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Towards a hunger-free century

Jacques Diouf

The issue

Let me say from the outset that it is my conviction that there is no reason not to have a hunger-free world some time next century. The world will be able to produce enough food for everyone. It already does so, and it could produce more. However, unless deliberate action is taken at all levels, the chances are that the early years, perhaps even the early decades of the next century, will not be hunger-free and undernutrition will likely continue in the foreseeable future. This perspective is exactly the reason why the World Food Summit had been convened in 1996. The Summit agreed on a very concrete Plan of Action which, if implemented, should make it possible to reduce the numbers of undernourished by at least one-half by no later then the year 2015. We cannot make hunger disappear overnight. The key issue is what we must do in order to make the vision of a hunger-free century come true the soonest possible.

Before discussing this issue in more detail, I would like to make two points: finding sustainable solutions to the problem of hunger requires that we move beyond the traditional, often simplistic, concepts concerning the causes and consequences of hunger. First, it is now a well-accepted perception that increasing the amount of food available is a necessary but not sufficient condition for eliminating hunger. What is equally important is people's ability to secure food and in particular how to achieve the poor's access to food. Second, hunger is not a question of energy (calorie) deficits only. Hunger is a problem because of the human suffering it represents and because of the destructive health effects of malnutrition. Accordingly, if our efforts to eliminate hunger focus on filling stomachs without regard to the nutritional quality of the food consumed, we will not have accomplished much in the way of reducing the effects of hunger and of improving human welfare. The World Food Summit recognized this and the signatories committed themselves to improving year-round access by all 'to sufficient, nutritionally adequate and safe food . . .'[1].

Past and present

Let us start with a brief review of where we stand at present and how we got here. World population has just passed the 6 billion mark. This is twice the population of 1960. It is a remarkable achievement of the global food and agriculture system that this huge increase in world population in a relatively short period went hand in hand with significant progress in food security for most parts of the world. The share of the growing world population with adequate access to food has continued to rise. As a world average, the per-person food availability for direct human consumption grew 19% to 2720 kilocalories per day in the three and a half decades to the mid-nineties, while that of the developing countries grew 32% to 2580 kilocalories per day. Over the same period, India

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managed to increase the average per capita food availability by 17% without resorting to food imports, a gigantic achievement given that its population in this period doubled to 930 million persons.

Although remarkable progress has been made during the last twenty-five years with the share of chronically undernourished persons in total population in developing countries falling by almost half, this progress has been very uneven and bypassed a large number of countries and population groups. Many countries in sub-Saharan Africa and South Asia and assorted countries in other regions either made little progress or suffered outright declines from levels that were grossly inadequate for good nutrition to start with. The result is that undernutrition continues to be widespread, no matter that it has declined as a percentage of the population. Progress in reducing the numbers has been painfully slow, with reductions in East Asia being offset to a large extent by increases in sub-Saharan Africa. Overall, chronic undernutrition still affects some 800 million people.

The bulk of the increases in the consumption of the developing countries was met by increase in their own production. In the case of cereals, their production grew at 3% per annum in the three decades to the mid-1990s and provided 87% of the increase in their consumption. However, in a considerable number of countries, gains in food availability depended to a significant degree on rising food imports, particularly during the 1970s. In that decade, the net imports of cereals of the developing countries, as a whole, tripled following the growth of incomes and foreign exchange earnings of the oil-exporters. This was the case, for example, for most countries in the Near East and North Africa.

However, not all developing countries went through this experience of growing dependence on imports, certainly not the largest ones. The two most populous countries of the world, China and India, illustrate this point. China, widely discussed in recent years as a potential source of huge increases in import demand in the future, had net imports of cereals exceeding only 5% of its aggregate consumption in exceptional years during the period of quantum gains in its domestic demand. More often it was close to 100% self-sufficiency and an occasional net exporter. India, which was dependent on cereal imports for a crucial 14% of its consumption 30 years ago and was widely believed to be on a path of growing dependence on such imports, became virtually 100% self-sufficient and indeed an occasional net exporter. This very Foundation is a fitting reminder of the importance of policies to promote local production in these achievements.

By and large, the traditional cereal exporters (North America, Argentina, Australia and, in more recent years, also Western Europe) coped quite well with spurts in import demand. They will continue to play a role as growing net exporters in the future, joined by Eastern Europe and, potentially in the more distant future, by the former Soviet Union. Currently, some exporters produce below their potential because of inadequate demand for their exports and low world market prices.

This brief review of historical developments would not be complete without a fleeting reference to the fears about an impending New World food crisis expressed as recently as two years ago. There was, indeed a drastic slowdown in world agricultural growth in the first half of the 1990s, when cereals output stagnated and fluctuated widely leading to a fall in per capita production. (In per-person terms, it fell from the peak of 342 kg achieved in the mid-1980s to a low of 311 kg in the 3-year average 1993/95, before recovering to 323 kg in the latest 3-year average 1996/98.) This decline has been interpreted by some as beginning an era when the natural resource and technology constraints have become all of a sudden so much more binding. In reality, this slowdown was due, in the first place to the recent policy changes which led to the slowdown of production growth in the main industrial exporting countries, coinciding with the short-term impacts of unfavourable weather. In parallel, there has been a trend for the growth rate of agricultural production in these countries to decline over time. This latter fact has reflected, above all, the inadequate growth of demand (both domestic and external) for their produce and the associated decline in real prices. In more recent years, the decline reflected also the collapse of production (as well as of consumption and net imports) in the countries of Eastern Europe and the former USSR following the drastic systemic reforms in their economies.

Global production and local food insecurity: A weak link

The preceding discussion suggests that food insecurity for parts of the world has persisted, and in many places it has become worse, for reasons other than shortage of global food production capacity. The secular decline in the real price of food in world markets bears witness to the trend for world food production to run ahead of the growth of effective demand for food. It all goes to demonstrate that global capacity to produce food, and here I underline the term global, is a necessary but far from sufficient condition. However, local production is an entirely different matter. This is because the root cause of food insecurity is poverty. In the majority of countries with high concentrations of poverty, agriculture is the main source of employment and income for large proportions of the population. In such cases, development of agriculture and the rural economy is an indispensable step in the direction of overall economic development and poverty alleviation.

It follows that the widely-held view that the persistence of food insecurity and under-nutrition is not a problem of

production (or production potential) but rather one of distribution (or access, or entitlements), can be both true and false at the same time. It is largely true if it refers to the world as a whole, but this is not a very helpful conclusion. It can be grossly misleading if it induces us to ignore the stark reality that it is often failures to develop agriculture and increase food production locally that lie at the heart of the local food insecurity problem. This underlines the need for the path to less poverty, better food security and eventually freedom from heavy economic dependence on agriculture and often poor agricultural resources, to pass precisely through an initial phase of improved agricultural productivity.

Future prospects

Demography

The title of my lecture requires that I take a longer-term view for at least the key variable of the *problematique*, demography. It will provide the background against which we can consider the challenges of the future. It is heartening to note that apparently the fertility rates in the developing countries are declining faster than the demographers had anticipated only a few years ago. Projected population has been lowered in the successive rounds of the demographic projections. Less than 10 years ago, the most likely world population projection indicated 8.5 billion for 2025 (UN Pop. Assessment of 1992, Medium Variant; UN Pop. Assessment of 1998, Medium Variant). Now it is 7.8 billion for the same year. Moreover, the second quarter of the next century will likely witness an even sharper slowdown in demographic growth with world population projected to be 8.9 billion in 2050.

The contrast with the recent historical record is evident: we are moving from an increase of 140% in the preceding 50 years to one of only 48% in the next 50 years. Other things being equal, we can expect that this deceleration of population growth, in combination with the fact that an ever-growing percentage of world population is adequately fed, will translate into lower growth rates required of world food production compared with the past. (However, not all is rosy in the demographic scene: mortality rates are not falling as fast as anticipated, particularly in sub-Saharan Africa, because of AIDS. Thus, in many places the slower growth of population is far from signaling betterment of people's livelihoods – on the contrary.) Thus, even if resource and technology constraints for food production become more stringent, a balance between demand and supply of food will be easier to achieve because lower growth rates are involved. However, I hasten to add that, for a few decades more, there will be no respite from the need to increase world food output by substantial absolute amounts each year. This is because the absolute increments in world population continue to be very large: at present just under 80 million people are added each year, of which over 90% in the developing countries. High annual increments in excess of 70 million may persist for another 15 to 20 years, but with sharp declines in prospect for the longer-term future, falling to some 30 million by 2050. Demographic growth in sub-Saharan Africa will increasingly dominate the total additions to world population: it will account for over one-half of the world increment by 2050, compared with only one-fifth currently.

Economic development

Unlike demographics, our ability to speculate about future developments in the other key variable of our *problematique*, economic development and poverty does not extend that far into the next century. The most recent (December 1998) assessment of world economic growth prospects by the World Bank extends to only 10 years. It implies that the rate of poverty reduction in the developing countries will be much slower compared with the past, when such reduction was essentially fuelled by the rapid economic growth of East Asia. The growth of this region, excluding China, has been interrupted and the average of the next ten years 1998 to 2007 may be only 2.9% per annum compared with 7.2% per annum in the preceding ten years 1988–97. On the other hand, South Asia may nearly maintain its past growth rate at the respectable level of 5.4%, a prospect that goes some way towards compensating for the loss of poverty reduction momentum emanating from East Asia. At the other extreme, in sub-Saharan Africa the growth rate of per-person income is expected not to exceed 1% per annum.

Food and agriculture

These overall economic and demographic perspectives form the background against which we must assess the prospects for future progress in food, agriculture and food security. The prospects are for undernutrition to decline further (both in absolute and relative terms). This progress however, will be uneven and far from sufficient. For example, the combination of high population and low economic growth foreseen for sub-Saharan Africa may translate into further increases in the incidence of undernutrition in this region. The recent crisis that hit several economies of East and South-east Asia will also take its toll. The rapid pace of progress of this region in the recent past, particularly in diet diversification towards livestock products, is being interrupted and some countries (e.g. Indonesia) are suffering outright reversals. In parallel, South Asia starts with a large backlog of

poverty. Even under optimistic economic growth assumptions, it will take a long time for it to be reduced significantly.

However, let me emphasize that this would be the outcome of a 'business as usual' scenario which was described in the technical documentation considered by the World Food Summit. The projection for 2010 showed that undernutrition in the developing countries would be reduced, but only marginally, to 680 million persons. We made these projections six years ago. Developments to date suggest that they are gradually coming true.

Under this scenario, as in the past, local production increases would be by far the main source of growth in the food supplies of developing countries, but the growth of production would be slower than in the past. (For example, their cereals production may grow at 2.1% per annum in the two decades to 2010, the period of our projections, down from 3.2% per annum in the preceding two decades. The actual outcome to 1998 has been tracking fairly closely this projection.) The net food imports of the developing countries from the rest of the world should continue to grow, though not at very high rates. Their net imports of cereals have been in the range 100 to 110 million tons per annum in recent years. They may grow to about 160 million tons by 2010, a level which could be easily met by the potential of the major exporters to increase production for export.

The resource and technology combinations that would underpin the further growth in production would be broadly along past patterns: much of the increase would continue to come from increased yields, only a minor part from land expansion. In achieving this, and at the same time increasing yield stability, product quality and food safety, without relying on excessive use of agro-chemicals, appropriate use of both modern integrated pest management and biotechnology would play an increasing role. Generally, yield growth rates would be lower than those achieved in the past during the heyday of the spread of the green revolution technology. Notwithstanding, the predominant weight of contributions of yield increases to the growth of agricultural production, land expansion would continue to be a significant factor in those developing countries and regions where the potential for expansion exists (several countries in sub-Saharan Africa, Latin America and South-east Asia) and is favoured by the prevailing farming systems and more general demographic and socioeconomic conditions.

Speaking about land, one of the frequently asked questions in the debates on world food futures and sustainability is how much unused land there is that could be used to produce food to meet the needs of the growing population. The rough and ready answer is: plenty, but very unevenly distributed in relation to the distribution of the population on the surface of the planet. It is mostly to be found in a number of countries in the regions I just mentioned. Much of it suffers from constraints, e.g. ecological fragility, low fertility, toxicity, high incidence of disease, lack of infrastructure. Thus, it cannot be considered to be a resource that is usable for food production. In addition, land which can produce food is also an input into the production of other services to humanity (e.g. those provided by forests) so that, again, its opportunity cost can be high and it should not be considered as a ready and cost-less resource available for food production. Consideration of trade-offs between more food (or improved food security) and other services of land must always be an integral part of any decision-making calculus.

What needs to be done and what is being done?

I now turn to the main question underlying the title of my talk: how do we ensure that all people get entitlements or access to good quality, safe and nutritious food? The Plan of Action of the World Food Summit is a comprehensive compendium of what is required to deviate from the 'business-as-usual' scenario and to mitigate the undesirable outcomes of such a scenario. I need not repeat here the long list of things to do, but I will briefly discuss a few areas of work into which FAO has put major efforts and to which I attach particular importance.

As a more general observation, I note that poverty-reducing economic growth, and all that goes to make it happen, e.g. debt relief, is a must. But growth is not enough. Policies are also required in both the economic and social areas that enhance the employment and income earning opportunities of the poor, such as access to land, credit, education, and health services. And, of course, social policy that ensures a minimum safety net for those falling behind is an indispensable component of any effort to cope with the problems of poverty and hunger.

The historical experience suggests that failure to achieve poverty reducing economic growth at rates sufficient to solve the problem can often be attributed to the neglect of agriculture. Reversing such neglect and promoting broader rural development holds promise of rich dividends in terms of reduced poverty and enhanced food security, particularly in countries with high proportions of population depending on agriculture for employment and income.

For policy makers to be able to formulate and implement policies dealing with chronic food insecurity, it is crucial to have accurate and timely information as to the who, where and why questions concerning food insecure and vulnerable persons. To achieve this, FAO, in pursuance of commitment 2 of the World Food Summit Plan of Action, together with 20 agencies and organizations, is developing a Food Insecurity and Vulnerability Information and Mapping System (FIVIMS). This is meant to be a framework within which, both at national and international level, the required information can be gathered and periodically updated.

It is important to realize that in most poor, food-insecure areas and countries the two greatest potential resources available to address the problems of hunger and malnutrition are the local people and the agricultural productivity of the land and waters. To make sustainable improvements, investments will be needed in both of these resources. Investing in people will need to come in the form of education, clean water and sanitation, health and social services, and when needed, direct food and nutrition support. Such investments are essential if the corresponding investments in agriculture and its productive sub-sectors are to pay off: hungry and malnourished population can neither work, learn nor prosper. One of the key lessons emerging from successful attempts to accelerate progress in overcoming hunger is the need to take into account the human dimensions of the problem by helping people help themselves, and this is to what our common efforts must be directed. The well-worn proverb: 'Give a man a fish and you feed him for a day; teach him to fish and you feed him for a lifetime', is still very true. We need to find out how to help people secure their own right to food.

This approach is the main guiding principle of FAO's advisory and technical assistance activities. Its Special Programme for Food Security is the practical expression of this orientation. The programme is now operational in 39 Low Income Food Deficit Countries and under formulation in a further 34 such countries. The overall objective of the Special Programme is to increase agricultural production and to improve access to food through a multidisciplinary and participatory approach, preserving the environment and ensuring social equity. It consists of an initial first phase of about three years to be implemented in a number of demonstration sites and focusing on four interrelated components (small-scale water harvesting, irrigation and drainage systems to secure production against the vagaries of the climate; intensification of sustainable plant production systems; diversification of production, including aqua-culture, artisanal fisheries and small animal production, and analysis of socioeconomic constraints). At least three to four demonstration sites are selected in urban and peri-urban agricultural areas.

Building upon the results of the first phase, a second phase follows to implement a food security and agricultural sector policy programme to lift macro-level socio-economic constraints and provide an environment favourable to agricultural production, processing, marketing, trade and access to food. It also includes an agricultural investment component of three years, adjusted annually to overcome the physical constraints, including infrastructure and the preparation of feasibility studies of bankable projects to increase the private and public financing of agricultural activities and services.

I would also mention that as part of the World Food Summit follow-up, FAO assisted some 150 countries in the preparation of draft Strategies for Agricultural Development towards 2010 which should provide the background for the formulation of sound policies and programmes. These national strategy notes now form the basis for a series of strategies for regional economic groupings of countries, which the organization is currently preparing.

FAO also promotes technical and economic co-operation among developing countries. It is in this context that the organization launched a new form of South–South Cooperation in support of the Special Programme for Food Security. Under this initiative, more advanced developing countries are providing technical assistance to countries where the Special Programme is operational by assigning about one hundred experts and technicians within the rural communities to assist them in their food production activities for about two to three years. The costs of this programme are shared among the cooperating country, the host country and FAO. A large number of countries are committed to participate in this programme and I am pleased to mention that Indian experts and technicians are ready to fly to Eritrea as soon as the security situation permits and that India is considering providing assistance to four other countries.

Wider issues of international cooperation come also into play. As you know, this year will see the resumption of Multilateral Trade Negotiations under the auspices of the WTO. Agriculture is a mandated subject in these negotiations. It is a challenge and an opportunity for the developing countries and the broader international community to reform trade-related policies in line with the imperatives of improving food security. The concerns of the least developed and net food importing developing countries should be fully taken into account. Reforms must favour their agricultural development and not undermine their efforts to improve food security. Assisting these countries in preparing for the Multilateral Trade Negotiations has been, and continues to be, a major focus of FAO's technical assistance work, in line with the Plan of Action of the World Food Summit.

Finally, the world will unfortunately continue to be confronted with natural disasters and man-made emergencies. In this field, FAO gives priority to prevention and preparedness activities. But once an emergency occurs, the organization will continue to provide assistance in the assessment of food supply situation and the evaluation of food aid requirements as well as in the identification and provision of emergency requirements for the rehabilitation of the agricultural productive capacity.

Conclusions

I conclude my brief exposé of what the medium-term future holds by summarizing the broad outlook: in the

early decades of the next century world agriculture will have to continue performing at rates which, although lower than in the past in terms of growth rates, will still be considerable. For the world as a whole, there is probably sufficient resource and technology potential to produce as much food as required to not only meet the growth of effective demand but also eliminate hunger, if we only found a way to ensure access of the poor to this potential plenty. This is of course assuming that our efforts to invest in agriculture, in particular in agricultural research, resource conservation and more efficient use of water, will continue unabated. For the longer-term future, we can foresee that pressures for ever-growing production will tend to be attenuated, because of the rather significant deceleration in the growth of demand. The latter will come about from the deceleration of population growth and the increase in the share of world population with sufficient food consumption levels, beyond which there is reduced scope for further increases in per capita consumption.

As I said at the beginning, the next century will not be hunger-free unless we do something to achieve the objective of access to food by all as early as possible in the century. The Plan of Action of the World Food Summit provides the necessary guidelines. Its objective of halving undernutrition no later than 2015, must be pursued vigorously and given operational expression in the policies and programmes of all: national governments, the international community and the organizations of civil society.

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MEETINGS/SYMPOSIA/SEMINARS

Winter Institute of Foundations of Quantum Theory and Quantum Optics

Date: 1–13 January 2000
Place: Calcutta

Topics include: Geometric phases and generalized coherent states; Mesoscopic physics and quantum chaos; New interpretations, models, theories and extensions of quantum mechanics; Quantum measurement theories, quantum computation and communication; Experimental tests of foundations of quantum theory.

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International Conference on Laser Materials and Devices (ICLMD 99)

Date: 8–10 December 1999
Place: Delhi, India

Topics include: Laser materials; Nonlinear and special optoelectronic materials; Special techniques relevant to processing of laser materials and components; Laser and electro-optic devices; Laser instruments and systems.

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Symposium on Biotechnology of Plant Protection: Application and Technology Development

Date: 25–27 February 2000
Place: Varanasi

Topics include: All aspects of basic and applied mycology and plant pathology relevant to plant protection; Population biology, ecology and epidemiology and plant pathogens; Plant–pathogen interaction; microbe–microbe interaction; Basic and biotechnological aspects of biological control and strategies to implement IPM; Plant defense mechanisms; Beneficial microorganisms and plant disease control; Post-harvest diseases and protection; Seed pathology, forest pathology; Technology development and quality control; New practical options; Plant protection in the next millennium; Application of molecular biology in plant protection; Biochemical and molecular tools for detection/identification of plant pathogens.

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