

**Forum:** Economic and Social Council

**Issue:** Combating the Social and Economic Effects of Overpopulation

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**Position:** Deputy President

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## Introduction

A globally accepted definition of overpopulation is where an organism's numbers exceed the current carrying capacity of its habitat. In this case the habitat is earth and **we** are the organisms. With a progressively decreasing global death rate and steady depletion of natural resources; our earth is at risk of not being able to sustain us any longer. Although the global population growth rate has steadily decreased since the 1980s there is still concern on behalf of the United Nations as the population growth is still in excess in many countries. Our earth's carrying capacity under existing conditions is anywhere between **4** and 16 billion. With an estimate by the United Nations of our world's population standing at over **7** billion, it is plausible that earth is already overpopulated. By 2050 our world's population is expected to reach **10.5** billion; our demand for resources will rise exponentially and to meet this demand the world will need **50** percent more food, **45** percent more energy and **30** percent more water. How can we possibly reach these production levels when overpopulation is aggravating environmental issues such as global warming which hinder the renewal of natural resources that we are consuming faster than are being regenerated. **5.2** million hectares of forest are lost every year along with over-exploitation of over **85** percent of fish stocks. This wastage and over-consumption is one of the major causes of over-population as it is a huge blow to our earth's sustainability. According to INRAN (National Research Institute on Food and Nutrition) the world needs to reduce its population by **two thirds** in order to attain sustainability and avert disaster. Realistically speaking this may not be possible. However, this illustrates the severity of the situation we have placed ourselves in. Overpopulation will eventually solve itself in a less than orthodox manner if we don't. Rising death rates will result in mass global mortality caused by inadequate fresh water, high pollution levels, loss of ecosystems due to deforestation, changes in atmospheric composition and consequently global warming, loss of arable land and consequently desertification, species extinction, increased chance of epidemics, starvation, increased poverty and the list goes on. Overpopulation truly does seem to be the root of innumerable problems that will subsequently demand attention from other UN committees in addition to the ECOSOC.

## Definition of Key Terms

### Human Overpopulation

Human overpopulation occurs if the number of people in a group exceeds the carrying capacity of the region occupied by the group<sup>1</sup>.

### Carrying Capacity

The carrying capacity of a biological species in an environment is the maximum population size of the species that the environment can sustain indefinitely, given food, habitat, water and other necessities available in the environment<sup>2</sup>.

### Mortality Rate

Mortality rate is a measure of the number of deaths in a population. It is scaled to the size of the population, per unit time. Mortality rate is typically expressed in units of death per 1000 individuals per year<sup>3</sup>.

### Birth Rate

The birth rate is the average number of live births in a year for every 1000 people in the total population.

### Natural Population Change

Natural population change is the difference between the birth rate and death rate of a population per 1000 people.

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<sup>1</sup> Enn.com. 2013. *Agricultural and Biofuel News: Crop Yields*. [online] Available at: <http://www.enn.com/agriculture/article/46123> [Accessed: 31 Oct 2013].

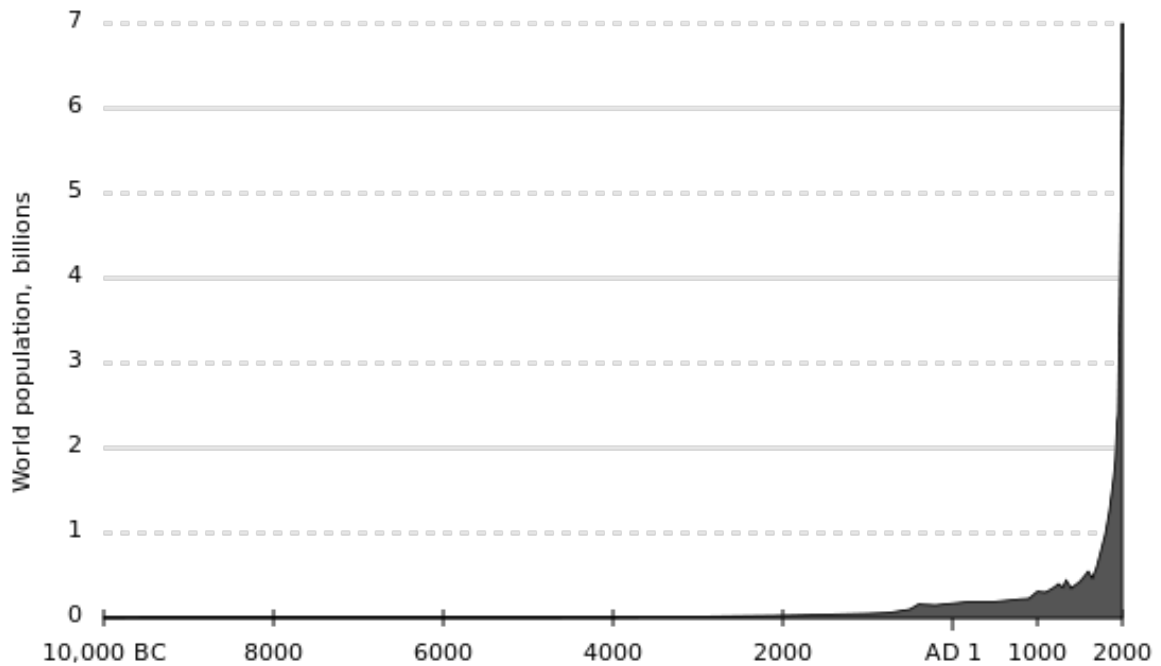
<sup>2</sup> Boundless.com. 2013. *Definition of Carrying capacity - Biology*. [online] Available at: <https://www.boundless.com/biology/definition/carrying-capacity/> [Accessed: 31 Oct 2013].

<sup>3</sup> Boundless.com. 2013. *Definition of Mortality rate - Sociology*. [online] Available at: <https://www.boundless.com/sociology/definition/mortality-rate--2/> [Accessed: 31 Oct 2013].

## Background Information

### History of Population Growth

The population of earth has undergone several phases of growth since the 'dawn of civilisation' (around 10000 BCE). Before the 'dawn of agriculture' in around 8000 BCE, the population of the earth was estimated at 1-5 million people. This number moved up to over 5 million once primitive farming began. Over the following millennia the population rapidly began to grow and reached 200-300 million people by 1 BCE. As aforementioned, the population of the world has gone through phases; between the 5<sup>th</sup> and 8<sup>th</sup> century the European population dropped to approximately half of its pre-existing numbers. This incredible population drop was a result of the plague. Eradication of this deadly and monstrous disease proved to be difficult and population growth was disrupted frequently by outbursts of the plague even after steady growth had been reassumed in 800CE (The Black Death in the 14<sup>th</sup> century is one of the most famous of these plague reoccurrences. It is said to have reduced the world's population by around 100 million to 350 million). By 1650 England's population reached 5.6 million, an increase of over 2.5 million since 1500. New crops from the Americas caused this population growth in England as well as within itself. The population of the Americas in 1500 is estimated at around 50 to 100 million. Whereas, China had a population approaching 150 million by 1644. Further fluctuations of the European population occurred due to exposure to diseases from other countries explored by European researchers leading to epidemics (e.g. smallpox, influenza, measles). A very evident turning point in the world's population was during the 18<sup>th</sup> century when the rate of population growth globally began to increase. At the end of the 18<sup>th</sup> century the world's population had almost reached 1 billion and continued to jump up; approximately 1.6 billion by the turn of the 20<sup>th</sup> century and an astonishing 2.3 billion by 1940. Food production increased in 1950 greatly and this year and the subsequent years are collectively known as the Green Revolution. The Green Revolution prompted phenomenal population growth of around 1.8% annually to a worrisome 2.1% annually by 1964. Countries like India underwent a population size change of 361.1 million in 1951 to over 1.2 billion by 2011 (only 20 years). This excessive population growth concerns us for obvious reasons; we are running out of space to house our people, water to quench our people's thirst, food to satisfy the greed of the wealthy and the starvation of the impoverished and energy to keep the clock ticking.



[This graph illustrates the growth of the world's population from 10,000 BC to the year 2000]

### The Future of Population Growth

- The United Nations Prospects Report (2012) predicts the world's population reaching a peak of 9 billion by 2050.
- The majority of population expansion is expected to take place almost entirely in less developed regions and little change in population size is expected in developed regions. By 2050 the population in less developed countries is anticipated to reach 7.8 billion, a far cry from the current 5.3 billion people inhabiting less developed countries.
- India, Pakistan, Nigeria, The Democratic Republic of the Congo, Bangladesh, Uganda, The United States, Ethiopia and China are foreseen to account for half the world's total population increase until 2050.
- It is estimated that by 2050, 51 developed countries will have a lower population than they did in 2005 as a result of falling birth rates.

### Effects of Overpopulation

The effects of overpopulation may seem few however, they are all the root of innumerable subsequent problems that will continue to multiply if not dealt with.

- Short supply of water-  
Water is essential for life to continue on earth. We need it for drinking, agriculture/food production, sewage treatment, effluent discharge, production of a large number of products (as a

coolant or even an ingredient) and countless other things. Water shortage is our biggest concern, as life cannot continue without it.

- Environmental damage-  
All forms of pollution have increased due to the increased urbanisation and industrialisation of countries to support their social and economic needs. Deforestation to harvest wood or clear land for construction has disrupted the global atmospheric oxygen and carbon dioxide balance as well as contributing to species extinction. Loss of arable land for the purpose of urbanisation is increasing desertification. All of this environmental abuse is heightening the effects of global warming.
- Overcrowding and malnutrition due to insufficient food to feed the masses and poverty make the emergence of new epidemics and pandemics likely.
- Augmented crime rates due to theft by people that require resources to survive but have no means to attain them.
- Inflation due to demand for resources. This inflation can induce poverty and subsequently heighten many of the issues aforementioned such as the heightening of crime rates and malnutrition.

### ***Pressure on Resources***

Pressure on resources as a result of overpopulation reduces the quality of life in an area. The occurrence of overpopulation is speeded up and heightened by pressure on resources, as overpopulation is an occurrence of the number of people exceeding the carrying capacity of a place. Many countries are finding that they simply do not have enough clean water, food, shelter, medical care, education and waste disposal for the number of people inhabiting them. The poor distribution of resources only aids in aggravating the issue.

## **Major Countries and Regions Involved**

### **Sub-Saharan Africa**

This region is definitely of the most concern in regards to overpopulation. Every year the Sub-Saharan population increases by 2.5%. At this rate, Africa's population will double by 2036. In specific, Ethiopia and Nigeria are countries whose populations could potentially triple within the next 50 years. Declinations in infant and child mortality rates coupled with the stable fertility rates are ensuring the inclination in population growth. Africa's already scarce resources will decrease steadily in the years to come; desertification in the Sahel region is reducing the small area of arable land; the economies of African countries will struggle to feed, educate and provide education for their populations. It's possible

that by 2025 Africa will only be able to feed 25% of its population. Although African countries do not have the highest population sizes in the world, their growth is of great concern for the future.

## **China**

China currently has the world's largest population size, encompassing 21% of the world's population. However, with China's highly unorthodox One Child Policy the issue of overpopulation seems to be well under control. The One Child Policy allows couples to have only one child in exception to twins, rural couples and ethnic minorities. Because of the success in reducing China's population it is rumoured that couples may be allowed to have two children in the near future (as soon as 2015). The social impacts of China's one child policy make it a questionable one as it has led to female infanticide and an increase in forced abortions amongst other problems. The epidemics and slums have been greatly reduced and environmental strain as well as strain on social services has been greatly alleviated in recent years.

## **India**

India is suffering with the burden of being the second most populated country in the world. No strong actions have been taken to curb India's imminent arrival at overpopulation and because of this the subsequent problems are piling up. 17% of urban India currently lives in slums; this illustrates the poverty afflicting India's people. Alongside, India is afflicted by extreme pollution that is no doubt a result of the number of people inhabiting it. It is estimated by the World Health Organisation that 900,000 people die in India every year due to contaminated water and polluted air. Large amounts of food products are currently being imported into the country and in the years to come the Indian economy and government could face the strain of having to increase import to sustain its people. Even with these imports, half of India's children are malnourished.

## **USA**

The United States is the third most populous country in the world after China and India. What makes USAs large population and population growth so scary is that it is affecting other countries very strongly as well. Americans consume 25 percent of the world's scarce energy resources and consume 4 times the amount of grain of that of developing countries. 22% of the world's carbon dioxide emissions originate in the United States, a forefront cause of global warming. On top of the aforementioned, America is likely to experience a drop in food production levels as nine square miles of rural land are lost every day to development. With efficient distribution and control of America's resources, the whole world could benefit.

## **Indonesia, Brazil, Pakistan, Bangladesh**

As countries within the top eight most populated countries in the world they are of great concern in this matter. As could be expected all these countries are suffering the harsh consequences overwhelming populations produce. These countries require immediate and strong action to be taken.

### FAO (Food and Agriculture Organisation of the United Nations)

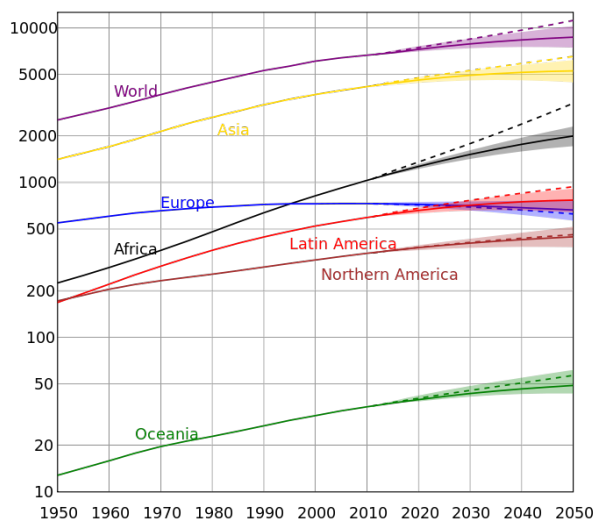
The FAOs goals are:

- To help eliminate hunger, food insecurity and malnutrition;
- To make agriculture more sustainable and productive;
- To reduce rural poverty;
- To ensure inclusive and efficient agricultural and food systems.

If a greater amount of attention is paid to reaching these goals it would immensely improve the global situation in respect to overpopulation by increasing the carrying capacity of countries amongst other things.

[This graph illustrates the population growth of the world alongside several areas/regions from 1950 to 2010 followed by a projection till 2050]

### Timeline of Population Size Progression



Date		Africa plus Madagascar	Asia plus USSR / Mideast	Europe	North America Canada US Mexico Carrib.	South America plus Central America	Oceania plus Australia New Zealand Philippines	Total (millions)
10,000 B.C.	5,000 year increments							1
5,000 B.C.								5
2,000 B.C.	1,000 year increments							27
1,000 B.C.								50
0 A.D.	500 year increments							200
500 A.D.								300
1000 A.D.								400
1500 A.D.								500
1650 A.D.	50 year increments		327	103	0.5	12	2	600
1750 A.D.			475	144	3	11	2	750
1800 A.D.			597	192	5.3	19	2	900
1810					7.2			1,000
1820					9.6			
1830					13			
1840					17			
<b>1850</b>			741	274	23	33	2	1,171
1860					31			
1870					39			
1880					50			



<b>2005</b>	5 year increments	891	3,913	729	512	371	32	<b>6.45</b>	
2010								6.8	
2011	1 year increments							7.00	
2012								7.05	
2013								7.10	
2014								7.15	
2015	5 year increments							7.2	
2020								7.6	
<b>2025</b>		1,327	4,753	711	618	447	39	7.89	
2030								8.2	
2035								8.5	
2040								8.8	
2045								9.4	
<b>2050</b>		2,050	6,109	458*	720	475	43	9.85	
1890		10 year increments				63			
<b>1900</b>				915	423	76	63	6	1,608
1910					92				
1920			997	485	105.7	92		1,834	
1930			1,069	530	122.7	110		2,008	
1940			1,173	579	131.7	132		2,216	
<b>1950</b>			1,272	594	150.7	162	12	2,406	
1960			1,665	641	178.5	208		2,972	
1970								3,700	
1980			470	2,601	484*	372	242	23	4,400
1990								5,100	
1997	7 years	750	3,477	508*	464	329	29	5,852	
<b>2000</b>	3 years	803	3,686	729	487	348	30	6,080	
2005	5 years	891	3,913	729	512	371	32	6,450	
<b>2005 Pop. Distribution</b>		<b>13.8%</b>	<b>60.7%</b>	<b>11.3%</b>	<b>7.9%</b>	<b>5.7%</b>	<b>0.5%</b>	<b>99.0%</b>	

[Data was drawn from the US Department of Commerce and the source of the table is mentioned below]

## Previous Attempts to solve the Issue

- China's One Child Policy:

This extreme method of population control is also the most famous and successful in reducing China's population. This policy allowed couples to only have one child unless they have twins, are a rural couple, ethnic minorities or children themselves. After its implementation in 1978 it is estimated to have prevented 100 million births from 1979 to 2009. As a result of the China's population goal being just over the horizon, a relaxing in the policy is being considered (a two child policy). Placing fines on those couples that have a second child as well as the reduction of

bonuses at their workplace are two methods China employs in enforcing the policy. Because of this, the price of having 2 children is far too much for many. Couples that only have 1 child also enjoy benefits such as subsidised education. This policy unquestionably has its drawbacks as would be expected. It violates the human right of parents to “determine freely and responsibly the number and spacing of their children.”; abortions are forced upon women as is sterilisation even though it was outlawed by the Chinese government which violates numerous human rights; the male to female sex ratio is severely skewed as parents abort in order to have their only child be male; Chinese orphanages are overflowing with abandoned and unwanted children the majority of which are female.

- **India’s Forced Sterilisation Programme:**

This programme was introduced in the 1970s in an attempt to address the alarming population growth rate. Men with two children or more were required to be sterilised however, ignorant men and unwedded men were said to have been sterilised as well. This programme failed and is criticised till date. The programme created a negative image of family planning in the public’s eyes and violated basic human rights. Government initiatives at family planning were impeded for decades after.

- **Education:**

Education can solve many of our world’s problems as awareness is the key to prevention. An astonishing 40% of the worldwide pregnancies are unintended. Education as to family planning and birth control methods is highly effective. Egypt’s government channelled 90 million US dollars in June 2008 towards a family planning programme that included family planning education.

## **Possible Solutions**

- **Education and Awareness-**

Prevention is better than a cure and if 80 million annual unintended pregnancies can be prevented then we can certainly understand why. Many people lack the access to information and services related to family planning and birth control; by making these services available and affordable we can greatly reduce the worldwide birth rate. Considering the age of sexual activity is reducing every year it is more important than ever to introduce sex education in schools and make birth control devices such as condoms, pills and intrauterine devices available to the younger populous. National ad campaigns could prove to be helpful as well in spreading awareness about contraception and family planning. Education in rural regions about family planning should be emphasised upon considering that these places prove to be problematic areas.

- **Birth Regulations-**

India and China’s programmes to regulate birth rates are highly controversial though in the case

of China, highly effective as well. Though these enforcements may not be feasible in every country it would be beneficial for an expedient programme or policy to be formulated to regulate the number of births. Perhaps benefits could be given to couples that only have one child (this number will vary from country to country) or taxes could be imposed on those who have more than one child.

- Urbanisation-

UN habitat states that urbanisation may be the best compromise in the face of global population growth. By concentrating habitation to limited areas and increasing the concentration of persons within a city, environmental damage can be minimised and arable land can remain intact for increased food production. However, the planning for such a plan would have to be incredibly detailed and well thought out. To increase the concentration of people within a confined area would mean city planning would have to be impeccable. Transportation, infrastructure and waste disposal are just a handful of the factors that would have to be looked into to make such a plan successful.

- Effective Channelling of Resources

If wastage of resources is minimised our earth would be able to support many more people and its carrying capacity could potentially be increased. The amount of water and food wasted by the upper class is more than enough to support the impoverished of our world. The average American has a grain intake four times the amount of that of a person living in a developing country. If this gluttony is curbed and this essential nutritional matter instead channelled wisely we could very well be one step closer to the final goal. The solution once again turns back to education in schools and the general public. People need to be made aware of the consequences of their actions and how others could potentially benefit from their conservation of resources and frugality. With global consensus and careful planning, resources can be distributed to those countries under more pressure population wise. What needs to be looked into is as to how we can implement something of this scale.

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## Appendix or Appendices

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