2.1 Population Distribution & Density

Objective and Essential Learning

2.1.1 Identify the factors that influence the distribution of population at different scales.

- A1. Physical features (e.g. climate, landforms, water bodies) and human factors (e.g. culture, economics, history, politics) influence the distribution of population.
- A2. Factors that illustrate patterns of population distribution vary according to the scale of analysis.

2.1.2 Define and explain the differences between the methods geographers use to calculate population density.

- B. The three methods for calculating population density are arithmetic, physiological, and agricultural.
- C. The method used to calculate population density reveals different information about the pressure the population exerts on the land.

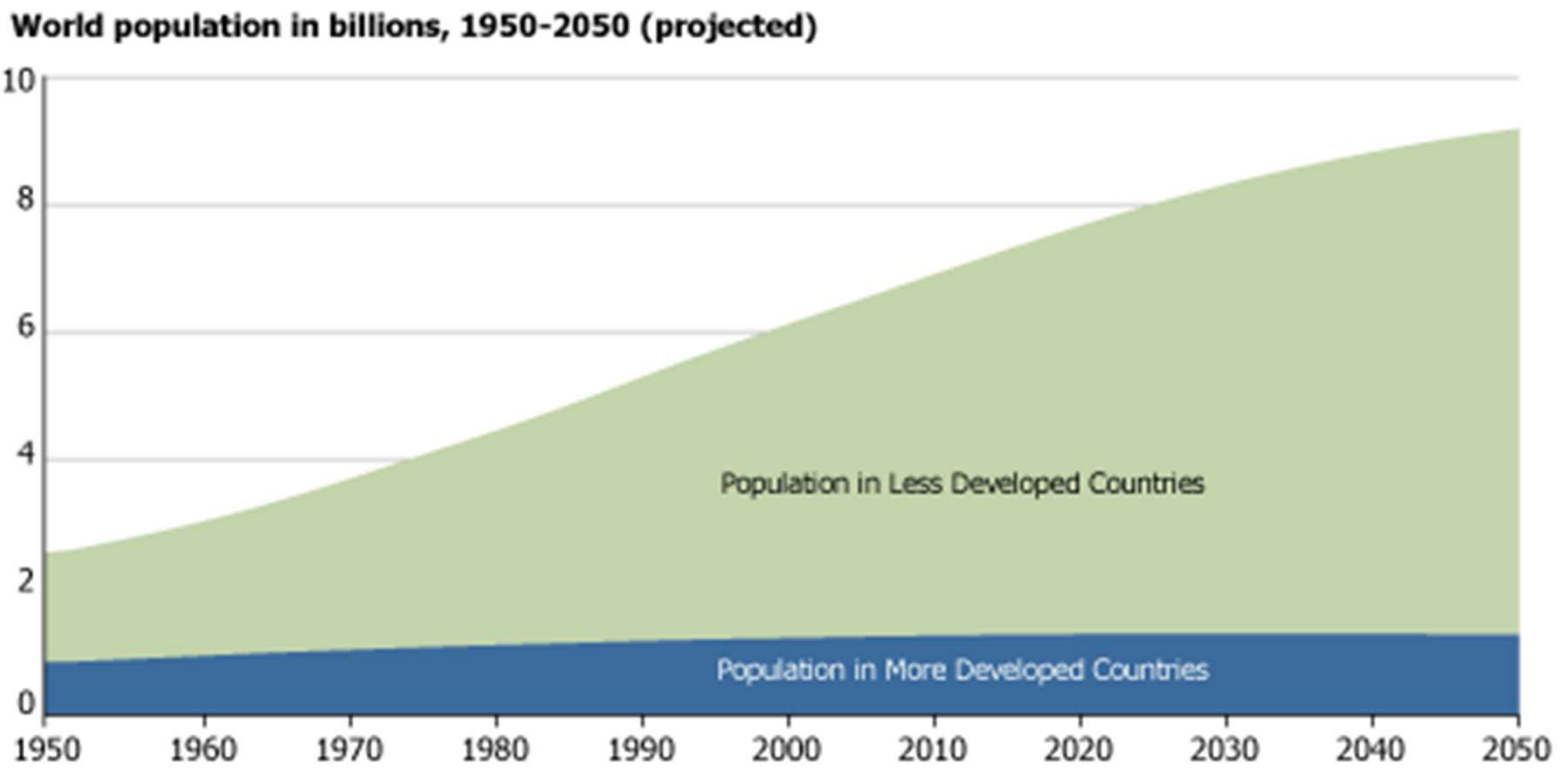
If the World Were a Village of 100 People

If we could reduce the world's population to a village of precisely 100 people, with all existing human ratios remaining the same, the demographics would look something like this:

- 60 Asians,
- 14 Africans,
- 12 Europeans,
- 8 Latin Americans,
- 5 from the USA and Canada, and
- 1 from the South Pacific
- 51 would be male, 49 would be female
- 82 would be non-white; 18 white
- 67 would be non-Christian; 33 would be Christian
- 80 would live in substandard housing
- 67 would be unable to read
- 50 would be malnourished and 1 dying of starvation
- 33 would be without access to a safe water supply
- 39 would lack access to improved sanitation
- 24 would not have any electricity
- 33 would have cellular phones
- 18 people would have cars.
- 7 people would have access to the Internet
- 1 would have a college education
- 1 would have HIV
- 26 villagers would smoke
- 14 villagers would be obese
- 2 would be near birth; 1 near death
- 5 would control 33% of the entire world's wealth; al

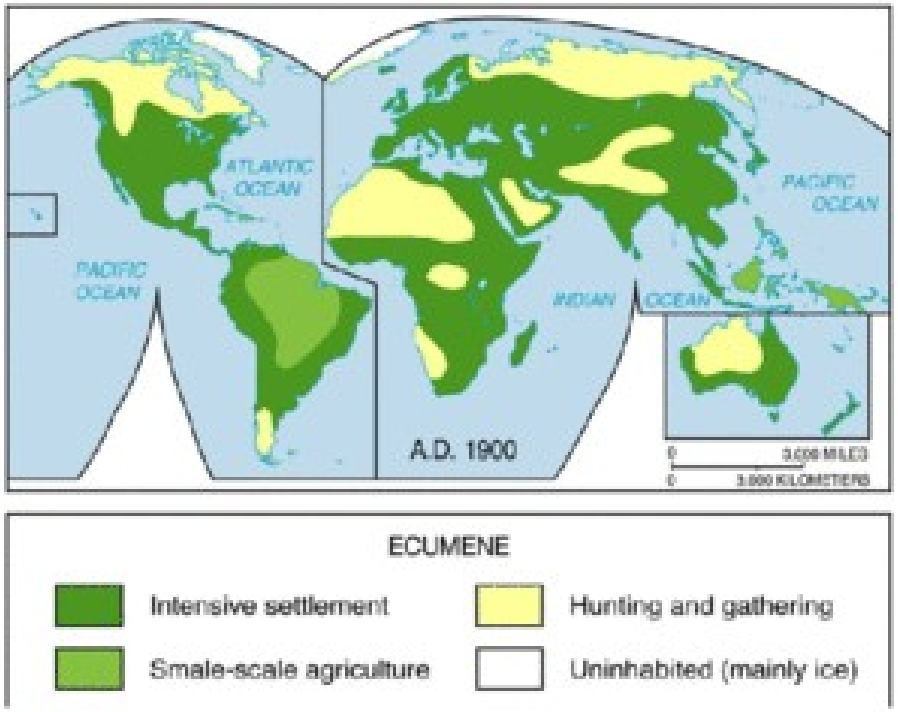
be US citizens

Population Growth



Ecumene vs. Non-Ecumene

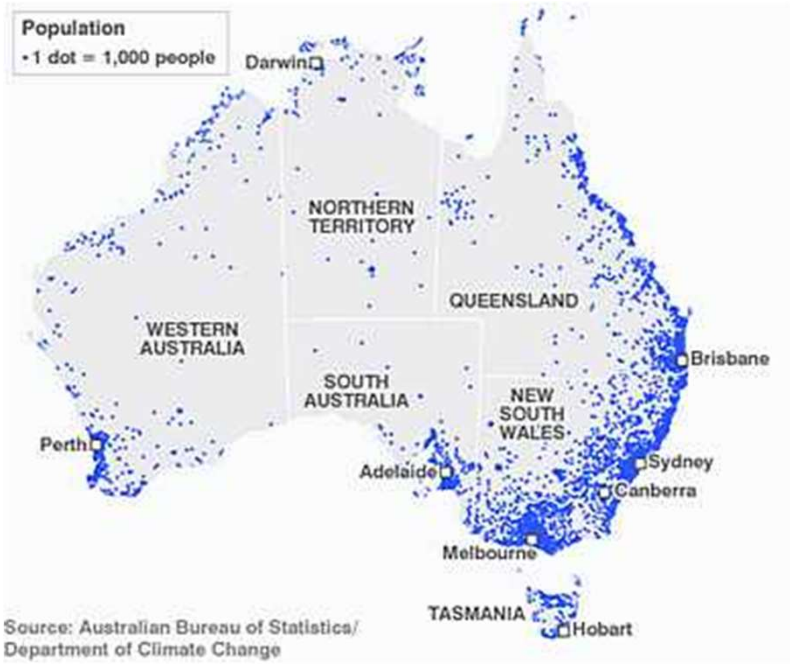
- **Ecumene - the portion of earth's surface occupied by human settlement**
- **Example: New York City**



Ecumene vs. Non-Ecumene

- Non-Ecumene - the uninhabited portions of earth
- Example: Deserts, Antarctica

What factors influence the distribution of population?



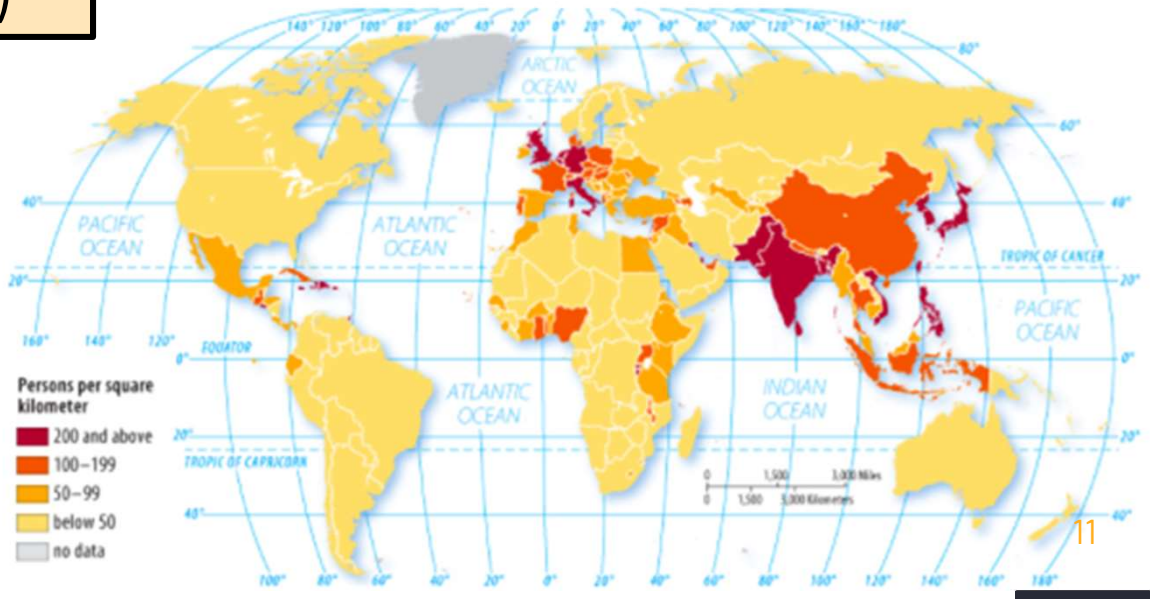
NATURAL / ENVIRONMENTAL / PHYSICAL

Sparsely Populated Land	Reason
Dry Land	• Area to dry for farming • 20% of earth's surface
Wet Land	• Area receives very high precipitation levels • Near equator, rapidly depletes nutrients
Cold Land	• North and South pole • Covered with ice yearlong
High Land	• Difficult to breath at high elevation

Arithmetic Density

$$\frac{\text{Total \# of people}}{\text{Land area (sq. mi)}}$$

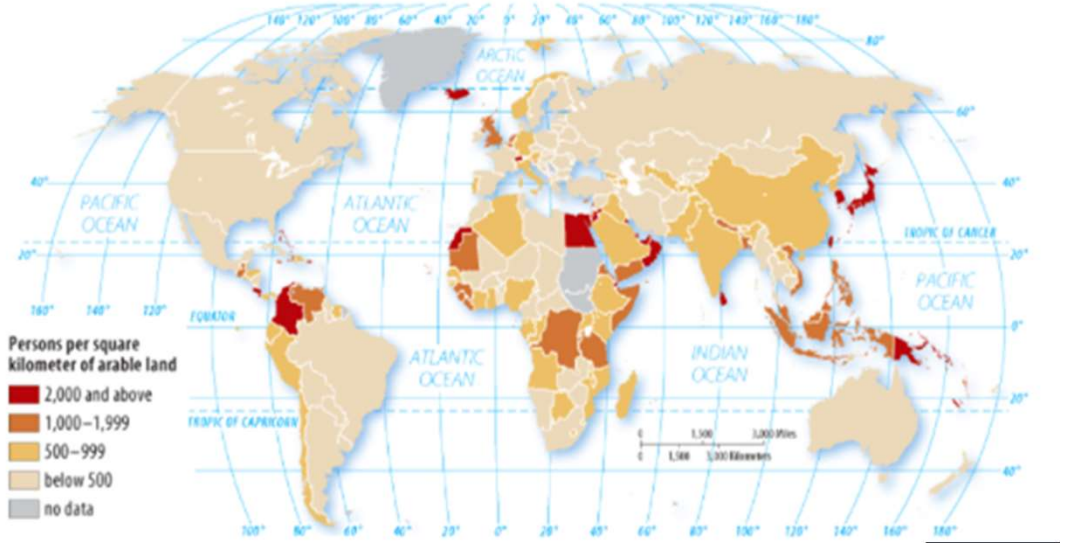
Example: USA population of about 300 million people divided by 3.7 million square miles is equal to about 80 people per square mile.



Physiological Density

$$\frac{\text{Total \# of people}}{\text{The amount of arable land area (sq. mi)}}$$

- **Example: USA is 445 per square mile, Egypt is**
- **The high the physiological density the greater the pressure the people put on the land to produce food**



How do geographers calculate population density?

How does our understanding of population distribution and density change when use physiological density?

ARITHMETIC (2020) - 257

PHYSIOLOGICAL (2020) - 9,182

- 95% of the population of Egypt live on just 3% of land - along the Nile River.
- What is the physical environment of Egypt?

Agricultural Density

$$\frac{\text{Total \# of farmers}}{\text{The amount of arable land area (sq. mi)}}$$

High: LDCs

- Low level of technology
- Farming by hand = more farme
- Low output

Low: MDCs

- High levels of mechanization
- Less farmers but more output.

7.8 BILLION

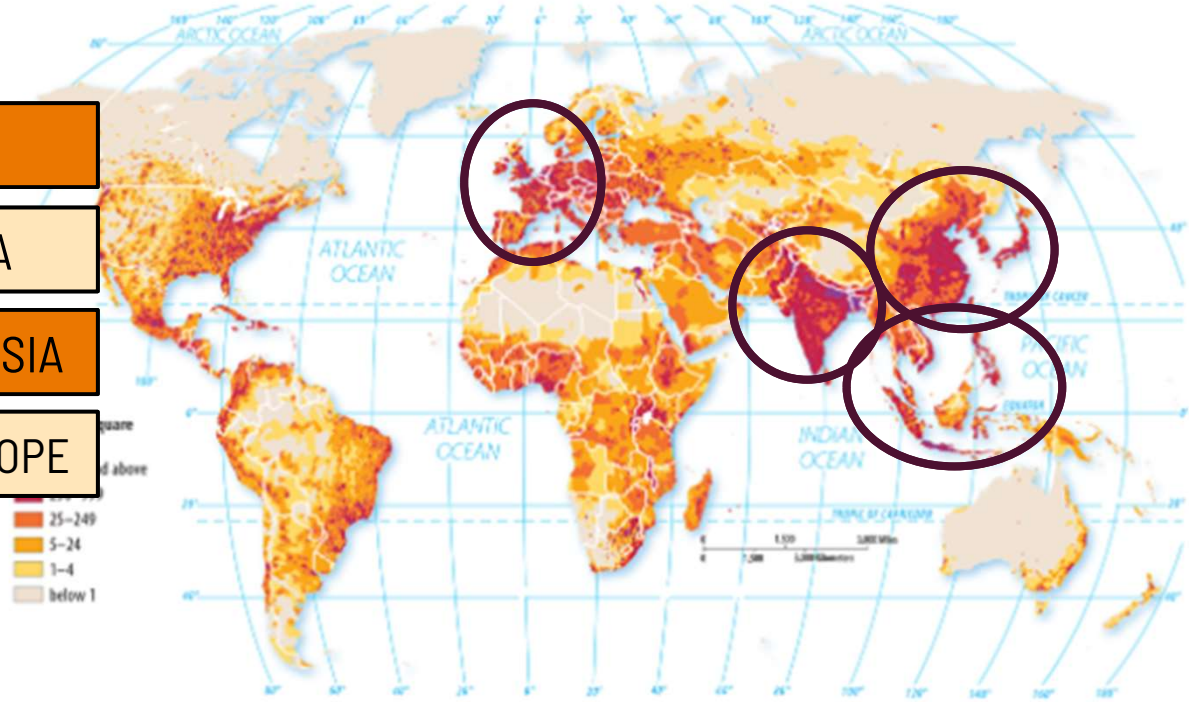
Two-thirds of Earth's population is clustered in 4 places?

EAST ASIA

SOUTH ASIA

SOUTHEAST ASIA

WESTERN EUROPE



Common physical characteristics of clusters:

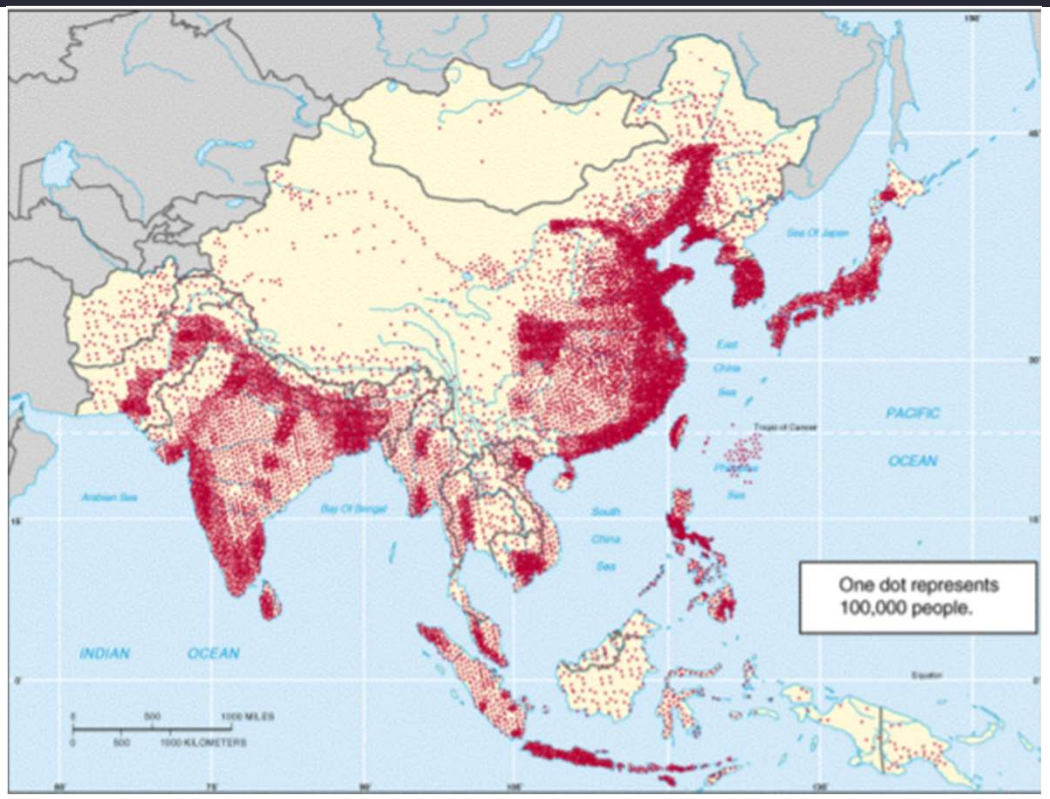
- Near ocean or rivers with access to ocean (2/3 live w/in 300 miles of ocean; 4/5 live w/in 500 miles)
- Low-lying areas w/ fertile soil, temperate climate
- N. Hemisphere from 10 to 55 degrees N. latitude

East Asia (1st largest - 1/5 of world)

China, Japan, Korea, Taiwan (most in China)

- 26 cities of more than 2 million; 52 of more than 1 million
- Yet 2/3 of people are rural farmers (in China)
- ¾ of people are urban, industrial in Japan and Korea

What type of map is this?

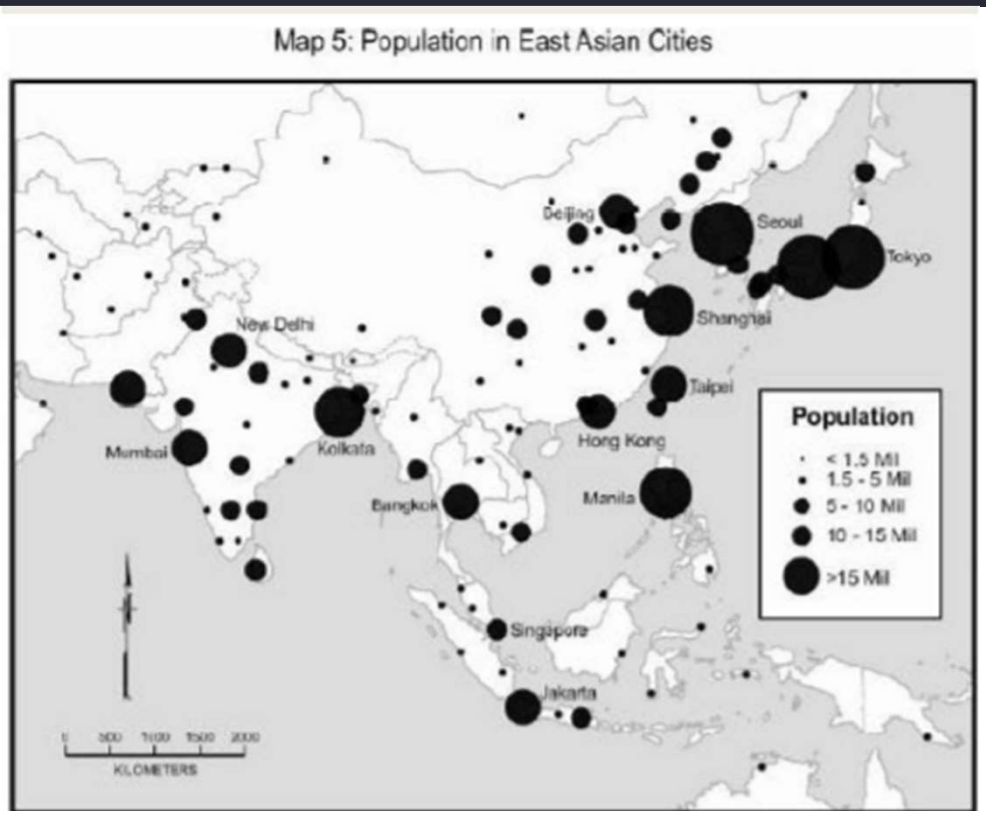


South Asia (2nd Largest - 1/5 of world)

India, Pakistan, Bangladesh, Sri Lanka

- Corridor of high density from Pakistan thru India to Bangladesh
- Clustered along Indus and Ganges river valleys
- 21 cities of more than 2 million; 55 of more than 1 million
- Yet ¾ of people are rural farmers

What type of map is this?



Europe (3rd largest – 1/9th of world)

4 dozen countries from Britain to Russia

- **¾ live in cities, less than 20% are farmers**
- **Highest concentration along coal fields of Blue Banana**
- **Temperate climate, but can't produce enough food**
- **Shortage of resources led to exploration and colonization**

Southeast Asia (4th largest – ½ billion)

Java, Sumatra, Borneo, Indonesia, Philippines

- **Mostly islands with access to oceans**
  - **River valleys and deltas in Indochina**
  - **Majority are rural farmers**
- **Asian clusters possess over ½ world population on 10% of land (same as 2000 years ago)**

Other clusters

Anglo-America (3%)

- Boston to Newport News, VA to Chicago
  - 95% urban, 5% rural
- West Africa – Nigeria (2%), most populated in Africa
  - 6 cities of 2 million, 16 of 1 million
  - Yet most are rural farmers