

HUMAN CAPITAL

Demographic challenges for sustainable development

Convinced by the need to integrate the three pillars of sustainable development (economic development, social development, and environmental protection), IIASA (with funding from the United Nations Population Fund) brought together over 20 experts to discuss how population factors promote or impede sustainable development. The experts, including Indian-born economist, Sir Partha DasGupta, Chinese demographer, Dr. Peng Xizhe, and former Chief Scientific Adviser to UK Government, Sir David King, recommend five broad actions to Rio+20, the United Nations Conference on Sustainable Development. This is their statement.

The Laxenburg Declaration on Population and Sustainable Development

Statement of Global Expert Panel (October 2011)

“Human beings are at the centre of concern for sustainable development.” This was the view expressed in the 1992 Rio Declaration on Environment and Development, which we reaffirm. Therefore, consideration of the changing numbers, characteristics, and distributions of human beings on the planet must be at the core of any serious analysis of challenges and opportunities for sustainable development.

Any analysis of sustainable development must recognize the differences among people in terms of their impacts on the environment and their vulnerabilities to risk, which depend on their age, gender, location, and other socioeconomic characteristics. New evidence indicates that human capital, enhanced through education and health (including reproductive health), can make a substantial difference in people’s contributions to sustainable development and their capacity to adapt to environmental change.

Only by accounting for and addressing demographic factors will it be possible to achieve sustainable development. Investments in human capital should be emphasized alongside other

measures to promote sustainable development, a “green economy,” and adaptation to environmental change.

The current demographic divide

Over the last half century, world population has more than doubled, from 3 billion in 1960 to 7 billion today. Because of the young age structure in low- and middle-income countries, continuing population growth in the coming decades is a virtual certainty, even in the unlikely event that birth rates fall precipitously in these countries. Consequently, the world’s population will very likely be between 8 and 11 billion by 2050, depending primarily on the speed of future fertility decline. But this population growth will not occur evenly across the globe.

Indeed, traditional demographic groupings have broken down. While the population of sub-Saharan Africa is likely to increase by a factor of three to five over the course of this century, Eastern Europe is already on a declining trajectory. China, due to its very rapid recent fertility decline, is likely to reach a peak population in 10–20 years and then enter an era of population decline. Along

with China and other developing countries with low fertility, the industrialized countries face the challenges of population aging and changing living arrangements, including the adjustments that need to be made to social security and health care systems. Meanwhile, life expectancies are on the rise in most countries, even those worst hit by HIV/AIDS. Mortality decline is a long-term trend that research indicates will likely continue, both in countries where people now live the longest and in those where life expectancy is much shorter. Levels of mobility, urbanization, and education also differ substantially among and within regions, adding significant dimensions to the demographic divide.

Nearly all of the world’s population growth will occur in the cities and towns of today’s poor countries, primarily because of rural-to-urban migration combined with high national population growth. Meanwhile, the populations of many low-fertility countries will be declining. The demographic divide between rapidly growing urban populations in poor countries and slow growth or decline in industrialized countries is historically unprecedented. ▶

EXPERT PANEL MEMBERS

The expert meeting, held at IIASA from 30 September to 1 October 2011, included the following members, all of whom attest to this statement:*

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* The views expressed in this document are those of the signatories; they do not necessarily reflect the views of their employers or the organizations they represent.



Clockwise, from bottom right: Wolfgang Lutz, William Butz, Sir David King, Sergei Scherbov, Demissie Habte, Sir Partha DasGupta, Paulina Makinwa-Adebusoye

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These demographic differences fundamentally affect people's contribution to environmental burdens, their ability to participate in sustainable development, and their adaptability to a changing environment. Different demographic challenges require differentiated responses. The developmental challenges are by far the most significant where population growth and poverty are the highest, education is the lowest, and vulnerabilities to environmental change are the greatest. Negative impacts on the environment tend to be the most significant where people's material consumption levels are highest.

Demographic factors in the transition to a green economy

Efforts to meet the legitimate needs and aspirations of rapidly growing populations in developing countries and to reduce poverty will entail higher consumption and production; if inappropriately managed, these efforts will further increase pressure on the natural environment. As well as increasing carbon emissions through fossil fuel combustion with current technologies, population growth also often contributes to depletion and degradation of essential life-support systems, including deforestation, depletion of aquatic resources, air pollution, loss of biodiversity, and degradation of agricultural lands. It is important to reduce such negative impacts on the environment and the global climate in order

to derive multiple benefits for local as well as global sustainable development.

Fertility decline in high-fertility countries, by slowing population growth, makes many environmental problems easier to solve and development easier to achieve. Some of these benefits operate through the changing age structure that declining fertility induces. If the number of children relative to the working-age population is reduced, the demographic dependency ratio falls, creating an opportunity to increase investments in health, education, infrastructure, and environmental protection. It has been shown empirically that this demographic bonus, if properly utilized, can help propel countries out of poverty. Research in the last decade suggests that education increases people's life opportunities in general, greatly contributes to technological and social innovation, and creates the mental flexibility required for a rapid transition to a green economy. This applies to both low- and high-income countries. Hence, the enhancement of human capital from early childhood to old age through formal and informal education and life-long learning is now known to be a decisive policy priority.

The majority of the world's population now lives in urban areas, and urbanization is certain to continue. As recent research has affirmed, urbanization often improves people's economic productivity and their access to education,

health, and other services. However, urban population growth also presents challenges for urban planning and good governance: challenges that are especially acute in environmentally fragile locations. For the African and Asian countries where urban growth is most rapid, reducing vulnerability will require the urban transition to be achieved without the creation of undue environmental hazards or social inequality.

Investing in the tide of global youth

A striking demographic challenge is the rapidly increasing tide of young people entering the labor markets of developing countries with high aspirations but limited opportunities to find productive employment. Globally, there are 1.2 billion young men and women aged 15–24, the typical age for entering the labor market. And there are many more young people to come. In sub-Saharan Africa alone, the population aged 15–24 will likely increase from its current level of 170 million to 360 million by mid-century. With youth unemployment rates already high, assuring proper education and creating jobs for those hundreds of millions of young people are top priorities.

If not given the chance for a decent life, these masses of young people without much hope for

likely to have genuine interest in sustainability because they themselves would experience the repercussions of unsustainable trends.

Ages 15–24 are when people marry and begin to have children. Increasing education and employment will have a predictably major impact on fertility decline through postponed marriage and childbearing, thereby reducing future population growth in the developing world. Hence, ensuring appropriate investment in young people—which must begin in early childhood when the seeds of future development are planted—must be an essential component of broader policy packages to promote global sustainable development.

Differential vulnerability of people must shape appropriate policy

Environmental degradation and climate change do not affect all countries and all geographic regions in the same way. Vulnerability also varies significantly among people living in the same region, according to their socioeconomic circumstances. Even within a household, effects can differ importantly according to age and gender. Policies to reduce vulnerability must therefore focus on the most vulnerable segments of the population within countries and regions.

development. Migration within and between countries has always been an integral part of the human response to changing economic, social, and environmental conditions. This pattern is likely to continue, not only due to increased economic opportunities facilitated by improved information and transport systems and globalization of production and labor markets, but also exacerbated by population displacement and relocation due to environmental degradation and civil conflict.

The principal demographic factors that increase vulnerability are poverty, poor health, low levels of education, gender inequality, declining family support for the elderly, and unfavorable geographic location. Populations with these characteristics also often lack a political voice, putting them at even greater risk. Within these populations, women and children are usually the poorest and least empowered. Vulnerability is reduced and adaptive capacity enhanced where there is investment in poor people's human capital, particularly their education, and most particularly the education of girls and women, whose importance in these adoptive and adaptive processes is now known to be especially great. Policies that do not include features focused on these people will likely not succeed.

Five action implications for sustainable development

- Recognize that the numbers, characteristics, and behaviors of people are at the heart of sustainable development challenges and of their solutions.
- Identify subpopulations that contribute most to environmental degradation and those that are most vulnerable to its consequences. In poor countries especially, these subpopulations are readily identifiable according to age, gender, level of education, place of residence, and standard of living.
- Devise sustainable development policies to treat these subpopulations differently and appropriately, according to their demographic and behavioral characteristics.
- Facilitate the inevitable trend of increasing urbanization in ways that ensure that environmental hazards and vulnerabilities are under control.
- Invest in human capital—people's education and health, including reproductive health—to slow population growth, accelerate the transition to green technologies, and improve people's adaptive capacity to environmental change.



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the future can pose a serious threat to social and political stability. But if they are provided with education and appropriate jobs, the young possess enormous potential for innovation, including the ability to adopt new technologies that accelerate economic progress and speed up the transition to a green economy. With a long life ahead of them, young people are

Region-specific or even urban/rural-specific policies alone no longer suffice. Ignoring the more particular demographic dimensions of vulnerability will misdirect the focus of policy and dilute its impacts.

The spatial distribution of populations among regions, between village and city, and across cities is a significant dimension of sustainable