Navigations: A First-Year College Composite

Volume 2
Issue 1 *Explorations: Fall 2017 Learning Communities*

Article 9

February 2018

Social Innovation: Population, Resource Management, and Technology

Tyler Reuss
Kennesaw State University

Recommended Citation
Reuss, Tyler (2018) "Social Innovation: Population, Resource Management, and Technology," *Navigations: A First-Year College Composite*: Vol. 2 : Iss. 1 , Article 9.
DOI: 10.32727/15.2018.7
Available at: https://digitalcommons.kennesaw.edu/navigations/vol2/iss1/9

One of the largest and most dangerous issues in the world is overpopulation. Unfortunately, population growth has become a major issue economically and environmentally. As populations around the world continue to grow, the amount of available resources have begun to rapidly decrease. With a constant increase of population and the continuous neglect towards resource management, it has become very clear how dangerous these issues are becoming to the world. "The growth rate of the human population, which was almost zero during most of human history, increased substantially with the Industrial Revolution" (Škare and Blažević). The exponential growth of the world's total population has drastically begun to affect resource management, technology, and information/knowledge.

Planet Earth is home to billions of humans and provides abundant natural resources; however, Earth's population has become a major risk factor within communities across the world. The world's total population has increased and "is still growing at about 80 million people a year, or about 220,000 people per day. If current trends persist, there will 2.5 billion more people on the planet by mid-century, bringing the total to about 9.2 billion" ("Why Population Matters"). With this massive growth of humanity, scientists have indicated concern over certain dangers, including the limited amount of food, water, and other resources, which could create a life-threatening hazard to humanity.

As the Earth's total population continuously increases, so do concerns about adequate resource management. Unfortunately, Earth's larger population is certainly a major factor for depleting resources. The Earth's total population is over 7.5 billion, which has caused a scarcity of natural resources and exponential environmental degradation. As Robert Criss, writer for *Red Orbit*, explains: "Population growth is driving all of our resource problems, including water and energy. The three are intertwined." With a larger and excessive total population, the Earth is 'struggling' to meet the required amount of resources in order to maintain life. Doris Baus from *The Graduate Center* states that "the impact [of water shortage] will be dreadful in developing countries that rely on water for crops to fight persistent malnutrition and starvation." One-third of the population on Earth already faces a water shortage, which will only continue to get worse as neglect of the planet's natural resources continues. "We cannot expect to sustain exponential population growth matched by increased per capita use of water and energy. It's troubling," Criss asserts, adding that politicians and religious leaders often ignore the severity of this toxic issue.

Along with India and China, one of the most heavily populated countries in the world is the United States of America. The U.S. is experiencing population growth more rapidly than almost any other developed country. Due to this growth, the U.S. is attempting to create solutions for potential water shortages. Criss says, "In many areas, especially the West, the practice of 'mining' ground water to irrigate arid or semiarid land, which won't work in the long run, is becoming a commonplace." As the amount of available water declines, more energy must be used in order to mine for water below Earth's surface. The over-use of natural resources drastically affects one another, creating a domino effect. The domino effect implies that the excessive use of one resource creates a strain and an increased use of other resources. With a larger population, more food and water are used, resulting in more energy use. These negative patterns of resource management are not sustainable.

Although population growth may have some negative effects on the world, it can still be beneficial in certain ways. As the world's population continues to grow, the demand for newer and better technology does also. The global levels of population correlate directly to the advances of technology in communities, and "[t]echnological progress raises the opportunity and human-capital cost of children. On the other hand, whether land conversion acts as a constraint on

population growth mainly depends on technological progress" (Lanz et al.). The continuous growth of the world's population requires and motivates the production of more capable technologies. As the current population excessively uses much of the natural resources, citizens begin to rely on technology to make their over-usage acceptable. In 1993, researcher Michael Kremer tried "to explain this demographic pattern with a model in which a larger population leads to faster technological progress through a larger population generating more ideas" (Collins et al.). Kremer proposes that "evolutionary change is evident in the increase in brain size, which may affect innovative potential." As humans have evolved and adapted over time, their brain capacities have also increased, allowing for more technologically innovative possibilities.

As technology has had no choice but to constantly advance, the distribution of information and knowledge has become increasingly simplified. As Wilder and Ferris assert: "The commoditization, democratization, and arbitration of knowledge was furthered by the developing technologies in the latter half of the 20th century, the computer, digital, and cyber technologies." The world has progressively begun to revolve around technology and its ability to disperse information and knowledge. Advances in technology have made it possible to store larger amounts of information, allowing data to be more easily transmitted throughout the world. Wilder and Ferris also state that "cyberspace immeasurably extends possibilities for storage and transmission of information, and access to information." Cyberspace enables users to have on-hand access to any information or communicate more effectively. With the continuous advancement of technology, the distribution of knowledge and information will progressively advance.

In conclusion, population growth greatly affects resource management, technology, and information/knowledge across the world. As the world's population continues to grow, citizens will rapidly use more natural resources. I believe that by mid-century the world will suffer drastically from its lack of natural resources. The world will most likely be *extremely* overpopulated and there will be a shortage of land availability. The population will no longer consistently increase, but statically grow. With more citizens, there will be more reproduction, creating an endless and unstoppable growth. In turn, the over-use of natural resources will become more dangerous to humanity as it progresses. Although, I think that population growth will also benefit the world by creating more potential for newer and better technology. With excessive overpopulation practically being inevitable at this point, I think that technology will continuously advance in order to accommodate the world's needs. Technology may continue to help distribute knowledge and information, but I don't think it will ever solve the issue of overpopulation.

Unfortunately, I do not think there is a completely effective solution to population growth. No matter what is done, I truly believe that overpopulation is an inevitable 'disease' that the world has no control over. Although, I do think there is one thing that can help slow down the progression of overpopulation: education. The world needs to use its continuously-advancing technology to transmit information and knowledge to educate citizens about the danger of population growth. Population needs to become a more discussed topic within society and political figures need to express the importance of this issue more effectively. Students also need to be more educated about overpopulation in school to possibly help this issue in the future. The citizens and leaders across the world must work together to address this issue because it cannot be resolved naturally.

DOI: 10.32727/15.2018.7

References

Baus, Doris, "Overpopulation and the Impact on the Environment." CUNY Academic Works, 2017, https://academicworks.cuny.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=2929&context=gc_etds.

Collins et al. "Population, Technological Progress and the Evolution of Innovative Potential." *The University of Western Australia,* 22 May 2013, http://www.business.uwa.edu.au/__data/assets/pdf_file/0008/2356523/13-21-Population,-technological-progress-and-the-evolution-of-innovative-potential.pdf.

Ferris, Sharmila and Wilder Hilary. "Communication Technology and the Evolution of Knowledge." *The Journal of Electronic Publishing,* 2006, https://quod.lib.umich.edu/j/jep/3336451.0009.201?view=text;rgn=main.

Lanz et al. "Global Population Growth, Technology, and Malthusian Constraints: A Quantitative Growth Theoretic Perspective." *International Economic Review,* August 2017, http://eds.a.ebscohost.com.proxy.kennesaw.edu/eds/pdfviewer/pdfviewer?vid=1&sid=366e24cd-891f-4775-b828-ec7ea3b641f9%40sessionmgr4010.

"Why Population Matters." Population Institute, 2017, https://www.populationinstitute.org/resources/whypopulationmatters/.

Savage, Sam and Criss, Robert. "Population Growth Affects Natural Resources." *Redorbit,* 8 Oct. 2008, http://www.redorbit.com/news/science/1582147/population_growth_affects_natural_resources/

Škare, M. and Blažević, S. "Population and Economic Growth: A Review Essay." *Amfiteatru Economic*, 17.40 (2015): 1036-1053.