

WORKSHEET GEOGRAPHY CLASS-12

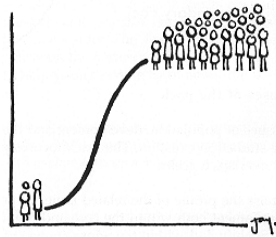
Population

NAME: _____

DATE: _____

PEOPLE - A PROBLEM OR AN ASSET?

EXPLOSIVE POPULATION GROWTH: CAUSE FOR CONCERN?

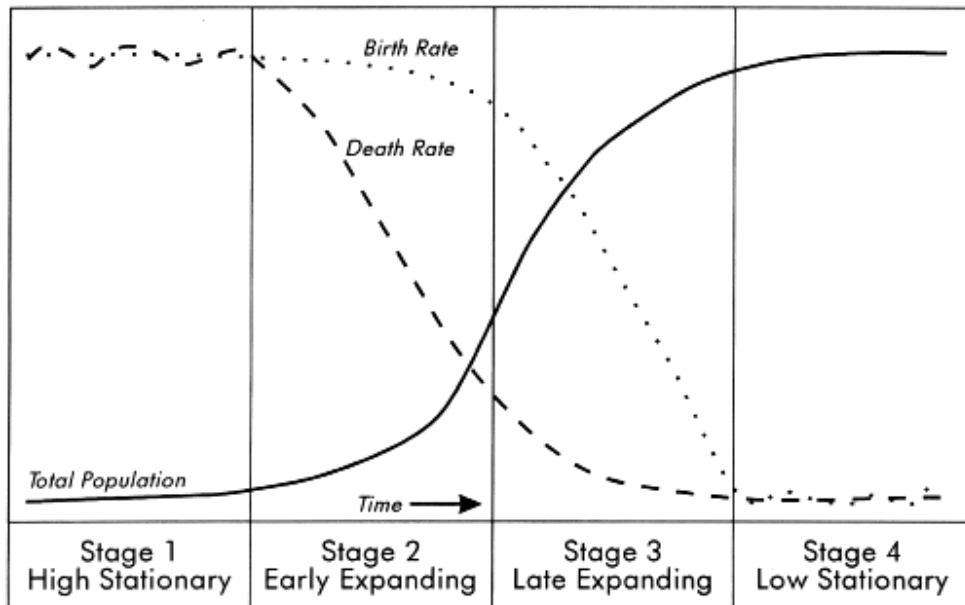


Population Growth Rates

Population growth rates are declining in most countries of the world and experts predict that the world's population will stabilise at about twice the population today. The following figures show that population growth rates are higher in developing than developed countries.

World	1.5				
Africa	2.8	Togo	3.3	Mauritius	1.5
Asia (excl. China)	1.9	Oman	4.9	Japan	0.3
(China 1.1)					
North America	0.7	USA	0.7	Canada	0.7
Latin America	1.9	Belize	3.3	Barbados	0.7
Europe	-0.1	Albania	1.8	Russia	-0.6
Oceania	1.2	Marshall Is.	4.0	Australia	0.8

Developing countries are experiencing reductions in the death rate, although over a much shorter time scale. Birth rates have now started to decline and it is assumed a new balance will be restored during the 21st century.



The diagram above is a graphical representation of the *Demographic Transition Theory*. Most less developed countries seem to be at the start of the third stage where birth rates are still high but falling and death rates are low.



History of World Population Growth

The following time line shows how world population has responded to technological change. Agriculture was the first technological development which led to a major population expansion. With agriculture came the first cases of soil degradation and with the development of cities, pollution of air, land and water.

10,000 BC	4 million	Hunter gatherer groups - first semi permanent settlements about 8500BC - first towns about 7500 BC - start of the Bronze Age 6500 BC.
5,000 BC	5 million	Animals domesticated from 9000 BC and grains from 8000 BC - first irrigation systems in 5500 BC.
4,000 BC	7 million	Use of wheel 4500 BC.
3,000 BC	14 million	First writing in Sumer - first cities.
2,000 BC	27 million	First high yield varieties of maize in Central America.
1,000 BC	50 million	Start of Iron Age 1500 BC.
200 AD	200 million	
1000 AD	340 million	
1650 AD	545 million	Start of industrial revolution 1750.
1800 AD	907 million	Bessemer process for making cheap steel patented in 1855 - increasing dependence on fossil fuels, first coal, later oil and gas - internal combustion engine 1880s.
1900 AD	1,610 million	
1950 AD	2,509 million	
1970 AD	3,650 million	Green Revolution leading to increased agricultural production.
1995 AD	5,702 million	Biotechnology and genetic engineering.

The human population cannot expand beyond the limits of the energy available to it through food. The domestication of animals and crops 10,000 years ago provided the first opportunity to expand food production. The use of iron tools and irrigation allowed further improvements. Developments in transport and agricultural techniques in the 17th and 18th centuries allowed fewer people to produce more food. Surplus labour provided a stimulus to the industrial revolution. Today, the use of fossil fuels to make fertilisers, weed killer and pesticides, as well as manufacture and drive machines, has enabled agricultural production to expand again. Genetic engineering may allow production to be maintained without the huge input of fossil fuel energy.

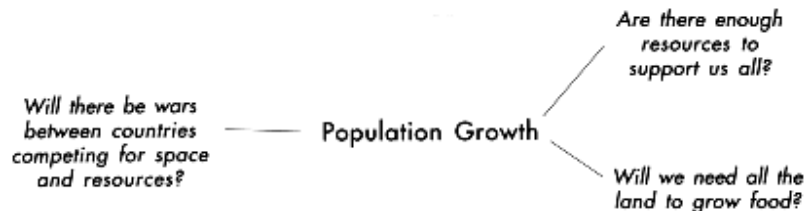
Primitive farmers produced about 1 tonne of wheat per hectare. In 1900 a British farmer produced about 2.5 tonnes. Modern British farmers produce 8 or more tonnes per hectare.

Now, Attempt the following questions: 5 marks each

Q1-Draw and compare two line graphs, one of population growth between 10,000 BC and 1650, the other between 1650 and 1995. Describe the similarities and differences between the two curves and suggest what conclusions could be drawn.

Q2-Construct a diagram to explore the effects of rapid population growth on the quality of the environment. Write population growth at the centre and show the environmental effects with lines radiating out from the centre.

For Eg: (A start is provided-. What do you think are the implications for people and the environment.



Q3-Discuss the metaphor of 'population explosion'. Is it appropriate?

Q4-Construct a time line showing population growth, key technological developments and key events that might have influenced or been caused by population growth. (Hint J curve in your text)

Q5-Examine the technological developments which have allowed us to use such a variety of materials to improve our lives and allow population growth. What future developments might alleviate population pressure?
