

OSJ MUN

Environment Committee



Issue:

**Public Health Issues and
Overpopulation**

Forum: Environmental Committee

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Introduction:

Overpopulation is an unwanted condition where the amount of existing human population exceeds the capacity of Earth. Overpopulation is caused by a number of factors. Reduced mortality rate, better medical facilities, depletion of precious resources are few of the causes which result in overpopulation.

Growing developments in technology each year has affected humanity in many ways. One of these is the ability to save lives and create better medical treatment for all. A direct result of this has been increased lifetime and the growth of the population. In the past fifty or so years, the growth of population has exploded and has turned into overpopulation. In the history of our species, the birth and death rate have always been able to balance each and maintain a population growth rate that is sustainable.

The growing world population is seldom discussed as a public health issue. A WHO report shows that environmental degradation, combined with the growth in world population, is a major cause of the rapid increase in human diseases, which contributes to the malnutrition of 3.7 billion people worldwide, making them more susceptible to disease.

According to a study, "Over the next forty years, nearly all (97%) of the 2.3 billion projected increase will be in the less developed regions, with nearly half (49%) in Africa." Already strained with relentless

population explosion, many developing countries, such as in Sub Saharan Africa and Southern Asia, will experience a degradation of their quality and length of life as they face increasing difficulties to supply water, food, energy and housing to their growing populations, which will have major repercussions for public health, security measures and economic growth. These situations are especially dire for populations in Uganda, Nigeria, and Bangladesh, which will double and, in some cases, even triple over the next 40 years.

Since the time of the Bubonic Plague in the 1400's, the growth of population has been on a constant increase. Between the time of the plague and the 21st century, there have been hundreds and thousands of wars, natural hardships and man-made hazards. However, none of these has affected the population. Developing nations face the problem of overpopulation more than developed countries, but it affects most of the Earth as of now. The estimated population increase rate is 1.158.

Definition of Key Terms

Analyst: Someone whose job is to study or examine something in detail.

Childbearing: The process of having babies.

Contraceptive: Any of various devices or drugs intended to prevent pregnancy.

Colonize: To send people to live in and govern another country.

Utilize: To use something in an effective way.

Vulnerability: The quality of being vulnerable (= able to be easily hurt, influenced, or attacked), or something that is vulnerable.

Chronic: (especially of a disease or something bad) continuing for a longtime.

Neurological: Relating to nerves.

Contagious: (of a disease) able to be caught by touching someone with the disease or something the person has touched or worn, or (of a person) having this type of disease.

Vaccination: The process or an act of giving someone a vaccine (a substance put into a person's body to prevent them getting a disease.)

Acute: If a bad situation is acute, it causes severe problems or damage.

Migrate: If people migrate, they travel in large numbers to a new place to live.

Intervention: An action taken to intentionally become involved in a difficult situation in order to improve it or prevent it from getting worse.

History:

Human beings first appeared on Earth at least two hundred thousand years ago. The earliest group of humans came from Africa and eventually began to migrate into the Middle East and across Asia and Europe. Life was brutal. Death rates as a result of disease and misfortune were very high, and life expectancies were low. An ice age lowered the sea levels of the oceans and as a result, a natural land bridge linked Russia and Alaska, which allowed migration route into the Americas. During that time period, the human population on Earth was estimated to be not more than five million people. Since then the global population has grown more than seven billion people, about

fourteen hundred times more than when Native Americans first came to the Americas. It is estimated that human population first reached one billion around 1804 CE. The early 1800s was a time of rapid industrial growth in Europe and the Americas. Cities and factories were booming. Agricultural science was developing as well, and farmers were able to dramatically increase their productivity to feed the growing numbers of people.

Growing enough food for a prospering population is becoming increasingly difficult. Fewer researchers have commented on what resource consumption to produce that food is doing to the world's environment. Moreover, there is a theoretical limit to the amount of food that can be produced. The world may very well reach a peak population before it finally begins to level off. Another major issue comes from the total amount of human waste produced at any given time. Humans consume oxygen and exhale carbon dioxide. Sewage is a major issue. In fact, many researchers have predicted that wars will soon be fought over access to clean drinking water and other basic necessities. Many systems of controlling the population have failed. However, it's interesting to note that many wealthy nations have aging populations. Falling birthrates are actually a major problem in some of the world's richest countries. While the population continues to boom in newly industrialized powers as well as the third world, nations that have had massive economies for a long time are aging rapidly. We observe it in the U.S. right now. As smaller nations become wealthier, they are less likely to become overpopulated. People living in an industrialized society are less pressured to have large numbers of children. Moreover, the stress of having other obligations limits their amount of time to develop massive families.

While it took hundreds of thousands of years for the human population to reach one billion people, it took only 207 years to increase this number by six billion more humans. The strain this number of people puts on Earth's resources is enormous. People are

planting crops in areas with poor soil in an effort to feed the growing population. Global human population growth amounts to around 75 million annually, or 1.1% per year. The global population has grown from 1 billion in 1800 to 7 billion in 2012.

Public Health Issues

During the past 150 years, two factors have shaped the modern public health system: first, the growth of scientific knowledge about sources and means of controlling disease; second, the growth of public acceptance of disease control as both a possibility and a public responsibility. In earlier centuries, when little was known about the causes of disease, society tended to regard illness with a degree of resignation, and few public actions were taken. As understanding of sources of contagion and means of controlling disease became more precise, more effective interventions against health threats were developed. Public organizations and agencies were formed to employ newly discovered interventions against health threats. As scientific knowledge grew, public authorities expanded to take on new tasks, including sanitation, immunization, regulation, health education, and personal health care. (Chave, 1984; Fee, 1987)

The link between science, the development of interventions, and organization of public authorities to employ interventions increased public understanding of and social commitment to enhancing health. The growth of a public system for protecting health depended both on scientific discovery and social action. Understanding of disease made public measures to alleviate pain and suffering possible, and social values about the worthiness of this goal made public measures achievable. The history of the public health system is a history of bringing knowledge and values together in the public arena to shape an approach to health problems.

Before the Eighteenth Century

Throughout recorded history, epidemics such as the plague, cholera, and smallpox evoked isolated public efforts to protect citizens in the face of a dread disease. Although epidemic was often considered a sign of poor moral and spiritual condition, to be resolved through prayer and loyalty, some public effort was made to contain the epidemic spread of specific disease through isolation of the ill and quarantine of travelers. In the late seventeenth century, several European cities appointed public authorities to adopt and enforce isolation and quarantine measures (and to report and record deaths from the plague). (Goudsblom, 1986)

The Eighteenth Century

By the eighteenth century, isolation of the ill and quarantine of the exposed became common measures for containing specified contagious diseases. Several American port cities adopted rules for trade quarantine and isolation of the sick. In 1701 Massachusetts passed laws for isolation of smallpox patients and for ship quarantine as needed. (After 1721, injection with material from smallpox scabs was also accepted as an effective means of containing this disease once the threat of an epidemic was declared.) By the end of the eighteenth century, several cities, including Boston, Philadelphia, New York, and Baltimore, had established permanent councils to enforce quarantine and isolation rules. (Hanlon and Pickett, 1984) These eighteenth-century initiatives reflected new ideas about both the cause and meaning of disease. Diseases were seen less as natural effects of the human condition and more as potentially controllable through public action.

Also in the eighteenth century, cities began to establish voluntary general hospitals for the physically ill and public institutions for the care of the mentally ill. Finally, physically and mentally ill dependents were cared for by their neighbors in local communities. This practice

was made official in England with the adoption of the 1601 Poor Law and continued in the American colonies. (Grob, 1966; Starr, 1982) By the eighteenth century, several communities had reached a size that demanded more formal arrangements for care of their ill than Poor Law practices. The first American voluntary hospitals were established in Philadelphia in 1752 and in New York in 1771. The first public mental hospital was established in Williamsburg, Virginia in 1773. (Turner, 1977)

The Nineteenth Century: The Great Sanitary Awakening

The nineteenth century marked a great advance in public health. "The great sanitary awakening" (Winslow, 1923)—the identification of filth as both a cause of disease and a vehicle of communication and the coming embrace of cleanliness—was a central component of nineteenth-century social reforms. Sanitation changed the way society thought about health. Illness came to be seen as an indicator of poor social and environmental conditions, as well as poor moral and spiritual conditions. Cleanliness was embraced as a path both to physical and moral health. Cleanliness, loyalty, and isolation were seen to be compatible and mutually reinforcing measures to help the public resist disease. At the same time, mental institutions became oriented toward "moral treatment" and cure.

Sanitation also changed the way society thought about public responsibility for citizen's health. Protecting health became a social responsibility. Disease control continued to focus on epidemics, but the manner of controlling turned from quarantine and isolation of the individual to cleaning up and improving the common environment. And disease control shifted from reacting to occasional outbreaks to continuing measures for prevention. With sanitation, public health became a societal goal and protecting health became a public activity.

The Sanitary Problem

With increasing urbanization of the population in the nineteenth century, filthy environmental conditions became common in working class areas, and the spread of disease became excessive. In London, for example, smallpox, cholera, typhoid, and tuberculosis reached extraordinary levels. It was estimated that as many as 1 person in 10 died of smallpox. More than half the working class died before their fifth birthday. Meanwhile, "In the summers of 1858 and 1859 the Thames stank so badly as to rise "to the height of an historic event ... for months together the topic almost monopolized the public prints'." (Winslow, 1923) London was not alone in this dilemma. In New York, as late as 1865, "the filth and garbage accumulate in the streets to the depth sometimes of two or three feet." In a 2-week survey of tenements in the sixteenth ward of New York, inspectors found more than 1,200 cases of smallpox and more than 2,000 cases of typhus. (Winslow, 1923) In Massachusetts in 1850, deaths from tuberculosis were 300 per 100,000 population, and infant mortality was about 200 per 1,000 live births. (Hanlon and Pickett, 1984)

Earlier measures of isolation and quarantine during specific disease outbreaks were clearly inadequate in an urban society. It was simply impossible to isolate crowded slum dwellers or quarantine citizens who could not afford to stop working. (Wohl, 1983) It also became clear that diseases were not just imported from other shores, but were internally generated. "The belief that epidemic disease posed only occasional threats to an otherwise healthy social order was shaken by the industrial transformation of the nineteenth century." (Fee, 1987) Industrialization, with its overburdened workforce and crowded dwellings, produced both a population more vulnerable to disease and conditions in which disease was more easily spread. (Wohl, 1983) Urbanization, and the resulting concentration of filth, was considered in and of itself a cause of disease. "In the absence of specific etiological concepts, the social and physical conditions which

accompanied urbanization were considered equally responsible for the deterioration of vital bodily functions and premature death." (Rosenkrantz, 1972)

At the same time, public responsibility for the health of the population became more acceptable and economically possible. In earlier centuries, disease was more readily identified as only the condition of the impoverished and immoral. The plague had been regarded as a disease of the poor; the wealthy could retreat to country estates and, in essence, quarantine themselves. In the urbanized nineteenth century, it became obvious that the wealthy could not escape contact with the poor. "Increasingly, it dawned upon the rich that they could not ignore the condition of the poor; the proximity of gold coast and slum was too close." (Goudsblom, 1986) And the spread of contagious disease in these cities was not selective. Almost all families lost children to diphtheria, smallpox, or other infectious diseases. Because of the terrible social and environmental conditions and the constant threat of disease spread, diseases came to be considered a symbol of a societal problem as well as a personal problem. "Poverty and disease could no longer be treated simply as individual failings." (Fee, 1987) This view included not only contagious disease, but mental illness as well. Insanity came to be viewed at least in part as a societal failing, caused by physical, moral, and social tensions.

General Overview:

The health problems of greatest significance today are chronic diseases. The extent of chronic diseases, various disabling conditions, and the economic burden that they impose have been thoroughly documented. Health education and health educators will be expected to contribute to the reduction of the negative impact of such major health problems as heart disease, cancer, dental disease, mental illness and other neurological disturbances, obesity, accidents, and the adjustments necessary to a productive old age.

The new and unique role of health education in helping to meet these problems can perhaps be clarified through a review of some of the differences between procedures that have been successful in solving the problems of the acute communicable diseases and those that are available for coping with today's problems.

The public health problems such as chronic diseases are more often seen as a result of the increasing population and birth rate.

In countries like China, the government has put policies in place that balance the number of children allowed to a couple, and some leaders and environmentalists are suggesting that the United Nations implement a policy that is like China's, globally to help control and reduce overpopulation gently. Others, such as Gerard K. O'Neill, Marshall T. Savage and John S. Lewis, have suggested building space habitats in asteroid belts or the Venusian atmosphere as usable solutions to successfully preserving current population increase rates. Balancing human overpopulation, outside of trusting on an undesirable United Nations global takeover of the bedroom or waiting to send future populations to space, is possible through widespread availability of family planning, spreading awareness on the causes and effects of overpopulation, providing easier access to birth control devices and completing social rules, such as social marketing strategies, to educate the public, particularly in developing countries, about overpopulation and provide them with the tools they need to make the decisions they want. Worldwide, nearly 40% of pregnancies are unintended, which equates to about 80 million unintended pregnancies each year and, according to the United Nations Population Fund an estimated 350 million women in the poorest countries of the world either not wanting their last child, not wanting another child or wanting to space their pregnancies, but lack access to information and affordable means and services to determine the size and spacing of their families.

Even in the United States, in 2011, almost half of pregnancies were unintended. The Worldwatch Institute has released State of the World 2012: Moving Toward Sustainable Wealth and in the chapter "Nine Population Strategies to Stop Short of 9 Billion" Worldwatch Institute President Robert Engelman argues that, "If most or all of these strategies were put into effect, global population likely would peak and finally begin a gradual fall before 2050, thereby ensuring continuous development of natural resources and global stability into the future. By carrying out policies that defend human rights, promote education, and reflect the true economic and environmental cost of childbearing, the world can halt population short of 9 billion that so many analysts expect."

According to UN-Water, 75% of planet Earth is covered in water. 97.5% of that is ocean and 2.5% is freshwater. 70% of freshwater is divided into glaciers and ice caps and the remaining 30% into land surface water, such as rivers, lakes, ponds and groundwater. Most of the freshwater resources are either unreachable or poisoned, leaving less than 1% of the world's freshwater, or about 0.003% of all water on Earth, readily accessible for direct human use. According to the Global Outlook for Water Resources to the Year 2025, it is estimated that by 2025, more than half of the world population will be facing water-based vulnerability and human demand for water will account for 70% of all available freshwater. Furthermore, a report in November 2009 by the 2030 Water Resources Group suggests that by 2030, in some developing regions in the world, water demand will exceed the number by 50% and a report unitedly produced by more than two dozen U.N. bodies states that, "By 2030, nearly half of the world's people will be living in areas of intense water shortage." The planet is in the midpoint of what the United Nations is calling a "Global Water Crisis." Freshwater is the most major finite resource with no alternate for most uses, yet we are consuming fresh water at least 10 times faster than it is being replenished in regions of northern

Africa, the Middle East, India, Pakistan, China, and the U.S.. According to the World Resources Institute, "Freshwater ecosystems – the varying communities found in lakes, rivers, and wetlands – may be the most endangered of all. Some 34 percent of fish species, mostly from fresh water, are threatened with extinction, according to the latest poll of the World Conservation Union (IUCN), which tracks threats to the world's biodiversity. Freshwater ecosystems have lost a greater percentage of their species and habitat than ecosystems on land or in the oceans; in addition, they are probably in greater danger of further losses from dams, pollution, overfishing, and other threats. In extent, freshwater ecosystems are quite limited, covering only about 1 percent of the Earth's surface. Yet, they are highly varied and contain an immensely large number of the world's species

Chair's Notes:

For Public Health Issues:

The tools for dealing with the health conditions of today are not as specific and precise as those that have been available for the contagious diseases. The medical and sanitary sciences have provided public health workers with specific measures for prevention of these diseases—vaccination, immunization, safe water and milk supplies, sanitary sewage disposal, and insect vector control. When properly utilized, these measures have protected people from the several communicable diseases. But even in situations in which individuals do not avail themselves of these protective measures and contract a given disease, there are antibiotics and other chemotherapy agents that are specific and effective. No such specifics exist for preventing the chronic diseases, the degenerative conditions of old age, or accidents.

Medical science has, however, made possible the prevention of the more serious consequences of many of the chronic diseases. . . . No

specific preventive is available for accidents or obesity other than changes in behavioral patterns.

Closely related to the lack of specific and precise methods of dealing with the chronic diseases is the difference in the manner in which these diseases occur. The onset of the chronic conditions is much more insidious than was the onset of the acute conditions, such as the contagious diseases. Therefore, the motivation to act with reference to the slowly developing problems of chronic disease is not nearly so great as was the motivation to act in preventing the contagious diseases.

Because the onset of a chronic condition is gradual, education regarding the accompanying physical changes is difficult. Early detection of the disease means that the individual must either take routine examinations or tests when he feels perfectly well, or else he must become skilled in detecting in himself slight deviations in functioning and seek attention before the disease or condition has progressed too far.

For Overpopulation:

"Provide universal access to safe and effective contraceptive options for both sexes."

"Guarantee education through secondary school for all, especially girls."

"Eliminate gender unfairness from law, economic opportunity, health, and culture."

"Offer age-appropriate sexuality education for all students."

"End all policies that reward parents financially based on the number of children they have."

"Combine lessons on population, environment, and development into school educational programmes at multiple levels."

"Put prices on environmental costs and impacts."

"Adjust to an aging population instead of boosting childbearing through government motivations and programs."

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