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# Types And Factors Of Population. Effects And Solutions Of Overpopulation

## What is Population?

Population as a phenomena has different definitions in particular but the main one that is said everywhere is, population is the total number of people that occupy a specific geographical area. Population in a certain area affects the standard of living and amount of resources that will be provided to the habitants of the area.

## Factors Affecting Population

There are certain factors which affect the increase or decrease of the population of a particular geographical area.

- Birth rate: The amount at which off springs or young ones are given birth daily has raised a hefty alarm on the world populous. This adds an increase to the population.
- Death rate: The way that people die causes a decrease in the population, it is a factor that is seemingly increasing yearly.
- Immigration: This is the movement of people from one geographical area to the other leading to the increase of population of one area and a decrease to the other.
- Emigration: This is the movement of people out of their geographical area to the other leading to a decrease in the current area.
- Available Resources: The amount of resources available can determine the population. If resources like food, water and energy are not available it will lead to a decrease in the population, while if there is abundance in resources then there will be increase in the population.
- Education: This depends on the educational factor which is the cost of education, a low cost of education could bring people towards that area leading to a large increase in population in that area but an expensive education could lead to low population.
- Stability of Society: Also a stable economic society can affect the population, this depends on the implementation of law which might affect the student rights and order governing the people.

## Population Density

This is the number of people per square kilometer of land. This can be calculated for a county, city, and country. It is measured in per kilometer square (/km square). It is particularly used in census of populations instead of going from house to house gathering population census.

## Types of Population

There are three types of population: overpopulation, under population and optimum population.

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## Overpopulation

This type of population occurs when the population of a particular area of people is higher than the available resource of the country. This can lead to low standard of living and low economic standard.

Example of overpopulated countries are:

- China: Having a current population of over 1.4 billion
- India: Having a current population of over 1.35 billion
- United States of America: Having a current population of 330 million
- Indonesia: Having a current population of 270 million.
- Brazil: Having a current population of up to 220 million
- Pakistan: Having a current population of up to 203 million.

## Under population

This is the population that occurs when the population is too little to fully utilize the available resource leading to the underutilization of the economies resource.

- Fiji: Having a current population of more than 918000
- Iceland: Having a current population of up to 400000
- Samoa: Having a current population of up to 200000
- Seychelles: Having a current population of up to 100000
- Montenegro: Having a current population of up to 630000

## Optimum Population

This occurs when the population is able to fully utilize the available resource leading to a high standard of living.

- Uruguay: population of up to 3.5 million
- Albania: population of up to 3 million
- Norway: population of up to 5.5 million
- Croatia: population of up to 4.2 million
- Costa Rica: population of up to 5 million
- Moldova: population of up to 4.1 million

## Effects of Over Population

There are several effects of over population and they are caused by the full pressure on the resource and they include:

### Limited Space

It's very difficult to think the world would become more crowded than it is right now. Especially in India, in the streets of Tokyo or sharing of space with people in a tight space of transportation. It is easy to product that the world will become a more crowded place than it

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already is our current 7.3 billion will have increase to 8.4 billion by 2030 in 2100 the population would become a mind blowing 11.2 billion by 2100. Driving in the roads of India you would always meet the crowded people clogging pathways. Arches National park in Utah had to shut down May 2018 due to a traffic jam of people and park. We people have started to the even more isolated places including the Bahamas, Iceland, turning the underpopulated areas to massively crowded areas. In the future we will see that all the people will occupy all the cities not moving to the cities for jobs but for agriculture. Places like Dhaka, Lagos and Mumbai already face large problems of space, our human footprint is everywhere and is spreading fast as we move we damage the standard of living of other occupants of the city. Knowing that cities are the one place that will undergo great innovations in the future.

## Engineering Solutions

- Creating better means of transportation to support the movement of people away from the road side like creating an airbus, a high speed train and also creating parking lots at the front of markets all this are the works of an engineer especially a civil engineer and an Automobiles engineer.
- Larger roads: Designing larger roads can help in benefiting pedestrians that are without transportations and money to afford transportations. A civil engineer can help in designing the road plan by creating pavements and walk paths for people.
- Larger Buildings and Structure: The adaptations of larger building would be able to contend with the over populated populous and able to withstand the pressure constantly put on it by the population especially in rural areas in the country and that is due to the facts of them needing food and going to markets and stall located in the cities.

## Food

Food related to populations has led to a shortage in food supply. Concern that the population can lead to the pure in agricultural produce and this is because of the availability of human labor and more than the machines. In North Korea we see that they depend more on their agricultural needs due to the fact that most of the populous are more interested in desk jobs. Particularly that most of the populous are mostly occupying houses on the mountains and this has led to a poor climate for agricultural products on the farm and this has led to food shortage.

## Engineering Solutions

- Siting of buildings in areas of favorable climate that will support the growth of the agricultural product.
- Also the designing of perfect and minimum agricultural machines can help the fast production of food in the country.
- Establishing of factories that help in the processing of food into finished product.

## Water

Countries like Yemen are the ones not benefiting from water but instead are suffering from water shortage, the city could run dry in ten years. With little being done to make use of the constant rainfall in that area, farmers are drilling for water without any law guiding them from the government. Leading to the people not having access to pure and clean water but instead have

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access to safety hazard water supply, this led to the high death rate due to the fact they have access to poor water. This factor is currently causing under population in the area and the movement of refugees to the borders. Yemen could be the first country to run out of water and their high poverty rate cannot make them to recover the cost of their labor provision for them to get water back. There is also the lack of access to water sanitation which is lower than other countries around the border, the ability of them to be unable to maintain structures like the dam and other water producing factories that can contribute to the fast production of water.

## Engineering Solutions

- Maintaining the structures responsible for the development and production of water by using proper materials in construction of the building and make sure it is a long lasting material that does not need constant maintenance.
- Building a device that is able to sanitize water it will act as a form of a filter to fully make water safe for drinking.

## Energy

This is a continuous problem in Nigeria as energy supply reaches a critical stop hold, it is due to the fact that there are a lot of people that are occupying the area and energy cannot be fully distributed with about forty percent connected to the power grid while sixty percent not benefiting from it. Power supply leads to the constant downgrade of mining, industrial and agricultural sectors and stop the ongoing development in the economy. Most households that cannot afford the power use fueled power or diesel power generators, which can lead to population in that area. Since 2005, Nigerian society has been trying to reuse the power of the generator in the power sector, but there has been a good progress in the sector. Minor increase in daily power supply.

## Engineering Solutions

- Industrialization method should be adapted in the power sector to boost the distribution of power to the other sixty percent, this can be acquired by a proper industrial manager.
- Disposal of materials should be promoted in order to use other ways of harnessing power things like garbage, sun, water, wind etc.
- A great design of generators able to distribute power to wide spread areas, this generator will not be powered by fuel or diesel but electric.

## Pollution

This problem has served as a factor of land degradation and mass food poisoning leading to the decrease in the population. For example India has been subject to those form of pollutions, one of the main form including air pollution, this is caused by the action of sulfur dioxide in the air which is released by the burning of fossil fuels like petroleum, coal, coke and other factory products. The city of Kanpur which is highly polluted in India due to the fact of high gases released from vehicles those gases are Pm10 and Pm2.5 rating of sulfur oxide. The greenhouse effect plays a large part in the pollution of the air. Finally other forms of pollution that India undergo is Environmental, Water and also soil contamination.

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## Engineering Solutions:

- The engineering solution to this that vehicles that are on the road should contain filters in order to neutralize the escaping carbon monoxide in the air, the water pipes should be well constructed by the Civil Engineer for proper water transfer.
- The roles of engineers paly a big part in the population as they are creative problem solvers in building machinery, tools, buildings for shelter and also helped in food production. So the engineers have helped in providing useful solutions that make life possible.

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