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**HUMAN SETTLEMENT: ORIGIN, GROWTH AND MORPHOLOGICAL CHARACTERISTICS**

**Origin & Growth of Human Settlement**:

Human settlement begins with a village through sedentary agriculture. Growth is evolutionary (gradual), it starts from nomadism to sedentary agriculture then the need for settlement became obvious with improvement in agriculture. Villages grew and became bigger and stronger. There were no settlements until when man decided to move to sedentary agriculture.

In about 8000 BC, at the end of the last ice age the world’s population consisted of small bands of hunters and collectors living mainly in subtropical lands and at a subsistence level. These groups of people who were usually migratory could only support themselves if the whole community was involves in the search for food. At this time, two major technological changes, known as the Neolithic revolution turned the migratory hunter- collectors into sedentary farmers. The first was the domestication of animals (sheep, goats, cattle) and the second the cultivation of cereals (wheat, rice and maize). Gradual improvements in early farming gradually led to food surpluses and enable an increasing proportion of the community to specialize in non-farming tasks. The evolution farming appears to have taken place independently but at about the same time in three river basins.) i) Tigris-Euphrates, ii) Mesopotamia, the Nile and iii) Indus.

These areas had similar natural advantages such as

* Hills surrounding the basins provided pasture for domestic animals.
* Flat flood plains next to large rivers.
* Rich fertile silt deposited by the rivers during times of flood.
* A relatively dry but not too dry climate, which maintained soil fertility, prevent leaching, and enabled mud from the river to be used to build houses.
* A warm subtropical climate and a permanent water supply from the rivers for domestic use and as farming developed for irrigation.

By 1500 BC, larger towns and urban areas had developed with an increasingly large range of functions. Administrators were needed to organize the collection of crops and the distribution of food supplies and also exchange surplus goods with other urban centres and early engineers introduced irrigation systems. Craftsmen were needed to make farming equipment and articles. The oldest known pottery woven, textiles were found in Yuchanyan Cave, Hunan, China. As towns continued to grow, it became necessary to have a legal system and an army for defence.

During this period, people settled around Mesopotamia because of the rich fertile farmland. The land was so rich because of the Tigris and Euphrates river valley. The people of ancient Mesopotamia didn’t exactly come from anywhere. They went wherever their crops grew, they went wherever animals were as well, and they travelled a lot.

Ancient Mesopotamia was located in between the Tigris and Euphrates river valleys. It current location is in present day Iraq. Many early Mesopotamians spoke Sumerian up until Sargon of Akkad started his empire. From then on, many spoke Akkadian. Ancient Mesopotamians believed in Shamanism and Animism. Shamanism is when people meditate to a point where they feel like they’re sleeping. They believe that it helps them reach the spirit world; animism is when people believe that everything has a spirit and mind. The settlement in Mesopotamia never really ended. The settlement turned into a town and became more modern. It is now modern day Iraq. The Ancient Mesopotamians grew many things. They grew barley, onions, grapes, turnips, and apples

**Morphology of Rural Settlement**

* Morphology refers to the internal structure or the constructional plan of a village which includes the layout of streets and roads, arrangement of houses, pattern of housing, geometrical size and shape of village and agricultural fields, location of either the water body, religious site, or the house of the village headman.
* Rural Morphology includes
	+ Physical Morphology
	+ Social Morphology

**Physical Morphology**

* Physical Morphology includes the study of the relationship between the following:
	+ Road to lane relationship: It includes how roads are connected to lanes.
	+ Lane to lane relationship:
		- It is description of geometrical arrangement of lanes. How they are connected to each other and ending at what points.
		- In Indian villages, lanes are extremely narrow meandering and ending abruptly. This shows unplanned character of Indian villages.
		- In UK, cruciform villages have all the lanes cutting across 90 degree, because they are planned villages.
	+ Lane to house relationship:
		- Geometry of lanes determines the arrangement of houses because houses grow along lanes.
		- In India, lanes are largely unplanned and arrangement of houses determines the lane type.
	+ House to house relationship:
		- Physical morphology is also determined by the spacing between the houses.
		- In clustered villages, houses are unevenly spaced or they have wall to wall arrangement.
		- Houses are hardly according to geometrical plan and their average height is variable.
		- There is clustering of houses based on social structure/cast system.
		- Role of geometrical shape of the agriculture field also determines the village pattern.
		- House type can range from ‘Pucca’ to ‘Kutcha’ and in older parts of villages, ventilation is closed to the roof (depends on whether village is developed or not).

**Social Morphology**

* It refers to the social structure of a village which is based on cast, or class.
* In Indian villages, caste hierarchy is reflected in the morphology of villages.
* Social factors like division of work, untouchability (not so prominent now), social prohibition over the work of women and lower casts had all led to a distinct social morphology of Rural Settlements from urban ones.
* The following factors affect the following morphological character of villages:
	+ Arrangement of buildings
	+ Pattern of streets and fields
	+ Functional characteristics of settlement.
		- For example, the houses of higher cast people like Brahmins and Rajputs would be large and people from the lower cast would have huts, kutcha houses with cattle.
* The intermediate regions of rural settlement comprise of the people of service casts like Ahirs, Jats, Loth, etc.
* Cast based hamlets at times emerge. These are closely linked with centre under the Jajmani system (inter cast cooperation like higher cast people requiring lower cast people for some specific work like ironsmith) and act like a unit.
* K. N. Singh in his religious ritual and secular dominance model highlighted the importance of two concepts:
	+ Development of twin settlement which included:
		- Caste Hindus
		- Outcasts
	+ The segregation was much pronounced during the past favouring the outgrowth of the helmeted structure of villages, In the case of compact settlements out-castes generally lived on the outer parts of the built-up area in a direction (south, south-east, and north, etc.) less conducive for wind movement, for even air gets polluted after coming in contact with a Shudra‘s body.
	+ How and why these traditions came into being is a matter of debate amongst scholars, but the author believes these untouchables to be the remnant of the pre-Aryan tribes who were always despised by the Aryans and later Rajput settlers.
	+ Secular dominance model: Under this model, all caste and religion came together as functional units under the old Jajmani system. For example, landowners required the services of landless people for the cultivation of fields.
* Thus, the socio-cultural traits of rural settlement is also a field of study in the settlement system

**Morphology of Urban Settlement:**

Urban morphology comprises the structure of a city and pattern or plan of its development. It is actually the layout of a city both in its historical as well as geographical contexts which gives it individuality. Therefore, the internal pattern or structure of each city is “unique in its particular combination of details”.

Combinations involving structure of most American cities have business, industrial and residential districts. The cities of the Western world in their structure display generally city centre or downtown, Central Business District (CBD) including shopping centre, industrial estate, and housing estate giving it a spatial framework in order to make sense of the environment in which people live and work.

In case of an Indian town, some of the components of urban morphology are site characteristics, historical background, sky-line, green open spaces, and water bodies, physical and cultural dominants. In combination of these elements from the ‘urban landscape’ which is actually the soul and spirit of physical morphology of a town.

Speaking precisely, morphology of a town is a geographic-historical interpretation of its site, situation or modality and existing layout and arrangement of houses as well as streets and loads. It also includes within its purview the development of different parts of the town and analysis of its boundary in different phases of history as well as explanation of existing land use. Urban morphology 01 a town’s anatomy and physiology are mutually interrelated.

The town is both a historical and geographical fact. Its morphology represents various elements which form part of its structure, plan and growth. Its relief and terrain on which its nucleus seeks origin form a base. Its expansion from the nucleus shapes its morphology through streets and roads, houses and buildings and finally develops its functions as a trading and commercial centre with all the complexities of its adminis­trative and cultural services.

Its plan, during various phases of history may change to cope with the changing urban-scene. In India, the town plans represent a sequent occupancy of settlement by their inhabitants during the course of past history right from its origin to the present day. Morphology of towns in India therefore has distinct phases like ancient, medieval and modern layouts including sprawl with the rapid increase in population after independence.

Most ancient settlement in the Indus Valley had typical morphology known as ‘grid-iron’ of main streets running north-south and east-west dividing the town roughly into blocks of equal size. The rectangular plan of the urban morphology was designed to conform to the needs of some sort of ceremony – religious or secular or both – in which the terrace or terraces played a dominant role, and to which proces­sional access was required.

In the Vedic period, the town plans and their morphology represented “rectangular layout with its sides oriented to the four quarters and intersected by two avenues terminating in four gateways”, the centre being occupied by a temple or palace, tank or garden. Towns in ancient India had their typical characteristic of morphology which has had its indelible marks of religion and culture even in today’s civic planning and expression.

The morphological pattern of quite a few towns of India represents the articulation of streets, sitting of public buildings and monuments adjusted to the direction and position of their initial nucleus – ‘temple’. Udaipur’s morphological nucleus is the Jagdish temple – temple of the ‘Lord of Universe’ -, and it is sited perfectly where the principal street of the city is articulated with the Sun-Gate in the east in a manner to allow first rays, of the Sun-god been-showered the idol.