

*Revised draft science policy statement (26 February 2002) of the Global Science Panel on Population in Sustainable Development (GSP), submitted for comments to the Population-Environment Research Network Cyberseminar, 1-15 March 2002. To participate in the seminar, send an e-mail message to majordomo@ciesin.columbia.edu with the body text 'subscribe perNSEminars'.*

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## Population in Sustainable Development

In Rio de Janeiro in 1992, over 170 countries adopted the Rio Principles and Agreements and Agenda 21, a common framework for action toward sustainable development. In September of 2002, the World Summit on Sustainable Development in Johannesburg will assess progress over the past ten years with the aim of reaffirming the goals and reinvigorating the implementation of Agenda 21.

In Rio, there was the clear hope that the development gap between the richest and poorest countries would be narrowed, and that the rich countries would become increasingly environmentally conscious and curb their pollution and other environmental impacts. This has not come to pass.

While there are many reasons for this, the Global Science Panel concludes that in order for future efforts to succeed, primary emphasis must be placed on human dimensions. The first principle of the Rio Declaration puts

people first by stating, "human beings are at the center of concerns for sustainable development." Population policy has already shifted in this direction. At the International Conference on Population and Development in Cairo in 1994, a new international consensus was reached recognizing that population policy should be oriented toward improving social conditions and expanding choices for individuals. The key recognition was that focusing on people – their rights, capabilities, and opportunities – would have multiple benefits for individuals, for society, and for their sustainable relationship with the environment.

Progress in the field of population-environment analysis supports this view. Demographic trends are critical factors in the quest for sustainable development, and two key policies – education and reproductive health – stand out as important components of socio-economic development that have substantial environmental benefits as well.

## Key Conclusions on Population in Sustainable Development

### ***(1) Regional population trends present major challenges even with slowing global growth***

Thirty years ago, global population was growing at 2% per year, nearly its fastest rate ever. Due mainly to rapid declines in fertility in developing countries, the global growth rate has fallen to 1.3% today and current long-term population projections foresee a likely end to world population growth during this century. However, expanding human numbers continue to present a challenge to sustainability. The absolute number of people added each year – about 77 million currently – is still near its historical peak and will likely remain above 70 million for the next two decades. Nearly all of this growth will occur in developing countries and will be concentrated among the poorest populations and in urban areas.

The demographic outlook varies widely across regions. In Africa, despite HIV/AIDS, more than a two-fold increase in population size is still highly likely. Over the next 25 years increases in population size in sub-Saharan Africa, South Asia and the Middle East are expected to be larger than in the past quarter century. In contrast, in some European countries and Japan, fertility has become so low that population may shrink over the next 50 years and rapid population ageing has become a serious concern. In addition, traditional groupings of countries according to demographic experience are beginning to break down. For example, the USA is likely to see substantial continued growth, while China is likely to experience an end to population growth and rapid aging within the next three decades.

Given these varied experiences, the old expectations that all countries would, and perhaps should, eventually end up with a constant population size (“population stabilization”) are becoming increasingly untenable. A more appropriate view is that concerns with population size and growth rate need to be balanced with those related to ageing also considering additional dimensions of population such as education and regional distribution (“population balance”). All of these characteristics must be considered in the broader social, economic, and environmental settings of the society as a whole. For example, too rapid growth puts heavy pressure on educational systems, while too rapid ageing brings massive stress for old age security systems. But moderate growth or ageing may not have negative implications provided clear policies to address environ-

mental concerns and the needs and rights of the most economically vulnerable people are put in place.

### ***(2) Concerns about population, development, and environment must be addressed jointly***

In the past, analyses of how population influences the environment tended to arrive at broad conclusions involving sweeping generalizations. However for some time researchers have realized that linkages are dependent on many mediating factors that differ from place to place and among different socio-economic groups. For example, in many low-income settings, high fertility, poverty, low status of women and children, and environmental damage are bound up in a web of interactions that can trap societies in a vicious circle of destructive responses to stresses in any one factor. On the other hand, in many high-income settings, low fertility co-exists with and permits high and unsustainable consumption patterns. Economic systems, political processes and the consumption behavior of individuals and households can trap societies in structures and mindsets that are inimical to sustaining the environment and promoting sustainable development.

Demographic factors may play different roles in different circumstances. For example, while increasing population density often contributes to resource overuse and environmental degradation, it can, in some circumstances, lead to the development of better management practices that actually decrease environmental impact. Similarly, while rapid population growth at the national level is usually associated with, for example, forest loss, examination of the specific activities that actually lead to deforestation may point to economic or political conditions as key causes.

As rapid population growth and high population density are not the only causes of environmental degradation, interactions between population and the environment must be viewed in a broader systemic manner.

### ***(3) Policy must account for differential vulnerability within populations***

Deteriorating environmental conditions do not affect all segments of a population in the same way, nor do they affect all households in the same manner. Even within a household, the effects may differ by age and gender. Considera-

tion of vulnerability must therefore focus not only on countries but also on people. Key determinants of vulnerability are poverty, gender, ethnicity, and other institutional arrangements, which work independently and together to affect health status, access to resources and livelihoods. Policies aimed at improving these factors for the most vulnerable segments of a population have the best chance of success.

Poverty has been defined as a lack of means to protect oneself against all kinds of threats to health and personal integrity. Poor households have limited capacity to protect themselves from environmental threats such as indoor air pollution from cooking fuels, polluted water and catastrophes and extreme events. Over one billion people live on less than a dollar a day and a third of the world's expected population of some 9 billion, in the second half of the 21st century, could be living in extreme poverty. Hunger and malnutrition can contribute to susceptibility to disease brought on by environmental threats such as lack of clean water. Economic structures, political processes and social institutions need to be geared to promoting sustainable development and thus reducing vulnerability. Good governance in this sense can be a decisive factor in providing people with options to respond to environmental threats. Particularly vulnerable populations include the poorest, least empowered segments of the population. For example, poor women of reproductive age and their children are particularly vulnerable to non-hygienic conditions and maternal and infant mortality tend to be very high under such conditions.

There does not seem to be a universal remedy against vulnerability. The best candidate seems to be support for human rights – social, political and economic – of those whom poverty or social status makes vulnerable and investments in human resources and education. With greater empowerment, appropriate skills and education comes better access to information as well as better health status, lower risk of poverty and lower population growth where fertility is high. A higher educational status of the general population is also more likely to encourage participation in public affairs and contribute to good governance. Initiatives aimed at directly addressing poverty, health, and institutional development is essential as well. For example, improving reproductive health services can not only contribute to improving the health status and reducing the vulnerability of poor women and their young children, but also contribute to a decline in the incidence of unplanned pregnancies and health-threatening short birth intervals.

***(4) Empowerment through education and reproductive health has multiple benefits for people and the environment***

The analysis of relationships between population and the environment indicates that there are sets of policies likely to have multiple benefits for individuals and for the environment. For example, investments in voluntary family planning and reproductive health programs allow couples to have the number of children they desire as well as lead to lower fertility. Lower fertility can have positive effects at the household level where high fertility, poverty, and environmental degradation can be self-reinforcing. At a larger scale lower fertility leads to slower population growth, easing stress on the environment and allowing more time for coping with population increases and environmental effects.

Another top policy priority should be education. Education has many benefits that are important in their own right. For example, it fosters women's empowerment and increases individual choice, and there is overwhelming evidence in all societies that more educated people are in better health. In addition, education can contribute to greater environmental awareness and more sustainable life-styles as well as contributing to economic growth by raising productivity. Education also has beneficial implications for the environment. The increased productivity and technological advance it induces can lead to less pollution-intensive production. It plays a key role in reducing vulnerability to environmental changes as well as to other stresses. More education gives more access to information about how to avoid negative impacts and how to protect oneself against such impacts if they are unavoidable. In addition, the fertility-depressing effect of education indirectly contributes to strengthening the resilience against all kinds of stress, and contributes to reducing the scale of human impact on the environment. Education also plays a key role in addressing concerns about the influence of demographic factors such as growth rate and age structure on the environment and well-being.

The multiple benefits of these policies make them clear "win-win" strategies with no obvious drawbacks. Efforts to put societies on sustainable development paths should give them high priority. While this point has been stressed before, spending on social development has remained low. Here we emphasize that social development is not only a goal in its own right but would also lessen environmental degradation and empower people to cope with inevitable environmental change.

*(5) Interdisciplinary training and research on links between population, development and the environment must be strengthened*

(suggestions please!)

*Possible topics to address in supplementary material:*

Urbanization: trends, environmental consequences, vulnerability of the urban poor, education

Population Balance

Vulnerability and Sustainability (D. Hogan)

Population, Development, and Environment in the Cairo Programme of Action

Case Studies:

Finland

Mauritius

Sub-national case studies

One page (box) summary of major decisions on population and related matters from International Meetings during the last 30 years since Stockholm.

Perhaps a box on International Governance to ensure integration of population in sustainable development