



Rural Development, Agriculture, and Food Security

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The fundamental challenge the world faces is to ensure that the hundreds of millions of families living in poverty have access to enough food to maintain a healthy life.

FOSTERING the growth of national and global food supplies is necessary for eliminating hunger and reducing poverty, but it is not enough. Today, even in the midst of sufficient global food supplies, 800 million people are hungry because they cannot afford to buy the food they need for a healthy life. More than 2 billion people are at risk from micronutrient deficiencies (of, for example, vitamin A, iodine, and iron), and more than 1 billion are actually disabled by them—harmed by mental retardation, learning problems, and blindness. Ironically, nearly 75 percent of poor and undernourished people live in rural areas where food is grown.

Reducing poverty and hunger will require encouragement of rural development in general and a prosperous small-holder private agricultural economy in particular. Encouraging rural development is the best way to help poor farmers and rural dwellers become more productive and improve their living standards. It is also critical to increasing national and global food supplies. Further, rural development

can contribute significantly to improved management of natural resources and the environment.

Assuring food security

The job of assuring food security is large and complex. Action needs to be taken simultaneously at the household, national, and global levels to achieve the following goals:

Increase agricultural output worldwide. Over the next 30 years, developing countries' food needs could nearly double because of population growth (see chart) and modest income growth.

Reduce poverty. The best way to reduce poverty and hunger is through economic growth, and, indeed, few countries have significantly reduced poverty without it. For most developing countries, improved agricultural productivity can be the engine of non-agricultural growth.

Improve health and nutrition. Eliminating hunger requires targeted nutrition, health, and food programs. Increasing family income alone does not ensure that people will consume the right kind of nutrients in the right quantities at the right times to maintain their health and productivity. Today, most households could prevent child malnutrition if they used existing resources optimally, making small changes in their health and nutrition behavior. Improving diets often requires nutrition counseling, prenatal nutrition services, and public health interventions. In some places, it also requires investments to correct micronutrient deficiencies. These often cost little but

generate large returns. For example, in a country of 50 million people, adding iron, iodine, vitamin A, and other vitamins and minerals to food and water supplies would cost about \$25 million per year—and yield a return 40 times the cost (World Bank, 1994). Thus, although general poverty, infrastructure, and agriculture programs will improve nutrition eventually, direct actions are likely to have faster and greater impacts.

The challenge of assuring food security is significant and needs attention now. It cannot be met without renewed commitment by scientists, farmers, national policymakers, international donors, and the World Bank to increase agricultural productivity through research and technology development and to implement policies and programs that will ensure that the poor and hungry benefit from increasing agricultural productivity.

Past progress and outlook

During the past twenty-five years, substantial progress has been made in improving the living standards of people in the developing world. The proportion of the world's people living in poverty has declined; per capita incomes have doubled; infant mortality has fallen by half; and average life expectancy has increased by ten years since the 1970s. In addition, global agricultural productivity has risen sharply; total calorie supplies per person have risen by 30 percent; and real food prices have fallen by more than 50 percent.

The increase in productivity has allowed consumers to improve their diets in terms

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of both calories consumed and the variety of foods eaten. Between 1961 and 1992, average calories available in developing countries rose from about 1,925 per person per day to about 2,540 per person per day, which is higher than the minimum daily requirement of 2,200–2,300 specified by the United Nations Food and Agriculture Organization (FAO).

This increase in per capita supplies came about although world population nearly doubled over the same period. More than 80 percent of people in developing countries now have adequate diets, compared with 64 percent in 1970. The number of undernourished people has also fallen, from about 940 million in 1970 to 800 million in 1996.

But not everyone has benefited. Despite these impressive achievements, rising populations and unequal participation in growth have left 1.3 billion people in the world struggling to survive on the equivalent of less than a dollar a day, and their number continues to increase. About 15 percent of the world's population and about 20 percent of the developing world's population are undernourished or malnourished. Among them are 195 million children under the age of 5 who are not receiving the nutrition they need to fully develop mentally and physically (Food and Agriculture Organization/World Health Organization, 1992).

Who are the hungry? Ironically, almost three-quarters of poor and hungry people live in rural areas where food is grown. They include the landless, those living in poor nations, and those living in other nations in areas with poor agricultural potential or which are environmentally fragile. The remaining one-quarter of the poor and hungry are unemployed or

underemployed urban dwellers who live on less than a dollar a day.

Both the absolute numbers and the proportion of poor people living in cities are expected to grow rapidly: by early in the next century, the number of urban poor will likely exceed the number of rural poor, as



people continue to leave rural areas to pursue higher-paying urban and industrial jobs. These people will be at great risk of undernutrition and malnutrition unless food is abundant and affordable in their countries. But for now, poverty remains a predominantly rural issue.

The poor and hungry are distributed unequally across regions and countries of the world. Most of them live in Asia and sub-Saharan Africa. Two-thirds of all undernourished people live in Asia, and

the Indian subcontinent alone contains almost one-half of the world's hungry people. Africa, however, has the greatest proportion of people who are undernourished—currently about one-third of the total population—and their absolute numbers are growing (Dyson, 1996). Countries at war are especially likely to have large numbers of poor and hungry people.

Countries with large numbers of undernourished people often have low agricultural productivity. For example, grain output is low in sub-Saharan Africa—standing at about 138 kilograms per person, compared with a global average output of 360 kilograms per person. The output of grains is also below average in South Asia (where rice and wheat are the main crops), averaging about 225 kilograms per person. By contrast, North America and Australia produce about 1,250 kilograms of grain per person, and Europe and the countries of the former Soviet Union produce about 625 kilograms per person (Dyson, 1996). Increasing the output of grains in the world's poorest countries would make a major contribution to reducing world hunger and improving food security. This is so because, despite extensive international trade in grain, 90 percent of the world's grain is consumed in the country where it is produced.

Outlook for world agriculture.

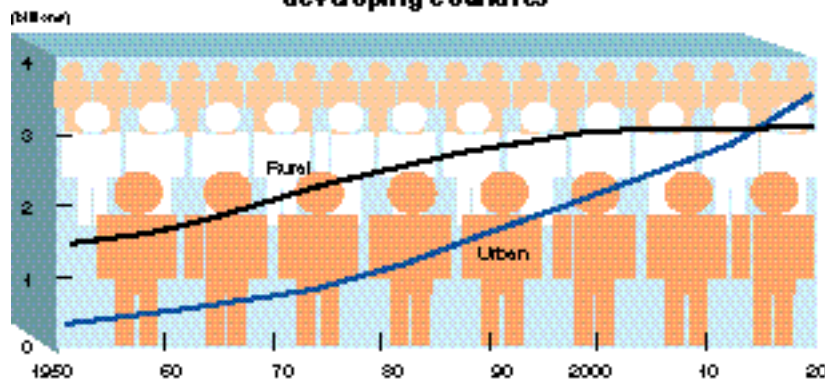
Future demand for food will be driven by population growth and rising incomes; the latter increase the demand for meat, vegetables, fruits, and grains (for animal feed). The population of the world is expected to exceed 8 billion by 2025, an increase of 2.5 billion. Given modest income growth, food needs in developing countries could nearly double.

In the future, agricultural growth must come primarily from rising biological yields rather than from expanding cultivated areas or intensifying agriculture through irrigation, because fertile land and water are becoming increasingly scarce. Most fertile lands are already under cultivation, and most areas suitable for irrigation have already been exploited. And with population growth and urban expansion, there is rising competition for water from urban and industrial users.

World Bank Group's mandate

Improved strategies, policies, investments, and programs for agricultural and rural development are essential if developing countries are to double their agricultural output and eradicate hunger over the next 30 years. The World Bank Group

Urban and rural populations of developing countries



Source: International Food Policy Research Institute, using data from United Nations, 1993, *World Population Prospects* (New York).
Note: Data for 1990–2020 are medium-variant projections.

(consisting of the International Bank for Reconstruction and Development, the International Development Association, the International Finance Corporation, and the Multilateral Investment Guarantee Agency) is working to increase agricultural productivity and reduce poverty and hunger by revitalizing rural development through a wide variety of measures and programs. (The World Bank has recently prepared a detailed strategy and action plan for rural development, entitled "Rural Development: From Vision to Action" (Washington, 1996).) These fall into four broad (but overlapping) categories: encouraging appropriate policies and strategies, enhancing supplies of food through intensification of production systems and through sound natural resources management, improving access to food, and improving the utilization of food.

Appropriate policies

Developing countries need to implement sound and stable macroeconomic and sector policies. They are increasingly recognizing that heavy government interference in the productive activities of their agricultural economies has inhibited agricultural growth and distorted the allocation of resources. Through analytical work, policy dialogue, and financial support, the Bank is assisting countries in liberalizing prices of farm commodities and inputs, reforming public enterprises, liberalizing agricultural trade, and changing foreign exchange and taxation regimes which discriminate against agriculture.

Even if world food supplies grow dramatically over the next 30 years, fast-growing countries such as China could become major importers. If they and other countries are to refrain from costly food-self-sufficiency policies, they must be guaranteed stable, long-term access to world markets. Reducing the import restrictions of the rich industrial countries is also critical to increasing the demand for the agricultural products of developing countries, which can help considerably in generating employment and reducing poverty there. The World Bank is actively promoting greater access to rich country markets for the agricultural and agro-industrial products of its client countries and is supporting actions in the World Trade Organization to achieve this objective.

Enhancing food supplies

Encouraging rapid technological change. Implementing rapid technological change on the hundreds of millions of

farms in the developing world is essential for agricultural and income growth. Investing in the research necessary to stimulate technological change in agriculture is a high priority for the Bank. Each year, it lends more than \$220 million to national agricultural research institutes, in addition to contributing more than \$45 million per year to the Consultative Group on International Agricultural Research (CGIAR). The Bank is supporting research on crops and processes that are of little interest to the private sector, but which could have a large impact on rural poverty and hunger; these include subsistence crops and crops that are staples in poor regions, such as maize, cassava, sweet potato, millet, and sorghum. It is also working with the international community to ensure that the poorest communities in developing countries will be able to benefit from the breakthroughs in technology that are increasingly being generated and patented by the private sector.

Increasing the efficiency of irrigation. Irrigation accounts for 70 percent of the fresh water used by man and has contributed greatly to the production increases seen during the twentieth century. However, agriculture is increasingly competing for water with urban and industrial users. There will be sufficient water for all only if agriculture—and other sectors—greatly improve the efficiency of their water use. This will require improving incentives to water users by establishing water markets, clarifying water rights, and pricing water to reflect its true value. The Bank is assisting countries to improve the efficiency of irrigation systems as part of their comprehensive water resources planning.

Improving natural resource management. The World Bank is involved in many projects that support the intensification of agriculture and, at the same time, encourage better natural resources management. A community-based approach to resource allocation, enforcement, and maintenance has proven successful in such diverse locations as Burkina Faso and northeast Brazil; it is now being adopted in Egypt and is being incorporated into many new agricultural development projects elsewhere. For example, social forestry projects are under way in Asia and Africa. And a major watershed rehabilitation project is under way in the Loess plains in China: slope lands are being terraced; orchards and grasslands are being planted; and sediment control dams are being built. This work has enabled farmers to double their crop output while significantly reducing soil erosion.

Improving access to food

Strengthening markets and agribusinesses. The support of markets and agribusiness has received insufficient attention in the World Bank's assistance to agriculture and rural development, with the exception of assistance provided by the International Finance Corporation. This is now changing, as the power of markets to efficiently allocate resources—and reduce price margins between consumers and farmers—becomes increasingly accepted. Where the state either has withdrawn or is withdrawing from marketing and input supply—as in Eastern Europe and Central Asia, Africa, and Latin America—the Bank is assisting governments both to develop the legal, financial, and institutional frameworks that are necessary for competitive markets to work and to establish information systems for collecting and disseminating vital data.

Providing education and health services to both boys and girls.

Providing education and health services to both girls and boys is one of the key ways to reduce poverty and hunger. There is substantial evidence that individuals' education is closely linked to their incomes and that improved education contributes to national economic growth. Education and health services are especially important for women, who have a major role to play in growing crops and in reducing hunger. Better-educated and healthier women are much more productive and earn higher incomes. Since women often use their additional income on investments in family welfare, increases in their incomes are likely to have greater immediate and long-term impacts on poverty and hunger than equal increases in men's incomes. Education for girls also lowers fertility rates and improves environmental management.

Investing in infrastructure. When there are adequate communications networks, roads, storage facilities, and supplies of electricity, farmers can obtain the information they need to grow the most profitable crops, store them, move them to market, and receive the best price for them. Today, up to 15 percent of production is lost between farm gates and consumers owing to poor roads and storage facilities, reducing farmers' incomes and raising urban consumers' food costs. As cities grow, the need for infrastructure becomes all the more important. Helping countries build the infrastructures they need has long been a core World Bank activity, and it continues to be so today. Along with providing investment capital for infrastructure, the Bank is

helping countries develop rural infrastructure strategies that include clearly articulated priorities and are founded on strong analysis of costs and benefits. It is also helping countries design new approaches to financing that utilize private sector and local resources.

Fostering broad participation. Experience shows that development projects are much more likely to reflect the affected community's priorities, reach their goals, and be sustainable when they are designed and executed with a high degree of influence by local stakeholders. The Bank is assisting communities and local governments to find ways to finance infrastructure and services using their own revenues and fiscal-transfer mechanisms, develop their legal authority, strengthen their administrative and technical competence, and develop participatory mechanisms for assessing projects.

Improving food utilization

Integrating household food security and nutrition policy into rural development operations. Working with its partners, the World Bank is deeply

engaged in supporting efforts to reduce hunger and malnutrition. It has made particularly strong progress in helping developing countries improve their poor populations' nutrition, for which analytical work and financial support have expanded rapidly over the past several years. And it is now systematically integrating food-security concerns into agricultural policy dialogue and reform, and incorporating nutrition projects into Bank operations in other sectors, such as agriculture, education, adjustment, and safety net operations and sector investment loans.

Conclusions

Thirty years from now, the world will have 2.5 billion more people to feed, and most of them will live in developing countries. Failure to recognize this fundamental reality and increase efforts now will have serious consequences, particularly since there is at least a twenty-year time lag between initiating strategic research and enjoying significantly increased yields in farmers' fields.

Ensuring food for all poses enormous technological, economic, and political

challenges. They cannot be met unless both rural well-being in general and a prosperous private agriculture for small and medium-sized holders in particular are nurtured and improved. They will require steady improvement in national and international policies, institutions, and public expenditures, as well as broadened and consistent international commitment and financial support. If we take the necessary steps now, we can look forward to a world in which everyone has enough to eat. **F&D**

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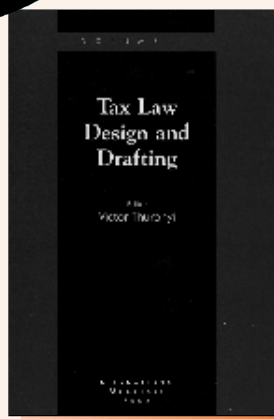
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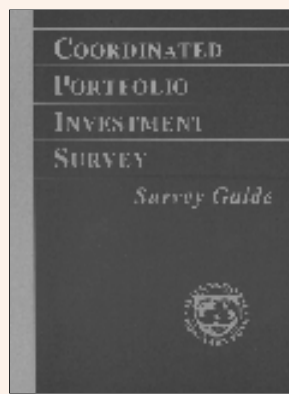
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