

Overpopulation



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I believe that the human population has drastically increased due to significant advances in science, medicine and education and that this drastic increase is likely to have adverse effects on our planet and society. During the 20th Century, it is estimated the population of the world almost quadrupled from 1.65 billion to 6.1 billion. Current population is estimated at 6.7 billion. It is predicted that by the year 2100 the population could reach 12 billion. We are experiencing problems at the moment with the population of 6.7 billion, what is it going to be like with double that amount?

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision, <http://esa.un.org/unpp>.

2 Causes and Effects

All things on the planet co-exist and are co-dependent. When one area is unbalanced, it has a knock-on effect on other areas which can have adverse consequences. Overpopulation puts :

(a) further burden on our food and water resources:

There are finite food and water resources on the planet. As a result there is a finite limit to the total mass of living matter that can exist at any one time. The demand for food has risen, which means the demand for land to produce that food has also risen. To provide that land vast areas of the world have been deforested. Overfishing by humans has caused a decline in the species of fish in the oceans, which has led to restrictions on fishing around the world.

The demand for water has also risen. Farmers need more water to produce more crops. Factories need more water in manufacturing more goods. Households need more water for drinking, cooking, washing and hygiene(Lateu, 2009). Only 2.5% of the earth's water is fresh water and only 0.5% is accessible to humans. Worldwide fresh water supplies are running low. As population increases, water supplies are only expected to get worse. The oceans are mistaken for available water but this is not the case as the cost of converting saline water is prohibitive. Israel, due to the lack of accessible fresh water resources have constructed a water desalination plant on the Ashkelon coastline to produce fresh water. This desalination plant represents 25% of the country's initial goal of 400 million cubic metres of drinking water annually(Oak, 2005). Of course Israel has the financial resources to manage this project whereas many other countries would not be in the same financial position. A shortage of water brings problems of sanitation and health

(b) effects our environment:

More people take up more space. Urban areas are expanding, over 2 billion hectares of arable land have already been lost with 16 million more hectares being removed every year. Forests are being torn down to provide more wood and land to support the ever increasing population. The loss of these forests and the fact that they are not being replaced means that in future there will be a shortage of wood for building, manufacturing and fuel. Deforestation also leads to the extinction of plants and animals. These plants could contain cures for diseases which will never be found.

Desertification is not restricted exclusively to arid regions. The main causes of soil degradation are overgrazing, over cultivation, water logging and salinization, and deforestation(Welch, 2008). As a result the carrying capacity for animals and people are lower, crop production is reduced, environmental deterioration is increased, flooding of lower lying lands is increased, and the capacity to support human life is reduced. Although droughts increase the rate of land degradation, they are not the cause, nor does desertification have a direct relation to a nearby desert. Soil degradation may begin in any cultivated field. Like deforestation, desertification is exacerbated by expanding population but again population is not the cause. At the core of this problem are excessive population densities and the displacement of poor people on the fragile lands. Currently desertification claims 6 million hectares worldwide. An additional 20 million hectares become degraded annually. The United Nations Environment Program judges 35 percent of the land surface at risk of desertification, included in this figure is 66 percent of Australia’s agricultural land. This equates to 24 billion tons of topsoil worldwide being washed away annually.

(c) pollution

More people generate more waste. They need more things which in turn leads to more factories, more products being manufactured, more transportation. This means more fuels being burned. More fuels being burned means more pollution. People produce tons of solid waste both organic and inorganic(Nahle, No year). This waste is emitted into our atmosphere and into our land and water systems. The pollution kills off animal habitats and plant life. It can result in the virtual eradication of some

of the primary food chain, which in turn can have major consequences for predator or consumer species. Even if the chemical effect on lower life forms is small, the lower pyramid levels of the food chain may ingest alien chemicals, which normally become more concentrated for each consuming rung of the food chain. Many of these effects are now well known, such as the concentration of persistent DDT materials for avian consumers, leading to weakening of egg shells, increased chick mortality and potential extinction of species. The ozone layer is being gradually ruined by the effects of chlorofluorocarbons (CFC's)(Nahle, No year). CFC's are widely used in the manufacturing of refrigerants, aerosols and solvents. The concentration of CFC's has increased as the human population has grown and the thickness of the ozone layer has been lessened to the extent that a hole has formed in the layer. Deforestation has disturbed the balance of oxygen and carbon dioxide in the atmosphere.

(d) economy

Overpopulation can put enormous stress on the economy. There is not enough food to feed the people. There is no surplus left over to trade. To save the people from starvation the government then has to rely on foreign debt. This debt has to be repaid somehow. It becomes a vicious cycle.

There is overcrowding. There is inadequate housing to meet the needs of the people. There may be high unemployment as there are not enough jobs for those needing them. Health services, education services, welfare services will be stretched to the limit and will eventually break down. All these things will lead to an increase in crime rates and civil unrest. To combat the crime

and civil unrest resources will be diverted away from essential services and the people who need them and so the cycle continues((last) and Ryan, No year).

The Modern Developed Countries (MDC's) are insulated to some extent against these effects. Their population is expanding at a slower rate and they have vast resources. The Lesser Developed Countries (LDC's) are much more at risk. They are already facing problems of higher populations which are expanding more rapidly(Lutz, No year). They can be victims of inequitable distribution of the world's resources and international trade and financial arrangements which can work against them. They can have inadequate infrastructure, unstable governments, civil unrest and wars(Shah, No year; Shah, 2002). A lot of work is being done by various agencies to try to help less developed countries but as problems mount for modern developed countries, they will be less inclined to offer and sustain help and assistance. Some of the MDC's have an imbalance in their populations, the grey economy (over 60's) outnumber the young employed economy and this imbalance has the potential to cause a lot of problems for them(Lutz, No year).

(e) energy

We do not only want to consider the food needs of each person but also the energy requirements of each person. In the nineteenth century, William Stanley Jevons showed that the rate of increased energy consumption was exponential to population growth. In effect, energy consumption is an exponential rate of an exponential rate. Currently our major energy source is

oil which is a finite source. How much do we have left? No one knows. The current known supply will last us 20 years. Discoveries of new reserves are always happening though. The frequency of these discoveries have been decreasing for a long time. Hardin gives the year 2059 as the year that the last of the “economically recoverable reserves” will run out. How many more people will be dependent on oil when the last runs out? At the current population increase the world population will be nearly double in 2059. There are those that say population increase is due to progress and you can't stop progress. Well, in 2059 when there is no energy to fuel progress, progress will certainly stop. What about alternative energy sources? At present there are no feasible alternative sources. Questions still hang about the safety of nuclear reactors. Solar energy is still way too expensive and land intensive (land that we need for future population).

3 Solutions

Yes, the earth is over populated. What do we do about it? The easiest and most tempting answer is that we don't need to do anything: technology will take care of the problem. But, as I will show, this answer does not cut it. People argue that technology will help through increased food production. History has proven this not to be the case. Sociologists talk about the “green revolution”. The cause of this revolution was the invention of hybrid grains. With these grains third world farmers were able to increase production by two to three times. This was great. The event was touted as the solution to world hunger. What happened next was not so good. Within the next five years, birth rates increased in proportion to the increased food production. The technological effect was nullified by population.

One solution is government regulation. Every woman would not be allowed to have more than two babies. This is a very unpopular idea. It is also an unworkable idea as China's birth control laws have shown. Actually in the cities of China the method seems to work. Growth has stopped.

Unfortunately, since primogeniture is valued in their culture (boys are favored), as it is in many cultures, the press of forced constraints has skewed birthing rates. For various reasons, an unnatural ratio of boys born to girls born (110 boys for every 100 girls) has emerged. Even though China's efforts have been successful in the city, China's entire population continues to grow. Why? It is because their constraint laws are impossible to enforce in the countryside and borderlands. Here the population grows and by the effects of migration the cities also grow (Hardin, 1993).

Another idea is to pay women not to have children. The plan would only have to target women from 14 to 20 when fertility is highest. For each year the woman does not have a child she would receive a reward. The arguments against this plan do not really center on human rights but cost. Certainly this program would cost a pretty penny. If, though, the cost of raising the children that would otherwise be produced is considered, the cost of the rewards pales by comparison. It is shown that a middle class family will spend \$100, 000 to raise a child in the United States. That is not including college (Hardin, 1993). Surely a young woman could be persuaded to postpone having children for much less than half that sum.

While staying on the subject of mortality, I want to ask the "right to life" activists a question. If a person has a right to life should not the reciprocal be true? Shouldn't a person have a "right to death". There are people that live

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on this earth by no ordinary means. Only by the brute force of technology is the Grim Reaper grudgingly turned away. These people that are bound by expensive medical machines see every day as an exercise in pain. They may have cancer or some other terminal disease. Some of these people know that their time has come and want to embrace the peace that death will bring. Should these people be denied their right? Should these people be forced to live in an overpopulated world to suck up resources that should belong to the healthy. I apologize if I overdramatize the point but if we cannot take measures to limit the number of babies coming into this world, we should at least let people have the right to leave this world.

That there is a population problem is clear. What is not clear is the solution. Many want to protect the rights and freedoms of the individual. They may want to do this even at the expense of society as a whole. I think Garrett Hardin got it right when quoting Hagel, “ freedom is the recognition of necessity” (Hardin, 1993). We must recognize the necessity of population control. I think it can be said in all seriousness that the effects of overpopulation this century, are the most formidable problems mankind has ever faced and in order to counter these problems, human rights and morally conflicting methods may need to be used.

4 Conclusion

Since people are unaware of the population explosion and the environmental, social, and economic problems that result or increase (Busam, 1995), they will end up living in famine, pollution, unemployment, and poverty. Awareness is the factor that plays the most dominant role today

that would decide the future of the upcoming generations and the future of the current people on earth. When people are aware, they are more careful and take smarter decisions. If awareness spreads, and if people become aware of the consequences and the causes of overpopulation, they would then unite in order to change the factors that have caused overpopulation in the past into becoming beneficial and not harmful for their societies and cultures, thus obtaining a higher standard of living and a better organized and advanced life. As seen earlier, the effects of overpopulation will have a drastic effect on people's lives(Wheeler, No year). To avoid such problems, "countries and individuals must work together to achieve zero population growth" (Busam, 1995).