FOOD SECURITY PROJECT
M.S.U. - C.E.S.A.

THE EVOLUTION AND PRESENT STATUS OF THE FOOD SECURITY
PROJECT IN MALI

ENGLISH SUMMARY OF WORKING PAPER

No. 86-01

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February 6, 1986
The purpose of this paper is to outline the methodological steps followed in implementing the Food Security Project, and to present some of the most recent findings. The paper is very preliminary, but it is hoped that its contents will induce reactions, comments, critiques and suggestions, without which the efficiency and practical use of any applied research are extremely limited.

1 METHODOLOGY

The implementation of the study of the coarse grain sub-sector (millet, sorghum, maize) in Mali is organized around four components: (1) village, (2) producer, (3) merchant/transporter, and (4) prices. For this reason the choice of sites and individuals to be covered by the survey must be done in a logical sequence that stresses the functional link between the various components of the coarse grain sub-sector. This sequence is as follows: zones, sub-zones, rural markets, villages, agricultural producers, urban wholesale markets, merchants and transporters.

1.1 Zone Selection
The CMDT and OHV were selected as target zones for the study. These two zones have the greatest potential for producing a marketable surplus of coarse grains given their relatively high rainfall and their better access to urban markets, credit, and agricultural inputs. For these reasons it is reasonable to assume that production and marketing reforms would have their greatest impacts in these zones.

1.2 Sub-zone Selection
The CMDT and OHV are large and have wide internal variations in terms of rainfall, soil types, and cropping patterns. To account for these variations each zone is sub-divided into two sub-zones. The extreme south of each zone is excluded given the relative importance of other cash crops that have higher moisture requirements than cereals. Similarly, the extreme north is excluded given its unreliable rainfall levels. The four sub-zones are the following:

- CMDT South: Koutiala Sector, ZER of Zangasso
- CMDT North: Bla Sector, ZER of Dougouolo
- OHV South: Ouéléssébougou Sector, ZER of Ouéléssébougou and Sougoula
- OHV North: Koulikoro Sector, ZER of Sirakorola and Tougouni

1.3 Selection of Rural Markets
In each of the four sub-zones, the most important rural market is selected. These are:

- Zangasso, for CMDT South
- Dougouolo, for CMDT North
- Ouéléssébougou, for OHV South
- Sirakorola, for OHV North
1.4 Village Selection
Surrounding each of the four market villages listed above, three "satellite" villages that do not have regular weekly markets were selected. Factors affecting the choice of villages include access to the market, position in the administrative hierarchy, and presence of village associations. Hence, in each sub-zone, four villages were selected as follows:

- The market village
- An ordinary village located less than 15 km from the market
- A village with a resident administrative agent and/or with a village association, located less than 15 km from the market.
- A village with a resident administrative agent and/or with a village association, located more than 15 km from the market.

1.5 Selection of Agricultural Producers
A general farm household census covering the 16 survey villages was undertaken. The analysis of census data identified four major categories of farm households:

- Households that had a full set of animal traction equipment. These households were generally self-sufficient or surplus with respect to coarse grains
- Semi-equipped households, non-deficit in coarse grains
- Semi-equipped households, deficit in coarse grains
- Non-equipped households, generally deficit in coarse grains

For each of the above strata, three households were randomly picked in each of the 16 villages, with a total of 190 farm households as the total sample size.

1.6 Selection of Wholesale Urban Centers
Based on a preliminary analysis of the major cereal trade routes in Mali, the following centers were selected: Bamako, Sikasso, Koutiala and Mopti.

1.7 Selection of Cereal Merchants/Transporters
A general census of coarse grain wholesale merchants and cereal transporters were able to identify:

- 21 merchants and 5 transporters in Sikasso
- 21 merchants and 12 transporters in Koutiala
- 33 merchants and 16 transporters in Mopti
- 37 merchants and 15 transporters in Bamako

Following the analysis of the census data, a sample of cereal merchants and transporters will be surveyed monthly to collect detailed data on the flows, prices, and costs of their transactions.
II SOME PRELIMINARY RESULTS

2.1 Main Features of Survey Farms
During the past 3 years of drought (1982/83 - 1984/85) 65% of farm households in the OHV experienced cereal deficits, compared to less than 40% in the CMDT. The majority of the deficit households are nuclear families with relatively low levels of agricultural equipment. Non-deficit households, on the other hand, consist mainly of extended families that are relatively well equipped. In general, equipment levels in the CMDT are significantly higher than in the OHV.

Non-deficit households have a privileged position with respect to their ability to increase their total cultivated areas, compared to deficit households. Moreover, non-farm activities are more common in non-deficit households, which suggests that success in farming may constitute the basis for capital formation needed to start other economic activities.

2.2 Main Characteristics of Rural Markets
All survey markets are all-season weekly markets, with a wide variety of farm products, animals, and consumer goods regularly traded. Of importance is the presence of agricultural inputs and of spare parts for agricultural equipment. All markets have access to transportation vehicles and to all-season road networks. The majority of survey markets have storage facilities, and all transactions are done using the kilogram as the unit of weight, except in Ouéléssébougou.

2.3 Main Characteristics of the Cereals Trade and Transport
Most wholesale merchants are not specialized, coarse grains being one of a variety of activities undertaken. The volume of cereal trade handled by each merchant is relatively very small due to limited access to credit. The rapid turn-over of stocks and the low degree of specialization in cereal trade indicate a strong aversion towards perceived risk in the local trade of cereals.

It is uncommon for the same individual to combine both trade and transport of cereals. Transport is usually undertaken by unspecialized transport entrepreneurs, with cereals rarely exceeding 45% of their total annual freight.

2.4 Prices
The trend analysis of consumer prices before and under PRMC showed a rapid increase in prices towards an alignment with the prices prevailing in neighboring countries. This price increase, however, includes the effect of drought which had its significant impact on the supply of cereals during the first 3 years of the PRMC.
The findings suggest that producer prices in the CMDT zone are largely determined by the prevailing situation in the Mopti market which is the center of a geographic area that has received large amounts of food aid. The difficulty in predicting the arrival of food aid constitutes another risk factor that may explain the reluctance of wholesale merchants to build up their stocks for more than 3 weeks.

The price-support effect of government actions has been apparent in all survey zones during the early months after the 1985/86 harvest. Prior to the marketing season, cereal producer prices rarely exceeded 35 F/Kg compared to the current price of 55 F/Kg.

Prices in the rural markets showed great stability since the beginning of the marketing season. Price levels are generally higher in the OHV than in the CMDT, and within each zone prices tend to be higher in the north than in the south.