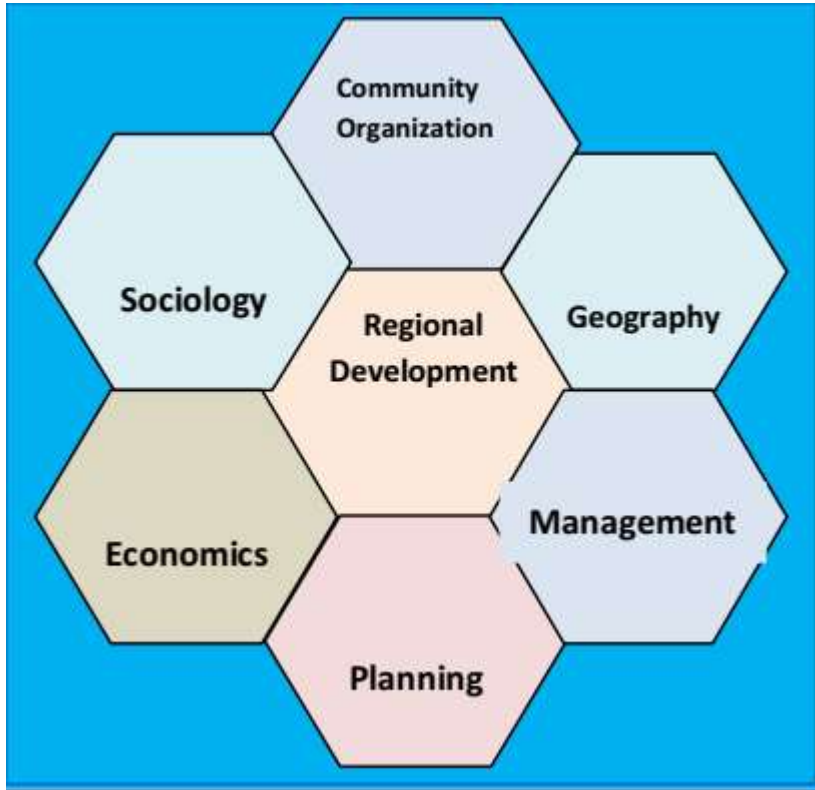


Regional Analysis: Concepts to Development

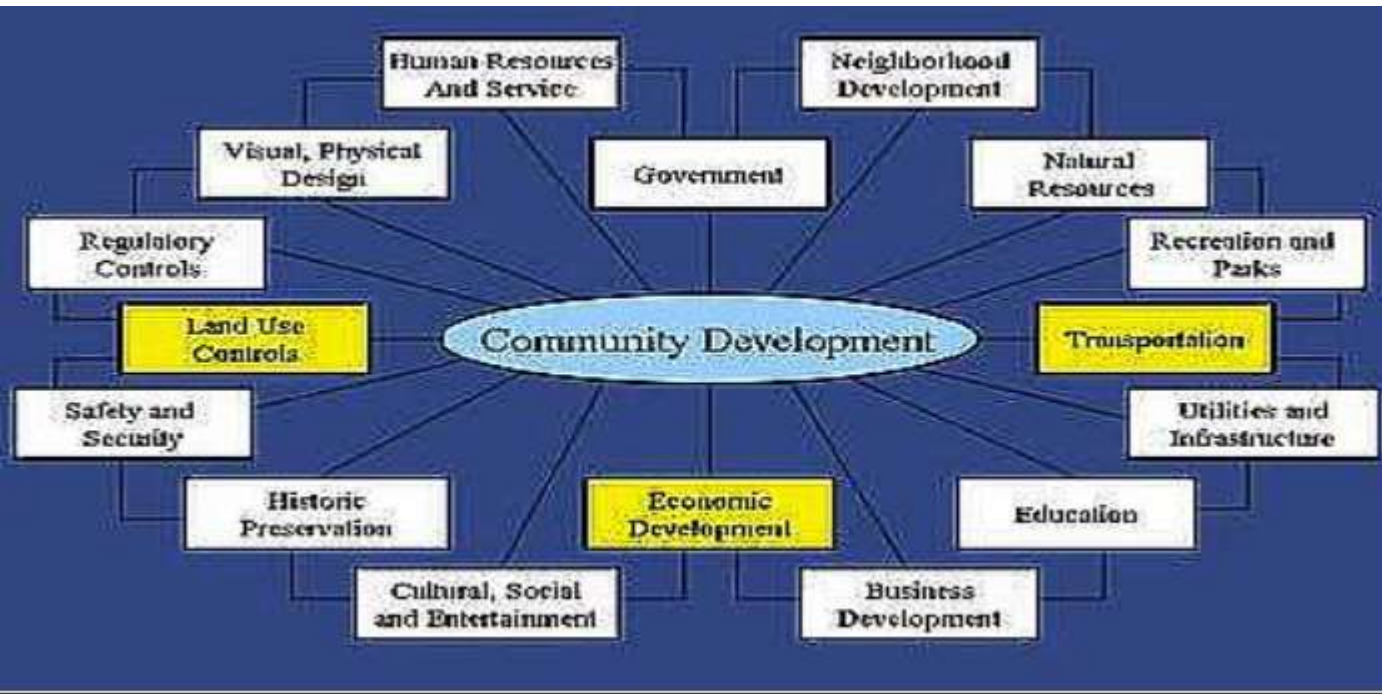
Dr Swarnima Singh

Concept of Region



- 1. Concept of Region** - Functional and Formal Regions - Techniques of Regional Delimitation.
- 2. Classification and hierarchy of regions** - Regionalization in India - Concept of Rural- Urban Continuum.
- 3. Definition. Scope and Content of Regional Planning** – Regional imbalances and inequalities in India – Backward Area Development – Industrial Estates and Clusters – Sub plan approach
- 4. Methods and techniques of regional analysis and development-** Export Base Model - Neo-classical Model - Input –Output Analysis.
- 5. Theories and model:** Central Place Theory. Growth Pole Hypothesis - Myrdal's Theory of Cumulative Causation,
- 6. Directions in Regional Planning. Town and Country Planning** - River Valley Planning- Resource Planning - Multi –level Planning - Need and Methods of Micro-level Planning. Relevance of micro-level planning in community development.

Concept and Meaning of Region



Region means a tract of land; any area; a portion of earth's surface.

There are two aspects of Region

- 1) Spatial dimension-objective reality
- 2) Non spatial dimension-subjective idea-mental construct-spaceless

What is a "Region" ?

- **an area with certain characteristics**, often-mere size, by virtue of which it is adopted as a suitable unit for some particular purpose of business and administration.
- It is also **an area which is homogeneous in respect of some particular set of associated conditions**, whether of the land or of the people, such as industry, farming, distribution of population, commerce, or the general sphere of influence of a city.
- A region in general terms is envisaged as a natural unit, in contrast to the artificial unit created for administrative purposes.

Definition of Region

- “A unit characterised by the sum total of its physical and human elements.” (Irish Bowman)
- “A vital unit as well as physical one, a symbiosis on a vast scale. It is more than an association of plants, or of animals or of man. it is *a symbiotic association of all these, indissolubly bound up* with certain structures and forms of the land, possessing a definite water circulation and subjected to seasonal climatic rhythm.” (Herbertson, 1913)
- A region is neither “self-determined nor nature given. It is...an entity for the purpose of thought, created by the selection of certain features that are relevant to an areal interest or problems and by the disregard of all features that are considered irrelevant.” (D. Whittlesey)

Region-area larger than the community



- **Three locality groups**
 - 1. Neighbourhood:** A group of people experiencing social interaction with in a localized area with one or two social institutions as the local point or means by which the area can be identified physically is thus a neighborhood.
 - 2. Community** is the first social group in modern life that approaches self sufficiency (a group is self sufficient when it possess most of the (important) major social institutions.
 - 3. Region**
- **Use of the concept-**
 1. To divide the space into relatively homogeneous units
 2. To further our analysis and understanding of specific studies
- **Purpose of the concept:**
 1. Delineation of the space into homogenous units
 2. To study the human association with in a specific regional environment
 3. To facilitate comparison

- **Definition of region is limited by the purpose**

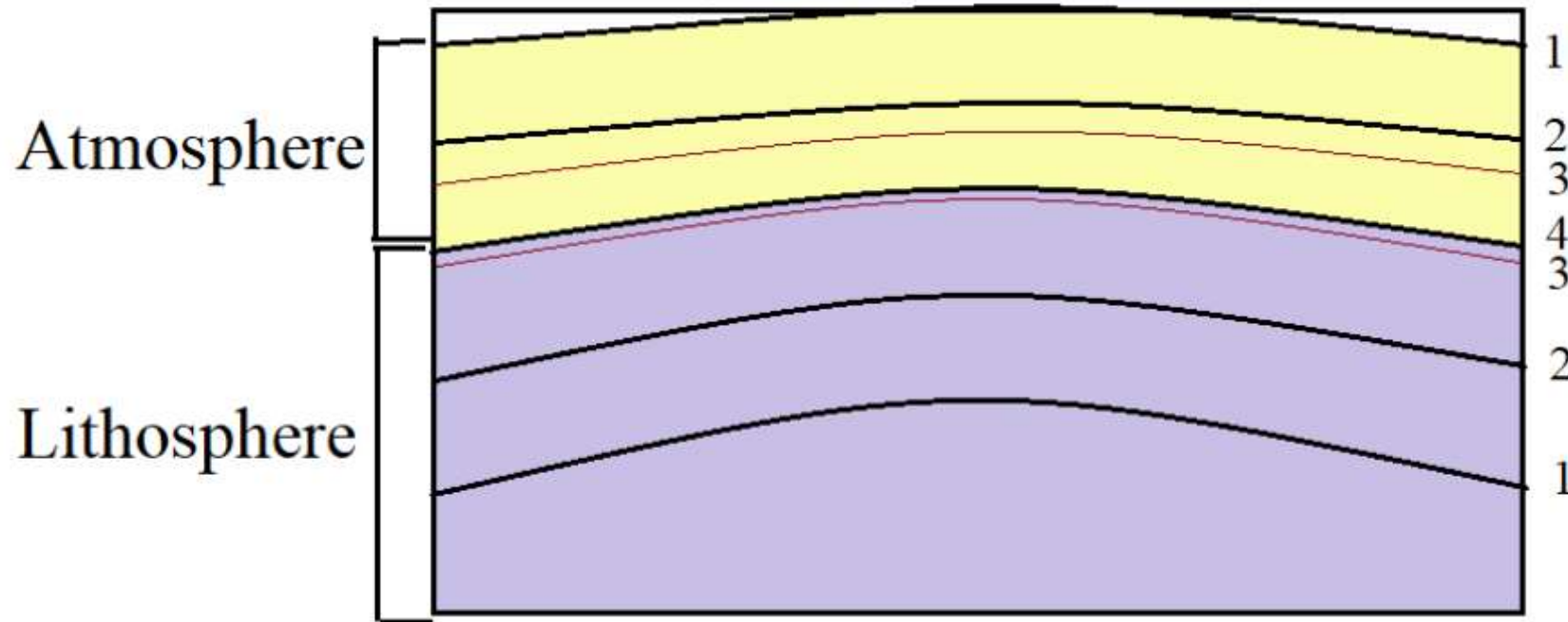
A large tract of land; a country; a more or less defined portion of earth's surface, as distinguished by certain natural features, climatic conditions, a special fauna and flora or the like.

- ❑ An area, space, or place of more or less definite extent or character.
- ❑ Any portion of space considered as possessing certain characteristics-
Mill
- ❑ An area of earth's surface differentiated (from adjoining areas) by one or more features or characteristics which give it a measure of unity, According to the criteria employed in differentiating regions are termed as physiographic regions, political regions and economic regions.
- ❑ An area homogenous with respect to certain announced criteria-
James

- ❑ Any portion of earth's surface where physical conditions are homogeneous can be considered to be a region in the geographic sense-Joerg
- ❑ A region is a complex of land, water, air, plant, animal and human beings, having spatial relationship, which constitute a definite portion of earth's surface-Herbertsorn
- ❑ An area with in which historical and environmental factors have combined to create relatively homogeneous social structure and a conciseness of individually

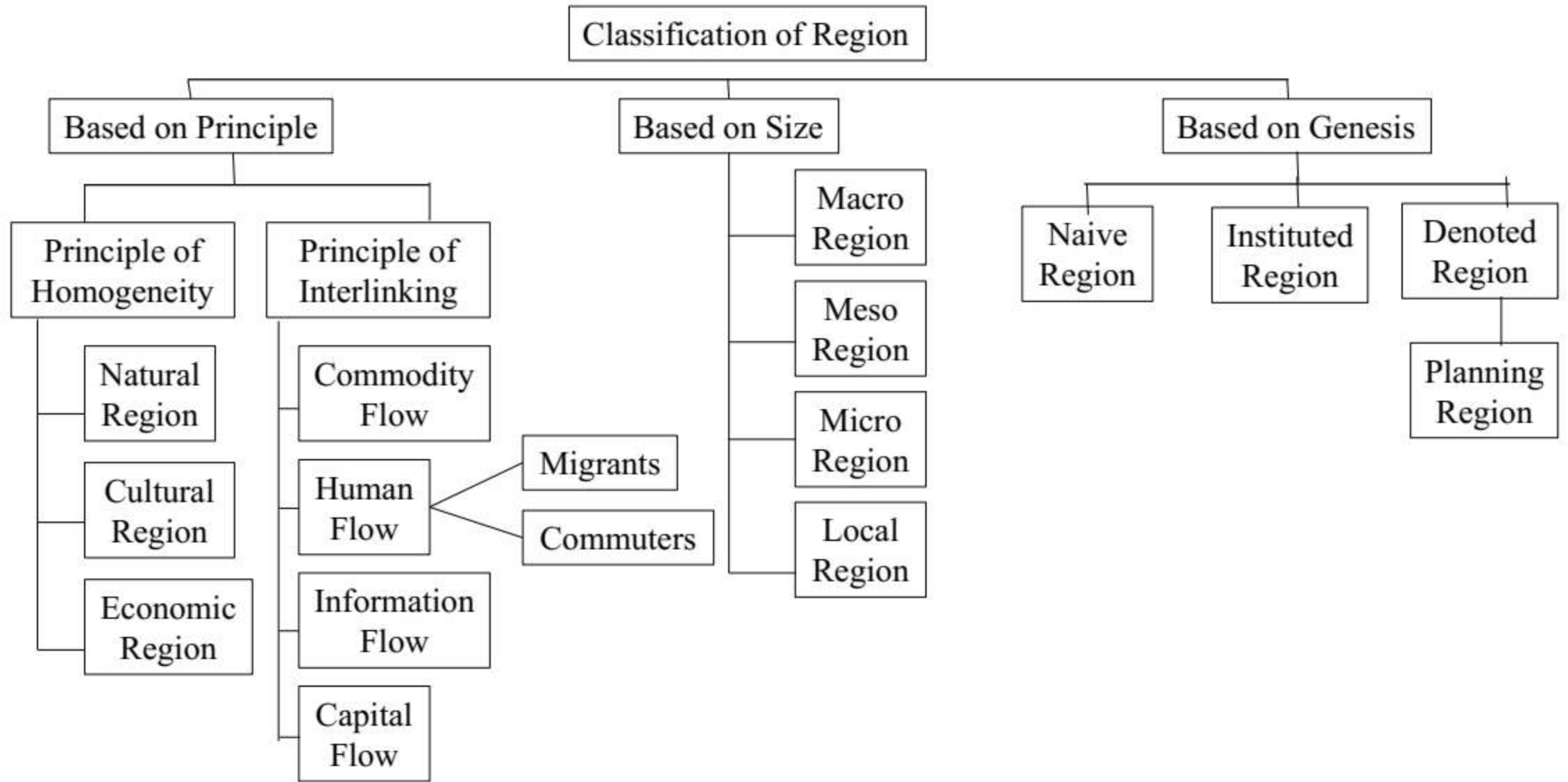
Spatial Dimension of Region

**Position of 3 Dimensional Natural
Regions with the Geographic Envelop
(Based on R. P. Mishra)**



- Boundaries:**
- 1. Geographic Envelop**
 - 2. Region**
 - 3. Sub Region**
 - 4. Land Surface**

Classification of Region



Types /Classification & Identification of regions

Homogeneous Regions	Nodal Regions	Administrative Regions
Formal Region Single Factor Region	Heterogeneous Regions Functional Regions	Planning / Programming Regions
Geographical area which is homogeneous in terms selected criteria Geographical criteria (topography, soil, climate)	Functional regions emphasis interdependence. It composed of heterogeneous units such as cities, towns and villages which are functionally inter related	A combination of homogeneity, nodality and administrative convenience
Economic criteria (per capita income, similar production styles, consumption patterns, uniform unemployment	The functional relationship is usually revealed in flows of people, factors, services, commodities and communication	Large enough to make substantial investment decisions, but small enough to comprehend the problem as a whole
Social/ political criteria (party allegiance)	Distribution area of retail and household goods Freight and passenger movement Telephone communication density News paper circulation areas Domicillary origin of students in educational institutions Labor catchment areas	Contiguous area Socio-cultural homogeneity Special data collection unit One administrative agency Optimum size Narrow disparity Consensus in defining problem and solving it Enable direct peoples participation Should have a growth point

Types of Formal Region

Types of Formal (Homogenous) Region:

1. Natural Region
2. Cultural Region
3. Economic Region

Formal (social) Regions, Tribal areas in 9 states covered under The Fifth Schedule

TRIBAL HOMELANDS

ANDHRA PRADESH
 Mahbubnagar
 Adilabad
 Warangal
 Visakhapatnam
 East Godavari
 West Godavari

JHARKHAND
 Ranchi
 Singhbhum
 Palamau
 Santhal Pargana

GUJARAT
 Surat
 Bharuch
 The Dangs
 Valsad
 Panchmahals
 Vadodra
 Sabarkantha

HIMACHAL PRADESH
 Kinnaur
 Lahaul, Spiti
 Chamba

**MADHYA PRADESH/
 CHHATTISGARH**
 Jabua
 Mandla
 Sarguja



Bilaspur
 Durg
 Rajnandgaon
 Raipur
 Morena
 Chhindwara

MAHARASHTRA
 Thane
 Nasik
 Dhule
 Amravati
 Chandrapur
 Jalgaon
 Nanded

ORISSA
 Mayurbhanj
 Sundargarh
 Koraput
 Sambalpur
 Keonjhar

Bastar
 Dhar
 Khargaoon (West Nimar)
 Ratlam
 Betul
 Seoni
 Balaghat
 Hoshangabad
 Shahdol
 Sidhi
 Raigarh

Ganjam
 Kalahandi
 Balasore

RAJASTHAN
 Bantwara
 Dungarpur
 Udaipur
 Chittorgarh
 Sirohi

Formal (natural) regions of India



Formal (Physical) Regions of India; After S. P. Chatterjee

The Great Mountain Wall	Western Himalayas	Kashmir Himalayas Punjab Kumaan Himalayas
	Eastern Himalayas	Darjeeling Sikkim, Assam Himalayas Eastern Bodar Hills & Plateau
The Great Plain Sutlaj, Beas, Ravi Ganga, Upper Ganga Yamuna, BrahmaPutra	North Western	North Punjab, South Punjab, Rajasthan
	Upper Ganga	Ganga Yamuna, Rohilkhand, Avadh
	Middle Ganga	
	Delta	
	Assam Valley	
The Great Plateau of Peninsular India	North Western Peninsular India	Aravalli Hills, Chambal Basin Bundelkhand upland, Malwa Vindhyan Scrap land
	North Eastern Peninsular Plateau	Baaghelkhand, Chattisgarh Basin Bastar Plateau, Orissa Hills, Chotnagpur Hills
	Maharashtra	Western Ghats, Lava Plateau, Western Ganga Valley
	Karnataka Plateau	Malnad region, Maiden region
	Tamilnadu Plateau	
	Andhra Plateau	
Coastal Plains	West Coast	Kutch Peninsular, Kathiawar Peninsular, Gujarat Plains, Konkan Coast, Karnatic Malabar Coast
	East Coast	Tamilnadu Coast, Andhra Coast, Orissa Coast
The Island	Laccadive, Minicoy & Amindivv, Andaman & Nicobar Islands	

Functional/Nodal/Polarized Region

- It is a product of modern economy, industrial development and urbanization
- It is based on the principle of interdependence and interlinking

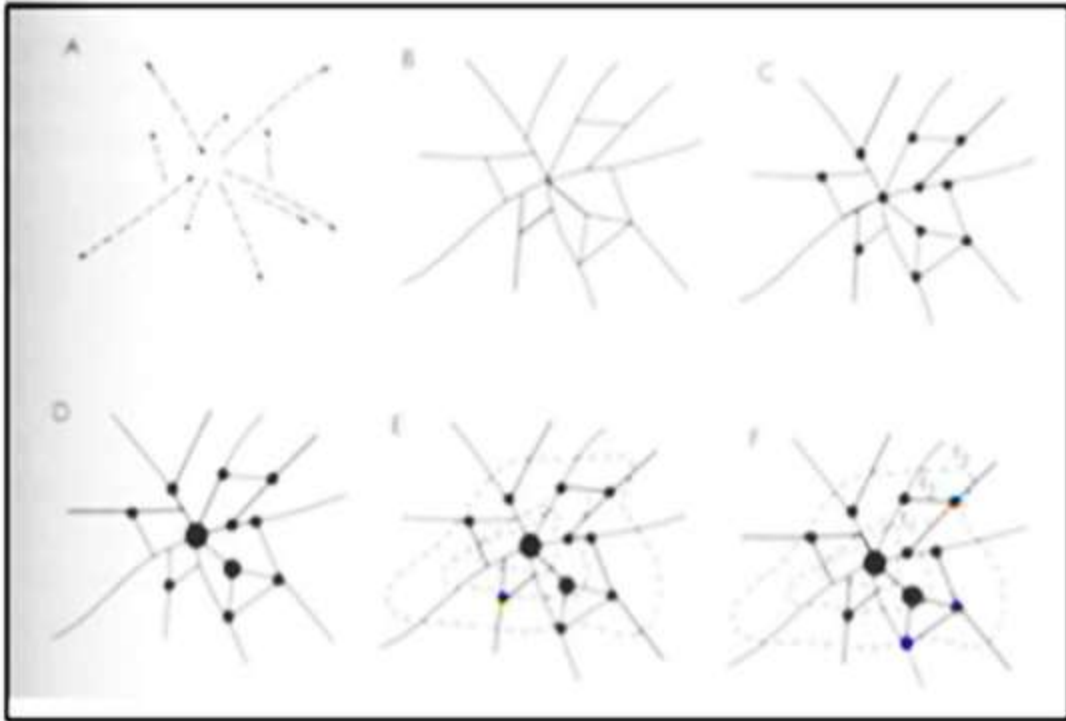
For delineation of functional regions
Quantitative methods are used, such as:

- **Zipf's- principle of 'Distance Decay'**
- **Stewart 's- 'Gravity Model'**
- **Christaller's and Losche's- 'Central Place' theory.**
- **Thiessen Polygon method**

Example of Varanasi City as a
Functional Region
(After R. Ramachandran)



Elements of Functional Region



Elements of a Functional Region (After Haggett)

- A. Movements
- B. Channels
- C. Nodes
- D. Hierarchies
- E. Surfaces
- F. Diffusion

- Peter Haggett has identified six elements of a functional region.
- These regions show flows related to people, commodity, capital etc. that bind the various sub parts of a region in a coherent whole.
- Cities serve as nodes within such regions and control all activities within their sphere of influence.

Planning Region

- Concept of these regions is a product of problems caused by industrialization, urbanization, uneven regional development, and ecological problems
- They are **subjective** in nature
- “At each stage of development different regional delimitation will be the most convenient and efficient for purpose of planning.” (John Friedman)

Types of Planning Region based on Economic Development (After Friedman)

- 1. Beginning of economic development, rural agricultural base – Multistate region
- 2. Stage of industrialization & urbanization – Metropolitan region and problem specific regions.
- 3. New technologies, pressure on old spaces, new national objectives - Frontier region (virgin territories).
- 4. Declining or stagnated economy – Depressed regions

P. SEN GUPTA's Scheme of Planning Regions of India (1968)

TABLE 2: Macro and meso regions of India—Sen Gupta's classification

Macro Region*	Meso Region**
I. North-Eastern Region (Assam, Manipur, NEPA, Nagaland, and Tripura)	(i) Upper Brahmaputra Valley, (ii) Lower Brahmaputra Valley, (iii) Mizo Plateau (iv) Eastern and Northern Hills
II. Eastern Region (West Bengal, Bihar, and Orissa)	(i) Calcutta-Hooghly Region, (ii) Damodar Valley Area, (iii) Chotanagpur and Northern Orissa Plateau, (iv) Southern Hills and Plateau of Orissa, (v) Lower Ganga Plain, Delta and Coastal Plains, (vi) Deccan Hills and its mountain tracts (Dhars)
III. North-Central Region (Uttar Pradesh)	(i) N. Himalayan Area, (ii) Western Ganga Plain, (iii) Eastern Ganga Plain
IV. Central Region (Madhya Pradesh)	(i) Eastern Madhya Pradesh, (ii) Western Madhya Pradesh, (iii) Bazar Area, (iv) Central Madhya Pradesh
V. North-Western Region (Rajasthan, Punjab, Haryana, Jammu & Kashmir, and Himachal Pradesh)	(i) Punjab Plain, (ii) The Union territory Delhi, (iii) Western Rajasthan, (iv) Eastern Rajasthan, (v) Himalayan Hills including 'Du Area, (vi) Kashmir Valley and its surround Hills
VI. Western Region (Maharashtra, Gujarat, Dadra and Nagar Haveli, Daman and Diu)	(i) Bombay city and its Conurbation Area, (ii) Intervening Area along the railway between Bombay and Nagpur, (iii) Coastal Part of Maharashtra, (iv) Western Maharashtra main Plateau Area, (v) Eastern Maharashtra, (vi) Central Maharashtra, (vii) Gujarat Plain, (viii) Saurashtra, (ix) Kutch
VII. Southern Region (Andhra Pradesh, Mysore, Tamil Nadu, Kerala, Pondicherry, Yanam, Goa, Andaman & Nicobar and Laccadive, Minicoy & Amindivi Islands)	(i) Coastal Plain of Andhra Pradesh, (ii) Telangana Area, (iii) Rayalseema Area, (iv) South Central Industrial Area, (v) South-Eastern Coast, (vi) Anaimalai, Cardamom & Nilgiri Hills, (vii) Western Coast, (viii) Malnad and Western Ghats Area, (ix) Maidan Area, (x) Coral Islands

• Keeping natural regions of the country as a base and consideration of nodality, production specialization and utilization of power resources as bases of delineation, in view of accepting the importance of state boundaries, P. Sen Gupta (1968) presented a framework of planning regions of India of different order. He divided India into 7 major planning regions by grouping states approximately coinciding with the drainage basin. . Her 7 macro regions are further divided into 42 meso regions.

• These 7 regions include :

- (1) North Eastern Region
- (2) Eastern Region
- (3) Northern Central Region
- (4) Central Region
- (5) North-Western Region
- (6) Western Region, and
- (7) Southern Region

Classification on the Basis of Genesis

- **Naive Region** – They don't have well defined boundary and their existence depends upon social acceptance .
- **Instituted region** – These are bounded by administrative boundaries like district or state.
- **Denoted region** – These are identified by regionalization technique, they are also called planning regions.

Regions and Their Types

Synopsis

Definition

Classification

- ✓ Regional Economics
- ✓ Multi-level planning
- ✓ Stages-of-development

Activity status analysis Popular Region Types

- ✓ Homogenous
- ✓ Heterogeneous (Nodal/Functional)
- ✓ Planning

Types of Regions – Multi-Level Planning Perspective

- ✓ Macro Regions
- ✓ Meso Regions
- ✓ Micro Regions
- ✓ Micro – Minor Region

Types of Regions on the basis of stages of economic development

- ✓ Developed / Development Regions
- ✓ Backward Regions
- ✓ Neutral Regions/ Intermediate regions

Types of Regions based on the activity status analysis

- ✓ Mineral regions
- ✓ Manufacturing Regions and Congested Regions
- ✓ Cultural Regions

Regionalization

Regionalization

Meaning of Regionalization

- Regionalization is the process of delineating regions, but each time depending upon the purpose for which the region is to be delineated.
- If the intention is to develop an arid region, the 'region' will be differently defined, including only arid areas.
- If the congestion is to be removed then the most congested and polluted areas will be included in the 'congested region'.
- If the intention is substantially reduce poverty and unemployment, then a 'depressed region' is to be delineated.
- The homogeneity of a region will differ with the purpose for which delineation is being made.
- According to Groenman, “Regionalization deals with the differentiation of political measures in space”. If the physical region, having homogeneity, is an administrative region also, then all tasks of regional and national planning can be facilitated.

Geographers were always interested in the process of regionalization and were very fond of pictorial characterization rather than scientific explanation. (Pokshishevskly). Geographers believed that there is some sort of determinism in economic development. USSR geographers even coined the word **fortunatov** for a region well endowed with resources. They probably meant that what is physically impossible, money cannot make it possible. However, 'deterministic' situations are not too many and the man and his brain-child technology –can bring a lot of changes. The neo-determinism underlies the fact that as the techno-economic conditions change, the 'degree determinism' also undergoes a change to be near the reality, we need adjustments by stages. Infact both 'determinism' and possibilism' are facts of life.

- o the identification of the problem;
- o the formulation of general goals and more specific and measurable objectives relating to the problem;
- o the identification of possible constraints;
- o the projection of the future situation;
- o the generation and evaluation of alternative courses of action; and the production of a preferred plan which in its generic form may include any policy statement or strategy as well as a definitive plan.’(Glasson, J.,1978.,p.19).

Within the general planning framework, there are various types of planning.

- i) Physical and Economic Planning
- ii) Allocative and Innovative Planning
- iii) Single level and Multi-level Planning
- iv) Indicative and Imperative Planning
- v) Short-term and Long-term Planning
- vi) Sectoral and Spatial Planning

Identification of formal regions:

Formal regions are localities possessing homogeneity. The criteria, which we use, may relate to

Geography – soil, rainfall, climate

Economic – per capita income, no. of industries

Socio-cultural – language, political affiliation etc

Problems arise when we use multiple criteria. When we are using composite criteria we have to assign weights

Methods of regional delimitation:

- 1) Fixed index method
- 2) Variable index method
- 3) Cluster method is used to assign weights

Fixed Index Method:

- Under the fixed index method, a number of characteristics common to regions are chosen. (E.g. population, density, per capita income, unemployment, rate of industrialization)
- An arbitrary weight is given to each index and a single weighted mean is obtained for each region, then contiguous regions with similar indices are grouped together in order to minimize the variance within the group.

a	b	c	d
e	f	g	h
i	j	k	l
m	n	o	p
q	r	s	t

Population of Regions

- | | | |
|---------|---------|---------|
| a) 3800 | h) 3200 | o) 300 |
| b) 600 | l) 2600 | p) 1600 |
| c) 1800 | j) 2100 | q) 4100 |
| d) 2300 | k) 1500 | r) 3300 |
| e) 4600 | l) 2000 | s) 1100 |
| f) 950 | m) 3100 | t) 1229 |
| g) 756 | n) 4600 | |

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@@ = 3000-4000
 #### = <1000
 \$\$\$\$ = 1000-2000
 %% = 2000-3000
 **** = >4000

The Variable Index Method

- Under the variable index method, variable weights are assigned to highlight the different regions. The weight given to each activity, in each region is different, in accordance with the value or the volume regionally produced.
- For e.g., if region A is the wheat region and the region B is the coal region, the weight of the wheat index will be the largest in the former, and the weight of the coal index will be the largest in the latter.
- This method is good when those criteria can be compared with each other. However in those cases where compatibility is not possible (e.g., in case where one feature is literacy and the other is steel production) it becomes necessary to employ the cluster method

The Cluster Method

- Cluster means grouping together. This concept is used to implement IRDP. This concept is used in the planning as a strategy to strengthen lateral links and to dissipate growing vertical links in the settlement system. Such a cluster while providing greater viability and threshold for development efforts will also create for themselves a greater bargaining power in bringing about reciprocity in exchange of goods and services. Both at the macro and micro level clustering can be done by
 - (1) superimposing of maps and
 - (2) by developing a composite index of development

formal and functional regions

Delineation of formal regions:

- Grouping together of local units with similar characteristics according to certain clearly defined criteria, but which differ significantly from units outside the region on the basis of chosen criteria

Delineation of functional region:

- Involving grouping together of local units that display a considerable degree of interdependence.

Delineation of Regions in India

Physiographic Regions



Attempts of Regionalization

1. The first attempt in classify natural regions or physiographic regions was made by **L. Dudley Stamp (1922)**

3 Major Natural Regions
22 Sub Regions
structure & } scheme based on the homogeneity of physiography,
climate

2. **JNL Baker** made second attempt (1928). It was similar to Stamp's

3. **Spate** (1957 & 1967) made another attempt based on Stamp's & Baker's work

3 Macro Regions { The Mountain Rim
Indo Gangetic Plains
Peninsula

34 Regions of first order

74 Region of Second order

225 Subdivisions

4. **SP Chaterjee (1965)**_scheme of classification is considered as a standard one and it is frequently quoted by others.

The Great Mountain Wall	Western Himalayas	Kashmir Himalayas Punjab Kumaan Himalayas
	Eastern Himalayas	Darjeeling Sikkim, Assam Himalayas Eastern Bodar Hills & Plateau
The Great Plain Sutlaj, Beas, Ravi Ganga, Upper Ganga Yamuna, BrahmaPutra	North Western	North Punjab, South Punjab, Rajasthan
	Upper Ganga	Ganga Yamuna, Rohilkhand, Avadh
	Middle Ganga	
	Delta	
	Assam Valley	
The Great Plateau of Peninsular India	North Western Peninsular India	Aravalli Hills, Chambal Basin Bundelkhand upland, Malwa Vindhyan Scrap land
	North Eastern Peninsular Plateau	Baaghelkhand, Chattisgarh Basin Bastar Plateau, Orissa Hills, Chotnagpur Hills
	Maharashtra	Western Ghats, Lava Plateau, Western Ganga Valley
	Karnataka Plateau	Malnad region, Maiden region
	Tamilnadu Plateau	
	Andhra Plateau	
Coastal Plains	West Coast	Kutch Peninsular, Kathiawar Peninsular, Gujarat Plains, Konkan Coast, Karnatic Malabur Coast
	East Coast	Tamilnadu Coast, Andhra Coast, Orissa Coast
The Island	Laccadive, Minicoy & Amindiv, Andaman & Nicobar Islands	

Economic Regionalization

- Regionalization is an exercise of dividing regions of higher order into sub-regions or aggregating regions of lower order (small units) into those of higher order (regions). This is based on homogeneity in the selected characteristics or functional interdependence between the nodal centre and its hinterland or between the different functional centers of different hierarchic levels.

Application

1. Regionalization for Planning – A strategy for areal development.
2. Nodal Regionalization to create central places and functional intergration

Author	Title	Criteria used	No. Of regions
1. V. Nath	Resource development regions & divisions of india	Soil climate topography land use	15 regions
2. Bhat & Rao	Regional planning for india	Distribution of natural resources	11 regions
3. Sen Gupta & Galina dasyuk	Population resource regions	Population density, growth rate, resource potentiality, levels of socio-economic disparity	3 regions dynamic, prospective, problematic
4. K.I. Vij & Chandra	Energy resource regionalization	Energy & power	8 regions
5. Sri. Hasim	Inter regional linkages & economic regionalisation	Movement of 61 commodities	6 macro regions
6. Gidabhuly & Bhat	Economic regionalisation	Movement of 5 selected commodities	
7. Chandrasekara	Regional development & planning regions	Land & raw materials for industrial development	
8. Sengupta		Homogeneity, nodality, production specialization, energy resources	

1) The Scheme Proposed by V. Nath (1964)

Title: Resource Development Regions and Divisions of India

Objectives:

- 1) Providing a framework about the physical conditions & resource potential to planners both at the central & state level.
- 2) Based on such identification helping the planners in planning the programmes, adjustments in programmes, content & pattern.
- 3) Furnishing a scheme of homogeneous units within the state.

Variables Used: Physical – topography, soils, Geologic Formation and climate – Agricultural- Land use & cropping pattern.

This study based on the earlier studies
 1. Census 1951 2. Spate scheme 3. Indian Statistical Institute

- Nath classified the country into 15 Resource Development Regions (RDRs). It is further classified into 61 RDRs.
 1. Western Himalayas
 2. Eastern Himalayas
 3. Lower Gangetic plain
 3. Middle Gangetic Plain
 4. Upper Gangetic plain
 5. Trans Gangetic plane
 6. Eastern plateaus & Hill regions
 7. Central plateaus & Hill regions
 8. Western plateaus & Hill regions
 9. Southern plateaus & Hill regions
 10. East coast plains & Hills
 11. West coast plains & Hills
 12. Gujarat plains & Hills
 14. Western Dry regions
 15. The Islands

2) The Scheme of Bhat & Rao

Title: Regional planning in India.

Variables Used:

Distribution pattern of natural resources as represented in the maps and agricultural land use pattern on the basis of district wise data.

Methodology:

Major regions should have minimum disparities within and distinctiveness from their neighbours in respect of regional character and resources for development. While the regional development norm is common for the major region as a whole, sub - regions are identified depending upon the concentration of resources, problems for development and administrative convenience.

Scheme: 11 Major Regions 51 Sub regions.

1. West Coast Region 2. Western Ghats
3. Central Plateau 4. Eastern Ghats
5. East West 6. North Eastern Plateau
7. The Ganges Plain 8. Assam
9. Gujarat 10. Rajasthan
11. Kashmir

Bhat has made another attempt to classify our country based on the presence of power and metallurgical base.

- **Macro Economic Regions Group of States**

1. Southern Region 1.Karnataka, Tamilnadu, A.P, Kerala
2. Western Region 2.Maharasthra, Gujarat
3. North Western Region 3.Punjab, Haryana, Rajasthan, J & K
4. North Central Region 4.Uttar Pradesh & Madhya Pradesh
5. Eastern Region Bihar, Orissa, West Bengal, Assam,
5. Nagaland, Arunachal Pradesh,
Manipur, Tripura etc.

3. The Scheme proposed by P. Sen Gupta & Galina Sdasyuk

- **Title:** Population Resource Regions

Objective:

To understand the population characteristics in terms of territorial units like states, districts and thereby to assess the latent capacity of the country in supporting population.

Variables Used

Population (Density and growth rate), resource potentiality, and levels of socioeconomic development.

Scheme: Three major regions and 19 sub regions.

1	Dynamic regions	1. Parts of W.B, 2. Gujarat, 3. Maharashtra, 4. Tamilnadu 5. Punjab	The Dynamic Regions supports advanced industrial areas and predominantly urban population.
2	Prospective regions	1. Northern Eastern Peninsula 2. Godavari Basin, 3. Aravalli Hills & Malwa Plateau. 5. Brahma Putra Valley	The Prospective Regions have immense resource potential but face socio – economic obstacles to technological transformation.
3	Problem regions	1. Parts of Bihar & U.P 2. Orissa Coast, 3. Kerala Coast 4. Laccadive Islands, 5. Konkan Coast in Maharashtra & Karnataka, 6. Rajasthan Desert 7. North Western Himalayas 8. East Himalayas, 9. Andaman Islands	The Problem Regions are those which show little promise of development in the near future

The Scheme Proposed by Sen Gupta

Variables used & Methodology:

Keeping the natural regions of the country as a base and considerations of homogeneity, nodality, production, specialization, energy resources utilization etc

in view and accepting the state boundaries, Sen Gupta suggested that within a frame work of meso regions that resource development of macro can regions take place.

Macro and Meso Regions of India – Sen Gupta’s Classification

Macro Region	Meso Region
North – Eastern Region (Assam, Manipur, NEFA Nagaland & Tiripura)	1. Upper Brahmaputra Valley, 2. Lower Brahmaputra Valley, 3. Mineralized Plateau, 4. Eastern and Northern Hills
Eastern region (West Bengal Bihar and Orissa)	1. Calcutta- Hoogly region, 2.Damodar Valley area, 3. Chotanagpur and Northern Orissa Plateau, 4. Southern Hills and Plateaus of Orissa, 5. Lower Ganga Plain, Deltas and Coastal plain 6. Darjeeling Hills and Sub mountain tracts (duara)
North Central Region (Uttar Pradesh)	1. Northern Himalayan Area, 2 West Ganga Plain, 3. Eastern Ganga Plain
Central Region (Madhya Pradesh)	1. Eastern Madhya Pradesh, 2. Western Madhya Pradesh, 3. Bastar area, Central Madhya Pradesh.
North Western Region (Rajasthan, Punjab, Haryana, Jammu & Kashmir and Himachal Pradesh)	1. Punjab Plain, 2. The Union territory of Delhi, 3. Western Rajasthan, 4.Eastern Rajasthan, 5. Himalayan Hills including Dun area, 6. Kashmir valley and its surrounding hills.
Western Region (Maharashtra Gujarat, Dadra and Nagar Haveli, Daman and Diu)	1. Bombay city and its sub-urban area, 2. Interventions area along the railway between Bombay and Nagpur, 3. Coastal part of Maharashtra, 4. Western Maharashtra mainly plateau area, 5. Eastern Maharashtra 5. Central Maharashtra, 7. Gujarat plain, 7.Sourashtra, 8. Kutch
Southern Region (Andhra Pradesh Mysore, Tamilnadu, Kerala, Pondicherry, Yanam, Goa, Andaman & Nicobar and Laccadive, Minicoy and Amindivi	1. Coastal Plain of Andhra Pradesh, 2.Telengana area, 3. Rayalaseema Area, 4.South Central Industrial Area, 5. South – Eastern Coast, 6. Anaimalai, Cardamom and Nilgiri Hills,& WesternCoast,7. Malnad and WesternGhat, area, 8. Maidan area, 9. Coral Islands.
Macro Regions = 7	Meso Regions = 4 + 6 + 3 + 4 + 6 + 9 +10 = 42

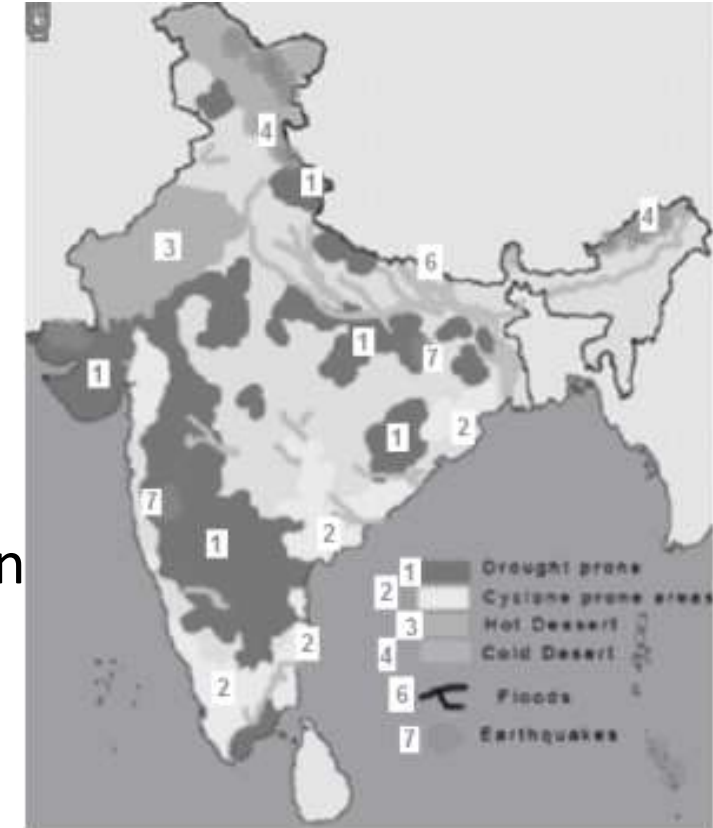
C.S. Chandrasekhara's Scheme.

- **Title:** Balanced Regional Development and planning regions

Variables & Methodology Used:

1) Land, 2) Raw materials for industrial development, 3) Power.

- These factors will enable each planning region to achieve a degree of self sufficiency in food, an employment potential in the agricultural and non agricultural sectors to meet the needs of the region's population and a power base which will serve the developmental needs of both agriculture and industry.
- **Scheme:** 13 Macro regions divided into 35 Meso regions.



1) South Peninsula, 2) Central Peninsula,
3) Western Peninsula, 4) Central Deccan,
5) Eastern Peninsula, 6) Gujarat, 7)
Western Rajasthan, 8) Aravalli Region,
9) Jammu & Kashmir, 10) Indo Gangetic
Plain, 11) Ganga Yamuna Plains,
12) Lower Ganga Plains, 13) North
Eastern Region.

