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Overpopulation in China: What's at Risk?

Edward O. Wilson's book The Future of Life, combines biology with several other important fields such as business, mathematics, economics and more. One particular idea he stressed in the book was overpopulation. In chapter three of his book Wilson writes, "Overpopulation and environmentally ignorant development are everywhere shrinking natural habitats and biological diversity" (43). As a math major this statement intrigued me because it had to do with numbers, and how they intertwine with biology to affect society. Because of this, I researched overpopulation in several different countries around the world. After much research, I decided to focus on the overpopulation situation in China. According to the Santa Fe New Mexican, "China holds approximately one sixth of the world's population. With over one billion people, it is the most populated country in the world," (Leicester 1). The extreme numbers can lead to destructive problems in the environment. One problem it can cause is the spread of disease, therefore threatening the health and lives of the Chinese people. The population issue can also threaten destruction of natural habitats, taking homes of millions of different species. These species include endangered species native to China such as the giant panda. Food also becomes an issue when population increases at such a high rate. Greater amounts of land and manual labor workers are needed to produce enough food for the Chinese population.

Overpopulation can become a problem anywhere, not just China. The Indian Child website suggests that India is not far behind China with a population of approximately one billion as of March 1, 2001 (www.indianchild.com). It is only a matter of time before more and more countries have a problem with overpopulation. It is important for people to understand the problems and consequences of this issue. The question is what is being done about this? Today's society needs to plan for the possibility of overpopulation and the problems that come along with it. People need to be educated on these issues and given ideas of how to solve them, to keep them from getting out of control.

Many of the problems in China that are a result of overpopulation are caused by several assumptions that the Chinese people have. The Santa Fe New Mexican explains, "Chinese parents tend to prefer males over females because they can tend to the family's farm land, carry on the family name, and care for them in old age (Leicester 1). According to International Family Planning Perspective, in September 2002 the 1979 policy that permitted Chinese couple to have only one child became law. It brought with it hefty consequences ("China has passed legislation" 57). With Chinese people having a preference to males, it lead to women aborting female babies "despite rules banning the use of ultrasound scanners to test the sex of fetuses" (Leicester 1). Time International stated, "Two decades of infanticide and sex based abortions...has drastically skewed the nation's gender balance. There are now one hundred and seventeen boys born for every one hundred girls" ("China's Baby Bust" 18). "Sociologists fear the skewed birth ratio will lead to a shortage of brides, worsening prostitution and the kidnapping and sale of women for marriage" (Leicester 1). If this

happens, the prostitution can lead to the transmission of sexually transmitted infections. This can lead to many deaths and illness in the Chinese population, which negatively effect the environment. The Xinhua News Agency has found that hepatitis B and gonorrhea, both sexually transmitted infections, are two of the five most prevalent diseases this year in China (“About 1,500 people die” 1). The top five most deadly diseases also included hepatitis B and AIDS (Acquired Immune Deficiency Syndrome) as well (“About 1,500 people die” 1).

Sexually transmitted infections are not the only health issues the Chinese people have to be on watch for in overpopulated areas. Respiratory illnesses are having a great impact on China’s population. The Xinhua News Agency reports, “In the first quarter of this year, 756,689 cases were reported and 1,475 people died of infectious diseases” (“About 1,500 people die” 1). Tuberculosis, also a top five prevalent disease, is a respiratory illness (“About 1,500 people die” 1). It can be easily transmitted through close contact with infected persons. With overpopulation situations, this close contact is almost guaranteed at some point. Other respiratory diseases that are a concern in China are SARS (Severe Acute Respiratory Syndrome), a certain strain of bird flu, and cerebrospinal meningitis (“About 1,500 people die” 1). In these crowded cities of China, people should be watchful of such diseases. These pathogenic species are growing more and more resistant through evolution and natural selection, therefore creating a more diverse population of pathogens and a greater threat to the Chinese people.

Overpopulation can bring on much more than the spread of diseases and infections. In The Future of Life chapter three, Wilson mentions HIPPO (habitat destruction, invasive species, pollution, population, and over harvesting). He says,

“More people means more of all the other HIPPO effects” (50). When overcrowding occurs, many people may consider building more apartment buildings houses etc. as a solution. It does not occur to them that these buildings consume resources such as land and fossil fuels. Millions of acres of forests and other land are destroyed each year for wood to build and make things and for more space. This destruction leads to thousands of different species becoming homeless, and possibly extinct. In China some of these species, such as the giant panda, are already endangered even without habitat destruction. According to Environment, “approximately two hundred and twenty of the world’s one thousand endangered giant pandas live in the Qinling Mountains, in the province of Shaanxi, China. The pandas feed on two types of bamboo, one of which is found in low elevations and one, which is found in mid to high elevations. The pandas move between these food sources at different times of the year because of changes in weather” (“Protecting panda habitats” 6). Because of human migration to these mountains at their low elevations, the pandas have had to move to the higher elevations. This is limiting their food sources and also is keeping the pandas from being able to migrate at necessary times (“Protecting panda habitats” 6). If the Chinese people continue to spread out their overpopulation into these areas of the Qinling Mountains, the endangered panda is sure to become extinct in the near future.

The panda is not the only one being affected by these behaviors. Thousands of species from birds to plants are becoming endangered for this same reason. The red ibis, an endangered species of bird, was one of these. The Asia Africa Intelligence Wire shows that “in the early 1980’s there was only seven of the red ibis species left, due to

habitat destruction. While today their numbers are over five hundred, the red ibis is still a very threatened species (“China moves to protect” 1).

While it is a huge contributor to endangering species, habitat destruction is not the only endangerment caused by population. The destruction and termination of wildlife are aided by pollution created by the Chinese people. Wildlife Conservation reports “Emeishan, a mountain in China, provides a safe haven for a variety of wildlife including macaques (a rare type of monkey), clouded leopards, golden cats, red pandas, an ungulate called the goral, and a rare species of frog, *Megaphrys omeimontis*.” All of these species as well as thousands more are increasingly threatened by acid rain. This acid rain is caused by the region’s industrial pollution (Laidler 42). The more the population grows in China, the more resources such as fossil fuels (used in coal burning and more) it will be using. This will create greater amounts of pollution to affect the plants and animals throughout China.

When most people think of endangered species, plants are not usually the first things that come to mind. Plants however are just as important as animals. They contribute a great deal to biologically diverse areas. Endangerment of certain plants greatly affects the biodiversity in an area. Science claims “China’s Hainan Island nurtures an estimated 13,500 plant species including a graceful orchid *Arundina stenopetala*.” This particular plant species “is under pressure from a sprawling human population, deforestation, and invasive weeds (Leslie 1449). If these things continue, this magnificent plant will disappear through extinction, therefore shrinking the biodiversity of this area. This is very similar to what Wilson discussed throughout

chapter three concerning plant species in Hawaii, and how they were affected by population.

Another assumption people have when population counts begin rising, is that there will be plenty of food for them to survive. Thomas Malthus discussed his views on this situation. He believed “population must outstrip the limited resources of the world and bring about famine, chaos, and war” (Wilson 25). While there are ways from keeping everyone from going hungry such as new technologies, higher food consumption can lead to more serious problems. According to Popular Science, “thirty-two kilograms of meat were consumed by the average person in 1994” (Stover 49). If these thirty-two kilograms are multiplied by over one billion people, it amounts to quite a lot of food. The shocking news is that this does not include all the grain needed to feed the animals as well as people, dairy products, and other important sources of food. Popular Science warns “China’s expanding population and its skyrocketing food demands are on a collision course” (Stover 49). In recent years, “China has made a massive push toward industrialization. Farmers are leaving rural areas for more profitable jobs in factories. Cropland is disappearing as cities expand, and water has already become scarce” (Stover 49). With farmers leaving and cropland decreasing it is almost impossible to feed this growing population. Also not only is the cropland decreasing, but land needed for cattle grazing is rising because of the increasing demand for meat. Popular Science also notes “a booming economy has made many Chinese affluent enough to afford a steady diet of meat and eggs” (Stover 49). “Western analysts predict that China will make up for shortfalls by importing grain. Because of the amount of grain that could potentially be required, it is not clear whether the United

States and other countries will be able to provide all the grain China might wish to buy” (Stover 49). China’s demanding need for these resources could cause problems in other countries to occur, such as great price increases for grain and things made from it or famines in countries that cannot compete with prices being paid by the Chinese people (Stover 49).

One issue causing these cropland shortages is that “most of western China is land ill suited for agriculture. The best farmland is in the southern and coastal regions; the very same areas that are experiencing the fastest population growth” (Stover 49). If China were more efficient, the people would have populated the less fertile areas to increase farmland rather than shrinking it.

Water, as before mentioned, is also an issue because farmers needing water for irrigation according to Popular Science “are now competing with industry and households for water” (Stover 49). For those who are able to find water for irrigation, the rising costs of fossil fuels is making it much more expensive to power irrigation pumps and manufacture fertilizers” (Stover 49).

All of these issues ultimately are a result of overpopulation. The Chinese people have recognized that there is a problem concerning their population. The concepts that they have come up with as solutions to the problem however, are causing even more problems.

The idea to limit Chinese families to one-child could possibly be a good idea if sex-based abortions did not occur. The only way this solution will work is if families choose to have either sex as their only child. Originally, families wanted a male to help plant crops, carry on the family name, and care for them in old age (Leicester 1). In

today's society, farmers are moving to factory jobs which are more profitable, therefore there is no need for a son to help plant crops (Stover 49). The fact that females can equally take care of their aging parents, and the fact that carrying on the family name may not be as important anymore needs to be introduced to the Chinese to reduce an unbalanced sex ratio. This will result in a more balanced society in which males will have a better chance at marriage. Another result coming from this would be less prostitution, and ultimately less sexually transmitted infections. Also the people of China should be educated on how to take precautionary measures with respiratory illnesses, to prevent them from contaminating the masses.

To reduce habitat destruction, limitations need to be put on certain things. The Chinese government could set limitations on things such as house and building sizes based on the number of persons in the family. This would cut down on the amount of natural resources used, and also would take up less land. Pollution limitations should also be enforced for factories etc. to cut down on the occurrence of acid rain. China's government could also come up with new ideas to be more efficient with their resources through producing new products such as electric cars and more. These are just a few of the ways China could prevent some of this habitat destruction.

As far as food production, China needs to put their already "destroyed" lands to use for farming instead of other uses. China could also increase their rice production, to make up for their lack of grain. Other products could be made to exchange with other countries for food products.

While these solutions are not guaranteed to work either, it could help reduce the consequences of the other problems. Overall, the overpopulation situation should

improve with these tactics and better benefit the Chinese people.

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