

Population, food security, nutrition and sustainable development

The question of population growth has long been connected with the topic of food security. Since the 1960s, global growth in agricultural production has outpaced population increase. However, this success has come at high costs: first, food systems are already exceeding some planetary boundaries for key resources and are generating tremendous food loss and waste. Second, current diets are resulting in premature mortality and susceptibility to both chronic and infectious diseases. Third, food systems continue to be linked with vast inequalities, including the persistence of hunger and food insecurity and the struggle for decent livelihoods by workers across food systems. The interrelationships between population, food security, nutrition and sustainable development involve more than a mere sufficiency of calories for a growing population. To ensure a healthy future for both people and planet, the growing population must be fed in a manner that is healthy, equitable and sustainable.

Summary

Population lies at the heart of sustainable development, including efforts to create sustainable and equitable food systems. Population trends, including population growth, urbanization, changing age distributions, changes in health and mortality, rural-urban migration and international migration, are closely linked to many aspects of food systems. The Programme of Action of the International Conference on Population and Development (ICPD) emphasizes individual rights and human development, especially for women and girls, as well as sustainable consumption and production. An evidence-based understanding of the interrelationships between demographic trends and food systems, food security and nutrition, as well as relevant policy responses, will be an essential input to broader international discussions of hunger, food security, nutrition and food systems in 2021, including at the high-level political forum on sustainable development, the United Nations Food Systems Summit and the Nutrition for Growth Summit.

Despite progress in reducing both the number of undernourished persons and the prevalence of undernourishment in recent decades, in 2019, almost 690 million people, or 8.9 per cent of the global population, were undernourished. Furthermore, after more than a decade of steady decline, the number of undernourished people has been rising since 2014 and is now back at levels seen in the period 2008–2009 (see figure I). The stall in global progress against undernourishment has been driven by many factors, including economic slowdowns, armed conflicts, humanitarian emergencies, disease outbreaks, pest infestations and adverse consequences of climate change, including drought and extreme weather events. In general, undernourishment is closely linked with poverty,

inequalities and social exclusion.

The world is not on track to meet globally agreed targets in fighting the multiple burdens of undernutrition, micronutrient deficiencies and overweight/obesity. The global prevalence of stunting (low height for age among children under age 5) in 2019 was 21.3 per cent, or 144 million children affected. Globally, 6.9 per cent of children under age 5 in 2019 suffered from wasting, a sign of severe acute malnutrition, above the global target of less than 5 per cent by 2025. Worldwide in 2016, one in three women of reproductive age (15–49 years) were affected by anaemia. At the same time, 6 per cent of children under age 5, 20.6 per cent of children aged 5–9, 17.3 per cent of adolescents aged 10–19, and 38.9 per cent of adults (aged 18 or older) were overweight .

A key reason why millions of people around the world suffer from hunger, food insecurity and malnutrition is that they cannot afford the cost of healthy diets that would meet their food and nutrient needs. In many instances, the cost of healthy diets exceeds the international poverty line, established at \$1.90 purchasing power parity per day (1.90 \$)-2.9 (height. Eeies and si3hasinT11_1 Tf11 0 0 11 143.6278 177a)T0 Tc 011_1 Tw (-).

In 2020, lockdowns to prevent the spread of COVID-19 disrupted food supply chains and caused an economic recession with massive loss of livelihoods and reduced spending on nutritious

greenhouse gas (GHG) emissions. Food production is a major driver of biodiversity loss and of air and water pollution, deforestation, soil degradation, antibiotic-resistant bacteria and water scarcity. Food loss and waste amount to between 25 and 30 per cent of total food production and account for between 8 and 10 per cent of GHG emissions. Climate change already affects food security through changing precipitation patterns and an increased frequency of extreme events, such as heatwaves, floods and droughts. The impacts are especially severe in low- and middle-income countries, where many people depend on agriculture for their livelihoods and where food security and adaptive capacity are low.

While population growth is an important driver of increased food demand, its impact is amplified by changes in the types and quantities of food demanded per person. As per capita income has increased, diets have changed to include both more calories and more varied and expensive foods. Certain food and food production choices have higher environmental burdens in terms of greenhouse gas emissions (see figure III), water use, land use, energy use and nitrogen and phosphorus applications. Encouraging

consumption of healthier diets that include sustainability considerations would require a range of actions that combine nutrition education campaigns with economic measures and changes to food environments.

Health and sustainability considerations are intertwined with questions about the affordability of diets. In high-income countries, major reductions in consumption of animal source foods are needed in order to meet health and environmental goals. In many low-income countries, however, current consumption of animal source foods is often insufficient to meet micronutrient needs, especially among young children. Thus, a nuanced approach is required in promoting dietary changes in different contexts and locations, with an urgent need for actions throughout the food chain to increase the supply and affordability of nutrient-rich foods, including plant-based proteins, fruits and vegetables.

It is estimated that the livelihoods of about 4.5 billion people globally are tied to food systems. Too often, those working in food systems are themselves affected by poverty and hunger. Transitions from traditional agricultural societies to modern economies dominated by manufacturing and services must ensure expanded off-farm job opportunities while improving employment conditions in the agricultural sector. New agricultural technologies must be evaluated in terms of how well they meet the

