

POPULATION RESOURCES RELATIONSHIP

Collection of people at a time of a place if more than thirty then such size of collection of people considered as 'population' (Ghose, 2009 in settlement geography). On the other hand, 'resource' means somethings that has utility to human beings. Therefore, foods, tables, chairs, books or many others have some utility and that is why these things are resources.

The population-resource relationship over any region keep on changing. With increasing world population, the major and basic resources such food, shelter and home have becoming scare. In any given resources base what should be the population size? It is an important issue debated since second half of nineteen century. Here, we shall discuss and understand the different types of population-resources relation of the world.

OPTIMUM POPULATION

Optimum population has been defined as that size of population enabling per capita output of the maximum orders accompanied by the highest possible standards of living under a given set of economic and technological conditions. Therefore, optimum population lies between two extremes, i.e., overpopulation and under-population, although the size of optimum population is not sacrosanct.

It is a theoretically perfect situation difficult to estimate or define. The Penguin Dictionary of Geography characterises optimum population as a situation when the number of individuals can be accommodated in an area to the maximum advantage of each individual.

Thus, optimum population yields highest quality of life, which means each person has access to adequate food, water, energy and air of highest quality, adequate medical care, recreational facilities and cultural outlets. In other words, optimum population permits the highest per capita output; therefore, the marginal productivity exceeds the average productivity whereby the rates of growth of total production are the highest.

UNDER POPULATION

Under-Population is recognized when there are more resources in an area (for example, food, energy and minerals) than can be used by the people living there. Hence, the maximum human potential of that area is not realized as the resources are not fully exploited. Countries like

Canada and Australia can export the surplus of food, energy, and mineral resources, have high incomes, good living conditions and level of technology and immigration.

Some rural areas close to major cities in advanced countries such as the UK are underpopulated due to outward migration. In the UK, the Southwest Wales and the highlands of Scotland are less densely populated compared to the rest of the country. This has also happened in older declining industrial areas and the outward movement or migration has been due to lower wages and unemployment. This phenomenon results in a decline in a population. With fewer people, there is a decrease in demands for services. The lower level of services therefore sometimes encourages further outward migration.

Various attempts have been made to address population decline that are as follows:

i. Improving communication networks and transport facilities makes remote places more accessible. This strategy was used in developing countries like Nigeria and Tanzania where modern railway networks were established, but these attempts were not very successful.

ii. Establishment of new capital cities, new towns, or development growth points. For example, Brazil has a population imbalance between the coastal parts from east and south and the rest of the country. Brasilia, the new capital was created in the 1960s in the country's geographical center to attract people into the North and Center-West regions, but this had limited effect, as most of these unpopulated areas are occupied by large forests and swamps.

iii. Regional development programs. In Brazil, the interior improvement of transport networks and development of secondary growth points and rural development has all been enhanced to attract more people and discourage out-migration. The standard of living in such regions is expected to gradually improve due to improved resource utilization.

iv. Ponytails policies providing tax incentives paid maternity leaves, day care, or other benefits to families to bear more children. Such policies have been tried, with mixed success, in Western Europe in recent years.

OVER POPULATION

Overpopulation is a condition when an organism's numbers exceed the carrying capacity of its ecological niche. In common parlance, the term usually refers to the relationship between the human population and its environment, the Earth.

Overpopulation is not simply a function of the size or density of the population. Overpopulation can be determined using the ratio of population to available resources. If a given environment has a population of ten, but there is food or drinking water enough for only nine, then that environment is overpopulated; if the population is 100 individuals but there is food, shelter or water enough for 200, then it is not. Overpopulation can result from an increase in births, a decline in mortality rates due to medical advances, from an increase in immigration, a decrease in emigration, or from an unsustainable use and depletion of resources. It is possible for very sparsely-populated areas to be "overpopulated", as the area in question may have a very meager or non-existent capability to sustain human life (e.g. the middle of the Sahara Desert or Antarctica)

Some of the overpopulated regions of the world are India, Petén region of Guatemala, Bangladesh, Madagascar, Australia, Nigeria, Ethiopia, Sudan, Niger, Haiti, United States, Arizona, California, Uganda, and Zimbabwe.

Ackerman's Population - Resource Regions

Edward A. Ackerman (1911-1973) has used three basic criteria for devising the world's regional scheme of population /resource ratio, which are:

- Population factor,
- Resource factor and
- Technology factor.

Among these three variables used in this scheme, the most critical is the magnitude and quality of available technology. Ackerman while using the three factors of population, resource and technology, emphasized more on technology. He suggested a five-fold classification of the world into population/resource regions on the basis of population resource ratios and the availability of technology:

1. United States Type: About one sixth of the world's people live in technology-source areas with low population/resource ratios, as in much of North America, Australia and New Zealand and the erstwhile Soviet Union.

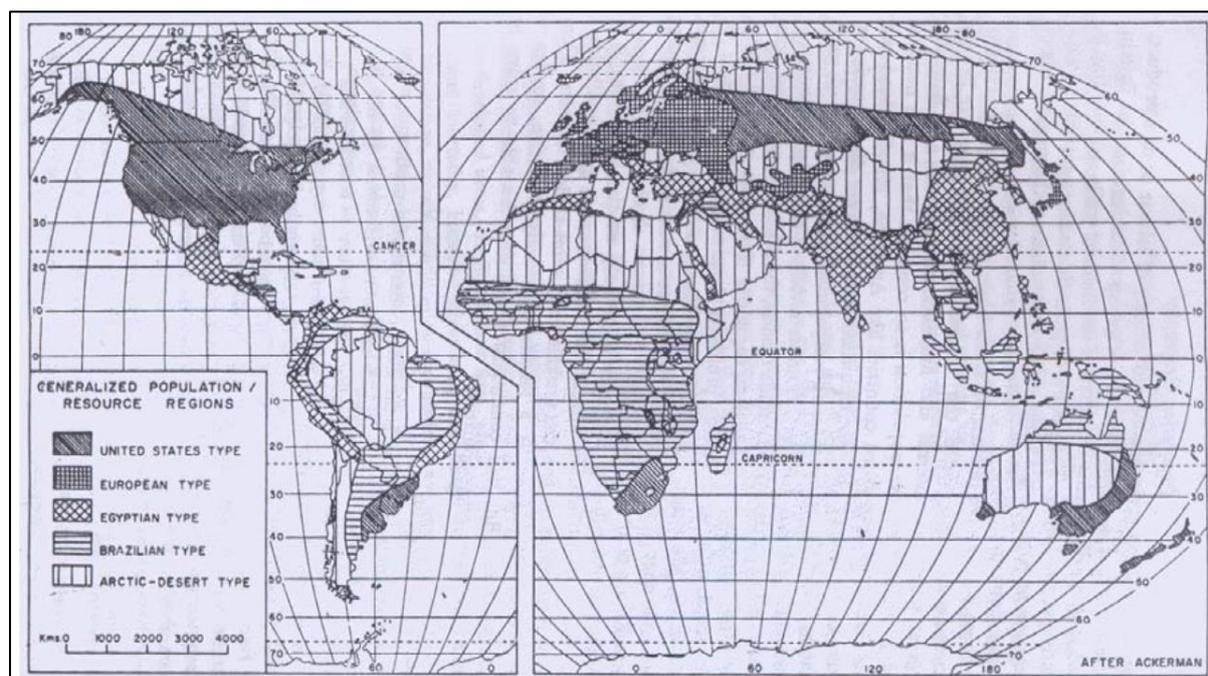


Figure: Generalised Population/ Resource Regions after E.A. Ackerman, 1970

2. European Type: One sixth live in technology-source areas with high population/resource ratios, where industrialization and technology have permitted an expansion of resources through international trade. Most of Europe and Japan fall in this category.

3. Egyptian Type: Roughly one-half live-in areas which are technology deficient with high population/resource ratios, as in India, Pakistan and China. This type epitomizes some of the most severe population problems.

4. Brazilian Type: One sixth live in technology- deficient areas with low population/resource ratios, as in much of Latin America, Africa and South-East Asia, where resources sometimes remain unused because of the problems of developing difficult environments.

5. Arctic- Desert Type: The largely uninhabited ice caps, tundra's and deserts are mostly technology- deficient and offer little food-producing potential at the moment.

This classification is a useful general guide but offers little help for more specific cases of pressure of population on resources, which is extremely difficult to define in quantitative terms due to the dynamism of the variables involved: population, resource, technology and the economic expectations and attainments of the people.