Bizenesh Fasha is a housewife in the Indibir region of Ethiopia. Much of her day is taken up with the preparation of kemese, the staple diet of the area. This bread is made from the fibres of enset, the “false banana” tree. The process of fermenting, grinding and cooking this starchy food involves long and tedious hours of labour, and the product is a poor quality food, very low in protein.

In many ways Bizenesh Fasha is typical of rural women in the Third World, most of whom must spend a large part of each day — often starting before sunrise — in the preparation of basic food. The reason is simply that governments of developing countries, in their all-out efforts to increase food production, have too often overlooked one vital factor: the conditions under which the food is used in the home, especially in the rural areas.

Agricultural policies have tended to concentrate on increasing cash crops and the development of food processing industries — often with an eye to potentially lucrative urban and export markets. This has resulted in relatively little attention being paid to the real needs of the rural people, especially women. Yet in some developing countries as much as 90 percent of the people live in rural areas, and most families must strive simply to maintain self-sufficiency in staple food crops such as maize, cassava and sorghum.

Also, until recently little research has been done on these traditional crops, and this, combined with the emphasis on cash crops for exports has resulted too often in a shortage of staple foods.

To compensate for this, governments must import grains such as wheat and rice for sale in the rural areas. The wheat is often used to bake bread, and the rice is already threshed ready to cook — a convenience to be sure. But while this may reduce the drudgery of preparing meals, such foods are more expensive and not always readily accepted by the local people, nor do they provide a balanced diet when eaten as the staple.

There are more encouraging trends in some regions, however. Women have begun to specialize in growing more of the local foods for sale at rural markets. To increase their incomes, they often start before sunrise — in the preparation of basic food. The reason is simply that governments of developing countries, in their all-out efforts to increase food production, have too often overlooked one vital factor: the conditions under which the food is used in the home, especially in the rural areas.

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overcome many of these problems. It is government controlled with specific standards developed as a result of local consumer preference studies.

The mill has standard equipment for cleaning, dehulling, milling and sieving local grains, but remains labour intensive. The quality of the flour is maintained by tests in an adjoining kitchen, where experiments are also conducted in the preparation of noodles and fried snack foods using simple hand tools that can be easily adapted by local food vendors. Composite flours are also being tested to promote local grain production.

The project is being closely watched by other African countries facing similar problems, and the Centre has recently published a booklet on the first phase of the Maiduguri Mill Project (IDRC-TS2).

In the Philippines the tedious dehulling and processing of cowpeas to make flour and paste for various food products has been greatly reduced through research at the University of the Philippines, Los Baños, supported by the IDRC. Further tests are being carried out to adapt the techniques for use in rural homes and to meet consumer preference. Cowpeas are also widely used in Africa, but processed entirely by hand and by simple grinding equipment. An exchange of information and ideas between Africa and the Philippines could therefore be valuable to enhance the use of this nutritious food crop.

Perhaps the most important aspect of the food problem is malnutrition. In the Third World, diseases resulting from dietary deficiency and poor food hygiene are widespread and must be corrected in the home where the problem originates. To reach a scattered rural population requires an innovative, integrated approach: promoting improved hygiene and adequate basic diet, by developing appropriate technologies, crop management systems and better storage and processing techniques.

The Ethiopian Nutrition Institute is the focal point for improving the food and nutrition problems in that country. A high protein composite flour prepared from local grains and soya called faffa has been developed and is distributed throughout Ethiopia as a dietary supplement for children. The chief nutritionist at the Institute is in close contact with the Agricultural Research Centre, where the agronomist in charge of sorghum research has discovered high lysine genetic material amongst some of the original traditional sorghum species. With IDRC support researchers are surveying the country to retrieve this material to use in breeding high-yielding, high-protein crops. Lysine is one of the essential amino acids often deficient in grains but found in protein from animal sources. Also in Ethiopia, triticale — a new high-yielding, high-protein grain which flourishes at high altitude — is being tested in rural households to find out if its handling qualities are acceptable and comparable with the indigenous grains in the preparation of enjera bread. These household tests determine the type of laboratory tests required to overcome the specific problems identified by local women. This close liaison between the nutritionist, the agronomist, and the housewife is a good example of the team approach required to improve food utilization systems.

A similar approach was taken in the Caquera project in a remote rural area of Colombia. Here, with IDRC support, an integrated rural development program was established in which research, education and training took place in the farmers' fields and in their kitchens, supported by the more formal institutions of government and university extension and research centres.

The challenge to governments, universities and other centres of higher education is to train young people to work directly with the rural population. People who will be sensitive to the culture and capable of using modern science and technology to help the people solve their problems for themselves.

This is the need: to adapt new and appropriate systems of technology to age-old practices of farming and food preparation, and to assist the small farmer by concentrating more on staple crop production, processing and trade. This would not only reduce the destructive drudgery that now must be endured by millions of women like Bizanesh Fasha, it would also provide more food, more variety and better nutrition for the vast majority of people in the developing world.

Dr. Steckle is a nutrition scientist who has spent many years in Africa, most recently as associate director for the Agriculture, Food and Nutrition Sciences Division at the Centre's regional office for West Africa in Dakar. She is now a nutrition consultant with the Department of National Health and Welfare, Government of Canada.