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Price: Fundamental Variable  
of Cereals Markets

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# Price: Fundamental Variable of Cereals Markets

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Food security has become an overwhelming preoccupation in sub-Saharan Africa over the past two decades. Attempts to achieve this objective have relied mainly on State intervention in its many and varied forms.

During the 1970s, all food aid, major development projects, food strategies and food policies were geared towards solving a crisis that was perceived as a consequence of prevailing economic conditions.

Structural adjustment, the latest solution adopted to date, is aimed at solving a crisis that is now seen to be a deep-rooted, generalized phenomenon resulting from the interplay between factors that had hitherto been considered separately: indebtedness, urbanization, food production and supply, etc.

More simplistic hypotheses were abandoned when it was recognized that results were poor, or that attempts to establish food security had ended in outright failure. It was recognized that the socio-economic systems it had seemed so easy to control were in reality extremely complex and that the fundamental analysis of the problems, providing the basis for all policy decisions, needed to be more incisive and accurate.

It was thus accepted that there was a real need to obtain more facts on the underlying structure and dynamics of the economy. The effect of policies had to be closely monitored and accurately assessed. In short, better information was required. The conference on cereal policy held in Mindelo in December 1986 placed great emphasis on the need to obtain more reliable information tailored to the specific requirements of decision-makers.

#### 1) PRICE: A POLICY INSTRUMENT AND INDICATOR OF THE STATE OF THE MARKET

The price factor is unquestionably quite unlike other economic variables. Price is governed by a dual force, stimulating the market and providing information on its health at the same time. Price is thus both cause and effect.

Prices stimulate the market: the de facto regional cereal markets recently identified in West Africa are the direct result of the actions of traders motivated by attractive price differentials. In this case, prices acted as a generative force upon the market, thereby encouraging trade. However, they can also block the development of local products if these are unable to compete with external supplies. The invasion of the Sahelian market by imported cereals is an example of this phenomenon.

Prices provide information on the health of the market: if there are no official controls, prices provide information on the relationship between supply and demand, i.e., the prevailing surplus or deficit. In other words, as these markets trade in food products, prices are an indicator of the local food situation.

This double-edged role as both a trade stimulus (and therefore a market regulator) and an instrument of information, places prices at the heart of the food security problem.

Price intervention was one of the basic methods used to implement food policies: the idea was first to control the activity of private traders and fix low prices and then to liberalize trade and encourage prices that would be more attractive to the producer. It is interesting to note that these price policies were determined more on the basis of accepted theories than on the basis of a real analysis of the dynamism behind price trends or their true impact on production and marketing systems. Price fixing was doubly harmful in that the markets could no longer adjust automatically to find the right balance and that prices no longer indicated the relationship between supply and demand. The structural adjustment programs, which are based on the liberalization of economic incentives, should reinstate prices in their dual function as a trade catalyst and instrument of information.

The idea of using prices to assess the state of the market has never been seriously considered up to now. The information available on the subject, which consisted of approximate posted values, many of which were out-of-date, was unlikely to be attract favorable attention or gain the confidence of potential users. However, if we accept that the whole problem of food security is simply a question of matching supply with demand, then it must be recognized that market prices are the most important economic indicator. The facts show that this importance is far from being recognized.

The main explanation for this state of affairs is given below:

If there are no controls, the price is determined quite naturally on the basis of the ratio between supply and demand for the commodity concerned. This process is based not only on the quantities available but also on the players involved - and hence the types of channels and trade flows. Obviously, goods traded in identical quantities will have a different effect on prices depending on whether the market is a monopoly or monopsony. The chronic, inherent weakness of recorded prices is that they provide information on the result obtained (the market price) without specifying how this price was reached. It is impossible under these circumstances to obtain a realistic economic interpretation on the basis of the information available.

This can be illustrated by a simple example that is fictional and yet totally plausible:

When a price suddenly shoots up on a rural market, two diametrically opposed situations (or a whole range of other possibilities in between) may be at the root of the situation:

- A major trader, learning of the existence of local surpluses at an attractive price, may decide to act. He arrives with

his truck and accepts to pay more than the average local price that had originally attracted his attention. He does this because he needs to fill up his vehicle and knows that he will be able to sell the goods afterwards. The rise in price accompanying this operation is the result of a sharp temporary increase in demand in a local context where supply had exceeded demand.

- A new demand appears on the market in the shape of a large number of end users, each with small unit requirements, who are unable to find enough to eat. As the supplies available are limited, the price increases and thereby becomes the visible result of a local food shortage.

This simple example is intended for illustration only and we shall not discuss the side issues and implications at this stage. Our sole objective is to make it absolutely clear that a price in itself, taken out of context, has no meaning and cannot reasonably be used as a basis for economic analysis.

## 2) PRICE INFORMATION: A BROAD-BASED APPROACH

We feel therefore that it is necessary to rethink our whole approach to prices and reformulate the question under the heading of "price information". This new approach will be an improvement on the current system of posted values, which is essential but nevertheless insufficient. In order to interpret prices and their changing values, these prices must be accompanied by additional information giving basic details of determining factors: types of players, situation and role of the market in trade channels (types involved), etc.

If an effective price information system is to be designed, three complementary steps must be taken as listed below:

- achieve a methodological improvement of market price recording,
- identify the complementary variables required for analysis in accordance with the problems posed,
- design a number of result interpretation models tailored to specific problems.

### 2.1. METHODOLOGICAL IMPROVEMENT OF MARKET PRICE RECORDING

At this moment in time, posted values constitute the only price information available. However, they are generally unable to satisfy users' information requirements as they have a number of inherent methodological weaknesses that can basically be summed up as follows:

- incorrect definition of concepts,
- inadequate time and area coverage,

- insufficient reliability of market price records,
- obsolescence of data published.

Improvement of the current posted values is the primary requirement if we are to obtain useable "price information". We will not discuss methodological problems at this stage although, generally speaking, no broad-ranging discussions need be undertaken. In the vast majority of cases, significant progress could be made simply by incorporating a number of methodological details in line with local practices. For example, if we adopt the concept of the "price per kilo" as opposed to the "price of one kilo", this would immediately solve the dual methodological problem of the quantities traded (wholesale and retail price) and the types of local measurement units used. It goes without saying that this point is only one example of the methods of improvement to be introduced.

In reality, improvement is only possible if the experience acquired in the countries concerned is pooled. This is true for two reasons:

First, the levels of maturity attained by the concepts and methods used vary greatly from one country to another. It is thus not only useful but essential to avoid wasting time exploring methods that have already been tested elsewhere.

Second - and perhaps this is a richer ground for discussion - choices or objectives differ from one country to another, as regards both method and concept. Differences do exist but they should be considered as positive factors contributing to fruitful discussion rather than negative stumbling blocks. However, this will only be the case if their content can be pooled for analysis.

Improving the methods used to draw up market price records is the first step to be taken. It is also the simplest step and fits in with current trends. Considerable efforts are being made in this area in the different countries.

## 2.2. IDENTIFYING "PRICE INFORMATION"

Over the past few years, the information systems implemented in Sahelian countries have had positive results: early warning systems, information systems on cereal markets, etc. These systems are the result of a new approach to information, an approach that is geared to provide a supporting framework for decisions and that is based on an effort to draw on synergies between fields that had hitherto been completely dissociated. More than the methods themselves, it is this new approach to information and its role in decision-making that seems to be particularly promising. This step forward is a source of hope for the future. We can finally stand back and take a dispassionate view of the theory whereby "nobody up to now has ever been able to interpret posted values convincingly".

The identification and creation of "price information" is no longer wishful thinking. It is a real possibility.

### 2.3. ANALYZING "PRICE INFORMATION"

The problem raised by the analysis of information extends far beyond the limit of price surveys and remains one of the most troublesome points to be solved. We have already spoken of the progress that has been made over the past few years in identifying, structuring and optimizing the methods used to gather information. These gains are irrefutable and continuous progress is being made towards the creation of a reliable information system that is tailored to the needs expressed. A natural corollary of this movement is the increasing complexity of the information gathered and, in the more advanced systems, this shifts the difficulty from the information itself to the capacity to analyze that information.

There are basically two possible solutions to the problem:

- Find people with the skills needed for increasingly complex analytical processing,
- Make a preliminary analysis of the information collected using decision-making models.

The first and most obvious possibility has already been tested, mainly with the assistance of research institutes or universities working on data analysis. Worthwhile efforts have already been made and need to be sustained, although this sort of action is infrequent and hard to implement or put into widespread use.

The second option is well suited to the processing of quantitative economic information, prices being a perfect example of this type of data. With modern computing techniques, a preliminary interpretation of results could be made automatically with the help of decision-making aids.

### 3. TOWARDS A REGIONAL INFORMATION MARKET: THE SRIP PROGRAM

The objective of the SRIP program is to collate all the national price information available into a "Regional Price Information System". This is based on the ideas below:

- "Price information" is undoubtedly pertinent to the problems of food security and the regional cereal market.
- This fact has not yet been fully grasped owing to the bad quality and limited nature of the information provided in current market price records and because of the lack of models available to interpret price changes in relation to the situation in the field.

The program aims to:

- Back up methodological discussions to ultimately provide basic, reliable, homogeneous and clear information on prices. This new methodology is essentially based on a pooling of the experience acquired in other countries.
- Perform an in-depth analysis of basic price information, as and when it becomes available, in relation to other information obtained from national information services. Where possible, interpretation models will be offered for use in decision-making.

This program is currently in its initial stages. It is financed by the French Ministry of Cooperation and is to be managed by ORSTOM in collaboration with the CILSS DIAPER project, the Mission Française Régionale d'Appui au CILSS, the INRA/IRAM/UNB program "Trade, agricultural policies and the regional trade dynamics" and the other CILSS programs concerned with the field of food security.

The EMA price processing and analysis software should be used as the lynchpin of this regional program. This software, which is currently available from ORSTOM, has been in use on a national scale in Togo since 1989 and has already been tested in several Sahelian countries, namely Niger, Burkina Faso and Mali. Version 1.2. is available now. Version 2.0 is currently being developed and should be available before the end of 1989. It will take into account the remarks made by current software users.

The current version of the software manages national or regional price data bases from entry through management and processing to editing. EMA is designed to be used by non-computer experts, it is completely self-documented and menu-driven. In consequence, the data bases can be managed by personnel with average professional qualifications. In order to minimize the risk of error, particular emphasis has been placed on safe operation (checks on coding, data coherency, etc.) These safety nets are extended in version 2.0. Editing is automatic and set for direct publication in standard A4 format. Simple, statistical processes enabling a preliminary analysis of the dynamics of recorded prices (the first step towards the creation of a "price information" system) are integrated into the software.

Given the potential benefits to be gained from this software and the amount of time already spent on its development, further upgrades will be made in accordance with the requirements expressed by its users. The integration of two new modules is already scheduled for 1990: a graphics module and a mapping module.