

# Settlement Geography

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Primate city

Rank Size Rule

# The law of primate city

- The primate city is commonly at least twice as large as the next largest city and more than twice as significant – mark Jefferson.
- He was introduced his idea of primacy in 1939.
- He studied 46 countries of the world and found that the largest cities were two or three times as large as next largest city.
- Fryer isolated the million cities of southeast Asia and analyzed their site, morphology and pattern of growth.
- Murphey traced the growth of capital cities of Asia

# Definition

- Primacy: primacy is the product of small size of the country, short history, urbanization, simple economic and political organization, economy and export orientation of the economy.
- The degree of primate city refers to the dominance of the largest city over the rest of the country.
- Primate city: it is a major city that works as the financial, political, and population Centre of a country and is not rivaled in any of these aspects.
- A primate city must be at least twice as populous as the second largest city in the country.
- Primate cities are often , but not always, the capital cities of a country

# Factors affecting primacy

- Size of the country
- Colonial history
- Export orientation of the economy.
- Simple economic and political organization.
- Dual economy.

# Factors encouraging primacy

- Spread of colonialism

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- Strong centralized government
- Economic factors
- Industrial agglomeration
- Rural urban migration
- Efficiency of modern transport

# Advantages of primate cities

- Economies of large scale can be achieved because they attract overseas investment and benefits that will eventually benefit the whole country.
- Attractive places of migration.
- Resources, services and infrastructure available on a large scale.

# Problem faced by primate city

- House shortages.
- Traffic congestion
- Crime
- Pollution
- Urban rural inequalities
- Concentration of power supplies
- Increase in land value resulting in price rise
- Imbalance in development – usually a progressive core, lagging periphery, on which primate city depends for labour and other resources

# Countries with primate cities

- Paris(9.6 million) is definitely the focus of France while Marseilles has a population of 1.3 million.
- UK has London as its primate city(7 million) while the second largest city, Birmingham is home to a mere one million people.
- Mexico city, Mexico(8.6 million)outshines Guadalajara(1.6 million)
- A huge dichotomy exists between Bangkok (7.5 million) and Thailand's second city, Nanthaburi(4,18,000)



# Countries lacking primate cities

- India's most populous city is Mumbai with a population of 16 million, second is Kolkata with more than 13 million.
- China, Canada, Australia, and Brazil are other examples of countries which lack primate cities.
- U.S. lacks a true primate city. New York City has a population of 21 million, second ranked Los Angeles at 16 million, and third ranked Chicago with a population of 9 million.

# Case study – city of angels: Bangkok



- Bangkok has been the capital city for more than 200 years
- One of the world's most populated cities
- Registered population of over 6.5 million
- 1569 sq.km. area
- Population density is about 3600 persons per sq.km
- Recently has been explosive growth of urbanization
- Growth started recently, in the fifties and sixties

- The Bangkok metropolitan area represents one of the world's most extreme examples of primacy.
- Its share of the national urban population increased from 45% in 1945 to 63% in 1980
- Approximately 70% of Thailand's urban population now live in Bangkok
- In comparison, 30% of the Philippine's total urban population live in Manila and 27% of Malaysia's urban population live in Kuala Lumpur – the regions second and third most primate cities.
- Bangkok has a disproportionate share of other development indices:
  - 79% of all pharmacists
  - 45% of all doctors
  - 80% of the country's telephones
  - 72% of all registered passenger cars
- It provides 60% of the country's gross domestic product
- The primacy of Bangkok means that it does not fit the rank size rule

# Factors contributing to Bangkok's primacy

- the large distances between major urban cities is a contributory factor to Bangkok's primacy
- Nakhon ratchasima, Thailand's second largest city is 250km away from Bangkok
- The size of Bangkok also hampers the emergence of contending larger cities since employment and business opportunities are concentrated in the city

# Urban problems in Bangkok

- Extreme traffic congestion and rapid urbanization
- Disorderly settlements, shanty towns

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- Poor planning
- Pressure on land use means few recreational
- Areas, cramped, squalid conditions.
- Economic problems:-
  - Unemployment
  - Poverty
  - Poor housing condition
  - Degradation of standard of living
  - Pollution
  - Conflicting demands

# Law of Rank Size Rule

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- If all the cities in a country are placed in order from the largest to the smallest, each one will have a population half the size of the preceding city-  
zipf.
- This system used to find regularities concerning the characteristics of settlements in various countries, and to fit a graphical description of size distribution of the cities.

# Theory of Rank Size Rule

- Zipf's observed the size and number of settlements in various countries.
- He noticed a common characteristic which has been called the rank size rule.
- Having observed this order in the real world, he then sought to explain it.
- The rank size rule is an empirical regularity.
- The settlements within a defined area are ranked in descending order according to the size of their population.
- The size of a particular town can be predicted by observing its rank and the size of the largest city in the area.
- The town's population is derived by dividing the largest city's population by the town's rank.

# Formula

- $P_r = P_i / r$

where,

$P_r$  = population of  $r$ th rank size.

$P_i$  = population of the largest city

$r$  = rank of the city

- The second ranking city of a country has one half of the population of the largest city. The third largest city is one third of the largest .



# Pattern

- The theoretical rank size rule pattern is a straight line.
- In urban primacy, a single city dominates and is much greater than the next large center. (primary pattern)
- In binary pattern two or more cities are larger than the predicted size.
- In stepped order pattern there are series of levels and steps.(conurbations, cities, towns etc.)

# Problems and Applicability

- There is no universal definition of city sizes; where to limit the city present problems.
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- There are many areas where the built up area exceeds outside the administrative boundaries.
  - And many city workers live beyond the edge of the building area.
  - To what area should the rank size rule be applied.
  - The inclusion and exclusion of a very large city will very much affect the analysis.
  - Rank size rule can be better used to comparative purposes it is more descriptive rather than explanatory or predicitive

# Applicability in India

- At national level rank size rule is absent in India.
- At upper hierarchy India is dominated by three cities all of which have a population very close to each other.
- For example according to 2001 census greater Mumbai has 16368 and Ahmedabad 4519 thousand population.
- Absence of rank size rule at the national level is because there is no integrated system of settlements.
- But by and large rank size relationships in India are an exception rather than a rule.