

LOCATION, SPACE AND TIME IN GEOGRAPHY

Chand Sultana

Component-I(A) - Personal Details

Role	Name	Affiliation
Principal Investigator	Prof. Masood Ahsan Siddiqui	Department of Geography, Jamia Millia Islamia, New Delhi
Paper Coordinator, if any	Dr. Taruna Bansal	Department of Geography, Jamia Millia Islamia, New Delhi
Content Writer/Author (CW)	Dr. Nasim Aktar	Assistant Professor, Department of Geography Residency University Kolkata
Content Reviewer (CR)	Dr. Abhay Krishna Singh	Assistant Professor Department of Geography Ranchi College, Ranchi University, Ranchi
Language Editor (LE)		

Component-I (B) - Description of Module

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The concept of Location:

Location denotes the geographical situation which may be a part of space or a point or position in space where objects, organisms, fields or events may be found. For geographical studies, the knowledge of location or situation is considered essential. The term location and situation are generally used synonymously. 'Location is a basic element of spatial relationships and plays a significant role in the physical as well as cultural realms. Location determines the interplay of climatic elements and influences the geographic distribution of plants and animals. Location on the globe is a physical attribute which cannot be altered by man.' (Singh, L.R. 2003, 63). Actually, location exercises a great control on the economic, social, cultural and political spheres. It is treated as the pivot of geography which influences physical phenomena like climate, and plant and animal life at the one end of the scale and socio-economic development, civilization and political status at the other.

Among different concepts in geography, the concept of location is the oldest one. Does geography enquire about the exact location of an area or any object, i.e. where it is located? To know more about location following two subjects need to be discussed:

- (i) **Site:** It means where the object is exactly located. For example, the site of Kolkata city is the delta of Hooghly river.
- (ii) **Situation:** It means the location of an object in relation to others.

In general, there are two types of location: (1) Absolute Location and (2) Relative Location.

Absolute location:

It is known as a geometrical location which is presented on the map by latitude and longitude. The latitudinal location of any place or area is of much significance. The temperature tends to decrease with increasing distance northward or southward from the equator. The latitude of a place determines the interplay of climatic elements and influence the geographical distribution of plants, animals and human population and exercises a great control on the economic, social and cultural spheres. The longitudinal location of a place has not any significant influence on organisms or human life through the time (local or standard) is determined on the basis of longitudinal location. Local time of a place increases eastward and decreases westward from Prime Meridian or Greenwich Meridian (0° longitude) at the rate of 4 minutes per degree longitude.

Relative location:

The relative location also called as the geographical situation. It is the location of a point or place in relation to another point or place. The location determined by physical or natural phenomena are also known as the natural situation. A natural situation or position of a place or area may be related to continent, sea, ocean, mountain or hill, river etc. Natural situation influences considerably human life and activities, and social, economic, political and cultural conditions. Some examples of natural situations are the continental situation, maritime situation, insular situation, peninsular situation, mountainous situation, foothill situation, intermontane situation, coastal situation.

Importance of Location:

Location means the physical composition of an area. An area is differentiated from other by its characteristics.

1. To know the exact location, we have to take help from latitude and longitude.
2. Establishment of the industry is determined by location, as it helps to know that in which place it should be located that it got the maximum benefit.
3. Site and situation of any area are determined by location.
4. Location helps to find out the distribution of any object or resources. It also provides us with other geographical information. For example, where the paddy cultivation is high, there is the availability of fertile soil as well as high rainfall.

Concept of Space in Geography

Space is the boundless, three-dimensional extent in which objects and events occur and have relative position and direction. It is no more than the collection of spatial relations between objects in the world. Space is that which results from places taken together. According to Harvey space is “a thing in itself”. The whole practice and philosophy of geography depend upon the development of a conceptual framework for handling the distribution of objects and events in space.

Geographical space is often considered as land that has a relation to ownership in which space is considered as property or territory. Space has also impact on human behaviour because it is considered as an important factor in architecture and farming system. Therefore, the impact of space found on the design and structure of buildings and agricultural system. Ownership of space is not restricted to land, it is also related to air-space and water space.

Characteristics of space

1. It is physical and active.
2. It is existing and it is in an orderly manner.
3. It is measurable and can be described.
4. It can be a point or line on a map.

Absolute Space:

It is a container which holds all the earthly matters. For example village, city, factory, forest, roads, and railways etc. Absolute conceptions of space in which space is a distinct, physical and elementary real or empirical entity in itself.

Characteristics:

1. It is physical, real which can be perceived through experience.
2. The concept of absolute space associated with German Philosopher Immanuel Kant.
3. Geographer divided the absolute space into small fragments and when these fragments are divided unevenly then it is called an area, but when these fragments are divided on a fixed parameter then it is called as a region.

Relative Space:

Relative concept of space in which space is merely a relation between events, or aspects of events and thus bound to time and process.

Characteristics:

1. discuss the relationship of different events.
2. Space cannot be judged only through absolute viewpoint. Space is depended on what people see, what he thinks and in which way it can be used. It means relative space is social space.
3. It is of various types, like, social space, economic space and relational space.

Types of Geographical Space:

There are three types of geographical space. These three types of space are independent of one another.

1. **Real Space:** This is the common geographical space which can be reflected by maps or remote sensing images and so forth.

2. **Phase Space:** It can be described by time series of the geographical system. The concept of phase space taken from physics, but it is very helpful in reflecting the regularity in the temporal series of geographical evolution.
3. **Order Space:** It is defined by referring to the definition of phase space. It is characterized by hierarchical data including the geographical data based on rank order.

Space Type	Attribute	Phenomena
Real Space	Space	Form, network, pattern, distribution etc.
Phase Space	Time	Process, evolution etc.
Order Space	Class	Size distribution, hierarchical distribution

Table: Three Types of Geographical Spaces – RPO Framework

Concept of Time

The concept of time is very important for understanding the phenomena over the earth surface. In the last four decades, time geography has elaborated the conceptual and methodological apparatus of geography. After the formulation of time concept in geography, the society and life of humans have changed dramatically. The development and role of information technology in the life of individuals have brought a change in the humans' behaviour with time. The basic concept of time geography has been formulated when the ITCs were at the beginning of their development. Originally time geography was developed by human geographers but now it is applied in different fields like transportation, regional planning, time-use research, anthropology, environmental science and public health.

Time has to be taken into account along with space. Time has a critical importance when it comes to fitting people and things together for functioning in socio-economic system. The nature and behaviour of a human being are determined by time because each element of the nature changing with time.

Developments of Time Geography

The real development of time geography started after 1950's. It has been used by the social scientists, a biological scientist and the other scientist of the interdisciplinary fields. British geographer Gillian Rose said that time geography had not been applied to issues

important to feminist, and that's why she called a time geography is a form of 'social science masculinity'. After that, the feminist geographers have re-examined time geography and they have started to use it as a tool to describe feminist issues.

GIS software such as Geo-Time has been developed to illustrate the geographic visualization of time. It has also been used as a form of therapeutic assessment in mental health.

Time Model of Haggerstrand:

Swedish geographer Torstan Haggerstrand considered as the founder of time geography in mid 1960s, based on his ideas of empirical research on human migration pattern in Sweden. Haggerstrand was inspired by the concept of philosophy of physicalism. Every living person has a life path. They deploy certain activities in a certain sequence. For example, a person goes to his/her workplace on a specific time of the day, where they stay for 'X' hours of a day before they go home, do marketing, cooking, relaxing and then go to bed, here we can see a clear pattern in the activities that every living person deploy. Haggerstrand used following assumptions in his model of time geography:

1. All physical entities have a limited life.
2. Physical entities cannot be more than one place at the same time.
3. Physical entities are limited to the task they can do.
4. All task demands time.
5. Movements use time.
6. No more than two objects can occupy the same place and the same time and
7. Every object or space has a biography.

Constraints

Haggerstrand noted that people were not completely free to form their paths. They had to stick certain constraints. Therefore Haggerstrand describes three important constraints that influence the paths of people in their life. These three constraints are:

1. **Capability constraints:** In the daily life of humans are committed to different things like eating and sleeping to function well.

2. **Coupling constraints:** People are dependent on other persons and machine to complete their activity. They are also dependent on the various possibilities within the spaces. This is the result of human interactions.

3. **Authority constraints:** People are dependent on various laws and rules to fulfill their activity.

Why are we still excited about time geography?

We are excited about time geography at present because of

- (i) It integrates space and time
- (ii) It treats activities as process
- (iii) It considers the situations that influence activities
- (iv) It develops a notion system to represent some key concepts
- (v) It relevant to many applications
- (vi) It is simple

New Applications of Time Geography:

It appears that time geography is getting attention from a wide range of fields

- (i) Public health
- (ii) Social network
- (iii) Transportation and logistics
- (iv) Social justice
- (v) National security
- (vi) Location-based service
- (vii) Marketing