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Population and the Environment: The Global Challenge

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Excerpts from a Johns Hopkins University report

Shinjuku ward of Tokyo, Japan at night. Population stabilization and resource conservation will lead to the challenges of sustainability. Photo: Zaida Montañana. December 2005.

The challenge: provide for increasing populations without destroying the environment.

As the century begins, natural resources are under increasing pressure, threatening public health and development. Water shortages, soil exhaustion, loss of forests, air and water pollution, and degradation of coastlines afflict many areas. As the world's population grows, improving living standards without destroying the environment is a global challenge.

Most developed economies currently consume resources much faster than they can regenerate. Most developing countries with rapid population growth face the urgent need to improve living standards. As we humans exploit nature to meet present needs, are we destroying resources needed for the future?

Environment getting worse

About 3 million die from pollution each year.

In the past decade in every environmental sector, conditions have either failed to improve, or they are worsening:

- **Public health:**
  Unclean water, along with poor sanitation, kills over 12 million people each year, most in developing countries. Air pollution kills nearly 3 million more. Heavy metals and other contaminants also cause widespread health problems.

Amount of land lost to farming by degradation equals 2/3 of North America.

- **Food supply:**
  Will there be enough food to go around? In 64 of 105 developing countries studied by the UN Food and Agriculture Organization, the population has been growing faster than food supplies. Population pressures have degraded some 2 billion hectares of arable land — an area the size of Canada and the U.S.

- **Freshwater:**
  The supply of freshwater is finite, but demand is soaring as population grows and use per capita rises. By 2025, when world population is projected to be 8 billion, 48 countries containing 3 billion people will face shortages.

- **Coastlines and oceans:**
  Half of all coastal ecosystems are pressured by high population densities and urban development. A tide of pollution is rising in the world's seas. Ocean fisheries are being overexploited, and fish catches are down.

The demand for forest products exceeds sustainable consumption by 25%.

- **Forests:**
  Nearly half of the world's original forest cover has been lost, and each year another 16 million hectares are cut, bulldozed, or burned. Forests provide over US$400 billion to the world economy annually and are vital to maintaining healthy ecosystems. Yet, current demand for forest products may exceed the limit of sustainable consumption by 25%.

2/3 of the world's species are in decline.

- **Biodiversity:**
  The earth's biological diversity is crucial to the continued vitality of agriculture and medicine — and perhaps even to life on earth itself. Yet human activities are pushing many thousands of plant and animal species into extinction. Two of every three species is estimated to be in decline.

- **Global climate change:**
  The earth's surface is warming due to greenhouse gas emissions, largely from burning fossil fuels. If the global temperature rises as projected, sea levels would rise by several meters, causing widespread flooding. Global warming also could cause droughts and disrupt agriculture.

Toward a livable future

How people preserve or abuse the environment could largely determine whether living standards improve or deteriorate. Growing human numbers, urban expansion, and resource exploitation do not bode well for the future. Without practicing sustainable development, humanity faces a deteriorating environment and may even invite ecological disaster.

- **Taking action:**
  Many steps toward sustainability can be taken today. These include: using energy more efficiently, managing cities better, phasing out subsidies that encourage waste, [etc.]

The world must sustain 1 billion more people every 13 years.

- **Stabilizing population:**
  While population growth has slowed, the absolute number of people continues to increase — by about 1 billion every 13 years. Slowing population growth would help improve living standards and would buy time to protect natural resources. In the long run, to sustain higher living standards, world population size must stabilize.

Less growth will provide time to solve sustainability problems.

Population and sustainable development

Environmentalists and economists increasingly agree that efforts to protect the environment and to achieve better living standards can be closely linked and are mutually reinforcing. Slowing the increase in population, especially in the face of rising per capita demand for natural resources, can take pressure off the environment and buy time to improve living standards on a sustainable basis.[3,8,11,12]

- As population growth slows, countries can invest more in education, health care, job creation, and other improvements that help boost living standards.[11] In turn, as individual income, savings, and investment rise, more resources become available that can boost productivity. This dynamic process has been identified as one of the key reasons that the economies of many Asian countries grew rapidly between 1960 and 1990.[5]

A dynamic economy also needs slower population growth.

- In recent years fertility has been falling in many developing countries and, as a result, annual world population growth has fallen to about 1.4% in 2000 compared with about 2% in 1960. The UN estimated recently that population is growing by about 78 million per year, down from about 90 million estimated early in the 1990s.[10] Still, at the current pace world population increases by about 1 billion every 13 years. World population surpassed 6 billion in 1999 and is projected to rise to over 8 billion by 2025.

In many countries, births far outnumber deaths, creating overpopulation.

- Globally, fertility has fallen by half since the 1960s, to about three children per woman.[10] In 65 countries, including 9 in the developing world, fertility rates have fallen below replacement level of about two children per woman.[9] Nonetheless, fertility is above replacement level in 123 countries, and in some countries it is substantially above replacement level. In these countries the population continues to increase rapidly. About 1.7 billion people live in 47 countries where the fertility rate averages between three and five children per woman. Another 730 million people live in 44 countries where the average woman has five children or more.[7]

The rise in populations is mainly in developing nations.

- Almost all population growth is in the developing world. As a result of differences in population growth, Europe's population will decline from 13% to 7% of world population over the next quarter century, while that of sub-Saharan Africa will rise from 10% to 17%. The shares of other regions are projected to remain about the same as today.[6]

Parts of Africa will experience drastic water shortages by 2025.

- As population and demand for natural resources continue to grow, environmental limits will become increasingly apparent.[6] Water shortages are expected to affect nearly 3 billion people in 2025, with sub-Saharan Africa worst affected.[2] Many countries could avoid environmental crises if they took steps now to conserve and manage supplies and demand better, while slowing population growth by providing families and individuals with information and services needed to make informed choices about reproductive health.

Family planning is effective in stabilizing growth.

- Family planning programs play a key role. When family planning information and services are widely available and accessible, couples are better able to achieve their fertility desires.[4] "Even in adverse circumstance — low incomes, limited education, and few opportunities for women — family planning programs have meant slower population growth and improved family welfare," the World Bank has noted.[1]

Conclusion

If every country made a commitment to population stabilization and resource conservation, the world would be better able to meet the challenges of sustainable development. Practicing sustainable development requires a combination of wise public investment, effective natural resource management, cleaner agricultural and industrial technologies, less pollution, and slower population growth.

Conclusion: We risk destroying our standard of living if we don't control population growth.

Worries about a "population bomb" may have lessened as fertility rates have fallen, but the world's population is projected to continue expanding until the middle of the century. Just when it stabilizes and thus the level at which it stabilizes will have a powerful effect on living standards

and the global environment. As population size continues to reach levels never before experienced, and per capita consumption rises, the environment hangs in the balance.

Editor's Note (11/02): New York was the only city with a population of more than 10 million in 1950; By 2015 it is estimated there will be 21 cities in this category. Also, most urban population growth will likely occur in developing countries, which are not equipped to deal with the need for more transportation, housing, water, and sewers. Such magnitude of urban population increase is unprecedented in human history. (*National Geographic Magazine*, "Cities," November, 2002).

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