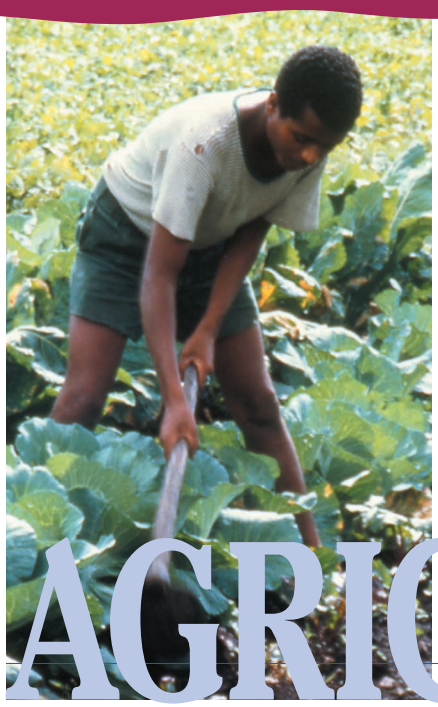


Nutrition and Agriculture

ARNE OSHAUG AND LAWRENCE HADDAD

AGRICULTURE

Brief 6 of 12

Agriculture and nutrition are linked in many ways. People have long recognized the most obvious connection—food security is one of the three pillars of good nutrition, along with good care and good health. In 1945 concerns about recurring famines and malnutrition led to the establishment of the Food and Agriculture Organization of the United Nations (FAO). The FAO was mandated to raise levels of nutrition and standards of living, and improving agricultural productivity was an important means to this end. Today, agriculture is still seen as one of the foundations of national development.

Over the past 55 years evidence has mounted showing that agricultural productivity is a powerful force for poverty reduction and economic development. In recent decades, however, a wide range of factors has hampered growth in agricultural productivity in the least-developed areas. These factors include underinvestment in agricultural research and development, irrigation, rural infrastructure, and education, as well as the inability of poor farmers to get access to rich-consumer markets, whether in the developed or developing worlds.

The pathways through which agriculture affects nutrition are well documented. Improved nutrition in turn supports the agriculture sector by enhancing rural people's ability to undertake the strenuous tasks involved in small-scale farming. The links between improved nutrition status and improved work capacity and productivity are clear.

Yet to enhance agricultural productivity and incomes, the agriculture sector must pay even more attention to nutrition. This increased attention to nutrition by the agriculture sector ensures a greater focus on the consumer, which is good for agriculture from both a public goods standpoint and a private goods standpoint.

Raising Agriculture's Impact on Poverty and Malnutrition

As the conceptual understanding of food security and nutrition has deepened beyond food production, the agriculture sector has come under increased pressure from governments in the north and south to demonstrate its impact not only on food output, but also on poverty and malnutrition. If agriculture can increase its antipoverty and nutrition benefits, it will likely garner greater support as an important public good. This increased support is likely to lead to significant private returns to small-scale farming via technology spillovers from improved research and development.

Agriculture has already had a strong impact on poverty and malnutrition. The efficient, low-cost production of

food staples such as cereals is obviously in the interest of the poor. Because food staples constitute such a large percentage of people's food purchases and overall expenditures, any reduction in their market price will result in increases in disposable income. The largest relative increases in income will accrue to those who spend the highest percentage of their income on food—typically the poorest—who can use these increases to purchase a greater range of foods. In high-poverty areas, there will be a stronger demand for low-priced food staples from those households that are net food consumers. Some of the income generated by efficient staple crop farmers will be plowed back into the local nonfarm economy, which is of benefit to the wider community of consumers.

But is the nutrition impact of lower staple food prices overcome by higher prices for nonstaple foods? Some countries have seen rises in the real prices of vegetables, fruits, and animal products over the past 25 years. These foods are particularly rich in micronutrients and other substances that are crucial to good health and human development. Are these price increases the result of insufficient investment in agricultural research and development in these products? Or are they the result of some other supply side constraint? In the absence of a nutrition lens, these price trends might not be thought significant. In the presence of a nutrition lens, agricultural practices and policies can be examined to determine if agriculture can have a larger role in reducing micronutrient deficiencies and malnutrition.

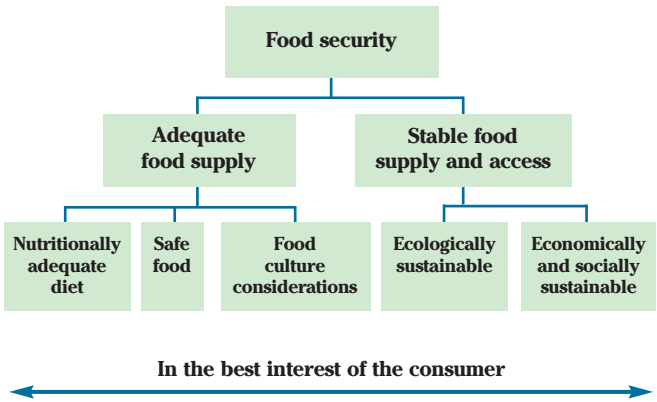
Technological changes that enhance the nutritional content of food can also be of benefit to the poor. However, much will depend on whether improved foods retain other consumption traits (storage, cooking, taste, etc) that are important to the poor, and whether they are more costly or not.

Increasing Farmers' Ability to Meet Changing Consumer Demands

By seeking closer collaboration with nutrition, agriculture can gain new insights into the needs of its primary customer, the consumer, whether poor or rich. This approach is, of course, consistent with the private returns that motivate farmers. The 1996 World Food Summit definition of food security creates the space for increased collaboration between agriculture and nutrition. The definition is: "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."

The definition also strengthens the focus on the needs of consumers across different dimensions: cultural (preferences), health (nutritionally adequate diet and safe food), and sustainability. This demand-driven perspective can be visualized as shown in Figure 1.

FIGURE 1 — FOOD SECURITY: A COMMON GOAL FOR AGRICULTURE AND NUTRITION



Source: Definition of food security as used by the Royal Norwegian Ministry of Agriculture, adapted from A. Oshaug, W. B. Eide, and A. Eide, Food, nutrition, and human rights, conference paper for World Health Organization/Food and Agriculture Organization of the United Nations (WHO/FAO) International Conference for Nutrition, Nordic School of Nutrition/Norwegian Institute of Human Rights, University of Oslo, 1992.

But consumers also demand variety in their diets. Driven by various imperatives—taste, prestige, personal identity, nutrition, and safety—consumers want access to a wide range of foods. If farmers are to sustain their ability to generate income for themselves and to increase disposable income in the wider urban and rural economies, they will need to respond to these demands in a timely way. A nutrition focus will help them to do that.

As people's incomes go up, their demand for fruits, vegetables, and animal products increases dramatically. This rise in demand is due to a combination of income growth and shifts in taste preferences that accompany aging and increased urbanization. At low levels of consumption, increased intake of these products, which are rich in micronutrients, is consistent with improved nutrition status. Deficiencies in various minerals and vitamins, such as iron, iodine, folic acid, and vitamins A and D, are widespread in poor areas, and the consequences of these deficits are especially serious for infants, children, and women. The nutrition community should be seen as an ally of agriculture in indirectly stimulating demand for variety in the diet by directly stimulating the demand for micronutrient-rich foods.

As incomes increase, high consumption of fats, sugars, and salts becomes an important risk factor associated with noncommunicable diseases such as coronary heart disease, diabetes, hypertension, and some forms of cancer. The demand for dairy products low in fat, leaner meat cuts, fresher fruits and vegetables, and more unsaturated oils will increase. Again, the nutrition community should act as a leading-edge ally by forecasting trends in consumer preferences rather than as an enemy in the battle to meet changing consumer preferences.

Consumers at both low and high income levels demand food safety. Food safety standards have the potential to be an insurmountable barrier to connecting small farmers with wealthier consumers, whether in large domestic markets in the developing world or in the developed world. Developing and complying with food safety standards (including biosafety standards for genetically modified crops) requires resources and capacity. The agriculture community should tap the nutrition community's ability to develop food safety standards that are sensible given the other dimensions of a country's food security needs.

Consumers also have preferences for some foods that are produced locally. This preference is often explained not by economics, but by culture. The agriculture community must be aware of these preferences if it is to maximize its connection to consumers and its profits. The nutrition community has longstanding expertise in mapping the diversity of available indigenous foods, and the agriculture community should develop partnerships to tap into that expertise.

The issue of the sustainability of a nutritionally adequate food supply often comes up in the context of indigenous systems, but it is applicable to all aspects of food security demanded by consumers. Consumers do not want to feel vulnerable to the loss of such a food supply, and small farmers do not want to be vulnerable to an exhaustion of the source of their livelihoods. Both groups have incentives to work together to improve the sustainability of food systems that meet food preferences.

Increasing Collaboration between Agriculture and Nutrition

If the potential payoffs to collaboration are large—improved impact on nutrition and improved profits for farmers—why are there so few examples of effective collaboration? Part of the problem lies with the fact that although nutrition cuts across sectors, it is

often placed within a line ministry—typically the Ministry of Health. In the absence of strong incentives to develop cross-ministerial policies and programs for food and nutrition security, sector-specific homes for nutrition will end up favoring one pillar of good nutrition at the expense of the others. This tendency to "departmentalize" nutrition is reinforced by the structures of external funding agencies, which often mirror the departments of government, and by training programs in schools, universities, and vocational settings. A monodisciplinary approach is fixed in place by conceptual frameworks that equate food production with food security or equate nutrition with food security, sanitation, or behavior change rather than emphasizing the interaction of food, health, and care—all pillars of good nutrition. Most institutions have clearly not internalized the latest generation of conceptual frameworks.

Food and nutrition councils that bring together line ministries, such as the ministries of agriculture, health, social affairs, and finance, have been successful in a few instances, typically under a very specific set of circumstances. More countries need to experiment with innovative arrangements and apply state-of-the-art conceptual models of food security and nutrition.

Conclusions

Increased attention to nutrition can enable the agriculture sector to better meet its own needs in many ways. It can enhance the antipoverty and nutrition impacts of agriculture and ensure greater support for agriculture as an important public good. This increased support is likely to lead to significant private returns to small-scale farming. Increased attention to nutrition can also help farmers anticipate and meet the needs of consumers. The question is therefore not whether there should be close interlinkages between agriculture and nutrition, but rather how to best achieve a fruitful marriage. Clearly, what is essential is a common goal or conceptual vision to guide both agriculture and nutrition in policymaking, strategy development, and institutional innovation so that those commonalities can be realized for the benefit of poor consumers and poor farmers.

Suggested Reading

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Pinstrup-Andersen, P., and R. Pandya-Lorch, eds. 2001. *The unfinished agenda: Perspectives on overcoming hunger, poverty, and environmental degradation*. Washington, D.C.: International Food Policy Research Institute.

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