houses in the later stage most houses are now clubbed together to Combat the enemies and farming land was available beyond the houses. There were more homogenity in terms of Socio-cultural aspects and agricultural productivity increased as labour available to work on each-other's land.

...rity in isolated ...work linked the various villages and urban agglomeration came into existence.

(ii) **Roy Burman's Model**—He selected 263 districts of India and selected 63 villages among them, after selecting several indicators and parameters he could reach to this model.

He gave his model in five different stages having different characteristics as follows :

Stage	Literacy Rate		Work Participation Rate		Manufacturing	Remarks
	Male	Female	Male	Female		
I. Primative	Nil	Nil	Very high	Very High	Nil	Subsistence agriculture technology Primitive
II. Archaic	Low	Nil	High	High	Household Industries and technology low	Interaction among some villagers for sale of some products

Scanned by CamScanner

III. Feudalastic	Low to average	Very low	Medium High	Low	Many activities involving males and females but for agriculture basically	Development picking up, small scale industry, gap between male-female increase
IV. Capitalistic	Average to high	Average	Going down as production going up	Going up	Going up. Concentrated in few hands, mechanisation takes place	Profit maximisation is the main motive and not welfare of general masses
V. Welfare	High	High	Average	Average	Ancilliary, tertiary and service sector grows GDP increases	

(iii) **Ramchandran and Srivastava**—They described their theory in the following four stages :

Stage I—Self sufficient village—Here no interaction with the other village is observed in beginning. But once a central place evolved some interaction do take place as some of the villagers do tend to interact with it to get the basic amenities.

Stage II—Due to internal pressure of some settlements, central places evolved. And the development waves from these central places move to the surrounding villages i.e. When urban centre develops, demand of land increases, it leads to the demand of several things say for example, Dairy products. This helps to the establishment of a large number of small industries in the surroundings in order to fulfil the demand of the people.

Stage III—This lead to the shift in land use pattern near the urban area and change of occupational structure seems most evident. People start migrating from rural to urban areas and agriculture taken a back seat in the region.

Stage IV—Original land use pattern of places in vicinity of urban places is now devoted to meet the needs of urban population for ex.: cold storage, warehouses etc. developed in the surrounding areas. Gradually other economic nodes come up and an urban agglomeration is formed there.

Spacing of Settlements—It is the extent of spread of settlement in relation to size of study area. Spacing can be categorised broadly as :

(i) Random

(ii) Clustured

(iii) Even

(iv) Sparse

(i) **Random**—Here settlement in space do not follow any particular pattern of distribution.

(ii) **Clustured**—Where all the settlements are located at a particular pattern.

(iii) **Even**—When settlements maintain an even pattern of distribution.

(iv) **Sparse**—Settlements located sparsely over the space.

Such spacing can be based upon—

(i) Physical factors

(ii) Cultural factors

(iii) Historical evolution etc.

Methods to Find Out the Spacing of Settlements

Near Neighbour Distribution or Analysis—This method was put forward by P. J. Clark and F. C. Evans, both botanists, their aim was to find out the productivity of plants as an impact of their spacing/distribution over space. In the settlement studies it is a borrowed concept from botany.

$$\gamma = \frac{R \cdot A}{R \cdot E}$$

where R. A

$$= \frac{\text{Sum of near neighbour distances } (\Sigma NND)}{\text{Total settlements}}$$

$$\overline{R \cdot E} = \frac{1}{2\sqrt{P}}$$

where $P = \dfrac{\text{Total settlements}}{\text{Total area}}$

Value of γ should be always between 0–2·1419