sciences the motion of the earth and its relationship to the sun (seasons), the moon (tides), and the planets are studied, as well as mapmaking and navigation.

Human geography places humans in their physical setting; it studies their relationship with that environment as well as their conscious activities and continuous progress in adapting themselves to it (and to other humans) and in transforming their environment to their needs. Human geography may in turn be subdivided into a number of fields, such as economic geography, political geography (with its 20th-century offshoot, geopolitics), social geography (including urban geography, another 20th-century ramification), environmental perception and management, geographical cartography, geographic information systems, and military geography.

In essence, Geography is concerned with the:

- Location
- Spatial and distribution of living and non-living things patterns and relations
- Regional characteristics of these elements on human life and settlement
- The forces that change the earth's features and processes
- Preparation of thematic maps for planning and development
- Analyses of Satellite images for various purposes
- Preparation and updating of maps for different applications

The Study of Geography of the world has grown along with the human evolutions and revolutions. The life becomes easy when there is an understanding of geography. Today, it is a very vast subject involving the scientific information's derived from other subjects like geology, biology, anthropology, economics, physics, sociology, demography and environmental sciences. It is diversified into several branches of study over the last century. Knowledge of Geography is needed for environmental planning and for all development studies. It is one subject which deals with all spheres of the planet Earth in space. Geography is a major subject developed as a consequence of human beings immediate need for functioning in the physical world around them.

There was a need to familiarize with the surrounding environment of people with seas, lakes, rivers, forests, soil, mineral resources, climatic conditions and many more aspects. Geographers explore both the physical properties of Earth's surface and the human societies spread across it. They also examine how human culture interacts with the natural environment and the way those locations and places can have an impact on people. Geography seeks to understand where things are found, why they are there, and how they develop and change over time. As you can see from the definitions, geography is challenging to define because it is such a broad and all-encompassing field. It is far more than the study of maps and the physical features of the land because people are influenced and influence the land as well. The field of geography is a vast and wondrous academic field with thousands of researchers working in dozens of interesting sub-disciplines or branches of geography. There is a branch of geography for just about any subject on Earth. Geography is much more than cartography, the study of maps. It not only investigates what is where on the Earth, but also why it's there not somewhere else, sometimes referred to as "location in space". Geography studies this whether the cause is natural or human. It also studies the consequences of those differences.

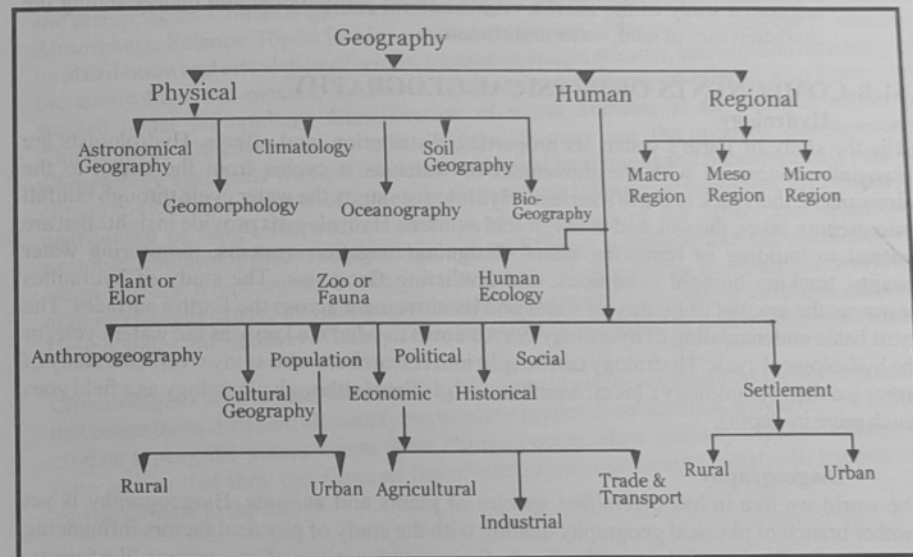


Figure 1.1: Branches of Geography (Source: <http://www.affairsguru.com/definition-of-geography>)

PHYSICAL GEOGRAPHY

Physical geography is a natural science that commonly overlaps with geology. Biology and ecology. Physical geography has evolved onto a number of overlapping subfields, although the three major subdivisions are biogeography, climatology and geomorphology (Gaile and Willmott, 1989). Physical geography generally focuses on physical systems at the landscape scale, that is, not at the scale of the globe or below the surface of the earth, which is the realm of geology.

Thus, physical geographers study how features in the landscape are formed over time (geomorphology), how fluvial systems develop, and the spatial distribution, movements, and characteristics of flora and fauna. Some of the elements studied in physical geography are climate zones, storms, deserts, mountains, glaciers, soil, rivers and streams, the atmosphere, seasons, ecosystems, the hydrosphere, and much, much more. It is concerned with the natural features on or near the surface of the earth. This branch focuses on Geography as an earth science, making use of biology to understand global flora and fauna patterns, and mathematics and physics to understand the motion of the Earth and relationship with other bodies in the solar system. It also includes environmental geography. Any basic understanding of Geography always starts with the study of

Physical Geography: Physical Geography focuses on the:

1. Earth in the Solar System,
2. The Earth's Physical Systems like atmosphere, biosphere and geospheres,
3. Land forms and processes,
4. Working of various ecosystems, their relationship with one another. It is an integrated study of the Earth's visible natural environment and understanding the characteristics of land, water and climate.

SUB-COMPONENTS OF PHYSICAL GEOGRAPHY

1. Hydrology

It is the study of Earth's water: its properties, distribution, and effects. Hydrologists are especially concerned with the movement of water as it cycles from the ocean to the atmosphere, then back to Earth's surface. Hydrologists study the water cycle through rainfall into streams, lakes, the soil, and underground aquifers. Hydrologists provide insights that are critical to building or removing dams, designing irrigation systems, monitoring water quality, tracking drought conditions, and predicting flood risk. The study of hydraulics concerns the amount of quality of water and its movement across the Earth's surfaces. The most basic understanding of hydrology comes down to what we know as the water cycle, or the hydrological cycle. Hydrology can be split into researchers who study rivers (the study of rivers is called potamology), lakes, aquifers, and glaciers (although glaciology as a field goes much more in-depth).

2. Biogeography

The world we live in has diversified species of plants and animals. Biogeography is yet another branch of physical geography dealing with the study of physical factors influencing the world distribution of plants and animals, forms and functions of ecosystems like forests, grassland, plains and mountains. Biodiversity and its depletion through natural and man-made causes, conservation and management of Ecosystems and the migration of animals over the regions and different climatic zones, are all the topics studied under biogeography. Biographers study the geographic distribution of plants and animals on the earth in the subject known as biogeography. For example, a biogeographer might document all the places in the world inhabited by a certain spider species, and what those places have in common. The field can largely be divided into five sub-fields: island biogeography, paleobiogeography, phytogeography, zoogeography and phytogeography.

3. Oceanography

Oceanography is the study of distribution, characteristics and global impacts of oceans and seas. It covers a wide range of topics including marine organisms and their life, dynamics of Oceanic systems origin and distribution of ocean currents, waves and tides, distribution of light, temperature, salinity and density in oceanic waters, ocean floor sediments and relief features and natural resources of oceans. Human impacts on oceans like thermal and marine pollution, dredging and marine operations like drilling and destroyed of coral reefs, are all the aspects studied under Oceanography. It is very vast subject and important for studying Global Climatic conditions today. For example, 18th-century mariners figured out the geography of the Gulf Stream, a massive current flowing like a river through the Atlantic Ocean. The discovery and tracking of the Gulf Stream helped communications and travel between Europe and the Americas. Today, oceanographers conduct research on the impacts of water pollution, track tsunamis, design offshore oil rigs, investigate underwater eruptions of lava, and study all types of marine organisms from toxic algae to friendly dolphin

4. Climatology

Climatology is the study of climate, which is basically the long-term pattern of temperature and precipitation. Climatology, like meteorology, is a branch of the inter-disciplinary field of Atmospheric Science. Topics like Insolation, heat budget of the earth, atmospheric pressure, its distribution and circulation of winds, monsoons and jet streams, stability and instability of the atmosphere, Air-masses, air-fronts, cyclones and patterns of rainfall distribution are studied under climatology. Classification of world climates is an essential aspect of Climatology. Global warming and climatic changes are the modern developments. Climatology also deals with various meteorological equipment and measurements used for climatological assessments of atmospheric systems. Climate geographers investigate the distribution of long-term weather patterns and activities of the earth's atmosphere. For example, climatologists make predictions about El Nino, a cyclical weather phenomenon of warm surface temperatures in the Pacific Ocean. They analyze the dramatic worldwide climate changes caused by El Nino, such as flooding in Peru, drought in Australia, and, in the United States, the oddities of heavy Texas rains or an unseasonably warm Minnesota winter.

Climatologists seek to understand: The different climate types found on earth, the processes that cause these different climate types to occur in specific places (i.e. why are there different climate types), the places where these climates occur, How and why climates change over time and so that they can forecast the effects of climate change, what will happen to the earth's climate in the future.

5. Environmental Geography

Environment is the total set of circumstances surrounding any life. Geography is the location and pattern of distribution of living things on earth. Hence, Environmental Geography deals with the spatial distribution of various ecosystems, habitat, plants, animal and human life. Man-made changes and developments are many. They have profound effects on the environment. Hence, Environmental Geography includes the study of location and the impact of industries, urbanization and deforestation on human settlements. Pollution, and environmental issues of municipal/industrial and agricultural wastes, soil and coastal erosion, are also studied under this branch. Emphasis is given to analyze the relationship between people and nature in environmental Geography.

6. **Geomorphology**
Geomorphology is the scientific study of:
- The earth's surface features,
 - Land forms of various origin
 - Forces, distribution and process that are acting on these landscapes
 - Movement of continents and plate tectonics.

The dynamic aspects of various natural processes on earth are studied under geomorphology. Geomorphologists seek to understand history of landforms and predict the future changes based on field investigations and analyze their quantitative characteristics. In Geomorphology emphasis is placed on the study of exogenous and endogenous processes shaping the surface features of the earth, and the role of geomorphic cycle. Geomorphologists study the landforms of the planet, from their development to their disappearance through erosion and other processes.

7. **Hazards Geography**

Earth is a dynamic planet. Natural hazards are happening every few minutes. Disasters are dangerous to all life. It is under these issues the subject Hazards Geography got evolved. Hazards Geography is a modern branch of geography mainly dealing with natural and manmade hazards, locations of disasters, impacts and disaster management initiatives. This subject also includes the topics like landslides, earthquakes, Tsunamis, floods and droughts and epidemics. Hazards geography concentrates on various ecological issues and remedies, zonation mapping and mitigation methods. Hazard geographers research extreme events known as hazards or disaster and explore the human interaction and response to these unusual natural or technological events.

8. **Coastal and Marine Geography**

Within coastal and marine geography, there are geographers researching the coastal environments of the planet and how humans, coastal life, and coastal physical features interact.

9. **Quantitative Methods**

This branch of geography uses mathematical techniques and models to test hypothesis. Quantitative methods are often used in many other branches of geography but some geographers specialize in quantitative methods specifically.

10. **Landscape Ecology**

Landscape ecology blends ecology and geography to show ecological processes. Researchers in this field could use physical geographic evidence showing the flow of energy, material, and people to indicate changes in ecological landscapes.

HUMAN GEOGRAPHY

Human geography is a major branch of geography that studies people and their interaction with the earth and with their organization of space on the earth's surface, it is the study of people in relation to the spaces they inhabit. These spaces can be cities, nations, continents, and regions, or they can be spaces that are defined more by the physical features of the land that contain different groups of people. Some of the areas studied within human geography include cultures, languages, religions, beliefs, political systems, styles of artistic expression, and economic distinctions. These phenomena are analyzed with statistics and demographics in relation to the physical environments in which people live. Many branches of geography are found within human geography.

The human, or political/cultural, branch of geography – also called anthropogeography focuses on the social science, non-physical aspects of the way the world is arranged. It examines how humans adapt themselves to the land and to other people, and in macroscopic transformations they enact on the world. It can be divided into the following broad categories: economic geography, political geography (including geopolitics), social geography (including urban geography), environmentalism, cartography, and military geography. Human Geography concentrates on the patterns of human settlements and activities and their relations with the environment. Emphasis is given to the study of a real differentiation, regional synthesis, dichotomy, dualism and environmentalism. It also deals with the locational analysis, radical, behavioural, human and welfare approaches, languages, religions and secularization.

SUB-BRANCHES OF HUMAN GEOGRAPHY

1. **Economic Geography**

Economic Geography deals with the primary, secondary tertiary and quaternary sectors of economy, availability and distribution of natural resources, productivity and their role in industrial development. This subject focuses on the role of geographic elements in the growth of Economy of a region and the world. It also deals with the energy crisis, food and nutrition problems and patterns of world trade. Economic geographers examine the distribution of production and distribution of goods, the distribution of wealth, and the spatial structure of economic conditions.

2. **Population Geography**

Population Geography is the study of origin, growth and distribution of population and the reasons for changes occurring in those patterns. It also focuses on the birth and death rates, spatial population of family and communities, migration of population, demographic transition and population resource regions. The population theories, world population problems and policies are also studied under population geography. Population geography is often equated with demography but population geography is more than just patterns of birth, death, and marriage. Population geographers are concerned with the distribution, migration, and growth of population in geographic areas.

3. **Transportation Geography**

Transportation geographers research transportation networks (both private and public) and the use of those networks for moving people and goods. Migration and movement have become the most inevitable aspects of life, materials and commodities. Travel and

transportation are the two basic aspects helping this mobility. A variety of transport systems have been developed over several centuries. They are all linked with geography mainly. Due to these linkages, the subject Transportation Geography got evolved, as a modern branch. Transportation Geography deals with the History of transport, modes and needs of transport systems, networks and models of transportation, cost of transport and accessibility and connectivity. It also includes the study of inter-regions and intra-regional transport. Function of transport terminals, commodity chains and freight transportation, transportation and urban forms. Emphasis is also given to transport planning and policy, traffic counts and surveys, transport safety and security.

4. Cultural Geography

Culture, heritage, architecture and civilizations have grown together over several centuries under these contexts the subject Cultural Geography got evolved. Cultural Geography examines the location, and extent of beliefs, customs and other cultural traits. Geographic distributions of cultural practices are studied in this subject. Emphasis is also given to the study of cultural regions and areas, theories of Human races, tribal groups, dwelling places and cultural expressions. Topics like Religious and ethnic diversities, religious minorities and cultural convergence are also studied under cultural geography.

5. Settlement Geography

The history of life mostly deals with human civilization, settlements and locations of employment, marketing products and entertainment. Settlement Geography deals with the site, situation, types, size, spacing and internal morphology of rural and urban settlements, city region, Primate City, rank-size rule, settlement hierarchy, theories of market centres and preferred destinations.

6. Cartography

Ancient Human civilizations have adopted crude drawings and illustrations to represent their spatial understandings of treasures, locations of importance and routes of transportation. Drawing and using of maps were started several centuries before. Cartography is the art and science of making maps. It deals with the global co-ordinate systems, projections, choropleth, isopleth and chorochromatic maps, Pie-diagrams, accessibility and flow maps, locations, symbols, attributes and feature codes on maps, data representation, digitization and reproduction of maps and the preparation of topo sheets. Topographic surveys and drawing maps are parts of this subject. It has often been said that geography is anything that can be mapped. While all geographers know how to display their research on maps, the branch of cartography focuses on improving and developing technologies in map-making. Cartographers work to create useful high-quality maps to show geographic information in the most useful format possible.

7. Industrial Geography

Increase in human population invited industrial revolution. Exploration of minerals, oil, coal, and biological resources have contributed to Industrial development. Industrial Geography deals with the growth, development and geographic distribution of Industries, classification of Industries, geographic conditions of natural resources and availability of raw materials. It also includes the location of industries and development of special economic zones at different places. Geography plays a significant role in the growth of industries.

8. Geographic Information Systems

Geographic Information Systems or GIS is the branch of geography that develops databases of geographic information and systems to display geographic data in a map-like format. Geographers in GIS work to create layers of geographic data and when layers are combine and utilized together in complex computerized systems, they can provide geographic solutions or sophisticated maps with the press of a few keys.

9. Remote Sensing

Remote sensing utilizes satellites and sensors to examine features on or near the earth's surface from a distance. Geographers in remote sensing analyze data from remote sources to develop information about a place where direct observation is not possible or practical.

10. Urban and Regional Planning

Urban planning and regional planning use the science of geography to assist in determining how to develop (or not develop) the land to meet particular criteria, such as safety, beauty, economic opportunities, the preservation of the built or natural heritage, etcetera. The planning of towns, cities and rural areas may be seen as applied geography although it also draws heavily upon the arts, the sciences and lessons of history. Some of the issues facing planning are considered briefly under the headings of rural exodus, urban exodus and Smart Growth.

11. Geographic Thought

The study of Geographic thought deals with the general character of geographic knowledge during the ancient and medieval period, foundations and development of modern geography, determinism and possibilism, areal differentiation and spatial organization. The study of era of exploration, expeditions, navigations and human thinking in terms of geospatial aspects are all analyzed in this subject.

In addition to these, there are some more branches of geography. They are:

12. Geography of Religions

This branch of geography studies the geographic distribution of religious groups, their cultures, and built environments.

13. Medical Geography

Medical Geography deals with human-environment interactions and the influence these interactions have on public health. It focuses on the geographic aspects of health, healthcare and disease. It uses the concept of Geography to investigate a variety of health-related topics (Meade and Emch, 2013). Also, hall (2000) defined medical geography as the branch of human geography that deals with geographic aspect of health (status) and health care systems. aspect of health (status) and health care systems. It examines the geographical factor which contribute to ill-health and disease (Geographical Epidemiology). Medical geographers study the geographic distribution of disease (including epidemics and pandemics), illness, death and health care.

14. Recreation, Tourism, and Sport Geography

The study of leisure-time activities and their impact on local environments. As tourism is one of the world's largest industries, it involves a great number of people making very temporary migrations and is thus of great interest to geographers.

15. Military Geography

Practitioners of military geography are most often found in the military but the branch looks not only at the geographic distribution of military facilities and troops but also utilizes geographic tools to develop military solutions.

16. Political Geography

People are spread all over the globe. Politics has become a part of human life. It becomes more serious when sea & land frontiers are invaded by others. Political Geography deals with geopolitics, global strategic views and trends, concept of a state, nation and Nation-States, boundaries and frontiers, political instability and patterns of voting. It also emphasizes the study of the ways people in different places make decisions or gain and use power within a political system. Federalism and politics of world resources are also studied under Political geography. Political geography investigates all aspects of boundaries, country, state, and national development, international organizations, diplomacy, internal country subdivisions, voting, and more.

17. Social Geography

Social Geography examines the relationships of groups of people with one another. It emphasizes on how these social relationships affect the places where people live, work and entertain each other. Ethnicity, tribe, dialect, language, caste systems, religion and concept of social well-being are also studied under social geography.

18. Agricultural and Rural Geography

Geographers in this branch study agriculture and rural settlement, the distribution of agriculture and the geographic movement and access to agricultural products, and land use in rural areas. Many human civilizations were started with agriculture, hunting, fisheries and animal rearing. Agricultural Geography is a very basic branch of geography. It deals with the concept and techniques of delimitation of agricultural regions, measurement of agricultural productivity and efficiency. Topics like crop combinations and diversification and agricultural systems of the world, are also studied. Land capability analysis, agro forestry, social forestry, dry farming, aquaculture, sericulture, apiculture livestock resources and poultry are the notable aspects coming under agricultural geography.

19. Urban Geography

Urban Geography deals with the location and extent of cities, towns and municipalities and their patterns. The geographic importance of a location in the development of cities is the prime focus of this subject. Origin and growth of cities, their communities including slums, urban morphology prime focus of this subject. Origin and growth of cities, their communities including slums, urban morphology are studied in Urban Geography. Analyzing the Problems and remedies of urbanization and sustainable development of cities also come under this subject.

The branch of urban geography investigates the location, structure, development, and growth of cities—from tiny village to huge megalopolis.

REGIONAL GEOGRAPHY

Looking at geography on a global scale, regional geography breaks the science down into more specific areas. Regional geography looks at cultural and natural aspects of geography that are unique to a particular place. Regional geography could include parceling out locations by looking at different watersheds, or just looking at coastal areas, and so on. The most common example of regional geography is by country.

Regional geographers take a somewhat different approach to specialization, directing their attention to the general geographic characteristics of a region. A regional geographer might specialize in African studies, observing and documenting the people, nations, rivers, mountains, deserts, weather, trade, and other attributes of the continent. There are different ways you can define a region. You can look at climate zones, cultural regions, or political regions. Often regional geographers have a physical or human geography specialty as well as a regional specialty.

Regional geographers may also study smaller regions, such as urban areas. A regional geographer may be interested in the way a city like Shanghai, China, is growing. They would study transportation, migration, housing, and language use, as well as the human impact on elements of the natural environment, such as the Huangpu River.

CONCLUSION

Whether geography is thought of as a discipline or as a basic feature of our world, developing an understanding of the subject is important. Some grasp of geography is essential as people seek to make sense of the world and understand their place in it. Thinking geographically helps people to be aware of the connections among and between places and to see how important events are shaped by where they take place. Finally, knowing something about geography enriches people's lives promoting curiosity about other people and places and an appreciation of the patterns, environments, and peoples that make up the endlessly fascinating, varied planet on which we live.

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