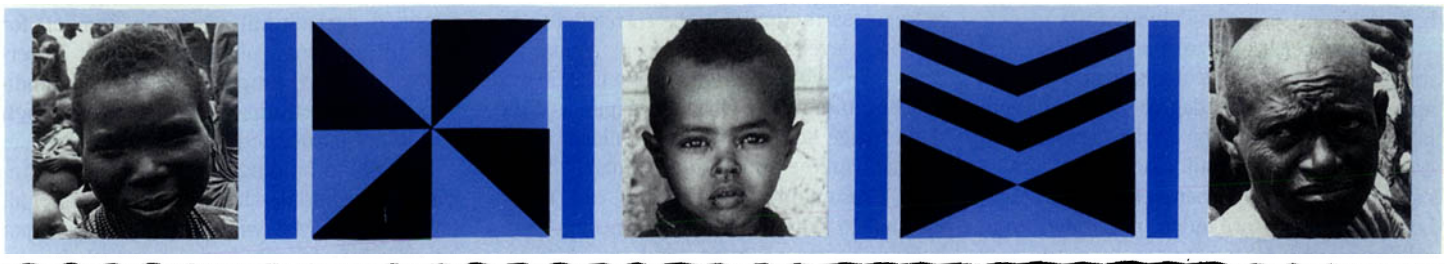

Searching for Household Food Security in Africa

National food surpluses will not necessarily eliminate hunger or malnutrition. What will?

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Malawi, Tanzania, Zimbabwe, and Zambia all enjoyed overall food surpluses in various years in the 1980s, yet each country continued to record high levels of childhood malnutrition, an indicator of inadequate food intake. This persistence of malnutrition and hunger, despite national food self-sufficiency, has caused policymakers to rethink the nature and cause of food security—that is, access by all people at all times to enough food for an active, healthy life.

Analyses of food security in the 1970s focused largely on the scarcity of food supply, usually caused by drought, disease, or war. As a result, many developing countries pursued policies of food self-sufficiency that emphasized increasing domestic production and reserve stocks. The assumption inherent in these policies was that food surpluses at the national level are translated into food security at the household level. Clearly, this has not been the case. Stunting—a measure of low height-for-age that is now widely accepted as the best indicator of chronic malnutrition—affects more than a quarter of the children under five years of age in Tanzania and Zimbabwe and more than half of the children under five in Malawi and Zambia. Work on household food security in these countries (see box) indicates that household food insecurity in rural areas persists because people simply do not have access to efficient food markets or the income needed to acquire food.

What can be done to strike at the root of this problem? Macroeconomic policy changes involving pricing and marketing reforms for agricultural products, removal of subsidies on inputs, exchange rate reforms, and trade liberalization, in the long run, are expected to enhance household food availability and access. Against this backdrop of policy reform, a host of more specific interventions can be used to alleviate food insecurity in a cost-effective manner. This article examines the major issues emerging from current work on food security in Malawi, Mozambique, Tanzania, Zambia, and Zimbabwe and discusses various actions that have been taken to address food insecurity in these countries.

Efficient food markets

Households generally get food through a combination of their own production and purchases. In many rural areas, households do not grow enough food to meet their needs. In Tanzania, it was found that in 80 percent of the households surveyed in 21 villages, the main food grains lasted for only six to eight months after harvest. In the southern region of Malawi, about 87 percent of households were found to deplete their food stocks three to four months before harvest. On-farm storage capacity in rural areas throughout these countries also tends to be limited, with high losses resulting from insects, rodents, rain, and spoilage over time. Of course, a large number of rural households sell their main food crop in order to get cash to purchase other essentials. They do so even though they know that what remains will not meet their own annual food needs and that prices are often lowest at harvest time. In certain parts of Tanzania, farmers sell up to one half of their food production to meet immediate cash needs. Where households cannot store their grain supplies throughout the season, produce insufficient amounts of staple grain, or use their main food crop to generate cash income, access to food through an efficient marketing system becomes critical. In Zimbabwe, the proportion of rural farm households that are net buyers of grain ranged from about 15 percent in high rainfall areas to almost 100 percent in low rainfall areas.

Despite the significance of food markets to farm households, inadequate rural infrastructure and services limit access to Southern Africa's highly fragmented food markets. Vehicles and spare parts are in short supply in the rural areas, and transport costs are extremely high, primarily because of the operat-

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ing costs associated with the deteriorated road system. Shopkeepers and transporters have little access to credit from formal and informal lending institutions, due to perceived high risks and lack of collateral.

The key constraint to market access and the emergence of efficient markets, however, appears to be the high degree of official regulation and administration. In many cases, food crops produced by smallholders may only be marketed through parastatal marketing boards. Farmers are often prohibited from selling directly to consumers, processors, or private traders. Prices for most major commodities, as well as agricultural inputs, are determined administratively rather than through the market. These prices tend to be low, thereby depressing incentives to produce a market surplus. By setting prices at the same level nationwide, production of high bulk to value crops—such as maize—in areas far from markets, is encouraged.

Private traders, transporters, and processors are controlled by a host of regulations and licensing systems. The presumption is that major policy concerns—national food security, exports of key commodities, income stabilization, and promotion of new crops—are best served by an expanding publicly controlled marketing system. The reality is that officially controlled pricing and marketing systems are often cumbersome and inefficient and aimed at serving urban areas. In Zimbabwe, the principal flow of maize is through the official marketing system, from surplus rural areas through the industrial milling sector to urban consumers and rural consumers in both surplus and deficit areas. In deficit areas, this one-way flow of grain through the official marketing system siphons grain from the local market. As a result, commercial millers have been able to develop a market for urban-milled maize meal, which is 10 to 80 percent more expensive than locally milled maize meal. Considering that the rural poor tend to maintain their demand for staple food despite changes in prices, it is estimated that the absence of an efficient rural grain marketing system may reduce annual real incomes among poor grain-deficit households in Zimbabwe by as much as 35 percent.

Household incomes

Low incomes compound the problem of inefficient markets for food. In a survey in the Mutoko Communal Area in Zimbabwe, it was found that food-insecure households tend to be poor households that lack the resources to raise the productivity of their land and labor. The relationship between household food security and incomes, however, is not straightforward. First, average malnutrition levels do not necessarily appear to be correlated to aggregate levels of GNP per capita. In Zimbabwe, where GNP per capita is $650, and in Tanzania, where GNP per capita is $160, the average stunting rate for children under five is about the same—approximately 30 percent. Presumably, this finding can be attributed to skewed patterns of income distribution between urban and rural areas. Second, pockets of malnutrition are found among many of the more prosperous regions and districts in terms of food production, food surplus, and average household incomes. In the northern province of Zambia, children of large-scale maize cash croppers have the most severe malnutrition. In Zimbabwe, a high degree of malnutrition is observed for laborers on commercial farms. In many instances, it appears that the nutrition of children suffers in those households where less of the total income is controlled by women.

Major issues and actions

Immediate
- Pricing and marketing reforms
- Direct assistance to vulnerable groups
  - *Feeding programs*
  - *Income transfers*
  - *Self-targeting consumer subsidies*
  - *Coupon systems*
  - *Food rations*
  - *Food- and fertilizer-for-work programs*
- Food aid
- Early warning systems

Long-term
- Pricing and marketing reforms
- Improve diet, sanitation, education
  - *Improve and expand primary health care services and water and sanitation systems*
- Increase food availability
  - *Rehabilitate and expand marketing infrastructure and services*
- Increase household incomes
  - *Strengthen research, extension, and credit services for smallholders*
  - *Increase off-farm employment opportunities*
  - *Expand and diversify trade*

A number of factors constrain increased productivity and earning power among rural households. Agricultural policies emphasizing increased production of staple food crops and inefficient marketing systems have prompted farmers to place a high priority on subsistence production. The net result is a largely undiversified agricultural sector. In Zambia, for example, maize is cultivated on about 70 percent of the land cropped annually. An undiversified agricultural sector can result in high variability in production incomes.

Small land holdings can also constrain incomes. Recent data show that 55 percent of all households in Malawi have access to less than one hectare of land. A simple calculation reveals the inadequacy of this holding size: an average household of five persons with annual per capita caloric requirements of 216 kilograms of maize, and average yields of 800 to 1,000 kilograms per hectare needs between 1 and 1.3 hectares of land just to meet household subsistence food requirements. The inequitable distribution of land resources in Southern Africa leads to wide distributions of income.

Although an undiversified source of income and limited access to arable land contributes to poverty in these countries, low labor productivity is the central constraint to increasing incomes through crop production. Low yields are due to the low intensity of agriculture, particularly the limited use of fertilizer and improved seeds. In Malawi, the use of hybrid maize has never exceeded 10 percent, and less than a quarter of smallholders apply fertilizer to any crop. In Zimbabwe, while well over 90 percent of maize grown is believed to be from hybrid seed, the use of fertilizer is patchy and highly skewed in favor of large-scale farmers, with the majority of fertilizer consumption in the high potential areas. The demand for inputs is hindered by lack of credit, and in the case of fertilizer, its low profitability in drier areas. Input supply is hindered largely by a weak distribution network. Input markets, like output markets, have been largely controlled by the public sector, and while prices of inputs are often subsidized, the benefits generally accrue to more resource-endowed farmers. Low-income smallholders, moreover, typically exhibit a limited ability to bear the risk inherent in technical change.

To alleviate food insecurity

The best way to reduce household food insecurity over the long term is to raise the real incomes of households through sustained economic growth and to ensure that markets are effective in making food available for household purchases as needed. It is now recog-

nized that the policy area with the greatest potential to alleviate food insecurity in the selected southern African countries—in the short and long run—is market liberalization. Other interventions include research, extension, and credit; improved education, health, transport, water, and sanitation infrastructure and services; increased off-farm employment opportunities; and expanded trade in food and cash crops. Market improvements, food production increases, and generally increased growth, however, will only improve food security gradually. Short-term interventions—including food aid and income transfers—raise levels of food security much more quickly but do not address the root causes of the problem.

Most of the selected southern African countries have already begun to put in place reform programs with policies targeted to increase the efficiency of marketing systems. In Malawi, steps have been taken to improve pricing policies and encourage the use of private traders to purchase selected smallholder output. Employment opportunities are being expanded through liberalization of small-scale and individual enterprise regulations. In Zambia, farmers are now given the option to sell directly to consumers, millers, cooperatives, and private traders, and the controlled producer price for maize is now the guaranteed floor price. Zimbabwe has recently decontrolled some crops and proposed partial modifications to the restrictions on the movement of crops that are still controlled. Tanzania is also easing pricing and marketing constraints to agricultural development. Complete liberalization of the agricultural marketing system is expected. Restrictions on the private movement of food grains have been removed. Plans are underway to improve producer incentives through increased reliance on market forces in price formation. Restructuring of the cooperative unions to make them more effective marketing channels is also planned.

Much effort has been focused on increased agricultural productivity by strengthening national research, extension, and credit services. The aim is to develop more acceptable technological packages and provide the support necessary to ensure widespread adoption of improved technologies among smallholders. In Zimbabwe, a major reorientation of research and extension toward communal farmers has resulted in a relatively high degree of smallholder adoption of technologies for maize and cotton. In Malawi, the Mudzi Fund, a specialized credit institution for the rural poor, is showing early signs of success in providing seasonal and medium-term credit to smallholders, most of whom are female farmers, for the purchase of agricultural inputs.

Efforts are also being made to improve and expand primary health care services, water and sanitation systems, and basic transport networks and marketing services, especially in rural areas. In Tanzania, major projects are underway, focusing on roads, railways and ports, telecommunications systems, and the institutional framework required to sustain future investment. Zimbabwe is engaged in substantial improvement of the existing road infrastructure, including principal arteries and secondary roads, and is helping to integrate the communal lands with the main production and consumption centers by improving access routes to these areas and introducing a more efficient truck licensing system.

Innovative nutrition, sanitation, and health education projects are being developed. The pilot Joint Nutrition Support Programme, launched by the World Health Organization and United Nations Children's Fund (UNICEF), which was implemented in the Iringa Region between 1983 and 1988, is a prime example. The Iringa interventions were broadly based on the promotion of drought-resistant crops, small-animal husbandry by households, home gardens, local agroforestry, and an intensive use of nutritional weaning foods made from local foodstuffs in order to increase total household food resources. The Household Food Security and Child Survival Programme in Tanzania is drawing on the experience of this pilot program to cover other regions that have high rainfall variability and frequent drought conditions. Priority is being given to production of cassava and other drought-resistant crops, reduction of the workloads of women, and nutrition education and child care.

Decentralized processing can also improve food availability in the rural areas and lower consumer food prices, as well as stimulate other nonfarm business opportunities that can raise rural incomes. Zambia is planning to help the private sector establish village-level agroprocessing of grains and oilseeds. Rural market centers will also be constructed and a training program for private traders interested in marketing crops established. A line of credit, to be used as working capital or investment resources, will be available to private traders to stimulate participation in marketing, processing, and rural transport.

Increased trade can result in expanded farm incomes and employment opportunities for the rural poor. For Malawi, Tanzania, Zambia, and Zimbabwe, only five commodities—tobacco, tea, sugar, cotton, and coffee—account for more than 70 percent of total agricultural export earnings. Diversification could result in expanded farm incomes and employment opportunities for the rural poor, enhancing their ability to purchase food—assuming local food markets are available. Cash crop earnings could enable smallholder farmers to improve their productivity in food grain production, via purchase of fertilizers, or to invest in improved grain storage facilities. At the national level, the potential expansion and increased stability in foreign exchange earnings from trade diversification increases the capacity to import food and agricultural inputs.

The present volume of agricultural trade among the Southern African countries is, on average, relatively small—less than 5 percent of recorded trade among these countries. The way to increase trade is to liberalize trade between these and other countries. Most analysis has focused on the potential for increased intraregional trade in staple food grains. There also appears to be potential for intraregional trade in inputs such as seeds, farm machinery and equipment, tools, fertilizers, livestock remedies, crop drying and dehulling equipment, and packaging materials. Some potential also exists for increased intraregional trade in a wide range of fresh and processed foods, many of which are currently imported from South Africa and Western Europe. Small and fluctuating levels of intraregional trade have already been developed in such commodities as milk powder, meats, fish and fish meal, processed groundnuts, fruits, and vegetables.

Immediate interventions

Specific actions are often needed to offer direct assistance to vulnerable groups experiencing transitory shortfalls in available food. These actions include consumer subsidies, coupon systems, food rations, income transfers, food- and fertilizer-for-work programs, and special nutrition programs. In Malawi, a major feeding program conducted through hospitals and clinics annually targets about 80,000 pre-school children and 35,000 expectant and nursing mothers. One community-based nutrition project in Malawi includes provision of food supplements, income-generating activities, labor-saving technologies for women to reduce caloric expenditure, and packages of agricultural inputs and food for the lowest-income women. Zimbabwe's Child Supplementary Feeding Programme provides a daily supplementary meal to malnourished children under five years of age in nutritionally vulnerable areas. Communities are responsible for the program's management and implementation at the village level. Early warning units collect and monitor crop production data in each country and alert governments of possible food shortages.

Food aid can substitute for—or augment—market flows of domestically produced food and commercial imports in the face of foreign exchange scarcities and disrupted domestic markets, thereby preventing price rises that would otherwise imperil the food security of poor households that depend on markets for food. In Mozambique, where domestic production has been disrupted and foreign exchange is scarce, food aid and cereal imports were in excess of half a million tons in 1988, representing almost 90 percent of the total supply of cereals marketed commercially in urban and peri-urban areas, or distributed free throughout the countryside. The weaknesses of food aid, however, are well known. Sustained food aid can make countries dependent on handouts. Food aid can also destabilize prices and reduce incentives for local production.

Conclusion

Given that a variety of interacting factors are at the root of food insecurity, a multifaceted strategy is needed for its alleviation. That said, the single most effective action that can be taken now to address the problem of chronic food insecurity in Malawi, Mozambique, Tanzania, Zambia, and Zimbabwe is to deepen and broaden the liberalization of the pricing and marketing systems. Without these reforms in place, other interventions will be rendered much less effective. In addition, greater coordination between donors and national planners is needed to increase the effectiveness of food security interventions. The institutional capacity to implement and sustain policies and actions for improving household food security needs to be strengthened, along with the data-gathering and analytical capacity of institutions charged with nutrition and food security programs. Finally, more research is needed to develop a better understanding of how the various factors affecting food security interact. ■

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