

Assessing prospects for improving food security and nutrition

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In 1999, the official UN estimate for the world population exceeded 6 billion people. Within the first 25 years of the twenty-first century, the world's population will increase by another nearly 2 billion people. Virtually all of that increase will occur in the developing countries. The population will become increasingly urban, with the number of urban dwellers surpassing rural dwellers for the first time in history. Not only will the total demand for food be greater than it has ever been, but the nature of that demand will be different. In many countries, changes have been taking place in dietary habits, as well as in methods of food production, processing and marketing, while international trade in raw commodities and processed foods has also grown substantially.

The increases in world population and urbanization are critical issues in terms of food availability, access to food and nutritional well-being; more people will require more food, more goods, more services and more employment opportunities. With a projected world population of 7.8 billion people by the year 2025, there is considerable concern about our ability to provide for this number of human beings, and to meet their changing demands, in an adequate and sustainable way.

Throughout the second half of the twentieth century, remarkable progress has been made in increasing the quantity and quality of global food supplies and in improving the nutritional status of populations. Yet, one out of five people in the developing countries are unable to meet their basic daily nutritional needs for a healthy and active life. Millions more are exposed to contaminated food and water. Access to sufficient supplies of a variety of safe, good-quality foods is a serious problem in many countries, even where food supplies are adequate at the national level. If progress in meeting the food needs and food demands of the world population continues at the current rate, more than 600 million people will still be undernourished and food insecure in the first quarter of the new millennium.

What needs to be done to accelerate progress and to create the necessary conditions in which all people can secure their right to food and be well nourished in a dignified and sustainable manner? Clearly, the solution depends on the

effective preparation, implementation and coordination of a wide range of agricultural, development and trade policies. These policies must be complemented with initiatives in education, sanitation and health care. Particular attention must be given to the development of and investment in agriculture, so that countries can produce sufficient food to feed their populations, or generate enough income to purchase food on the world market.

CURRENT WORLD SITUATION

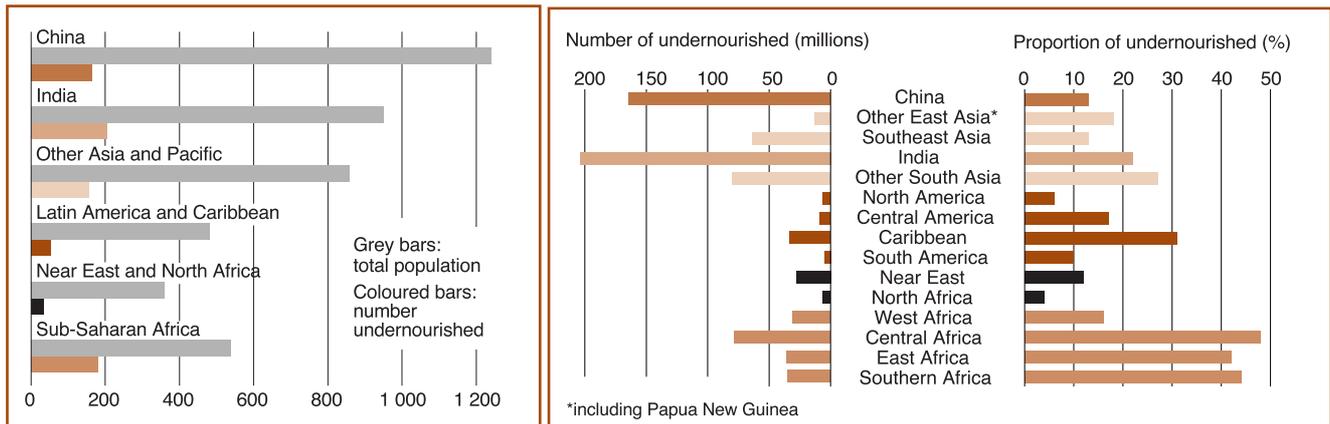
Today, 790 million people in the developing world are chronically undernourished (FAO, 1999a). During seasonal food shortages and in times of famine and social unrest, this number increases. Nearly 13 million children under five years of age die every year from preventable diseases and infections such as measles, diarrhoea, malaria and pneumonia, or from some combination of these. According to some estimates, malnutrition is a factor in one-third of these cases (UNICEF, 1998) (see Table 1).

The overwhelming majority of undernourished people live in Asia and the Pacific (see Figures 1 and 2). This region, which is home to 70 percent of the total population of the developing world, accounts for almost two-thirds (526 million) of the undernourished people. India, alone, has 204 million undernourished people, and the South Asia subregion accounts for more than one-third (284 million) of the world total. Another 30 percent (240 million) live in Southeast and East Asia where, for example, more than 164 million of China's 1.2 billion people are undernourished. In other

TABLE 1
Global situation: major nutrition problems

30% of children under five years of age are underweight
199 million children suffer from protein energy malnutrition
40 million people suffer from vitamin A deficiency
2 billion people are affected by or at risk from iodine deficiency disorders
2 billion people are affected by or at risk from iron deficiency anaemia

Sources: UNDP, 1999; World Bank, 1997.



1
Total population and number of undernourished, by region, 1995-1997 (millions)

2
Number of undernourished by prevalence category and by region, 1995-1997

regions, almost one-quarter of the world's undernourished are in sub-Saharan Africa, which is the region with the highest proportion of its population undernourished. The situation is especially severe in Central, East and southern Africa, where 44 percent of the total population are undernourished (FAO, 1999a).

Malnutrition, in the form of deficiencies of iron, iodine and vitamin A, continues to cause severe illness or death for millions of people worldwide. Many of the most severe health consequences of these three leading micronutrient deficiencies, such as mental retardation and cretinism (iodine deficiency), physical growth retardation and impaired reproductive functions (iron deficiency), and childhood blindness (vitamin A deficiency), could be greatly alleviated by ensuring adequate food supplies and varied diets that provide essential vitamins and minerals. In many developing countries, as much as 50 percent of the population may be affected by such deficiencies. Various other micronutrient deficiencies, caused by lack of zinc, selenium and other trace elements, affect large numbers of people in some parts of the world. Outbreaks of classical deficiency diseases – beriberi, pellagra and scurvy – still occur in refugee camps and among other deprived populations, and rickets affects significant numbers of children (UNICEF, 1998).

At the same time, diet-related non-communicable diseases – such as obesity, cardiovascular diseases and some forms of cancer – are emerging increasingly as public health problems in the industrialized, as well as the developing, countries.

Food supplies. Recent data (1994-1996) indicate that dietary energy supplies (DES) in 17 countries are grossly insufficient (less than 2 000 kcal per person per day), and in another 37 countries the energy supply is quite low (average of 2 000 to 2 299 kcal per person per day). As it is not possible for a

population to meet its basic energy needs from such limited food supplies, hunger and malnutrition are inevitable among many of the people living in these countries. In another 37 countries, the food supply is marginal (2 300 to 2 599 kcal per person per day), indicating very tenuous food security (FAOSTAT). A country's DES is calculated on the basis of data that track the supply and utilization of food within that country and is an estimate of the average daily energy available per person for human consumption from the total food supply during a given period.

Food supply data also indicate a "rich-poor" gap, in both the variety and the overall availability of food. There are significant differences among countries, with the more affluent having a more varied and balanced diet in terms of both macro- and micronutrients. Among the least developed countries, the overall average DES is 2 060 kcal, with three-quarters of that (75 percent) coming from carbohydrates. Among the industrialized countries, DES averages 3 340 kcal

FOOD EMERGENCIES

Food emergencies persist throughout the world, mainly as a result of adverse weather, civil strife and chronic economic problems. Currently, 37 countries face food emergencies of varying degrees, with an increasing number of people requiring food assistance. The latest estimates put cereal food aid shipments in 1998/99 at 9.5 million tonnes, 3 million tonnes above last year, and the highest level since 1993/94 (FAO, 1999b). The situation is particularly serious in sub-Saharan Africa, where severe food supply difficulties are faced continually. Recurrent drought and, in some cases, ongoing civil unrest regularly depress food availability from already unacceptably low levels. The continued civil strife in a number of countries has not only curtailed domestic food production, but has also led to internal displacement and refugees and has hampered efforts to provide relief to those people who are most affected.

per person, just over half (52 percent) of which comes from carbohydrates (FAOSTAT).

Recent FAO assessments indicate that world agricultural production, including both crops and livestock, is slowing down. Among the developing countries as a whole, 1997 agricultural production experienced the lowest increase since 1979, and barely kept pace with population growth. The sharpest declines were in the Near East and North Africa region and sub-Saharan Africa.

In the developed countries, overall agricultural output slowed in 1997, following an expansion in 1996. The most pronounced decline was in the European Union (FAO, 1998). For 1999, world cereal production is not expected to be able to meet anticipated consumption requirements, and global stocks will have to be drawn down (FAO, 1999b).

Changing food patterns and nutrition problems. Income, population movements, education, preferences and lifestyles have a profound effect on dietary patterns. Throughout the world, major shifts are occurring, even in the consumption of basic staples, towards more diversified diets. Milk and livestock products, fruits and vegetables and processed foods are in increasing demand. The demand for meat in developing countries is growing and is expected to rise rapidly, although from very low consumption levels. This will stretch the capacity of existing production and distribution systems, but will provide income growth opportunities as well (Delgado *et al.*, 1999).

In addition to problems in food supply, access to such basic services as education, health facilities, sanitation, clean water, safe housing and jobs – all of which affect health, nutritional status and food security – is seriously limited for millions of people around the world (see Table 2). In developing countries, nearly one in three adults is illiterate, with women comprising nearly two-thirds of the total. Today, one-quarter of the world's people live in severe poverty, and that number is increasing; 1.3 billion people live on less than US\$1 a day. The poorest nations' populations have become increasingly poor and food insecure.

RECENT PROGRESS

This sobering picture of the current situation should not obscure the significant achievements that have been made throughout the twentieth century in the areas of food supplies, nutrition, health and access to basic social services. Many countries, despite the persistence of poverty and underdevelopment, have been remarkably successful in alleviating hunger and malnutrition. Today, the world's population is better fed and healthier, lives longer and is better educated than it was 25 years ago.

TABLE 2
Global situation: undernutrition, basic services and poverty

800 million people lack adequate access to food
158 million children under five years of age are malnourished
800 million people lack adequate access to health services
1.2 billion people lack access to safe water
2 billion people lack sanitation facilities
1 billion people lack adequate shelter
842 million adults are illiterate
1.3 billion people live below the poverty line

Sources: UNDP, 1999; World Bank, 1997.

Globally, the number of undernourished people has declined, from approximately 920 million in 1970, while the world's population has grown by 2 billion over the same period. The proportion of chronically undernourished in developing countries has declined from more than one-third (36 percent) in 1970 to just under one-fifth (19 percent) in 1996 (FAO, 1999a). Child mortality rates have fallen by roughly 50 percent in the last 50 years. Infant mortality rates and, to a lesser extent, maternal mortality rates have also declined in many countries.

Life expectancy in most developing countries is increasing rapidly, mainly as a result of fewer early deaths from infectious diseases. (A dramatic exception to this is seen in the African countries with the highest incidences of AIDS, where the average life expectancy at birth in 1995-2000 is estimated to be ten years less than it would have been in the absence of AIDS.) Between 1960 and 1992, life expectancy increased by 12 years, from 53.2 to 65.6 years. Within the first quarter of the twenty-first century, it is projected that it will increase in developed countries to 75.4 years for men and 81.7 years for women, and in developing countries to 69.4 and 73.3 years for men and women, respectively (UNDP, 1999; UN, 1998; World Bank, 1997).

Poverty, the primary cause of hunger and malnutrition, has been drastically reduced. The number of literate adults has tripled, from approximately 1 billion in 1960 to over 2.7 billion today, while the proportion of children attending primary school has risen to more than three-quarters. The proportion of rural families without access to a safe water supply has fallen from nine-tenths to about one-quarter. In developing countries, about 80 percent of people now have access to health services (although in sub-Saharan Africa 50 percent do not).

Today, world per caput food supplies for direct human consumption are 18 percent above what they were 30 years ago. By the end of the 1980s, roughly 60 percent of the

world's population was living in countries that had more than 2 600 kcal of energy available per person per day. By 1995-1997, global energy supplies had risen to a daily average of 2 761 kcal per person, up from 2 300 kcal per person in the 1960s (FAO, 1998).

FUTURE PROSPECTS

While these encouraging trends are expected to continue, it is not clear that they will occur at rates sufficient to improve the conditions of today's population and to provide adequately for the future population. Over the next decades, population growth will continue to contribute to increased demand for food, adding about 80 million people annually – 97 percent of whom will be in the regions that currently have the lowest levels of per caput daily energy supplies (UN, 1998). More than 200 cities will have over 1 million inhabitants, and 26 megacities will have populations of more than 10 million (UN, 1994). This urbanization will lead to changes in the types of food demanded, in addition to affecting overall supply and distribution patterns. Prospects for global economic growth appear to be favourable, but poverty – which currently afflicts at least 3 billion people – will remain entrenched in many countries, and may increase in some. Gross disparities in income and economic growth exist within and among countries.

Currently, the rate of progress in reducing the number of undernourished is at an average of about 8 million people per year. At this pace, an estimated 628 million people will still be food insecure and undernourished in the year 2015 (FAO, 1999a). In some parts of the world, the number of undernourished people will grow. One person in three in sub-Saharan Africa and one in eight in South Asia will be undernourished. Clearly, the pace is too slow and the progress too uneven to achieve the 1996 World Food Summit's goal of reducing the total number of undernourished to 420 million by the year 2015. At least a doubling of the current average reduction – to about 20 million people per year – is required to meet that target.

STRATEGIES FOR IMPROVEMENT

While ever increasing food supplies are needed to meet the demand created by a growing population, the problems of hunger and malnutrition will not be reduced without lessening the underlying impediments to adequate access to food for all individuals. Poverty, social inequality and lack of education are the primary causes of hunger and malnutrition. Poor and disadvantaged households are the most affected by malnutrition, and poor health related to malnutrition compounds their situation by further reducing already meagre resources and earning capacities, thus increasing their social

and economic problems and, in turn, contributing to further declines in future human, economic and social development.

Prospects for improving the food and nutrition situation in developing countries are likely to depend on the potential of those countries for raising incomes, reducing poverty and improving overall social and economic conditions. Without social and economic programmes to alleviate poverty, society will continue to be caught in a vicious cycle of undernutrition and underdevelopment.

At the World Food Summit, governments and international organizations arrived at a consensus on key strategies for improving food security and nutritional status. They identified the major factors in world food security – constraints on food production, population growth, urbanization rates, changing dietary patterns, conflict and instability, government policy and limited investment in agriculture and research – and agreed to make concerted efforts in each and all of these critical areas (FAO, 1996).

What is needed for improved nutritional well-being and sustainable food security? Better agricultural and farming systems are needed, along with the prevention of food losses and the improvement of food processing and marketing systems. Feeding the world's urban populations will require the coordinated interaction of food producers, transporters, market operators and retail sellers, including stores, street sellers and open-air markets. In addition, every country will need to develop integrated systems that promote and successfully utilize nutrition research, dietetics and nutrition education at all levels, with the broader considerations of production, processing, distribution and access for all.

In most developed countries, and for many middle- and upper-income people in developing countries, the major nutrition problems are related to overconsumption of food, poor dietary patterns and unbalanced diets. In these countries, improving health and nutritional well-being will require the promotion of changes in dietary habits and lifestyles through sound and effective information and education. The challenge among these populations will be to devise policies and programmes in agriculture, education and health that will promote better nutritional status and prevent diet-related non-communicable diseases.

Agricultural policies must be oriented towards the effective and sustainable development of better food supplies, including the production, processing, distribution and effective marketing of all elements of an adequate and nutritionally balanced diet. Health policies must give specific attention to preventive activities, such as immunization, care for vulnerable groups and the effective treatment of diarrhoeal diseases. Both agricultural and health policies must stress the assurance of adequate food quality and safety throughout every segment of

the food chain, from the point of production, through harvesting, storage, processing, preservation and marketing with shared responsibility among primary producers, food handlers and consumers. Educational policies must ensure adequate basic education for all and include appropriate elements of nutrition education in elementary and secondary schools and for the mass media. Overall development policies must ensure adequate access to good-quality and safe foods at affordable prices.

CONCLUSIONS

Over the coming century, there is no reason for us not to have a world free from hunger – a world in which each and every person can be assured of access at all times to the food needed to lead a healthy, active life. There are difficulties and obstacles, but they are not insurmountable. At the global level, the world already produces enough food to feed the people who inhabit it today, and it can produce more. Both the science and the technology exist to produce safe and good-quality foods. The major factors in ensuring world food security are understood and a global commitment and consensus have been reached on key strategies for improving world food supplies and food security for all populations. However, it is likely that hunger and malnutrition, and their devastating consequences on humanity, will continue in the foreseeable future unless deliberate action is taken to ensure an enabling political, social and economic environment; eradicate poverty and inequality; pursue sustainable food, agricultural and rural development policies; ensure that food, agricultural trade and overall trade policies foster food security; meet emergency food requirements in ways that encourage recovery, rehabilitation and development; and promote investment in agriculture and rural development.

Enormous efforts will be needed in all sectors to provide for and protect the welfare and human dignity of the 9 billion people projected for the year 2050. It is a challenge and an obligation for all of us to take the necessary steps to ensure the fundamental right of each and every one of them to be free from hunger. ♦

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Within the next 25 years, the world's population will increase to nearly 8 billion people. All of that increase will occur in the developing countries. The total demand for food will be greater than ever, and the nature of that demand will be different because of changing lifestyles, urbanization and rising incomes. In spite of remarkable progress in reducing malnutrition and increasing food production, one-fifth of the people in developing countries are unable to meet their basic daily nutritional needs. If current trends continue, more than 600 million people will still be undernourished and food insecure in the first quarter of the new millennium.

Clearly, the pace is too slow and the progress too uneven to achieve the 1996 World Food Summit goal of reducing the total number of undernourished to 420 million by the year 2015. At least a doubling of the current average reduction – to about 20 million people per year – is required to meet that target. Deliberate action is needed to ensure an enabling political, social and economic environment; eradicate poverty and inequality; pursue sustainable food, agricultural and rural development policies; ensure that food, agricultural trade and overall trade policies foster food security; meet emergency food requirements in ways that encourage recovery, rehabilitation and development; and promote investment in agriculture and rural development. It is a challenge and an obligation for all of us to take the necessary steps to ensure the fundamental right of each and every one of the world's people to be free from hunger.

Évaluation des perspectives d'amélioration de la sécurité alimentaire et de la nutrition

Dans les 25 prochaines années, la population mondiale atteindra près de 8 milliards d'habitants. La totalité de cette augmentation aura lieu dans les pays en développement. La demande totale de produits alimentaires sera plus importante que jamais et la nature celle-ci sera différente à cause de l'évolution des styles de vie, de l'urbanisation et de l'augmentation des revenus. Malgré un progrès remarquable dans la réduction de la malnutrition et l'augmentation de la production vivrière, une personne sur cinq dans les pays en développement n'est pas en mesure de satisfaire chaque jour ses besoins nutritionnels de base. Si les tendances actuelles se poursuivent, plus de 600 millions de personnes seront encore sous-alimentées et connaîtront l'insécurité alimentaire dans le premier quart du nouveau millénaire.

Manifestement, les progrès sont trop lents et trop inégalement répartis pour atteindre l'objectif du Sommet mondial de l'alimentation en 1996 qui est de ramener à 420 millions le nombre total des personnes sous-alimentées d'ici à 2015. Il faudrait au moins doubler le rythme moyen actuel de réduction – et donc le porter à 20 millions de personnes par an – pour atteindre cet objectif. Des interventions volontaires sont nécessaires pour assurer un environnement politique, social et économique propice; supprimer la pauvreté et l'inégalité; appliquer des politiques alimentaires, agricoles et de développement rural durables; assurer que les politiques alimentaires, du commerce agricole et du commerce en général favorisent la sécurité alimentaire; satisfaire les besoins alimentaires d'urgence de manière à encourager la relève, la reconstruction et le développement; et promouvoir des investissements dans l'agriculture et le développement rural. C'est un défi et une obligation pour nous tous de prendre les mesures nécessaires afin de garantir le droit fondamental de chacun d'être à l'abri de la faim.

Evaluación de las posibilidades de mejorar la seguridad alimentaria y la nutrición

En los próximos 25 años, la población mundial aumentará en unos 8 000 millones de personas. Todo ese incremento tendrá lugar en los países en desarrollo. Habrá una demanda total de alimentos sin precedentes y su índole será diferente, a causa del cambio en los modos de vida, la urbanización y el aumento de los ingresos. A pesar del notable progreso realizado en la disminución de la desnutrición y en el incremento de la producción de alimentos, de cada cinco personas que viven en los países en desarrollo, una no puede satisfacer sus necesidades nutricionales básicas diarias. Si continúan las tendencias actuales, en los primeros 25 años del nuevo milenio, habrá aún más de 600 millones de personas afectadas por la desnutrición y la inseguridad alimentaria.

Es evidente que se progresa lentamente y de forma desigual hacia el logro del objetivo de reducir el número total de personas desnutridas a 420 millones para el año 2015, establecido por la Cumbre Mundial sobre la Alimentación en 1996. A fin de alcanzar ese objetivo, se necesita, como mínimo, duplicar el

promedio actual de reducción de esta cifra haciendo que disminuya en unos 20 millones de personas por año. Hace falta adoptar medidas encaminadas expresamente a garantizar un contexto político, social y económico favorable; erradicar la pobreza y la desigualdad; aplicar políticas de desarrollo alimentario, agrícola y rural sostenible; garantizar que las políticas comerciales generales y las relativas al comercio de productos alimentarios y agrícolas fomenten la seguridad alimentaria; satisfacer las necesidades urgentes de alimentos de modo que se aliente la recuperación, la rehabilitación y el desarrollo, y promover la inversión en la agricultura y el desarrollo rural. Constituye un reto y una obligación para todas las personas tomar las medidas necesarias para garantizar el derecho fundamental a no padecer hambre. ♦