

EDITORIAL

The Challenge of Improved Food Production in Africa

L. Brader

Innumerable reports have been written about worsening agricultural production in Africa. They all agree that (i) the per capita food production has been decreasing over the last decade, and (ii) there is an absolute need to reverse this trend. Regrettably, words do not have a direct impact; only the translation of proposals into concrete and pragmatic action can lead to positive change.

It has been well proven that increased agricultural production requires the strong support of agricultural research and extension efforts. Yet inputs into these activities in Africa continue to be rather meagre. More surprisingly, an attitude seems to be emerging that investments into agricultural research in Africa have not really given adequate returns.

If one seriously considers the complexity of agriculture in Africa, however, it would be apparent that with the limited investment in food crops research so far, progress could not have been much better. It is misleading, for example, to compare the situation in Africa with the green revolution achieved in South and Southeast Asia, which is largely a translation of intensive production approaches used in the industrial world to a developing country situation. This was possible with improved rice and wheat varieties because the environment could be properly controlled through irrigation and, in addition, agricultural inputs were made available.

That model of success cannot be repeated in non-irrigated tropical agriculture, where agricultural production is far more complex than in the temperate zones of the industrial world. As a consequence, different and more ingenious approaches are needed to achieve lasting results. And this must be done in situations that are very poorly equipped to carry out high-precision research.

In simple and very general terms, we face two situations in tropical African agriculture, in both of which continued high agricultural production is extremely difficult :

1. The semi-arid tropics face erratic weather, especially unreliable and limited rainfall, exacerbated by relatively poor soils and high pressure of pests and diseases, including weeds. The potential production capacity is, therefore, severely limited in these regions.

2. In the sub-humid and humid tropics, where rainfall is more reliable, we have the other major problem of extremely fragile soils that under insufficient vegetative cover are easily destroyed through leaching of nutrients, as a result of the higher rainfall and the rapid destruction of organic matter after forest or bush clearing. These conditions do not allow the permanent cultivation of annual crops, at least not by using the monocropping practices applied in intensive production systems in the industrialized world.

These aspects are not always adequately considered when we make a comparison of the relative benefits achieved from research efforts carried out under different conditions. The Consultative Group on International Agricultural Research, which supports the activities of many International agricultural research centres, has recently reevaluated the approaches to tropical agricultural research. It has come to the conclusion that much more emphasis is needed on the development of sustainable production systems in the developing countries within the context of the limitations imposed by the environmental and physical conditions of the tropics.

As a result, some of the existing centres are being asked to pursue an ecoregional mandate, instead of concentrating their efforts on the genetic improvement of a few agricultural crops. They would have to put much greater research emphasis on the specific problems encountered in the region concerned, such as the humid and sub-humid tropics of Africa. In this context, developing alternatives to shifting cultivation through production systems that allow a much better maintenance of the physical and chemical properties of the soil would have much higher priority than maximizing the production capacity of a certain crop. There would also be much more emphasis on minimizing the need for external inputs through the recycling of nutrients and organic matter, and on the development of integrated pest management systems to reduce pest and disease problems.

At the International Institute of Tropical Agriculture at Ibadan, Nigeria, it has been clearly proven that the combined cultivation of tree crops and annual crops in the form of alley farming or agroforestry systems can lead to the sustained and impro-

ved production of food crops such as maize and cassava. The successful biological control of the cassava mealybug, which has resulted in the management of this pest to sub-economic levels in various countries in Africa, is a clear proof of the possibilities available for the application of more sustainable pest management practices in Africa. This is not to ignore the tremendous challenges that we face with respect to soil fertility, the continuous need for increased production levels, and the serious pest problems. But it would seem that with a different approach, based on the principles of sustainability and maximum use of natural resources, improved results can be achieved.

Such approaches would potentially offer a better future for agricultural production in Africa. But progress can be achieved only if all concerned, in particular those at the political level and in the international donor community, have a full understanding of what is needed and are willing to give these approaches their strong endorsement and support. It should be understood that research efforts are needed and production improvement will be gradual and not necessarily spectacular. Support must be translated into the setting up or strengthening of the necessary infrastructural systems, such as national agricultural research and extension services, provision of adequate marketing facilities, and appropriate pricing policies, to provide the farmers with the necessary support, technical advice, and inputs, as well as the assurance of a regular and reliable income.

L. Brader
Director General
International Institute of Tropical Agriculture
Oyo Road, PMB 5320
Ibadan, Nigeria