# Population Matters for Sustainable Development

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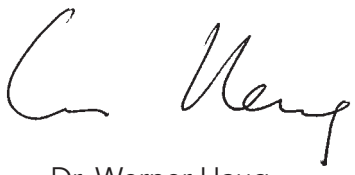
## FOREWORD

In 2011 the world population surpassed the 7 billion mark and it will continue to grow. To improve the wellbeing of a large and growing world population, while ensuring the sustainable use of essential but limited natural resources, is one of the greatest challenges we face today. The link between sustainable development and population dynamics was recognized by the Rio Declaration agreed at the United Nations Conference on the Environment and Development (UNCED), held in Rio de Janeiro in 1992, and elaborated in the Programme of Action, which was put forward at the International Conference on Population and Development (ICPD), held in Cairo in 1994. Both political declarations highlighted the importance of promoting human wellbeing in harmony with nature, and to this end emphasized the need for a two-pronged approach, notably sustainable patterns of consumption and production – which is the hallmark of the green economy – and policies that address population dynamics.

This report explains the critical linkages between population dynamics and sustainable development, and outlines a human-rights-based framework to address associated challenges and seize opportunities. The report was prepared in consultation with thirteen international agencies. It also benefited from the deliberations of a global science panel that was brought together by the International Institute for Applied Systems Analysis (IIASA) in September 2011 to discuss the linkages between population and sustainable development, as well as a consultation with members of the Global Agenda Councils of the World Economic Forum (WEF) in January 2012 on population and the water–food–energy nexus. The Laxenburg Declaration that resulted from the former, and the statement that was issued at the latter, are reprinted in the annexes to this report.

The broad consultations and in-depth discussions contributed to a report that provides a strong and credible basis for policy dialogues on sustainable development. This report informs the United Nations Conference on Sustainable Development, Rio+20, which will be held in Rio de Janeiro in June 2012, but it also bears important lessons for the discussions of the international development goals and the international development agenda post-2015.

The 21st century is a critical period for people and the planet, with demographic and consumption trends posing tremendous challenges in a finite world. These conclusions, along with recommendations for moving towards a prosperous and flourishing future, are at the heart of this report.



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## A. INTRODUCTION

*"Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature."*
Rio Declaration, Principle 1 (UN, 1992).

The Rio Declaration agreed at the United Nations Conference on Environment and Development (UNCED), held in 1992 in Rio de Janeiro, Brazil, as well as the Programme of Action agreed at the International Conference on Population and Development (ICPD), held in Cairo, Egypt, in 1994 place humans at the center of development. Both declarations recognize and emphasize the need to promote human wellbeing and higher living standards, but at the same time they stress the need to do so in harmony with nature. To this end, both political declarations suggest policies that promote more sustainable patterns of production and consumption, which is the hallmark of the green economy, and policies that address population dynamics.

*"To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies."* Rio Declaration, Principle 8 (UN, 1992).

*"Sustainable development as a means to ensure human well-being, equitably shared by all people today and in the future, requires that the interrelationships between population, resources, the environment and development should be fully recognized, appropriately managed and brought into harmonious, dynamic balance. To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate policies, including population-related policies, in order to meet the needs of current generations without compromising the ability of future generations to meet their own needs."*
ICPD Programme of Action, Chapter II, Principle 6 (UN, 1994).

The pursuit of development is the pursuit of a better life and the ambition to improve human wellbeing. Whatever the measure of human wellbeing – for example, the elimination of poverty and food insecurity, access to adequate clothing and housing, the enjoyment of health and education, and more generally capabilities and functionings – it is associated with the enjoyment of goods and services. While wellbeing is more than the satisfaction of material needs and desire, wellbeing is most fundamentally dependent on the consumption of goods and services. Adequate consumption does not only require a more balanced distribution of economic resources, which is an important challenge in an increasingly unequal world, but is also dependent on higher levels of production. Social progress – improvements in human wellbeing – is dependent on higher levels of economic output, and higher economic output will place pressures on all natural resources – land, forests, ground water, oceans and the climate.

Unsustainable patterns of consumption and production, which erode essential and irreplaceable natural resources, would ultimately undermine the very basis for economic growth and social progress. It is therefore important that the objective to promote social progress, which requires higher economic output, does not jeopardize the sustainability of the environment. Efforts to achieve these balances – which are at the heart of sustainable development strategies – are strongly influenced by population dynamics.

The environmental impact of human activity is attributable to three principle determinants (Ehrlich

and Holdren, 1971), namely the rate of economic growth, the rate of technological progress and the rate of population growth. These determinants are recognized by the aforementioned international political declarations, for example, but also by the scientific literature. Despite the recognition of these determinants, past policies and the current debate have not adequately addressed these determinants and their inter-linkages.

The promotion of the green economy, which addresses two of these determinants – economic growth and technological progress – is only gradually receiving support, but efforts to address the third determinant – population growth – continues to receive little attention in the discussion. Other aspects of population dynamics, including changes in age structures and spatial distribution of people, have received even less attention. Some of the reasons for this are (i) the fact that population growth rates in the last two decades have been declining in most of the countries and the belief that the "population problem" has already been solved; (ii) the concern that some of the past policies implemented in order to influence population dynamics infringed on fundamental human rights and freedoms; and (iii) the sensitivity of the issues related with the ICPD Programme of Action.

This is happening even if many countries expressed their concerns about high population growth and have some reproductive health policies in place. A recent survey by the Population Division of the UN's Department for Economic and Social Affairs has highlighted wide concerns with population dynamics amongst policy makers (UN, 2010). More than two-thirds of the governments of the world's least developed countries have expressed major concerns with high population growth, high fertility and rapid urbanization.

In order to bring back the population agenda into the sustainable development discussion, there is a need to recognize that:

- Population dynamics have a significant influence on sustainable development;
- Efforts to promote sustainable development that do not address population dynamics have, and will continue to, fail; and,
- Population dynamics are not destiny. Change is possible through a set of policies which respect human rights and freedoms and contribute to a reduction in fertility, notably access to sexual and reproductive health care, education beyond the primary level, and the empowerment of women.

This report contributes to restoring the relevance of population dynamics in the sustainable development agenda which has been lost over the past decades. It not only highlights the important ways in which population dynamics influence sustainable development, but also puts forward concrete human-centred and rights-based policies to address population dynamics.

## B. POPULATION DYNAMICS AND ITS IMPLICATIONS FOR SUSTAINABLE DEVELOPMENT

In 2011 the world population surpassed the 7 billion mark and, according to most commonly quoted population projections – the medium variant published by the United Nations Population Division – the world population will grow to over 9 billion by midcentury (UN, 2011a). Accordingly, between now and 2050 about as many people will be added to the planet as inhabited the planet as recently as 1950. However, contrary to common perceptions, demographic change in the medium- and long-term is not destiny. Whether the world population will indeed grow to over 9 billion by midcentury and level off at about 10 billion by the end of the century, or grow instead to over 10 billion by midcentury and to about 16 billion by the end of the century depends on policies that countries pursue today. The differences between the former (the medium-term variant of the United Nations population projections) and the latter (the high variant of its population projections) is but half a child per woman (UN, 2011a). Every decade of delay in reaching replacement-level fertility implies continued, significant population growth for decades to come.

Globally, over the past decades, life expectancy has been increasing and fertility rates have being falling in most of the developing world, with some exceptions, particularly among the least developed countries (UNFPA, 2011a). But even if fertility were to fall immediately to replacement level, populations would continue to grow for some time. This is explained by the population momentum, or inertia in population growth: Because of high fertility in the past, many countries now have a relatively large number of women in reproductive age, and even if each woman has a relatively small number of children, countries will continue to have a growing population for years to come. Decisions made today have long-term implications.

Individual choices and opportunities add up to population dynamics, and population dynamics are best addressed by enlarging, not restricting, individual choices and opportunities. The rights and policies delineated in the ICPD Programme of Action focus on the empowerment of individuals. Human-centered and rights-based policies, including access to sexual and reproductive health care, education beyond the primary level and with a focus on girls, and the empowerment of women, make a world of difference. Efforts to these ends are matters of rights, and contribute to an improved quality of life. They help to reduce teenage pregnancies and lower infant, child and maternal mortality; and they also help to lower fertility, slow population growth and encourage more sustainable development (UN, 1994; The Royal Society, 2012; IIASA et al., 2011). In the developed world, the ability to plan families is taken for granted, but well over 200 million women in the developing world continue to lack access to family planning. Universal access to sexual and reproductive health care and family planning for women of all ages is an essential and integral aspect of their empowerment. The decisions of how many children to have and when to have them are two of the most fundamental and consequential decisions of anybody's life. It affects people's health and education, and can influence their participation in economic, social and political life, their earnings and their living standards (UNFPA, 2010).

### *Population growth increases environmental pressures: Relationship is more complex than suggested by simple models*

Out of the 7 billion people that currently inhabit the world, more than 1 billion continue to live in extreme poverty. About as many suffer from food insecurity (FAO, 2008) and live in slums (UN Habitat, 2010; UNFPA, 2007), and millions are unable to find

productive and remunerative employment (ILO, 2011; 2012a). Meeting people's needs calls for a more balanced distribution of economic resources, but it also depends on higher levels of economic output. Today, for example, food insecurity is still largely a question of access – the capacity of people to purchase food on the market places – but food security is also rapidly becoming a question of availability – the capacity of the agricultural sector to produce food in sufficient quantities (Herrmann, 2009). According to estimates by the Food and Agriculture Organization (FAO), world agricultural output will need to grow by no less than 70 per cent to feed a world population of 9 billion which will most likely be reached before 2050 (FAO, 2010a; 2010b; 2009; Godfray et al., 2010; IFPRI, 2010).

Poverty reduction, employment creation and food security depend on rising economic output – in agriculture and outside agriculture – and rising economic output will further increase pressures on all natural resources. More and more countries are suffering from a rapid degradation of land, a high rate of deforestation, and water shortages. Climate change further contributes to an increasing intensity and frequency of natural disasters, changes in precipitation and droughts. The poor, who most directly depend on the natural resources, are most vulnerable to these changes and least able to cope with these changes at the same time. And it is often the women and children that are most negatively affected (Tarazona and Gallegos, 2011). Discrimination of women, older persons, indigenous communities and migrant workers can further exacerbate these challenges.

It is true that globally, in terms of impacts, the patterns of production and consumption prove to be more important than the number of people in achieving a world that sustains present and future generations. However, rising expectations and poverty reduction efforts will put additional pressure on the planet, unless we can find more efficient, "greener" ways to provide all people with decent lives (UNCTAD, 2002; IIASA et al., 2011; WEF, 2012; The Royal Society, 2012). Our future depends on rapidly lowering greenhouse gas emissions and environmental impact more generally. The transition to the green economy requires fiscal incentives and disincentives, as well as environmental laws and regulations, which encourage the internalization of environmental costs, and place a more realistic price on essential and finite natural resources. Environmental impact can also be reduced through more rigorous product standards (rule out standby functions of appliances, reduce packaging of products, eliminate plastic bags in supermarkets, set emission targets for vehicles, set insulation standards for buildings, etc.) and more conscientious consumer behavior (shut off appliances that are not in use, turn off car engines on curbsides, use public transport when possible, prevent excessive cooling and heating of buildings, etc.), for example (UNCTAD, 2010; UN, 2011b; UNEP, 2011; OECD, 2011; UNEMG 2011). Together, these measures must promote the development of alternative, renewable and clean energy sources, and encourage the use and development of resource-efficient technologies.

Finally, a more balanced distribution of economic resources – which is a growing challenge in an increasingly unequal world (ILO, 2012b; 2008; IMF and ILO, 2010) – could reduce poverty with a less than proportionate increase in economic output. In this sense, greater social equity, together with slower population growth, can also reduce environmental pressures.

### *Population growth increasingly differs between countries: Pressures are mounting in the world's poorest countries*

The growth of the world population masks considerable differences between countries. Over the past decades the heterogeneity amongst countries and within countries has increased considerably as regards population growth. Whereas populations are stabilizing or declining in many developed countries, and population growth is decelerating in many of

the middle-income countries, population growth remains high in the world's least developed countries. However, it is somewhat lower in the least developed countries in Asia – particularly because of falling fertility levels in Bangladesh, the most populous country in this group – than it is in the least developed countries in Africa (UN, 2011a).

Owing to high population growth, the least developed countries have a large and rapidly expanding youth population. Today, about 60 per cent of their population is under the age of 25, and by 2050 the population in this age group will expand by an additional 60 per cent. The large and growing youth population of the LDCs is one of their most significant productive resources. As young people enter working age, they enter the period of their lives when they contribute most to economic development, provided that they benefit from good health, adequate education and employment (UNFPA, 2011a).

However, an expanding youth population makes it difficult for countries to maintain or increase per-capita spending on young people – for example, on health and education – and it requires economic development that creates employment opportunities for them (UNCTAD, 2006). Over the next forty years, the population of the least developed countries is projected to double, their working-age population will increase by about 15 million persons per year, and their labor force will expand by about 33 thousand persons per day (UNFPA, 2011a). These trends pose particular challenges, considering that about 50 per cent of the current population lives in extreme poverty and 80 per cent of the labor force is only vulnerably employed (ILO, 2011; Basten et al., 2011a). Unemployment is particularly high amongst the younger generations, and many recent graduates find only low-paying and precarious employment in the informal economy (Herrmann and Khan, 2008).

To create full employment, raise household incomes and combat poverty, the least developed countries require higher and more sustained economic growth (UNCTAD, 2002; 2006; 2008). But higher economic growth will also increase environmental pressures within the current development regime. This is particularly true where economic growth is based on extractive and carbon-intensive industries but also where agricultural production further erodes natural resources. The world's least developed countries are more strongly affected by environmental degradation than most other developing countries (UNFPA, 2011a; UNCTAD, 2011), and this, along with high population growth, affects their prospects for development. Between 2000 and 2008, real economic growth in the least developed countries was almost as high as in other developing countries, 6.6 per cent per annum on average, but adjusted for environmental effects and population growth, the real rate of economic growth was almost half of what it was in other developing countries, namely 2.5 per cent per annum (UNFPA, 2011a). The combination of environmental effects and high population growth undermine the capacity of the LDCs to catch up with the income levels of the more advanced developing countries on a sustainable basis. Addressing both challenges, therefore, is an important policy concern.

Human activity has already affected every country, every species and every eco-system of the planet. We have even altered the world's climate. The impoverished populations in poor countries, who contribute the least to climate change, are most negatively affected by its effects. But they also suffer from an unsustainable pattern of agricultural production and forestry management, which also contributes to water depletion and soil degradation and gradually undermines their livelihoods.

To date, many developing countries in particular are less concerned with greenhouse gas emissions (either because they contribute relatively little or because the effects are not immediately visible), but all, including the poorest, are seriously concerned with the

depletion and degradation of natural resources. Small island developing States, for example, are emphasizing the importance of ocean resources, and a large number of other countries are concerned with land degradation, water depletion and desertification. The transition to the green economy – which must include efforts to encourage more sustainable agriculture, aquaculture and forestry, in addition to low-carbon industries – is therefore important for countries at all stages of development. Failure to promote green economies, and more sustainable consumption and production, means that the world cannot cater for a growing population without devastating effects on the natural environment, which would ultimately undermine the very basis of economic and social development. The green economy is therefore not a contradiction to, but rather a necessity for, sustainable poverty reduction as well (UNCTAD, 2009; 2010; UNEP, 2011).

### *Population growth differs within countries: Rapid urbanization changes vulnerabilities and creates new opportunities*

The world is undergoing the largest wave of urban growth in history: already, over half the world's population is living in towns and cities, and by 2030 this number will swell to almost 5 billion, with urban growth concentrated in Africa and Asia (UN Habitat, 2010; UNFPA, 2007). This is one of the most important demographic changes in the coming decades. Today, the share of urban population in the world's least developed countries is still low in comparison – 30 per cent of the total population – but the rate of urban population growth is very high, at about 4 per cent per annum. At this rate, the urban population in least developed countries will double in less than 20 years.

Rural-urban migration is often motivated by economic opportunities, but economic opportunities are also closely related to changing environmental conditions. Flooding in the delta of Bangladesh, and droughts in the horn of Africa (Herrmann and Svarin, 2009), for example, threaten livelihoods in the rural areas and encourage many to search for a more prosperous life in the urban centers. And as environmental shocks increase in frequency and intensity, they can further accelerate rural-urban migration. Under the right circumstances, and with the right supports, migration can be a strategy to adapt to changing environmental conditions, rather than a failure to adapt.

Changing spatial distributions of populations are changing environmental impacts and human vulnerabilities. The majority of the world's poor still live in the rural areas, but the number of poor people who live in the urban areas is rapidly growing. Over one billion people live in urban slums, which are typically overcrowded and lack basic services such as clean water and sanitation. As urban areas grow, they can impinge on the environment, through urban sprawl, and they are also associated with an increasing consumption of resources, including water. However, the increase in consumption is attributable largely to a small share of households with relatively high income levels. Urban slum residents are at the same time exposed to environmental vulnerability, living in places at risk of climate change impacts and other environmental hazards, and pollution levels are generally much higher, exacerbating many health risks. Those low-lying cities and towns situated near the sea will face heightened risks from storm surges and flooding, while those in drylands are prone to experience increased water stress and episodes of extreme heat (Balk, 2009). The capacity to cope with these risks is lower in small and medium cities and towns where incomes (private and public) are low and protective infrastructure is lacking.

Despite the challenges that are associated with urbanization, it can be a powerful driver for sustainable economic, social and environmental development (UNFPA, 2007; McKinsey Global Institute, 2011). As populations grow, it makes economic and environmental sense for people to move closer together in

urban areas. Urbanization enables countries to provide essential services, including health and education, at lower costs per capita, and also allows for economies of scale in the development of vital infrastructure, including housing, water, sanitation and transport. Urbanization can also reduce energy consumption, particularly in transport and housing, and it can help to ease population pressures in rural areas.

Proactive planning for urban growth, particularly the employment, land and housing needs of the growing urban poor, is the appropriate policy response to rapid urbanization and a critical component to integrating the three pillars of sustainable development (Guzman et al., 2009). As population growth in urban areas is often the result of natural population increase, one of the most effective ways to slow urban growth is to reduce unwanted fertility in both rural and urban areas. Furthermore, efforts to improve the lives of the growing number of urban poor and develop urban areas and industries must be complemented by efforts to reduce poverty in, and foster the development of, rural areas. Strong backwards and forwards linkages between the rural and urban areas are the backbone of strong development.

Changes in the size of populations are inevitably bringing about changes in the age-structure of populations. Countries that have high population growth have youthful populations, whereas the countries that have low population growth have an aging population. Changing age structures affect not only patterns of consumption and production; they also affect the balance between, returns to and investment in the different factors of production. They have important implications for labor markets, wages and income distribution, as well as current and future output (Lewis, 1954; Fei and Ranis, 1964).

The effect of age-structural changes on the environment is complex and strongly depends on the effects of these changes on overall economic growth. If aging societies manage to seize the second demographic bonus (that is, make effective use of a growing number of old but active and productive persons) or if youthful societies manage to seize the first demographic bonus (that is, make effective use of a large and growing number of young people), it can contribute to economic growth and social development. The ability to realize these potential demographic bonuses strongly depends on adequate investment in human capital, alongside investment in physical and natural capital; the consequences of reaping the demographic bonuses on the environment, in turn, depends on policy choices to transition to the green economy and sustainable development pathways.

In sum, while changes in population size have important implications for sustainable development, other population dynamics, which have received even less attention, have too. How many people will be added to the world matters; it also matters where they will live, how old they are and what they do, produce and consume.

## C. POPULATION DYNAMICS AND ITS IMPLICATIONS FOR POLICY MAKERS

Although the challenges of population growth and environmental sustainability are most pronounced in the least developed countries in sub-Sahara Africa and South Asia, these challenges inevitably have serious global implications that demand globally coordinated responses. The world is not only bound together by trade and financial flows, but also by environmental and demographic changes. Efforts to meet a rapidly growing demand for water, food and energy, for example, will affect all countries. Likewise, failure to meet people's needs, reduce poverty, raise living standards and ensure greater equity will threaten stability, security and sustainability throughout the world.

Population dynamics affect not only our overarching development objectives – poverty reduction, human wellbeing and living standards – but also have a strong impact on the social, economic and environmental dimensions of sustainable development. Success in eliminating food insecurity and hunger; ensuring a sustainable use of land, forests, oceans and ground; ensuring universal access to clean, safe and affordable energy; building sustainable and livable cities and communities; and reducing natural and man-made disasters are strongly and inseparably linked to population dynamics (WEF and UNFPA, 2012). Efforts to promote sustainable development cannot succeed as long as these remain disassociated from the knowledge and policy options linked to population dynamics. Global, regional and local climate change response measures must take into account the composition and vulnerability of the populations they target.

To address challenges associated with population dynamics and promote more sustainable pathways of development, countries have powerful instruments, which not only respect, but strengthen human rights and freedoms and support human development (UN, 1994; Sachs, 2009; The Royal Society, 2012; IIASA et al., 2011).

First, countries can direct individual choices and opportunities through incentives rather than controls, and can address population dynamics by enlarging, rather than restricting, individual choices and opportunities. Better access to health care services, including sexual and reproductive health care and education beyond the primary level not only contribute to falling infant, child and maternal mortality and help to arrest the spread of communicable diseases, but also contribute to the empowerment of women and falling fertility levels. Improving access to sexual and reproductive health care is particularly important in the world's least developed countries, which continue to have high fertility and a large unmet need for family planning (Basten and Lutz, 2011b). But even in the poorest countries, there are considerable inequities as regards access to sexual and reproductive health care. In general, access is better for women in urban areas, and for those from higher economic and social strata, than for women in the rural areas or who live in poverty (UNFPA, 2011b).

Second, countries must empower women not only to decide on the number and timing of their children, by providing adequate access to sexual and reproductive health care, but also to promote their active participation in economic, social and political life. For economic and cultural reasons, many countries continue to effectively exclude women from many economic and political positions. Greater gender equality requires changes in mind sets and legislation, but it can also be furthered through practical investments infrastructure. Because many households are not connected to power and water supplies, many women continue to spend a considerable share of their time fetching fire wood and water (Sachs, 2003). These are valuable

activities, which support the wellbeing of households, but they are not commercially valued activities. As a consequence, many women cannot participate in the formal economy and they lack an independent income. Women who lack education and economic opportunities often have more children, and because they have more children many women lack education and economic opportunities (UNFPA, 2010). Such poverty traps must be broken through decisive policies. Furthermore, countries should recognize and support the contributions many women are already making to environmental protection and regeneration in their communities (OECD, 2008; GTZ, 2010; GBM, 2009; Heinrich Böll Stiftung, 2009).

Third, countries must recognize, cultivate and seize the powerful potential of youth populations, be they small or large. The legitimate ambition of younger generations to raise their living standards and escape poverty today, not tomorrow, appears to leave little space for environmental concerns. However, the immediate interest of younger generations to achieve material wellbeing and independence is juxtaposed by a more long-term interest of younger generations in a sustainable environment. Younger generations have a longer life expectancy, and a natural interest in the long-term environmental sustainability. Younger generations are the custodians of the future. They not only determine the future trends in fertility and population growth, they are also amongst the foremost advocates of more sustainable patterns of consumption and production. To support the empowerment and participation of youth populations is an important and effective instrument to promote the transition to sustainable development and green economies. To ensure appropriate investment in young people – which must begin in the earliest childhood, when the seeds for future development are planted – should be a central policy objective of each country. First and foremost such investments are a moral imperative, but they also have a great payoff.

Fourth, poverty constrains individual choices and opportunities, and countries should take active measures to combat poverty and develop human capabilities and functionings. Ideally, countries benefit from inclusive economic growth, which creates productive employment, raises household incomes, reduces poverty and strengthens social cohesion, but instead many countries are witnessing non-inclusive economic growth. In these settings, many people are unable to escape poverty, even those who have employment, and income inequalities are rising (ILO, 2012b; 2008; IMF and ILO, 2010). In such cases, it is particularly important that growth-oriented policies be complemented by adequate social transfers and social policies. Appropriate support must particularly extend to the most vulnerable populations, whether environmentally, economically or socially vulnerable, with attention to women. Women are often the first to suffer from environmental degradation (deforestation, water depletion, for example), and they are also often hardest hit by economic and social crises. People on the move, including internally displaced persons and refugees, also warrant special care.

Social security measures – cash or in-kind – must target the most vulnerable populations. Many times, support fails to reach women and children with detrimental implications for their development. Each human must have equal access to vital services (health care and education) and must enjoy equal opportunities, regardless of their income levels. However, despite higher economic growth, the scope for social transfers in the poorest countries is limited. This is because of the very large share of people who live in extreme poverty and require assistance – one out of two live with less than $1.25 per day and three out of four live with less than $2 a day – and the many competing demands on very limited financial resources of these countries. It is therefore important that social security programmes, or social protection institutes, including public works programmes, receive external support.

Fifth, countries should address population dynamics before they unfold rather than react after they have happened. Pro-active planning for population dynamics requires a systematic use of available population data and projections. Current and projected population trends, as well as different possible scenarios of population change, must be taken into account in rural, urban and national development strategies, as well as sectoral development strategies for infrastructure and services. If countries plan for them and pursue appropriate policies, population dynamics, including, for example, urbanization and youth bulges, are more likely to become positive drivers of economic, social and environmental development.

In conclusion, promoting human wellbeing and raising living standards are not only ends of development, but are also important means to address population dynamics and promote more sustainable development pathways. Policies that promote human development and address population dynamics, along with the five priority areas outlined above, together with policies that encourage higher, sustained and environmentally sustainable economic growth, must constitute the corner stones of sustainable development strategies. To gauge progress in the implementation of sustainable development agendas, it is therefore necessary to examine progress also in the area of population issues.

Three key indicators and targets can serve this purpose: (i) the systematic consideration of current and projected population dynamics in national development strategies (with the objective to encourage discussion in all poverty reduction strategies mandated by International Financial Institutions, common country assessments conducted in the context of United Nations Development Assistance Framework, and national development plans prepared at the initiatives of countries themselves); (ii) a clear strategy to ensure universal access to sexual and reproductive health care and family planning (with the objective to ensure equitable access in all countries and entirely eliminate unmet need for family planning); and (iii) a sustained effort to collect and analyze population data through censuses or population registration systems (with the objective to conduct censuses in all countries every ten years and/or establish a population registration system in all countries).

In the context of its work programme, UNFPA is already supporting countries in these efforts and tracking their progress. In addition, countries would suitably integrate population dynamics in regional development strategies (both rural and urban), as well as sectoral development strategies (from health and education to infrastructure and beyond). Yet this agenda needs the support of partner organizations for full implementation and monitoring. With such support and partnership, bringing population dynamics back into the discussion can help to chart a path to true sustainable development.

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# The Laxenburg Declaration: Demographic Challenges for Sustainable Development *Statement of a Global Expert Panel*

> **"... 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."**

*Convinced by the need to integrate the three pillars of sustainable development (economic development, social development and environmental protection), the International Institute for Applied Systems Analysis (IIASA) and the United Nations Population Fund (UNFPA) brought together an interdisciplinary group of experts to discuss how population factors promote or impede sustainable development.*[1]

***Following are their conclusions and recommendations:***

"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 amongst 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.

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 at their 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-Sahara Africa alone, the population aged 15-24 will likely increase from its current level of 170 million to 360 million by midcentury. 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 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 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. 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 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*

1. Recognize that the numbers, characteristics, and behaviors of people are at the heart of sustainable development challenges and of their solutions.
2. 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.
3. Devise sustainable development policies to treat these subpopulations differently and appropriately, according to their demographic and behavioral characteristics.
4. Facilitate the inevitable trend of increasing urbanization in ways that ensure that environmental hazards and vulnerabilities are under control.
5. Invest in human capita – 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.

1 This expert panel convened at the International Institute for Applied Systems Analysis (IIASA) in Vienna on September 30-October 1, 2011. Panel members, all of whom attest to this statement, are:

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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.*

Global Agenda

# The missing link in sustainable development: A call to integrate population in the water–food–energy nexus

*On 11-12 January 2012, the World Economic Forum's Network of Global Agenda Councils and the United Nations Population Fund (UNFPA) convened a group of leading experts and practictioners representing the private sector, international organisations, civil society and academia to explore the linkages between population and water, energy, and food security. The group calls for effectively integrating population and demographics in international policies for sustainable development:*

> **"We reaffirm the global commitment to poverty reduction and sustainability, and emphasize that we will not reach these objectives without addressing the nexus between water, food, energy and population dynamics; governments, the private sector and civil society need to take population dynamics into consideration."**[1]

"Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature."

Rio Declaration, Principle 1

## *Population – an overarching issue*

By 2050, the world's population will reach 8-11 billion. In addition to this population growth, billions of people will continue to migrate from rural to urban areas; more than half of the world's population already lives in cities. These demographic changes influence every aspect of the world's development. As a result, there is an overwhelming need to rethink the development equation and to further incorporate the population issue into global debates.

In an era defined by severe challenges to achieving water, food and energy security, understanding how population growth and rapid urbanization impact health, growth and resource scarcity is of critical importance. Understanding these linkages provides opportunities to reinvent how people and communities can thrive sustainably. Globally, the most pressing challenges and far-reaching decisions – from poverty reduction to business investment – hinge on understanding the world's demographic trends and their consequences.

Today, one out of seven people continue to live in extreme poverty and suffer undernutrition. Combating poverty and raising living standards of a growing population depends on a favourable structural change and rising productivity, as well as full and decent employment in the agricultural, industrial and services sectors.

With land, water and energy emerging as major constraints to future economic growth and social progress, failure to promote more sustainable patterns of consumption and production will significantly increase pressures on all natural resources. These vulnerabilities are most pronounced in the world's least developed countries, which have the highest poverty and population growth rates, the weakest production and governance capacities, and already face significant water, energy, food and infrastructure shortages.

According to the World Economic Forum's latest edition of the Global Risk Report, current global population trends are a key and systemic risk to sustainable development and economic growth. Addressing the challenges requires a dual response:

1. The public and private sectors must switch to new, resource-efficient consumption and production patterns that focus on the water-energy-food-climate intersections – and their link to population trends. Appropriate public policies, public-private partnerships and new business models can achieve the necessary technological innovation, investment and policy change.
2. The transition to a "green economy" must be complemented by policies that address population dynamics and encourage favourable demographic transitions. Future demographic trends are not destiny. Whether the world population is more likely to grow to 11 billion or to 9 billion by midcentury (see graph) depends on today's policies: Investment in human capital, access to reproductive health care and education will contribute to the empowerment of young women and will allow them to make informed choices about their families and future, and they will reduce fertility and population growth.

## *Risks of inaction*

Failure by government, business and civil society to address population dynamics in their efforts to promote sustainable development will

- Threaten water, food and energy security;
- Jeopardize economic growth, social progress and social security:
- Negatively affect health and life expectancy.
- Undermine a capacity to mitigate and adapt to climate change;
- Encourage displacement and migration; and
- Heighten the risk of political instability and conflict.

These efforts must be complemented by increasing investment and productivity in the agricultural sector, which encourages the sustainable use of land, water and energy; ensures equitable access to essential resources; and lends special support to smallholders and women. Investment opportunities also abound in the farming sector. Sustainable agricultural development is essential for poverty reduction and food security, and is an important driver of overall development.

## *Opportunities*

A shift is occurring around the world that can be harnessed to reap benefits from the demographic dividend. Countries that reduce fertility and slow the growth of the youth population are able to increase investment in human, physical and natural capital and promote higher and more sustainable economic growth.

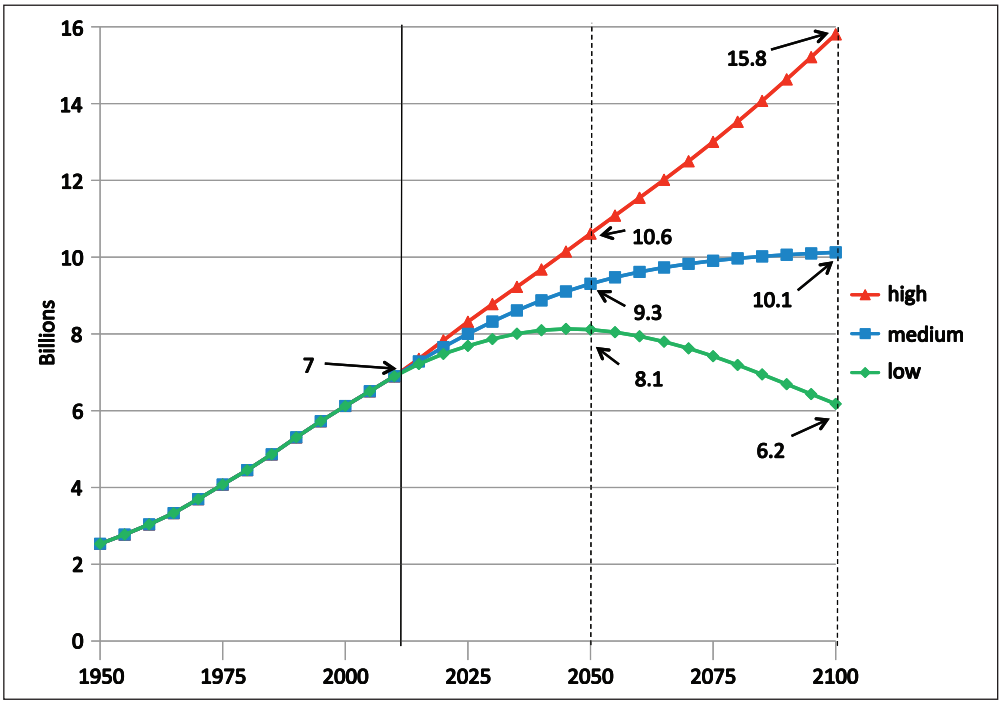
The systematic use of data on population trends is essential for the public and private sector to seize the opportunities associated with population dynamics. Migration is largely driven by economic and social disparities, but it can also help people respond and adapt to changes in environmental conditions.

Likewise, if countries plan for – rather than react to – urbanization, they can anticipate and address many associated challenges. In urban areas, essential infrastructure, goods and services, including housing, water, sanitation, energy, health and education, can be provided at lower costs per person. Smart urbanization can lead to considerable energy savings in housing and transport and contribute to greener and more liveable cities. The private sector plays an important role in supporting the development of sustainable cities, and in creating scalable innovative solutions to address efficiencies in water, food and energy.

## *The way forward*

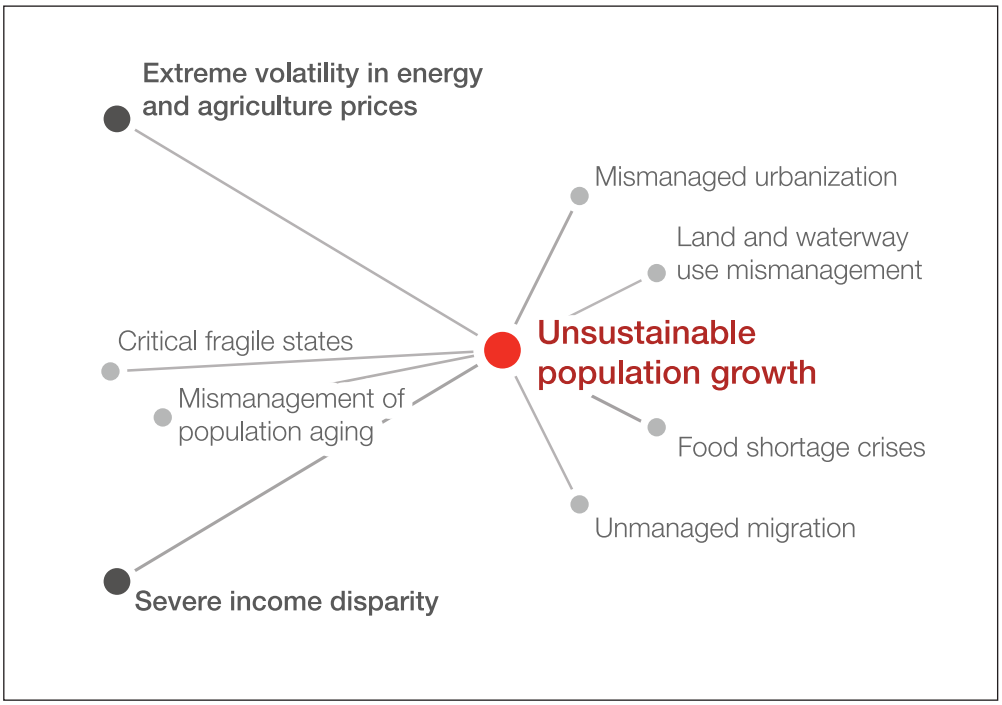
To achieve the necessary policy change and effectively integrate population and demographic policies in the sustainable development agenda for the 21st century, change needs to happen now. With 2012 being the UN's International Year for Sustainable Energy for All and with the Rio+20 Earth Summit taking place in June, policy makers have the opportunity to use such international processes to further develop understanding of how sustainable population growth and achieving water, energy and food security can go hand in hand.

## Projected global population growth under three scenarios




Source: United Nations Department of Economic and Social Affairs, Population Division (2011). World Population Prospects: The 2010 Revision.

## High population growth can become a major global risk




Source: World Economic Forum (2012). Global Risks.

1 Participants: David E. Bloom (Harvard School of Public Health), Joel Cohen (The Royal Society), Nicholas Eberstadt (American Enterprise Institute for Public Policy Research), Elizabeth C. Economy (Council on Foreign Relations), J. Carl Ganter (Circle of Blue), Robert Greenhill (World Economic Forum), Samantha Gross (IHS CERA), Jose Miguel Guzman (UNFPA), Michael Herrmann (UNFPA), Maaike Jansen (UNEP), Emmanuel Jimenez (World Bank), Alexandre Kalache (New York Academy of Medicine), Upmanu Lall (Columbia University), Matti Lehtonen (UNEP), Patrick McGee (World Economic Forum), Herbert Oberhaensli (Nestlé), Babatunde Osotimehin (UNFPA), Florian Reber (World Economic Forum), Daniel Schensul (UNFPA), Anne Marie Sloth Carlsen (UNDP), Hania Zlotnik (United Nations), George Assaf (UNIDO), Cecilia Martinez (UN-HABITAT), Ralf Bredel (UNIDO), EunMee Lee (UNIDO), Jean D'Cunha (UN Women), Toshihiko Murata (FAO).

UNFPA, the United Nations Population Fund, is an international development agency that promotes the right of every woman, man and child to enjoy a life of health and equal opportunity. UNFPA supports countries in using population data for policies and programmes to reduce poverty and to ensure that every pregnancy is wanted, every birth is safe, every young person is free of HIV/AIDS, and every girl and woman is treated with dignity and respect.

UNFPA – because everyone counts.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