STRATEGIC THINKING ABOUT THE FOOD SYSTEM OF SORGHUMS AND MILLETS

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The people concerned with issues of national food self-sufficiency, with defining national food policy, with agricultural research strategies tend to view sorghums and millets primarily as commodities.

To the large number of people who grow and consume sorghums and millets in the semi arid tropics, however, these crops are not merely commodities --- they are food, a component of their daily diet.

It may be useful, therefore, to examine what kind of strategic thinking is required to optimize the benefit to the semi arid tropics of the scientific, policy and development efforts which are being directed to these important foods.

Recent droughts, rising foreign exchange requirements for the importation of food, soil and climate conditions have been cited by governments as reasons for triggering new initiatives or policy changes with regard to the small grains. Often single actions, taken in isolation, do not bring about the desired change. This paper takes the view that effective change will result when the entire food system is studied, bottlenecks are identified, and a comprehensive and interdependent set of actions are then put in place.

It is generally acknowledged that the absence of processing machinery, particularly dehulling equipment, is one constraint to the increased production and consumption of sorghum and millets in the semi arid tropics. The actions
by African researchers with the introduction of appropriate dehullers to the rural areas constitute an intervention in the rural food system of a grain. Figure 1 presents a diagrammatic view of the main elements of the food system, and suggests that the technological intervention, if successfully accomplished, can lead to two major outcomes: a significant saving in woman and child labour-hours on the farm, and a small flow of surplus, in processed form, to relatives in the urban areas. The food system of Figure 1 does not, however, lead to increases in the volumes of sorghums and millets produced, unless new factors are introduced.

Figure 2 shows an altered configuration to the food system, assuming that a substantial urban demand for sorghum and millet has been established. Some of the preconditions for such a demand are: that urban consumers like the taste of these small grains, and that they are available in an edible form. The urban housewife, often in paid employment for 8-10 hours per day, does not have the time for manual dehulling, and will purchase preprocessed maize meal or other cereal products instead. The provision of dehulling machinery in peri urban or urban locations would, however, enable her to purchase sorghum and millet in a ready-to-cook form. If an urban demand can be demonstrated or generated immediate benefits will be felt in the rural areas. Farmers will have an economic reason for growing a surplus, because they will have an assured customer, an urban miller, for their surplus. A sustained urban demand will therefore bring direct cash benefit to the rural areas.

Two countries at least in this region have in the past two or so crop seasons announced substantial increases in the producer prices of sorghums and millets. In the absence of parallel efforts to stimulate or demonstrate
a demand for these small grains from urban consumers, the net outcome has to date been: surplus production and sales of small grains to national marketing agencies, more cash circulating in the rural areas, but the marketing agencies' silos are full with no immediate prospect of urban buyers of these stored volumes. How quickly can one now discover whether there is a demand for food from these grains? Does one need advertising campaigns, or processing equipment, or techniques for preparing tasty products? Can these be mobilized quickly enough, in time for next year's harvest, or will farmers find no buyers for their surplus next year?

The two figures presented are of course incomplete descriptions of the particular food systems; they indicate primarily the physical movements or circulation of the grain within the rural sphere, and from rural to urban. As models they can, however, be used as a reference for discussions about the possible interventions in the system:

- What would be the effect of increasing or decreasing producer prices;
- What would be the effect of an increased financial commitment to agricultural research for an improvement programme, in the absence of other, complementary, actions.
- What effect would large scale centralized processing machinery have, as opposed to small scale rurally located equipment.
- Where is the requirement for storage structures.
- Can a decision about processing equipment be taken without knowing the directions being taken by pricing policy.
- What effect will pricing policies for other cereals have on the consumption of small grains.
The challenge to the scientists, policy makers and administrators at this workshop is: how do we organize our separate skills into a successful research and intervention system which is capable of solving a food system problem. The strategies required will involve calling upon the knowledge of the marketing economist, the cereals technologist, the biochemist, the policy maker and planner, and most importantly, the storer, processor and eater of sorghums and millets.
Figure 1.
Effect on food system by introduction of rural-located dehulling machinery
Figure 2

The "ideal" small grains food system.