UNIT-II

INDUSTRIAL LOCATION

UNIT- II

Industrial Location-Locational Theories-The Geographical Concentration- The Central Place Theory-Renner Theory-Rawstones Principles-Weber Theory-Sargent Florence Theory- Losch Theory.

INTRODUCTION

- The term Industry does not only refer to manufacture but all forms goods and service produced.
- There are in fact types of industry, namely;
  - Primary- extractive activities
  - Secondary- manufacture
  - Tertiary-retailing and transport
  - Quaternary –knowledge economy
- The placement and expansion of industry are the primary concerns of all governments.
- Whether used internally or exported produce from Industrial activities provides revenue Source: Waugh,D 2002 .

TYPES OF INDUSTRY

Source;
www.nationalgeographic.com

DEFINITION

- <u>Industry</u> -economic activity concerned with the processing of raw materials, manufacture of goods in factories and the services which surround the use of these goods.

- <u>Location</u> -a particular place or position.

- <u>Industrial location</u> is therefore the strategic placement various economic activities in relation to some specific factors.

FACTORS WHICH INFLUENCE INDUSTRIAL LOCATION

GEOGRAPHICAL CONCENTRATION OF INDIAN INDUSTRIES

Introduction

❖ The Indian economy is the world's ninth-largest economy by GDP and fourth-largest economy by purchasing power parity (PPP).

❖ Following market based economic reform in 1991, India became one of the fastest growing major economies.

❖ It is considered a newly industrialized country. The industrial sector makes up 18% of GDP.

❖ After Independence the founding fathers saw the nation progressing with a decent industrial base.

Industrialization in India

Since independence to 1980:
- there was restrictive growth of private sector
- government's permission was required to set up any private enterprise.
- Despite this the GDP grew at a rate of 1.4% per annum from 1940 – 1970.
- India during this phase lagged behind in economic growth & overseas trade.

1980 to mid-1990s:
- Post 1980s India saw liberalization.
- The nation witnessed historical upsurge in per capita GNP.
- In 1994-95 the industrial output-growth registered 8.4% growth.
- The exports rose by 27%.

1990s to 2000s:
- Since liberalization policy, India opened several public sector enterprises.
- The exports saw a 28% in 1995-96.

Categorizing Industry

Industry Types	Investments	
Large Scale Industry	generally more than 10 million US dollars.	
Medium Scale Industry	In plant and machinery	In equipment
	More than 5 Crore rupees but does not exceed 10 Crore rupees	More than 2 Crore rupees but does not exceed 5 Crore rupee
Small Scale Industry	More than 25 Lakh rupees, but does not exceed 5 Crore rupees	More than 10 Lakh rupees, but does not exceed 2 Crore rupees

Large Scale Industry

Definition: Large scale industries refers to those industries which require huge infrastructure, man power and a have influx of capital assets.

The oldest large scale industry of India are:

- METAL INDUSTRIES
- TEXTILE INDUSTRY
- PAPER

Others major industries include:

- AUTOMOBILE MANUFACTURING
- INFORMATION TECHNOLOGY
- AGRO-BASED INDUSTRY
- ENERGY INDUSTRY
- CHEMICAL INDUSTRY
- TOURISM INDUSTRY
- SHIPPING INDUSTRY

Agro-based Industry

Size of the Industry: accounts for about 13% of the country's total exports.

Geographical Dist.: All over the country

Contribution to GDP: 32%

Agro Based Industries in India

N

PAKISTAN

Srinagar

Shimla

Amritsar

Nabha Ropar

Deharanpur

Delhi Bijnor

Ghaziabad

Agra

Jaipur

Lakhimpur

Lucknow

Varanasi

Muzaffarpur

CHINA (TIBET)

NEPAL

Rangpur

BHUTAN

Ahmedabad

Vadodara

Indore

Kolkata

MYANMAR

Mumbai

Pune

Hyderabad

BANGLADESH

ARABIAN SEA

Vijaywada

BAY OF BENGAL

Bangalore

Chennai

LAKSHADWEEP

■ Food Processing
● Vegetable Oils

Map not to Scale

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Power and Energy Industry of India

India's Power market is the fifth largest in the world.

Coal
- Contributes 55% in Power generation

Oil
- India has 2nd largest oil reserve in Asia-Pacific region
- Geographical distribution: Assam, Rajasthan, Chennai, Mumbai, etc

Hydro
- Contributes 26% In Power generation
- India is one of the pioneering countries in establishing hydro-electric power plants.

Gas
Contributes 10 % in Power generation

Renewable
Contribute 5% in Power generation

ENERGY MAP OF INDIA

Afghanistan
Pakistan
China
Nepal
Bhutan
Burma (Myanmar)
Thailand
Arabian Sea
Bay of Bengal
Sri Lanka

Nuclear Industry

- India has a vision of becoming a **world leader** in nuclear technology.

- India has a flourishing and largely indigenous nuclear power program

- expects to have 20,000 MWelectricity nuclear capacity on line by 2020

- It aims to supply 25% of electricity from nuclear power by 2050.

Textile Industry

- **Size of the Industry:** 1200 medium to large scale textile mills
- **Contribution to GDP:** 4% of GDP
- **Percentage in world market:** 7% share in the global market
- **Export share:** 27%
- **Top leading Companies:** Raymonds, Bombay Dyeing, Century Textiles e.t.c.

Chemical Industry

CEMENT

- **Size :**125 large cement plants and more than 300 mini cement plants
- **Percentage in world market:** 8% of share

FERTILIZER

Size: 57 large & 64 medium & small sized

Geographical distribution: Cochin, Chennai, Kerala

Percentage in world market: It ranks third in the world of Fertilizer production

Market capitalization: 25% to the GDP

PHARMACEUTICAL

Size: 250 large units and about 8000 Small Scale Units.

Geographical distribution: West Bengal, Calcutta, Pune, Mumbai,Banglore.

Percentage in world market : 10%

Chemical Industries in India

PAKISTAN

CHINA (TIBET)

NEPAL

BHUTAN

MYANMAR

BANGLADESH

BAY OF BENGAL

ARABIAN SEA

LAKSHADWEEP

Srinagar
Amritsar
Jalandhar
Nainital
Bikaner
Nagaur
Ghaziabad
Ajmer
Sawai Madhopur
Chittaurgarh
Kota
Durgapur
Guwahati
Jamnagar
Jabalpur
Kolkata
Bhavnagar
Raipur
Mumbai
Puri
Hyderabad
Bhadravati
Davangere
Coimbatore
Thiruvananthapuram

▲ Cement Industries

🔺 Drugs & Pharmaceuticals Industry

Map not to Scale

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Paper Industry

- Accounts for about 1.6% of the world's paper production.

- It is mainly plantation based

- The industry provides employment to more than 0.12 million people directly and 0.34 million people indirectly

Growth of Paper Industry

INDIA
LOCATION OF PAPER & PULP INDUSTRY

LEGEND
Paper & Pulp
Industry locations

Metal Industry

Steel Industry
Oldest large scale industry.
Exports: 50% of Production
Production:
In 1992: 14.33 million tonnes
In 2008: 46.575 million tonnes

Aluminium Industry
- first established in the year 1808
- Exports: 82000 tons annually, especially to Bangladesh, Sri Lanka, Egypt and Iraq.

Copper Industry
- 300 years old, ancient Indians used copper for surgical tools.
- Major:Copper Companies: Sterlite Industries, Hindalco, and Hindustan Copper

Zinc Industry
- Indian Zinc industry is now completely under the private sector
- Top leading Companies: Hindustan Copper Limited and National Aluminium Company Ltd

INDIA
Location Of Metal Industries

LEGEND
- Iron & Steel
- Aluminium
- Copper
- Machine Tools
- Automobiles
- Ships

www.mapsofindia.com

IT Industry

Indian Information Technology industry is one of the fastest growing industries in the world.

- **Contribution to GDP**: 5.9%
- **Employment opportunities:** 2.3 million people
- **Export**: To 95 countries
- **Top leading Companies:**, IBM , *Intel, Microsoft* ,Tata Consultancy Services
- **Geographical distribution:** Bangalore, Chennai, Hyderabad, Delhi, Kolkata,Pune

Growth in India's IT Industry

US$ in Billions

Year	US$ in Billions
1994-95	2.04
1995-96	2.88
1996-97	3.9
1997-98	5.03
1998-99	6.05
1999-00	8.67
2000-01	12.2
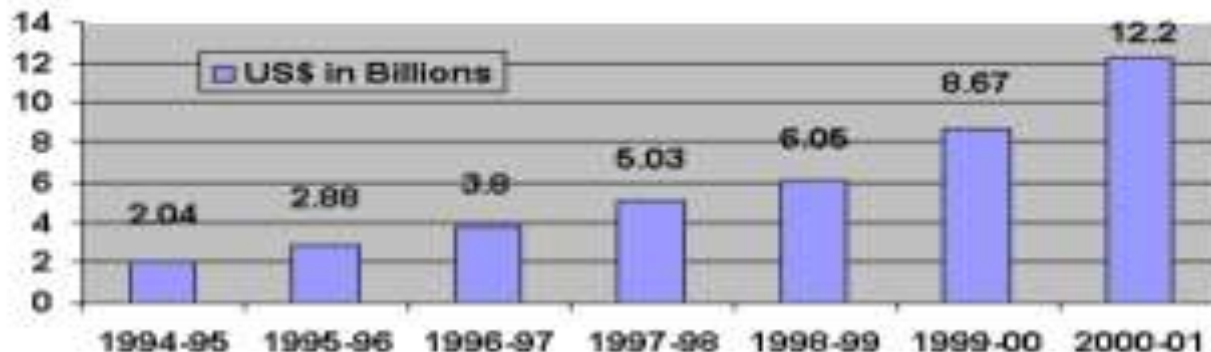
Automobile Industry

From 2010 India is the 7th largest Automobile manufacturer in world.

- **Annual Production**: 17.5 million vehicles
- **Exports:** 2.33 million vehicles
- **Contribution to GDP**: 5%
- **Top Manufacturers:** Maruti Udyog Ltd, TVS Motors, Hero Motors

Tourism Industry

- In India Tourism is the largest service industry.
- Indian Tourism Industry is ranked 11th in the Asia Pacific region and 62nd overall
- 20 million people are now working in the India's tourism industry.
- 5 million annual foreign tourist arrivals and 562 million domestic tourism visits
- Geographical distribution: Goa,Shimla, Jammu and Kashmir, Jaipur, Puri etc.
- Contribution to GDP: 6.23%
- Expectation: By 2020, Indian Tourism Industry is expected to contributeRs 8, 50,000 crores to the GDP.

Tajmahal in Agra: The most attractive destination for tourist in India

Shipping Industry

Indian coastline stretches about 5700 kms on the mainland and about 7500 kms including the two island territories.

Size:India has 28 ship building yards.

International Market Share: India ranks twentieth worldwide in the shipping industry and share 0.5% of the global shipbuilding market.

Medium and Small Scale Industries

❖ The small-scale industries have grown rapidly over the years.

❖ SSI Sector creates 2nd largest employment opportunities for the Indian populace.

❖ Contributes almost 40% of the gross industrial value added in the Indian economy.

❖ The medium scale industries mainly constitute production of small parts which are used as raw materials in the large scale industries.

Types of SSI in India

Types	Examples
Food and Allied Industries	Pickles & Chutneys Ground nut oil
Wood and Wood Products	Wooden furniture
Paper Products	Exercise books and registers
Chemicals & Chemical Products	Wax candles, Laundry soap, Agarbatties
Glass & Ceramics	Glass Bangles
Thermo Plastic Product	PVC Pipes

Exports

55000					53975
50000				48979	
45000				43946	
40000			39249		
35000		36470			
30000	29068				
25000					
1994-95	1995-96	1996-97	1997-98	1998-99	1999-00*

Year
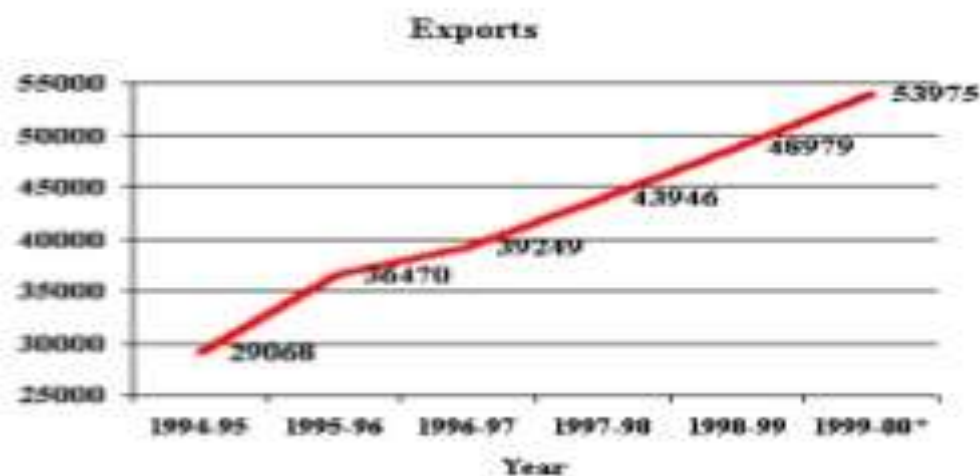
45%-50% of the Indian Exports is contributed by SSI Sector.

Source : The office of Development Commissioner (MSME)

Cottage industry

- Large portion of the rural population of India is supported by Cottage Industries
- Responsible for having hugely preserved the cultural heritage of India.
- Their various goods produced include dress fabrics such as khadi, wool, muslin, leather, silk, cotton etc, & many precious items like jewellery, ornaments, statues, idols, gems, stones, etc and also edible items like spices, oils, honey, etc
- Geographical distribution: Rajasthan, Pune, Gujarat, Mumbai, Hyderabad, Bangalore

Other Industries

Aviation Industry: Indian Aviation Industry is one of the fastest growing airline industries in the world. It has about 450 airports and 1091 registered aircrafts .

Diamond Industry: located in Gujarat, Mumbai , Surat. It is growing at a rate of 40%

Film Industry: The Indian film industry, famously known as Bollywood, is the largest in the world, and has major film studios in Mumbai (Bombay), Calcutta, Chennai, Bangalore and Hyderabad.

Leather Industry: Indian Leather Industry currently is one among the top 8 industries for export revenue generation in India.

Industrial Policy of India

Objectives of the Industrial Policy of the Government are –

➤ to maintain a sustained growth in productivity;

➤ to enhance gainful employment;

➤ to achieve optimal utilization of human resources;

➤ to attain international competitiveness and

➤ to transform India into a major partner and player in the global arena.

Policy Measures

Some of the important policy measures are:

- Liberalization of Industrial Licensing Policy

- Introduction of Industrial Entrepreneurs' Memorandum(IEM)

- Liberalization of the Locational Policy

- Policy for Small Scale Industries

- Non-Resident Indians Scheme

- Electronic Hardware Technology Park (EHTP)
  Software Technology Park (STP) scheme

- Policy for Foreign Direct Investment (FDI)

Environmental Impact of Industries of India

RED category

Cement industry, Metal industry, Diamond Industry, Fertilizer industry, Oil industry, Paper industry, Power industry, Textile industry

ORANGE category

Automobile industry, Cotton industry, Jute industry, Pharmaceutical industry,

GREEN category

Agricultural industry, Banking industry, Cottage industry, Food Processing industry, IT industry, Solar industry

Red: Highly Polluting
Orange: marginally polluting
Green: No pollution

- From 1950 to 2008, India experienced dramatic growth in CO_2 emissions averaging 5.7% per year and becoming the world's third largest CO_2-emitting country.
- country expect to cut the emission by 24% by 2020.
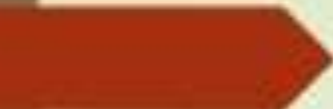
Conclusion

❖ Experts believe that the contribution of India in the world GDP is estimated to increase from 6% to 11% by the year 2025

❖ This indicates towards the emergence of India as the third biggest global economy after US and China.

❖ The evaluation is supported by the overall development in all the sectors in India, in which the key sector is the industry sector.

Theories of Industrial Location

Weber's Theory: Location Of Manufacturing Industry
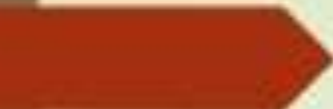
- Alfred weber, a German economist, has developed the theory explaining the location of manufacturing industry.

- Weber's main interest was to construct a general theory of location which could be applied to all kind of manufacturing industries.

Consideration Of Factors Of Location :

- There are mainly three general factors which are relevant to all the industry:

1) Transportation cost.

2) Labour cost.

3) Raw material cost.

- The approach followed by weber was to explain industrial location in terms of transport cost first and examine the effect of change in labour cost and raw material cost factor on it.

Assumptions of Theory:

- Location of raw material is fixed.

- The condition and size of consuming centers are known.

- Labour is unlimited in supply and available at fixed rate.

- Institutional factors like taxation, interest, insurance etc. are insignificant

- Political system and economic culture are uniform and stable across the location.

- Perfect competition.

Effect of Transportation Cost:

- Weber started his analysis with the proposition that a manufacturing unit tends to locate at the place where the cost of transportation is minimum.

- The transportation cost is determined by :

1. Weight to be transported

2. Distance to be covered.

Locational Triangle

- A simple example to find the min. transport cost :
- In this example one situation is assumed in which there is

1. Only one consumption center = **C.**
2. Two fixed supply center for two main raw material = M_1 & M_2

- So ,according to weber, the least cost point will be located within the triangle $\triangle CM_1M_2$ called locational tringle.
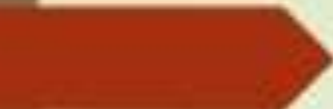
Locational Triangle
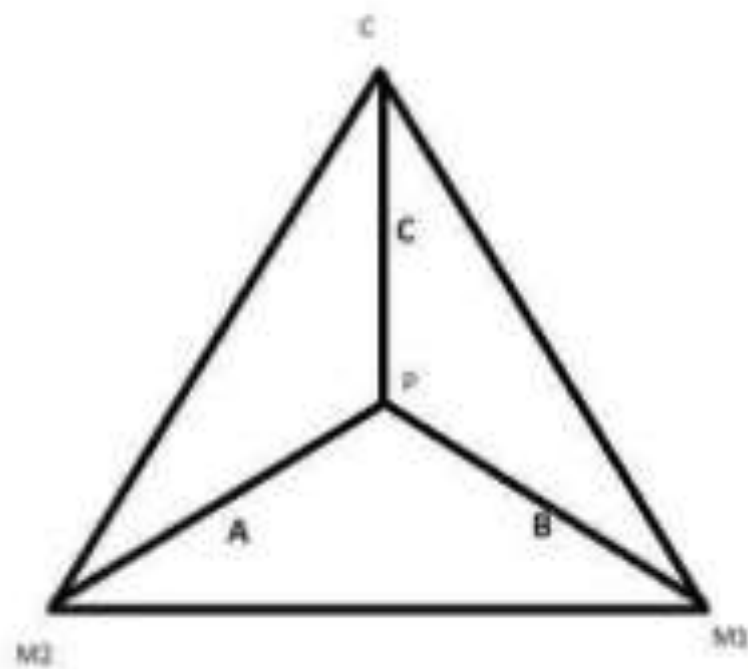
Locational Triangle
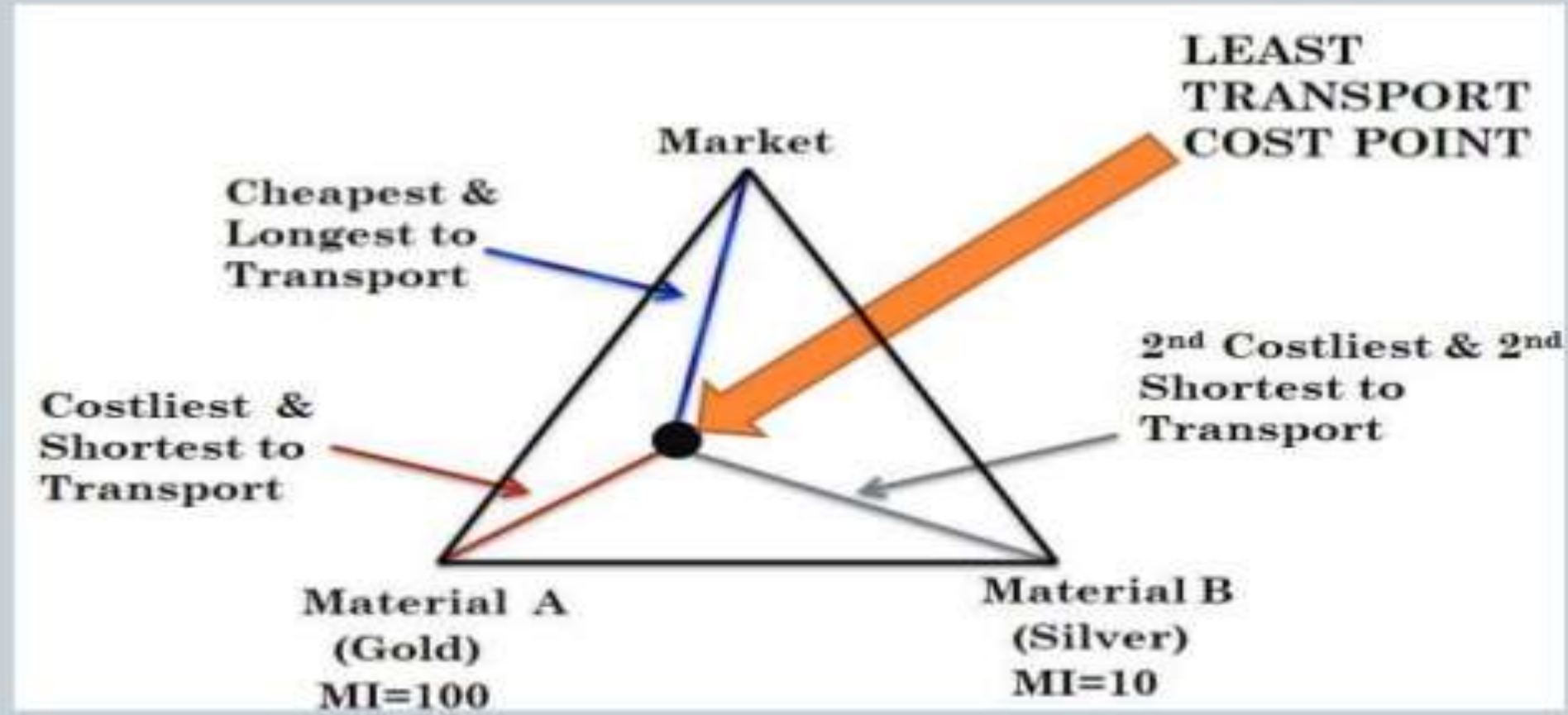
- We can say that the three corner points pulling the point P towards themselves and position of P will depends on the balance of pull exercise by them.

- Now, let X and Y be the requirement(in tons) of M_1 and M_2. And Z be the weight of finished products.

- And a, b, c be the distance between corner point and points of location P respectively.

- Then total ton-mile of transport per unit output would be:

$$aX + bY + cZ$$

- In order to find the position of P (location of industry) this equation should be minimized.

Modification On Above Part:
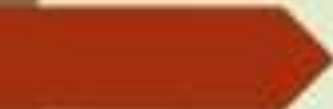
- Considering the non-uniform transportation cost because assuming the transportation cost is uniform throughout the region is unrealistic.

- Let T_1, T_2, T_3 be the cost for M_1, M_2 and finished products to consumption place.

- Total transport cost per ton of finished products would be

$$= T_1 {}^*a{}^*x + T_2 {}^*b{}^*y + T_3 {}^*c{}^*Z$$

- Now location point P can be determined by minimizing this total transportation cost.

Effect of Labour Cost.

- Labour cost also affect the location of industries. if transportation cost are favorable but labour cost are unfavorable, then the problem of location becomes difficult.

- So ,industry may have tendency to get located at the place where labour cost are low.

- To find out whether the labour cost will have an upper hand in the location of industry or not :

- **Labour cost index** $= \dfrac{labour\ cost}{weight\ of\ product}$
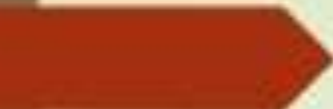
- ➡ <u>If this index value is high:</u>
- • Which means saving in labour cost exceeds the increment in transportation cost.

- • Industry will get located at the place where labour cost are low.

- ➡ <u>If this index value is low:</u>

- • in this case the transportation cost may influence the decision and industry can't be located near labour center.
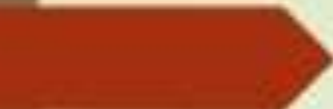
"Material Index" or "Effect of Sources of Raw Material."

- Weber introduces "material index" for identifying such nature of the industry.

- **Material index =** $\dfrac{\text{weight of localized material}}{\text{weight of finished products}}$

- If this index is greater than one : industry should be located near to the sources of raw material .

- If this index is less than one : industry should be located near to the place of consumption.

Effect Of Agglomerative And Degglomerative Factors.
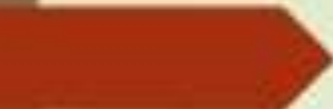
- Agglomerative factors are those which make industry centralize at a particular place.

- Example: banking, insurance facilities

- Degglomerative factors are those which make industry to decentralize.

- Example : rent of land, labour cost, transport cost.

- This can be understood by

   manufacturing index $= \dfrac{manufacturing\ cost}{total\ production\ cost}$

- manufacturing index indicates the proportion of manufacturing costs in the total of production cost.

- If this index value is high then industry will have tendency to centralize.

- If it is low then tendency of decentralization may be visible.
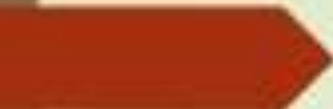
Criticism Of Weber Theory:

1. Unrealistic assumption.
2. Labour centers.
3. Point of consumption center.
4. Not a deductive theory.

Utility of The Theory:
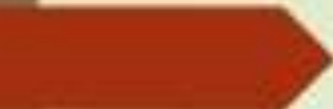
- No doubt theory suffers from some serious defect, yet it can't be denied that it has its own importance & significance.

- Because the alternatives given are not complete also.so far it is the only theory which are capable of universal application.
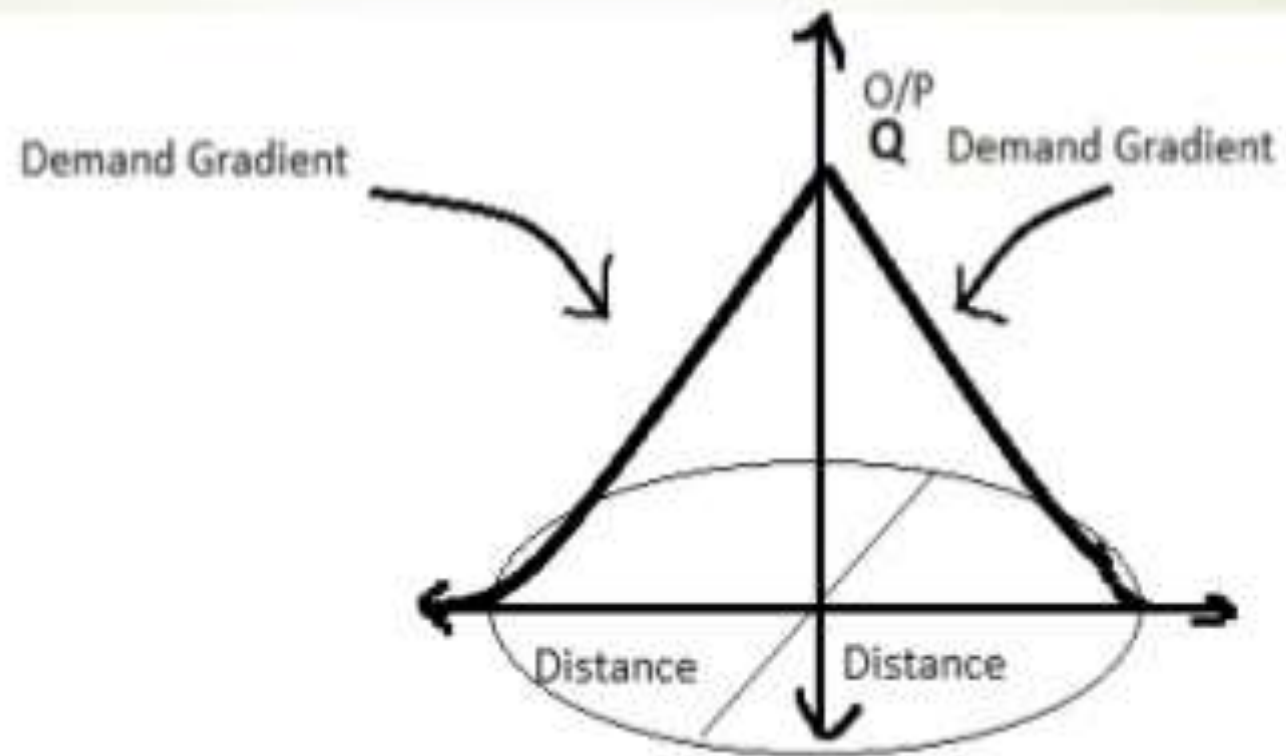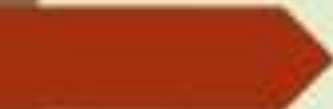
Central Place Theory of Losch

- He developed a general theory of location.
- Assumption:
    - He assumed a broad homogeneous plain with uniform resource endowment. This implies virtually of all cost difference factors affecting industrial location.
- This assumption implies that rejection of all cost difference factors affecting industrial location. In such situation, the right approach to decide about the location is to maximize total revenue. An individual locates his plant at that particular site, where revenue is maximum.

- To explain the theory, let's take a simple situation in which there's only one producer who is located at a central place.

- He sells his product around the location point in circular bell, the extent of which depends on the economies of scale accruing to the producer and the transportation, i.e. distribution cost of the product.

- The demand for the product falls with distance.

Market Area of a firm(Losch Model)

Conclusion

- Losch's theory is essentially a central place theory. It's a general spatial equilibrium theory.

- It's not telling anything about the factors which determines the location of individual firms. In fact, the assumptions of the theory are such that the location is indeterminate (e.g. perfect competition, uniform cost and market conditions).

- The rejection of cost differences as locational factors is a major weakness of Losch's theory. The theory being too abstract in nature has limited usefulness for practical purposes.

Losch's Theory of Location

- **This theory belongs to the 'market area' or 'profit maximisation'** approach and has focused on spatial variations in scales potential.
- He disregarded spatial variations in production costs by holding them constant, and instead depicted optimal location as occurring where the largest possible market area is monopolised
- Losch then attempts to find the maximum profit location by comparing, for different locations, both the costs of production and the market area that can be controlled.

- Within the framework of this competitive situation, the location chosen may not be the least-cost location, as the Weberian school predicts. Instead, it will be the maximum profit location built on sales revenues rather than production and distribution costs.

Losch's Assumptions

- (i) An isotropic surface.

- (ii) For each firm there exists a behavioural pattern such that it seeks to locate at the most profitable of the production points at which it can locate.

- (iii) For each location there exist constant costs for the procurement and consumption of raw materials.

- (iv) Buyers are evenly dispersed over an area, and have identical demands.

- (v) Entrepreneurs act as economic men and their main aim is profit maximisation.

Losch's Assumptions

- Losch established the hexagon as the ideal market shape, and viewed the trading area of the various products as the nets of such hexagons.
- A net of hexagonal market forms will completely cover any area under consideration, whereas circular areas will either leave utilised area or will overlap.

Why Hexagon?

Development of market areas from circular to hexagonal

Of all the regular polygons (hexagon, square, triangle, etc.) that will cover an area, the hexagon deviates least from the circular form and in consequence minimises transportation expenditure in supplying a given demand.

The Principle of Substitution

- The principle of substitution over space was first put forward by the German economist A. Predohl in 1928.
- The concept as further developed by Isard and Moses in the late 1950s leads to the conclusion that if one allows for factor substitution and assumes a nonlinear production function, then the optimality of a location will depend on the characteristics of the input, the level of output, and the nature of the demand schedule.

- The principle of substitution will have two components:
    1. A change in the size of operation (level of output) may change the proportion of inputs.
    2. For certain production processes, the entrepreneur has, within technical limits, a freedom to choose among alternative proportions of inputs to produce a distinct output or combination of outputs.

Rawstron's Theory of Industrial Location

E. M. Rawstron in his work, **"Three Principles of Industrial Location"**, has given a simple principle of industrial location, which is entirely based on geographical elements.

According to Rawstron, the industries are located at a place where cost is minimum. He pointed out that first of all expenditure on each element is to be examined and then location be determined at a place of maximum profit; in other words, industries are established at a place where the **cost is least**.

He explained certain facts, such as:

- Special effective factors for the establishment of industries are raw material, market, land and capital.
- Locational cost of all types of expenditure.
- Cost structure – cost percentage of each item.

- Basic cost — the cost which is different for each element according to amount and quality of the factor.
- Zone of partial margin to profitability; this is the aspect when profit is converted to loss or loss is converted into profit.

Rawstron's Theory contd.

Three Principles of Industrial Location

1. **Principle of Physical Restriction** - The location of industry is always controlled by physical factors. Among physical factors he has given prime importance to availability of minerals. There are several places where occurrence of mineral is possible but it is necessary to find out where its mining is profitable.

2. **Principle of Economic Restriction** - Rawstron has given two important economic aspects :

Cost Structure of Industry

Including all the expenditure related with establishment and function of an industry, especially expenditure percentage on labour, raw material, transportation, marketing, etc.

Spatial Margins of Profitability

This is a point where cost of industry is more than profit. Therefore, industry is established only after calculation of profit margin and the best location is where cost is minimum.

Rawstron's Theory contd.

3. **Principle of Technical Restriction** - Technical knowledge is a pre-requisite for every industry. It is required more for certain industries. Therefore, due consideration should be given not only to the availability of technology and its knowledge but also its cost.

In brief, Rawstron's theory is basically a theory of least cost and industries are always located at a place where cost is least.

Renner's Theory of Industrial Location

Renner, in his work entitled, "**Geography of Industrial Localization**", introduced the industrial location theory which is factor-oriented.
Renner identified six factors for the location of industries, these are: **capital, transport, raw material, market, power and labour.**

These factors have direct impact on industrial location but each factor affects differently. More the factors available at a place more it will be suitable for the industrial location.

Renner has given the term industrial symbiosis for the combination of these factors.

Such symbioses are of two types:

Disjunctive symbiosis

It is the condition when two or more different industries in some region are beneficial for each other.

Conjunctive symbiosis

When in a region different types of industries function with the help of each other. In such a case product of an industry is utilised by other industry as a raw material.

Renner's Theory of Industrial Location contd.

Renner has pointed out three principles for the industrial location:

- ❑ In the establishment of an industry all the six factors determine the location, as well as cost.

- ❑ Industries are generally developed near those factors which are expensive

- ❑ The location of industry also has direct impact on transportation

The main criticism of the Renner's theory is that due consideration to economic elements has not been given. In regional context there is a difference in price and expenditure which has not been taken into consideration.

In spite of some drawbacks Renner's theory is important. It's another characteristic is that it is simple and away from mathematical concepts.
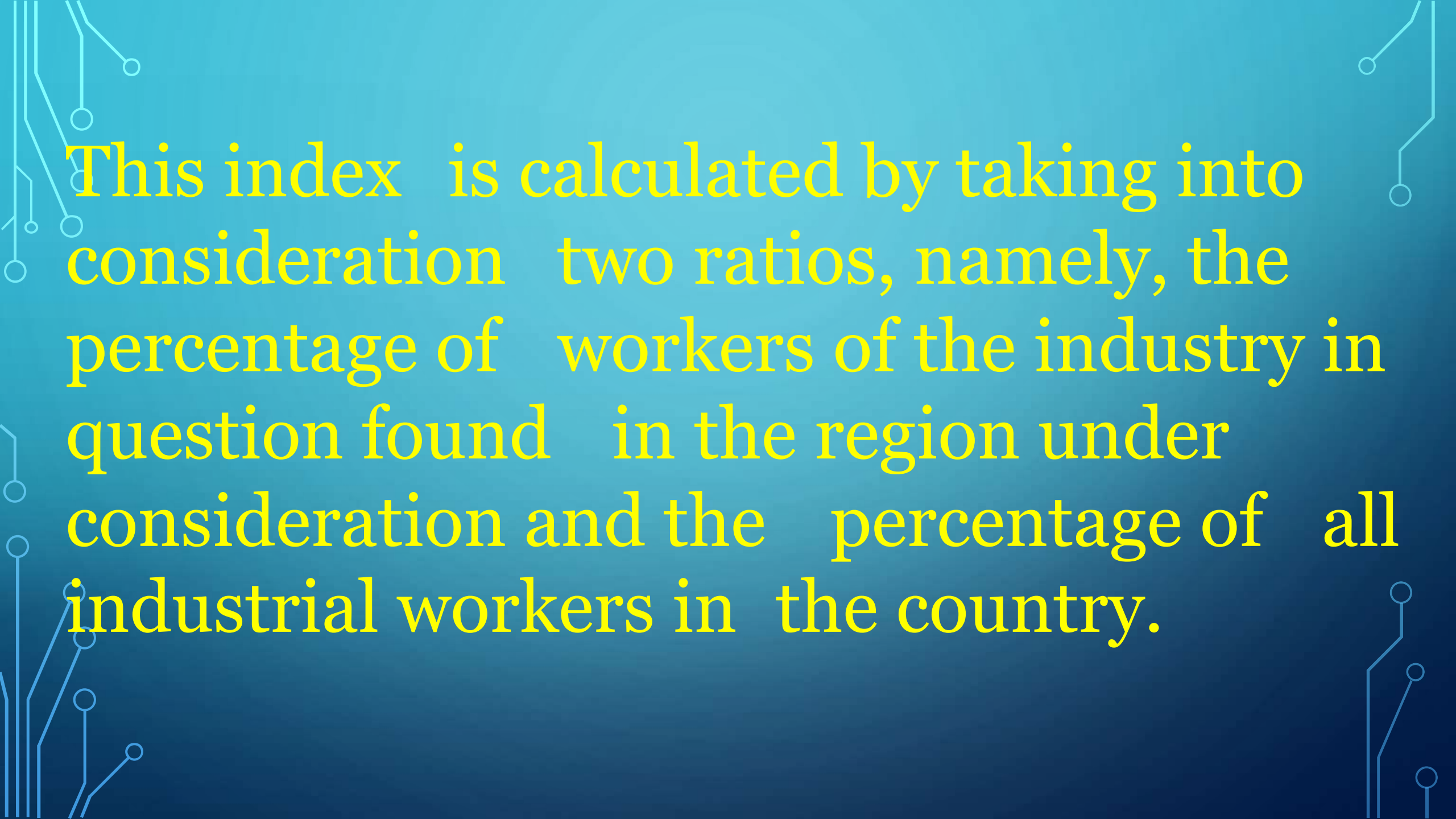
SARGANT'S THEORY OF INDUSTRIAL LOCATION

Sargant Florence has given his theory about industrial location, which has become popular. He started with the idea that some of Weber's assumptions are not realistic. According to him geographical location of an industry is not as important, as the distribution of occupied population. His main consideration is that occupational distribution of population should be the main and primary factor for taking into consideration the location of an industry.

His theory is mainly based on inductive analysis and while explaining location factor of an industry he has taken into consideration location factor and co-efficient of localisation. Now a question arises as to what is location factor. According to him, it is an index of the degree of concentration of an industry in a particular region. Now this raises another problem namely how to arrive at the index, to which Sargant has made a reference.

This index is calculated by taking into consideration two ratios, namely, the percentage of workers of the industry in question found in the region under consideration and the percentage of all industrial workers in the country.

In calculating index to find out the location factor the first one is divided by the second and if the quotient is one, the location factor is said to unity and it can be said that the industry is evenly tribute over the whole country. If quotient is above unity, then the conclusion can be that the region under reference has higher share of industry.

Co-Efficient of Localisation:

By this he meant prosperity of an industry for concentration. It indicates an industry's tendency for localisation anywhere in the country. It is primarily concerned with a particular industry and not a particular region. It will thus be a single figure for the industry and also for the country as a whole.

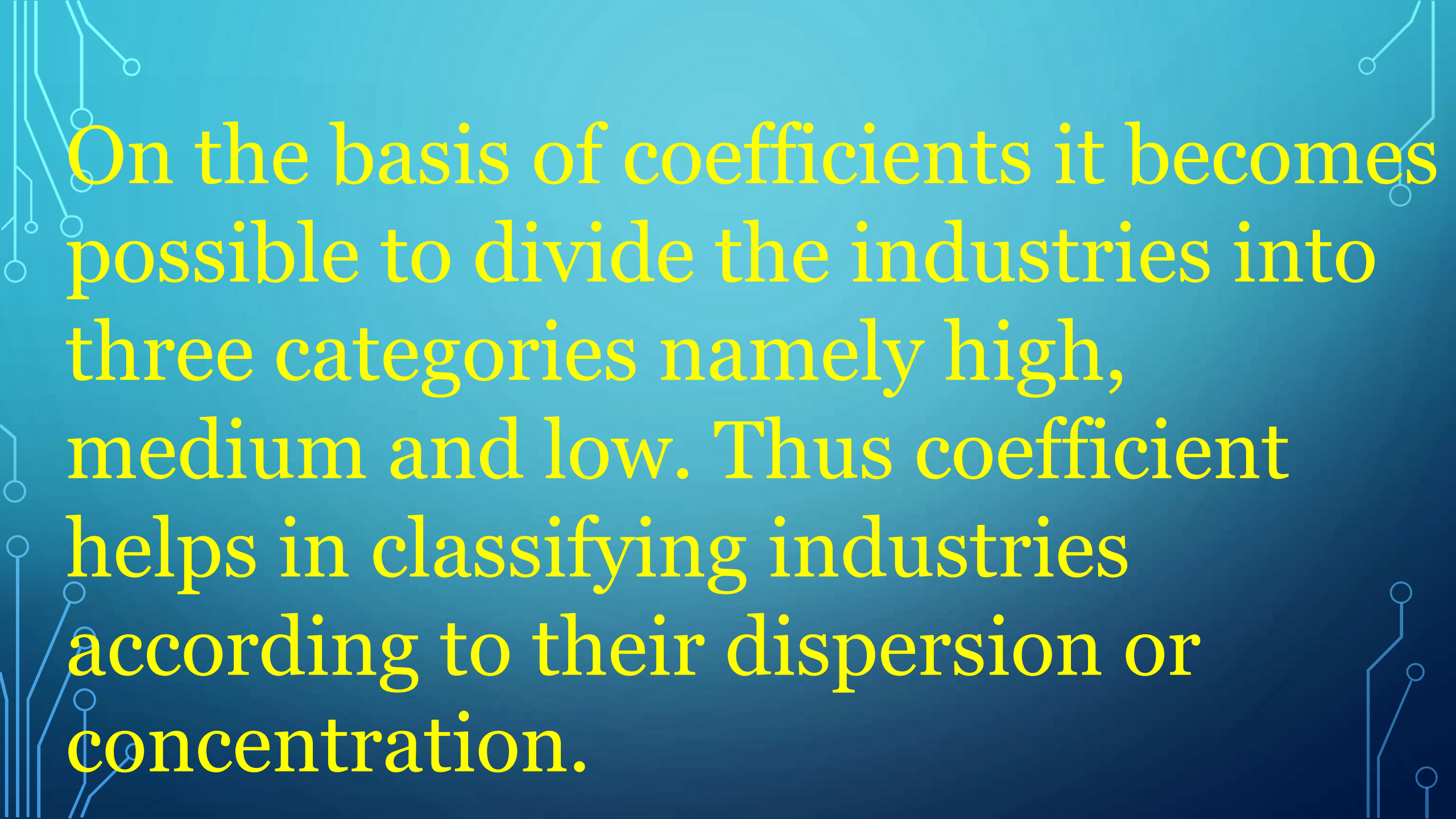(a) % age of all workers found in each region;

(b) % age of the workers of industry in question in each region;

(c) Positive deviations of (b) from (a) are to be added;

(d) Sum thus derived is to be divided by 100.

On the basis of coefficients it becomes possible to divide the industries into three categories namely high, medium and low. Thus coefficient helps in classifying industries according to their dispersion or concentration.

Central Place Theory.
Compiled by. Big Ben.
(CTIE)

Central Place Theory

- <u>Central place</u> is a market center for the exchange of goods and services by people attracted from the surrounding area

- <u>Centrality</u> is crucial to the development of urban places and their service areas

- <u>Hinterland</u> refers to the area surrounding a central place from which consumers are drawn

Central Place Theory

- The urban hierarchy of settlements is based on the functions available in a given settlement

- Functions and services attract people from the urban areas as well as the hinterlands

- Every urban center has an economic reach

- Central places compete with each other to provide goods and services

Central Place Theory

- Range is the maximum distance people are willing to travel to use a service

- Threshold is the minimum number of people required to support the service
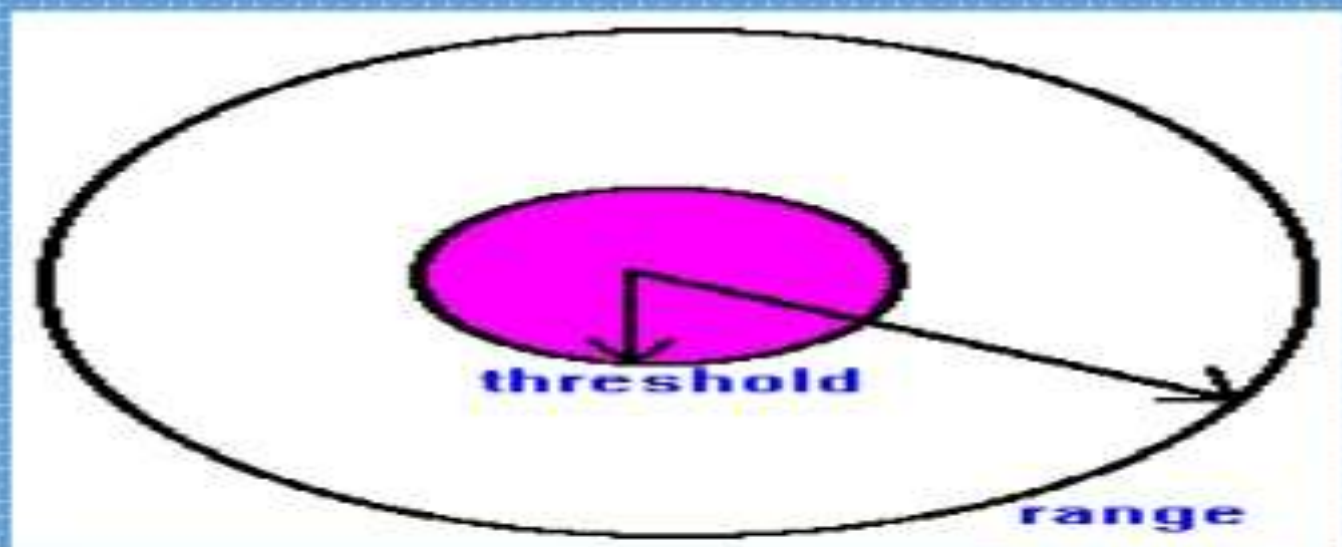
Central Place Theory

- Christaller attempted to design a model that would show how and where central places in the urban hierarchy would be functionally and spatially distributed

Central Place Theory: Assumptions

- The surface of the ideal region would be flat and have no physical barriers
- Soil fertility would be universal
- Population, purchasing power evenly distributed
- Uniform transport network that permitted direct travel from each settlement to the other
- Constant maximum distance or range for the sale of any good or service produced in a town prevailed in all directions from the town center
- Consumers are rational in decision making
- Fair competition

Hierarchy of Settlements

- Hamlet: fewest goods and services available

- Village: includes the region of the hamlet and some additional goods and services

- Town: includes the region of the village and hamlet and provides some additional goods and services

- City: includes the region of the village, hamlet and town and provides additional goods and services
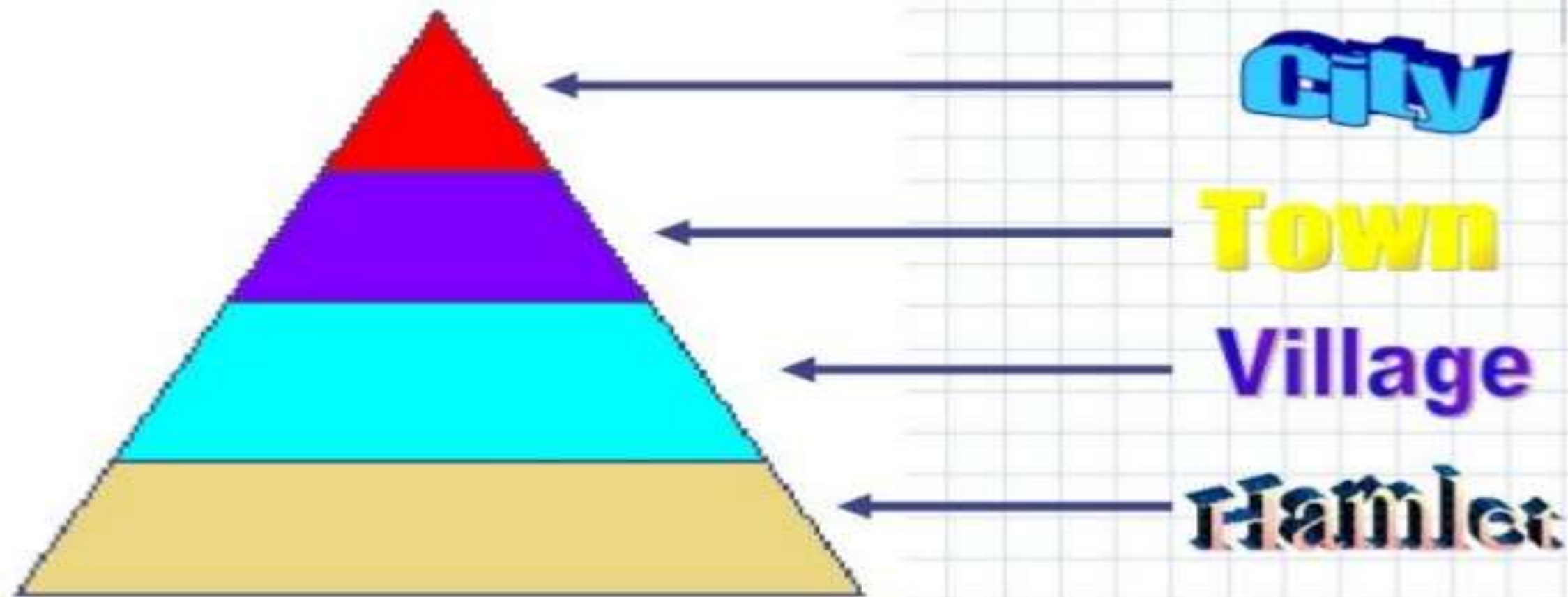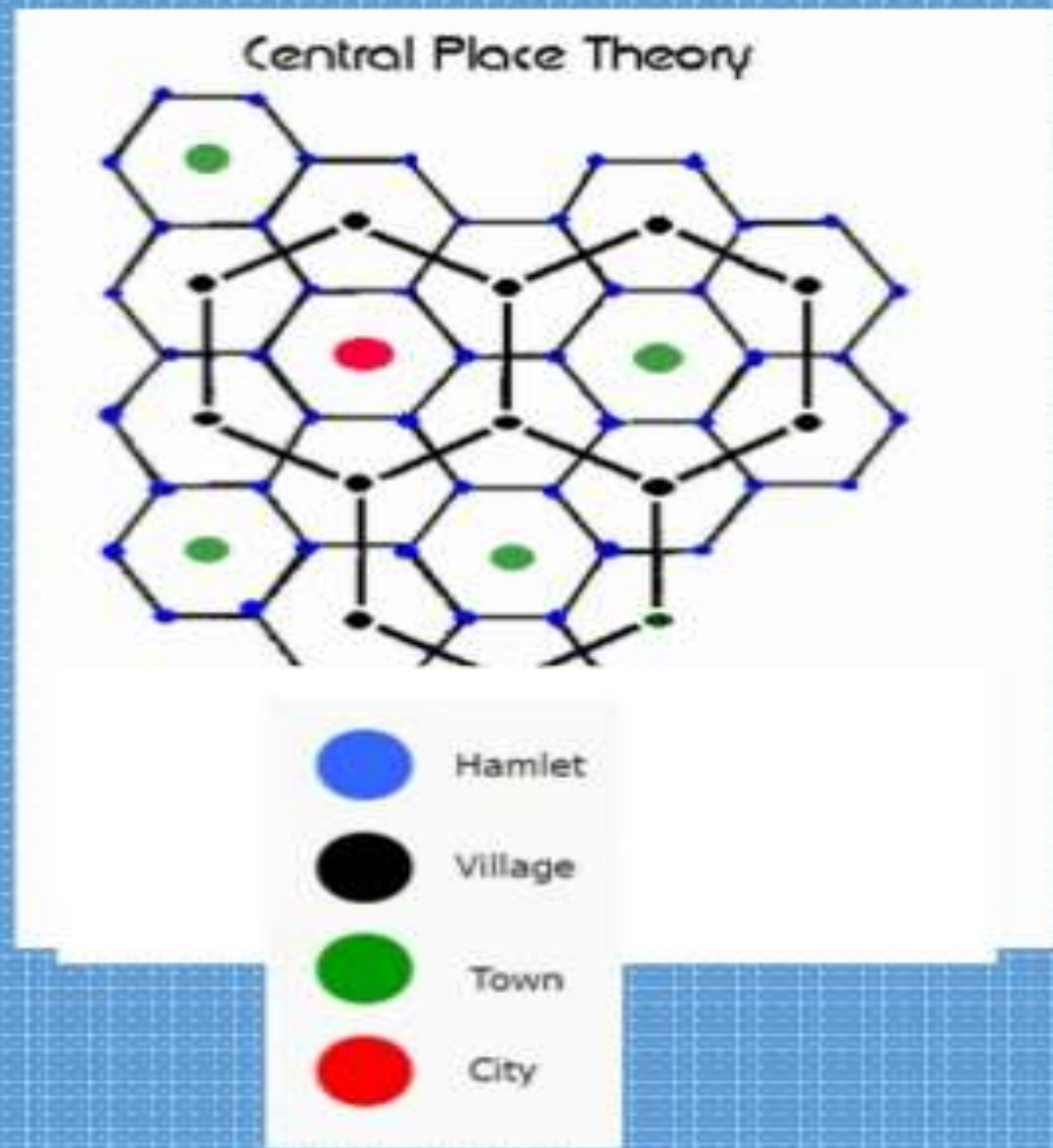
Distinct Rules

- The larger the settlement, the less there are of them and the farther apart they are

- The less there are of a settlement, the larger the hinterland, or sphere of influence, of its goods and services

- Places of the same size will be spaced the same distance apart

Central Place Theory

🔵	Hamlet
⚫	Village
🟢	Town
🔴	City

ADVANTAGES

- The theory does a reasonably good job of describing the spatial pattern of urbanization. No other economic theory explains why there is a hierarchy of urban centers.

- Central place theory does a good job of describing the location of trade and service activity.

- It also does a good job of describing consumer market oriented manufacturing.

- Trade and service activity has an increasing relevance as the U.S. economy shifts from manufacturing to services over time.
- Small-town community economic developers can secure quite specific, relevant information about what kind of trade or service enterprise will likely work, and what kind of enterprise will not likely work in a given small community.

Disadvantages of Central Place Theory

- Large areas of flat land **rarely** exist (i.e. Netherlands) → transport is "uneven"
- More types of transport – costs cannot be proportional to distance

- People and wealth are **not** evenly distributed
- People do **not** always go to the nearest place

- Purchasing power of people **differs**
- Perfect competition is **unreal** – some make more than others
- Shopping habits have changed – People travel larger distances to buy lower order goods (i.e. hypermarkets)
- Theory sees central place as having a particular function → in reality, places have several which change over time
- Good for agricultural regions but not industrial or post industrial regions
- Doesn't incorporate the temporal aspect in developing areas

UNIT- III

Industrial Productivity- Productivity & efficiency - Factors influencing productivity - Measurement of Productivity-Concepts -Scope and Significance- Tools of Productivity- Indian situation. Labour Productivity- Determinants of Labour Productivity - Productivity Movements in India.