Module 5

History of World Population Growth and its Impact on Society

Lecture 15: Population in Ancient Times and Middle Ages

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The present population of the world is close to 6.8 billion and it is growing at the rate of 1.2 percent per year with a doubling time of nearly 60 years. The rate of growth of population is, however, not a fixed quantity. For a long time world population remained stable. It was mostly in the second part of the eighteenth century that the world population started growing with an increasing rate, reaching a peak in the second part of the twentieth century. Since then although the population size is growing the rate of growth has been declining. The forecasts are that the rate of growth will decline further and the world population would reach a level of 9.1 billion in 2050. This module focuses on the historical rise and fall of population growth in the world and its major regions.

POPOULATION GROWTH IN ANCIENT SOCIETY

In the ancient society population size was small and for communities struggling against the nature it was an asset. While the number of people in a tribal band or a community was small, the resources of nature were plenty. Rich forests, pure rivers, large species of various types of animals, mountains and oceans characterized the outside environment of ancient human society. We do not know what the natural death rate in ancient society was. As far as natural environment is concerned it was pure and density of population was very low. Therefore many types of infectious diseases would not be prevailing. This implies that the longevity could have been higher. Moreover, those who survived the hardships of natural life during childhood may have lived longer. Yet, due to attack by wild animals, violence between different human groups, excessive or short rainfalls, floods, famines, and attack of epidemics the long term death rate must have been high. This means that even with natural fertility, i.e., absence of birth control, the long term rate of growth of population must have been extremely low.

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Assuming that if a man and a woman appeared on this planet earth about 5 lakh years ago (it is believed that man separated off from the animal kingdom a million years ago) and their progeny grew at an extremely low rate such as .0001 percent per year, today the world population would have been around 10^{22} a size just unimaginable and unsustainable. Even a much lower growth rate than .00001 percent on sustained basis would yield an unsustainable figure for today. A rate of growth of .001 produces a population of $1.03*10^{22}$ in just 50,000 years.

Population growth rate in a country depends on three factors: fertility, mortality and migration. When we are discussing the world population trends we may ignore the component of migration. This implies that in the past when population grew at extremely slow rate either the long term death rate was very high or the fertility could not keep pace with mortality. Reproduction rate was only as high as death rate. The two rates may have fluctuated: when mortality rate was high fertility was also high and when mortality was less fertility was also less or this may have happened with a small time lag. Alternatively, fertility was high and in short terms population would rise but periodically epidemics and wars would destroy a great proportion of population and the population size would come down to initial levels. In both cases, the result is that for a long time the world population was stationary or growing at a very very slow rate.

CAUSES OF SLOW GROWTH

Hume (1977) suggested three reasons why ancient societies could not be more populated:

1. The ancient societies were almost in perpetual war and the war in a small state is more destructive than in a big state as most inhabitants of a small state must serve in the army; war could be caused by martial spirit, love of liberty, mutual emulation, and hatred for neighbour.

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2. Not only in war time but even in peace time the condition of ancient society was unfavourable to growth: there was no law, no trial, no pardon and the nobles would butcher the opposite party at slightest provocation.

3. Subsistence agriculture without support of flourishing trade, manufactures and industry as in modern societies.

To quote (Valentey, 1977):

> There is good reason to assume that on the whole mortality levels in the primeval period were very high. Many of these people would perish from hunger or disease, or after being attacked by wild animals, or after encounters with hostile tribes or natural disasters. Life was particularly hard for people inhabiting lands in the temperate or cold belts, where food shortages in winter probably took a heavy toll of lives each year. Mortality was particularly high among young children and old people, the weakest members of the groups, who must have been the first to suffer from deteriorating conditions. When finding themselves exposed to unexpected dangers these clan or tribal groups often abandoned the old and the children to the mercy of fate. Traditional practices of infanticide as well as the killing of old people in times of hunger that have been discovered in some tribal societies (such as those of the Australians or the Eskimos) are more likely to have been widespread in this primitive period…
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> The birth rate in this age of the primitive community must also have been high, on average a little in excess of the death rate, otherwise those primitive peoples would have died out.

No wonder it took a long period of time for the world population to reach the first billion mark in 1820 AD. Further, Bongaarts (1975) argued that in the high fertility societies birth rate too was not as high as could have been under sheer biological reproductive efficiency. To quote:

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…a typical thirty-month birth interval in a natural fertility population may be divided as follows: twelve months postpartum amenorrhea, four months waiting time to conception before an intrauterine death, a one-month nonsusceptible period associated with the intrauterine death, another four months' conception waiting time before a live birth, and finally a nine month full term pregnancy.

In summary, the highest observed birth rates are much lower than is biologically possible because women in natural fertility societies are pregnant during only about one-sixth of their reproductive years. The rest of these potential childbearing years is spent in the unmarried, sterile, postpartum anovulatory, nonsusceptible, or ovulatory states. As a result, birth rate rarely exceeded 50 in populations in which no deliberate actions are taken to affect the biological process of reproduction. Voluntary fertility control efforts by couples during the childbearing years are required to reduce birth control below the natural level.

POPULATION IN MIDDLE AGES

It may be noted that in the beginning of our era the world population is estimated to be around 326.5 million. The region-wise break up showed that 35 million people lived in Europe, 220 million in Asia, 21 million in North and Central America, 19 million in South America, 30 million in Africa and 15 million in Oceania. Thus nearly 21.8 percent of the world population lived in what may be called developed countries and 78.2 percent in the developing countries (Urlanis, 1978).

Bennett estimated that the approximate population of the world in AD 1000 was 275,000,000 (Valentey, 1978). In five hundred years time, from AD 1000 and 1500, it grew by 171 millions only (Table 5.1). This gives an average annual growth rate of .00096 and a doubling time of 729 years.

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TABLE 5.1: WORLD POPULATION IN MILLIONS

Year	Population
1000	275
1100	306
1200	348
1300	384
1400	373
1500	446

Source: Valentey (1978)

LACK OF INTEREST IN POPULATION THEORY

The slow rate of population growth of ancient society explains why the early philosophers and planners gave less importance to population size and density. If for the philosophers and planners population is more or less a constant it cannot be part of their theory of change or progress. Economists of development would find little interest in a constant. Only sometimes it appears in planning for a city state in hypothesizing a relationship between size and density of population and quality of life in the city (in the context of fixed resources). Indian religious literature equates increasing burden of *asuras* on earth with *kaliyuga*, the age of sin, meaning thereby that uncontrolled population can produce normlessness and misery. Population became an issue at the end of 18^{th} and particularly after the World War II because it started growing at unprecedented rate.