

# **WEBER'S INDUSTRIAL LOCATION THEORY**

**Course: B.A. Geography**

**Semester: IV**

**Paper Code: GEOG CC-408**

**Paper Name: Economic Geography**

**Faculty Member Name: Aishwarya Raj**

**(Department Of Geography)**

**E-mail: [rajaishwarya0117@gmail.com](mailto:rajaishwarya0117@gmail.com)**

# WEBER'S THEORY OF INDUSTRIAL LOCATION

## Introduction:

- The principal aim of an industrial location theory is to find out the economically best location or optimal location which gives maximum profits.
- The maximum profits can be obtained when the costs are minimum and the revenues are maximum. therefore., industrial location theories can be classified into two groups-
  - A. least cost location theories
  - B. maximum revenue location theories



- ❑ Industrial location theory was first propounded by a German location economist, Alfred Weber in 1909, in his book '*Uber den Standort der Industrien*'. It was later translated into English in 1929, as 'The theory of the Location of Industries'.
- ❑ Weber's theory of industrial location is very comprehensive and known as 'Least Cost theory'.
- ❑ He was the first one to analyse the general regional factors of transport and labour costs as primary factors, and the agglomeration costs as secondary factors, influencing the optimal location of the manufacturing industries.



## ASSUMPTIONS:

- Like other deductive theories, weber too offered certain assumptions to analyse different cost minimizing factors and processes and their impact on industrial location.
- 1. The area is typically uniform or isotropic in form of terrain or relief, climate, soils, economic system, technology and distribution of population.
- 2. Manufacturing involves a single product at a time and the product is supplied to a single market.
- 3. Raw materials are not evenly distributed in space but a few known and fixed locations which are available at equal transportation cost throughout.



4. Markets are known and fixed at specific places.

5. Labour is spatially fixed and immobile by nature in general but is abundantly available at particular wage level at particular places.

6. Transport costs are throughout equal, increases with increasing linear distance and weight of material.

7. Transportation route is the shortest distance to destination.

8. There is perfect market competition.

9. Each commodity has uniform demand and price.



- **The Perfect Competition** is a market structure where a large number of buyers and sellers are present, and all are engaged in the buying and selling of the homogeneous products at a single price prevailing in the market.



## IMPORTANT TECHNICAL TERMS:

- 1) **Ubiquitous materials (Ubiquities):** raw material used for manufacturing which are available everywhere . Such materials does not affect the selection of location. eg. Air, Sunlight
- 2) **Localized materials-** coal, gold, petroleum, and other minerals
- 3) **Pure materials-** which does not loose their weight in processing. Eg: cotton, cotton yarns, etc
- 4) **Gross materials :** materials that loose weight during processing. Eg. Sugercane, sugerbeet, bauxite ore, iron ore, etc.
- 5) **Location weight-** per unit weight of raw material + per unit weight of finished products
- 6) **Material Index:** it indicates that location should be near market or near raw material. Calculated as, Total localized materials used/the weight of product.
- 7) **Isodapane:** according to Weber, it is a line joining the places (points) having same transport cost per unit manufactured good.



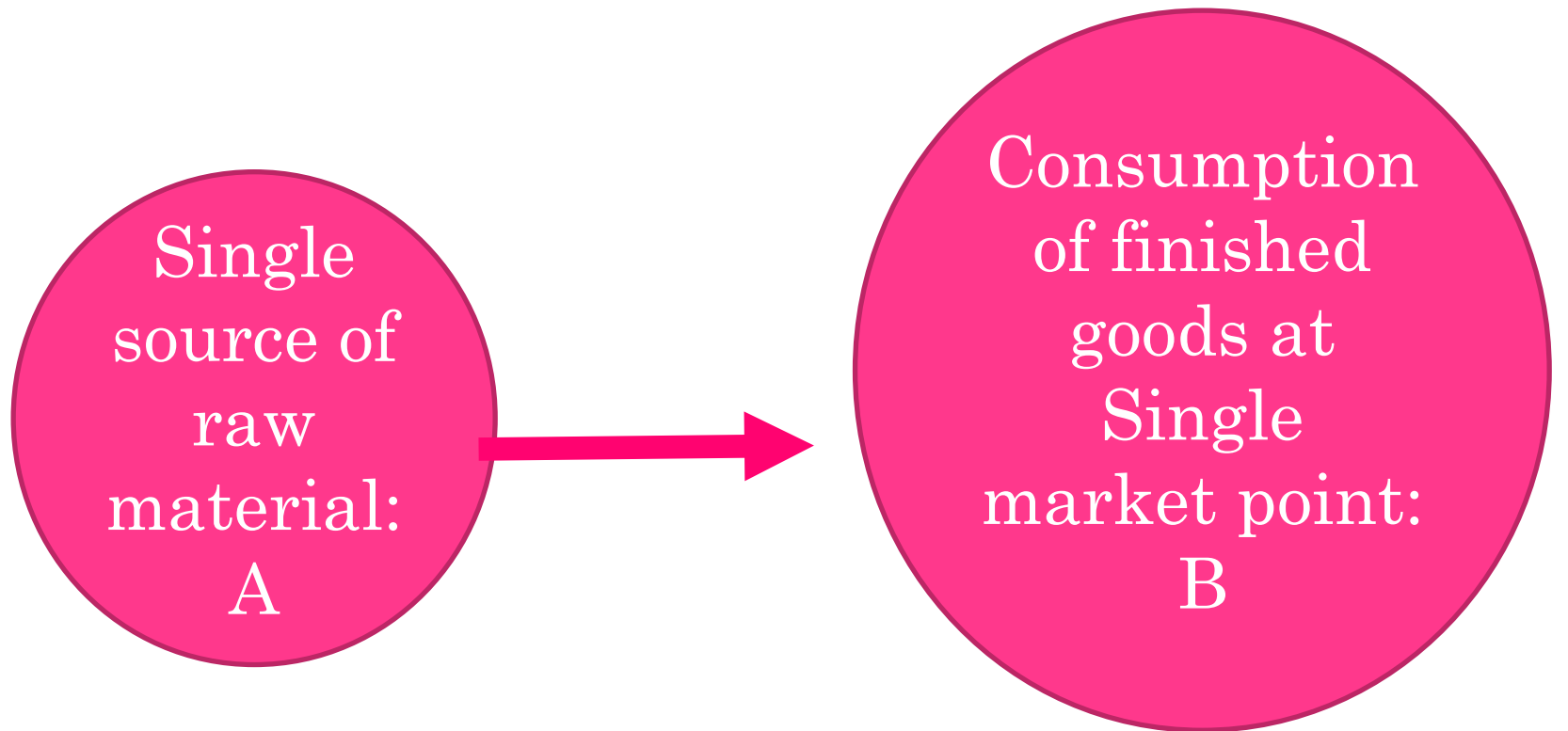
## DESCRIPTION OF THE THEORY:

- Weber's industrial Location theory is analysed in two conditions-
  1. Case of one raw material and one market point, and
  2. Case of two or more raw material sources and one market point






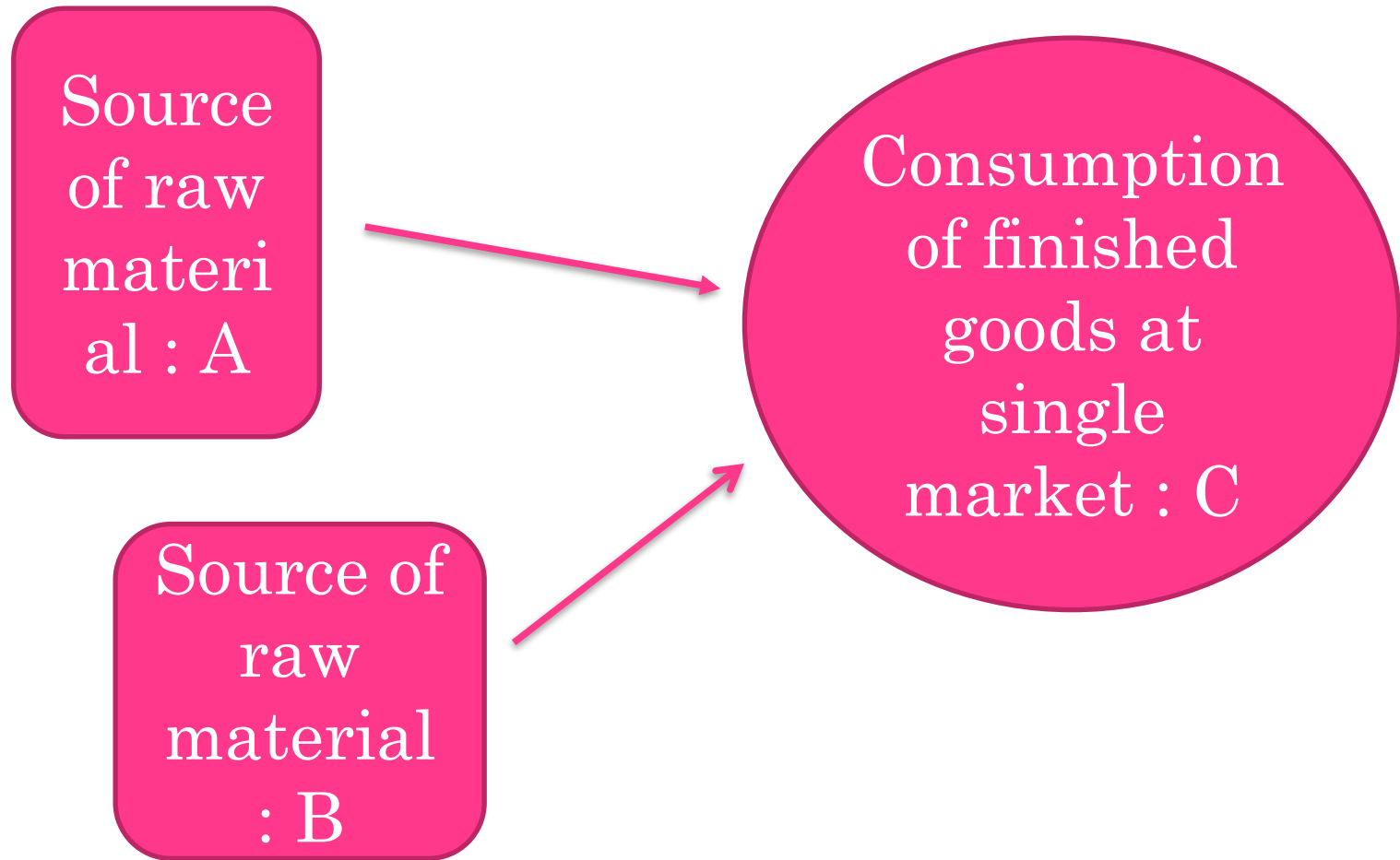
## CASE 1:



# POSSIBILITIES OF THE LOCATION OF THE INDUSTRY:

1. **If ubiquitous material is used-** there is no cost of raw material so industry can be established anywhere near market because there is no transport cost of finished goods too.
  2. **If pure materials are used-** industry may be established at (i) the source of raw material (ii) at market point (iii) at any point between raw material and market. Total transport cost will be equal in all these cases.
  3. **If gross materials are the raw material then** industry must be located near weight losing raw materials. Lighter finished products can be transported at lower cost to market.
- 

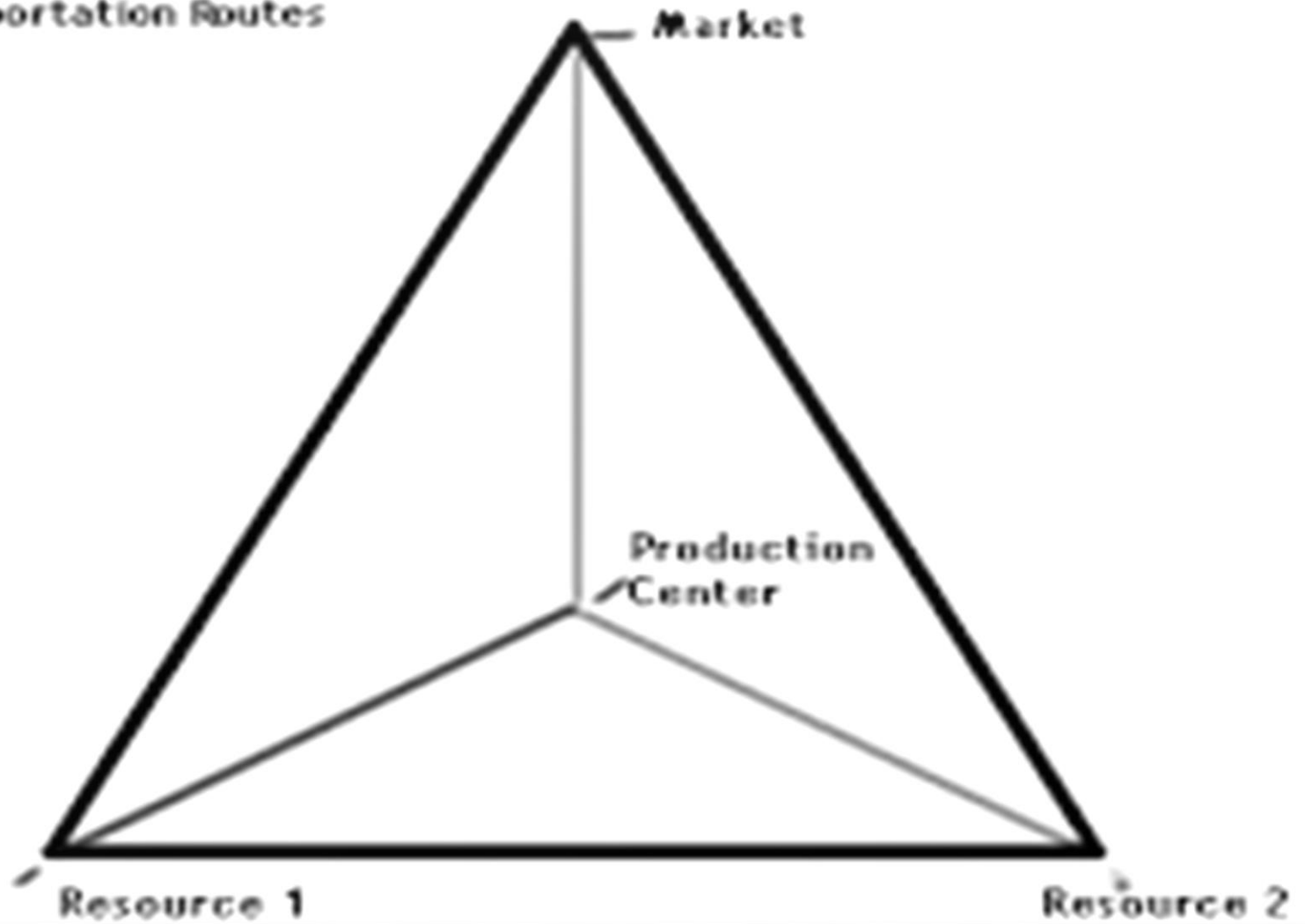
## CASE 2:



## POSSIBILITIES IN THIS CASE-

1. If both raw materials are ubiquitous, it is advantageous to set up factory near market. In this case transport cost of raw materials and finished goods becomes zero.
2. if both raw materials are pure, it is advantageous to set up the factory at market centre. Raw materials will be brought to factory and there will be no transportation cost on finished products. Thus transportation cost will be minimum.
3. if industry uses both pure and ubiquitous materials then, factory should set up near market. Transport cost of pure and its finished goods will be same and ubiquitous materials and its finished products has no transportation cost. So, total transportation cost will be minimum at market location.
4. If both raw materials are gross materials then, it becomes difficult to find best location for industry. Weber designed 'locational triangle' to solve this problem-

Transportation Routes



- Market-consumption point(C)
- One gross raw material source (A)
- Other gross raw material source ( B), in this case establishing industry at any of these three location is not advantageous .
- So, Optimal location has to be at any point within this triangle made by A,B,C.



- If weight of finished good is less than raw materials then location will be closer to raw materials .

Eg: Iron and steel industry

- If weight of finished good is more than raw materials then location will be closer to market.

Eg. Bakery factory



# IMPACT OF LABOUR AND AGGLOMERATION ON THE LOCATION OF INDUSTRY

- Weber's industrial location theory is primarily based on least cost of transport of raw materials and finished goods, but Weber gives much importance to Impact of labour source and agglomeration of industry in a particular region.

## (A) IMPACT OF LABOUR:

- Acc. To Weber, labour is concentrated at some definite places and different places have different labour cost. In order to save labour cost, the industry should be relocated away from the point of the least transport cost.
- Isodapane is the line joining those points where increased transport costs are balanced by labour movement cost savings.



## (B) IMPACT OF AGGLOMERATION


- ❑ Agglomeration economies develop when a firm produces items in mass or when many firms cluster together in the same location.

It significantly influences the location of the industries.

- ❑ Due to effect of agglomeration one may move to place where the profit or advantage of agglomeration will be more than the additional increase in transport cost due to deviation from the least cost location.



## EVALUATION OF THE THEORY:

- This theory explains some basic influences on the location of industries, but it has been criticised mainly because of its assumptions and changed circumstances related with technology, transport system ,etc.
  - 1. Most of the assumptions made by weber are not realistic. Single market point is unrealistic as well as transport cost do not increase proportionately with distance and weight.
  - 2. Weber has concentrated mainly on the transport costs and has ignored the costs employed with production process.
  - 3. Weber has concentrated much on minimizing costs and has given least emphasis on revenue.
- 

4. Socio-cultural and political influences has also been ignored by Weber, which are also a deciding factor for setting up industries.

5. Weber's single product, one firm, single market centre, etc has been now replaced by multi-product, multi-national corporations and companies, import of raw materials from long distance by sea routes have now become common, unlike hi days early 20<sup>th</sup> century.



# REFERENCE:

- Maurya,S.D., Shalini. *Models,Theories and Laws in Human Geography*. Allahabad,Pravalika Publications, 2018.
- Reid, D.James, “The theory of Industrial Location: Alfred Weber’s Contribution Reappraised.” Glasgow University,1966.

