More on Maize in Africa

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Stephen Carr wrote to us about the comments on maize included in EDN 91 ("Echoes from our Network"). Stephen is a graduate in agriculture from London University who served as a missionary for 20 years in villages in the Southern Sudan and Uganda, initiating a range of agricultural projects. Subsequently he served as head of the Crops Division in the government of the Southern Sudan, and later as agricultural advisor to the Prime Minister's Office in Tanzania. He then spent 11 years as a Principal Agriculturalist in the World Bank covering Sub-Saharan Africa. Currently he is retired and lives in a village in Malawi where he deals with policy and technical issues related to involvement with small scale farmers by government and major donors.

"I have worked with small-scale farmers in a number of African countries over the past 54 years, some 35 of which were spent as a member of village communities in the Sudan, Uganda and Malawi. My first reaction to some of the comments made by your contributors is that one should only be critical of the decisions which have been made voluntarily by millions of smallholder farmers when one has the fullest understanding of all the reasons which led to their making a change in their cropping, and particularly their staple food. Howard Gibson makes the point that there was the "introduction of maize to the exclusion of other crops." I am not sure what he means by this. Maize reached Southern Africa a couple of hundred years ago when there was certainly no government department to push people into using it. Millions of farm families over the years made an entirely voluntary choice to move out of sorghum into maize so that, by the time that David Livingston reached Malawi, he found maize as the main choice of local people. Nearer to Mr. Gibson's home in Uganda, the dominant crop was finger millet, which in the 1950's was the number one crop of the country next to bananas. Over the past 50 years farmers have steadily abandoned the crop of their own accord. Why? Firstly because of its huge demand for labour. Having weeded my own finger millet fields on my hands and knees, I know just how much work is involved. It is slow work to harvest with its tiny heads. It is hard to thrash and cannot be pounded in a pestle and mortar. In addition, it does not produce well when soil fertility starts dropping with increased pressure on the land. It was an excellent crop when the Ugandan population was 6 million, employment opportunities were low, land could be fallowed for long periods and many girls did not go to school and could provide a good deal of the necessary labour. Because of the dramatic changes that have taken place over the past half century, farmers have found that finger millet just does not meet their needs. So, they have made the change to a crop with three times the yield potential which is

easy to weed, harvest and shuck. I was somewhat concerned to see the claim made that finger millet and sorghum have “tap roots”. [Actually] none of the graminaceous crops have tap roots and all have a network of fibrous roots.

“[I should also] comment on the inefficiency (in biological terms) of traditional sorghums and bulrush millet in comparison with maize. Both these crops are still grown on millions of hectares in those areas where there is hardly ever enough rain for another grain crop. They produce little grain in relation to their total vegetative growth, so farmers have to plant large areas in order to feed themselves. The fact that most of the plant is stalk and leaves is seen as an advantage to people heavily dependent on cattle for their survival. This is a totally different situation to that faced by increasing numbers of farmers in East and Southern Africa with small plots of land and few or no livestock, who cannot afford to grow a plant of which only 20% is actually human food. Hence, their move to maize, which is the most efficient of all grain crops.

“I often see references to the fact that “in our grandfather’s time they always had enough food” with no subsequent comment on the fact that since then there has been a six or more fold [increase] in population density. The same applies to the statement by Stacia Nordin that people used to eat a wide range of wild fruits [and] vegetables. I lived in the Southern Sudan for many years with a population density of 2 persons to the square kilometer, and we did indeed do just what Stacia claims. How different is the situation in the Malawian village in which I now live, in an area with over 250 people to the square kilometer, and no “bush” anywhere from which one could collect wild plants. One cannot make meaningful comparisons between situations that have been dramatically changed by phenomenal population growth. In the case of Malawi the population grew 14-fold in 100 years.

“Mention is made of the problems of bird damage on sorghum and bulrush millet. It is true that there are sorghums that have such high content of tannins and cyanide that birds will not eat them, but they require a lot of processing to make them both safe and palatable as a human food. Most people in Eastern Africa know well that good quality “sweet” sorghums have to be protected from dawn to dusk for the last six weeks before harvest if the family is going to be able to feed itself. Pictures of Sudanese or Ethiopian children sitting on their high platforms above the crop for hours on end were common enough fifty years ago. The coming of schools was one of the factors that led people to switch to maize.

“I am all too well aware of the inherent dangers of being heavily dependent on one major staple food as the climate is set to become increasingly unpredictable. On the other hand, your contributor’s call for a crop suited to semi-arid areas with poor soils which will “thrive under such conditions, yields well and requires minimal inputs” does appear to describe no existing plant which would feed an African family from a small area of land. Possibly genetic engineering could produce such a miracle plant in the future but then it will face a whole lot of different “political” problems.

“I finish where I began, not as a protagonist of maize (I have spent most of my years with sorghums and millets) but as a respecter of the judgement of small scale African farmers who have chosen introduced maize, sweet potatoes, cassava,

groundnuts and a myriad of other “new” crops over sorghum, millets and Bambara earth nuts, which were their traditional crops, in the same way as English farmers adopted wheat, barley and potatoes when they were introduced to them.”

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