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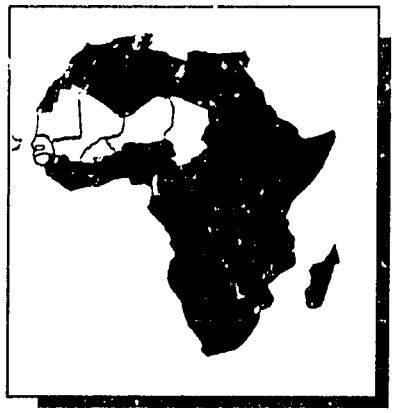

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REGIONAL CEREALS MARKETS IN WEST AFRICA

Compilation of Studies on Sahelian Agriculture, Regional Trade and World Markets

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BACKGROUND

One of the newer ideas that emerged from the Mindelo Conference in December, 1986 was the notion of a protected regional cereals market. Participants considered that no measures to reduce the Sahel's dependence on the outside world would be effective if "the relationships between Sahelian markets and international markets were not modified", and suggested finding "ways of introducing a regional market within which national production would be protected and trade between countries would be encouraged".

At the Tucson, Arizona, meeting of the Donors' Advisory Group in December, 1988, donor agencies from the countries belonging to the Club du Sahel took stock of the work that had been conducted recently by the Secretariats of the CILSS and the Club du Sahel:

"The regional Cereals Market: Myth or Tomorrow's Reality?", by Jacques Giri;

"The Competitiveness of Sahelian Agriculture"*, by Elliot Berg.

Also at Tucson, donor representatives recognized that significant progress had been achieved in discussion on the regional market. The United States organized a major meeting of researchers in Washington October 17 and 18, 1988, while France has undertaken a series of joint studies with the Club du Sahel and IRAM in an effort to improve understanding of the realities of the regional market. The titles of these studies are as follow:

"Food Security Policy and the Competitiveness of Sahelian Agriculture": a Summary of the "Beyond Mindelo" * Seminar, by Thomas S. Jayne and Nicolas Minot (Michigan State University);

Presentation of the study "Inventory of measures adopted to Control External Trade in Cereals in the Countries of West Africa, from Cameroon to Chad" by Gilles Mettetal;

"From Regional Market to Regional Markets", by Johny Egg, Jean-Jacques Gabas and Jean-Pierre Lemelle;

"Description of the Regional Market in West Africa today. Methods, results and scenarios of change", by Jean Coussy (Ecole des Hautes Etudes en Sciences Sociales).

The six reports are included in this dossier and will be disseminated in English and French by the Secretariat of the Club du Sahel.

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The Secretariat of the Club du Sahel is also disseminating the French version of a bibliographic study based on 47 documents dealing with the "regional cereals market" issue. The study is entitled "Agricultures sahéliennes et marchés mondiaux : état des réflexions" [document Sahel D(89)254].

* Original: english

P A R T I

THE REGIONAL CEREALS MARKET:

MYTH OR TOMORROW'S REALITY

by

Jacques GIRI

Previous Page Blank

A regional cereals market: a success... in words

One of the relatively new ideas which emerged from the December 1986 Conference in Mindelo is that of a regional cereals market. Noting that very little progress had been achieved since the previous conference held in Nouakchott in 1979, and dedicated to cereals policies, the participants considered that any measure proposed to reduce the dependence of Sahel would be vain as long as "the relations between the Sahel markets and the international market remained unchanged"; they suggested that studies be conducted as to "the ways and means to implement a regional market within which domestic outputs would be protected and interstate exchanges promoted" (1).

Two years after the Mindelo Conference, how far has this new idea gotten ?

Let us say that it has met with a fairly satisfactory verbal success. Verbal success among Sahel authorities who always show enthusiasm for whatever forwards regional integration. Elliot Berg claims that the conviction that the continent needs more economic unity is the only widely shared idea circulating in Africa at present. He also adds that in spite of this, there is less economic integration on the continent nowadays, than there was thirty years ago (2). In any event, the concept of a regional cereals market fits well with this comment: it is warmly discussed but one would be at a loss finding a single measure taken by a Sahel government over the past two years which, as a result, would have furthered its implementation on the field. Even the modest concrete proposition, as expressed by a participant in the Mindelo Conference, to support the sale of Mali cereals to Senegal, which would have evidenced the proceeding in progress, did not materialize. After a number of mishaps, it lost all interest as Senegal decided to cut the price of rice at consumer level in May 1988 (3). This timid attempt at regional cooperation shall have to wait for better days.

Where aid agencies are concerned, the idea met with somewhat of a success, though a number of objections were expressed to this regard. Merely mentioning the possibility of protecting the cereals market raised various reservations among the supporters of liberal orthodoxy. Others challenged the practicability of implementing such a concept within the framework of the Sahel societies as they now stand, or questioned the cereals output increase expected from this notion. Some even wondered whether such increase was desirable, and whether the Sahel nations may not be better off taking advantage of the low price cereals available throughout the world and specializing in other products.

One has to acknowledge the fact that, at present, nobody actually knows which cereals import policies should be recommended to the Sahel governments. Several aid agencies have initiated programs to investigate or survey this subject; however, no clear doctrine, liable to rally a large consensus, has resulted as yet.

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This study has helped sort out things somewhat though: everybody seems to more or less agree now that the problem raised in Mindelo is indeed crucial for the long term future of the region. A kind of consensus even seems to have developed as to the necessity to have control over the price of cereals imported by the Sahel countries, at least temporarily. However, this consensus only applies to an ill-defined concept so far, which probably does not involve the same reality for each agency and which does not have an operational character.

As for the Secretariat of the Club du Sahel, it has undertaken a survey of what a cereals market may be, and it has presented at the Berne meeting (December 1987) a paper (4) which mainly focused on asking questions as to how such a market may be built: which zone should the market cover ? Which tariff rate should be selected ? How should it be protected ? It also drew attention upon the fact that a viable regional market would not develop without a strong political determination in the concerned States. This survey was not furthered and the questions asked in Berne have remained without answer so far.

The purpose of this report is to take stock of the situation two years after the Mindelo conference: is the concept of a regional cereals market still relevant ? Or should it be reconsidered ? Does it now seem so unrealistic that it should be filed away as a myth ? Or, if there is still some hope to develop it, under which form ? And how should it be dealt with ?

There is a cereals market

One of the realities which the aid agencies and possibly also some of the Sahel authorities have become aware of, over the past two years, is the fact that there is indeed a cereals market. But it probably does not have the structure that governments in this region would have liked to give it.

The works undertaken - the first results were introduced in Mindelo (5) - stressed the usually unsuspected extent of informal exchanges in Western Africa. The information learnt since the Conference has confirmed these first results, and even more (6).

It had somewhat been forgotten that Western Africa had always been, even during the troubled times of its ante-colonial history, a place of medium and long distance exchanges. Neither colonization, nor independence of the various countries, nor the "Balkanization" which followed, put an end to such exchanges. They have continued without interruption, most of the time outside the legal frameworks set up by the colonizers and the new States; they merely adjusted to the new economic conditions.

During the colonial period, trade flows changed to match this new environment, but the restored safety and the differences between the policies conducted by the colonial powers were factors which rather promoted the development of exchanges throughout this area.

The independence of the various countries multiplied the borders separating not only States but also often quite different economic and monetary policies; this, in turn, multiplied the opportunities to trade. The networks set up by the dealers, commonly called Dioula and Haoussa, cover the whole region, and they now ignore, as they used to, the borders or rather, take advantage of them. Their members are on the watch for the differences in prices generated by the local variations in the offer and the demand, and, above all, for the differences in prices caused by the divergent government policies liable to give rise to an even more profitable business.

The improvement of transportation infrastructures since the early 60s probably also supported informal trade as well as official trade.

Tariff barriers or police barriers certainly do not stop these exchanges: they are naturally permeable owing to geography and they are made even more permeable by corruption. The example of Niger/Nigeria relations over the past few years shows that, even when governments take draconian measures to make their borders tight, they never fully fulfill their goal (6). Dealers find the vulnerable points in the disposition set up. Of course, the measures taken do cut the volume of informal exchanges but they also increase the profit margins of those who manage their way through the net...

Nevertheless, official restrictions to interstate trading, unofficial tolls which have been multiplying along the Sahel roads over the past few years, the poor condition of some transportation infrastructures all stand in the way of informal trade.

In a way, Western Africa as it now stands, can be compared to a <u>large free-trade area not in law but in fact</u>; a free-trade area within which informal trade networks would be hindered by a number of factors and would take advantage of the artificial obstacles installed by the governments.

Knowledge about this informal trade is insufficient, but all works conducted so far seem to point that, in spite of the obstacles, its volume is several times larger than that of the officially registered business (6). It concerns local products: kola nuts which, for centuries, have been one of the major elements of long distance trade in Western Africa, cattle, cereals, and traditional leguminous plants. It also increasingly deals with products imported from other continents among which a large number of manufactured goods but also cereals.

For one of the characteristics of this cereals market is that it now open to all winds.

The cereals market is overrun

Business throughout this informal free-trade area has always been partly supplied by imported goods. It still is, more than ever. Among them, manufactured goods imported from Asia rank high and they effectively compete with the local products. Cereals from Western countries also account for an increasing share. They are delivered free of charge as part of food aid or their trade is largely subsidized by all European and American States.

Imported goods enter Western Africa via the lesser resistance points: places where imports are subject to less taxes in law or less taxes in fact because corruption has grown more than elsewhere, as well as places where they are more profitable for monetary reasons. Informal commercial networks then take care of efficiently re-distributing them throughout the whole area.

This situation involves undeniable advantages: African countries, and more especially Sahel countries get their supplies at the lowest costs on the international markets and this is certainly not objectionable, neither for consumers, at least those who can afford to purchase with their monetary income, nor for dealers who make their own profit in the process.

However, this situation entails a few drawbacks several of which are known but should be reminded in time and out of time.

The invasion of Sahel markets by imported goods, an invasion which penetrates both formal and informal markets, while exports do not show the same progress, neither in volume nor in value, has unmistakable consequences: increasingly unfavorable trade balances, a foreign debt to make up for the adverse balances; aids which are eventually more and more used to import consumer goods rather than as productive investments; the necessary resort to so-called structural adjustments to try and cut the domestic demand, with all the economic and social consequences involved...

Where cereals are concerned, the invasion of the markets by imports burdens the selling prices of local cereals. It sets a ceiling value beyond which peasants have no hope to sell, except in the event of localized and extremely temporary shortage. A ceiling which allows neither investment for modernization of pluvial farming nor profitability of the irrigated cereals crops. A number of experts stress that higher prices would not necessarily urge Sahel peasants to produce more, that the problem is more complex and not exclusively related to prices. They most probably are right. In any event, given the present price of imported cereals upon arrival on the Sahel markets, there is not a chance that peasants will start investing money or work to compete with imports. Besides, a meaningful fact is that spontaneous investments of city or rural origin in the agricultural sector nowadays, concern market gardening, fruit growing, small size stock farming - as all of these activities naturally benefit from some geographical protection - and hardly ever in cereals which are not protected.

Cereals imports, under commercial form or as food aid, play a key part in what is now commonly called food safety in the area, and they have undeniably allowed, since the early 70s, to prevent the catastrophes which would have occurred as a result of droughts. But can one be sure that they do not contribute in maintaining a lack of food safety as well ? Numerous experts point out that the States cannot afford the inter-annual storage that would be necessary, that private dealers do not have the means required for this either and that villagers tend to cut traditional grain reserves. But how can private operators be expected to store, for years, a product when they know very well that its price will not show a significant and lasting increase because of food aid and imported cereals, and that they will not derive any profit from their initiative ? Invasion of the market by imported cereals does, of course, curb speculation, in the derogatory meaning often used by Sahel people; it also checks speculation in the positive sense, i.e. providing for hard times.

The behavior of West African governments with regard to this invasion arises neither from the claimed objective of food self-sufficiency, nor from their concern for agricultural modernization; it is directly dictated by short term political and social considerations. The most recent example is, of course, the decision by the Senegalese government to cut the rice price at consumer level. Budget preoccupations are not absent from governments' motivations either: in certain circumstances, substantial taxes can be levied from cereals imports while keeping an acceptable selling price at consumer level; this is systematically impossible with locally produced cereals.

Moreover, it should be stressed that no actual dialogue for concerted action has been undertaken in terms of import policies by the various countries in this area, and some of them even implement significantly divergent, not to mention opposing, policies. The extreme case is probably that of Gambia and Senegal: the former has liberalized rice imports which now involve no tax at all, while the latter is trying to have control over its imports and levies a tax included in an equalization fund with local cereals. This gives rise to weak points through which cereals enter and are distributed resulting in lucrative operations.

As for Western countries, their policies are not free from contradictions between, on the one hand, their internal agricultural policies of subsidized production and exports, and, on the other hand, their policies of assistance to rural development in a number of least developed countries, including Sahel countries. Such inconsistencies are being more and more clearly perceived while no measures have been taken so far in order to remove them. Contradictions between financing costly irrigated perimeters and the policies resulting in rice prices which do not allow to make these perimeters profitable. Contradictions between the support provided to opposing policies implemented by Gambia and by Senegal and thus in fact fostering lucrative smuggling.

Indeed one must face the fact that it is all as if Western States and Sahel States shared the same interests. The former are looking for market outlets, however modest, for their agricultural surpluses; they are even ready to give them out for free, either directly as food aid, or indirectly under the form of subsidies to their farmers complemented by subsidies to the Sahel governments. The latter are willing to take the gifts. And programs of assistance to modernization of the Sahel agriculture are only designed to accommodate the conscience of both parties.

Prospects

Are the conditions under which the Sahel market is a part of the international market, and which result in the blockages mentioned above expected to change sooner or later ? Namely, are the tensions which appeared on the cereals markets several months ago a sign of lasting reversal of the situation tending to check the invasion of Sahel markets ?

First, regarding the international market, can the present low price situation continue ? The United States and the European Community, realizing how absurd the prevailing policies are, are very likely to mend, at least partly, their assistance policies to agricultural exports, while not plain cancelling, however, all subsidies to their farmers. This should result in somewhat of a price increase on the international markets.

But the impact of bear factors should not be underestimated. Technical progress in Western agricultures is not about to stop; some experts even claim that it is going to accelerate over the next decades. This means that relative prices of agricultural products, cereals included, shall show a downward tendency. This also means that, for more years to come, governments in industrialized countries shall be faced with the problem of providing an excessively large, and thus permanently threatened with impoverishment, population of agricultural producers with decent incomes, comparable to those of other social groups. Chances are thus that subsidies to agriculture are not about to be cancelled.

The rice market, main cereal imported by Sahel, is undeniably dominated by Asian countries rather than by industrialized countries. There are significant possibilities to further increase productivity in Asian countries and future technical advances will give rise to even more. It is reasonable to speculate that Asian countries, which have initiated their green revolution, will proceed with it, and, as their demographic growth slackens, no substantial and lasting shortage will be experienced on the rice markets. Of course, tensions may appear, but it seems highly unlikely that the price of this product settles at high levels durably, all the more as the prices of other cereals on the international markets show a downward tendency, and as all of these markets do not lack interconnections.

This all means that it would be hazardous to expect a modification of the international context to result in a significant and lasting rise in prices, checking the invasion of the Sahel markets by imported cereals, which will not absorb its surplus all on its own. But it also means that only average cereals prices on the international markets shall be low, that instability should be expected to last, and that tension periods should follow after extremely depressed prices.

Regarding the Sahel markets, it should first be noted that the informal free-trade area is unlikely to be about to disappear. There does not seem to be a reason why commercial networks should forsake activities digging their roots in the past and continuously adjusting to match new conditions. Certainly not in States which cannot afford it.

Furthermore, an outline of the situation which may result from the extension of the present trends within the international context described above, can be provided: 25 years from now, the total population of Sahel is expected to have doubled, its urban population should increase even more rapidly and may account for more than half of the total population. The productivity of farmers is expected to show a more limited increase in the Sahel than in industrialized countries and Asian countries, and its outputs to be even less competitive than they are at present. Crops in Sahel will remain vulnerable to droughts. As a result, the Sahel will become more and more dependent on Western countries for daily survival, all the more during the dry season. As shown by the prospective Study (7), such pattern is plausible if not probable. But it is not ineluctable and there are other possible prospects, namely lesser dependence patterns.

These are possible but hardly without what may be called an actual long term structural adjustment, i.e. an adjustment of Sahel producers to the new deal on the international cereals markets: prices remaining unstable but showing, on the average, a downward tendency.

Any analysis for a cereals strategy should thus take into consideration the following three ideas:

- a structural adjustment, as described above, is necessary to check the increasing dependence of the region and steady the development of its economy; Sahel producers should be placed in economic conditions such that they can reconquer a share of the overrun domestic market and also export more;

- such adjustment should allow them to protect themselves, at least partly, from future fluctuations on the international market: the Sahel cannot withstand both climate hazards and hazards generated by the international environment;

- such adjustment must mandatorily be achieved taking into account the fact that there is an informal free-trade area, that it ranges far beyond Sahel countries, and that Sahel governments can check exchanges within this area but that they do not have, and will not have, the capability to prevent them; this means that governments cannot undertake actions regardless of the others: each of them is bound, whether it so wishes or not, to undergo the consequences of its neighbors' actions.

The concept of a cereals market within which such structural adjustment may be implemented is thus more than ever relevant and it will more than likely remain so.

Can this concept materialize under the form of a no longer informal but standardized free-trade area, surrounded by a uniform customs barrier jointly managed by all Member Countries ? Such a view of a regional cereals market may very well be a myth: governments in Western Africa are not ready to build such a regional market and they are unlikely to be ready soon.

Nowadays, it seems more realistic to promote what may be called a regional space for concerted action which should range far beyond Sahel countries and cover the whole West African region.

A space for interstate concerted action where governments would agree to implement not necessarily identical but at least consistent policies, so that the efforts undertaken by one government to allow and promote producers' adjustment to the new international deal are not annihilated by its neighbor's behavior. A space where governments would agree to aim these policies at reducing the external dependence. Where governments would also agree not to hinder interstate exchanges which will occur anyway.

A space for aid agency concerted action, more especially so that these agencies stop promoting a given policy somewhere and a conflicting policy elsewhere.

Lastly, a space for concerted action among States and aid agencies to isolate loner states which, on purpose or out of weakness, do not play by the rules. It will most probably not be easy to implement all of this, but are there now other solutions to the long term problems in this region ?

What should be done ?

We shall only suggest a few actions liable to be implemented rapidly.

First, proceed with the analysis. As everybody agrees that the cereals market issue is crucial for the region and that, concurrently, it appears as particularly complex; that no fully satisfactory and easily enforceable solution seems to arise, it sounds appropriate to proceed with the analysis of the issues discussed in Mindelo so as to find the best among the poor solutions available.

Analysis first, of the structural adjustment issue, defined as adjustment to the international markets. How can it be achieved given the undeniable existence of a free-trade area ? The problem of mint par adjustment should probably be raised again and more especially of the CFA Franc. This is possibly not so much of a taboo as it wa two years ago, and a more casual study of the effects of a

change in mint par on the offer and the demand can probably be initiated, as well as on its impact on the various social categories: who would be the winners, who would be the losers ? How could the consequences on the losers be eased ? One may also wonder, provided that manipulations on exchange rates are ruled out, which structural adjustment conditions would suit the region's situation best, which type of adjustment would really remain under the control of Sahel States which have limited means of action and are submitted to powerful constraints.

It was recently suggested that the problem of adjustment between the Sahel market and the international market actually concerns agriculture as a whole, not only cereals outputs. The idea of a "green CFA Franc", i.e. a special parity for agricultural product exchanges with foreign countries (which can be obtained via tariff barriers without interfering with the currency face value) was expressed (8). It originates, of course, in the green Franc which was used as an instrument of the European agricultural policy. Even if the present situation in the Sahel agriculture is only remotely related to that in the European agriculture of the past few decades, this idea calls for investigation, were it only to check whether the management of such a system is beyond the competence of Sahel States ?

Lastly, whatever solutions are selected for the structural adjustment, the issue of the necessary adjustment between the policies of the States is raised. How can a minimum consistency be ensured ? How can protection against loner States be provided, or the consequences of their behavior be limited ?

The other issue concerns the free trade area. Should the artificial obstacles to interstate exchanges be removed ? Should an investment program intended to improve transportation infrastructures between countries, and thus promote cereals trade, be designed ?

To proceed with these analyses, it may be useful to set up a restricted task force including experts from the international community and West African experts; it would resort to the works conducted by the various aid agencies, complement them or have them complemented, and it would draw the conclusions.

Proceeding with the analysis definitely is not enough. There is an obvious information problem. Even though, for instance, the existence of an informal free-trade area is better known nowadays, there is still much to be done in Sahel and within aid agencies, in order to incorporate this factor within the reflection on policies. There also is much to be done so that all parties concerned, and more especially the Sahel governments, realize the issues at stake in the regional cereals market and the concerted action for its management. It would namely be useful to properly assess the consequences of proceeding with the current policies.

This is why a forum is proposed to be held in 1989 to allow circulation of the information on the concept of a regional cereals market and help further the reflection.

Lastly, another reflection is in progress, about the "Code of Good Conduct regarding food aid" (9). Are there not links relating both of these investigations ? Is it enough, for instance, to merely specify, as in the code draft, that "food aid in nature should always avoid competing with the local products or trade" and that "as often as possible, the selling price of products shall be set according to the market price ?" Which market price is this ? The price already brought down by commercial imports or by the announcement that food aid is granted ?

Assuming that the work force suggested above is set up, it would definitely have to deal with these issues.

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P A R T II

THE COMPETITIVENESS OF SAHELIAN AGRICULTURE

by

Elliot BERG

TABLE OF CONTENTS

I. PROTECTION AND IMPORT SUBSTITUTION 3

A. THE ROOTS OF PROTECTIONIST POLICY 3

1. Growing Reliance on Cheap, Imported Cereals 3
2. The High Cost of Domestic Cereals 6
3. Artificially Low World Prices 7
4. Unstable World Prices 7
5. Overvalued Exchange Rates 8

B. THE CASE AGAINST PROTECTION 9

1. Production Side Constraints 9
   a. Technological Prospects 9
   b. High Opportunity Costs of Greater Self-Supply 10
   c. Supply Response by Cereal Producers 13
2. Consumer Demand Constraints 18
3. Negative Macroeconomic Effects 21
   a. Reduced Foreign Exchange Earnings 21
   b. Budgetary Effects 24
4. Negative Food Security Impact 26
5. A Protected Regional Cereals Market 28

II. POLICIES AND PROGRAMS TO INCREASE COMPETITIVENESS 32

A. DEVALUATION 33

B. THE ROLE FOR PRICE POLICIES 42

1. Producer Price Policies 42
2. Consumer Price Policies 45
3. Input Subsidies 47

C. STRUCTURAL POLICIES 48

D. IMPROVING TECHNOLOGY 48

E. ENCOURAGING CREATIVE RESPONSES 49

REFERENCES 55

Previous Page Blank

THE COMPETITIVENESS OF SAHELIAN AGRICULTURE

The competitiveness question raises broad-ranging issues, from those that are obvious, such as cost of production, exchange rates, fiscal and monetary policy, and the structure of world markets, to many that are perhaps less obvious, such as research capabilities and the efficiency and effectiveness of rural transport, marketing, credit, and input supply. The competitiveness of domestic cereal production is of particular concern in the Sahel. As world cereal prices fell in the 1980s, Sahelian imports of rice and wheat rose dramatically. A common response to such a situation is to seek means of protecting the domestic market. The merits of a protectionist strategy are assessed in part one of this paper. Part two then reviews a broader range of responses that might be considered to improve the competitiveness of Sahelian agriculture.

I. THE PROTECTION ISSUE

This part of the paper first discusses the circumstances that have led to protectionist proposals for the Sahel. This is followed by an examination of the arguments that have been raised against protectionism.

A. THE ROOTS OF PROTECTIONIST PROPOSALS

The current call to protect Sahelian cereal markets springs from the immediate problem of sharply increased imports and from the long-run objective of sheltering cereal producers until they become a strong engine for broad agricultural growth.

1. Growing Reliance on Cheap, Imported Cereals

The West African Sahel is relying more and more on imported rice and wheat to satisfy food consumption requirements. Delgado and Reardon (1987)

Previous Page Blank

provide a concise overview of the evolving situation. In 1961/65, rice and wheat accounted for 13% (by weight) of cereal consumption in eight Sahelian countries, but by 1979/83 this was up to 23%, with more than two-thirds of these cereals imported. Per capita consumption of rice and wheat rose during that period while the per capita consumption of millet and sorghum fell.

This trend worries Sahelians and outsiders alike. Sahelian governments interpret it as a threat to food security. They see their countries more and more at the mercy of external forces, including, importantly, the domestic policies of cereal exporters. In addition, the rise of imported cereals (see Table 1) means a greater drain on foreign exchange and impeded domestic agricultural development. All of this lies behind the cereals self-sufficiency objective formally adopted by so many of the Sahel states, and has generated new concern over the competitiveness of agriculture in the region. Current proposals to protect local cereals production, including the Mindelo conference recommendations on a protected regional market for cereals, are based on these preoccupations.

The above assessment must be tempered by recognition that the coastal and inland Sahelian countries differ in their reliance on imported cereals. FAO data presented in Delgado and Reardon (ibid., p. 370) imply that the share of rice and wheat imports in total cereals consumption in 1979-83 was 57% in The Gambia, 67% in Mauritania, and 52% in Senegal. In contrast, it was only 7% in Burkina Faso, 12% in Chad, 20% in Mali, and 9% in Niger. In a separate analysis, using USDA data for 1979-1981, Roth and Abbott (1983, p. 129) show that the land-locked countries each provided at least 95% of their cereal consumption from domestic production while Senegal provided only 60%.

In 1983, the three coastal countries accounted for only about 25% of the population of the seven (8.7 million out of 24.4 million), and Senegal accounted for most of that (6.3 million). In addition to having access to the sea, the three countries relying heavily on imported cereals have other noteworthy features. Senegal is the most urbanized and has the highest GNP per capita of all these seven Sahelian countries. Mauritania has very little arable land. It has relied on food aid for over 25% of its consumption for

Table 1. Average Volume of Cereal Imports*

Thousands of metric tons

	1970-74	1974-79	1980-84	1985-86
Burkina	40	51	88	141
Mali	108	61	150	221
Niger	43	46	97	145
Mauritania	90	121	222	221
Senegal	338	327	522	520
The Gambia	14	41	45	74
Chad	20	18	46	94
Guinea Bissau	28	33	31	28

* Commercial imports plus food aid.

Source: FAO Trade Yearbook, Vol. 40, 1987.

many years (see Martin, 1986, pp. 5, 60). The Gambia is a very small country with half of its cropped land in groundnuts. It has a strong tradition of reshipping imported rice to other countries, so official statistics on imports may overstate their importance in Gambian consumption.

The point is that reliance on imported rice and wheat varies considerably among Sahelian countries at present, and while all of them show trends toward more such reliance and all are concerned about future implications of those trends, the problem is clearly more difficult for the coastal countries than for those of the interior.

2. The High Cost of Domestic Cereals

Rice produced in Senegal cannot be delivered to Dakar at lower cost than rice imported from Thailand. In 1986, the average landed price of broken rice imported from Thailand was 52 CFA/kg, and in 1987 it fell to 44 CFA[1]. In 1988, world rice prices rose by some 50%, bringing the price of imported rice to around 70 CFA. The cost of rice produced in Senegal's River Basin, delivered to Dakar, is estimated to be between 160 and 250 CFA/kg (Martin, 1986, p. 94). Thus the price guaranteed to producers must be at least several times the import price to make Senegalese rice competitive. The same problem exists for the other coastal countries; Mauritania is considering a 45% tariff to protect its rice producers, and until 1988, The Gambia maintained a 36% duty. The interior countries are protected by transport costs, but they too feel forced to adopt protection--e.g. import restrictions and high specific duties (20 CFA/kg. for rice in Niger, for example).

One implication of this situation is that at least some farmers are blocked from using grains as cash crops. This can have a dampening effect on agricultural development in general. Another implication is that the capital

1. In 1986, rice from Pakistan comprised 15% of rice imports (with an average price of 50 CFA/kg.) with Thailand rice constituting 58% of the total. In 1987, rice from Thailand comprised 40% of rice imports, and rice from Pakistan increased to 48% of the total, with an average price of 42 CFA (Index International, Mensuel d'Informations Economiques, Dakar, Senegal, Nov. 1988).

investment of costly irrigation systems cannot be paid off, and recurrent maintenance of irrigation systems may not even be covered. Thus the poor competitive situation of domestic cereals is seen as an impediment to broad agricultural development.

3. Artificially Low World Prices

The world prices of rice and wheat are strongly influenced by domestic policies in exporting countries. The U.S., Thailand, and other countries regularly subsidize their cereal exports. This is considered unfair competition by Sahelian producers. It is also thought to represent a high risk for the Sahel, since policies can change overnight. Finally, governments relying on cereal imports feel they lose some of their sovereignty when something as critical as food consumption is at the mercy of another government's domestic policies.

4. Unstable World Prices

Questions of risk and sovereignty also are raised by the instability of world cereal prices. This is particularly true regarding the world rice market which is described as "essentially a thin residual market" (Siamwalla and Haykin, 1983, p. 9). Small variations in weather in major producing and consuming nations can result in large percentage changes in their exports and imports, with resultant major changes in the prices faced by Sahelian importers. This natural tendency toward instability is reinforced when large producing countries manipulate variations in trade in order to stabilize domestic prices. As Huddleston, et al. (1984, pp. 18-19) note:

> National policies to stabilize domestic prices of grain . . . have increased price instability in international grain markets. . . . Governments have sought to achieve price stabilization by varying net trade. Thus the internal instability of these nations has been reflected in the international market and in the economies of countries that permit their domestic prices to vary with the international prices. (emphasis added)

The instability of the world rice market is perhaps epitomized by Indonesia, which shifts from being a net exporter to a net importer, depending on weather and policies. Because of the size of its production and consumption, these shifts cause large reverberations in the world market. The prediction for 1988/89 is for a shortfall that will lead to imports of 2.1 million tons. This will probably be about 18% of total world rice trade (USDA, 1988, pp. 5, 53). Drought in Asia and Southeast Asia in 1987/88 has already caused a 45% increase in the price of Thai rice on the world market from 1986/87 to 1987/88.

5. Overvalued Exchange Rates

The poor competitive position of Sahelian cereals is exacerbated by overvalued exchange rates that allow imports to enter at artificially low local currency costs. In the 1970s, domestic inflation was higher in most Sahelian countries than in the countries with which they traded or competed. For the Franc Zone countries, the appreciation of the $U.S. in the period 1980-1985 reduced the severity of the problem. But after 1985, the decline of the dollar and other factors brought the exchange rate overvaluation issue to the fore.

Thus Sahelian ceral producers face at least three sets of problems. First, the world's major cereal producers have developed highly efficient, low-cost production systems. An important part of that picture is the large water control systems that already exist for Asian and American rice production. The second set of problems is the array of policies that subsidize the production and exports of the world's major cereal producers. Finally, there are the exchange rates and other policies in the Sahel which work to the disadvantage of domestic producers and to the advantage of imports. These three sets of problems, of course, are in addition to the pervasive challenges facing any poor nation in upgrading its infrastructure, developing and extending new technology, educating its population, and generally attempting to promote economic development.

B. THE CASE AGAINST PROTECTION

The situation outlined above forms the main justification for protection of agricultural markets in the Sahel; protection is seen by many as necessary to overcome the difficulties in obtaining food self-sufficiency. However, recent research and analysis reinforces the view that more protectionist policies are not an appropriate response to either the dependency problem or the related issue of competitiveness. The reasons are both agronomic and economic and include production-related contraints to increased food production, consumer demand constraints, negative macroeconomic effects of protectionism, and negative food security impacts, all of which are discussed below. The CILSS proposal to form a regional protected cereals market is also discussed. The regional issue arises mainly because national protection is so difficult to maintain due to porous borders and the problem of smuggling.

1. Production Side Constraints

a. Technological Prospects

One concern with the prospects for increased food self-sufficiency in the Sahel is the apparent lack of viable technological options that will lead to increased productivity in millet and sorghum. Millet and sorghum accounted for almost 85% of total cereal production in the seven mainland Sahelian countries in 1985, with almost all of the remainder divided equally between rice and maize (FAO, 1987). New technology for significantly increasing millet and sorghum yields is not at hand. In his authoritative review of millet and sorghum in West Africa, Matlon (1987, p. 31) notes the following:

> After several decades of research probably less than 5% of total sorghum and millet area in the region is sown to cultivars developed in modern crop improvement programs. Moreover, under normal rainfall conditions, and with low to moderate input levels under farmers' management, the yield advantage of most improved cultivars rarely exceeds 15% and is often negative.

Research on millet and sorghum is focusing more and more on varieties that can withstand or avoid drought stress. While success in this direction

may improve production stability, it is not expected to increase average production significantly. Nor is there much more hope to be found in modern inputs. While chemical fertilizer use in the Sahel has increased quite a lot in the past 25 years,[2] it has gone mostly to cotton and groundnuts and probably least to millet and sorghum. The profitability of fertilizer for millet and sorghum is questionable in drier areas. In wetter areas, it seems profitable for sorghum, but in these areas fertilizer is far more profitable on maize and rice (Matlon, ibid., pp. 28-29, 40-41).[3]

Recent World Bank studies confirm this assessment. In Senegal, "there have not been any major successes in technology development, transfer, and adoption which may clearly indicate which are the principal sources of growth in Senegalese agriculture" (World Bank, 1987b, p. 19). An assessment of the situation in Niger concludes that modern technical packages suitable for Niger's rainfed agriculture have not yet been developed and that irrigation development is extremely high cost (World Bank, 1986, p. 7).

b. High Opportunity Costs of Greater Self-Supply

Yields of rice and maize are higher than those of millet and sorghum. Attention is usually devoted to the prospects of increasing the area devoted to these higher-yielding crops. There are at least three issues in considering this trade-off question: 1) the cost of developing (or

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2. Chemical fertilizer use increased at an annual rate of approximately 15% in the West African semi-arid tropics since the 1960s (Matlon, 1983).

3. Matlon (pp. 53-58) summarizes the prospects for millet and sorghum as follows: (1) in the Sahelian zone (<350 mm rainfall) there is little prospect of higher yields, and improvements will be through stress-avoiding varieties; (2) In the Sahelo-Sudanian zone (350-600 mm) the main challenge is soil and fertility conservation to avoid declining productivity; (3) in the Sudanian zone (600-800 mm) there could be gains in sorghum productivity through use of more fertilizer and improved varieties; (4) in the Sudano-Guinean zone (800-1100 mm) there is the greatest technical possibility for greater yields, but competing crops (maize, rice, cotton) are more profitable and hence are likely to attract most new inputs and investments. These four zones occupy 24%, 30%, 21%, and 24% respectively, of the land area in the West African semi-arid tropics.

rehabilitating) and maintaining irrigation works for rice; 2) the availability of virgin land for the expansion of maize; and 3) the trade-offs in shifting land (and accompanying inputs) from other crops to maize and rice, including the costs of a decrease in foreign exchange earnings from export crops.

A recent study (Abt Associates, 1985) examined these issues for maize and rice (and also, as appropriate, for millet and sorghum) in the context of analyzing Senegal's goal of producing 75% of its foodgrain consumption by the year 2000.[4]

The report starts with Senegal's 45% self-supply in 1985 and looks first at the prospects for increasing self-supply if millet and sorghum yields do not increase and if no land is switched out of cotton and groundnuts into cereals. In this case, an increase in self-supply must be derived mainly from an increase in areas planted in rice and maize, as well as some increase in maize yields. The report looks at the following ambitious, hypothetical developments: (1) an annual increase of 4,000 ha of irrigated rice area between 1986 and 2000; (2) an annual increase of about 4000 ha in double cropping of irrigated land along the Senegal River between 1988 and 2000; and (3) an annual shift of 5000 ha from millet and sorghum into maize in wetter areas. These major changes would result in Senegal providing only 52% of its own cereal consumption by 2000 (ibid., p. 69).

To reach 75%, there would also have to be a major increase in millet and sorghum yields or a major decrease in cotton and groundnut area to make way for greater cereal acreage. Via the former option alone, there would need to be a doubling of average yield. Via the latter alone, there would have to be more than a halving of cotton and groundnut area (ibid., p. 72). This implies a major shift of land and labor away from export crops and into cereals. To increase the self-supply from 45% to 75%, as much as 600,000 hectares would have to shift from peanuts and cotton into millet and sorghum, mainly in the Peanut Basin (ibid.). This would leave only 550,000 hectares in the two

4. In 1986, the government had revised their goal to 80% food self-sufficiency by the year 2000 (Martin, 1988, p.59).

export crops, and that would severely weaken Senegal's foreign exchange position.

The irrigation development postulated above to reach 52% self-supply is very expensive. The report estimates that if the targeted area were achieved by 2000, the Government of Senegal would not be able to finance more than 10% of the annual maintenance (ibid., p. 86). The shift from cotton and groundnuts to cereals would also be costly to the government. A domestic resource cost study in the early 1970s showed that cotton and groundnut production was about twice as efficient as earning foreign exchange as cereals production was at saving it (ibid., p. 74). The detailed numbers have certainly changed since then, but the advantage still appears to be with the export crops. While some government reports claim that these trade-offs are not necessary because of ample virgin land for more cereal production, most analysts argue that very little new arable land is available (ibid., pp. 92-94).

In another simulation of the Senegalese case, it was found that a 100% increase in cereals prices would increase the nation's cereals self-sufficiency from 47% to only 55% (Martin, 1988, p.205). Martin gives two main reasons for the low supply elasticity of cereals in Senegal. The first is that groundnuts are far more profitable than millet or sorghum, even with substantial increases in their prices. The second is that the expansion of rice cultivation is strongly limited by a land constraint (ibid., p. 209).

The discussion thus far has concentrated on Senegal. In Mali, Mauritania, Niger, and The Gambia, expansion of irrigated rice has been the focus of considerable attention, but many analysts question the economics of the large-scale irrigation schemes that are relied on to generate new production. One study of The Gambia notes that labor, not land, is the critical constraint in central Gambia during the wet season. In the Jahally-Pacharr rice project, one hectare of fully water-controlled land requires 349 days of labor in the wet season compared to only about 90 days for the "upland" crops of millet, sorghum, or maize. For partly water-controlled land

the labor requirement is 262 days, and for traditional rice it is 217 days (Von Braun and Johm, 1987, p. 16).

On the output side, the marginal productivity of labor in upland cereals and in groundnuts exceeds that of rice grown under every type of water control studied, and the average productivity of labor in upland cereals and groundnuts was exceeded only by fully water-controlled rice ($2.45/day vs. $1.45-$1.50/day). But the latter, of course, requires very large capital investment and maintenance costs. The low marginal productivity of fully water-controlled rice is caused by the project management's rules about work tasks that are geared to maximize yields per acre (ibid., pp. 18-19 and p. 21). These authors also note:

> Staple food supply is increased through the new rice scheme at farm-household level, but this is achieved at considerable costs. These take the form of investment and operating costs in the scheme, but also of output foregone in the other wet-season crops from which labor was withdrawn (p. 24).

c. Supply Response by Cereal Producers

If it were possible to raise producer prices by raising retail prices, or lowering processing and transport costs, how would farmers react? Ever since Jones' (1960) pioneering work we have come to expect a positive supply response from African farmers. However, one must obviously go beyond this and examine the magnitude of such responses, which farmers would be involved, whether the responses represent aggregate increases or reallocations, and the factors limiting or facilitating greater responsiveness.

In a 1980 review of supply response studies (Scandizzo and Bruce, 1980, p. 2), the authors conclude that evidence on agricultural supply elasticity is both biased and weak. They note that most studies consider only acreage response and not yield response (and greater acreage does not necessarily imply greater supply). Yield response will better reflect more intensive use of labor, chemicals, manure and other inputs per acres. Well over half the estimates of elasticity of supply responsiveness listed by the authors (ibid., pp. 30-31) are below .67 and, of those, more than half are below .33. A more

comprehensive earlier review (Askari and Cummings, 1977) is consistent with those findings as are later reviews.

Virtually all the evidence reviewed by the above authors is for one crop. Marian Bond (1983) focuses on aggregate agricultural response in Africa. The average short-run elasticity for nine countries analyzed is 0.12 and the average long-run elasticity is .21 (ibid., pp. 721, 724). In this study, the dependent variable is per capita total agricultural output, and the independent price variable is measured as the average producer prices of the major agricultural products deflated by the consumer price index.

A recent survey of aggregate supply response studies concludes that the aggregate supply elasticity of agriculture with respect to prices in developing countries lies in the range of .3 to .9 (Chhibber, 1988). Chhibber suggests that it is higher, from .6 to .9, in the more advanced and land-abundant developing countries, and lower, at around .2 to .5, in poorer countries with inadequate infrastructure. He also states that the supply elasticity with respect to nonprice factors, such as public goods and services, is higher (around one) in countries with "inadequate infrastructure facilities, imperfect markets, lack of capital, and lack of private research organizations" (ibid., p.45). He concludes that improved price incentives alone will not be sufficient to raise agricultural output in these countries, and that adjustment programs must include some room for the provision of public goods and services.

Another researcher also looked at the relation between overall agricultural performance and prices, not to estimate elasticity but to identify determinants of growth.[5] He found that, in the 31 Sub-Saharan

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5. Kevin Cleaver, 1985. Cleaver's dependent variable is the agricultural growth rate per capita which he regresses against the Nominal Protection Coefficient for agriculture as a measure of price discrimination. His findings are that a 1% increase in the net protection coefficient (i.e., a reduction of price discrimination at farm producer level) is associated with a 0.05% increase in the agricultural growth rate. The price elasticity of agricultural growth implied by this equation is significantly greater than zero, but is quite low. In addition, the correlation coefficient is extremely

African countries he looked at, the impact on aggregate production of keeping many farmgate prices low is considerably less than is generally thought. Other factors such as efficient government involvement in farm output supply and marketing, population growth, the effort made by government in operating and maintaining agricultural research, extension and credit services, politics, and other as yet unidentified factors are of much greater importance in determining agricultural growth.

Braverman and Hammer (1986) formulate a model for Senegal that incorporates supply responsiveness (derived from production functions) along with demand effects caused by consumer price changes. They can thus trace the impact that an increase in consumer price prices may have on the production of millet and export crops and also the impact on the budget and foreign exchange.

The Braverman-Hammer model operates under three important assumptions: no increase in cultivated area; no reallocation of land among crops; and no interregional migration. The first assumption is close to what an earlier-referenced study (Abt, 1985) defines as the Senegalese reality. The second is imposed to provide the most optimistic prediction for export crop output and hence for foreign exchange earnings when millet production expands considerably.

The model predicts an 11.6% increase in millet production and consumption if the consumer rice price increases by 50%. This result assumes that the cross-price elasticity between rice and millet is one. Alternate assumptions of 0 and 2.0 show millet increases of 0.5% and 22.1% respectfully (Braverman and Hammer, ibid., p. 248). Braverman and Hammer call 1.0 the best estimate of the cross-price elasticity, but this is based on a University of Michigan

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low, suggesting that only 13% of the variation in agricultural growth rates is explainable by the nominal protection coefficient (pp. 10-11, 16, 28).

study[6] of three rural villages. Some of the earlier discussion seems to imply a lower elasticity for urban areas which are perhaps the critical markets. The hypothetical 50% increase in rice prices also reduces real income and the budget deficit. The improved budget situation is largely due to tariff revenues on rice imports.[7]

Thus there seems to exist a high and apparently growing degree of consensus among students of Sahelian agriculture to the effect that higher producer prices will have little effect in increasing cereals self-supply, at least in the short run. Existing policy targets as expressed, for example, in Senegal's recent Plan Céréalier, are unreachable, even at a high cost.

Why is supply responsiveness likely to be limited in the Sahel? The earlier discussion of slow progress in varietal improvements is obviously relevant. Land availability is another factor. Substantial portions of the Sahel are unsuitable for agriculture given existing technology due to desert conditions, large expanses of rock outcropping, periodic flooding, etc. Soil quality varies widely, and Sahelian soils tend to be unstable with rapidly declining productivity occurring under conditions of continuous cultivation. Although a small percentage of the land may be under cultivation in any given year, it may be misleading to refer to agriculture in the Sahel as being "land-abundant".

Another cause of low supply responsiveness is the production strategies the farmers follow to counteract the extreme environmental risk that they face. These production strategies include: diversification of crops, varieties, and land types; intercropping; plot scattering; and hand-tool

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6. Center for Research on Economic Development (CRED), "Consumption Effects of Agricultural Policies: Cameroon and Senegal", Ann Arbor, Michigan: University of Michigan, 1982.

7. The above discussion has dealt with the supply response of production rather than the response of marketed supply. The former is relevant to the national food security situation while the latter is critical for urban areas. The elasticity of marketed supply response is typically greater than that of production response, though this does not much change the general conclusion that supply response is sluggish.

planting and weeding (Matlon and Kristjanson, 1988). Crop diversification reduces farm-level income variability to the extent that individual crop yields are not closely correlated. Intercropping can improve stability if crop mixtures reduce the incidence of pests and diseases, or if the component crops can compensate yield losses in stress conditions. Plot diversification exploits imperfect correlation of crop stress across micro-environments. Diversification of varieties with varying maturities or varying susceptability permits staggered plantings (spreading the risk of period-specific stresses), and reduces the risk of pest and disease.

Kristjanson (1987) found that farmers in Burkina Faso had also developed flexible production systems which allowed them to revise their cropping patterns as the season progressed and more information was gained as to the onset, amounts, distribution, and duration of the rains. These sequential adaptation methods included the following modifications: (1) shifting crops along the slope of the cultivated areas; (2) switching crops and/or varieties with late first plantings and replantings; (3) increasing plant densities through late plantings or replanting of the main crop or intercrop, or decreasing densities through thinning; and (4) adjusting the date, number, and intensity of weedings across crops and plots.

The incentives for private diversification and flexible cropping systems can have adverse effects on economic development in the semi-arid tropics[8]. Policies that create incentives to limit diversification strategies may increase the overall level of risk faced by producers without a corresponding development of insurance or saving schemes that achieve the same risk-alleviating (or risk-spreading) purpose. In fact, their own risk management strategies are one of the factors which severely limits the potential of many current available technologies (e.g. chemical fertilizer use and animal traction plowing in the Sahel).

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8. Diversification strategies make agricultural research and extension more difficult, since it does not allow a focus on a particular monoculture, for example. Transaction costs of trade are also higher.

If farming households were able to reduce their risk exposure, or to shift some of the risk from individual households (or even villages) to a larger group[9], farmers would be more willing to specialize in the activities in which they have comparative advantage. This might also lead to more rapid adoption of technology and greater responsiveness to economic stimuli. Spreading or shifting risk means having rural financial/insurance institutions that farmers can use effectively. Unfortunately, viable institutions of this type face many problems, especially in the Sahel (see Binswanger and McIntire, 1987, Christensen, 1988).

2. Consumer Demand Constraints

One of the strategies to improve incentives for domestic cereal producers is to raise the prices of imported cereals. This will be more successful the more readily consumers switch from the latter to the former when prices change. That is, the strategy will be more effective if there is a high cross-price elasticity between the imported and local cereals. The strategy will be less effective if factors such as urbanization, per capita income, taste preferences, and dietary patterns are very strong relative to the importance of price in determining consumption.

Delgado's 1987 study of the relationships among cereal consumption, prices, urbanization and income between 1970 and 1983 in Senegal, Côte D'Ivoire, Burkina Faso, and Niger finds that urbanization is by far the most important factor leading to an increase in consumption of rice and wheat relative to traditional cereals (millet, sorghum, and maize). In contrast, the relative price of rice has a weak and/or insignificant effect on rice consumption in most of the study's regressions. (It is significant only in

9. Spreading the risk over a wider geographic area is a critical need in the Sahel, due to the highly covariant risks (e.g. of drought) faced by a household or village.

Côte D'Ivoire where it is weak).[10] Byerlee and Morris (1987) found that per capita income and urbanization were significant factors in explaining per capita wheat consumption in 40 tropical countries including 20 Sub-Saharan African countries.

The literature gives strong emphasis to nonprice factors in explaining consumption patterns and low elasticities of substitution for rice. Millet stores less well than rice, and requires much more processing, which is highly important for urban populations. There is little dissent from the conclusion that rice is a strongly preferred cereal, as is wheat, though to a lesser extent. Recent studies concur: consumption of the imported grains will not decline sharply in reaction to policy-induced price increases (Josserand, 1984; Delgado, 1987; Reardon, 1988; Rogers and Lowdermilk, 1988).

Reardon (1988) found that rice as a proportion of cereal consumption stayed relatively stable despite wide price fluctuations during the year even for the poorest segment of the sample urban population in Ouagadougou, Burkina Faso. He attributes this in part to the high consumption of street-vendor rice for the midday meal, when both sexes of the household are typically working away from home, and cannot return home to eat due to high transportation costs and the nature of their jobs.[11]

A few cautions should be raised in interpreting these studies. First, since one cause of the current levels of rice consumption is often alleged to

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10. Delgado's summary regression combining data from all four countries indicates that a 1% increase in urbanization leads to almost a 2% increase in the proportion of rice in total cereal consumption. This result is statistically significant. The same regression shows that a 1% increase in the price of rice relative to the price of traditional cereals leads to about a 0.25% decline in the proportion of rice in total cereal consumption. But this result is not statistically significant. The results for wheat are similar.

11. Rogers and Lowdermilk (1988, p. 17) also found low price responsiveness of rice consumption in urban Mali. They note, however, that the price of rice during their study ranged from only 129 CFA to 164 CFA per kg. and state that: "recently, the price of rice has risen...to 220 CFA/kg. in the capital. Local reports suggest that consumers are now beginning to shift their consumption away from rice toward coarse grains, even for the midday meal."

be several years of low prices in the 1980s, one might be led to think that consumers are sensitive to price in their cereal consumption decisions. There may be a ratchet effect, but the evidence is not clear. A second caution relates to the time allowed for adjustment. The Reardon et al. (1987) study measures price elasticity with monthly data over a one-year period. Low elasticities over such a short period may not be indicative of the impact that higher prices will have over several years. A third caution relates to the interpretation of insignificant coefficients for the price variable. The proper conclusion is that the results do not allow rejection of the hypothesis that the coefficient is zero. It is not proper to jump from that conclusion to interpreting the results as if the coefficient <u>were</u> zero or even very small (i.e. that price has no influence on quantity consumed).

Finally, the importance of coefficients and even elasticities cannot be evaluated unless one also considers the likely changes in the "denominator." For example, a low elasticity for relative price changes and a higher one for the percent of the nations' population living in cities need not mean that changes in percent urbanization will play a stronger role in determining rice demand. Delgado (1987, pp. 33, 44) finds that a 1% increase in the relative price of rice is associated with a -.23% change in the percent of rice in total cereal consumption, and that a 1% increase in the percentage of the population living in cities is associated with approximately a 2% increase in the percentage of rice in cereal consumption. However, the relative price of rice can increase very rapidly with a tariff, or as noted above, with changing world conditions. A 50% increase in one year is not unheard of in world prices. In marked contrast, the percentage of the population living in cities grows very slowly. From 1960 to 1982 this figure increased from 11% to 22% in Sub-Saharan Africa (World Bank, 1984, p.85).[12] Thus, even with a larger elasticity, the growth of urbanization may not be more important than price in determining the demand for rice in West Africa.

We conclude that the evidence presented is very weak regarding consumption sensitivity to price changes. At best, the recent studies raise a

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12. In Senegal the increase was from 23% to 34%.

yellow caution flag about the potential effects of protectionist policies which attempt to stimulate greater demand for domestic cereals. We do not consider the evidence strong enough to reject with confidence the hypothesis that consumers will switch to domestic cereals if imported cereals prices rise significantly.

3. Negative Macroeconomic Effects

a. Reduced Foreign Exchange Earnings

As this discussion of reallocation of resources implies, significantly greater self-supply of cereals means lower production of export crops in the short- to medium-term. This seems unavoidable given the lack of new technologies and the scarcity of productive resources. There will, of course, be some opportunities to increase cereal yields and to bring some additional resources into production, but major increases of self-supply, like those contemplated by Senegal, will force trade-offs with export crops in the absence of unforeseen changes.

Because of this trade-off effect, other costs may be involved. One is foreign exchange earnings. Cereal imports accounted for about 10% of the value of commercial imports of each Sahelian country in 1983 and increased to an average of 14% in 1985 (Table 2). Groundnuts and cotton accounted for from 20%-70% of the countries' export earnings in 1983, although this declined somewhat in 1985 (ranging from 12% in Senegal to 60% in Burkina). An increase in domestic production in cereals could decrease foreign exchange expenditures, but a drop in production of groundnuts and cotton (as discussed above) would lower foreign exchange earnings. The net result depends on how efficiently domestic resources are converted into foreign exchange (earnings or savings) via cereals versus groundnuts and cotton. Thus Domestic Resource Costs (DRCs) must be examined.

The DRC indicator is the ratio of the social opportunity cost of domestic resources to the value added measured in world prices that is created by using those domestic resources. A country has a comparative advantage in a given

Table 2. Commercial Imports and Exports 1983

$000
(% of Total)

	IMPORTS		EXPORTS			
	Total	Cereals	Total	Live Animals	Oilseeds &Oils	Textile Fibers
Burkina Faso	287,517	31,311 (11)	56,972	5,033 (9)	9,001 (16)	31,191 (55)
Chad	100,000	12,320 (12)	140,000	67,800 (48)	--	60,000 (43)
The Gambia	105,891	9,322 (9)	45,500	--	24,392 (54)	--
Mali	345,711	40,417 (12)	240,000	127,295 (53)	5,373 (2)	68,400 (29)
Senegal	1,044,460	106,522 (10)	545,795	3,344 (1)	110,507 (20)	9,001 (2)

Commercial Imports and Exports 1985

$000
(% of Total)

	IMPORTS		EXPORTS			
	Total	Cereals	Total	Live Animals	Oilseeds &Oils	Textile Fibers
Burkina Faso	250,000	41,670 (17)	60,000	8,134 (13)	8,862 (15)	26,265 (44)
The Gambia	104,660	14,637 (14)	50,010	--	15,600 (31)	1200 (2)
Mali	410,000	56,073 (14)	210,000	73,250 (35)	10,300 (5)	--
Senegal	796,390	90,458 (11)	484,700	--	44,113 (9)	15,205 (3)

Source: FAO. FAO Trade Yearbook, Vol. 40, 1987. FAO Statistics Series No. 78.

activity if the ratio is less than one, that is if the cost of domestic resources is less than the value added created. A DRC > 1.0 means that it is not advantageous for a country to attempt to earn (or save) foreign exchange by producing that particular crop, since the value of domestic resources used in that crop's production could be traded directly to earn more foreign exchange than if those resources are used to produce the commodity.

Calculating DRCs requires judgement about which prices should be used to value inputs, outputs and foreign exchange--e.g., official prices, border prices, local prices, shadow prices, current prices, trend prices, or predicted prices. A recent study of Mali (Stryker, et al., 1987) reveals the importance of these judgements and provides valuable insights into Malian agriculture. The study found that rice is a less efficient foreign exchange earner than millet, sorghum, or maize (p. 48). Cotton is more efficient than any cereal at predicted 1990 and 1995 prices; but not at 1986 world prices. Thus the future foreign exchange situation for Mali would be worsened if resources were shifted from cotton to cereals.

For Senegal, a previously mentioned study (Abt, p. 74) cites figures from the mid-1970s that show peanuts or cotton being very efficient foreign exchange earners (DRCs <.50), millet and sorghum favorable (DRC = .62) and rice unfavorable (DRC = 1.02). Somewhat later calculations in Pearson et al. (1981, pp. 285, 286) show DRCs for rice well above 1.0 (unfavorable) with a few small exceptions.

Thus, for Senegal at least, it seems that a switch from export crops to cereals (especially to rice) would worsen the foreign exchange situation. Export crops become even less attractive (relative to cereals) as the world prices of cotton and groundnuts decline. Such tradeoffs are less clear in other countries. For example, in Mali rice is grown predominantly in one place (the Office du Niger), while cotton is grown elsewhere, so it is not a case of planting cotton instead of rice in a given plot.

The competitiveness of domestically produced cereals is quite sensitive to the location of their consumption. Pearson et al. (ibid., p.286) showed

that in 1981, the DRC for some rice technologies was less than 1.00 for consumption on the farm but it is greater than 1.00 for consumption in Dakar. The difference, of course, is transport costs.

b. Budgetary Effects

Substituting cereals production for export crop production would affect national budgets as well as foreign exchange reserves. Budgetary effects would be felt on revenues and expenditures. The seven mainland Sahelian countries have relied on import duties (from all imports) for from about 11% to 64% of total budgetary revenues in various past years (Table 3). We know that cereals imports have comprised about 10% of total imports but we do not have specific information on the relative importance of cereals import duties. However, in some years, governments do regard cereals import duties as important revenue sources. For example, Mali accepted IMF recommendations to raise rice duties and fully enforce coarse grain duties at least in part because of government revenue considerations (Stryker, et al., 1987, p.57). In The Gambia, where a very high fraction of revenues comes from import duties, these are set primarily to raise revenues, not for protection. This did not, however, prevent the Gambian government from removing import duties on rice when the Senegalese price was cut from 160 to 130 CFA/kg in 1988. In analyzing Senegal's budgetary situation, the World Bank (1987b, p. 23) noted that "the slow growth of tax revenues, particularly of customs duties, has emerged during the last two years as a particularly important factor slowing down the pace of financial consolidation." Part of that decline is attributed to a shift of imports from official to clandestine channels. Senegal's budget did benefit to the tune of over 20 billion CFA from its high tariff on rice in 1987, however.

Export duties are usually less important as a source of budget revenues.[13] Export crops, however, have contributed significantly to budget revenues when government buying agencies keep producer prices lower than world

13. These ranged from only .5% to 5% of total revenues in recent years (Table 3).

Table 3. Budget Revenues and Expenditures

Billions of Francs (*unless otherwise noted)
(% of Total)

	REVENUES				EXPENDITURES	
	Total	Import Duties	Export Duties	Other Tax on Int'l Trade	Total	Agric., Forestry & Fishing
Burkina Faso (1985)	72.7	21.3 (29)	1.4 (2)	1.9 (3)	63.4	2.7 (4)
Chad (1976)	15.1	6.6 (44)	1.2	--	23.2	4.8 (21)
The Gambia (1982) *million dalasis	87.1	55.5 (64)	3.8 (4)	.4	159.5	17.6 (11)
Mali (1985)	79.7	8.6 (11)	4.4 (5)	.3	165.9	8.0 (5)
Mauritania (1983) *million UM	8,963	2,832 [1] (31)	31	--	10,109	781 [1] (8)
Niger (1980)	77.4	24.4 (32)	3.1 (4)	.65	98.7	6.7 (7)
Senegal (1983)	182.72	62.32 (34)	1.06 (.5)	.03	250.04	18.63 (7)

[1] 1979 values.

Source: IMF. Government Finance Statistics Yearbook. vol. XI, 1987.

prices. This has been the case with cotton, for example. The cotton parastatals pay producers well below world price parities; the "profit" is really an implicit export tax.

A shift toward cereals at the expense of export crops would probably have a negative effect on government revenues if it implies fewer cereals imports and lower yields from explicit and implicit taxes on exports. The effect on expenditures is less clear. Expenditures may decline if government agencies that buy the export crop receive less net government financing. For example, in 1980, ONCAD, which handled Senegalese groundnut marketings, received financing that amounted to 50% of the national budget (Martin, 1986, p. 6). Elimination of ONCAD surely helped the Senegalese budget. On the other hand, a policy to expand cereals production may include price floors, input subsidies, better infrastructure, and other elements that would all increase budget outlays.

We can conclude, then, that while the effect on government revenues would be negative, the effect on expenditures is unpredictable. No absolute statement can therefore be made about the budgetary impact of greater cereals self-sufficiency.

4. Negative Food Security Impact

Recent research results argue that positive producer price policies are also likely to worsen income distribution and the nutritional status of the poor, in the short run at least. This is so because many, if not most, rural households are net buyers of grain.

In surveys of about 200 farm households in Mali, and 200 in Senegal, a recent study (Weber et al., ibid., pp. 2-3) found that only 48% and 29% respectively were net grain sellers. The surveys were conducted between 1985 and 1987 in major grain-producing areas. In another study, surveys of 322 farm households in nine Burkina Faso villages between 1984 and 1985 found that only 52% of all grain producers (not just net grain sellers) sold grain (Sherman et al., 1987 pp. 148-149). Five of the Burkina villages were

characterized as surplus producers and 84% of these surplus area households sold grain. In contrast, only 12% of sample households in the 4 deficit area villages sold grain.

These statistics serve as reminders that farm households are not homogenous. Individual households may be affected differently by the same policy. Net grain sellers are both short- and probably long-term gainers from policies that stimulate production via higher prices, while net buyers may lose. Reutlinger and Pellakaan put it this way:

> If . . . much of the marketed surplus of domestically supplied food is not produced by the chronically food insecure but many of the purchasers of food are chronically food insecure, their food security can decrease, at least temporarily, when food prices are raised. (Reutlinger and Pellekaan, 1986, p. 32.)

These possible negative food security effects at the household level are not counterbalanced by a reduction of risk at the national level, such as is often posited to follow from greater food self-sufficiency (defined as greater self-supply). The argument is that risk will be reduced as a result of reduced exposure to uncertain and unstable world commodity markets. However, a shift to a greater self-supply does not necessarily involve a reduction in risk, but rather a shift in risk exposure toward the variability of domestic cereal production and away from the combined variability of domestic groundnut and cotton production and world prices for cereals, groundnut oil, and cotton. To the extent that the latter production and price movements are not closely correlated, reliance on them should be less risky than greater reliance on domestic cereal production.

During drought periods there will be declines in Sahelian production of cereals, groundnuts and cotton. The effect of these declines may be moderated if world groundnut and cotton prices rise or stay strong and world cereal prices fall or stay low. This reliance on world prices for food security is not looked upon favorably by Sahelian governments, but it may be less risky than alternative options.

Tables 4 and 5 show Sahelian production of millet and sorghum from 1962 to 1985 and world prices for cotton, groundnut oil, rice, and wheat from 1962 to 1986. The tables highlight some problems: declines of more than 10% from one year to the next in millet and sorghum production and world groundnut and cotton prices, and increases in world rice and wheat prices of at least 10% from one year to the next. These problems are most evident in millet and sorghum production in Senegal and Mali and in world groundnut oil prices.

Extended, major changes in world prices of groundnut oil and rice that were disadvantageous to the Sahel occurred in six different periods (see Table 5). However, in five such periods a damaging change in one price (e.g. a fall in groundnut oil prices--as happened from 1981 to 1983 and again from 1984 to 1986) was countered by a favorable change in the other--e.g. a fall in rice prices.

Thus there does not seem to be clear evidence that Sahelian countries face less risk to food security when they cut reliance on world markets in favor of greater self-supply of cereals.[14] There is at least one other factor to consider here. At least some Sahelian countries have a comparative advantage in their export crops; and when world prices turn against the Sahel, cushioning devices exist that are not available if cereals import replacement occurs at the price of reduced exports--for example, STABEX and IMF compensatory facilities.

5. A Protected Regional Cereals Market

A protected regional market that aims at setting prices above trend levels is subject to the same objections as national protection that raises imported cereals prices above their trend level in world markets: if it were effective it would be a costly and inefficient means to increase domestic cereals production and would probably not contribute to enhanced long-term competitiveness.

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14. Although Martin (1988) finds a slight reduction in risk in Senegal with increased cereals self-sufficiency.

Table 4. Millet and Sorghum Production (1000 mt)

Year	Burkina	Chad	Gambia	Mali	Maurit-ania	Niger	Senegal	Total	% Change Total Prod'n
1962	772	650	50	867	89	1255	428	4111	-
1963	784	896	50	770	90	1329	482	4402	7.08%
1964	850	710	51	661	90	1329	536	4227	-3.98%
1965	820	614	49	720	100	1056	557	3916	-7.36%
1966	860	630	44	765	90	1119	423	3931	0.38%
1967	868	647	47	857	90	1343	655	4507	14.65%
1968	907	661	50	757	95	948	450	3868	-14.18%
1969	938	651	46	913	110	1381	635	4674	20.84%
1970	973	610	52	715	83	1102	401	3936	-15.79%
1971	780	585	52	725	50	1226	583	4001	1.65%
1972	788	415	51	624	38	1128	323	3367	-15.85%
1973	742	400	52	660	25	754	511	3144	-6.62%
1974	978	530	55	800	50	1102	795	4310	37.09%
1975	1130	522	54	925	45	836	621	4133	-4.11%
1976	890	507	29	830	36	1307	558	4157	0.58%
1977	998	574	27	751	21	1473	420	4264	2.57%
1978	1022	580	37	910	31	1495	803	4878	14.40%
1979	1034	520	28	746	21	1608	521	4478	-8.20%
1980	903	450	32	708	37	1734	553	4417	-1.36%
1981	1106	257	47	950	66	1636	736	4798	8.63%
1982	1056	280	54	1057	40	1651	585	4723	-1.56%
1983	1009	331	34	900	20	1689	352	4335	-8.22%
1984	971	254	38	800	15	1023	471	3572	-17.60%
1985	1406	526	55	1100	32	1746	950	5815	62.79%

Source: FAO, 1987.

Table 5. First Quarter Prices*

Year	US$/lb. Cotton	US$/mt. Groundnut Oil	US$/mt. Rice	US$/bu. Wheat
1962	29	306	138	1.67
1963	30	264	140	1.86
1964	30	265	137	1.81
1965	29	360	133	1.71
1966	28	300	145	1.61
1967	30	300	171	1.86
1968	32	254	224	1.71
1969	28	338	182	1.71
1970	28	347	151	1.42
1971	31	470	126	1.72
1972	40	433	131	1.63
1973	41	456	192	2.77
1974	83	1059	566	5.67
1975	47	1040	400	4.22
1976	66	708	260	4.07
1977	83	887	259	2.96
1978	66	962	366	3.21
1979	76	972	304	3.79
1980	93	747	403	4.64
1981	96	1108	485	4.96
1982	70	671	331	4.65
1983	75	453	271	4.49
1984	88	1031	254	4.15
1985	69	902	222	4.01
1986	53	607	229	3.61

Source: IMF Int'l Financial Statistics: Supplement on Price Statistics, Supplement No. 12, 1986.

* Average of weekly quotations:
Cotton: Cotton A-MIDD 1-3/32 secs., Liverpool Index "A", Average of cheapest 5 of 10 styles, Jan.1968-May 1981, Med. Staple, SM 1-1/16, c.i.f. Liverpool.
Groundnut Oil: any origin, c.i.f. Rotterdam
Rice: Thailand white milled 5% broken, f.o.b. Bangkok export price.
Wheat: U.S. No. 2 Hard Red Winter, f.o.b. Gulf Ports, Ordinary Protein, Export price base.

The impetus for the regional cereals market idea comes from the perception that low world prices for rice (and wheat to a lesser extent) make local production of grains uncompetitive. At the same time, the permeability of frontiers makes it difficult to sustain national protection at levels significantly different than that imposed by neighboring states.

Aside from the questionable desirability of the protected market idea, its feasibility is extremely dubious. The choice of countries is one problem. Gabas, et al. (1987), in considering the possibility of a protected Sahelian regional cereals market, note that such a regional market would require a harmonization of cereal policies among the countries, but that this may be difficult because the countries face different economic and agricultural situations. Their proposal, therefore, ends up including only Mauritania, Mali, Senegal, and The Gambia as market members, but notes that this would pose a severe problem of rice moving from Côte D'Ivoire to Mali.

A problem not considered in the Gabas paper is exchange rates. The four countries have three different currencies. The real rate of exchange among them varies. The dalasi is floating and the CFA is fixed. Thus a common protective wall against non-Sahelian imports requires more than a common tariff. If Senegal and The Gambia both have a 30% tariff, imported rice will move from Senegal to The Gambia if the CFA is overvalued compared to the Dalasi.

A protected regional market calls for agreement on the level of protection, the level of input subsidies to domestic producers, adjustments for variations in exchange rates, and sharing of tariff revenues. It is hard to find any historical precedents for an agreement covering so large an array of policies, especially those that impinge on food supplies. It has to be regarded as highly unlikely to succeed in the Sahel.

Then there are the political strains associated with the uneven incidence of costs and benefits. The free-trade-oriented Gambia would suffer as would coastal countries in general, while surplus millet-producing regions and rice

producers (Mali and perhaps Mauritania) would benefit. The Gambia has already vigorously expressed its opposition to this approach.

The Sahelian situation has some elements in common with that in Asia. There, too, the ease of smuggling blunts domestic policies. Timmer (1986) concludes that it is unrealistic to attempt to solve the Asian problem with a regional protected market: "logistical capacity, political reality, and limited budgets make such a scheme impossible as a conscious policy." The same observations apply even more fully to the Sahel.

The alternative is a situation similar to the one which exists now, where each country imposes its own tariffs and some of the imported grain moves across borders if there are large enough price differences. This of course blunts the effectiveness of a tariff in stabilizing prices and providing better incentives to farmers. However, since all Sahelian countries are concerned with these issues, it is doubtful that grain will be entering the region completely untaxed. The Gambia, after all, had a 36% tariff on rice in 1987. But there will continue to be differences as each nation places different priorities on consumer welfare, production incentives, and maintenance of exchange rates.

Through consultation and formal or informal dialogue, better policy coordination might be achieved. Also, strengthened customs administration could reduce smuggling of the large-scale, pure tax-avoiding type that has been found to comprise a significant share of the cross-border trade between some countries--The Gambia and Senegal, for example. These limited and indirect measures may be the only regional response that is feasible in Sahelian conditions.

II. POLICIES AND PROGRAMS TO INCREASE COMPETITIVENESS

If national protection is inefficient, costly, and of doubtful feasibility, what policies are suitable?

Prudence is called for in drawing policy inferences from the analyses reviewed here. The Sahel states differ among themselves in many basic ways, with differences between the coastal and interior countries especially apparent. Many uncertainties persist with respect to underlying elasticities of substitution in production and consumption. Food policy has many objectives--national security and risk prevention, social equity, income growth--and economists can speak only partially to the trade-offs involved.

The policy options that are assessed below include: devaluation, the role for price policies, structural policies, improving technology, and encouraging creative responses.

A. DEVALUATION

Exchange rate overvaluation has been pointed to as a major factor in the Sahel region's "lack of competitiveness" for many years, especially since 1985. When people say that their economy has comparative advantage in nothing, it usually signals a problem of overvalued exchange rates. The prescribed solution is a devaluation that will make exports and import substitutes more competitive.

Preoccupation with the exchange rate is warranted. It is the single most important price in these small, open economies. But overvaluation, and the resulting need for devaluation, is not as intractable a problem as it sometimes appears.

First, the overvaluation issue is usually seen as primarily a Franc Zone problem. But not all the Sahel states are members of the Franc Zone.[15] Four of the eight CILSS states (The Gambia, Mauritania, Cape Verde and Guinea Bissau) are outside UMOA, and have flexible exchange rate regimes.

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15. The Franc Zone consists of 2 units - the West African (UMOA) union of Côte d'Ivoire, Senegal, Niger, Mali, Benin, Burkina Faso, and Togo, and the Central African union of Cameroon, Gabon, Congo, Central African Republic, Chad, and Equitorial Guinea.

Secondly, not all Franc zone states have equally overvalued exchange rates. Table 6 traces the evolution of real effective exchange rates (defined below) for 6 Sahelian states since 1976. It suggests that the problem is more severe for Senegal, whose real effective exchange rate has been appreciating since 1981, but not as severe for Niger and Burkina Faso, who have seen declining rates during the 1980s.

Even if we accept the view that the CFA is significantly overvalued throughout the region, it does not necessarily follow that the appropriate policy response is a devaluation of the nominal exchange rate--i.e. a change in the CFA's parity with the French Franc. Alternatives exist, though all options raise vexing issues.

The first alternative is to use trade policy as a substitute for exchange rate regime changes. As is well known, a mix of import tariffs and export subsidies can be found which will have balance of payments effects and broader impacts on competitiveness equivalent to a given exchange rate devaluation.

Some approximation to this approach does appear to have been followed by most of the Sahel states. This is indicated by the fact that these states have been protecting both exporters and food crop producers, as shown by the nominal protection coefficients[16] (NPCs) in Table 7. High NPCs indicate that Sahel governments have been subsidizing exports and taxing imports--the appropriate mix for dealing with a problem of overvaluation of nominal exchange rates. Figure 1 shows the average NPC levels for sorghum and millet in 5 Sahelian countries (Senegal, Niger, Mali, Burkina, and Mauritania). Protection for these food crops stayed relatively constant over the period 1977-1983, and then increased quite sharply from 1983-1986. Protection (or subsidies) for cotton and groundnut in the Sahel also increased from 1984-1987

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16. NPCs measure farm-level price distortions as the average rates of farm-gate prices to world prices adjusted for internal handling and transportation costs. An NPC > 1 indicates the farm-gate price is greater than the world price, thus providing an incentive to produce the commodity and a disincentive to import it.

Table 6. Real Effective Exchange Rates, 1978-86

Country	78	79	80	81	82	83	84	85	86	87
	Year									
Senegal	105	105	100	89	92	92	94	103	112	106
Niger	102	101	100	105	103	90	89	84	79	72
Burkina	93	99	100	91	89	86	82	84	82	82
Mali	104	94	100	98	89	89	92	95	97	91
Gambia	98	99	100	96	96	97	90	98	71	75
Mauritania	103	100	100	116	126	124	117	110	100	94

	1980-82	1987
Sub-Saharan African Average REER (unweighted):	104.6	80.6

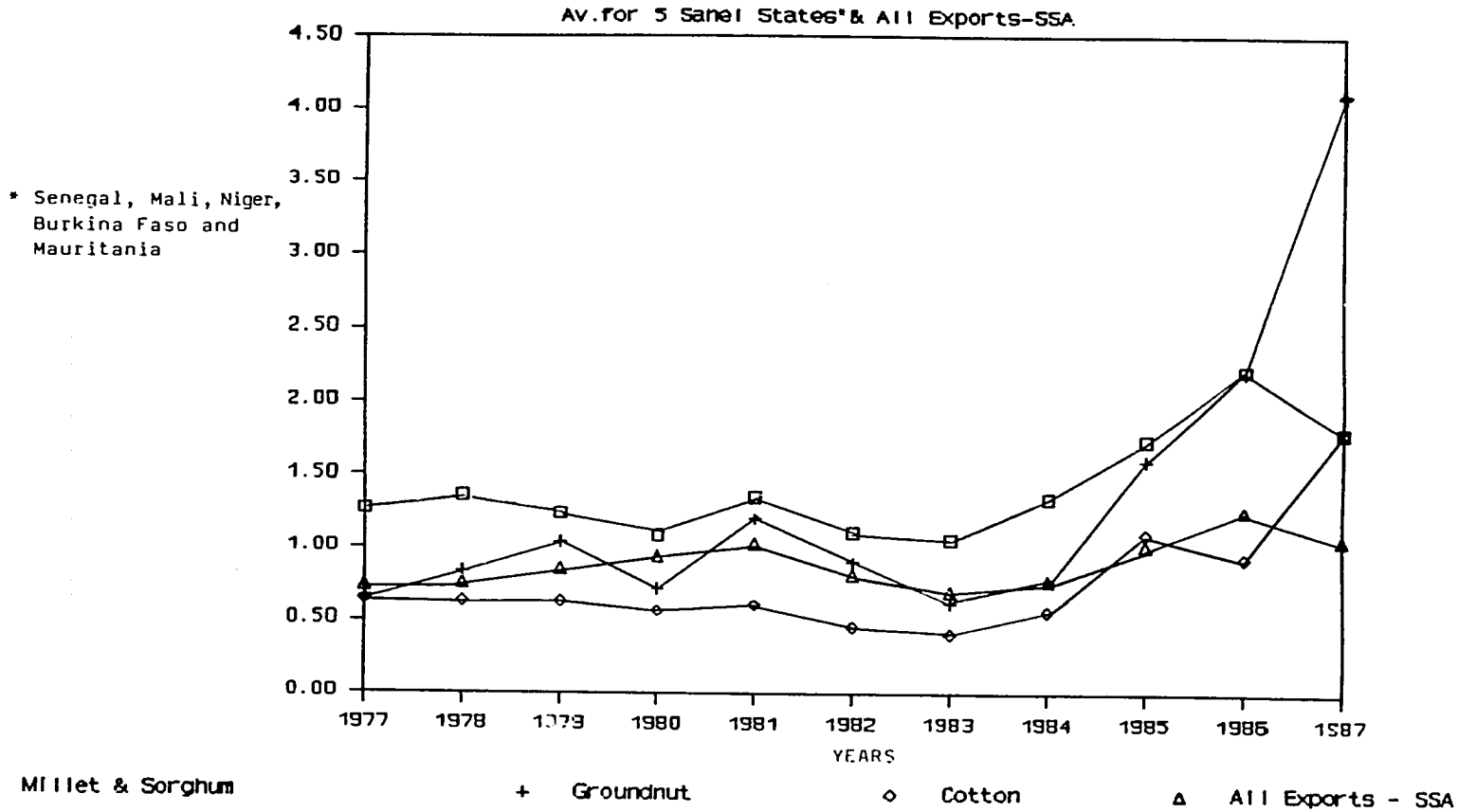
Source: World Bank, "Monitoring Agricultural Incentives and Policy in Sub-Saharan Agriculture", W.Jaeger, July 1988.

Table 7. Nominal Protection Coefficients

	Year										
	77	78	79	80	81	82	83	84	85	86	87
Senegal											
Grnuts	.65	.77	.99	.68	1.11	.72	.48	.56	1.98	2.90	4.80
Cotton	.63	.60	.60	.56	.59	.46	.40	.51	1.28	1.10	1.96
Sor/Mil	1.32	1.39	1.22	.94	1.06	.82	.80	.90	1.37	1.89	1.86
Rice	.77	.88	.70	.50	.78	.71	.76	.94	1.53	1.63	1.40
Maize	1.35	1.26	1.18	.87	1.01	.76	.68	.92	1.53	1.89	1.82
Niger											
Grnuts	.75	1.02	1.21	.78	1.09	1.09	.81	1.02	-	-	-
Sor/Mil	1.19	1.38	1.24	1.00	1.43	1.20	1.17	1.54	-	-	-
Mali											
Cotton	.56	.59	.63	.55	.61	.45	.42	.55	1.20	-	-
Sor/Mil	.46	.49	.53	.57	.64	.54	.54	.57	.78	-	-
Rice	.42	.53	.51	.45	.69	.68	.69	.80	1.05	-	-
Maize	.43	.45	.51	.54	.65	.54	.49	.53	.74	-	-
Burkina Faso											
Cotton	.67	.64	.59	.52	.55	.41	.38	.59	1.24	1.05	1.73
Grnuts	.49	.68	.81	.54	1.37	.92	.70	.80	1.74	1.55	-
Sor/Mil	.98	1.12	1.02	.83	.94	.87	.83	1.08	1.37	.94	1.4
Maize	.94	1.08	1.03	.81	.93	.78	.73	1.08	1.34	.93	1.35
Mauritania											
Sor/Mil	-	2.42	2.2	2.13	2.67	2.12	1.98	2.62	3.43	3.82	-
Rice	-	1.00	.77	.66	1.27	1.27	1.2	1.29	1.82	1.67	-
Maize	-	3.58	3.3	2.69	3.0	2.28	1.96	2.4	3.22	3.79	-
The Gambia											
Grnuts	.70	.90	1.18	.91	1.36	.90	.52	.76	1.33	2.35	3.41
Cotton	.71	.71	.70	.68	.70	.55	.42	.59	.78	.65	-
Rice	.99	1.23	1.00	.78	1.17	1.08	.85	1.08	.87	.87	.77
Maize	1.95	2.0	2.12	1.75	1.75	1.13	.83	.97	1.05	-	-

Source: World Bank, "Monitoring Agricultural Incentives and Policy in Sub-Saharan Africa", W. Jaeger, July 1988.

Nominal Protection Coefficients



compared to the Sub-Saharan average level of protection for all export crops (Figure 1).

Obvious problems plague this second-best policy. It may create unsustainable political and/or fiscal problems. This was the case in Senegal, which was until 1988 heavily taxing rice imports and heavily subsidizing groundnut exports. Moreover, it is a difficult policy to sustain, since disparate tariff and agricultural pricing policies lead to increased smuggling, given West Africa's porous frontiers and well-established parallel markets.

A second alternative is to operate directly on the real exchange rate, without worrying about the nominal rate. The "real" exchange rate is the nominal rate (e.g. 50 CFA = 1 FF) adjusted for domestic inflation. If Senegal's nominal rate is unchanged but the country faces a 50% rate of inflation over a given period, then its "real" rate has appreciated by one half. For competitiveness concerns, what matters is the "real effective exchange rate" (REER), which takes into account not only domestic inflation, but inflation in other countries as well, i.e. Senegal's trading partners or competitors. If Senegal's nominal exchange rate stays unchanged (50 CFA = 1 FF), while its rate of inflation is 50% and the rate of inflation in France is 100%, then Senegal's real effective exchange rate has depreciated (been devalued) by 50%.[17]

The point is that by appropriate monetary and fiscal policy, competitiveness can be increased (and balance of payments adjustment achieved) without changing nominal exchange rates. Inflation has to be controlled--to rates below those of competitors.

Few economists would contest the general point that balance of payments adjustments and increased competitiveness can be brought about without devaluation of nominal exchange rates. The argument for devaluation, however,

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17. For simplicity, this assumes France is Senegal's only trading partner. Normally a "trade-weighted" price index is used for other country prices. Other simplifications are used in the discussion.

is that inability to use the exchange rate as an instrument of policy makes it harder for countries like those in the Sahel to deal with their problems of competitiveness and external balance.

For these reasons it is certainly true that, other things equal, "adjustment" (or increased competitiveness) is achievable at less cost with exchange rate flexibility than without it. However, other things are not equal, and because of factors specific to the UMOA, the net costs of being denied use of devaluation may not be substantial.[18]

Table 8 gives nominal and real effective exchange rates since 1970 for three UMOA Sahelian countries and France. Real effective rates appreciated in the UMOA states in the 1970s by some 15-30%. But between the early and mid 1980s, when structural adjustment policies were adopted, real effective rates fell substantially, despite the absence of nominal exchange rate devaluation. The appreciation of the US dollar between 1979 and 1985 and six devaluations of the French franc against other European currencies meant that the falls in nominal effective exchange rates helped the UMOA countries adjust. But real rates fell by more than nominal rates, reflecting tighter fiscal and monetary discipline. For example, in Niger the nominal effective rate fell by 5% between 1981 and 1987, while the real effective rate fell by 29%. In Mali, between 1976 and 1986, the nominal rate fell by 11%, and the real effective rate by 25%. And in Senegal, for 1975-1981, a nominal drop of 5% saw a corresponding real depreciation of 24%. (In the 1980s, Senegal's real rate appreciated, however.)

These findings parallel those in other studies[19]--that it is not Franc zone membership per se that determines effectiveness of economic adjustments, but rather domestic policies that will do so. Individual Franc zone countries, each acting directly on the real exchange rate, enjoyed different

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18. See Sylviane Guillaumont, "Dévaluer en Afrique?", in Observation et Diagnostique Economique, Revue de l'OFCE, Octobre 1988.

19. See G. Castillo, et al, 1986; K. Krumm, 1987; Guillaumont and Guillaumont, 1988.

Table 8. Nominal and Real Effective Exchange Rates, 1970-1987

	NIGER		MALI		SENEGAL		FRANCE	
	N	R	N	R	N	R	N	R
1970	100	100	100	100	100	100	100	100
1971	99	98	99	101	99	98	98	98
1972	100	103	100	104	101	99	100	100
1973	102	109	101	102	103	105	104	103
1974	100	97	99	93	100	105	97	97
1975	104	97	102	101	104	127	106	106
1976	103	108	101	102	103	116	103	103
1977	102	118	98	95	102	115	98	98
1978	101	119	97	95	102	109	96	99
1979	101	116	97	95	102	109	96	101
1980	101	113	97	92	103	105	96	104
1981	98	121	95	90	99	96	90	100
1982	95	119	92	82	95	98	83	96
1983	93	104	90	80	93	99	78	93
1984	91	105	89	83	91	102	75	91
1985	91	99	90	77	94	116	78	96
1986	92	94	90	77	94	116	78	96
1987	93	86	90	78	95	110	79	98

Source: Sylviane Guillaumont, "Dévaluer en Afrique?", Observation et Diagnostic Economique, Revue de l'OFCE, Oct. 1988.

degrees of success in their adjustment efforts--Cameroon, for example, doing much better than Senegal in the 1980s.

Would adjustment (and increased competitiveness) be better and easier with devaluation? Not necessarily. Stripped of that option, the UMOA states are first of all forced to follow stricter monetary and fiscal discipline. Most seem to have done this more effectively than comparable countries enjoying access to the full arsenal of policy instruments, though data weaknesses and other factors make such comparisons difficult.[20]

Secondly, a devaluation of the CFA after so long a period of parity with the French franc, would almost certainly lead to capital flight and enhanced inflationary expectations. As Guillaumont points out (ibid.), this would make the achievement of a given decline in the real effective exchange more difficult with a monetary/fiscal policy of given restrictiveness.

Also, the absence of a devaluation alternative can intensify the search for productivity-raising reforms which are essential for improved competitiveness. Devaluation increases government revenues and allows payment of higher prices for tradeable goods, thereby diluting pressures for greater efficiency in resource use. Denied this option, UMOA governments have to face the efficiency music more abruptly.

The response of the cotton sector in Burkina, Mali and Chad to the sharp decline in world prices in 1985 is one example. These Sahel governments were forced to scrutinize all points in the "filière," from the implicit taxing of price stabilization agencies, to fertilizer subsidy arrangements, to marketing efficiency including the management fee structures for cotton parastatals. The result was a significant and general decline in real costs of cotton production--i.e. increased competitiveness.

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20. The West African UMOA countries were helped by the fact that they have borders with the Gambia, Liberia, Ghana, and Nigeria. The depreciation of the currencies of these countries after 1980, especially the Naira, combined with subsidization and other policies, undoubtedly contributed to a slowing of price rises in the CFA zone, by allowing massive import of cheap intermediate and consumer goods.

Finally, the devaluation option raises broader issues of the survivability of the Franc zone. Departures from existing CFA-French Franc parity cannot be made by Senegal (and the Côte d'Ivoire) alone, nor can each member state define its own parity without threatening the viability of the Franc Zone as a whole. The advantages of such a step are not without serious costs, and the net outcome is not sure to be positive.

None of this means that the UMOA states, or any government, always can and should do without devaluation. But perhaps too much emphasis has been put on overvaluation of the exchange rate and inability to devalue as a major reason for poor Sahelian competitiveness. The issue is more localized than current dialogue suggests. The problem is most pronounced in Senegal. In any case the devaluation option may not on balance be better that its alternatives.

B. THE ROLE FOR PRICE POLICIES

1. Producer Price Policies

"Positive" or "incentive" producer price policies in foodgrains are inefficient instruments and hence of limited utility. Two of the principal issues now being debated in the Sahel fall within the scope of this proposition. These are tariff protection for cereals (national or regional), and minimum guaranteed prices for grain producers.

With respect to protection, the main issue is rice: higher duties on imported rice are urged to protect local producers of rice and coarse grains, and to discourage rice consumption.

We noted earlier that elasticity pessimism predominates in studies of consumer and producer responses to rice price rises. If this is true, rice protection will have few benefits and high costs. While registering some skepticism about these putative sluggish responses, it nonetheless does seem unlikely that the benefits of rice protectionism (import substitution and

reduced "dependence") will outweigh its costs (sacrificed income, exports, balance of payments stability, and negative nutritional effects.)

This doesn't mean that nothing should be done. Stabilization of rice prices is an objective that most observers would agree is feasible, and desirable, though there is much disagreement about the appropriate level around which to stabilize. In the Sahel, two proposals are usually in contention. One would base the stabilized price on costs of production, the other on border parities. This debate, which has been particularly lively in Mali and Senegal, is really about levels. But for the reasons already reviewed, we have argued that resorting to prices above border parity levels is a costly policy to achieve greater domestic cereals production. We will return to this question again below, when we address the issue of how to fix imported rice prices, once the principle of border parities has been accepted.

The stabilization target could be some estimate of the long-run trend in world prices or, depending on objectives, some amount above or below that trend. However, the latter is probably unrealistic. Timmer (1986, p. 86) notes that "no country has been able to guarantee long-run price stability at 'low' prices--below world market trends." At the moment, with very low world commodity prices, that is not the issue facing the Sahel. But it does serve as a warning that stabilization of import prices is likely to be one sided--i.e. operative only when world prices drop below trend.

If the objective is to stabilize around world market trend, how is the long-run trend of world prices to be estimated? Should it be a straight line trend over the past three, ten, twenty, thirty years? Timmer (ibid., p. 90) suggests that price takers should assume that very long-run, historic trends will continue. World Bank staff have urged three-year moving averages of world prices as a rough and ready estimator.

Are the World Bank's commodity projections a good choice for identifying future prices? Bertrand (1986, pp. 23-34) makes a convincing case that these projections are often far from accurate. Between 1974 and 1986 the projections were well above actual prices for grains. Bertrand postulates

that this was due to the food crisis mentality that started in the early 1970s. One is tempted to ask whether we are now likely to see a dozen years of underprojections based on the surplus mentality of the mid-1980s.

The argument for cereals protection to raise rice price levels above the trend of border parities and the argument for state-guaranteed minimum producer prices for cereals can be considered together. Both assert that producer prices, unprotected or "unguaranteed," will be too unstable and too low to encourage local production. We have already considered the macroeconomic dimensions. The main arguments against floor pricing, which refer primarily to coarse grains, are well-known:

- Farmers in the Sahel don't believe that prices really will be supported since cereals boards have almost never been able to buy up bumper crops at "official" prices. To create credibility for this policy, which is essential if there are to be effects on producer responsiveness, commitment to price stability will be essential for at least a few years. This will be costly.

- Since short-term demand is inelastic, supply varies mainly with rainfall, and marketed supply is more elastic than output, purchase of the crop at guaranteed prices in bumper years is exceedingly expensive.

- Storage costs, including physical losses, are high. When ONCAD bought up the millet crop in Senegal in 1978-1979, it had to store over 100,000 tons, much of which later rotted.

- Another problem for any tariff policy or, indeed, any price policy at all, is the permeability of borders. Uncontrolled, cross border trade is very large throughout the Sahel. The physical difficulties of controlling long borders with insufficient staff who are poorly paid and poorly provisioned are obvious. Furthermore, some major smugglers are said to be from politically powerful families and other groups. In the event, price supports can--and often do--end

up helping farmers in neighboring countries as much or more than domestic producers.

- Given the fact that grain surplus producers, and those with marketed output, are relatively well off, the income distribution impacts are dubious.

- The resources devoted to price supports can be used for needed infrastructure, research, and other investments.

The use of "cost of production" as a criterion for price setting is a sub-issue in the border parity incentive prices debate. Despite its deep roots in much thinking about price policy, and its long use in many parts of the world (e.g. India), the concept itself is analytically suspect. Timmer, drawing on his Asian experience, gives a nice summary of the problems.

> Empirically, costs of production are hard to determine because they vary so much from year to year, region to region, and farmer to farmer. Allocating costs for non-market inputs, such as family labor, land, and irrigation water, are constant problems. Even if only cash costs are counted, yield variations due to weather can significantly change average costs per ton. Once farmers begin using largely quantities of purchased inputs, especially labor and fertilizer, a major analytical problem arises. The basic economic model of farm decision making shows inputs being used until their marginal revenue product is equal to the marginal revenue produced by using them. As output price rises, marginal revenue rises. Farmers find it profitable to use more inputs, until they push up marginal costs to the point of equality with the new marginal revenue (1987b, p. 42).

A cost-of-production-based producer price policy, therefore, cannot be justified on any "scientific" basis. It's not clear that it can provide anything more than a crude technical cover for use in political negotiations over price determination.

2. <u>Consumer Price Policies</u>

Governments favor low and stable consumer prices for cereals. Cereals boards in the Sahel have not generally had the resources to meet demand at

official prices, so low-price grain has typically been rationed. As for stability, reliance on imports has allowed the coastal countries to maintain relatively stable prices for rice, but for coarse grains and even for rice in the continental states, stability has proved an elusive goal.

As on the producer-price side, geography and budgetary considerations sharply constrain policy. Several simple principles seem widely applicable. First, departures from (trend) border prices should not be large or persistent and, second, cereals board spreads between buying costs and selling prices should be large enough to cover marketing and processing margins.

Many issues remain unaddressed in these policy prescriptions. Determination of food aid volumes, means of distribution, and selling prices have to be such as to minimize price-(incentive-)reducing impacts on producers. Issues of food security and protection of the poor also have to be faced. To reduce "transitory food insecurity" (losses in well being due to fluctuations in prices), buffer stock arrangements could be envisaged. The danger, of course--clearly borne out by experience--is that the authorities will seek to stabilize at below border parity or will allow too small a spread between procurement and selling prices.

To prevent an efficiency-oriented food policy from worsening the income distribution and hurting the poor, better targeting of food aid is essential.[21] Higher prices for imported and domestic cereals may severely depress the nutritional status of poor net buyers in rural and urban areas. The introduction of effectively targeted food aid programs would represent a departure from the past. In some countries, large-scale and free distribution of food to people "in need" has diffused benefits widely across income levels.

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21. Equity issues arise also on the producer side. As noted earlier, less than 50% of Sahelian farmers may be net sellers. Thus higher farmgate prices raise concerns about equity. While poor net buyers are clearly subjects of concern, it is also important to note that the net sales/purchase position of households is likely to change over the family life cycle. Thus there may be less tendency for stratification than is implied by the fact that many households are not net sellers.

Also, efforts to subsidize consumption have often helped relatively well off government employees who get priority access to low-priced food.

With the rising global concern for food security has come renewed interest in better targeting schemes. Many new proposals are afloat, which may or may not be suitable in the Sahel.[22] In any event, some kind of food aid for the poor needs to be considered as an integral part of price policy.

3. Input Subsidies

Input subsidies--especially for fertilizers--have been on the wane in the Sahel as elsewhere, the victim of budgetary austerity and a weakening economic rationale. Does the deterioration of rural credit institutions that occurred throughout the Sahel in the 1980s require a new stance?

Economists have always recognized that market failures such as imperfect knowledge or (highly) imperfect capital markets and risk-avoidance behavior could justify some subsidization of input use. But in the Sahel, a strong case has developed against fertilizer subsidies. It has the following arguments: subsidies have been in existence for twenty-five years or more and hence most farmers should know the benefits of fertilizer usage; economic profitability is not clearly established; recommended dosages are frequently wasteful; deliveries are usually late; rationing favors richer farmers; subsidies prevent the emergence of private distributors; higher producer prices provide more efficient (and probably more equitable) incentives; environmental effects may be bad--dilution of incentives to search for soil-enriching and water-retaining techniques that don't require chemical fertilizers.

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22. Reutlinger (1988), for example, proposes a "food money" scheme aimed at overcoming this problem. Governments would distribute coupons to the poor who could use them to buy food. Food vendors would exchange these for cash at a commercial bank which, in turn, would be reimbursed by the government. Governments could raise the funds through open market sales of that amount of food aid needed for the population receiving the coupons. One cannot predict whether such a program would work in the Sahel.

It is possible to conceive of subsidization arrangements that do not obstruct private sector development. But even this would require a degree of faith in the competitiveness of markets which is not yet widespread. And the other disadvantages persist.

C. STRUCTURAL POLICIES

Increased competitiveness requires a reduction in marketing and processing costs in the short run, and in the long run the development of more efficient rural institutions--a competitive, well-capitalized, specialized commercial class, for example, that can provide inputs, transport, storage, marketing services to rural households.

Marketing/processing margins are typically high in African countries--higher, for example, than in Asia. This is so because of physical and economic conditions (long distances, poor roads, dispersed population, small-scale, unspecialized agents, etc.), and because of cost-increasing policy interventions such as panseasonal and panterritorial pricing, price regulation and movement controls that generate roadblocks and other harassment.

A wide array of policy changes and new projects are required here: new transportation investments (particularly in the interior countries); better organization and funding of road maintenance; cleaner and faster liberalization of marketing arrangements and elimination of obstacles to privatization of processing facilities; elimination of cost-raising regulations on imports, exports and domestic transport. Poor regions concerned over competitiveness have little maneuverability. They have to use efficiently the few resources at their disposal. In all the Sahel states there remains much to be done on this score.

D. IMPROVING TECHNOLOGY

The long-run competitiveness of Sahelian agriculture depends in large part on improvements in technology. The major international research center dealing with the Sahel, ICRISAT, at first attempted to transfer technologies

from India, but was not successful. Only recently has ICRISAT started devoting major resources to a Sahelian research base.

The national research systems in the Sahel are small and underfunded. Most lack sufficient trained personnel. All are short of recurrent cost budgets for research supplies, transportation, and related expenses. The national systems are a necessary complement to the international centers.

Strengthening the national systems will take a long time. International donors must therefore make a long-term commitment to support training and recurrent research costs. National governments must likewise provide greater and more consistent support for their agricultural research systems. Of course, this recommendation of greater research funding runs up against the budgetary stringency of structural adjustment programs. However, agricultural research must be given a high priority within those programs.

E. ENCOURAGING CREATIVE RESPONSES

One striking aspect of much of the recent literature is how small a place it leaves for innovation and entrepreneurship. It sees the future as a projection of the past, with some marginal changes. This is of course an understandable and defensible view. But it leaves too little room for creative responses, which common sense and history suggest can introduce profound changes. In fact, perhaps the most fundamental proposal for policymakers lies here - in the development of an open policy environment congenial to innovation and entrepreneurship.

Sahelians have already produced some important surprises. The case of niébé in Niger is well known (World Bank, 1986b). In the late 1960s or early 1970s, no development plan, no IMF report, no World Bank projection, no statement of agricultural strategy predicted that in the space of a few years groundnuts--Niger's principal export--would virtually disappear and be replaced by niébé. Nor could anybody envisage that this would be done in the face of uncongenial public policy, entirely by private actors and virtually entirely in the underground or parallel economy (by smuggling to Nigeria).

Recent developments in the Mauritanian rice sector make this point even more dramatically, and more importantly. Spurred primarily by a 1983 land tenure law which provides for private title, and by remunerative prices for paddy, new farmers, many of them traders and other businessmen without previous farming experience, have completely transformed Mauritania's agricultural prospects. This has come about in the space of three years. Things have happened so fast that little is yet known about the details of this extraordinary phenomenon. But this much is known. The farmers in question have taken title to land along the lower Senegal River--around M'Bout, Boghe and especially Rosso. The land is apparently being given away free, by local officials; it is regarded as empty land, though final title is not firm. Some 35,000 ha had been allocated by 1987, 40,000 by 1988. The new farmers put together generally rudimentary irrigation canals, buy a small diesel pump, bring in hired labor and produce paddy on holdings that seem to average around 20 ha, but which are often larger.

Paddy production began along these lines in 1984 and 1985. By 1986 some 1,650 ha were being cultivated; in 1987 the new private farmers had between 6-8,000 ha in paddy and, in 1988, 16,000 ha. The "traditional" irrigated rice sector, i.e., the large and small perimeters created under parastatal (SONADER) auspices, totalled 4,600 ha. In three years the private owners had succeeded in bringing into cultivation more acreage than the parastatal had done in fifteen years, and by 1988 were cultivating more than three times the area serviced by SONADER. In these three years production appears to have quadrupled--from about 20,000 tons of paddy in 1985 to approximately 80,000 tons in 1988.

These new developments bring problems of their own. Land tenure rights remain in dispute, the market for land is embryonic, land grabs by powerful individuals have to be modulated, and the existence of a large-scale rice producing sector creates new questions about income distribution and equity.

The point is not that problem-free solutions to Mauritania's food policy problem are at hand. There are, rather, two points to this story. The first

has to do with the unpredictability of the future. Nobody foresaw the possibilities of such a development even in late 1985, when donors and Sahelians debated at Mindelo. There is not a hint of it in the projections done by local and international agencies, nor in any of the many papers on agricultural strategies and prospects written before 1988. Even drafts of new Mauritania public investment program documents in 1988 continued to equate investment in SONADER with investment in the rice sector. Only in the last few months has it begun to sink in that the emergence of the large-scale private producers completely changes both production prospects and the nature of policy concerns.

The second point is even more fundamental. None of the calculations of domestic resource costs, nor any of the learned discussion about competitiveness under varied "states of nature" using different technologies, took account of the kind of low-cost production methods adopted by the new private growers. The land development costs of SONADER (as of similar agencies observed in the Sahel) are sometimes as high as 1 million UM/ha ($14,000). In the new areas, a small sample of private growers say they pay 40-50,000 UM/ha or about $700. In cases where the terrain is highly suitable they can clear and equip their fields for less than $250 per ha; rarely do they pay more than $1,500/ha. In other words, land is being cleared, pumps installed, and irrigation canals prepared at one-twentieth to one-tenth of SONADER costs.

The quality of the field preparation and irrigation network is of course much lower than that of SONADER. And there may be technical problems--salinity control, for example. But the private growers have in effect introduced a whole new technology and are experimenting with production methods using different levels of capital input. In all cases they can grow paddy much more cheaply than on SONADER perimeters, and profitably.

Interviews with farmers suggest that pay-back periods are often as short

as one crop year and rarely are more than three years.[23] Uncertainties, lower prices, declining land availability, and other factors may slow down the expansion of paddy production by these new entrepreneurs, but the extraordinary doubling of cultivated area in 1988 to 16,000 ha, and the subsequent 60% rise in rice output, suggest that this boom has not yet run its course. Self-sufficiency in rice--once a pipe dream for Mauritanians--is now a distinct possibility, as is the penetration of the Senegalese market by Mauritanian rice--also unthinkable a few years ago.

A broad lesson emerges. The Sahel's future can only be perceived and shaped by government planners and their donor partners to a small extent. Individuals, groups of individuals, and various types of corporate entities, will discover opportunities now undreamt of. The task of government is to maintain policy conditions and create an institutional environment that will encourage and sustain innovations.

On a micro level, this means that policy preoccupations should be less focused on cereals, or even on crop production, and more on the household as a set of enterprises. The future of the region may lie less in crop production and more in livestock, in village industry, or in large-scale migration to forest zones.

On the macro level, nurturing of innovation means the development of more solid and predictable legal institutions--laws of contract and land tenure, for example. It means minimizing the regulatory obstacles to entrepreneurship, avoiding disincentives in the form of burdensome price controls or inappropriate heavy taxation. It means encouraging the growth of a class of capitalist intermediaries, transporters, traders, and progressive farmers who are sources of rural dynamism in all societies. It means the abolition of practices that discourage socially desirable economic behavior, for example, pan-cereals official pricing policies (uniform pricing for cereals of all qualities) that discourage attention to quality, pan-seasonal

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23. Peter Mueller, "The Private Sector in Mauritania," World Bank Consultants Report, July 1988.

pricing that discourages private storage of grain, and pan-territorial pricing that encourages antieconomic practices (such as inefficient production).

There are also all the policies and programs that enhance popular awareness, mobility, and power of choice: good education, better access to health care, and better roads. The populations of the Sahel have to be seen as the determinants of their region's competitiveness, not as passive victims of technical and economic constraints imposed by history and by nature. The principal task of governments and donors is not to try to figure out where the region's economic future lies. It is rather to better prepare the Sahelian people to capitalize on whatever options may emerge, or that they may discover, and to create an open, nurturing environment congenial to innovations.

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P A R T III

FOOD SECURITY POLICY AND THE COMPETITIVENESSS OF SAHELIAN AGRICULTURE: A SUMMARY OF THE "BEYOND MINDELO" SEMINAR

by

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FOOD SECURITY POLICY AND THE COMPETITIVENESS OF AGRICULTURE IN THE SAHEL: A SUMMARY OF THE "BEYOND MINDELO" SEMINAR

EXECUTIVE SUMMARY

This report summarizes the results of the USAID-and MSU-sponsored "Beyond Mindelo" conference on food security policy and the competitiveness of agriculture in the Sahel. The conference convened to provide a forum for representatives of USAID, the World Bank, International Food Policy Research Institute, and other European and American universities, development organizations, and government agencies to discuss the implications of recent research results in the Sahel before the December meeting of the Donor Advisory Group of the Club du Sahel.

Evidence is emerging throughout the Sahel and Africa in general that the image of "urban consumers" and "rural producers" of food is an oversimplification. A significant portion of rural households depend on local food markets for their food security. Higher grain prices appear to have a negative effect on not only urban consumers but also, at least in the short run, on a large segment of the rural population that are net purchasers of food grains.

Rice plays a much more important role in the diets of the Sahelian poor than previously thought, accounting for about half of total cereal purchases in urban Mali and Burkina Faso. The proportion of grain expenditures devoted to rice appears constant across rich and poor income classes. Available data indicate that rice consumption is quite insensitive to price. The growth in rice consumption throughout the Sahel is driven primarily by urbanization. Rice is easier to prepare than coarse grains and saves both time and cooking fuel, which are particularly important in urban areas. For these and other reasons, rice and coarse grains do not appear to be close substitutes in consumption.

It is becoming increasingly clear that a significant portion of rural households in the Sahel are unable to produce a grain surplus because of interrelated production and marketing constraints. The ability of these farmers to respond to price incentives is contingent on the development of complementary production incentives: reliable input and product markets,

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production and processing technology, and physical and institutional infrastructure. Currently, the marketed supply of coarse grains in Mali and Senegal is produced primarily by a small set of relatively well-equipped farmers located in high potential regions with adequate market infrastructure. Policies designed to stimulate production through price incentives alone can be expected to have highly concentrated benefits. Moreover, such policies will exact a high cost in terms of urban and rural food insecurity among net food purchasers, at least in the short run. This does not suggest that price incentives should not be included as part of a long-run food policy, but it does indicate the severity of the food price dilemma in these countries.

Recent supply and price gyrations throughout the Sahel reflect the severity with which weather variations can affect prices in thin markets where only a small portion of production is marketed. Sporadic and unpredictable government buy-sell activities in Mali and Niger have also introduced much uncertainty into the market, and may impede private sector grain storage. Moreover, past experience demonstrates that Sahelian governments lack the resources to effectively control cereal prices.

Greater focus on developing viable research institutions compatible with semi-arid production characteristics in the Sahel is critical to long-run food security in the region. This will require sustained funding, technical assistance, strong management, and a long-term time horizon.

While the current pace of ongoing reform provides great opportunities to enhance food security, the "vacuum theory of privatization", under which private traders immediately fill the void left by state withdrawal from the market, is not supported by ongoing research findings. Greater focus on the identification and alleviation of the constraints facing the private trade may stimulate greater private investment and initiative in the food system. Strategic public sector investments in marketing and legal infrastructure, production and processing technology, and education, will encourage private investment in the food system, thereby enabling producers to respond to market opportunities.

Although existing empirical data present serious questions about the viability of a regional protected cereals market in the Sahel, policy must still deal with the legitimate concerns that were the impetus behind the

protected market proposal, including the desire to stimulate demand for locally produced coarse grains that account for 90 percent of cultivated area in the Sahel, and to reduce dependence on imported cereals. Policies discussed as alternatives to the protected market proposal included currency devaluation, a flexible price policy environment, and non-price actions (such as the development and promotion of low-cost processing techniques) to raise the demand for locally produced coarse grains.

Although there was no consensus on whether and how to insulate domestic markets from world markets, there was broad agreement that freer trade within the Sahel and West Africa in general was advisable.

The timely dissemination of price and transactions information, while instrumental in improving the efficiency of grain markets in the Sahel, may be even more valuable in raising the level of discussion between donors and governments. A development approach that treats policy extension, research, and local human capital formation as joint products can simultaneously raise the domestic supply of and demand for research and analytical capacity, thereby elevating the level of policy dialogue between donors, researchers, and governments.

FOOD SECURITY POLICY AND THE COMPETITIVENESS OF AGRICULTURE IN THE SAHEL: A SUMMARY OF THE "BEYOND MINDELO" SEMINAR

BY

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1989

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TABLE OF CONTENTS

Chapter		Page
	List of Tables	10
I.	INTRODUCTION	11
II.	CHARACTERISTICS OF CEREALS CONSUMPTION IN THE SAHEL	12
	A. Trends in Cereal Consumption	12
	B. Importance of Grain Purchases in Rural Areas	12
	C. Rice Consumption among Low-Income Households	14
	D. Substitution between Coarse Grains and Rice	15
III.	CEREALS PRODUCTION AND COMPARATIVE ADVANTAGE IN THE SAHEL	16
	A. Price Policy in the Sahelian Cereals Sector	16
	B. Importance of Agricultural Research	18
	C. Relationship between Grain Production and Cash Crop Production	20
	D. Comparative Advantage of Agriculture in the Sahel	20
IV.	MARKET AND TRADE POLICY ALTERNATIVES	22
	A. Restructuring of Grain Markets and Prices	22
	B. Facilitating Private Sector Performance in the Marketing System	25
	C. Trade Policy	26
	D. Food Aid	29
	E. Policy Dialogue and Strengthening Domestic Analytical Capacity	29
PRESENTATIONS		31
ANNEX A:	LIST OF PARTICIPANTS	33
REFERENCES		37

LIST OF TABLES

Table		Page
1.	Market Participation Profile for Rural Households in Selected African Locations	13
2.	Concentration of Marketed Surplus among Rural Households in Selected African Locations	18

FOOD SECURITY POLICY AND THE COMPETITIVENESS OF AGRICULTURE IN THE SAHEL: A SUMMARY OF THE "BEYOND MINDELO" SEMINAR

I. INTRODUCTION

Because grains play a central role in the diet of the Sahelian countries, cereals policy is a critical component of food security strategies in the region. Cereals consumption is dominated by locally-produced coarse grains, principally sorghum and millet, supplemented by growing quantities of rice and wheat, most of which is imported. The growth of rice and wheat imports in the face of falling per capita consumption of locally-produced sorghum and millet is a matter of serious concern, although this trend is less pronounced among the land-locked countries. The supply of cereals is subject to serious weather-induced fluctuations and often erratic availability of food aid. At the same time, many of the countries in the region have introduced structural adjustment policies to deal with fiscal and trade deficits and to improve the performance of the economy. These new policies generally include less government participation in grain and input distribution, and a corresponding transfer of marketing functions to the private sector.

In this context, there is a clear need for timely and relevant information to guide policy and improve food security. Policy-relevant research carried out by a variety of institutions is contributing to our understanding of the agricultural and food economy of the region. Researchers from Tufts University have analyzed expenditure patterns of 586 urban households in Mali (Rogers and Lowdermilk). The International Food Policy Research Institute (IFPRI) has conducted a consumption survey in Burkina Faso and a study of the rice sector in the Gambia (Reardon, von Braun). Michigan State University (MSU) is studying the impact of reforms in the cereals sector in Mali and Senegal (Dione and Staatz, Crawford). Similar work in Niger is being conducted by the University of Michigan (Josserand and Casey). These studies indicate a rural economy more complex and heterogeneous than previously supposed. In some cases, the results contradict commonly held assumptions upon which policy recommendations have been made.

This report summarizes the research findings and discussion of the USAID and MSU-sponsored "Beyond Mindelo" conference on food security policy, held in Washington D.C. in October, 1988. (The objective of the conference was to inform representatives of USAID of recent research finding before the December meeting of the Donor Advisory Group of the Club du Sahel.) Conference participants included representatives of USAID, the World Bank, IFPRI, MSU, and a number of other European and American universities, government agencies, and development organizations [1].

II. CHARACTERISTICS OF CEREALS CONSUMPTION IN THE SAHEL

A. Trends in Cereal Consumption

Over the past few decades, consumers in the Sahel have gradually shifted from locally-produced sorghum and millet toward rice and wheat, most of which is imported. From the early 1960s to the early 1980s, per capita consumption of rice and wheat increased by 16 kg, while that of sorghum and millet fell by 22 kg. As a result, rice and wheat have grown in importance from 13% to 23% of the volume of grain consumption (Delgado, Delgado and Reardon).

Imports account for about two thirds of the supply of rice and wheat in the Sahel, equivalent to around 15% of the total grain supply. However, the degree of reliance on imports varies greatly among countries. The coastal countries depend to a greater degree on imports of rice and wheat, which represent 39% of grain consumption in the Gambia, 53% in Mauritania, and 46% in Senegal. By contrast, the landlocked countries, facing higher transport costs, depend on imported rice and wheat to a much smaller degree, the percentage ranging from 3% in Chad to 3% in Mali (Delgado and Reardon).

B. Importance of Grain Purchases in Rural Areas

A number of studies indicate that the image of "urban consumers" and "rural producers" of food grains is an over-simplification. The IFPRI study in Burkina Faso found that purchases represented over 30% of the caloric intake of rural households in a Sahelian village and almost 40% in a Sudano-

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1. A list of participating institutions and individuals is in Annex A.

Sahelian village. The proportion rose to over half during the "hungry season" (Reardon). In Mali, a survey of 190 farm households revealed that 39% were net buyers of coarse grains (Table 1). Since the survey was carried out in two major grain producing areas (the OHV and CMDT zones) during a good production year, the proportion of net purchasers of coarse grains would presumably be even higher elsewhere in Mali and during poor production years (Dione and Staatz).

In Senegal, the proportion of farm households that were net buyers of grain was 100% in the northern groundnut basin, 62% in the central groundnut basin, 38% in the upper Casamance, and 30% in the southeastern groundnut basin (Crawford). Even higher proportions of net buyers have been found in Somalia for maize and in Rwanda for beans and sorghum, as shown in Table 1. The total number of households purchasing grain is, of course, much higher

TABLE 1: MARKET PARTICIPATION PROFILE FOR RURAL HOUSEHOLDS IN SELECTED AFRICAN LOCATIONS

Country	Year	Crop(s)	% of households that are:		
			net buyers	no net sales or purchases	net sellers
Mali	1985-86	Coarse grains	39	13	48
Senegal	1986-87	Coarse grains	30	40	29
Somalia	1986-87	Maize	61	0	39
Rwanda	1986-87	Sorghum	66	9	33
		Beans	73	5	22
Zimbabwe	1984-85	Maize	15-25 *	18-30 *	67-45 *

SOURCE: Adapted from Jayne and Weber. Data are from USAID/MSU research conducted under Food Security in Africa Cooperative Agreement.
Mali: 190 households in CMDT and OHV zones (Dione).
Senegal: 215 households in southeastern region (Goetz).
Somalia: 308 households in lower Shebele region (Wehelie).
Rwanda: 1000 households nation-wide (Loveridge).
Zimbabwe: 204 households in smallholder farming region (Rohrbach).
* Range represents high and low rainfall regions.

than the number of net purchasers. The implication is that the rural population is quite heterogeneous and that policy does not affect them uniformly. In particular, higher grain prices would have a negative effect not just on urban consumers but also (at least in the short run) on a significant portion of the rural population that are net purchasers of grain.

C. Rice Consumption among Low-Income Households

Although rice is often considered a high-income grain in the Sahel, recent evidence reveals that this is not always the case. The Tufts expenditure survey of 576 urban households in Mali found that rice expenditures as a proportion of grain expenditures were constant across income classes. Although the higher income households consumed greater quantities of grain in absolute terms, the relative importance of rice and of coarse grains did not vary significantly. Cereals contributed roughly three quarters of the total caloric intake, of which rice represented about half (Rogers and Lowdermilk).

Similar results were obtained from the IFPRI expenditure survey in Ouagadougou: across all income classes, rice represents about one third of the volume of grain consumption. In value terms, rice actually comprises a larger share of the budget of low-income households for two reasons. First, food constitutes a larger share of the budget of low-income households. Second, low-income households purchase a greater share of their rice in cooked form while working away from home, resulting in higher unit costs for these households (Reardon).

Another study reports that both urban and rural low-income households in the Gambia "spend a proportionately higher share of their income on food, in general, and rice, in particular" (Kinteh and von Braun, p. 51). Finally, rice purchases in rural Senegal are significant, averaging 20 to 65 kg per adult equivalent per year, depending on the region (Crawford). Thus, at least in the Gambia and in urban Mali and Burkina Faso, rice cannot be considered a "luxury good." In fact, higher rice prices would cause a greater relative decline in the real incomes of the poor. This result highlights the importance of careful evaluation of the distributional effects of price policy.

D. Substitution between Coarse Grains and Rice

The weight of current evidence indicates that rice and coarse grains are not close substitutes in the eyes of Sahelian consumers, at least in the short run. Econometric analysis of the Tufts urban survey data from Mali found low cross-elasticities of demand between rice and coarse-grains (Rogers and Lowdermilk). In other words, if the price of one rises, the increase in the consumption of the other will be modest, particularly in the short run. Similarly, the IFPRI study of urban consumption patterns in Burkina Faso found little substitution between rice and coarse grains (Reardon).

In the long run, relative prices may have more influence on consumption patterns. Over the long term, prices for rice and coarse grains in Mali and the Gambia move roughly parallel, implying some substitutability between the two (Staatz, von Braun). Yet a major study of four Sahelian countries over the period 1970-83 concluded that shifts in relative prices were not a significant factor in explaining the increase of rice and wheat consumption relative to coarse grains (Delgado and Reardon). Rather, the process of urbanization appeared to be the major factor behind this shift in consumption. This is presumably because rice is easier to prepare, and the savings in terms of cooking fuel and time are particularly important in urban areas. While some analysts raise questions about the interpretation of these results (Shapiro and Berg), most agree that rice and coarse grains are not close substitutes, and that using price policy alone to encourage substitution of one for the other would require a substantial shift in relative prices, sustained over a number of years.

Other non-price factors further contribute to low substitutability between rice and coarse grains. A survey of consumer attitudes in rural Senegal found that each grain filled a particular dietary or cultural niche. When asked which grain(s) they would choose if they could have ten free bags, all respondents chose an almost equal combination of rice and coarse grains (Crawford). For example, millet and sorghum were perceived to provide greater stamina before working, and rice was appreciated for its ease of preparation. Given the premium placed on convenience, even in rural areas, more research is needed into ways of processing coarse grains that

reduce the time and costs of home preparation, thus stimulating local production by increasing demand.

III. CEREALS PRODUCTION AND COMPARATIVE ADVANTAGE IN THE SAHEL

Production incentive, broadly conceived, is a function of the producer price of the commodity, the costs of factors of production (land, labor, fertilizer, etc.) and the productivity of those factors. Each will be discussed in this section, as well as the issue of comparative advantage in general.

A. Price Policy in the Sahelian Cereals Sector

Most agree that the current trend toward liberalization of prices and markets is desirable, reversing long-standing discrimination against the agricultural sector. On the other hand, two qualifications are necessary. First, price reform will have a limited impact without complementary investments that enhance producers' ability to respond to price incentives. Second, raising cereals prices above international prices would be difficult to sustain, and, even if successfully implemented, would create negative equity effects and only modest increases in production.

On the first point, it is by now well recognized that, for individual agricultural commodities, the short-run supply response to producer prices is limited ([2]). Although few studies have tried to estimate aggregate agricultural supply response, it is undoubtedly even smaller (Shapiro and Berg). This is particularly true under conditions of traditional technology, poor transport infrastructure, and weak marketing systems. Delgado argues that structural adjustment policies to remove the bias against agriculture "should not divert national governments or donor agencies from the real agenda ... : increasing the ability of farmers to produce, and thus to respond to price incentives" (Delgado, p. 5). This involves building institutions for effective agricultural research and extension, developing

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[2]. In a survey of 103 studies of grain supply response, Scandizzo and Bruce report that 71 percent of the estimated short-run elasticities were below 0.5. In the long run, 62 percent were below 0.5.

responsive marketing systems, and improving input and credit markets (Eicher).

On the second point, the difficulties in implementing support prices for locally-produced crops are well-known. Given the permeability of borders and the small proportion of the harvest that is marketed, purchases large enough to affect prices are often beyond the financial and logistical capacity of marketing boards (Dione and Staatz). Raising the price of imported grains such as rice is administratively easier, this being the idea behind a regional cereals protection policy in the Sahel. But the success of such a policy depends on the supply response of grains. A recent study in Senegal used a macro-micro simulation model to evaluate the effectiveness of various policies in improving cereal self-sufficiency (Martin and Crawford). In the model, rice, sorghum, and millet show very limited supply responses to price increases, rice because of constraints on suitable land, sorghum and millet because they are much less profitable than groundnuts as a source of cash. For example, even a 100% increase in cereals prices raises the rate of cereals self-sufficiency by less than 10 percentage points. On the other hand, the simulations indicate that maize supply may be quite responsive to price. However, maize demand is constrained by two factors. First, the lack of techniques to produce easy-to-prepare forms of maize limits the demand for human consumption, and second, the unreliability of local supply forces producers of animal feed to use imported maize.

A related problem with a cereals protection policy is its distributional impact. The effect of raising grain prices on both urban and rural consumers was considered in sections 2.2 and 2.3. With regard to producers, a number of studies have found that the bulk of the benefits of a support price policy would accrue to a small minority of rural households who are able to produce grain surpluses (Table 2). In the grain producing zones of Mali, 20% of the farms account for 80% of the grain sales (Dione and Staatz). In the grain producing southeast of Senegal, 15% of the farms supply 80% of the grain that reaches the market (Weber et al.). If less productive regions were included in the calculation, the concentration would be even greater. Further concern over the distributional effect of a price support policy is raised by indications that the net sellers may be the

relatively well-off producers. Although income figures are not available, the net sellers tend to have more animal traction equipment and greater per capita agricultural production than the average farm household (Crawford, Dione and Staatz, Goetz et al.). Note that this pattern is not unique to the Sahel: similar patterns have been found for maize sales in Somalia, bean and sorghum sales in Rwanda, and maize sales in the "communal sector" of Zimbabwe (Weber et al.).

TABLE 2: CONCENTRATION OF MARKETED SURPLUS AMONG RURAL HOUSEHOLDS IN SELECTED AFRICAN LOCATIONS

Country	Year +	Crop(s)	% of households that provide:		
			50% of sales volume	70% of sales volume	80% of sales volume
Mali	1985-86	Coarse grains	8	16	23
Senegal	1986-87	Coarse grains	7	11	15
Somalia	1986-87	Maize	-	13	20
Rwanda	1986-87	Sorghum	2	4	5
		Beans	2	4	6
Zimbabwe	1984-85	Maize	-	10 *	-

SOURCE: Adapted from Jayne and Weber. Data are from USAID/MSU research conducted under Food Security in Africa Cooperative Agreement. See notes under Table 1.
+ All years were average or better than average in terms of rainfall.
* National estimate for the smallholder communal sector.

B. Importance of Agricultural Research

Although the debate over production incentives has focused on producer prices, an equally important element is the productivity of factors of production. On equity grounds, improving productivity has two advantages over price support policies as a method of promoting agricultural production. First, support prices have a negative effect on urban and rural consumers, whereas productivity improvements can benefit producer and consumer. Second, the benefits of a price support policy are concentrated

among a small number of surplus producers, whereas new agricultural technology, particularly if it is highly divisible ([3]), is more likely to benefit a wider range of farm households, including those producing mainly for home consumption.

Although studies in Asia, Latin America, and the industrialized countries show a high rate of return to investments in agricultural research, the development of an effective system of research and extension requires sustained funding, technical assistance, and strong management. A recent review of agricultural research in sub-Saharan Africa (Eicher) makes several points. First, institution building efforts must be tailored to the level of scientific, political, and institutional development of each country rather than being based on models from Asia and Latin America or on an Africa-wide model. Second, the donor agencies have on occasion provided more financial assistance than intellectual guidance, focusing on building construction and vehicles rather than technical assistance. Third, the regional agricultural research centers in the CGIAR system should play a larger role in building sustainable national agricultural research institutions in Africa. And finally, support for agricultural research must be thought of in terms of decades rather than years, due to the challenges of institution building and the long pay-off periods for research.

At the same time, most observers emphasize that technical improvements in coarse grain production in the Sahel will probably not take the form of high-yielding fertilizer-responsive varieties as in Asia. Matlon (cited in Shapiro and Berg) states that improvements in sorghum and millet production in the drier zones (less than 600 mm of rainfall) will be through the development of drought-resistant varieties and water and soil conservation. In higher rainfall zones, there is some scope for higher-yielding varieties and fertilizer use, but competing crops, such as maize, rice, and cotton, will be more profitable in many areas.

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[3]. Divisibility refers to the ability to purchase a technology in small quantities, as is the case for improved seed and fertilizer. Divisible technology is more likely to be adopted by small farmers than "lumpy" technology such as tractors, other things equal.

C. Relationship between Grain Production and Cash Crop Production

Cash crop production in Africa is often criticized because it uses land that could otherwise be devoted to produce food. Although there is a trade-off in resource use, two factors must be kept in mind. First, there are also important production complementarities between cash-crop and food-crop production. Second, maximizing household food production does not necessarily maximize household food consumption.

Research in Mali shows that cotton production was positively correlated with grain production on the same farm (D'Agostino). This result may have several causes. First, grain grown in rotation with cotton benefits from the residual effects of cotton fertilizer. Second, cotton sales help finance purchases of animal traction and inputs which are used in grain production. Third, cotton revenue relieves cash shortages, allowing more flexibility in the timing of grain sales. Fourth, on a regional basis, cotton revenue has also financed basic infrastructure that contributes to better cereals market integration (Dione, cited in Weber et al.). Similar results were found in southeastern Senegal (Goetz, cited in Weber et al.).

Second, maximizing household food production does not necessarily maximize food consumption. A diversified strategy which combines food and cash crops, livestock and non-farm activities may stabilize incomes and allow households to purchase a greater amount of food than could have been produced on the farm with the same resources. A survey of three zones in Burkina Faso revealed that the Sudano-Sahelian sample was the most specialized in grain production, yet had the lowest incomes and caloric levels. In two other zones, farm households produced insufficient quantities of grain but were able to more than compensate with grain purchases financed by livestock sales and non-farm activities (in the Sahelian zone) and by cotton sales (in the Sudano-guinean zone) (Reardon). The IFPRI survey in rural Gambia indicates that caloric intake is related to income, in cash or in kind, rather than rice production (von Braun and Puetz). These results confirm patterns found elsewhere in Africa (see von Braun and Kennedy).

D. Comparative Advantage of Agriculture in the Sahel

The comparative advantage of a commodity depends on its cost of production and marketing, which is influenced by physical and human

capital, scale economies, technology, exchange rates, and domestic and international demand, all which can vary over time and space. Costs, and thus comparative advantage, can be influenced by policy and government investment. For example, government efforts to develop effective research and marketing institutions affect the generation and use of technology, and therefore, costs of production. The Sahel has a comparative advantage in cotton production largely as a result of effective agricultural research and input marketing that has raised yields four-fold since independence, thus reducing production costs.

One way to evaluate comparative advantage is with domestic resource cost studies, which compare efficiency of commodities in generating foreign exchange (for exports) or saving it (for import substitutes). Reviewing a few such studies of Senegal and Mali, Shapiro and Berg conclude that "a switch from export crops to cereals (especially rice) would worsen the foreign exchange situation" (p. 8). However, the competitiveness of different crops is very sensitive to transport costs, which are influenced by public investments in infrastructure. Further from the ports, export crops become less competitive relative to import substitutes such as coarse grains.

The comparative advantage among commodities also varies over time as a result of changing world prices, production technology, and transport infrastructure. For example, cotton prospects are said to be good in the foreseeable future, whereas groundnuts face increasing competition from European oilseeds and Asian oil palm. Fresh fruit and vegetable exports to Europe are growing, although quality and timing are critical, and the Sahel faces competition from North Africa. According to many analysts, livestock products present important possibilities for increasing intra-African trade (Holtzman).

Some observers hold that the public sector is not likely to be very successful in identifying growth industries due to political influence and its inexperience in commerce (Berg). In this view, growth is best facilitated through the establishment of a policy environment that will allow market forces to identify and promote products with a comparative advantage. The opposing point of view holds that the government must play an active role in identifying and promoting growth sectors, taking

advantage of its broader perspective on the economy and certain economies of scale.

In trying to balance these points of view, it is clear that some commodity priorities must be established to guide public investment in agricultural research, transportation infrastructure, and other "public goods." At the same time, the complexity and unpredictability of market trends argue for a policy that minimizes discrimination among activities with respect to price policy, trade regulation, credit availability, and taxation. It is clear that public investments that are not restricted to any one commodity are more flexible in the face of changing economic opportunities. Yet there is often a trade-off between flexibility and productivity: low per-unit costs frequently require specialized investments suited to a particular purpose.

IV. MARKET AND TRADE POLICY ALTERNATIVES

The appropriate mix of public and private sector activities in the marketing system continues to be the subject of intense debate. Drawing from ongoing research on marketing policy reform in Mali, Niger, Senegal, and Burkina Faso, this section addresses (a) the restructuring of grain markets and prices, (b) measures to promote private investment in the marketing system, (c) trade policy issues, (d) the use of food aid, and (e) the ongoing policy dialogue between governments and donors.

A. Restructuring of Grain Markets and Prices

The recent experiences of market restructuring in Mali, Niger, and Senegal provide several price policy insights. First, market liberalization does not necessarily imply remunerative producer prices or incentives, as is sometimes argued. Following reforms, cereal prices plunged precipitously in 1985 and 1986 in Mali, Niger, and Burkina Faso. This demonstrates the severity with which weather-induced production increases can affect prices in thin markets where only a small portion of production is marketed (Dione and Staatz, Josserand and Casey, Reardon). The effect that such price instability may have on investment in the food system by farmers and traders is a cause for considerable concern (Reardon, Bremer). However, there was a

general consensus that most Sahelian governments lack the resources to control cereals prices (Staatz, Shapiro and Berg, Josserand). The European Commission paper has proposed an alternative to fixed producer prices: stabilize prices within a given range, based on some trend of past market prices. While allowing prices to fluctuate freely within some specified range would require fewer public resources than a fixed price policy, substantial budgetary and analytical capacity would still be required (the more narrow the range, the higher the costs). Moreover, successful maintenance of the price band would depend on accurate forecasts of future supply/demand conditions, not necessarily past price movements.

Policy reform, through its effect on prices and costs, may produce important distributional consequences. The concentration of marketed surplus among large, relatively well-equipped producers suggests that price supports for coarse grains may have highly concentrated benefits. Ongoing research in the Sahel has consistently found many rural households (the majority in some cases) to be net consumers of coarse grains (von Braun, Dione and Staatz, Reardon, Goetz et al.). Even with higher prices, these farm households lack the ability to produce a grain surplus because of insufficient labor or land, poor access to inputs, or inability to afford animal traction to increase production. Therefore, efforts to stimulate production via price incentives may exacerbate food insecurity in both urban and rural areas, at least in the short run. Similar distributional effects are important considerations in the analysis of a protected regional cereals market.

Despite the shift throughout much of the Sahel toward greater reliance on private marketing, storage, and price formation, governments' use of buffer stocks and other forms of supply management remains common. Research in Mali and Niger indicates that sporadic and unpredictable government buy-sell activities have increased rather than reduced uncertainty in the market, and have impeded private sector grain storage (Dione and Staatz, Josserand and Casey). On the other hand, government participation in cereal markets has been critical for the food security of the rural poor in northern Burkina Faso (Reardon). During the 1984/85 drought year, these households were able to acquire over one-third of their cereal needs from subsidized government sales. While some type of buffer stock scheme may be justified, especially

in landlocked countries where imports cannot immediately relieve supply shortages, government behavior in the market needs to conform to established rules that will not exacerbate uncertainty or impede private grain storage.

There was less consensus on the issue of input subsidies. Shapiro and Berg argue against subsidized fertilizer distribution based on the empirical record over the past 25 years: questionable economic profitability, late deliveries, inequitable distribution, the adverse effect of subsidies on the emergence of private distributors, etc. However, it may be useful to separate the concept of government input distribution from subsidies since neither implies the other. The largely successful experience of government involvement in cotton input and product marketing in francophone Sahel merits further analysis before rejecting public sector support in input distribution (Lele). Other studies indicate that the transition to a privatized input distribution system may significantly increase fertilizer prices due to high start-up costs and risks, which would reduce fertilizer use and coarse grain yields (Goetz et al.). Strategic public sector investments may be necessary to induce private sector investments in input distribution. Such investments should be guided by careful cost/benefit analyses that take into account institutional capabilities as well as the dynamic effects on demand for processing, transport, and other marketing services.

Several participants stressed the effects of market reform in reducing transaction costs. The legalization of the private grain trade in Mali and elsewhere appears to have reduced marketing margins, reflecting lower risk premiums and greater scale economies in transport because it is no longer necessary to trade in small, undetectable lots (Staatz, Ahlers). And, reform appears to have benefitted rural consumers in Mali because grain is now readily available in local markets, eliminating the need to wait in queues at government warehouses for grain.

The general discussion of appropriate government roles in Sahelian cereals markets prompted one European participant to contend that much of the US analyses focus too narrowly on economic concerns to the detriment of multifaceted political and social issues, such as the desire to reduce dependence on imports, preserve consumption patterns, combat migration and create jobs in rural areas (Oomen). Because these politically sensitive

issues influence the behavior of Sahelian governments, ongoing policy dialogue with governments may be more successful if such issues are specifically considered in the formulation of a food strategy. The European Commission paper emphasized the continued need for direct public sector participation in grain markets to "ensure that the private sector does not abuse its (near) monopoly situation and, secondly, in order to act in those areas in which the private sector is not particularly interested or has only a limited ability to act (supplying marginal areas or vulnerable population groups, strategic stockpiling, etc.) and thirdly, to 'contain' the market, i.e., prevent price fluctuations from becoming too excessive" (EC Commission, 1988). Yet the empirical record over past decades questions whether the monopolies referred to above really do exist (Dione and Staatz, Shapiro and Berg).

B. Facilitating Private Sector Performance in the Marketing System

While the current pace of ongoing reform provides a unique opportunity to enhance food security, it is not sufficient to view market reform as simply getting governments out of food distribution and letting traditional markets work. The "vacuum theory of privatization", under which private traders are assumed to immediately fill the void left by state withdrawal from the market is not supported by ongoing research findings (Weber et al., Dione and Staatz, Goetz et al.). Many private cereals traders lack the resources, product knowledge and management skills to market improved inputs effectively in southeastern Senegal (Goetz et al.). Malian traders have complained that in spite of greater opportunities opened up by market reform, their ability to acquire trucks, warehouses and expand their operations has been hampered by inadequate working capital, financing, and market information (Dione and Staatz).

Given that markets in Africa operate under a number of complex constraints, not all of which are related to government policy, reforms based simply on liberalization of markets may be insufficient to catalyze private sector participation in the food system. Strategic public sector activities to promote private sector investment include market information dissemination, mechanisms to reduce risks and transaction costs in rural markets, research and diffusion of production and processing technology, improving

transportation infrastructure, and strengthening legal institutions. Empirical evidence in several African countries indicates that such investments combined with market reform also raise producers' ability to respond to price incentives (Jayne and Weber). Delgado concludes that "the primary issue in [elastic aggregate agricultural supply response] is identifying in an operational manner the best public investment strategy to pursue in order to speed up private capital accumulation in agriculture and growth in labor productivity. Such policies have favorable prices as a supportive component, but not as a major substitute for prioritized public investment."

Several "chicken and egg" cycles were identified that apparently impede the development of a vibrant private sector in input and output markets. In both Senegal and Burkina Faso, analysts noted that few marketable surpluses are produced because markets are thin and uncertain, but markets remain thin because few marketable surpluses are produced (Crawford, Reardon). This impedes private investment in the range of marketing services required to stimulate local cereals production. Also, a viable cereals processing industry depends on an adequate source of local supply, but the incentives to increase local supply depend on higher prices due to consumer demand, which is partly a function of processing characteristics (Crawford). Key public sector investments may be critical to break the gridlock and promote sustained investment and growth in the food system (Weber et al., Delgado).

C. Trade Policy

Much of the policy dialogue among donors, and between donors and Sahelian governments, concerns the appropriate price relationships between domestic, regional and international markets, as well as the preferred mix of policy tools to achieve these relationships. The regional protected market proposal exemplifies this policy debate.

The desirability of driving a wedge between domestic and world rice prices, by a tariff on imported rice for example, was seriously questioned by the conference participants. First, rice appears to be very important in the diets of both the urban and rural poor. A tariff on rice would be tantamount to a regressive tax on the poor. Second, as discussed above, research results from Mali and Burkina Faso indicate that short-run demand

elasticities for rice appear quite low, as do cross-elasticities between rice and coarse grains (Lowdermilk, Rogers, Reardon). This suggests that higher rice prices would exacerbate both rural and urban food insecurity and confer little demand stimulus to locally produced coarse grains. The protected market proposal is weakened even further if coarse grains production is relatively unresponsive to price incentives (Martin).

In addition to questions of desirability, there are also problems of implementation. Given the particular consumption, production, social and political characteristics of each Sahelian country, agreement on and adherence to a common price alignment in a regional protected market could be difficult (Josserand).

Although existing empirical data present serious questions about the viability of a regional protected cereals market in the Sahel, market and trade policy must still deal with legitimate concerns that were the impetus behind the protected market proposal, specifically the desire to (a) stimulate demand for locally produced coarse grains that account for 90 percent of cultivated area in the Sahel, and (b) reduce dependence on imported cereals, especially rice.

Several alternatives were forwarded as means to meet these objectives: (1) currency devaluation, (2) non-price actions, such as improved processing or cooking techniques, which would raise the palatability of and demand for locally produced coarse grains, and (3) a flexible price policy environment consistent with import and export parity prices. Each of these alternatives is briefly discussed in turn.

A currency devaluation would accomplish the same end as a tariff in raising imported rice prices relative to coarse grain prices (Humphreys, Delgado). Unfortunately, it would have similar regressive effects on food insecurity among the heavily rice-consuming poor. Also, a devaluation would shift the terms of trade between all importables, exportables, and non-tradables, causing much broader effects throughout the economy than a tariff on a specific commodity. This may partially explain the reluctance of some donors and governments to advocate this option. Furthermore, in the absence of complementary investments in infrastructure, technology, and marketing institutions, a devaluation would probably be insufficient to stimulate local grain production (Delgado).

A second means of shifting consumption toward locally produced coarse grains is through changes in cooking preparation and processing that would make coarse grains cheaper, more convenient to cook, and more palatable to eat. This option requires future technological advances.

A flexible price policy that refrains from committing national resources to specific commodity sectors was advocated by some participants (Berg, Rogers), with the rationale that world economic conditions are so uncertain and ephemeral that comparative advantage cannot be predicted. Under such conditions, the appropriate relationship between domestic and world prices is parity, which allows private actors rather than policymakers to determine the sectors in which there will be investments and related changes in comparative advantage. This perspective neither provides nor advocates a policy mechanism to reduce dependence on imported cereals or shift consumption toward local coarse grains. Shapiro and Berg point out that the risks of depending on unstable international markets for food may be no greater than depending on unstable local production for food. Weather fluctuations make grain production in the Sahel highly variable. A shift to a greater self-supply simply shifts risk toward the variability of domestic cereal production and away from the combined variability of domestic groundnut, cotton, and livestock production and world prices for cereals and exports. "To the extent that the latter production and price movements are not closely correlated, reliance on them should be less risky than greater reliance on domestic cereal production" (Shapiro and Berg).

In either case, however, price instability and its effects on consumption and long-run investment may be severe. The frequency and severity of drought in the Sahel require marketing institutions flexible enough to deal with recurrent crises (von Braun). An important policy challenge is to develop workable rules that maintain consistency between domestic prices and long-run trends in world markets, while reducing price instability to encourage warranted investment in the food system and mitigate consumption variability (Staatz).

Although there was no consensus on whether to insulate domestic markets from world markets, there was broad agreement that freer trade within West Africa was advisable (Josserand, Berg, Lele). Coastal countries such as Ghana and Nigeria may provide an expanding market for Sahelian agricultural

exports. Niger's growing cowpea exports to Nigeria demonstrate the income-generating potential of intraregional trade (Josserand).

D. Food Aid

For better or worse, food aid appears here to stay for the foreseeable future (Hanrahan). Therefore, policies must be designed that constructively use aid to alleviate food insecurity among vulnerable groups without depressing production incentives or introducing instability into the market. Although the concept of self-targeted food aid (e.g., subsidies on goods mainly consumed by the poor) has been promoted in recent years, research results from Mali indicate that no cereal crop appears to be an inferior good, at least in the urban areas (Rogers and Lowdermilk). If these results are generalizable to wider areas in the Sahel, they create design problems for the efficient transfer of food aid to targeted groups.

Evidence from Burkina Faso indicates that in drought years, food insecurity may be more severe in major cereals production regions than in the more marginal northern areas. This is because income appears more linked to agricultural production in the high potential areas than in the north, where income sources are more diversified and less dependent on the weather. Consequently, the most useful criterion for allocating food aid within a country may be purchasing power shortfall, not agricultural production shortfall (Reardon, Matlon, and Delgado).

E. Policy Dialogue and Strengthening Domestic Analytical Capacity

Market restructuring is often carried out by African governments as a response to budgetary crises rather than an abiding belief in giving greater emphasis to private initiative in markets (Josserand and Casey, Wilcock, Delgado, Berg). Participants noted the use of "smoke and mirrors", in which mandated reforms are often accompanied by a myriad of informal measures to counteract the more politically sensitive aspects of reform.

Donors are somewhat unclear among themselves about the desirable path of policy reform. Berg concluded that donors cannot present clear recommendations because of differences of opinion between and within agencies on issues such as the appropriate role of parastatals, the usefulness of buffer stocks or input subsidies, and the utility of support prices. Timely,

policy-relevant research can contribute to a harmonization of views among donors by clarifying how households and markets work in Africa. Yet the root cause of important policy disagreements often concern questions of values as well as facts, such as the relative weights to be put on equity and efficiency in policy formation.

Greater attention in the future to policy interaction between researchers, donors, and governments may reduce the gap between intended and actual implementation of reforms. For example, the timely dissemination of price and transactions information, while instrumental in improving the efficiency of grain markets in the Sahel, may be even more valuable in its ability to raise the level of discussion between donors and governments (Loveridge and Weber). Throughout Africa, the policy dialogue between donors and governments has been impeded by failure to institutionalize sustainable local policy formulation and evaluation. Yet effective interaction between researchers and government officials, based on timely sharing and discussion of ongoing research findings, can create the demand for policy analysis that upgrades the empirical quality of policy deliberations. Building effective demand for policy research requires an iterative program of research and policy extension (Weber et al., 1988). Moreover, efforts to expand the supply of trained local analysts may contribute to the development of effective demand for policy-relevant research, as it helps build a lobby within government for such research (Weber et al.). Lele argues that an important element in agricultural development in Asia was the nurturing of trained professionals and government officials who could articulate a food strategy and resist donor faddism (Lele, 1981). A development approach that treats policy extension, research, and local human capital formation as joint products can simultaneously raise the domestic supply of and demand for research and analytical capacity, thereby elevating the level of policy dialogue between donors, researchers, and governments.

PRESENTATIONS

Ahlers, T. "The Structure of Cereals Demand": Discussion

Batchelder, A. "Consistencies, Inconsistencies, and Impacts of Donor Agricultural and Food Policy Recommendations to Date": Discussion

Berg, E. "Consistencies, Inconsistencies, and Impacts of Donor Agricultural and Food Policy Recommendations to Date"

Crawford, E. "The Structure of Cereals Demand: Senegal Consumption Case Study"

Grayzel, J. "Implications for Future Donor Thinking": Discussion

Hanrahan, C. "Food Security and Agricultural Development in the Sahel: The Role for Domestic Cereals Production": Discussion

Humphreys, C. "Appropriate Agricultural Research Strategies": Discussion.

Jepson, L. "Implications for Future Donor Thinking: A Proposed U.S. Position"

Lallement, D. "The Scope for Price Policy to Slow Down the Consumption of Imported Cereals and to Promote Agricultural Growth in West Africa": Discussion

Lele, U. "Building Domestic Research and Analytical Capacity, and the Continuity of Policy: Implications for Future Donor Thinking."

Lewis, B. "Implications for Future Donor Thinking: Political Constraints"

Lowdermilk, M. "The Structure of Cereals Demand: Mali Consumption Case Study"

Missiaen, M. "The Structure of Cereals Demand": Discussion

Oomen, A. "A European Perspective on Donor Policy Considerations."

Reintsma, C. "The Structure of Cereals Demand": Discussion

Rogers, B. "Implications for Future Donor Thinking: Distributional Impacts"

Steele, G. "Production Incentives": Discussion.

von Braun, J. "The Structure of Cereals Demand: Gambia Consumption Case Study"

Wilcock, D. "Cereals Policy Reform in Niger": Discussion

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P A R T IV

PROVISIONAL RESULTS OF THE

IRAM-INRA-UNB EFFORT

I. Presentation of the Study "Inventory of Measures adopted to Control External Trade in Cereals in the Countries of West Africa, from Cameroon to Chad"

(Gilles METTETAL)

II. "From Regional Market to Regional Markets: New Thoughts emerging from the IRAM-INRA-UNB Project on Cereal Policies and Cereal Trade in Western Africa"

(Johny EGG, Jean-Jacques GABAS
and Jean-Pierre LEMELLE)

III. "Description of the Regional Market in West Africa today. Methods, Results and Scenarios of Change"

(Jean COUSSY)

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INTRODUCTION TO WORK ON REGIONAL CEREALS TRADE

This section provides an overview of the discussions that have come out of the studies and surveys currently being conducted by the INRA, the UNB and the IRAM [1] on external trade in cereals by the countries of West Africa.

This work began in 1987 with a study entitled "Regional Trade, Border Trade and Food Security in West Africa". The approach adopted involves examining regional trade by conducting surveys on border markets, by interviewing traders, and by correlating findings with existing data. Several documents have since been produced:

- "Méthodologie et premiers résultats", by J. Egg, J. Igue and J. Coste,
- Politiques nationales et réseaux marchands transnationaux : le cas du Mali, du Niger-Nord Nigeria", by Jean-Loup Amselle and Emmanuel Grégoire,
- "Dimension monétaire des échanges entre les pays du Golfe du Bénin (Nigeria, Bénin, Togo", by Olivier Vallée.

In 1988, at the request of the French Development Agency and the Club du Sahel, an "Inventory of Measures Adopted to Control External Trade in Cereals in the Countries of West Africa from Cameroon to Chad" (see page 3) was produced as a support document for ongoing work.

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(1) INRA-ESR: Institut National de Recherche Agronomique, Département d'Economie et de Sociologie Rurales; Place Viala, 34100 Montpellier

UNB: Université Nationale du Bénin, Geography Department, BP 526, Cotonou, Benin

IRAM: Institut de Recherches et d'Applications des Méthodes de Développement, 49, rue de la Glacière, 75013 Paris

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An interdisciplinary team has been formed to monitor the work being carried out. The team brings together researchers, academics and experts from France and Africa.

The specific nature of the approaches adopted is examined briefly in paragraph II, while the implications of initial results for the notion of a protected regional cereals market as it was formulated at Mindelo are discussed (page 12).

I.- PRESENTATION OF THE STUDY "INVENTORY OF MEASURES ADOPTED TO CONTROL EXTERNAL TRADE IN CEREALS IN THE COUNTRIES OF WEST AFRICA FROM CAMEROON TO CHAD"

1. Context and objectives

Explaining what is meant by a "regional cereals market" with a view to formulating a proposition is a delicate task from numerous standpoints. One of the first requirements is to gather baseline data on external trade in cereals by countries in West Africa. After the launch of the study on intra-regional trade, there was a need to gather data on the trade between these countries and the world market, inclusive of food aid. At present, this information is incomplete and a large number of different sources of information are involved. As a result, little of the work conducted on the notion of the regional market itself has really taken it into account.

In response to this realization, the French Development Agency and the Club du Sahel jointly commissioned an inventory of the external trade flows and policies of West African countries. The study was conducted by a team made up of members of INRA and IRAM with a mandate to use current work on regional trade and border trade as a basis for their report. The inventory was drawn up during a six-month period and involved all the countries of West Africa from Cameroon to Chad - a total of eighteen countries.

The objective of the inventory was to seek answers to the three following questions:

- What are the main trends over recent years in imports of cereals (wheat, wheat flour, maize, rice) by the 18 countries of the sub-region?
- Can the legislative measures taken by governments offer effective control over trade, and are they compatible with each other?
- What are the relationships between trade control policies and the extent of cereals flows at the national and sub-regional levels?

The study is divided into three parts on the basis of these questions:

- an inventory of government measures to control external cereals trade;
- an inventory of cereals imports officially recorded by these African countries and by exporting countries;
- specific discussion of the effects of imports and cereals trade control measures in four countries (Gambia, Senegal, Mauritania, Mali).

A specific report has been drawn up for each of these parts. A summary report [2] discusses the content of each specific report, examines the methodology used by each, and makes recommendations for further work.

2. Presentation of work and main results

2.1 Provisional inventory of government measures to control external trade in cereals

This inventory aims to list and develop understanding of the official measures to control external trade in cereals that have been taken by each country in the sub-region. It also seeks to highlight the interaction and the degree of coherence that currently exist between different policies, and to indicate how these policies have developed over recent years.

A data base was created to bring together all the regulations currently in effect in the 18 countries, and to indicate the way these measures have changed over the last ten years or so in some of the countries. The information contained in this data base is all available in Paris (official legal publications, customs codes and tariffs, various other documents). Data input relied on a nomenclature that was defined beforehand so that the distinction could be made between measures involving customs tax and assimilated levies, domestic taxes, quotas and embargoes, general policy measures, domestic policy measures, and financial and monetary measures that have a direct or indirect impact on external trade in cereals.

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(2) These reports are available from IRAM

The data base was then used to generate country-specific and product-specific tables showing the current state of legislation on external trade in cereals and the main trends in certain countries (see table A in appendix). It should nevertheless be remembered that these results are strictly provisional, and are still very incomplete.

Initial analysis involved comparing government policies and drawing interim conclusions on those policies and on the methods used by governments to limit or to promote cereals trade. Above all, this analysis points to the very extensive range of different types of legislation and regulations that exists, and gives an indication of the difficulty of bringing national policies into line with each other at the regional level, at least in the near term. Although drawing up the inventory posed a number of methodological problems, initial results indicate that it will be a valuable tool for policymakers.

2.2 Inventory of cereals imports

The aim of this inventory is to draw up a list of all the international sources of statistical information on official cereals flows. Comparison of series of statistics obtained from these sources can be used as the basis for debate on the quality of the information and on how representative it is of the realities of trade in the sub-region.

Eight international sources offering relatively consistent information were selected (4 sources based at the FAO, 2 at the CNUCED, the CIB and the UNDA). The information refers to total cereals imports (excluding those carried out by the Food Security Group at the FAO, which involve food aid only). These sources can be roughly classified under three headings:

- sources using information supplied by importing countries (import declarations);
- sources using information supplied by exporting countries (export declarations);
- sources relying on estimations, which compare import and export declarations with results generated by econometric

models in an effort to estimate the size of food shortages in the short or medium term.

A data base was created with series of data gathered from the different sources. This data base can be used to compare data from different sources by producing country- and product-specific tables: 18 countries and 4 products, i.e., 90 tables (see table B in appendix).

Like the inventory of government measures, the inventory of trade flows is provisional, and conclusions cannot be drawn systematically because complete series of data are not available from certain sources.

This work has show that imports have increased at different rates: in general, this increase is greater for rice than for wheat. Certain countries are characterized by particularly sharp increases in imports, although these countries are not necessarily those that import most.

The work underscores the significant disparity between data available for the evaluation of cereals imports. If the user relies on a single source of information, there is a risk that only a small proportion of actual official flows will be taken into account (and that clandestine movements will not be taken into account at all). The divergence between the different series of data, and the difficulty in explaining this divergence hamper attempts to formulate "probable" series.

2.3 Case studies: Gambia, Senegal, Mauritania and Mali

The purpose of these case studies was to complement the data in the two inventories, to test the reliability of those data, and to assess the different types of reasoning behind external trade practices. This series of observations aimed to provide a basis for debate on the degree of coherence among national cereals trade control policies, and to assess the relationships between these policies and trade flows (official and clandestine) at the national and sub-regional levels.

The work was conducted on the basis of short visits to four countries with different policies but shared borders.

Additional information was then added to the inventories. Distinctions were made on the basis of the quality of the

products. The case studies offered a better understanding of the sales systems, and the data gathered for the inventories were compared with national production figures and with consumption statistics. As a result, numerous indications are given on the validity of the information contained in the inventories.

The case studies allow for comparative analysis of the policies of the four countries, and highlight conflicts of interests that have led to the adoption of national policies that are blatantly incompatible at the regional level. For example, Senegal's protectionist policy on rice imports is incoherent if Gambia and, to a lesser extent, Mauritania deliberately adopt policies aiming to favor clandestine re-exports. In this way, the trade practices (mainly clandestine) and policy interdependence in the four countries studied have led to a relatively well integrated economic zone. As a result of re-export strategies, this zone is becoming increasingly open to imports from the world market, which are in direct competition with national production.

3. Outlook

This work has already made it possible to identify shortcomings and gauge how little policymakers know of the different parameters that should guide their decisions.

The study presented here is only a preliminary stage in the work program, which is to continue during 1989 in an effort to consolidate the inventories and conduct more in-depth analysis. As regards trade flows, efforts must be made to reach a clearer understanding of the ways in which data is produced at the national and international levels. The two inventories could be extended to cover other products (e.g., livestock-related) and it would appear useful to take other variables into account, such as market prices and real exchange rates.

From the technical viewpoint, dialogue is essential between the countries involved in this initiative. Clear ground rules must be established for this dialogue so that a well organized network can be set up. Before this can be done, however, those responsible at the national level must be consulted.

TABLE A

MANAGEMENT MEASURES OF CEREALS TRADE

COUNTRY: COTE D'IVOIRE

TYPE OF MEASURES	WHEAT	MAIZE	RICE	MILLET-SORGHUM	WHEAT FLOUR	PARTNER COUNTRIES
IMPORTS						
- MARKET PRICE			FCFA 25/kg			all
- CUSTOMS DUTY	exempt	exempt	exempt	exempt	exempt	CEAO
ON CIF PRICE	2%	ordinary:2% seeds:exempt	5%	2%	5%	non-CEAO
- GOVERNMENT TAX	exempt	exempt	exempt	exempt	exempt	CEAO
ON CIF PRICE	0.5%	ordinary:2% seeds:exempt	ordinary:9% seeds:exempt	2%	exempt	non-CEAO
- OTHER TAXES						
Ok CIF PRICE						
. VAT	exempt	exempt	exempt	exempt	exempt	all
. SHIPPING OR PORT TAX	0.6%	0.6%	0.6%	0.6%	0.6%	all
- SPECIFIC TAXES						
. SPECIAL TAX			FCFA 5/kg			non-CEAO
- TAXES ON FOB PRICE						
. SGS TAX (3)	0.75%	0.75%	exempt	0.75%	0.75%	all
- SYSTEM APPLIED	license	approval or license	license	license	prohibition	non-CEAO
- IMPORT CONDITIONS	SGS approval	SGS approval	SGS approval	SGS approval	SGS approval	all
EXPORTS						
- CUSTOMS DUTY ON FOB PRICE	exempt	exempt	exempt	exempt	exempt	
- EXPORT CONDITIONS	compensation equal to tariff applicable to import of equivalent product					
TRANSIT						
- SYSTEM APPLIED	declaration to commercial register; consumption in countries prohibited					
- TRANSIT CONDITIONS	escort during transit					

(3) Société Générale de Surveillance

TABLE B

COMPARISON OF THE STATISTICAL SOURCES CONCERNING CEREAL IMPORTS BY COUNTRY AND BY PRODUCT

COUNTRY: BURKINA FASO
PRODUCT: MAIZE (044 in CTCI*)

(in tons)

YEARS	TOTAL IMPORTS						INCLUDING FOOD AID
	UNCTAD 1	UNCTAD 2	FAO DPCI	FAO SSB	FAO GIEWS	USDA	FAO GSA
1970	0	0		421	0	400	
1971	0	13689		875	0	900	
1972	66	4991		273	0	500	
1973	2178	22275		6850	0	10600	
1974	26489	23780		24000	0	39600	
1975	133	565		164	0	600	
1976	499	100		501	0	500	
1977	3	0		70	0	100	
1978	3679	8500		0	0	6700	
1979	14	0		1809	0	1800	
1980	126	78		259	0	300	
1981	148	8985	0	740	0	9000	
1982	9442	8488	6500	1148	0	9800	
1983	6408	0	16600	6800	38000	6800	
1984	0	9510		23500	92000	23500	
1985	0	12200	200	47000	30000	47000	
1986	0	1		0	30000	0	
1987	0	1			30000	0	
1988							

(*) CTCI: Typical Classification for International Trade
Reference period:
- Civil year: UNCTAD 1 and 2 ; FAO/SSB ; USDA
- International farm campaign (july/june): FAO/DPCI
- National farm campaign: F.A.O./G.I.E.W.S.

II. FROM REGIONAL MARKET TO REGIONAL MARKETS: NEW THOUGHTS EMERGING FROM THE IRAM-INRA-UNB PROJECT ON CEREAL POLICIES AND CEREAL TRADE IN WESTERN AFRICA

This work is based on the following documents:

- "Regional Markets, Border Trade and Food Security in Western Africa". Project financed by the French Ministry of Cooperation and the Club du Sahel, over a period of 24 months (September 1987 to August 1989).

- "Survey of the Foreign Trade Management Measures of Cereal Imports and Exports in the Countries of Western Africa, Cameroon and Chad". Project financed by the French Ministry of Cooperation, over a period of 6 months (June to November 1988).

These projects were completed by:

- for the first phase of the project: several teams from African universities, and French researchers and consultants. This survey was coordinated by J. EGG (INRA, Montpellier), J. IGUE (UNB, Cotonou), and J. COSTE (IRAM, Paris).

- for the second phase of the project : F.X. BARDE, D. COULIBALY, J. EGG, D. HARRE, J-P. LEMELLE, G. METTETAL and P. VIONNET. This survey was coordinated by J. EGG and J-P. LEMELLE, with the support of J. COSTE, J. COUSSY, J.J. GABAS, D. GENTIL, R. PHILIBERT and P. POUPARD.

A. INTRODUCTION

Since the Mindelo Symposium on cereal policies in the Sahel countries (December 1986), the debate is launched on the advantages, necessity and possibility of implementing a "regional market" policy, in order to improve the economical environment of agriculture. Based on this idea, several postulates have been formulated, along different approaches of work.

Some of the research work has stressed on customs policies and their effects on consumption and production. Other research work has concentrated on monetary policies (exchange rates, monetary zones, ...) as instruments of the foreign trade policies. Other research works are studying the institutional implications of regional protection mecanisms.

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This note starts from a slightly different view point: is this possible to base policies on dynamics of "grass-roots" integration which are already at work through informal trade with the purpose of reinforcing regional trade areas.

The analysis presented in this note is based on works done on the border and regional trade as well as on cereal import policies. The originality of the approach throughout the project has been to combine observation of the trade flows with a comparative analysis of national policies.

Since our work was primarily geared on a survey of the situation, we will begin with a list of the most important of our results. These results are as yet incomplete, and in some parts must still be confirmed. But even so, they establish facts (presented in paragraph C) which in our opinion should be taken into consideration in any reflection in the area of national trade policies. These findings have led us to formulate certain proposals of approach and work orientations, which are presented in the last part (D) of this note.

B. THE INITIAL RESULTS OF THE STUDIES

1. It is a well-known fact that West-African countries are importing more and more cereals from the world markets - especially wheat and rice. What is less well known is the impossibility of making a reliable estimate of this trade flow.

It seemed logical to assume that the figures of imports from the world market would provide more reliable data than the other sectors of the trade. A comparison of the available statistics shows that they do not agree. It is very difficult to determine the real status of cereal imports (for instance in the shape of food assistance) and this weakens the impact of cereal trade statements as an offer-demand regulation tool.

Therefore, the statistics series used the most often underestimate the amounts actually imported.

2. The flow of cereals between the countries belonging to the sub-regional markets are important. They involve :

- Locally produced cereals: a small but steady stream through numerous points across the borders; much greater volumes when there is a heavy producing area close to the border (the rice exports to Senegal from the private irrigated perimeter of Mauritania almost reached 7,000 tons during the last season); when there is an important difference between the price and the offer conditions (it is estimated that Nigeria frequently exports 100,000 tons of cereals to Niger).

- Cereals imported for purproses of re-export. It can be estimated that:

  . the broken rice trade flow from Gambia to Senegal amounted to over 65,000 tons in 1986 and 1987 (a volume about equivalent to the Gambia rice consumption);

  . the broken rice exports from Mauritania to Mali amounted to nearly 25,000 tons in 1987;

  . the wheat flour trade flow between these two countries passed 25,000 tons in 1987 (or nearly half the Mauritanian imports and nearly half of the Malian consumption);

  . the rice trade flow from Benin to Nigeria amounted to nearly 320,000 tons in 1987.

This trade creates several types of regional integration.

3. The cereal trade between border countries within the regional market is not a steady phenomenon.

The importance of the trade flow of locally produced cereals varies with the offer, demand and price policies. The flow direction can even be reversed, as has often happened in the rice trade between Mauritania and Senegal. The interruption, these last few months, of rice re-exports from Gambia to Senegal was caused by the drop in consumption prices in Senegal and the rise of world prices. This shows that this second type of trade flow also fluctuates according to external factors.

4. There are other types of trade within a regional market.

In addition to the traditional trades based on regional complementarities (livestock, kola, fish, ...) many other food products, either local or imported, cross the borders. But the food and manufactured product trades are often linked : the retailers of Niger export niebe and livestock to buy fuel, cement and vehicles from Nigeria. Niebe exports are linked to the niebe demand in Nigeria, but also to the demand for cement in Niger.

The re-export activity involves many products, and the retailers are not specialized in the cereal trade (the importance of rice in these operations is only recent). As an example, one of the major objectives of the Mauritanian retailers selling cereals to Mali is to obtain hard currencies which will enable them to import other products.

5. The greater part of the cereal trade within the regional market does not show in the governments' accounting.

Inadequate statistics structures, insufficient customs control are only a part of the explanation. The rest is to be found in the nature of the existing commercial operations. Border trade between countries often avoids customs and goes through other channels; cereal exports are forbidden in many countries, and most of all, re-export is an illegal trade, and is therefore not declared.

Therefore, the regional market integration through trade is happening outside of the official channels, and important data (on re-exports, for instance) are not considered in the definition of national agricultural policies - and even less in the creation of structural adjustment programs.

6. The retail networks supporting the trade in the regional market areas are well structured, and financially almost completely independant from the banks. Operations are generally completed in cash, and credit is granted on a trust basis.

7. The trade flows within a regional market depend mainly on the differences between national policies: foreign trade policies, price policies, monetary policies, ... Most of the trade is done between countries in the franc zone and countries in other currency zones. The trade flow between the countries of the franc zone is markedly less important.

It would seem that the differences in currency zones and the differences in economical policies are the key factors of impetus for the trade. The benefits a country may find in specializing in a given production or commercial activity does not seem to offer as strong an incentive.

8. Contrary to popular belief, devaluation and floating change rates do not suppress the parallel currency exchange markets in the countries with a non-changeable currency, and they do not limit parallel activities. Gambia's case is an excellent example: the official exchange rate for the dalasi is very close to the parallel rate, but most of the currency used in the re-export trade comes from the parallel exchange market.

9. Large-scale retailers are the main actors of regional integration as it is conducted today.

Whatever their orientation, it cannot be denied that they are alone, today, in having a truly regional vision of the situation, while the governments are mainly preoccupied with the management of conflicting interests in the national context.

10. But obviously, the interest of the governments and that of the retailers cannot be seen as opposites. This is one of the major difficulties of an analysis of the foreign trade control policies.

At different levels according to the countries, retailers influence foreign trade policy decisions, or at least limit their enforcement. Conversely, governments attempting to respond to conflicting demands (from the consumers, the producers, the donor organisms) can gain by letting retailers introduce a "necessary flexibility" in the enforcement of their policies.

11. Most national policies are relatively inefficient in the enforcement of their official objectives in terms of foreign trade management. They fluctuate constantly in an attempt to manage different and often conflicting interests.

12. The number of countries dealing in the re-export of goods (particularly rice) has increased markedly over the past few years.

The Gambia, Benin and Togo have been involved in this trade for a long time, but now, Mauritania, Cameroon, Sierra Leone at least must be added, soon to be joined by Guinea Bissau. The development of this activity was generated by the drop in the world market in the last few years, by the protection effort of certain countries, and by the increased budget income needs of the governments.

13. For different reasons, but particularly because of the multiplication of re-exporting strategies, the regional markets are wide open to the international market. Imported cereals, and specifically those involved in the regional trade flow, are low-priced products on the international market: broken rice can be had for practically nothing in periods of market surplus, the price of wheat flour is strongly subsidized when the market is saturated. To these cereal products (the price of which is often lowered artificially) must be added the cereals brought in through food assistance programs.

It is therefore difficult to make an analysis on the sole basis of comparative advantages. The quality of the cereals must also be taken into consideration, and the collection and processing of data organized in consequence.

14. There is no reason why the policies of the governments of the countries belonging to the sub-region should grow more similar. The specific situation for which each policy is designed is different: for example, the production capacity of Mali cannot be compared to that of the Gambia, who can afford a

re-export strategy going against her producers; Senegal and Mauritania have a strongly urbanized population, living on the threshold of the international market.

15. The growing discrepancy between foreign trade management policies in the countries belonging to the sub-region does not change the fact that these countries's national policies are closely interrelated and complementary.

This political interdependance is not limited to the retailers' reactions, it also involves the governments' decisions. When Senegal lowered the consumer price of rice last June, two decisions (with admitteldy very different results) followed in neighboring countries : Mauritania had to forgo the planned increase in the consumer price of rice included in her new cereal policy, and Gambia cancelled her customs tax on rice.

16. The operating logic of the regional market is not the sum of the national logics of the market's countries. The integration factors described above cause the countries, taken as a whole, to develop operating logics which differ from their national logic.

For example, it is clear that the Gambia and Mauritania can only adopt a re-exporting strategy because their neighbors protect their agriculture. These countries benefit from their border countries' protection for their re-export activity and also for their domestic production. The rice producers of Gambia would be in a very difficult position if they could not dispose of their production on the Senegal market. If her producers did not benefit from Senegal's protection, the Gambia would perhaps have to reconsider the domestic impact of its specialization in re-exporting.

At the same time, the countries which protect their agriculture are not troubled overmuch by their border countries' re-exports. It can be assumed that the Senegal government, faced with the demands of its consumers, has not really tried to hinder the clandestine trade flow over its borders. In Mali, in spite of Mauritania's re-exports, the closing of the border fulfilled its objective of selling off the local production.

The national policies are not in harmony, but a regional coherence overrides them on some issues. We will not as yet attempt to judge this coherence.

C. THE IMPLICATIONS OF THESE RESULTS

On the basis of these results and findings, four key ideas can be formulated:

- The 18 countries of Western Africa do not make up a single regional trade structure. There are several different markets, created by the trade flows between the countries.

- The logics of the trade are linked to the retailers, and belong for the most part to the unofficial economy.

- The national policies, even if they are very different, contribute to the creation of these markets through their own interaction.

- The regional markets are open to the world market.

These key ideas reflect the evolution the concept has undergone since the initial formulation of the "protected regional cereal market" idea in Mindelo. They are the foundation of an orientation reinforcing the regional markets through trade dynamics.

From a single regional market to regional markets

a) Through the global analysis of the cereal trade (local or imported) and the study of the interdependance of national cereal trade regulations, it has been possible to identify several (rather than a single) regional markets. The outline of these markets can change with the trade flows, but they are genuine, concrete economic structures.

b) In these markets, the retailers are the primary movers, but the other economic actors also play an important role.

Governments, producers, consumers are all involved, to a greater or lesser degree, in the logic of the trade. Through their behavior and their decisions, they create an interdependant and complementary network between trade, production and consumption.

c) Depending on the nature of the products involved (agricultural, treated or manufactured products)and their origin (domestic or foreign), the trade flows will tend to alter the nature of the markets themselves: the foreign cereal trade, for example, encourages re-exports and tends to favor a commercial structure in which domestic production will have to face strong foreign competition.

From trade to production within the regional markets

a) Trade practices create dynamics within the markets: these practices are flexible, extremely adaptable, and probably very efficient; and they can generate a self-developing effect for other sectors of the economy, particularly agricultural production.

b) But they raise a major question: how do they interact with national production practices, and, specifically, do they support national production or do they compete against it?

c) The regional markets can provide good conditions for the circulation of national produce through:

- the existence of a high level of savings, generated by trading activities;
- the creation of a wider market by opening up national markets;
- possibilities for regulating volumes of supply in line with fluctuations in production;
- comparative advantages that each country could have within these regional markets.

d) Observation of the cereals trade suggest that integration between trade and production is not a simple issue:

- Traders have very autonomous strategies (monetary and financial aspects) and there is an increasing tendancy for savings generated by regional trade to be used outside the region.
- External cereals flows tend to favor imbalance linked to artificial competition between national production and outside production, inasmuch as the prices of imported cereals do not reflect their real value (food aid, price subsidies, by-products, etc.).

The fact is that there is no ready answer. The regional markets can eventually offer a real chance for integration between trade and production - if certain conditions can be met.

National policies in a context of regional markets

a) National policies, and particularly trade management regulations, are and will probably remain heterogenous. The concept of regional markets involving a group of countries raises the issue of reconciling these policies. This process involves three main objectives:

- avoiding incompatibility between national policies;
- favoring integration of trade and production;
- supporting the integration of the countries into the regional market under consideration.

b) The regional integration process will generate new advantages and drawbacks for the countries themselves as well as for the major economic players: producers, consumers, governments, traders.

To help reinforce the regional markets on the basis of the current informal dynamics, close management of these advantages and drawbacks will be essential.

c) Different approaches to management will be needed for the countries belonging to a regional market: joint strategy decisions; harmonization of divergent policies; adjustment and regulation mechanisms according to circumstantial or structural fluctuations in national supply and demand; regulation structures for trade between regional and international markets.

Whatever the mode of operation chosen, this management will have to define financial or economical compensations according to the advantages and drawbacks for each country and actor.

Regional markets - international markets

a) The interdependance between the regional and international markets is a fact, which must be guaranteed through a normal complementary offer/demand framework when agricultural or food unbalances appear.

Foreign trade must also provide for the main production sectors of the region, in terms of investments, equipment, etc.

b) Certain trade dynamics within these markets generate the opposite results from what could be expected (the phenomenon of cereal re-exports for example): an acceleration of the process of replacing domestic production by foreign imports (as in the case of rice), and a prevalence of trade logics over national or regional production dynamics, both of which have a negative effect on the national and regional production sectors as they lead away from the notion of savings and the financial resources.

c) The conditions of competition, and the comparative productivity level between regional and world markets must be studied with care.

Imports are often subsidized when they put certain products on the market (subsidized prices, food assistance, ...); they often concern sub-products (broken rice, lower grades of meat,...). The principle of comparative advantages between regional markets and foreign economies should therefore not be undertaken systematically and without nuances.

D. PROSPECTS

The implications of the ideas given above have led us to formulate two types of proposals:

a) Functional prospects: the conclusions of this project and the ideas they generate make it possible to outline possible approaches and objectives, leading from the regional markets defined by the trade flows to economic structures.

b) Research and study prospects: on the basis of the work already performed (surveys, study of the border trade, ...) and of the functional prospects, certain complementary needs appear. They concern basic information, and more specific knowledge.

The final part of this document is not meant to develop detailed proposals in either of these fields. Its main objective is to provide indications, through the list given below in table form. This synthesis stresses the correspondance between the different functional stakes, as well as the thoughts and research they imply.

This table shows clearly the diverse and complex nature of the areas of study we have selected:

- the functional prospects demand that every thought and proposal presented here be discussed in-depth in the countries belonging to the regional markets.

- the research and study prospects suggest two points:

  . a special specialization effort must be made between the different teams as they approach the different areas involved. This implies a reinforcement of the current confrontation and synthesis structures.

  . the major part of this research must be performed with African teams from the countries belonging to the regional markets. This implies a common mode of operation and also a working dynamic ensuring the communication of methods and informations.

SYNTHESIS OF PROSPECTS

IMPLICATIONS	FUNCTIONAL PROSPECTS	RESEARCH AND STUDY ORIENTATIONS
A From regional market to regional markets	. Identify the regions in which an economic market can be created. . For each regional market, define the basic trade and production factors.	. Study the regional markets : re-export zones, trade/production integration zones. . Analyze, for each market, the trade logic and dynamics.
B From trade to production within these regional markets	. Support or modify these trade dynamics according to the products involved and their logic. . Examine the practical aspects of a greater integration of the trade and production dynamics.	. Continue the analysis of the cereal trade flows, and of other products (livestock,...) . Study the financial and monetary mechanisms of these trades. . Study the modes of integration in border zones. . Modes of integration based on the foreign trade flow.
C ational policies within the regional markets	. Understand the trade/production national policies of the countries making up a regional market. . Organize discussions between these countries, based on these policies and the ways of reconciling them. . Forecast the impact of regional markets on the countries and the major actors of the trade.	. Consolidate and broaden the regulation and policy survey (trade, production). . Implement flexible observation and discussion procedures. . Create scenarii to evaluate the advantages and drawbacks of the possible options.
D From the regional markets to the international markets	. Regulation mechanisms on foreign trade. . The food assistance issue (good behavior code) The commercial trade flows	. Improve our understanding of the situation. . Product by product analysis of the different markets (modes of competition, prices, ...) . Continue to reflect on the comparative advantages between regional markets and international markets.

III. DESCRIPTION OF THE REGIONAL MARKET IN WEST AFRICA TODAY. METHODS, RESULTS AND SCENARIOS OF CHANGE

A SPECIFIC ISSUE

The entire research initiative undertaken by the IRAM, the INRA (Montpellier) and the University of Benin (UNB) (1) is a result of the realization that a regional market already exists in West Africa. The aim of this work is thus to describe the market as it exists today rather than to offer further debate or recommendations on two utopic scenarios: a protected market on the one hand, and a free-market economic zone on the other.

The fact that this market already exists has had three consequences:

- The characteristics of the regional market were not determined before this work began, but are the basic subject of our research: neither the frontiers of this market, nor the relationships it enjoys with respective governments or with monetary zones, nor its internal mechanisms, are taken for granted or considered as objectives in their own right. These aspects are the subject of research that is seeking to demonstrate (and to reduce) the extent of ignorance on trade flows, State intervention, the structure of intra-regional relations, and interaction with national bodies and theoretical zones of integration.
- The workings of cereals markets within this regional market are considered neither as the result of relations between different government nor as the application of a "market economy" where trade would simply be reduced to mechanical reactions to price differentials between different countries (or even less to differences in comparative advantages). Although these mechanical phenomena do exist and can create gateways, concrete markets are the result of positive action by private-sector actors in imperfect competition, governments (with their complex systems of intervention), administrations (whose action is sometimes contradictory and unstable), and social groups with influence over prices and incomes through pressure exerted on the State.
- The strategic role of the traders in constructing this regional market has not only brought the theory of relations between the private and public sectors under review, but has also focused attention on how these actors actually behave. They are undoubtedly influenced in their decisions by price disparities (market mechanics), but, at the same time, they structure trading zones with information networks, accumulation strategies, financial capacities (equity capital), and access to credit (formal or informal).

  Their strategies also reflect their access to import quotas (which often are not auctioned or reserved to large-scale

(1) The present document is a brief status report on the research being led by these three organizations.

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traders), their capacity to influence government decisions (pressure or collusion), their smuggling capacity, the income they can create (because of imperfect competition and the effects of rationing, or the price rises caused by State intervention), simultaneous management of commercial operations and currency transactions, etc. By giving the traders a central position in our analysis, we are seeking to draw on elements of anthropological research into accumulation at the same time as avoiding the simplistic opposition of State and non-governmental sector.

II. SPECIFIC METHODS

If the regional market is to be considered not as an objective but as a subject for observation, it must be recognized that very little is known about the dynamics of this market, and that the initial research must thus concentrate on gaps in existing information: existing trade flows are generally analyzed on the basis of statistics that turn out to be quite contradictory on apparent trade, and that are totally lacking on informal trade. Economic policy measures generally consist of statements or even evaluations concerning quantities, and even the task of making an inventory of these measures poses considerable problems. Practically nothing is known about financial transactions, which are in constant interaction with commercial operations.

Our research has thus concentrated not on the processing of existing information (and even less on the calculation of elasticities, which are decisive factors in the viability of a protected market), but on constituting data on the most poorly known phenomenon.

This has involved questioning the validity of even the most commonplace statistics, as well as investigation on the phenomena about which it was recognized that the least was known. Our objective was thus to gather baseline data and not to pursue comments based on unverified facts any further.

This work to reconstitute data and to complete our basic corpus involved examination of the interaction between different initiatives concerning the least well known aspects of the regional market: critical study (comparative) of available statistics on recorded trade, and direct examination of informal trade; study of the behavior of actors, involving examination of traders' strategies and an inventory of government measures; finally, a study of the relationships between trade flows, monetary problems and financial transfers. By collating the findings of these studies, the actual workings of a concrete market can be observed (either using inventories on all countries, or case studies on four countries).

III. MEANINGFUL RESULTS

3.1 Observations on the current state of the regional market

The existence of a regional market that is open to the outside world: it has been demonstrated that internal trade is higher than official estimates and is a natural extension of world trade. The internal trade that was hoped would become an opportunity for a protected market, now appears on the contrary, to be a way for imports from outside the region to enter the market.

Because the traders are a basic force in constituting this market, and because of interaction between the State and traders and the existence of re-export markets, there are vested interests in the existence of the regional market in its current form.

The geography of the market has taken shape because of the differences between coastal countries and inland countries (which are better protected from the world market, but are dependent on the policies of their neighbors), by differentials in the selling price for cereals (cf. map of policy differences), by the existence of communications infrastructures, etc.

Can the distinction be drawn between the consequences of a durable definition of communications infrastructures and of a comparative price structure, and the consequences of the highly unstable trade (particularly informal) that grows up as a result of policy shifts and parity changes?

Incentives to engage in intra-regional trade: these incentives are particularly numerous, and are the result of price differences (although it is still difficult to say to what extent this involves selling prices or production costs), policy differences (price policies and customs policies), geographic differences (coastal countries and inland countries), and differences between monetary zones. There may also be differences between profit margins on trade in imported goods and profit margins on internal trade transactions.

The risk of replacing a production economy with a trade economy: aside from the fact that profit from trade, and particularly from import trade, could be higher than profit from productive activities, competition with imports already shapes the region's economies, and the productive infrastructure is not sufficiently diversified to be sure that a fall in production of goods facing this competition would be balanced by the appearance of new productive activities.

3.2 Economic policy measures

The complexity of economic policy: customs policies, non-tariff barriers, local taxes, etc. are characterized by their diversity, their instability, incomplete publication, uncertain cohesiveness and limited efficacy. This complexity and uncertainty jeopardizes the possibility of measuring protective measures (which could only be examined globally by comparing prices in neighboring countries). However, we have managed to draw up a preliminary breakdown of the countries, which does not indicate the effects of the policies but merely provides insight into the apparent structural differences in neighboring countries.

Frequent policy shifts on cereal imports show how diverse the functions of this instability can be: protection from external instability, successive concessions to different social groups, creation of income for importers.

Incomplete information: public-sector decision-makers have no official statistics on trade, on the measures they have themselves taken in their respective countries, or on the impact of these decisions.

By contrast, traders have fast access to accurate information. Governments have incomplete information, sometimes because their information covers excessively long periods, sometimes because there are real difficulties in observing what is happening, and sometimes because of their implicit wishes (complicity with traders for private goals, or even for national objectives in the case of re-export economies.)

Price differences between countries are likely to continue: transport costs, and, in certain cases, tariffs and quotas, perpetuate price differences between national markets and between local markets. These differentials may mean that effective action can be taken (application of quotas on imports to Mali succeeded in raising prices), and they may change policies on international trade (Senegal and Mali choose to follow different policies because of differences in selling prices).

3.3 Conflicting interests

Differences in interests between different administrations in the same country: finance ministries seek to maximize public sector income, agriculture ministries seek to maximize local production, while interior ministries seek low prices for food products, especially in the cities.

The impact of private interests on policy shifts (incomes generated by quotas, liberalization leading to new relationships with private-sector concerns, etc., and above all

the instability of these policies (each change generates new profits and incomes).

The different interests of consumers, producers and traders are better known and more apparent (less is known, however, on the difference in interests between different producers). But close attention must be given to these conflicting interests before any analysis of ways to consolidate a regional market can be undertaken.

3.4 Statistics

The uncertainty of the data on which quantitative assessments are made: comparison of sources of data underlines the fact that the real volume of trade is unknown, and that little is known about the criteria upon which the different series of statistics are based, and, consequently, about what use can be made of these statistics.

The possibilities of gradually streamlining observation of trade flows. It is possible to streamline trade, but the techniques needed would be complex and heterogeneous. Comparative analysis of series of statistics (e.g., the case studies) shows that the changes that seem desirable vary from country to country, from one moment to the next, and depend on which products are involved. Modifications can thus only be made on the basis of a complex set of data generated by comparison of probable criteria, observation of neighboring countries (re-exports), in-depth knowledge of the countries concerned, etc.

3.5 Monetary and financial aspects

The intersection of monetary zones and trade zones. The commercial relations within the franc zone are not all the result of membership of the same zone, and tariff barriers exist even within the franc zone. By contrast, differences between zones generate trade because of differences in domestic policy, official refusal to accept currencies in difficulties (Nigeria), the attraction of stable currencies, etc.

Three concentric monetary zones governing trade within the region: Nigeria's trade with its neighbors will use the naira for currency in local trade, the CFA franc to divert other trade or to bring access to reserve currencies, and, finally, the French franc, sterling or the dollar as refuge currencies or for trade with cereals exporters in other parts of the world (United States, Asia).

The decisive role of financing for formal and informal trade: this financing is behind the varied degree of success enjoyed by imports, and is an area where privilege plays an important role and preferential treatment is commonplace. Financing can favor major companies and import trade to the detriment of

internal trade, or can favor trade to the detriment of production. Equity capital and access to short loan circuits are thus of considerable importance.

3.6 Comparative advantages

It should be said immediately that the difficulty of gauging comparative advantage and of making forecasts is compounded by the uncertainty of statistics on selling prices, and by the fact that these statistics are scattered over a large area.

Although a few rough indicators on the differences between Senegal and Mali do exist, to obtain information on comparative costs we would have to be able to reconstitute retail prices by monitoring import systems and internal production systems to detect instances of protection, subsidies, taxation, monopolies and monopsonies, opportunity costs and alternative situation costs. This measurement should thus go much further than information on protection, which the inventory of government measures has shown to be seriously lacking.

The need for additional information on the predictable development of comparative advantages: it is widely recognized that West African competitiveness is in danger of deteriorating, notably in relation to Asia. But because it is deteriorating for all products, an analysis should be made of the different rates at which productivity is changing in different products (in Asia and Africa) (2) in an effort to redefine comparative advantages. Close attention should be given to the progression of potential productivity.

IV SCENARIOS

Before defining the objectives of the regional market, alternative scenarios can be drawn to explain the possible trends in cereals production and consumption. The aim of these scenarios would be to identify the critical parameters that favor trends towards one scenario or another, to determine the likelihood of each scenario materializing, and to gauge what the different actors stand to gain or lose.

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(2) Similarly, it would be necessary to know about all the subsidies granted by Europe and the United States, in order to make the distinction between the competitiveness of imported products and the comparative advantages enjoyed by their producers, and to examine the future of these subsidies.

Four such scenarios can be imagined:

Scenario No. 1: Increasing external deficits (cereals and global)

This scenario corresponds to the apparent trend throughout the franc zone, and particularly in Senegal (especially before the structural adjustment programs were implemented). The scenario is likely to materialize if the CFA franc is not allowed to depreciate, if the porosity of frontiers renders tariffs ineffective, and if the structural adjustment programs are delayed by the capacity of the countries to refuse to implement them. If steps are not taken to redress the situation in the short term, there are two possible consequences: a need to introduce adjustment measures at a later date, which would be more costly the later they are introduced, or the perpetuation of an assisted economy with a serious deficit, where the replacement of a production economy with a trade economy would be accompanied by the acceleration of the process of urbanization and migration from those areas whose production would be affected. This scenario is not unlikely to materialize in Senegal.

Scenario No. 2: redress through global macro-economic measures (currency depreciation and/or reduction in final demand

If the donors refuse to finance the increasing imbalance and if national policies for global redress are adopted (as encouraged by the donors), a new balance would be obtained by reductions in standards of living and/or an increase in production stimulated by new outlets (the relative importance of the two modes of adjustment depends on the elasticity of demand for exportable products, the elasticity of demand for goods produced for the internal market, and the elasticity of substitution of the products consumed). This scenario could start to materialize through lack of determination on the part of the donors, through the possibility of re-assessing the CFA franc, and above all through the current ineffectiveness of tariffs. The results of such a scenario are difficult to predict because of the uncertainty over elasticities and because no studies have been made of the relative increase in the competitiveness of countries that are in competition in different products (imprecision of the development of sectoral competitiveness).

Scenario No. 3: Customs protection (tariff or non-tariff)

Because of the current dynamics of the franc zone, this scenario is unlikely to materialize throughout the zone unless a concerted approach is adopted (cf. scenario No. 4). However, it is not impossible in a country such as Mali, where transportation costs offer geographic protection and where

natural comparative advantages are quite high (and where, it must be said, quota systems have been relatively effective). Unlike scenario No. 2, this scenario would lead to the revitalization of cereals production and not to specialization on the basis of the relative competitiveness of the different sectors. The scenario is only plausible in inland producer countries, and would lead to fragmentation of the regional market. This possibility cannot be overlooked by forecasters or decision-makers: the interests of Senegal and Mali may not be compatible.

Scenario No. 4: Negotiated construction of a multinational protected market

The fact that an unprotected regional market already exists would hamper efforts to promote the materialization of this scenario. Nor will it become a reality as the spontaneous result of international division of labor, or through a simple declaration of intent on the part of the governments concerned (past experience has shown that any such declarations would be disregarded as soon as conflicts of interest arise). Negotiation would be necessary - as it has been in any voluntary integration that has been successful - to identify who would gain from such a system and who would lose, both in terms of respective governments (as representatives of antagonistic national interests and as receivers of public-sector funds), and in terms of different groups within each country (producers or consumers, producers of different goods, the State and the private sector, different administrations, etc.). The likelihood of this scenario materializing is lessened by the problems that would arise in calculating indemnities, the need to rely on foreign aid to pay compensation to injured parties, and the resistance of the traders and countries with re-export economies.