

**Programme:** Master in Sociology  
Postgraduate Department of Sociology,  
Patna University

**Semester II**

**Course: CC-6 (Sociology of Population Studies)**

**Unit-IV (Part A) Causes and Consequences of Population explosion**

**Learning Objectives:**

- To understand population explosion.
- To explain the causes of population explosion
- To understand the consequences of population explosion.
- To discuss the actions and strategies to control population explosion.

**Introduction:**

Persons are means as well as ends of economic development. They are an asset if in adequate strength and prove to be a liability if excess in strength. Population has crossed the optimum limit in India and has become a liability. So problem of population explosion in India has proved to be a big hindrance in the success of economic planning and development. This unit focuses on the meaning of overpopulation or say, population explosion and what are its causes and consequences on the country.

**What is Population Explosion?**

Overpopulation or Population Explosion is an undesirable condition where the number of existing human population exceeds the carrying capacity of Earth. In other words, overpopulation is defined as the condition of having more people than can live on the earth in comfort, happiness and health and still leave the world a fit place for future generations. Overpopulation is caused by number of factors. Reduced mortality rate, better medical facilities, depletion of precious resources are few of the causes which results in overpopulation. It is possible for a sparsely populated area to become densely populated if it is not able to sustain life.

Growing advances in technology with each coming year has affected humanity in many ways. One of these has been the ability to save lives and create better medical treatment for all. A direct result of this has been increased lifespan and the growth of the population. In the past fifty or so years, the growth of population has boomed and has turned into overpopulation. In the history of our species, the birth and death rate have always been able to balance each and maintain a population growth rate that is sustainable.

Since the time of the Bubonic Plague in the 1400's, the growth of population has been on a constant increase. Between the time of the plague and the 21st century, there has been hundreds and thousands of wars, natural calamities and man-made hazards. However, none of these have made a dent on the population. The post-World War in period (i.e., period after 1945) is generally referred to as a period of population explosion in demographic parlance. It is a period in which the world population including population in India, experienced unprecedented and

accelerated growth leading to Population explosion. For example, while India’s population was estimated to be 100 million in 1600 A.D., it was 120 million in 1800, 238.4 million in 1901, 361.1 million in 1951, 846.3 million in 1991, and estimated to be 1028.73 million in 2001 and now in 2020 its 1369.56 million.

This means that while it increased by 20 per cent in 200 years between 1600 and 1800 A.D and by about 100 per cent (exactly 98.66%) in next 100 years between 1800 and 1901, it increased by 431.5 per cent in the following 100 years between 1901 and 2001. However because of declining fertility in the next nineteen years between 2001 and 2020 population growth has declined to 133 percent.

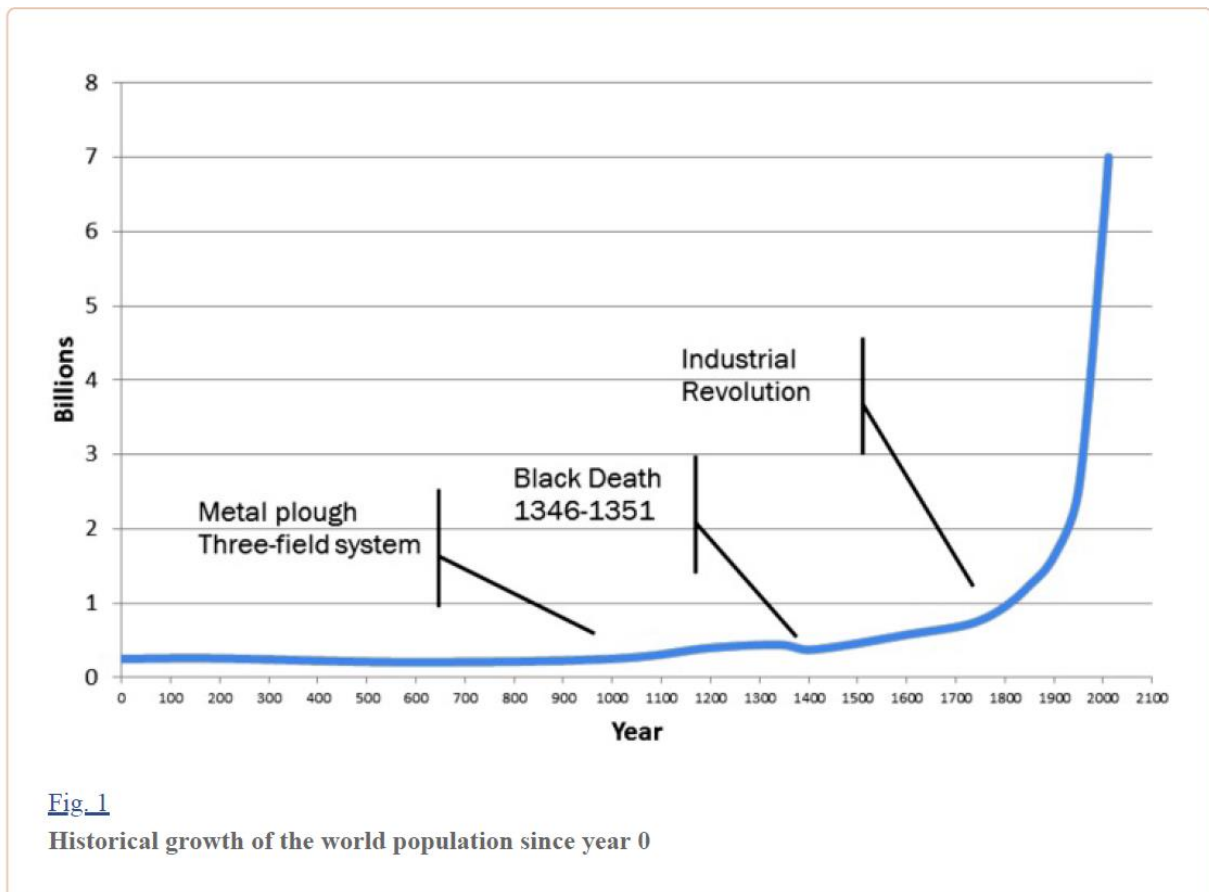


Fig. 1  
Historical growth of the world population since year 0

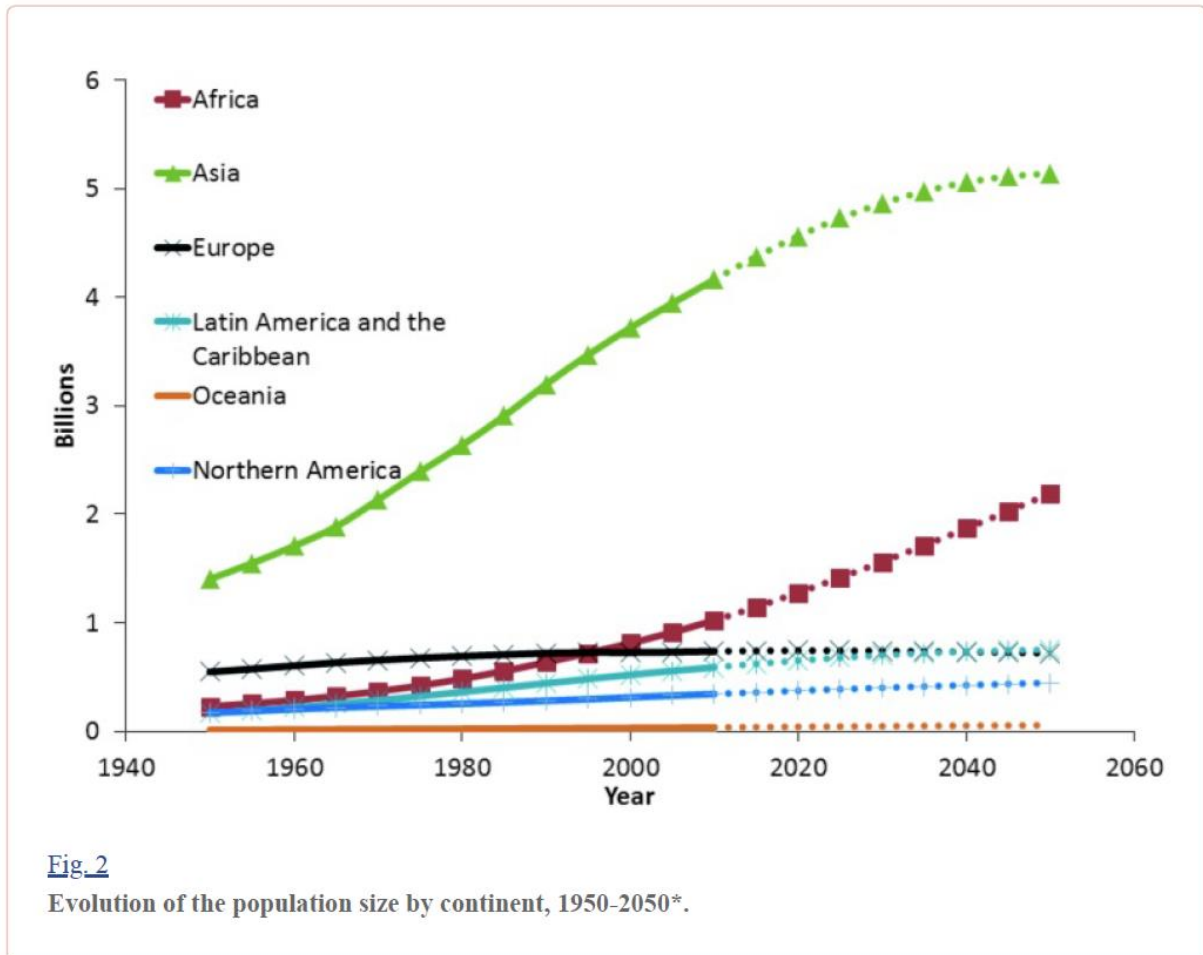
World population was projected to exceed 6 billion before the year 2000. And it exceeded the projection. As of now, that is in 2020 the world population is 7.8 billion. And according to a report by the United Nation Population fund, total population is likely to reach 10 billion by 2025 and grow to 14 billion by the end of the next century unless birth control use increases dramatically around the world within the next two decades.

Both death rates and birth rates have fallen, but death rates have fallen faster than birth rates. There are about 3 births for each death with 1.6 births for each death in more developed countries (MDCs) and 3.3 births for each death in less developed countries (LDCs). The world's population continues to grow by 1 billion people every dozen years.

On one hand, some politicians call for countries, especially MDCs to increase their population size to maintain their economic growth and military security. On the other hand, critics denote

that one out of five people living here today is not properly supported and believe that the world is already limited in resources.

These critics maintain that slowing world population growth is one of the most urgent issues. Those who believe that the world is overpopulated argue that if we don't sharply lower birth rates, we are raising death rates by default. When we are talking about overpopulation, we should first understand the causes of it.



### Causes of Population explosion:

- ✚ **Decline in the Death Rate:** At the root of overpopulation is the difference between the overall birth rate and death rate in populations. If the number of children born each year equals the number of adults that die, then the population will stabilize. Talking about overpopulation shows that while there are many factors that can increase the death rate for short periods of time, the ones that increase the birth rate do so over a long period of time. The discovery of agriculture by our ancestors was one factor that provided them with the ability to sustain their nutrition without hunting. This created the first imbalance between the two rates.
- ✚ **Better Medical Facilities:** Following this came the industrial revolution. Technological advancement was perhaps the biggest reason why the balance has been permanently disturbed. Science was able to produce better means of producing food, which allowed families to feed more mouths. Medical science made many discoveries thanks to which they were able to defeat a whole range of diseases. Illnesses that had claimed thousands

of lives till now were cured because of the invention of vaccines. Combining the increase in food supply with fewer means of mortality tipped the balance and became the starting point of overpopulation.

- ✚ ***More Hands to Overcome Poverty:*** However, when talking about overpopulation we should understand that there is a psychological component as well. For thousands of years, a very small part of the population had enough money to live in comfort. The rest faced poverty and would give birth to large families to make up for the high infant mortality rate. Families that have been through poverty, natural disasters or are simply in need of more hands to work are a major factor for overpopulation. As compared to earlier times, most of these extra children survive and consume resources that are not sufficient in nature.
- ✚ ***Technological Advancement in Fertility Treatment:*** With latest technological advancement and more discoveries in medical science, it has become possible for couple who are unable to conceive to undergo fertility treatment methods and have their own babies. Today there are effective medicines which can increase the chance of conception and lead to rise in birth rate. Moreover, due to modern techniques pregnancies today are far more safer.
- ✚ ***Immigration:*** Many people prefer to move to developed countries like US, UK, Canada and Australia where best facilities are available in terms of medical, education, security and employment. The end result is that those people settle over there and those places become overcrowded. Difference between the number of people who are leaving the country and the number of people who enter narrows down which leads to more demand for food, clothes, energy and homes. This gives rise to shortage of resources. Though the overall population remains the same, it just affects the density of population making that place simply overcrowded.
- ✚ ***Lack of Family Planning:*** Most developing nations have large number of people who are illiterate, live below the poverty line and have little or no knowledge about family planning. Getting their children married at an early age increase the chances of producing more kids. Those people are unable to understand the harmful effects of overpopulation and lack of quality education prompts them to avoid family planning measures.
- ✚ ***Widening Gap between Birth and Death Rates:*** The average annual birth rate in India which was 42 per thousand population in 1951-61 came down to 28.1 per thousand in 1996. The death rate also came down from over 27 per thousand populations in 1951-61 to 9.1 in 1996 (Manpower Profile, 1998-37). Thus, since birth rate has shown negligible decline and death rate has gone down rather sharply, the widening gap has increased our population rapidly. The total fertility rate (average number of children born per woman) came down from about six in the fifties to 4.4 in 1993-94. If we add the annual figures of abortions (between 10 and 11 million, including 4 million spontaneous and 6.7 million induced) to the annual number of births (17 million) that take place in the country, we come to the shocking conclusion that in this age of family planning, one out of every five Indian women in the reproductive age group of 15-45 years is pregnant at any time.
- ✚ ***Low Age at Marriage:*** Child marriages have been very common in our country. According to the 1931 census, 72 per cent marriages in India were performed before 15 years of age and 34 per cent before ten years of age. Since then, there has been a

continuous increase in the mean age of marriage among both males and females. Though the mean age of marriage is estimated to be continuously increasing, yet a large number of girls even today marry at an age at which they are not ready for marriage either socially and emotionally, or psychologically and chronologically. The infant mortality rate is directly related to the age of women at marriage. The average infant mortality rate in India was 74 per 1,000 live-births in 1995—in rural areas it was 80 and in urban areas it was 49. If we divide women in three groups in terms of age at marriage, namely, below 18, 18-20, and 21 and above, the infant mortality rate in each of these three groups in rural areas (in 1978) was 141, 112, and 85 respectively while in the urban areas, it was 78, 66 and 46 respectively.

If we relate fertility rates (average number of children born per woman) with age groups, we find that as the age group increases, the fertility rate decreases. If population growth is to be controlled, marriage of females (in rural and urban areas) is to be preferred in 21-23 or 23-25 age groups rather than in 15-18 or 18-21 age groups.

✚ **High Illiteracy:** Family planning has a direct link with female education, and female education is directly associated with age at marriage, general status of women, their fertility and infant mortality rate, and so forth. According to the latest 1999 figures given by NSS, the overall literacy percentage in India was 61 as compared to 52.21 in 1991 and 43.56 in 1981. The male literacy percentage in 1991 was 64.13 while the female literacy percentage is 39.29. In 1999, it is estimated to be 73 per cent and 49 per cent respectively. Education makes a person liberal, broad-minded, open to new ideas, and rational. If both men and women are educated, they will easily understand the logic of planning their family, but if either of them or both of them are illiterate, they would be more orthodox, illogical and religious-minded.

This is evident from the fact that Kerala which has the overall literacy rate of 89.81 per cent and female literacy rate of 86.91 per cent (in 1991) has the lowest birth rate (17.8 per thousand) while Rajasthan's appallingly low female literacy rate of 20.44 per cent gives rise to the third highest birth rate in the country (34.6 per thousand), the highest having been registered in Uttar Pradesh (36 per thousand), followed by Madhya Pradesh (34.7 per one thousand). These statistical figures hold good for most of the other states too.

✚ **Religious Attitude towards Family Planning:** The religiously orthodox and conservative people are against the use of family planning measures. There are women who disfavour family planning on the plea that they cannot go against the wishes of God. There are some women who argue that the purpose of a woman's life is to bear children. Other women adopt a passive attitude: "If I am destined to have many children, I will have them. If not, I will not have them. Why should I bother about it". Indian Muslims have a higher birth rate as well as fertility rate than the Hindus (Muslim women having fertility rate of 4.4 as compared to 3.3 among Hindu women). According to a survey conducted among the Muslims by the Operations Research Group in 1978, although a majority of both male and female respondents were aware of modern family planning methods, they were either not using them on religious grounds or they lacked clear adequate knowledge about them.

The survey conducted by the Population Research Centre, Udaipur in 1992 showed that out of 218 Muslim male interviewees, 43.1 per cent approved family planning, 26.6 per cent disapproved it, and 30.3 per cent did not give specific response. In comparison to

this, out of 2748 Hindu male interviewees, 61.7 per cent approved it, 14.5 per cent disapproved it and 23.8 per cent were unsure. This indicates that Muslims are more conservative towards family planning than the Hindus.

✚ **Other Causes:** Some of the other causes responsible for the increase in population are: joint family system and lack of responsibility of young couples in these families to bring up their children, lack of recreational facilities, and lack of information or wrong information about the adverse effects of vasectomy, tubectomy and the loop. Many poor parents produce children not because they are ignorant but because they need them. This is evident from that fact that there are some 35 million child workers in our country. If families stop those children from working, their family incomes will be terribly diminished.

Producing more children by the poor people illustrates the paradox of population-poverty interrelationship. Poverty is both the cause and effect of the population growth. Having produced many children (sons) to combat one's family's growing needs, the parents are forced to keep them out of school to supplement their household income.

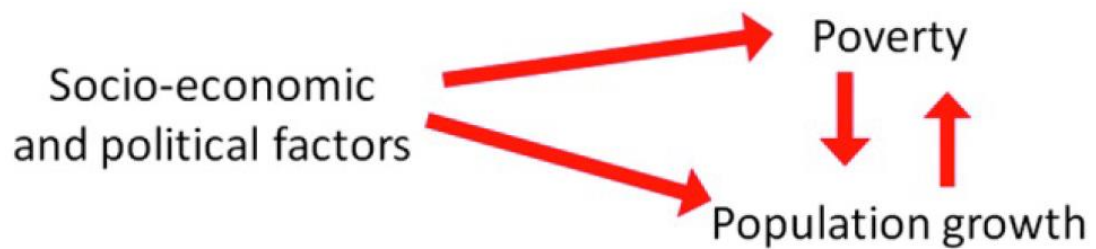
In turn, unlettered and ignorant children will inherit their father's lot and like him, opt to have as many sons as are needed to work for sustenance. Ironically, a huge family size is the poor man's only way to combat poverty caused by the population boom.

### **Consequences of Population Explosion:**

- ♣ **Problem of Investment Requirement:** Indian population is growing at a rate of 1.8 percent per annum. In order to achieve a given rate of increase in per capita income, larger investment is needed. This adversely affects the growth rate of the economy. In India, annual growth rate of population is 1.8 percent and capital output ratio is 4:1. It means that in order to stabilize the existing economic growth rate ( $4 \times 1.8 = 7.2$  percent of national income must be invested.
- ♣ **Problem of Capital Formation:** Composition of population in India hampers the increase in capital formation. High birth rate and low expectancy of life means large number of dependents in the total population. In India 35 percent of population is composed of persons less than 14 years of age. Most of these people depend on others for subsistence. They are unproductive consumers. The burden of dependents reduces the capacity of the people to save. So the rate of capital formation falls.
- ♣ **Effect on per Capita Income:** Large size of population in India and its rapid rate of growth results into low per capita availability of capital. From 1950-51 to 1980-81. India's national income grew at an average annual rate of 3.6 percent per annum. But per capita income had risen around one percent. It is due the fact that population growth has increased by 2.5 percent.
- ♣ **Rise in Unemployment:** Large size of population results in large army of labour force. But due to shortage of capital resources it becomes difficult to provide gainful employment to the entire working population. Disguised unemployment in rural areas and open unemployment in urban areas are the normal features of a developing country like India. Rise in unemployment gives rise to crime as people will steal various items to feed their family and provide them basic amenities of life.
- ♣ **High Cost of Living:** As difference between demand and supply continues to expand due to overpopulation, it raises the prices of various commodities including food,

shelter and healthcare. This means that people have to pay more to survive and feed their families.

- ❖ **Effect on Food Problem:** Rapid rate of growth of population has been the root cause of food problem. Shortage of food grains hampers economic development in two ways: (a) People do not get sufficient quantity of food due low availability of food which affects their health and productivity. Low productivity causes low per capita income and thus poverty. (b) Shortage of food-grains obliges the under-developed countries to import food grains from abroad. So a large part of foreign exchange is spent on it. So development work suffers. So rise in population causes food problem.



- ❖ **Low Standard of Living:** Rapid growth of population accounts for low standard of living in India. Even the bare necessities of life are not available adequately. Population in India increases by about 1.60 crore. It requires 121 lakh tonnes of food grains, 1.9 lakh metres of cloth and 2.6 lakh houses and 52 lakh additional jobs.
- ❖ **Poverty:** Rising population increases poverty in India. People have to spend a large portion of their resources for bringing up of their wards. It results into less saving and low rate of capital formation. Hence improvement in production technique becomes impossible. It means low productivity of labour.
- ❖ **Burden of Unproductive Consumers:** In India, a large number of children are dependent. Old persons above the age of 60 and many more in the age group of 15-59 do not find employment. In 2001, working population was 39.2 percent while 60.8 percent are unproductive workers. This high degree of dependency is due to high rate of dependent children. This dependency adversely affects effective saving.
- ❖ **Population and Social Problems:** Population explosion gives rise to a number of social problems. It leads to migration of people from rural areas to the urban areas causing the growth of slum areas. People live in most unhygienic and insanitary conditions. Unemployment and poverty lead to frustration and anger among the educated youth. This leads to robbery, beggary, prostitution and murder etc. The terrorist activities that we find today in various parts of the country are the reflection of frustration among educated unemployed youth. Overcrowding, traffic congestions, frequent accidents and pollution in big cities are the direct result of over-population.
- ❖ **More Pressure on Land:** Rising rate of population growth exerts pressure on land. On the one hand, per capita availability of land goes on diminishing and on the other, the problem of sub-division and fragmentation of holdings goes on increasing. It adversely affects the economic development of the country.
- ❖ **Impact on Maternity Welfare:** In India, population explosion is the result of high birth rate. High birth rate reduces health and welfare of women. Frequent pregnancy without having a gap is hazardous to the health of the mother and the child. This leads to high

death rate among women in the reproductive age due to early marriage. Hence to improve the welfare and status of women in our society, we have to reduce the birth rate.

- ♣ ***Depletion of Natural Resources:*** The effects of overpopulation are quite severe. The first of these is the depletion of resources. The Earth can only produce a limited amount of water and food, which is falling short of the current needs. Most of the environmental damage being seen in the last fifty odd years is because of the growing number of people on the planet. They are cutting down forests, hunting wildlife in a reckless manner, causing pollution and creating a host of problems. Those engaged in talking about overpopulation have noticed that acts of violence and aggression outside of a war zone have increased tremendously while competing for resources.
- ♣ ***Degradation of Environment:*** With the overuse of coal, oil and natural gas, it has started producing some serious effects on our environment. Rise in the number of vehicles and industries have badly affected the quality of air. Rise in amount of CO<sub>2</sub> emissions leads to global warming. Melting of polar ice caps, changing climate patterns, rise in sea level are few of the consequences that we might we have to face due to environment pollution.
- ♣ ***Conflicts and Wars:*** Overpopulation in developing countries puts a major strain on the resources it should be utilizing for development. Conflicts over water are becoming a source of tension between countries, which could result in wars. It causes more diseases to spread and makes them harder to control. Starvation is a huge issue facing the world and the mortality rate for children is being fuelled by it. Poverty is the biggest hallmark we see when talking about overpopulation. All of this will only become worse if solutions are not sought out for the factors affecting our population. We can no longer prevent it, but there are ways to control it.

### **Actions and Strategies That Can Be Developed To Solve These Problems**

There is controversy over whether population growth is good or bad. Over-population and continuing population growth are making substantial contributions to the destruction of Earth's life support systems. In the past, human populations have rarely been subject to explosion. In numbers. The powerful long-term momentum that is built into the human age structure means that the effects of fertility changes become apparent only in the future. For these reasons, it is now conventional practice to use the technology of population projection as a means of better understanding the implications of trends.

Population projections represent the playing out into the future of a set of assumptions about future fertility and mortality rates. More public education is needed to develop more awareness about population issues. Facts like the size or the growth rate of the human population should be in the head of every citizen. Schools should inform students about population issues in order for them to make projections about the future generations.

Action plans and strategies can be developed to increase public understanding of how rapid population growth limits chances for meeting basic needs. The spirit of open communication, and empowerment of individual women and men will be key to a successful solution to many population problems. Collective vision about health care, family planning and women's education at the community level build a basis for action. The creation of action plans help to meet challenges to find cooperative solutions. Free and equal access to health care, family



planning and education are desirable in their own right and will also help reduce unwanted fertility.

Individual choice, human rights and collective responsibility are key to allowing families to plan the size and spacing of their children. It is essential to achieve a balance between population and the available resources. Teachers, parents, community workers and other stakeholders should extend the range of choices about available resources to individuals, especially women, and by equalizing opportunities between the genders from birth onwards.

Teachers, parents, other educators, politicians and other concerned citizens can practice how to make good decisions in everyday life. Decisions about family size, and resource will affect the future generations. Through community forums, specific issues about the population growth can be discussed and possible action plans can be developed.