



Economic and Social Council

Distr.: General
31 December 2019

English only

Commission on Population and Development

Fifty-third session

30 March–3 April 2020

Item 3 of the provisional agenda¹

**General Debate 3 (a): Actions for the further implementation
of the Programme of Action of the International Conference
on Population and Development at the global, regional and
national levels**

**3 (b): Population, food security, nutrition and
sustainable development**

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The Secretary-General has received the following statement, which is being circulated in accordance with paragraphs 36 and 37 of Economic and Social Council resolution 1996/31.

¹ [E/CN.9/2020/1](#).

² The present statement is issued without formal editing.



Statement

Population explosion: At the beginning of the nineteenth century, the total world population crossed the threshold of 1 billion people for the first time in the history of homo sapiens. Since then, growth rates have been increasing exponentially, reaching staggeringly high peaks in the 20th century and slowing down a bit thereafter.

Total world population reached 7 billion just after 2010 and is expected to count 9 billion by 2045.

We intend to explain in this paper the differences in population growth between the world regions. Next, we will outline the mechanisms behind unprecedented population growth and discuss plausible scenarios for future developments. Crucial for the long-term trend will be the rate of decline in the number of births per woman, called total fertility. Improvements in education, reproductive health and child survival will be needed to speed up the decline of total fertility, particularly in Africa. But in all scenarios, the world population will continue to grow for some time due to population momentum. Finally, the paper outlines the debate about the consequences of the population explosion, involving poverty and food security, the impact on the natural environment, and migration flows.

Differences in population growth between the world regions

In the year 1900, Belgium and the Philippines had more or less the same population, around 7 million people. By the year 2000, the population of the Western European monarchy had grown to 10 million citizens, while the South East Asian republic at the turn of the century already counted 76 million citizens. The population of Belgium has since then exceeded 11 million citizens, but it is unlikely that this number will rise to 12 million by the year 2050. The population of the Philippines, on the other hand, will continue to grow to a staggering 127 million citizens by 2050, according to the demographic projections of the United Nations (UN 2013).

Impact on the environment

The impact of the population explosion on the environment is unquestionably high, but the size of the population represents only one aspect of this. In this regard it can be useful to keep in mind the simple $I=PAT$ scheme: the ecological footprint or impact on the environment (I) can be regarded as the product of the size of the population (P), the prosperity or consumption level (A for affluence) and the technology used (T). The relationship between each of these factors is more complex than the $I=PAT$ scheme suggests but in any case, the footprint I of a population of 1000 people is, for example, dependent on how many of those people drive a car instead of a bike, and of the emission per car of the vehicle fleet concerned.

The ecological footprint of the world population has increased tremendously in the past decades and the growth of the world population has obviously played a important role in this. The other factors in the $I=PAT$ scheme have however played a relatively bigger role than the demographic factor P . The considerable increase in the Chinese ecological footprint of the past decades, for example, is more a consequence of the increased consumption of meat than of population growth (Peters et al., 2007; Liu et al., 2008). The carbon dioxide emission of China grew by 82 per cent between 1990 and 2003, while the population only increased by 11 per cent in that same period. A similar story exists for India: the population grew by less than 23 per cent between 1990 and 2003, while the emission of carbon dioxide increased by more than 83 per cent (Chakravarty et al., 2009).

The consumption of water and meat in the world is increasing more rapidly than population. The consumption of water per person is for example threefold higher in the US than in China (Hoekstra and Chapagain, 2007). The African continent has at present the same number of inhabitants as Europe and North America together, over 1 billion. But the total ecological footprint of Europeans and Americans is many times higher than that of Africans (Ewing et al., 2010). Less than 18 per cent of the world population is responsible for over 50 per cent of the global carbon dioxide emission (Chakravarty et al., 2009).

If we are therefore concerned about the impact of the world population on the environment, we can do something about it immediately by tackling our own overconsumption: it's something we can control, and it has an immediate effect. In contrast, we know of the population growth that it will continue for some time anyhow, even if people in poor countries would practice much more birth control than we consider possible at present.

A world population that needed some millennia before reaching the number of 1 billion people, but then added some billions more after 1920 in less than a century: the social, cultural, economic and ecological consequences of such an evolution are so complex that they can lead to fear and indifference at the same time. What kind of constructive reaction is possible and productive in view of such an enormous issue?

Firstly, we need to invest in education and health care in Africa and elsewhere, not just as a humanitarian target per se but also because it will encourage the spread of birth control.

Secondly, we need to encourage and support the empowerment of women, not just through education but also through services for reproductive health. This has triple desirable results for demographics: it will lead to more and more effective birth control, which in itself has a positive effect on the survival of children, which in turn again facilitates birth control.

Thirdly, because of the positive population momentum, the world population will certainly continue to grow in absolute figures, even though the yearly growth rate in percentages is already on the decline for several years. The biggest contribution we could make, therefore, with an immediate favourable impact for ourselves and the rest of the world, is to change our consumption pattern and deal with the structural overconsumption of the world's richest countries.

Conclusions

About half of the world's population is affected by food insecurity, obesity/overweight, or micronutrient deficiencies – showing the need for a reform of the current food system. At the same time, food systems are affected by and causing resource scarcity, ecosystem degradation, and climate change.

Recommendations

We believe that to connect the topics of food and nutrition security and food system sustainability, will be necessary to create a coherent narrative for the necessary sustainability transition. By reviewing the linkages between the two concepts, we show that long-term food and nutrition security – in its availability, access, utilization, and stability dimensions – is a central outcome of sustainable food systems.

To deliver food and nutrition security for present and future generations, all system components need to be sustainable, resilient, and efficient. This will require a transformation of food systems at the household, local, national, and global level. While this need is widely recognized, the different strategies to foster sustainability transitions in food systems continue to be debated. Focusing on production efficiency

is central to the sustainable intensification pathway; proponents of sustainable diets suggest that the demand for resource-intensive diets needs to be restrained, and alternative food system activists question food system governance and structures from farm to fork.

We conclude that a transition to sustainable food systems will require moving from an agriculture-centred to a food systems policy and research framework. How to make meaning of the complexity of food systems in a way that allows for democratic action is part of the future research agenda.

Sustainable development

It is widely acknowledged that food systems sustainability must entail long-term food and nutrition security in its availability, access, utilization, and stability dimensions. For food systems to deliver food and nutrition security for present and future generations, all their components need to be sustainable, resilient, and efficient. These linkages between food sustainability and food and nutrition security intersect at global, national, local, and household levels. Different strategies can be pursued to foster sustainability transitions in food systems: efficiency increase (e.g., sustainable intensification), demand restraint (e.g., sustainable diets), and food systems transformation (e.g., alternative food systems). Creating sustainable food systems requires moving from an agriculture-centred to a food system policy and research framework. This will be fundamental to foster the complex and holistic transformation necessary to achieve sustainable food systems, which is, in turn, a prerequisite to achieving sustainable food and nutrition security.
