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CEREALS POLICY IN SAHEL COUNTRIES

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the Nouakchott Colloquy
2-6 JULY 1979

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CILSS

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IN SAHEL COUNTRIES**

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PREFACE

The preponderant place occupied by cereals in the diet of peoples in the Sahel region is well-known. Indeed, the daily ration is essentially composed of cereals (millet, sorghum, rice and maize, principally); an average of 60% for all the CILSS countries and varying between 53% (Cape Verde Islands) and 76% for the big cereals-consuming countries like Mali and Upper Volta.

The CILSS, whose basic target is self-sufficiency in respect of food supply, was therefore obliged to give top priority to cereals problems.

As from the date when the Club du Sahel was set up in 1976, a working group, consisting of experts from the Sahel area and international experts specially appointed to examine this question, has been concentrating on the problem.

The studies effected by this working group (more particularly by the group's limited committee), which were initially devoted to marketing, prices and storage of cereals, very soon revealed that the problem of self-sufficiency in the matter of food supply could only be solved by dealing one by one with all the many identified constraints.

These studies showed that it was only "within the context of an integrated and clearly defined policy, taking into account all stages from production to consumption" that satisfactory solutions could and would be found .

The excellent work accomplished on this subject by the limited committee enabled the Third Conference of the Club du Sahel, held in Amsterdam in November 1978, to determine the main lines to be followed for the purpose of supplying Sahel States with the factors enabling them to work out "an overall and coherent cereals policy depending on their own requirements".

The Conference defined seven points that should be incorporated in such a policy :

- i) To encourage farmers to produce more and more intensively, notably by an appropriate price policy, so as to satisfy the increasing requirements of the populations and to enable cereals to be stored in good harvest years.

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- ii) To safeguard the ecological balance.
- iii) To take into consideration the relationship between inputs and the price of products.
- iv) To respect the balances between so-called export crops and cereals crops within the context of diversification and carefully worked out valorization of production.
- v) To ensure a sufficient level of national and regional stocks.
- vi) To favour marketing in the States themselves and inter-State trade.
- vii) To reinforce research work on cereals and the integrated production system best suited to Sahel countries".

After detailed examination of the recommendations of the Amsterdam Conference, the Council of Ministers of the CILSS, on the occasion of its tenth ordinary Session held at NOUAKCHOTT on 14th. and 15th. December 1978, delegated to the Executive Secretariat, by means of a relevant resolution, the task "of organizing a meeting of the full committee for the purpose of defining the broad lines of a cereals policy for Sahel countries, so as to enable the different States to work out their own national cereals policy".

The Secretariats of the CILSS and the Club, following in this connection the proposal of the limited committee, thought that the best way to accomplish this task was to organize a Colloquy, a Colloquy during which experts from Sahel countries and international community would be able to hold open discussions for the purpose of reaching concrete proposals, which, in the words of the CILSS Co-ordinating Minister, "should enable a real policy in Sahel countries to be defined and applied, without which the target of self-sufficiency in the matter of food supply cannot be achieved".

The Islamic Republic of Mauritania offered to host these important days of reflection, which took place at NOUAKCHOTT in July 1979 in a spirit of dialogue, frankness and friendship, which has always been a feature of Club du Sahel meetings.

For me, it is an honour and a real pleasure to write the preface to the publication of the Colloquy's main preliminary and preparatory documents and the recommendations issuing from them.

I would also like to express here my sincere congratulations to all those whose work has enabled the ground to be cleared and the documents for the discussions to be prepared, in particular to Professor Eliot BERG of the University of Michigan and to the experts of the European Economic Community, of the FAO, the FAC, the French Central Economic Co-operation Fund the International Commerce Centre, as well as to Sahel experts and members of the limited committee.

I would also like to address our thanks to the donors, whose generous contributions have enabled the Committee to fulfil its task.

The NOUAKCHOTT Colloquy is obviously only one stage, but it represents an important stage in the pursuit of the objective of self-sufficiency in food supply, laid down by the Sahel countries.

The Twelfth Council of Ministers of the CILSS, held at OUAGADOUGOU on 11th. and 12th. January 1980, has already adopted several resolutions based on the Colloquy recommendations. These resolutions must now be turned into facts by means of concrete actions.

There is no doubt that, in this decisive phase, the International Community will provide Sahel countries with all the assistance they require to complement their own efforts.

Aly CISSE

Executive Secretary of the CILSS.

PRESENTATION of the NOUAKCHOTT COLLOQUY

1. The origin of the Colloquy

The founding of the CILSS in March 1973, followed by that of the Club du Sahel in March 1976 both satisfied a very real requirement for reflection and co-ordination, as it was essential to restore the economies of the Sahel countries after the drought, which persisted almost without interruption from 1968 to 1973. Considerable human effort and financial resources were obviously required to do this, but above all it was essential to adopt new ideas for development, better adapted to realities in Sahel countries. New ideas, but also new development policies, since the drought, a climatic accident, was merely the event that revealed the gradual decline of the situation of agriculture in the eight Sahel countries and, consequently, the inadequacy of the agricultural policies introduced during the nineteen-sixties. The fact that both national and foreign technical, financial and human resources had been devoted to export crops or crops grown on irrigated perimeters doubtless made it possible to achieve spectacular results in this field (1). However, thanks to demography, it was also revealed that the cereals sector, in favour of which little research had been undertaken for some time, rarely disposed of the financial means corresponding to its importance; that it was poorly served by marketing structures; and that it was gradually becoming incapable of meeting internal demand. Whereas over a period of years this shift can be compensated for, and thus concealed, by stock variations or favourable fluctuations of climatic conditions, the figures speak for themselves. If productivity grew by an average of 1% per annum - and this is an optimistic estimate - (proved false in most Sahel countries) and the population by 2.5% per annum, after twenty years, production would only have increased by 22%, whereas the demand increased by 63%. In these conditions, it is inevitable that the daily ration - already not very satisfactory in some

(1) The production of cotton seed, for example, in the five Sahel countries cultivating this crop rose from 45,000 tons per annum in 1948/52 to 79,000 t/year in 1961/65 and to 364,000 t/year in 1975/78. Now, cotton is only cultivated in the most favourable zones; it is a crop watered by rainfall and subject to the same hazards as most cereals crops.

seasons or regions - should have decreased and that commercial imports should have increased and foreign food aid solicited increasingly. Furthermore, the available statistics, although mediocre, reveal that these three consequences are not alternating and that the decrease in the daily ration and the concomitant increase of imports and aid, so noticeable over the past fifteen years, only underline the inadequacy of cereals policies in Sahel countries.

This relatively pessimistic analysis constituted the starting point for the work of the restricted Club/CILSS cereals committee authorized to study problems of marketing, price and storage. But the committee's major concern, which is outlined in the report (1) presented at Amsterdam on the occasion of the Third Conference of the Club du Sahel in November 1978, was first of all to try to improve the quality of information available, and second to redefine the problems of marketing cereals in the bigger context of the economy of cereals production.

The popular theory whereby an increase in the production of cereals is necessarily induced by an improvement in marketing mechanisms appears to be an excessive simplification of a much more complex reality. The target of self-sufficiency in the matter of food supply, which was adopted by the Member States of the CILSS, presupposes, in order to be attained, that a series of coherent actions, designed to develop cereals production and increase it to a sufficiently high level, have been accomplished, so that the depressive effects of the lean years can be eliminated. Generally speaking, marketing is merely an element of agricultural, cereals and food policies, which did not exist in most countries or were not applied. These policies must include research on new or more suitable varieties, as well as training for producers in more productive agricultural techniques and organization. It must also include the supply of modern production factors, short and medium term means of financing and, finally, well-adapted marketing structures. By placing, in this manner self-sufficiency in the matter of food supply in a more global context, it is easy to see that this target will not be attained by only trying to solve marketing, price or storage problems. The following is what has been done up till now : cereals boards have been set up, official

(1) The problems of marketing, storage and price in Sahel countries.

prices have been fixed, storage capacities have been or are in the process of being developed, but nothing, or practically nothing, has been done upstream at the cereals production stage itself.

The present stagnation, and even the relative falling off of cereals production per capita, seems to be caused at least as much by the insufficiency of the producers' technical and financial capacities as by the marketing mechanisms set up in Sahel countries since independence. And the situation of chronic penury observed in recent years in some regions or countries is not only caused by the failure or insufficiency of these mechanisms, but by the climatic factor, or when climatic conditions were favourable, by the farmers' poor productivity.

However, there are no such things as miraculous marketing structures capable of bringing about self-sufficiency as regards food supply by merely introducing a few administrative measures in Sahel countries. On the contrary, each country, and, within each country, each region and each group of economic agents concerned, raise specific problems.

After Amsterdam, it therefore appeared necessary that the Sahel authorities should in their turn give their point of view on the analyses made and discover the complexities of the cereals problem. A well-prepared Colloquy, where the Sahel authorities and experts from the international community would be able to express their opinions freely, appeared to be the most suitable formula, especially as the CILSS and the Club du Sahel had already used this method with success (1). The Club/CILSS restricted cereals committee, in conjunction with the CILSS and the Club du Sahel, was charged with the responsibility of preparing the Nouakchott Colloquy.

(1) See the Colloquy at Bamako on production systems (February 1978) and the Colloquy at Ouagadougou on the development of new lands (October 1978).

2. Preparatory documents for the Colloquy

The preoccupations of the restricted committee, analyzed quickly above, are mostly outlined in the preparatory documents for the Nouakchott Colloquy, even if the distribution of the themes proposed to the three commissions may have appeared artificial to some people. First of all, and this grave responsibility has fallen to Commission N° 1, a diagnosis had to be made on the situation as regards food supply in Sahel countries and on the central focal point occupied by cereals. While calling attention to the approximative nature of the statistics available, the working document (1) shows that, above very relative self-sufficiency in "normal" years - a self-sufficiency that certainly conceals very considerable regional and seasonal disparities or disparities between different social groups - the adjustment of the supply of cereals to the demand is only achieved at present by a very substantial increase in imports and by food aid. For the year 2000, achievement of the target of self-sufficiency in the matter of cereals implies not only that production must be multiplied by two, but also that the demand should not be directed irreversibly towards cereals that are more difficult or more costly to produce locally (rice, wheat), thus neglecting traditional cereals (millet, sorghum and, to a lesser extent, corn), well known to producers and well adapted to the ecological conditions prevailing in the areas of the Sahel where there is a reasonable rainfall.

The task of Commission N° 2 was to study several working documents (2) on the important problem of prices. After analysing the systems at present in use for fixing the prices of cereals in the Sahel and the role played by prices on short and long term (that is to say a factor for adjusting supply to demand on short term and an instrument for influencing the decisions of farmers and producers on long term), the documents in question revealed that the prices offered to cereals producers were not incentive (in spite of a notable improvement in the past few years in

(1) "The price policy for cereals in the Sahel", by Mr J. GIRI,
"Marketing, prices and storage : summary of the diagnostic study carried out by the University of Michigan", by Mr E. BERG.

(2) "Elements of reflection of the food products situation in Sahel countries and on the prospects for the year 2000 horizon", by Mr R. HIRSCH, with the collaboration of Mr B. BAH.

Senegal, Upper-Volta and Niger). The documents also underlined the complexity of the problem of fixing an incentive "fair price" for producers, taking world prices and aid into account, and at the same time ensuring that cereals could be properly disposed of in urban markets.

However, setting up price mechanisms taking all these variables into account, may be continually upset by the very abrupt fluctuations in the supply of cereals from one year to another, and cereals offices or boards in so far as adequate resources are provided to them, can play a regulating role in cereals markets. But this regulation of markets, while conceivable without too much difficulty on an annual basis, can prove impossible on an inter-annual basis, in the event of good, but also bad, years following each other (prohibitive cost of regulating stocks in the first case, and the impossibility of building up stocks again in the second case).

Finally, Commission N° 3 was appointed the task of defining the content of future cereals policies for the Sahel, basing their work on two main working documents (1), which first analyse the desired content of a cereals policy adapted to Sahel realities in this field, and, second the particular problem of storage.

From these analyses, it appeared that the efforts to introduce genuine cereals policies in Sahel countries have suffered from a certain lack of coherence or inability to integrate measures concerning production, marketing itself and consumption; or if you prefer, from the fact that each of these elements has been dealt with in an isolated manner without any price definition of a real strategy.

The setting up of cereals boards in most of the Sahel states, even if such boards can eventually become decisive instruments in introducing real cereals policies, has only produced limited results so far. It may be that it has been forgotten that the essential role of a cereals board is to apply a cereals policy and not merely to define it.

Among the different strategies that can be envisaged - such as those defined by the University of Michigan : improved status quo, reinforced public control, minor public intervention and complete freedom for the cereals trade - it appears that a choice of one of them is not sufficient, but that it is

(1) "Cereals policy in Sahel countries", by Mr. P. RICHARD.
"Storage of cereals", by Messrs. M. GROLLEAUD and D. KOHLER

essential to compare the consequences for all the economic agents concerned and to make sure that it is applicable, taking into account the resources that are really available.

Storage, which is only one aspect of a cereals policy, has been the subject of a particular document summarizing the principal conclusions of the studies undertaken from 1977 to 1979. Apart from the new classic distinctions between the different forms of storage (current stocks, stabilization stocks and emergency stocks), it appears more than ever necessary to rehabilitate traditional or village storage systems, where the efficiency cost ratio is higher than with storage (so-called modern) in big units.

The drought in the years 1968-1973 was the origin of considerable reinforcement of modern storage capacities in most of the Sahel countries. Their cost, in investment and functioning, creates the risk of putting cereals boards in financial difficulties, a risk quite incompatible with the task entrusted to them. In the same line of thought, management of these storage capacities - that is to say filling the warehouses, organizing the necessary stock rotation and de-stocking modalities - which are located in a network where constraints are particularly complex (purchase from producers at an "incentive" price, maintaining prices to consumers at reasonable levels, irregularity of production due to climatic factors, etc...) may well limit the ambition of future cereals policies.

3. Studies of cases and accessory documents

Running parallel to the working documents, which in their analyses embrace eight countries, whose similitudes scarcely conceal profound differences, there is work of a more general and often theoretical nature. The restricted Club/CILSS committee considered it useful to present Sahel authorities with a few case studies illustrating in a very concrete manner some of the problems that these authorities might encounter when trying to determine their national cereals policies.

It is to be regretted that, owing to lack of time and means, it was not possible to present all the studies originally intended to the Colloquy. Nevertheless, out of the five appendices published in the present document (1), two are of special interest.

The first (2) describes the use made of food aid in the Cape Verde Islands. This use was primarily directed toward development activities and the resorption of unemployment. As the country structurally shows a debit balance and only produces 30% of its cereals requirements in good years, this effort to make "dynamic" use of aid for productive purposes shows that food aid does not always have the negative effects often accredited to it. Whereas it is true that in other Sahel countries this aid has merely constituted a simple means of adjusting supply to demand in bad years, without really modifying the conditions of internal production and that this food aid is likely to be perpetuated, the example shown by the Cape Verde Islands should be given considerable thought, as it may well be the origin of redefinition of food aid. It is encouraging that the Colloquy should have adopted this aspect and engaged itself in this direction.

The second case study (3) concerns Senegal and more especially the millet marketing campaign in 1978/79. In this campaign, the cereals board (ONCAD) marketed more than 100,000 tons of millet in six months, a

(1) It was not considered necessary to reproduce some of the documents presented at NOUAKCHOTT, as the subjects dealt with were not directly related to Sahel cereals policies, for example, documents on United States cereals policy or that of the E.E.C., presented solely for information at the Colloquy.

(2) "Use of food aid in the Cape Verde Islands", by Mr. M. MAZZOCCHI.

(3) "Millet marketing by ONCAD in 1978/79," by Mr. R. HIRSCH.

tonnage never achieved in Senegal or in any other Sahel country. The marketing campaign is undoubtedly a technical success. It was helped by a good harvest (800,000 tons), by an increase in the official price (40 F.CFA/Kg.), approaching the price for ground nuts (41.50 F.CFA), and by decentralization of purchases at the level of co-operatives. On the other hand, from the commercial, economic and above all financial aspects, the reasons for satisfaction are less evident. The particular structure of the cereals economy in Senegal, where the internal demand in urban areas for millet is very low (between 10 and 20 Kc. per head and per annum) and where there is a preponderance of imported cereals (rice and wheat : respectively 98 and 35 Kg. per head and per annum), nevertheless made it obvious that ONCAD would encounter difficulties in storing its millet in satisfactory conditions and then selling it. The case study can draw some conclusions from this experiment which are valid for most of the Sahel countries :

- i) First of all, it is not possible to improvise a cereals policy based on a good harvest. It must above all be based on good statistical knowledge of supply (production) and demand (consumption) and on the minimum storage capacity, enabling production to be adjusted in time to consumption;
- ii) The Senegal experiment also shows that a cereals collection monopoly can be effective and, if public authorities so wish, private merchants can be practically excluded from primary collection;
- iii) Fixing the price of cereals at a high level, re-sited in the general marketing process, also shows that, over and above the incentive to produce more (or sell more), it is dangerous, as it may make it difficult to sell the cereals purchased and raise unsurmountable storage problems ;
- iv) The Senegal case also demonstrates that effective control of all stages of marketing traditional cereals is possible, but that it is expensive, that the responsibility for implementing it must be clearly spread between consumers, producers, the State and, possibly, international aid, and that policies regarding prices, salaries, imports of food products and subsidies must consequently be redefined.
- v) Finally, the Senegal experiment also seems to indicate that self-sufficiency in the matter of cereals is not a Utopian target for most

Sahel countries, provided the internal demand does not, like in Senegal, move away from traditional cereals and that commercial imports and food aid are better controlled, as and when internal production develops.

The other case studies prepared for the Colloquy concern OPAM (Mali) OPVN (Niger) and the cereals banks in the Upper-Volta. However, this represents work carried out in documents that could not really be adapted to the requirements of the Colloquy by means of field surveys.

This is to be regretted, particularly as regards the cereals banks, which constitute an interesting experiment, where villagers assumed responsibility for their own security in the matter of food supply and marketing cereals.

4. The Colloquy's recommendations

After the debates, where passion was not lacking, the main recommendations adopted by the Colloquy and reproduced elsewhere can be summarized as follows : (1)

- confirming the increasing insufficiency of cereals production, the Colloquy recommended, for the purpose of reversing the present trend, that it was essential to increase substantially the investments designed to develop rainfed and irrigated cereals crops and to accompany these investments with a number of coherent measures (constituting, in fact, a cereals policy);
- confirming also the notorious insufficiency of basic data on production, marketing and consumption of cereals, the Colloquy requested that serious efforts be made to improve knowledge of these elements.

Along with these preliminary observations followed by recommendations, the Colloquy adopted the recommendations concerning more particularly production, marketing and consumption.

Concerning production, the Colloquy recommended that guaranteed incentive prices, linked to assurance as regards purchase, should be offered to producers, while at the same time observing that manipulation of prices alone might result in the land being overworked and that the objective sought was mainly mutation of the agricultural system. This mutation could be obtained : i) by subsidies to production factors, gradually replaced by an efficient agricultural credit system, ii) by the dissemination of suitable technologies and iii) by the development of new rural activities in structurally deficit zones where the cereals potential is too low.

Concerning marketing, the Colloquy recommended that : i) primary marketing by groups of producers should be encouraged, ii) that Sahel States should study the means of making all economic agents take part in marketing cereals, iii) that storage at peasant or village level should also be encouraged and wherever possible improved, iv) that particular attention should be paid to transport infrastructure, so as to improve inter-regional exchanges and facilitate the introduction of storage policies and, finally,

(1) See the report drawn up by the Council of Ministers of the CILSS concerning the NOUAKCHOTT Colloquy on cereals policies.

v) that the financing of stocks should be facilitated by appropriate campaign credits.

Concerning consumption, the Colloquy recommended : i) that the industrial and artisan transformation of traditional cereals be developed, so that they can be offered in forms better adapted to the exigences of urban consumers (flours, couscous, etc...) and ii) that protection of national cereals production by means of a tax on imported cereals be envisaged.

The Colloquy then discussed the question of food aid at length and stressing certain negative aspects, in spite of the relief it had brought to Sahel populations. It recommended that : i) distribution of free food aid should either be suppressed or else reserved first for exceptional cases and second for the most vulnerable groups, ii) that aid should contribute to productive investments and iii) that the Secretariats of the CILSS and the Club should organize concertation on food aid.

The Colloquy estimated that the solutions to a number of problems could be found more easily in a regional context and recommended that information on exchanges between States should be improved, and that price policies should be brought into line in Sahel countries for the purpose of integrating their agricultural systems.

Finally, the Colloquy suggested that plans for food supply should be drawn up in each State, taking the nutritional requirements of the people into account, and defining the investments to be made and the measures to be taken at each stage of the Production-Marketing-Consumption line, so that a coherent intervention program can be presented to financing sources, in which the final goal - self-sufficiency in the matter of food supply - is clearly expressed.

The recommendations adopted by the NOUAKCHOTT Colloquy have made it possible to launch a number of interesting ideas, which, without being really original, might well cause the cereals policies practised by most of the Sahel countries to be questioned. But these recommendations do not constitute alternative cereals policies. A considerable amount of work will have to be undertaken in each country for the purpose of re-examining the ideas and reflections proposed by the Colloquy and comparing them with existing cereals policies, whose inadequacies and excesses should be corrected. In so far as they have the means, and if the Sahel States so desire, the CILSS, the Club du Sahel and the restricted Club/CILSS cereals committee will be available to help them.

A - DISCUSSION DOCUMENTS

A.1

Some thoughts on the situation regarding food supply
in Sahel countries and on the prospects for the year
2000

Robert HIRSCH, F.A.O.
With the co-operation
of Boubacar BAH,
CILSS Consultant.

Rome, May 1979.

The interpretations of the data and the comments appearing in this report are solely the responsibility of the author.

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S U M M A R Y

1. Globally, on the scale of the eight Sahel countries, it is not possible by analyzing existing data to give clear answers to the two basic questions asked by those countries concerning cereals supply :

- Is the Sahel region self-sufficient in a "normal" year ?
- Is self-sufficiency in cereals a realistic target ?

By the same token, it is difficult, if not impossible, in view of the existing data to give an accurate estimate of the nutritional state of Sahel countries. Situations differ considerably, especially between countries on the coast which depend to a great extent on the outside world and inland countries where traditional cereals, still widely preponderant, provide, in spite of deficiencies, a better "apparent" self-sufficiency rate. "Apparent", because the statistics on gross quantities of cereals available are national, annual averages, which make it impossible to apprehend either seasonal variations of disparities between regions or between socio-economic groups, whose size is nevertheless qualitatively known.

It also seems that internal adjustment mechanisms between supply and demand (village surpluses) no longer function in the same way as formerly and the urban demand for cereals is becoming more and more directed towards the outside world. This demand is also directed towards products that are more difficult and more costly to produce locally (rice and wheat). It is thus different from rural demand, which is in large part satisfied by auto-consumption. Satisfactory production levels for traditional cereals do not automatically imply that the overall demand has been satisfied and food assistance tends to continue whatever the agricultural results may be. Food assistance and imports, which have increased sharply during the last ten years (710,000 tons in 1975-77, as against 330,000 tons in 1965-67), illustrate the extent to which cereals production has stagnated in Sahel countries over the past ten years (see Graph N° 1).

2. Projections for the demand for cereals in Sahel countries by the year 2000 reveal overall requirements amounting to from 9 to 11 million tons of cereals on the basis of present-day rations (no doubt insufficient) and from 11 to 14 million tons to satisfy real nutritional requirements. To satisfy these requirements by the year 2000 supposes that production in the Sahel will increase on an average of 2.7 to 3.7% per annum from

now until the end of the century. Such a rate of growth has no common measure with past trends (growth less than 1% per annum or even negative in some countries during the last 10 years) and illustrates the considerable effort that will have to be made to develop cereals production, particularly in coastal countries, where they should attain from 4.5 to 5.5% per annum (not including Cape Verde). In these conditions, self-sufficiency in cereals, which may be possible for some crops (millet/sorghum) on the scale of the eight CILSS countries, will be difficult and even impossible for some of them on a strictly national basis. Even if only some crops and some countries are taken, self-sufficiency is by no means certain and implies a substantial increase in the production of cereals. Cereals policies will have to be introduced, integrating agricultural research, agricultural credit, and marketing structures.

The other alternative is to pursue the present trend. Although assuming more or less attenuated forms depending on the country in question, this trend will result in greater dependence in the matter of food supply because of population growth. This seems unacceptable inasmuch as increases in cereals production are technically possible in most of the countries.

3. Although a cereals policy is necessary, serious gaps in knowledge of the Sahel cereals sector make it impossible to define such a policy at present. A vast program of surveys must be quickly launched in the Sahel countries, tailing which all proposals and decisions will continue to come up against the same uncertainties. It is worth noting that while nobody questions the value of agricultural research - even though its orientation and the methods of diffusing research results are not exempt from criticism - nobody, on the other hand, seems to take a serious interest in economic, sociological and nutritional research. Self-sufficiency in cereals is not only a technical production problem, but also an economic, sociological and institutional problem and it must be considered within an overall context.

Among the research themes and the studies to be developed, the following should be noted :

- . agricultural statistics,
- . demand and food habits,
- . consumption budgets,

- . price systems,
- . the part of cereals production actually marketed,
- . profit margins in the private or public sectors,
- . the attitude and the motivations of producers in the matter of cereals,
- . border or inter-regional trade,
- . identification of areas that could grow cereals but are insufficiently used,
- . cereals supply circuits of urban areas,
- . new uses and the promotion of traditional cereals, and
- . external outlets.

I - Introduction

It is a delicate task to try to determine the food supply situation of countries when what they produce, import and export, and what they consume and require are incompletely known. There are statistical data for the Sahel, but their interpretation, generally neglecting their low statistical value, often leads to divergent analyses of the food supply situation.

Depending on the purpose at hand, the food supply situation can be interpreted by means of the "food supply balance in a normal year", or, on the contrary, can be dramatized through requests for assistance, which have tended to remain at high levels since 1972/73, whatever the agricultural results.

Faced with this ambiguity, the most honest attitude consists in admitting that not much is known about the real food supply situation of Sahel countries except that none of them are safe from deficits occurring from time to time, whether serious or less serious, and that some of them seem to encounter greater or lesser difficulties in feeding their populations from their own resources even in a "normal" year.

It must also be admitted that almost nothing has been done over the past fifteen years to improve agricultural statistics concerning food production or information on nutrition or food habits. There is therefore a temptation to try to extrapolate studies or one-time surveys dealing with micro-regions (a few villages) or particular social groups (urban, low income populations) to entire countries. The present study does not escape from difficulties of this kind by trying to determine the food supply situation based on data whose reliability is poor. The data used herein generally drawn from publications or studies issued by the FAO, are no better than other data - and often not as good - (1) but they possess a dual advantage : on one hand, they are homogeneous from the methodological point of view, and on the other hand, they have been established in agreement with Sahel authorities, who supply the basic elements.

But the figures quoted and used throughout this study will ultimately not make it possible to give clear answers to the basic questions asked by Sahel countries at the present time concerning their food supply situation :

- Is the Sahel self-sufficient or not ?
- Is self-sufficiency in the matter of food supply a realistic target ?

(1) Particularly as regards foreign trade.

For each country taken separately, it is obviously possible to suggest some elements of an answer, but as long as statistical information in the agricultural, nutritional and even demographic fields continues to be generally insufficient, it will be practically impossible to answer the two questions above clearly or to translate the conclusions drawn from them into coherent policies, programs and projects.

This study is divided into three parts :

- the first part reviews the present food supply situation on the basis of data for 1975/77. In view of the Colloquy's theme, this has been essentially limited to analyses of cereals. The disadvantage of such a restrictive approach is obvious, but in view of the time and information available, it was practically impossible to study the food supply situation in each country in all its aspects. However, in the first part of the study, an overall appraisal of the food supply situation will be found, as well as appendices, which should enable the place of cereals in the diet of each of the Sahel countries to be understood better.

- the second part of this study is devoted to projections of cereals requirements in the years 1990 and 2000. These projections are based on a number of hypotheses and discuss the prospect of self-sufficiency as regards food supply in the year 2000; this target has been adopted by the CILSS and the international community. It must nevertheless be understood that this self-sufficiency can never be attained by each country taken separately and for all cereal crops, but that, generally speaking, in spite of numerous difficulties that will have to be overcome, it appears within the capability of Sahel countries taken as a whole.

- the third part of this study is devoted to identification of the measures required before a cereals policy can be drawn up for the Sahel countries, notably those concerning improvements in statistical data in the widest sense of the term.

2. - Diagnosis of the food supply situation in Sahel countries

After making a rapid survey of the food supply situation (all products lumped together) for the eight Sahel countries (2.1), the cereals situation will be analysed in greater detail (2.2).

2.1. General survey of the present food supply situation in Sahel countries

Analysis of the food supply situation in a country, its evolution over time

or its comparison with situations in other countries, usually pre-supposes a definition of the average daily ration expressed in calories per person. For nutritionists, however, this item of information is not enough, as a satisfactory number of calories per person and per day can hide a lack or some unbalance in the matter of proteins, lipides or glucides.

In other words, analysis of the nutritional situation in Sahel countries must first consist in an examination of these different nutritive principles.

2.1.1. The nutritional situation in terms of calories

The advantages of using an average caloric ration are obvious, as it makes it possible to measure the nutritional situation in a country by means of one single figure. But, it then raises the problem of a reference ration expressing the minimum requirement below which a population cannot survive without serious consequences to its health and capacity to work. For the Sahel taken as a whole, the requirements have been estimated by the FAO at 2,370 calories per person and per day in 1974 (1) and reduced to 2,200 calories in a more recent study (2).

Without going into details here about the complex methodological aspects of this revision and without adopting either of the rations proposed, it can be seen when reading Table I below, that in 1975/77 - a period that can be described as average - none of the Sahel countries covered their requirements in calories on the basis of a minimum daily ration of 2,370 calories and that only three of them exceeded 2,200 calories.

TABLE I

Contributions in calories as a percentage of the hypotheses of the minimum daily ration (average 1975/77)

	<u>CIV</u>	<u>GAM</u>	<u>UPV</u>	<u>MAL</u>	<u>MAU</u>	<u>NER</u>	<u>SEN</u>	<u>CHAD</u>
Minimum ration :								
2,370 cal.	98.8	96.6	84.3	89.1	79.8	86.5	94.1	75.4
Minimum ration :								
2,200 cal.	106.5	104.1	90.8	96.0	86.0	93.1	101.4	81.3

(1) Study of the prospects of agricultural development in countries in the Sahel zone, 1975-1990, FAO 1976

(2) Regional food supply program for Africa, FAO 1978.

For the period under consideration, the overall food supply situation of Chad, Mauritania and to a lesser degree Niger was of concern, all the more so because the average rations used failed to take into account the variations in the type of food imposed by the ecology or by the seasons, nor of the disparities between herders, farmers and town dwellers, nor of particularities in food habits. More detailed analyses, taking these variables into consideration, would certainly reveal far greater disparities in each country and between the different countries. But, in the present state of data available, analyses of this kind are impossible to make.

If one analyzes the trends of average rations per country since 1961/63, for three periods (see Appendix N° 1), it can be noted that for all the eight countries the average ration remains constantly below the minimum (2,200 calories). It comes near to it in 1964/66, but dips to 1,856 calories per person and per day in 1972/74, a period in the middle of the drought. Considered individually, the countries have experienced somewhat disconcerting trends. While there has been an "apparent" improvement in the food supply position in the Cape Verde Islands, there has been a very clear deterioration in the "apparent" situation in Chad. Between these two extreme cases, trends in the other countries have been irregular and it is impossible to observe any signs of lasting improvement.

The latter comment is corroborated by the food production indices per inhabitant (1) calculated annually by the FAO (see Appendix n° 2), which were more than or near to 100 (basis 1969/71 = 100) until 1971, and declined in all countries (2) until 1977.

2.1.2. The nutritional situation in terms of proteins

Appendix N° 3 indicates the total availability as regards proteins in the eight Sahel countries and trends in the situation from 1966 to 1977 (1978 for some countries). In contrast to the situation in respect of calories, the situation is markedly better, at least if average availabilities on a national basis are considered. Thanks to fish in coastal countries, and to

(1) In this case, it is a question of gross production, integrating losses, seed, other uses and exports. The Cape Verde Islands have not been the subject of any calculation of indices.

(2) Only Senegal & Gambia escape from this trend, doubtless because of their groundnut production, a large part of which is exported.

meat and dairy products in inland countries, no deficits comparable with the deficits in calories can be noted, notably during the years of drought, which are not greatly affected statistically. Furthermore, in contrast to other regions of Africa, the balance between proteins of animal origin and proteins of vegetable origin is satisfactory.

However, once again, it must not be forgotten that this relatively favourable average situation in terms of proteins hides seasonal disparities in each country, between regions, and between social groups.

2.1.3. Contributions of different groups of products

In such a rapid analysis as this of the food supply situation in Sahel countries, the contribution made by lipides will only be mentioned but not be discussed. But, as a synthesis, the contribution of various different groups of products to the average ration of each country can be examined. (See Appendixes n° 4 and 5).

Although cereals provide the main part of the daily ration in the eight countries (52.6% in the Cape Verde Islands - 76.1% in Mali), the consumption model varies considerably depending on whether the inland (1) or coastal countries are being considered. In the latter, the ratio appears to be markedly more diversified, notably due to the strong influence of considerable consumption of oil or fatty matters (Cape Verde Islands, Senegal and Gambia) or dairy products (Mauritania).

For other groups of products, it is also possible to observe a great disparity between average consumption, a disparity which has no obvious connection with the country's situation. And so, for sugar, the contribution in calories varies from 25 calories per day in Upper-Volta to 222 in the Cape-Verde Islands; for dairy products, this contribution varies between 19 calories per day in Upper-Volta to 321 calories per day in Mauritania. The same big differences exist for meat (37 calories per day in Upper - Volta as against 113 in Mauritania) and for fish (2 calories per day in Upper-Volta as against 64 in Senegal). For this latter product, the advantage of populations near the coast is obvious. They generally benefit from regular

(1) Chad, according to these figures, is more like the model for countries on the coast, but according to the FAO study of future prospects, with 76% of the calories coming from cereals, it must be listed among the big cereals consumer countries.

supplies of sea food, whereas their countrymen in the interior have consumption modes more like inhabitants of land-locked countries.

As a conclusion to this brief analysis, it seems very difficult to determine the real food supply situation of Sahel countries, since the average rations are not, in fact, consumed by anyone and appear far more diversified than they are in reality.

Over and above the average figures whose value is doubtful, Sahel countries can no doubt attain a certain "apparent" balance in respect of food supply in some years, but this generally hides many serious deficiencies (vitamins, for example), seasonal imbalances (the phenomenon of the period between crops), regional unbalances and disparities between social and economic groups, which place all the eight countries without exception in a particularly vulnerable position.

2.2. Cereals in the food supply of Sahel countries

Before discussing in detail the cereals economy of Sahel countries, it is first necessary to define a number of terms that will be used throughout this study (production, imports, both commercial and in the form of grants - availabilities and self-sufficiency rates), and to underline in passing the definitional problems that may arise.

2.2.1. Methodological considerations

- Cereals production : this term includes the following main products : millet, sorghum, paddy (generally converted into rice at a production rate of from 65 to 70%), corn, wheat. Other less important cereals like fonio are not usually taken into consideration in statistics. It should be noted that there are practically no systematic statistical agricultural surveys carried out regularly in Sahel countries (1). The only data supplied by official departments are estimates, generally grouped by region.

It is not known whether these statistics refer to the weight of dry grain (or at what humidity rate), to the weight on the head, to the weight of grain harvested in the fields, or to grain when stored (the problem of losses both before and after the harvest). Production figures are merely rough estimates with margins of error of between 10 and 20%.

(1) When they are carried out, such as in Mali, they are not analysed.

- imports of cereals : for official commercial imports, that is to say for imports initiated by cereals boards or by approved merchants, customs statistics are generally accurately recorded. There are sometimes some inconsistencies, generally due to overlapping of the civil year and the fiscal year. On the other hand, border trade in cereals in both directions is never included in the official statistics and can modify to an appreciable extent the amount of cereals available in any one given country (Mali, for example).

In so far as food assistance in the form of cereals is concerned - and this has been particularly extensive since 1972 in Sahel countries - the fact that it is granted and that a specific organization is responsible for it, has meant that customs authorities have not included it in their import figures. It is therefore necessary to consider the figures supplied by the donors. But, what with engagements that have never been carried out, as well as various delays and late deliveries, it is fairly difficult to get an accurate picture of the tonnages of cereals actually received by Sahel countries, without mentioning, of course, the distinctions between "normal" assistance and emergency assistance. It is not clear whether food assistance should be added to imports or merged with them (1). In view of the quantity of assistance in some years (more than 20% of the total cereals production in the Sahel countries), it is not a question of a mere academic distinction, but of a serious obstacle to an analysis of the food supply position in the Sahel countries.

- available supplies : they constitute the total amount of production, the balance of foreign trade (imports minus exports) and, as we have just seen, assistance from abroad. The available supplies can be gross supplies, in which case they include seed, non-food uses and losses either before or after the harvest; or else net supplies, in which case they only include what is really available for human consumption. The methodological problems raised in calculating these net amounts are easy to imagine; and so, "apparent" gross available supplies will be used, so as to underline the approximate

(1) To quote a few examples; it can be observed that in Mali in 1973 155,800 tons were imported commercially, whereas assistance amounted to 202,800 tons (difference : 47,000 tons); in Niger in 1972 and 1973, assistance exceeded imports by 105,600 and 88 500 tons, whereas in Upper Volta in 1973, 39,200 tons are reputed to have been imported and 80,800 tons of assistance received in the form of cereals.

nature of the figures (D). Furthermore, the gross available supplies are averages, which do not make it possible to apprehend seasonal variations or regional disparities, or disparities between social and economic groups, the importance of which, qualitatively at least, in Sahel countries, is well known.

- The self-sufficiency rate expresses the level of cereal requirements of a country or a group of countries which is covered by national production. It can be calculated in two ways : either by calculating the ratio between national production and gross available supplies, or by calculating the ratio between national production and real requirements (the latter being calculated on the basis of theoretical rations). The first method of calculation pre-supposes that the gross supplies available are satisfactory from the qualitative and quantitative points of view. This is far from being proven, even if, and generally at a cost of nutritional deficits, adjustment between supply and demand can be effected. The second method pre-supposes first that the theoretical rations are fully known - a debatable hypothesis - and second, since it is only a matter of cereals, that substitutions (in favour of root crops, tubercles and vegetable foods, for example) are not effected - a no less debatable hypothesis. Considering the quality of the data available, the first method of calculation will therefore be used, that is to say the ratio between national production and the gross available supplies, it being understood that rates calculated in this manner only constitute rough figures that must be used with greatest caution.

2.2.2. The situation as regards cereals by country or by group of countries

In Appendices Nos. 6 to 20, all the available information on production, foreign trade, available supplies and self-sufficiency rates will be found. Two reference periods have been chosen : the period 1975/77, which is fairly representative of an average situation in most countries, comprising a good year, a bad year and an average year, and the period 1965/1977, which enables the trend - if there is a trend - of the cereals economies in Sahel countries to be studied.

(1) Variations in stocks, which have not been including through lack of information, reduce, in fact, the fluctuations of these available amounts.

The Cape Verde Islands (1)

This country has suffered particularly from an almost uninterrupted drought for the past ten years. Its cereals production has been falling considerably for the last fifteen years (3 to 4,000 tons in 1975/77, as against 15,000 tons in 1965). Cereals requirements have therefore been satisfied more and more by imports (commercial imports or food assistance), whereas the self-sufficiency rate - the lowest in the whole of the Sahel area - was 9% in 1975/77 (and only 5% for 1977).

In cereals, the Cape Verde occupy a very particular position in the Sahel area with a structural deficit of 60 to 90%, even in years when the rainfall is normal. Cape Verde's requirements - 133.6 Kgs. per person head and per annum in 1975-77- are different from other Sahel countries in the predominant place occupied by corn (112 kgs. per person per annum), in the absence of millet-sorghum, and the relatively modest place occupied by wheat and rice (respectively 13.7 and 7.6 kgs per person per annum). If, generally speaking the Cape Verde Islands do not consume much cereal (52.6% of the daily intake of calories), paradoxically, it is also the Sahel country whose average daily ration is the highest with the best balance (2,342 calories).

Gambia (1) :

Gambia is a traditional rice importing country, which, particularly in 1976 and 1977, experienced bad millet-sorghum harvests, cereals in which it had been self-sufficient until then.

The cereals deficits were compensated for by imports of rice (39,000 and 32,000 tons respectively in 1976 and 1977), rather than by traditional cereals (5 to 6,000 tons) and Gambia has become by far the biggest consumer of rice in all the Sahel countries : 88 Kgs. per person, as against 47.2 for Senegal and 19 for the whole of the Sahel. It is also the only country that consumes more rice than millet/sorghum (74 Kgs per person per annum). While it is still premature to state that this is a permanent trend, it can nevertheless be confirmed that with the average amount of cereals available per person (180 Kgs. per annum), the self-sufficiency rate dropped to 60% in 1975/77, whereas between 1965 and 1975 (including the period of

(1) Except when indicated to the contrary, all the figures quoted refer to the 1975/77 period.

drought), it remained constantly above 80%. Like Cape Verde, but in lesser proportions, Gambia, while becoming more dependent on the outside world for its food supply, maintained its average caloric ration per person at an almost satisfactory level (2,290 calories) thanks, above all, to a large consumption of oil (317 calories per person per day, i.e. nearly 14% of the daily contribution of calories). As will be seen in the case of other countries on the coast, Gambia's model of cereals consumption, although somewhat similar to the model of its neighbour Senegal, (a preponderant quantity of rice and ground nuts), is in fact, fairly unique.

Upper-Volta : (1)

With Upper-Volta, we come to the first of the four Sahel countries with no access to the sea, considered - rightly or wrongly - to be self-sufficient as regards cereals in a "normal" year. With 202 kgs per person and per annum of gross available supplies, a self-sufficiency rate of more than 97%, a very large preponderance of millet/sorghum (182 Kgs) and the small place occupied by rice and wheat (respectively 6 and 3.5 Kgs.) in its food supply, Upper-Volta would be a country with no particular food supply problems, if the total caloric intake were higher. Along with Mauritania, Upper-Volta is one of the countries where the average ration is by far the lowest, not only in terms of calories, but also in terms of proteins and lipids. Upper-Volta is also the country where the proportion of cereals in the diet is highest : 70 to 75 % of the daily caloric intake.

Mali (1) :

Like Upper-Volta, Mali is practically self-sufficient in millet/sorghum and rice. Its apparent available gross supplies are about 190 Kgs. per person. The peculiarity of the cereals consumption structure of Mali lies in the big consumption of rice (25 Kgs. per person per annum). This is made possible by the fact that production is by far the biggest in the Sahel zone. Like in Upper-Volta, cereals represent more than 76 % of the daily caloric intake. This is the highest figure in the whole of the Sahel.

Mauritania (1) :

In view of its difficult and irregular meteorological conditions, Mauritania has recorded particularly large fluctuations in its production of

(1) Except when indicated to the contrary, all the figures quoted refer to the 1975/77 period.

cereals (34,000 tons in 1973, as against 114,000 in 1969). Its gross available supplies of cereals are the lowest in the whole of the Sahel (120 Kgs. per person), but this figure is explained especially by the very different consumption habits of a large part of the population. In fact, whereas the sedentary populations in the Senegal river valley and the South-West consume a large quantity of millet/sorghum - and certainly more than the national average which was 82.5 Kgs. per person - the nomad populations consume more wheat and rice. The national average for a country like Mauritania has therefore no meaning here. On the other hand, the self-sufficiency rate is the lowest in the Sahel after the Cape Verde Islands : 30%, with all cereals taken together (38% for millet/sorghum and 12% for rice). On the contrary, cereals only represent 54% of the caloric intake in the daily ration, which appears on the average fairly well balanced.

Niger (1) :

According to statistics, Niger is the biggest cereals producing country in the Sahel and the only country to have exceeded 1.5 million tons (1976). Its gross available supplies of cereals are the highest in the Sahel (250 Kgs per person), and, more than in any other country, millet/sorghum eclipse the other cereals (241 Kgs. per person, as against 4.5 for rice, 2.1 for maize and 2.6 for wheat). The self-sufficiency rate is one of the highest in the Sahel (99.6%); this seems normal when it is considered that Niger is the only country whose trade statistics for foreign trade show official exports of cereals (an average of 37,000 tons for the period under consideration). Cereals also represent an essential part of the daily caloric ration (68%), even if vegetables (niebe), which are particularly important in Niger (12% of the ration), reduce the relative share of cereals.

Senegal (1) :

After Cape-Verde and Mauritania, Senegal is the Sahel country that is the most dependent on the outside world for its supply of cereals. With a self-sufficiency rate of about 60% (falling even to 53% in 1977), Senegal occupies a unique position. On the one hand, production of millet/sorghum is proportionally much lower in Senegal (2) than in other countries of a comparable size, and on the other hand, the Senegal food consumption model is

(1) Except when indicated to the contrary, all the figures quoted refer to the 1975/77 period.

(2) No doubt because of the importance of groundnuts.

distinguished by a large consumption of rice and wheat, both of which cereals are produced locally in insufficient quantities (self-sufficiency rate for rice : 27%) or are difficult to produce. Furthermore, various surveys made in urban areas reveal that millet is tending to disappear from the ration of town consumers, being replaced to a large extent by rice and wheat. Senegal, which only represents 18% of the population of the Sahel zone, imports 49% of its cereals. This situation of dependence, which goes back some ten years, is one of the major concerns of Senegalese authorities.

On the other hand, cereals retain a predominant position in the average ration (about 62% of the caloric contributions), and, in this respect, Senegal occupies a median position in the Sahel.

CHAD (1) :

In view of the very marked tendency towards a decrease in cereals production in Chad (Appendix N° 2), the meaning of the self-sufficiency rates, which regularly exceed 95% from 1965 to 1977, requires some explanation, especially when it is known that food assistance to Chad was far smaller than the assistance given to other landlocked countries (146,000 tons from 1973 to 1978, as against 460,000 tons to Mali, 408,000 tons to Niger and 240,000 tons to the Upper-Volta). According to the statistics available, Chad disposed of 151 Kgs. per person, 90% of which were supplied by millet or sorghum. We are therefore in the presence of a cereals consumption model similar to Niger, Mali or Upper-Volta, but the share of cereals in the daily caloric contribution (58%) is nevertheless lower in Chad, owing to the fairly high consumption of root foodstuffs and tubercles (11% of the ration).

In this brief study of the situation as regards cereals, country by country, two categories stand out clearly : the countries on the coast (including Cape Verde), which rely to a great extent on the outside world, meaning that they are incapable of satisfying the demand for cereals consumption from their own production, and inland countries, whose consumption is less diversified and relying up to 90% or more on traditional cereals. However, the countries on the coast generally have a more diversified diet than those inland, and caloric rations, although insufficient, are nearer to theoretical

(1) Except when indicated to the contrary, all the figures quoted refer to the 1975/77 period.

requirements than those in inland countries.

2.2.3. The situation for each product

For the whole of the Sahel zone, the situation can be examined product by product.

- millet/sorghum : their essential role in the diet in the Sahel zone is known, since they represent 89% of the cereals production of the Sahel (1975/77). But, millet/sorghum are both crops that need rain and therefore they experience extremely wide fluctuations, made even more marked by the traditional methods used by farmers. From 1965, production has tended to stagnate and it is not clear that the increase in agricultural labour is sufficient to satisfy requirements.

- rice : this cereal is of minor importance in most of the countries and is only of real importance in Gambia, Mali and Senegal. These three countries produce nearly 77% (1975/77) of rice in the Sahel zone and receive 84.5% of all imports. In spite of the progress of production in Mali, dependence on the outside world seems to be increasing, even if in Senegal, the main country concerned, it is possible to observe some stability in imports during the last few years.

- wheat : it constitutes one of the dark points in self-sufficiency in food supply in the Sahel. Faced with a demand that has increased by 134% in 10 years, production only covers about 2% of requirements. In volume, imports of wheat exceed those of rice in 1977, whereas ten years before that they were two times less.

As prospects for local production are still uncertain, it is possible to predict an increase in the deficit of wheat, since demand is growing so quickly. All the Sahel countries are concerned, except perhaps Gambia and Cape Verde, whose imports have not increased since 1965. The desire for bread, which has existed for some time in coastal countries and in the towns inland, seems to be very strong, and incorporation of millet flour in wheat flour is a more pressing problem than ever.

- corn : a secondary cereal in terms of quantity (4.6% of the production of the Sahel countries), corn is regionally important in zones where there is more water than in the Sahel countries. For Cape Verde, it is the basic

(1) and crops grown in recently flooded river bank areas.

cereal, whereas, in Mali and in Senegal, production has been increasing for fifteen years. However, it has not increased sufficiently to prevent imports increasing by 207% in ten years.

2.2.4. Conclusion : adjustment mechanisms between cereal supply and demand

Throughout this second part, the predominant share of cereals in food supply has been confirmed many times. The hypothesis of "apparent" self-sufficiency in a "normal" year has been put forward for inland countries, whereas the fact that countries on the coast depend to a great extent on the outside world has also been frequently stressed. For most of the countries it has been noted, that despite their agricultural results, requests for food assistance (mostly cereals) have remained high (1). It therefore seems that the adjustment mechanisms between supply and demand of cereals either do not exist any longer or no longer function (2). Several explanations of this can be put forward.

First of all, surplus village stocks, which traditionally played a regulating part as regards seasonal fluctuations, do not assume this function in respect of town consumers. The lack of road infrastructure, the lack of organized markets where supply and demand for cereals would meet, and the lack of an effective marketing policy - by means of attractive prices - seem to be the principal causes why this ancient system of surpluses, which formerly kept the balance between country and urban areas, has recently declined. Moreover, the fact that the urban demand for cereals has turned towards imported products - a phenomenon that can be noticed in most Sahel countries - has accentuated this break between the rural world and the urban world. In fact, it is certainly easier to satisfy the urban demand (small but solvent) by means of imported cereals than to set up and operate an incentive marketing policy. Until about 1975, relatively low official prices illustrate this trend.

In other words, satisfactory production levels - which pre-suppose the self-sufficiency rates analysed previously - do not necessarily imply that the national consumption of cereals is automatically met.

Partly due to changes in food habits, the outlets available to traditional

(1) compared, for example, with volumes delivered during the drought.

(2) In 1965, the cereals crop in Sahel countries was one of the worst in the last twenty years, but it did not initiate demands for food assistance.

cereals remain limited and the incentives to increase production are small.

In such a context, food assistance appears to be an easy solution, enabling urban populations - or privileged groups - to be supplied at relatively low prices, but failing by this very fact to achieve self-sufficiency in the matter of food supply.

In countries on the coast, even if each one of them represents a special case, this duality between two cereals consumption systems, one turning towards the outside world and the other towards self-consumption, is a serious threat to achievement of self-sufficiency in the matter of food supply. In inland countries, this problem is far less serious, as it is at the moment limited to better mobilization of village surpluses (or regional surpluses), that is to say a marketing policy setting up proper circuits between regions with a surplus and those with a deficit, and offering incentive prices.

3. - The demand for cereals in Sahel countries in the year 2000

3.1. Previous studies

Many forecasts of the demand for cereals in 1990 or 2000 have already been made for the whole of the Sahel area (FAO prospective study, Regional food program for Africa, MIT, SCET/SEDES, etc...), for the group of Sahel countries in WAKDA and for some of them within the framework of national studies.

Whatever the degree of sophistication of the methods and hypotheses used may be, all these forecasts possess the same disadvantages : they were made on extremely fragile statistical bases. Whether it is the composition of the average cereals ration for the year or for a given basic period, the very definition of this ration, the demographic increase rates used or the hypotheses concerning the trends in food habits, all the accumulated inaccuracies help to amplify errors and to produce very divergent results for the years 1990 and 2000 (1).

3.2. The basic hypotheses for forecasts of the demand for cereals

The purpose of this brief study is not so much to draw up an accurate estimate, both qualitatively and quantitatively, of the consumption of cereals in Sahel countries in the year 2000 - an exercise which is impossible in the present circumstances - but rather to define the bases and broad lines for future national policies for cereals. As a result, it appears that simple hypotheses and a simple methodology could achieve results comparable to those achieved by more complicated methods.

Three hypotheses have been chosen. They take into account the increase in the population, the structure of the average cereals ration as a basis for

(1) The International Food Policy Research Institute (IFPRI), for example, has calculated that the cereals deficit for five Sahel countries (Upper-Volta, Mali, Niger, Senegal and Chad) would amount to 3.75 million tons in 1990 without improving the present ration, and to 5.6 million tons if requirements are to be satisfied to 110%. The regional food program for Africa considers that the deficit will be 0.74 million tons in 1990 for the eight countries, whereas a study of the prospects made in the year 1974 estimated that self-sufficiency - except for wheat - was possible in 1990 under some conditions.

a reference period, and trends in consumption habits.

i) The rate of population increase

Even in countries that have recently carried out a demographic census (1), efforts to determine the rate of population increase encounters many difficulties through lack of any reliable reference. Calculating a rate of this kind by comparing administrative estimates with a population census is a delicate operation. Forecasting trends in the medium and long term, as the FAO prospective study did, for example, and drawing conclusions on a large general increase in the annual rates from 1970 to 1990 (2.5 to 3.0% for the whole of the Sahel countries) is a hazardous undertaking.

To try to overcome this obstacle, two population growth hypotheses have been retained for each Sahel country: a low hypothesis of 2% per annum and a high hypothesis of 3% per annum. The actual population growth rate will very probably lie between these two figures and the demand for cereals in the year 2000 will therefore be presented in the form of a high-low range (see Appendix N° 26).

ii) Structure of the average cereals ration and the reference period

The basis will be taken to be the gross supply of cereals available (that is to say including losses, seed and non-food uses) per country (see §2.1) according to figures given by FAO (production, imports and exports) corrected where necessary to take into account food assistance which cannot be included in imports (Senegal, for example). The fact that gross available supplies are used implies that the breakdown between human consumption, losses, seed and other uses remains constant during the period studied.

The basis chosen as a reference period is the arithmetical average of data for the years 1975-1977. For most of the countries, (Cape-Verde and Mauritania excepted), these three years constitute a more or less representative average of "normal" climatic conditions in the Sahel area (one good year, one average year and one bad year).

iii) Trends in consumption habits

For given sociological groups, taking into account the relatively slow changes in their food habits, it has been supposed that the average ration in each country will be the same in the year 2000 as it was in 1975 - 77. The

(1) Upper-Volta (1975), Senegal and Mali (1976), Niger (1977).

elucidation of that simplification, which can rightfully be considered excessive, is the purpose of this paper. It is not a matter of describing what will actually happen in the year 2000, but examining the consequences of what would happen if present supply and demand trends were to continue.

By retaining this hypothesis, the effects of possible future increases in revenue and food assistance on consumption habits have been neglected, and so have the effects of big irrigation projects at present underway or in the process of being studied. Likewise, the increase in the urban population, proportionally greater than rural, which also influences the average ration, has not been taken into consideration. In support of the choice that has been made, it can be observed that food habits, in spite of the upheavals of the past ten years, nevertheless remain fairly stable. (1).

3.3. Projections by country and by type of cereals for the year 1990 and 2000

One of the first observations that comes to mind on examining the projections for the years 1990 and 2000 (see Appendices Nos. 27 to 29) is that the cereals requirements for the eight CILSS countries differ very little from those defined in other studies, especially if methodological differences are taken into account. Cereals requirements will therefore be about from 7 to 8 million tons in 1990 and from 9 to 11 million tons in the year 2000.

But, these figures presume that the present rations are qualitatively and quantitatively sufficient, which is not the case in a given country or for some groups, either seasonally, or regionally. Inasmuch as cereals provide the major part of the daily caloric intake (50 to 70% varying with the countries), it is obvious that if they are relied on to increase the average daily ration, the requirements defined above will have to be increased by from 2 to 3 million tons in the year 2000. But, other foodstuffs are included in this daily ration and can also contribute to its improvement in quality. It thus appears, that over and above cereals, whose role is essential

(1) Just to take the example of Senegal, which is often mentioned as being one of the countries that has experienced the most rapid changes, annual imports of rice vary between 150,000 and 200,000 over more than twenty years, whereas the population has increased by 70% and national production has only increased slightly (55,000 tons in 1960/62, 62,800 tons in 1975/77, i.e. an increase of 14% in 15 years).

it is by means of an overall plan and by means of food policies closely linked to agricultural policies that these problems must be approached.

For the present, the results of the forecasts of cereals requirements, for the year 2000 can be analysed on two fronts : by product and by country.

3.3.1. Comments on the results by country

Since the method used consists in projecting the structure and consumption for the 1975/77 period at constant growth rates - (2 to 3%) - it is in relation to the present level of production that the requirements for the year 2000 must be examined.

As the substitution phenomena can be considered to be negligible, the growth rates (overall and annual) that cereals production in each of the Sahel countries should attain to meet the self-sufficiency target in the year 2000 are summarized in the Table below. It should be noted that these growth rates are minimum growth rates, since requirements in 1990 and 2000, extrapolated from supplies available in 1975/77, presume that the average cereals rations at this time were sufficient. In the second part, it was seen that this hypothesis was not necessarily accurate for all Sahel countries.

Country	Average production 1975/77 ('000 t.)	Requirements 2000		Increase			
		Hypothesis N° 1 ('000 t.)	Hypothesis N° 2 ('000 t.)	Overall		Annual	
				Hyp/1. %	Hyp/2. %	Hyp/1. %	Hyp/2. %
Cape Verde	3.6	63.2	79.1		no meaning		
Gambia	55.7	150.3	188.1	170	238	4.2	5.2
Upper-Volta	1 100.0	1 869.1	2 385.2	70	117	2.2	3.3
Mali	1 002.0	1 837.0	2 321.4	83	132	2.6	3.6
Mauritania	51.0	283.5	354.8	456	596	7.4	8.5
Niger	1 232.4	2 016.6	2 516.3	63	104	2.1	3.0
Senegal	646.2	1 721.9	2 175.9	167	237	4.2	5.2
Chad	579.7	974.8	1 220.1	68	110	2.2	3.2
Sahel	4 670.1	8 910.4	11 246.9	91	141	2.7	3.7

Apart from Cape Verde, two groups of countries stand out clearly : inland countries (Upper-Volta, Mali, Niger, Chad), whose average annual growth rate for cereals production is - with the prospect of self-sufficiency still in mind - roughly the same as the population growth rate, and countries on the coast (Gambia, Mauritania, Senegal), where that rate is considerably greater than the population growth rate.

This link between the growth of the production rate and the population growth rate, evident because of the hypotheses chosen, is nevertheless important. It demonstrates that, all other things being equal, continental countries, which are already self-sufficient in "normal" years (1), can maintain this advantage, without making any appreciable gains in productivity, as long as the active agricultural population increases at the same speed as the total population. Problems then arise that are little known quantitatively and difficult to verify, concerning the size of the exodus from rural regions, along with the uncontrolled increase of urban populations (or in some cases, emigration).

For countries on the coast, the data available is just as clear : without any substantial progress in agricultural productivity (2), dependence on the outside world for supplies of cereals - considered globally - will continue to increase until the end of the century. However, for these same countries on the coast, the use made of the Senegal and Gambia rivers between now and the year 2000 and above all after that date, should attenuate the effect of this observation and place them in a better position, particularly as regards rice and perhaps wheat.

3.3.2. Comments on the results by product

For millet and sorghum, the overall requirements of the Sahel zone should increase at an average rate of from 2.2 to 3.2% per annum, which is to say, considering the accuracy of the statistical data used, at the same rate of growth as the population. The following table indicates - still with self-sufficiency as regards food supply in view - the average annual increases for millet and sorghum.

(1) Except for wheat.

(2) Although difficult to assess, the average annual increase in productivity, isolated from climatic phenomena, is probably less than 1%.

Country	Average production 1975/77 ('000 t.)	Requirements Year 2000		Average annual increase	
		Hyp. 1	Hyp. 2	Hyp. 1	Hyp. 2
		('000 t.)	('000 t.)	%	%
Cape Verde	-	-	-	-	-
Gambia	34.0	61.6	77.1	2.5	3.5
Upper-Volta	1 017.0	1 082.2	2 146.8	2.1	3.2
Mali	783.0	1 360.0	1 718.6	2.3	3.3
Mauritania	45.0	194.6	243.5	6.3	7.3
Niger	1 206.0	1 934.6	2 423.7	2.0	3.0
Senegal	536.0	905.2	1 143.8	2.2	3.2
Chad	535.0	879.5	1 100.7	2.1	3.1
Sahel	4 156.0	7 019.7	8 854.2	2.2	3.2

Source : Appendices Nos. 10 to 18 and N° 27.

Only Mauritania raises a serious problem. All the other countries should be able to satisfy their requirements by the year 2000, either by means of an increase in the agricultural population, or by means of an increase in productivity (or by means of a combination of these two factors).

The situation as regards rice appears in a less favourable light, as production will have to increase from 587,000t. to 815,000t. between now and the year 2000 (+ 4.7 to + 5.8% per annum) to satisfy the requirements of Sahel countries. But this observation can be treated with moderation if the countries are considered individually or as a group.

In fact, examination of Appendices Nos. 8 and 9 show that, while Senegal and Gambia are big consumers of rice (respectively 47.3 and 88.4 Kgs per person per annum in 1975-77) and quite dependent on the outside world for their food supply (self-sufficiency rate of : 26.6 and 37.1% in 1975/77), the other countries are either small consumers of rice (Cape Verde, Upper-Volta, Niger and Chad), or average consumers (Mali) but with a high self-sufficiency rate (98.4%). Only Mauritania is difficult to classify (1). It consumes more

(1) Mauritania is also the country where production figures are probably the least reliable and where the structures of the consumption of the two ethnic groups are very different. The use of averages for this country therefore represents something of a handicap.

than the countries in the first group, but depends to a very great extent on the outside world (requirements in 1975/77 covered to 12.2% only).

As has already been seen, in the year 2000, the Senegal and Gambia rivers will have been put to better use and dams will have been built on them. These improvements will doubtless improve the self-sufficiency rate of the three countries on the coast, and Mauritania might become a rice exporting country.

With regard to the other countries (except Mali), although the potential in the matter of irrigated land is less favourable, the determining factor will be whether or not trends in consumption habits continue. If these habits remain stable - the hypothesis taken for the forecasts - the prospects - except no doubt for Cape Verde - are fairly favourable.

As regards Mali, the leading producer of rice in the Sahel, considerable potentialities exist, but one of the official targets of Mali policy is to increase the consumption of rice per person. The capacity to satisfy the requirements of Mali in rice will therefore depend on the speed with which these potentialities are realized and on the attitude of consumers, who in 1975/77 still consumed almost six times more millet and sorghum than rice.

As regards corn which is the basic cereal in the Cape Verde Islands (112.3 Kgs. per person per annum), this cereal is a secondary one in all the other Sahel countries. However, in some countries (Senegal, Mali, Upper-Volta) it could become fairly important in some zones.

It is certain that corn can be called upon to play a more important role between now and the year 2000 in food supply of Sahel countries, even if this possibility is not clearly revealed in the forecasts, owing to the hypothesis of stability of consumption habits.

Finally, as regards wheat, the forecasts reveal requirements of between 441,000 and 557,000 tons in the year 2000 (as against 267,000 in 1975/77). Inasmuch as Sahel countries produce almost no wheat at the present time (self-sufficiency rate of 2.2% in 1975/77), achievement of self-sufficiency will be difficult, in spite of the efforts being made in this direction in most of the countries. Imports of wheat into Sahel countries, which have more than doubled in ten years (+ 234% from 1965/67 to 1975/77), and food assistance from 1973 onwards, have certainly contributed to an increase in the number of consumers of this cereal. But, whereas this increasing consumption of wheat affects all the Sahel countries, it is especially Senegal

(27.9 Kgs. per person per annum in 1975/77) and to a lesser degree Mauritania and Cape Verde, which are directly concerned. In the other countries, the consumption of wheat remains limited to urban populations or to some social categories.

Improvement in the self-sufficiency rate - since self-sufficiency proper seems difficult to envisage before the year 2000 - will finally depend on the results and the extension of trials that have been made in Sahel countries during the past few years.

3.4. The alternatives offered by the forecasts of cereals requirements in the year 2000

The first alternative, implicit in the above developments, is that self-sufficiency as regards food supply, in the matter of cereals and within the context of the hypotheses adopted, is possible globally on the scale of the CILSS countries, but that it will be difficult, even impossible, to achieve for some of them on a strictly national basis.

Self-sufficiency in quantitative terms on the scale of the eight Sahel countries also raises delicate substitution problems, which will not be solved without difficulty. Thus excedents of millet, sorghum, maize or rice, that may occur in some countries, will necessarily reduce the demand for other cereals that are more difficult to produce (essentially wheat, — and in some cases rice) in the Sahel.

Achieving food self-sufficiency is by no means a certainty. In the first instance, it implies a substantial increase in the productivity of cereals. This increase will not be automatically guaranteed by just intensifying production, but only by introducing a real policy for cereals integrating the results of agricultural research, which at the moment rarely go beyond the research stations, by arranging agricultural credit (not yet applied to cereals), by distributing information more widely, and finally by setting up structural and marketing mechanisms to provide producers with incentives and guarantees. Along with this cereals policy, a general food policy should be elaborated for the purpose of collecting or transforming traditional cereals and of controlling imports and food assistance granted. In some cases, the latter may compete dangerously with national products and therefore the industrial and artisanal transformation of traditional products into products more accessible to consumers must be developed (flours, couscous, semolina).

The other possible consequence, which is diametrically opposed to the previous one, is a continuation of the present trend (see Graph N°1), consisting of :

- stagnation in cereals production ;
- a regular increase in imports ;
- institutionalization of food assistance ;
- maintenance of seasonal or regional cereals deficits or deficits affecting some vulnerable groups ;
- an impossibility of ensuring effective inter-annual stabilization and constitution of buffer stocks by means of national production.

Although this alternative may become more or less attenuated in form depending on the country considered, it will bring greater dependence in the matter of food supply with all the consequences that such a situation implies. It therefore seems all the more unacceptable since an improvement in the cereals situation of most of the CILSS countries is technically possible. The necessity for working out coherent cereals and food policies in each country (and, in some cases, on a regional basis) is now urgent and all that remains to be done to conclude this brief study of the food supply situation in Sahel countries, is to examine the preliminary work required to draw up these cereals and food policies.

4. - Preliminary measures with a view to drawing up a policy for cereals in the Sahel

The numerous figures quoted throughout this short study must not create any illusions. The image that these figures give of the food supply status in Sahel countries is dangerous, both because they only propose average quantities (and fictive) on the scale of the eight countries as a whole and fail to take the many temporal and spatial disparities into account, and because they introduce excessive simplifications into the analysis of phenomena which are really far more complex (1).

Whereas other documents presented to the Colloquy define in greater detail what the cereals policies in Sahel countries should be, this brief survey of the food supply situation cannot be concluded without giving the cereals problem its place in a far wider context (2) ranging from production to consumption.

Indeed, if self-sufficiency in the matter of cereals, which has often been mentioned in this document, is a clear target, it will not be achieved automatically by a few timely and isolated actions in favour of the development of some cereal or other without knowing whether outlets for this production exist or whether the relevant technical and economic conditions of this production are satisfactory for producers, consumers and the State. It is only by means of a series of measures and actions in sectors as varied as research, infrastructure, credit, money, revenue and pricing policy, foreign trade, marketing, extension, etc... that this self-sufficiency can, in some countries, be realized. An examination of all these different aspects, which for the basis of an economic policy, would go beyond the scope of this study, and so only proposals designed to improve basic data will be given here; they are the real preliminaries to drawing up future cereal policies.

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- (1) To take just one example of available gross quantities, used to a great extent in this study, they presume that stock variations (individual or collective) are negligible from one year to another, or, if preferred, that everything that is available in a given year is consumed in the 12 months in question, which is absurd.
- (2) Reference is made to the report of the Restricted Committee of the CILSS/SAHEL CLUB responsible for studying prices, marketing and storage problems, issued at the IIIRD Conference of the CLUB DU SAHEL at Amsterdam in November 1978. Document : SAHEL D (78) 19 (Rev. 1).

In the first instance, the complexity of the cereals problem must be examined further.

4.1. The complexity of the cereals problem

The serious gaps in knowledge of the cereals sector in the Sahel make it impossible at the present time to draw up cereals policies for each one of the States.

Even in Senegal, where a national cereals plan has been prepared, its authors have repeatedly stressed the absolute necessity of obtaining more information on its different parameters (production, the proportion marketed, consumption per person, etc...) by means of in-depth surveys. All the reports and missions - (on storage problems or on available food supply, for example) - only make use of old data of uncertain information, on which conclusions are nevertheless drawn. Furthermore, the recommendations forwarded to Sahel Governments by these missions generally only concern one link in the long chain reaching from the producer to the urban consumer (storage, marketing structure, etc...).

Within each of the countries, the same uncertainties in making economic policy decisions can be observed and this is due to a lack of trustworthy elements of appreciation.

A cereals policy must constitute a whole, in which action does not begin with marketing, but starts from the production stage. Intervention at government level can only be coherent if it forms part of an overall approach. A vast survey program should therefore be launched without delay in the Sahel countries, failing which all proposals and all decisions will continue to come up against the same uncertainties. Whereas nobody questions for a moment the value of agricultural research, - whose methods of distributing results are nevertheless not above criticism - nobody, on the other hand, seems to take a serious interest in economic and nutritional research.

Whereas Sahel States have granted, since the sixties, priority to the extension and intensification of cash crops (groundnuts, cotton) and have sometimes achieved spectacular success, the drought in the years 1968-73 revealed the inadequacies of cereals production. This drought is certainly the occurrence that called attention to the necessity of setting up cereals policies with a wide scope and capable of enabling the States to achieve real self-sufficiency as regards food supply on medium or long term, or at least to reduce their dependence on outside food supply to a

considerable extent.

This trend, which is more marked in some countries than in others, is an encouraging factor, but it cannot be said that any real cereal policies have been implemented so far. Confirmation of a target of self-sufficiency or independence in the matter of food supply, fixing official prices for producers or consumers, setting up cereals boards endowed with a total or partial monopoly, a law prohibiting the export of cereals and reinforcement of storage capacities are the principal measures adopted by most States. But, on the one hand these measures are only very imperfectly applied, and on the other hand they only constitute very partial elements of what a real policy for cereals should be. The small place occupied by cereals in the development strategy applied by States and above all in production programs is very noticeable, and only Senegal seems to have quite recently granted priority to the production of cereals. (1)

If, once again, what has been done for cost-effective marketable crops in the matter of agricultural research, extension, credit, facilitating access to production factors, infrastructure (groundnut roads in Senegal and Niger, for example) is compared with that has been done for cereals (with the exception of rice), it is easier to assess the complexity and scope of the efforts that will have to be made when drawing up cereals policies. For the solutions that can in the long run solve the cereals problem are far less simple than those that were able to be proposed, often with success, for cash crops for export. One of the most marked differences is that cash crops have only been encouraged in favourable areas. These very selective encouragements have sometimes required a lot of time and financial incentives, but when producers found themselves engaged in a new economic system and realized the advantages of that system, progress was often rapid.

But a systematic transmission of the system and methods used for cash export crops to cereals production is not generally possible, if the particular characteristics of the cereals sector is taken into account.

These characteristics include :

a) an infinity of producers distributed over vast areas (in zones often not

(1) The rice operation in Mali in the early seventies also represented a step towards solving the cereals problem.

suitable for cereals or for any other annual crop), which thus complicates collection and management problems and makes the adoption of uniform prices difficult ;

b) the motivations and behaviour of producers, which vary depending on whether they are only producers of cereals or producers of mixed crops (cereals + cash crops) and depending on the degree to which they are integrated in the monetary system ;

c) the rarity and even the non-existence of intensification programs devoted exclusively to cereals producers and the lack of information on the economic and financial advantages that could accrue to producers in the present price system ;

d) the competition between export cash crops, for which collection, price fixing mechanisms and market outlets are relatively well organized, stable and guaranteed, and cereals for which the present trading structures are multiple, often concurrent, complex and very sensitive to production fluctuation ;

e) more recently, the massive deliveries of foreign food assistance has further disturbed these very fragile cereals markets.

If efficient cereals policies have not been introduced in Sahel countries, it is not because cereals production cannot provide (for the various States) fiscal resources comparable to those provided by export crops, or because the problems are too complex. Rather, it is because the cereals sector has been left to itself for so long that it is poorly known, and because insufficient statistics and data are available to authorities. In view of the importance of the obvious interrelationship between the different component factors of cereals production (research, production, prices to consumers), any action limited to one of them (for example : stimulating production, stabilizing prices at production level, or setting up buffer stocks) would either be seriously checked or result in failure. The importance of a global approach to the problem of cereals has already been underlined.

It may be useful to review rapidly information gaps in nearly all the Sahel countries which pose serious obstacles to drawing up cereals policies.

4.2. Gaps in information : research themes to be developed

Most of the gaps in information are not exclusive to the cereals sector or even to the rural sector (distribution of revenue, national accounting

system). Improvements in the quality of the information available would not only be of assistance to drawing up cereals policies, but also for planning the whole economy. The relatively long list of the elements of information that should be improved can be summarized as follows :

4.2.1. Agricultural statistics (surface areas, cost-effectiveness, production)

It is really a question of the basic information without which it seems impossible to work seriously on cereals problems. The official nature of Government estimates must not lead to illusions, as the figures have sometimes revealed overestimates to an amount of 30% (1). The difficulties experienced by most of the countries in the Sahel region in estimating their cereals deficits with some degree of accuracy fully illustrate, if this were necessary, how vital it is for their agricultural statistics departments to be strengthened. Good annual estimates of crop production - and therefore cereals production - on a regional basis constitute a priority target. This is recalled with insistence at every meeting of the CILSS and the Club du Sahel.

4.2.2. Demand and food habits

In each country, varying with the different regions and ethnic groups, food customs and habits are different, even if cereals form globally a large share of the daily food ration (see § 2.2.2.). The last systematic survey carried out in rural surroundings goes back nearly twenty years (MISOES : middle valley of the Senegal river 1957/58, Delta of the Niger in Mali at the same period) and review of the studies made on this theme (2) fully illustrates how far behind the Sahel countries are in this type of study. In urban surroundings, some surveys (Mali, 1977/78, Dakar, 1975 and 1977) only give a partial ideal of the truth. Now it seems, especially in urban areas, that considerable changes can be observed and these changes are illustrated notably by the greater share of

(1) World Bank : Western Africa Foodgrain Study, July 1976.

(2) FAO : Elasticities : - yield from the demand for agricultural products

food represented by wheat and rice at the expense of traditional cereals (3). Massive food assistance (almost two million tons of cereals from 1973 to 1978) supplied during the recent years of drought has certainly contributed to this change in some food habits. All these phenomena, which have been estimated rather than measured, make estimates of cereals demand for the next ten or twenty years particularly unreliable, since they are made on such uncertain bases (see 3.1.). The task of drawing up national cereals policies thus becomes extremely complicated.

In view of the size of seasonal and regional variations in food demand in Sahel countries, it is important to learn the structure and breakdown of this demand for crop (cereals, tubercles, root crops, vegetables, fruits leguminous products) and animal production (meat, eggs), oils and fatty substances, sugar, etc..., so as to determine the volume and the nutritive value of the daily ration at several dates in the year, the seasonal lean periods or deficit periods experienced in some regions or by some social groups. But these long, delicate and costly consumption surveys would only be of limited interest unless they were repeated at regular intervals (every ten years at least), so that the trends of consumption habits could be properly understood and corrections could be made in agricultural and food supply policies, if necessary.

In so far as the structure of the demand for cereals is concerned, the Senegalese experiment in marketing millet in 1978/79 provides a great deal of knowledge for most of the Sahel countries. Starting with estimates for purchases of 80,000 tons, the actual purchase made amounted to about 100,000 tons. But the market outlets for such quantities of cereals had not been sufficiently studied and estimated before the campaign and serious difficulties in the matter of transport and storage (not to mention possible financial losses) may well have an unfavourable effect on future campaigns, in spite of the undeniable technical success of the marketing operations. Everything had been foreseen (an announcement before the campaign to the effect that the purchase price had been raised, an early start for purchases, etc...) except one element, which was nevertheless decisive : the consumption of millet per person of urban populations, which proved to be very low (from 10 to 20 Kgs. per person per annum), and will no doubt be incapable of

(3) According to the ORANA/FAO survey carried out at Dakar in June and July 1977, rice and wheat represent 98,8 % of the contributions of calories supplied by cereals. In other words, millet and sorghum have practically disappeared from the daily ration of town dwellers.

absorbing the next harvest in such quantities.

It is therefore important to have a reasonably accurate idea of the consumption per person of cereals produced locally or imported, making a distinction between those where substitution exists and those where it does not. Consumption of cereals per person must also be determined in consideration of various parameters, the most important of which are the following : revenue, the region, the socio-professional activity and, in some cases, the ethnic group. Measures of this kind must also be repeated at regular intervals for the purpose of drawing up and reshaping programs and development projects.

Without studies of this kind, providing an incentive to produce more traditional cereals, when the internal demand is turning more and more towards rice and wheat, is not only a dangerous decision and not really assimilated to a real cereals policy, but constitutes an error, for which producers will suffer on long term.

4.2.3. Consumption budgets

This field is closely linked to the previous one and no systematic studies have been devoted to it recently. And so, there is no information available, particularly in urban or semi-urban areas, on the exact amounts spent by families, per revenue strata, and devoted to food and particularly cereals ; nor is there any information on other types of expenditure. If a new price policy is to be introduced, these gaps in the available data must be filled in, especially as they concern directly the wage policies applied by the various States.

4.2.4. The prices of cereals really practised at production level and at consumption level

Outside the production prices fixed by Governments ("official" prices), whose fictitious and artificial nature is recognized by all specialists, and the records of consumption prices drawn up by national statistical departments on a few town markets, the data more likely to enable the internal logic of inter-annual and seasonal variations to be understood - that is to say the prices really paid by urban and rural consumers on the market and the prices paid to producers by private merchants -, are very insufficient at the present time. In particular, the differences between varieties of cereals, dif-

ferences which are usually confirmed by different sale prices in traditional markets, are practically unknown.

4.2.5. The proportion of cereals production effectively marketed

The estimates given in various reports vary considerably (from 10 to 30% of production) and refer to production figures which are themselves poorly known. Thus, for a country whose production for a given year is estimated to be one million tons (which corresponds to an effective production of between 0.8 and 1.2 million tons, i.e. $\pm 20\%$), the quantities effectively marketed might be between 80,000 and 360,000 tons, i.e. a ratio of 1 to 4.5. With such a lack of accuracy, it seems difficult to intervene in the cereals market by maintaining or stabilizing prices or to establish a storage policy. In fact, the divergences in the estimates of the amount of cereals really marketed are mainly due to ambiguity in the definition of cereals marketing. Is it a matter of transactions making use of monetary exchanges or is it a matter of the total amount of cereals leaving the farm and not consumed by the producer and his family (that is to say sales, gifts, exchanges and reimbursements) ? In point of fact, little is known about the use made of cereals at producer level and about the factors that influence (or might influence) the decisions of producers (see 4.2.7.).

4.2.6. Trading margins in the private or public sectors

The few very partial studies on the subject seem to indicate that the private sector has lower margins than the public or semi-public sector and that, because it is more diversified, its intervention flexibility is far greater. The "price schedules" (or margins) of the official cereals boards are undervalued (particularly under the "transport" heading) and financial losses of about 6 to 8 F.CFA per Kilogram of cereals transacted are not rare.

These cereals boards mainly supply urban markets and it appears that it is a desire to protect urban consumers that guides this choice more or less implicitly. As financial losses are generally made up by national budgets or by foreign aid, urban consumers are in this way indirectly subsidized. The increase in the share of the cereals market accruing to these public boards, which seems to be desired in some Sahel countries (1), therefore risks in-

(1) And which was obtained easily in Senegal in 1978/79. See the study on millet marketing by ONCAD in Senegal in 1978/79 reprinted herein.

creasing losses in a parallel manner, unless more "realistic" margins are introduced. But these margins must be financed by producers (reduction of the purchase price), by consumers (increase in the sale price), or by both producers and consumers together. It is difficult to imagine that national budgets or foreign aid would pay for the losses incurred by the cereals boards indefinitely. Unless, of course, supply of cereals at low price to urban consumers is considered a priority objective in the cereals policy.

4.2.7. Cereals considered as cost-effective export crops - Motivations of producers

The theory according to which an increase in prices at the production level - (an increase associated with a guarantee of purchase or not) - would induce producers to produce and market more cereals is fairly widespread, even if this behaviour, considered "economic", has never been seriously verified in the traditional milieu by sociological surveys.

Little is known about the behaviour of producers in respect of their harvests (see 4.2.5.), vis-a-vis the terms of exchange concerning cost-effective, exports/cereals crops, vis-a-vis the use of modern production factors for cereals (which are rarely the subject of monetary expenditure).

While it is generally admitted that in most of the Sahel countries the cereals produced are primarily used to satisfy family food requirements, many factors can modify this practice which is considered "normal" : volume of the harvest, volume of stocks from the previous harvest, financial requirements, indebtedness, results of the cash export crops, price offered on the market, family obligations, etc...

From a strictly economic aspect, production costs and the advantages of cereals production, not only in traditional surroundings but also with progressive use of various new factors, are generally only known through observations made in research stations. In the peasant sector, it is not usually known at what level of prices and costs (hence the role of a policy of subsidies) a producer considers cereals to be cost effective crops for export.

Prices and costs are doubtless not the only decisive elements. Lack of proper organization in the cereals sector (collection, prices, subsidies and agricultural credits), compared with the structures set up for organizing and marketing cash crops for export, may also influence the decisions of producers.

4.2.8. Storage loss rate

The most varied estimates have been put forward, with rates of between 5 and 25%, but it has never been possible to estimate the amount of these losses at each of the stages - (from production to urban storage)-, not to mention losses suffered before the harvest. Without wishing to over-stress the importance of the lack of data in the field of storage, it can nevertheless be stated that the lack of accuracy concerning rates of losses must be added to the lack of accuracy in the figures for quantities really produced or marketed, and makes the estimates for the real consumption per person, in both urban and rural areas, even more unreliable.

4.2.9. Border or inter-regional trade

The official statistics for foreign trade generally underestimate the amount of trade in cereals between Sahel countries and countries on the coast, or between Sahel countries themselves. Nevertheless these exchanges are by no means negligible, especially when the prices offered on markets on either side of these borders vary to a marked extent (Mali/Ivory Coast, Mali/Senegal, Upper-Volta/Ghana). Price policies must take these particular situations into account, as in some years they may modify the quantities of cereals available in Sahel countries to a considerable extent (for example, in Upper-Volta in 1976/77, or in an almost permanent manner in Mali).

4.2.10. Identification of the zones with a vocation for cereals

Since the 1960's, cereals crops have developed in the Southern zones of Sahel countries, often not very suitable for this type of crop (1). Similarly, except in zones where there are few inhabitants (onchocercosis zones, for example), the regions where the potential for cereals is the greatest are generally those where programs for intensifying cash crops for export have been developed for a long time. These regions generally possess better road infrastructures and their collection, supply and organization structures are far superior to the national average. Cereals policies must take this situation into account. Between these extreme situations, there are some regions that are favoured by nature (soil and rainfall) and thickly populated, but have poor communications and poor organizational systems. They co-exist with regions

(1) Zone A, as defined by the FAO Prospective Study.

whose agricultural potentialities in the present circumstances seem very mediocre. This differentiation between the agricultural potentialities of different regions in Sahel countries - which constitutes one of the basic hypotheses of the FAO Prospective Study - is fundamental for drawing up future cereals policies which will not be able to treat the Sahel countries as homogeneous economic spaces where identical programs and policies can be applied. Whether it is a question of intensification programs, whose costs in marginal zones appear out of proportion to the advantages hoped for, or of storage programs, which will have to take into account the situation in respect of surpluses or deficits in these different regions, this geographic delimitation, generally different from the administrative delimitation of each Sahel State, will constitute an important basis for cereals policies and through them for rural development policies.

4.2.11. Cereals supply circuits in urban zones

Urban supplies represent a large part of the marketed tonnage of cereals and at present follow several circuits : the cereals boards circuit (purchases in rural zones or imports), the private trade circuit, which even in countries that have introduced a total monopoly remains considerable, and the innumerable individual or occasional circuits, which, although consisting of small quantities for each operation, nevertheless furnish a considerable amount of the urban supply. The type and number of these circuits, which compete with each other to a lesser or greater degree depending on the country, are not precisely known. Linked to the improvement of data concerning urban consumptions of cereals (see 4.2.2.), greater knowledge of this essential aspect of national cereals policies would be a considerable advantage.

4.2.12. New uses for traditional cereals

It is important for cereals policies to envisage new uses for traditional cereals for human consumption (products that are not milled) but also for animal foodstuffs, foodstuffs for aviculture and for making glucose, etc... Extension of the scope of possible uses of these cereals is not only essential, so as to absorb the surpluses which will necessarily appear in Sahel countries in the more or less distant future, but should also contribute to eliminating the distinction between food crops and cash crops for export. This is an artificial distinction which tends to create two types of farmers and two agricultural sectors not benefitting from the same advantages.

But these new uses will not appear by themselves. Research in the field of food technology - linked with agricultural research -, acceptability test and a real commercial promotion program will be necessary to develop these new uses for traditional cereals.

4.2.13. Foreign market outlets

Whereas for some Sahel countries it may appear paradoxical to envisage exports of cereals at a time when these countries are only just recovering from a long period of food shortages, it should not be forgotten that this situation may well be reversed in some countries and raise problems of a new kind. Once again, the example of Senegal is instructive, as it demonstrates that whereas an increase in the price paid to producers induced them to sell, the high cost price of cereals constitutes a serious obstacle to their disposal, notably in neighbouring markets.

Whereas it has been seen that self-sufficiency in the matter of food supply - or rather cereals supply - in Sahel countries is globally possible on the scale of the eight countries (see 3.4.), internal trade exchanges in the zone come up against a whole series of obstacles at the present time, resulting from distances (transport), the differences between currencies and prices, consumers' tastes, legislation, and administrative and bureaucratic obstacles. Considerable investment and efforts towards better organization and harmonization will be necessary to endow cereals markets in the Sahel with the fluidity and the transparency to make them complementary and no longer rivals.

Finally, the Sahel is not a region isolated from the outside world. Particularly with regard to cereals, it enjoys long-standing relationships with its neighbours. The development - or in some cases, more strict control - of these commercial relations encounters the same obstacles, often amplified, as those that have just been described.

4.3. Conclusion

In the light of the foregoing, the preparation of dynamic cereals policies seems to be a task that is both difficult and complex. It concerns practically all the aspects of the economic and social life of the Sahel countries. Over and above the question of self-sufficiency in the matter of food supply, which can be improved, these policies can also, by means of the reflections they should inspire, constitute an excellent opportunity to re-define the

role of the different economic agents (States, public corporations, producers, private traders consumers), whose respective attributions are often improvised by some particular combination of circumstances and are perhaps not always compatible with effective application of these cereals policies.

The long list of deficiencies in the information available on the principal variables that influence in varying degrees the establishment of cereals policies also underlines the considerable efforts that will have to be made in most of the Sahel countries, not only to propose dynamic cereals policies, but also to determine the consequences of them on the national economy and on the different economic agents.

The great diversity of sectors where insufficient information is available, also demonstrates that a cereals policy cannot be disassociated from the agricultural policy and the broad lines of the economic policy. On the level of each of the Sahel countries, further reflection on the cereals problem, and particularly on the respective roles of private and public sectors in the cereals marketing circuit, seems necessary. This reflection is all the more urgent as hasty decisions have not always produced the results hoped for. In other words, drawing up and introducing a cereals policy in the Sahel countries must necessarily pass through a phase during which the data at present available are improved and brought up to date and a phase during which each of the States will have to examine the implications of the target of self-sufficiency in the matter of food supply, confirmed by most of the countries and supported by the CILSS and the Club du Sahel.

Appendix N° 1

SAHEL : AVERAGE FOOD RATIONS (IN CALORIES
PER PERSON PER DAY)

	1961-63	1964-66	1969-71	1972-74	1975-77
Cape-Verde	1 749	1 680	1 965	2 222	2 342
Chad	2 324	2 364	2 086	1 764	1 788
Gambia	2 184	2 245	2 319	2 305	2 290
Mali	1 997	2 075	2 053	1 756	2 111
Mauritania	2 005	1 992	1 990	1 863	1 892
Niger	2 189	2 083	1 988	1 857	2 044
Senegal	2 064	2 262	2 225	2 178	2 230
Upper-Volta	1 901	2 016	1 858	1 728	1 997
Balanced average	2 067	2 133	2 032	1 856	2 047

Source : FAO

NB : These figures do not provide any indication of the difference that may exist between the food diets of the various population groups. Nor do they give any indication of the seasonal variations in food supplies. They only represent the average availabilities for the whole of the population and do not indicate what individuals really consume.

Appendix N° 2

SAHEL : FOOD PRODUCTION INDEXES PER INHABITANT
1966 - 67

	66	67	68	69	70	71	72	73	74	75	76	77
Cape-Verde	ND	ND	ND	ND	ND	ND						
Gambia	118	102	101	102	98	100	104	91	103	104	102	87
Upper-Volta	105	106	106	103	102	95	90	84	92	99	94	85
Mali	100	103	98	104	101	95	78	65	69	80	85	83
Mauritania	103	103	102	104	101	96	88	72	69	66	72	72
Niger	109	116	100	111	96	93	86	63	74	68	90	82
Senegal	104	128	99	110	82	108	69	85	109	123	109	81
Chad	107	103	194	103	98	99	81	76	83	83	83	83

ND : Not available

Basis 1969-71 = 100

Source : The FAO production annual, VOL. 31

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Appendix N° 3

SAHEL : AMOUNTS OF PROTEINS AVAILABLE PER PERSON
PER DAY (IN GRAMS) - 1966-78

	66	67	68	69	70	71	72	73	74	75	76	77	78
Cape-Verde	37,7	41,0	36,4	41,4	45,8	51,5	54,6	54,0	54,5	57,9	62,8	63,2	
including cereals	21,5	20,8	21,3	25,6	28,1	32,1	32,7	32,8	32,9	32,5	31,6	31,9	
Gambia	53,3	52,9	55,5	54,0	55,9	55,6	56,9	62,1	63,7	66,0	63,9	62,7	59,7
including cereals	33,4	32,8	34,1	33,3	34,6	34,2	34,9	33,0	33,4	34,4	32,4	33,6	33,2
Upper-Volta	66,6	65,6	66,1	66,3	64,9	61,9	58,1	56,3	61,4	65,3	66,4	59,6	
including cereals	42,4	42,2	42,4	42,4	41,5	38,5	37,3	36,2	41,6	43,5	43,3	38,4	
Mali	57,3	56,6	59,4	56,6	59,0	53,2	48,2	47,3	51,6	54,4	55,8	55,2	50,2
including cereals	35,5	34,7	37,3	34,3	37,0	32,0	30,8	31,9	34,9	36,1	36,6	35,7	30,3
Mauritania	71,1	71,3	72,7	72,9	73,2	69,8	64,7	58,5	62,0	65,0	66,7	72,1	74,3
including cereals	23,7	23,5	23,9	23,9	23,4	21,4	21,0	21,1	27,7	25,4	26,4	26,0	27,1
Niger	60,8	60,9	58,9	57,0	57,1	56,6	55,2	56,6	53,9	59,8	61,7	63,2	66,0
including cereals	36,1	35,1	35,8	32,3	34,8	35,4	34,4	31,8	29,4	32,2	29,4	32,3	35,2
Senegal	63,8	65,8	64,8	64,6	63,9	60,4	58,9	60,8	63,9	63,8	64,4	66,0	
including cereals	35,6	36,0	35,8	35,6	36,2	35,6	35,2	34,3	36,8	36,7	37,2	38,2	
Chad	76,1	76,0	72,3	70,5	68,5	63,2	63,0	56,7	59,1	58,7	57,9	56,4	61,8
including cereals	40,1	41,2	38,1	37,6	36,9	32,6	32,8	27,9	27,2	29,2	29,2	28,1	33,1

Source : Food supply analysis. FAO-1979

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Appendix N° 4

SAHEL : CALORIC CONTRIBUTIONS OF THE PRINCIPAL GROUPS OF PRODUCTS -
AVERAGE 1975-77 (IN CALORIES PER CAPITA PER DAY)

	Cape-Verde	Gambia	Upper-Volta	Mali	Mauritania	Niger	Senegal	Chad
Cereals	1 231	1 452	1 467	1 607	1 020	1 384	1 390	1 035
Root crops, tubercles	168	46	49	38	12	128	65	195
Leguminous products	146	46	197	45	99	245	25	92
Fruit & Vegetables	88	8	12	12	39	32	26	51
Meat & Offal	36	71	37	66	113	54	68	56
Eggs	1	1	2	2	4	3	3	2
Oils&fatty substances	223	317	49	118	80	61	252	59
Sugar, syrups, etc..	222	92	25	60	140	26	156	58
Milk&dairy products	106	29	19	44	321	63	46	42
Fish, shellfish	20	33	2	15	42	3	64	25
Miscellaneous	101	195	138	104	22	50	135	173
TOTAL	2 342	2 290	1 997	2 111	1 892	2 049	2 230	1 788

Source : Food Supply Analysis. FAO 1979

Appendix N° 5

SAHEL : CALORIC CONTRIBUTIONS OF THE PRINCIPAL GROUPS OF PRODUCTS -
AVERAGE 1975-77 (AS A PERCENTAGE)

	Cape-Verde	Gambia	Upper-Volta	Mali	Mauritania	Niger	Senegal	Chad
Cereals	52,62	63,4	73,5	76,1	53,9	67,5	62,3	57,9
Root crops, tubercles	7,2	2,0	2,5	1,8	0,6	6,2	2,9	10,9
Leguminous products	6,2	2,0	9,9	2,1	5,2	12,0	1,1	5,1
Fruit & Vegetables	3,8	0,3	0,6	0,6	2,1	1,6	1,2	2,9
Meat & Offal	1,5	3,1	1,9	3,1	6,0	2,6	3,0	3,1
Eggs	-	-	0,1	0,1	0,2	0,1	0,1	0,1
Oils&fatty substances	9,5	13,8	2,4	5,6	4,2	3,0	11,3	3,3
Sugar, syrups, etc..	9,5	4,0	1,2	2,8	7,4	1,3	7,0	3,2
Milk&dairy products	4,5	1,3	0,9	2,0	17,0	3,1	2,1	2,3
Fish, shellfish	0,9	1,4	0,1	0,7	2,2	0,1	2,9	1,4
Miscellaneous	4,3	8,5	6,9	4,9	1,2	2,4	6,0	9,7
TOTAL	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Source : Food Supply Analysis. FAO 1979 and Appendix N° 4

Appendix N° 6

SAHEL : AMOUNT OF CALORIES AVAILABLE PER PERSON PER DAY
AND THE PROPORTION COMING FROM CEREALS (%)
(1961-65 - 1978)

	61/65	66	67	68	69	70	71	72	73	74	75	76	77	78
Cape-Verde	1713	1641	1655	1610	1885	1920	2113	2193	2248	2273	2304	2358	2365	
including cereals	853	827	798	818	989	1083	1242	1268	1278	1265	1246	1218	1229	
	49,8	50,4	48,2	50,8	52,5	56,4	58,8	57,8	56,9	55,7	54,7	51,7	52,0	
Gambia	2163	2227	2218	2314	2294	2346	2304	2232	2159	2200	2211	2315	2345	2333
including cereals	1418	1377	1347	1420	1402	1469	1419	1440	1366	1382	1429	1447	1480	1497
	65,6	61,8	60,7	61,4	61,1	62,6	61,6	64,5	63,3	62,8	64,6	62,5	63,1	64,2
Upper-Volta	2045	2041	2025	2046	2037	1992	1891	1803	1754	1927	2045	2071	1875	
including cereals	1494	1497	1493	1508	1502	1466	1361	1319	1288	1461	1528	1520	1354	
	73,1	73,3	73,7	73,7	73,7	73,6	72,0	73,2	73,1	75,8	74,7	73,4	72,2	
Mali	2031	2079	2055	2193	2053	2200	1936	1813	1811	1967	2076	2145	2112	1860
including cereals	1572	1582	1546	1667	1533	1663	1423	1381	1397	1524	1591	1639	1592	1347
	77,4	76,1	75,2	76,0	74,7	75,6	73,5	76,2	77,1	77,5	76,6	76,4	75,4	72,4
Mauretania	1888	1934	1926	1951	1946	1921	1871	1729	1634	1858	1822	1884	1970	2047
including cereals	938	933	923	941	944	923	928	831	826	1082	995	1032	1034	1083
	49,7	48,2	47,9	48,2	48,5	48,0	49,6	48,1	50,6	58,2	54,5	54,8	52,5	52,8
Niger	2124	2151	2153	2148	1997	2090	2084	2004	1981	1847	2036	1977	2133	2268
including cereals	1598	1585	1556	1585	1414	1561	1585	1548	1430	1278	1433	1286	1434	1559
	75,2	73,7	72,3	73,8	70,8	74,7	76,1	77,2	72,2	68,2	70,4	65,0	67,2	68,7
Senegal	2200	2282	2302	2290	2264	2263	2223	2169	2161	2215	2194	2223	2272	
including cereals	1347	1348	1348	1343	1338	1357	1342	1316	1279	1377	1376	1383	1412	
	61,2	59,1	58,6	58,6	59,1	60,0	60,4	60,7	59,2	62,2	62,7	62,2	62,1	
Chad	2296	2288	2313	2216	2197	2130	1960	1950	1763	1702	1811	1801	1753	1975
including cereals	1419	1430	1473	1361	1345	1321	1164	1183	1009	982	1052	1052	1002	1191
	61,8	62,5	63,7	61,4	61,2	62,0	59,4	60,7	57,2	57,7	58,1	58,4	57,2	60,3

Source : Food Supply Analysis. FAO 1979.

Appendix N° 7

SAHEL : PRODUCTION, IMPORTS, EXPORTS AND APPARENT GROSS AVAILABLE
AMOUNT OF CEREALS (1965-77)

(in thousands of tons)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Production	3 342	5 094	5 361	4 801	5 418	4 638	5 277	3 418	3 613	4 869	4 627	5 220	4 734
Imports	348	326	326	341	510	424	596	572	873	1 190	548	713	865
Exports	42	45	13	31	79	88	67	51	44	34	38	43	50
Apparent gross amounts available	3 648	5 375	5 674	5 111	5 849	4 974	5 806	3 939	4 442	6 025	5 137	5 890	5 549
Self-sufficiency rate (%)	91,6	94,8	94,5	93,9	92,6	93,2	90,9	86,8	81,3	80,8	90,1	88,6	85,3

Source : the FAO annuals on production and trade. Vol. 25-28-31

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Appendix N° 8

GROSS AMOUNTS OF CEREALS AVAILABLE IN SAHEL COUNTRIES IN KGS.
PER CAPITA PER ANNUM (AVERAGE 1975-77)

	Cape-Verde	Gambia	Upper-Volta	Mali	Mauritania	Niger	Senegal	Tchad	SAHEL
Millet & Sorghum	-	73,7	181,9	140,0	82,5	240,9	110,6	136,5	155,2
Rice	7,6	88,4	5,9	24,6	17,3	4,5	47,3	5,6	19,2
Maize	112,3	10,4	10,8	15,5	5,6	2,1	12,4	2,5	10,1
Wheat	13,7	7,3	3,5	9,0	14,8	2,6	27,9	3,9	9,7
Miscellaneous	-	-	-	-	-	-	12,2	2,8	2,6
TOTAL	133,6	179,8	202,2	189,1	120,2	250,1	210,4	151,3	196,8

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Appendix N° 9

SELF-SUFFICIENCY RATE IN SAHEL COUNTRIES FOR THE PRINCIPAL CEREALS
ON THE BASIS OF AVERAGE PRODUCTION, 1975/77 (%)

	Cape-Verde	Gambia	Upper-Volta	Mali	Mauritania	Niger	Senegal	Tchad	Sahel
Millet & Sorghum	-	89,8	100,1	98,2	38,0	101,1	97,1	99,3	97,7
Rice	0	37,1	67,9	98,4	12,2	86,4	26,6	97,8	54,0
Maize	11,0	100,0	99,4	89,4	37,5	51,5	76,5	100,0	77,1
Wheat	0	0	0	3,9	0	15,5	0	13,0	2,2
Miscellaneous	-	-	-	-	-	-	-	S.S.	S.S.
CEREALS TOTAL	9,2	60,8	97,4	93,0	29,6	99,6	61,5	97,1	87,6

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S.S. : not significant

Appendix N° 10

SAHEL : PRODUCTION, IMPORTS, EXPORTS, AMOUNTS AVAILABLE AND
SELF-SUFFICIENCY RATE FOR CEREALS

		Millet and Sorghum	Rice (1)	Maize	Wheat	Miscel- laneous	Cereals Total
1. Production	tons	4.155.699	283.899	213.533	6.0000	11.000	4.670.131
2. Imports	"	136.458	246.577	63.424	263.462	-	710.101
Food assistance						60.900	60.900
3. Exports	"	39.887	4.427	-	2.800		(47.114)
4. Amounts available	"	4.252.270	526.049	276.957	266.842	71.900	5.394.018
5. Self-sufficiency rate	%	97.7	54.0	77.1	2.2		86.6
6. Amounts available per person	kg	155.2	19.2	10.1	9.7	2.6	196.8

(1) Paddy converted into rice on the basis of 650 kgs of white products for 1 000 kgs. of paddy

Appendix N° 11

CAPE-VERDE : PRODUCTION, IMPORTS, EXPORTS, AMOUNTS AVAILABLE AND
SELF-SUFFICIENCY RATE FOR CEREALS

		Millet and Sorghum	Rice (1)	Maize	Wheat	Miscel- laneous	Cereals Total
1. Production	tons	-	-	3.600	-		3.600
2. Imports	"	-	2.217	29.178	4.014		35.409
3. Exports	"	-	-	-	-		-
4. Amounts available	"	-	2.217	32.778	4.014		39.009
5. Self-sufficiency rate	%	-	0	11.0	-		9.2
6. Amounts available per person	kg	-	7.6	112.3	13.7		133.6

(1) Paddy converted into rice on the basis of 650 kgs of white products for 1 000 kgs. of paddy

Appendix N° 12

GAMBIA : PRODUCTION, IMPORTS, EXPORTS, AMOUNTS AVAILABLE
AND SELF-SUFFICIENCY RATE FOR CEREALS

		Millet and Sorghum	Rice (1)	Maize	Wheat	Miscel- laneous	Cereals Total
1. Production	tons	33.700	16.700	5.300	-		55.700
2. Imports	"	3.832	28.308	-	3.696		35.836
3. Exports	"	-	-	-	-		-
4. Amounts available	"	37.532	45.008	5.300	3.696		91.536
5. Self-sufficiency rate	%	89.8	37.1	100.0	0		60.8
6. Amounts available per person	kg	73.7	88.4	10.4	7.3		179.8

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(1) Paddy converted into rice on the basis of 650 kgs of white products for 1 000 kgs of paddy.

Appendix N° 13

UPPER-VOLTA : PRODUCTION, IMPORTS, EXPORTS, AMOUNTS AVAILABLE
AND SELF-SUFFICIENCY RATE FOR CEREALS
AVERAGES 1975/77

		Millet and Sorghum	Rice (1)	Maize	Wheat	Miscel- laneous	Cereals Total
1. Production	tons	1.016.999	22.533	60.000	-		1.099.532
2. Imports	"	2.308	10.671	392	19.409		32.780
3. Exports	"	3.220	-	-	-		(3.220)
4. Amounts available	"	1.016.087	33.204	60.392	19.409		1.129.092
5. Self-sufficiency rate	%	100.1	67.9	99.4	0		97.4
6. Amounts available per person	kg	181.9	5.9	10.8	3.5		202.2

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(1) Paddy converted into rice on the basis of 650 kgs of white products for 1 000 kgs of paddy.

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Appendix N° 14

MALI : PRODUCTION, IMPORTS, EXPORTS, AMOUNTS AVAILABLE AND

SELF-SUFFICIENCY RATE FOR CEREALS

AVERAGES 1975/77

		Millet and Sorghum	Rice (1)	Maize	Wheat	Miscel- laneous	Cereals Total
1. Production	tons	783.000	138.000	79.000	2.000		1.002.000
2. Imports	"	14.427	6.729	9.334	49.032		79.522
3. Exports	"	-	4.415	-	-		(4.415)
4. Amounts available	"	797.427	140.314	88.334	51.032		1.077.107
5. Self-sufficiency rate	%	98.2	98.4	89.4	3.9		93
6. Amounts available per person	kg	140.0	24.6	15.5	9.0		189.1

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(1) Paddy converted into rice on the basis of 650 kgs of white products for 1 000 kgs of paddy.

Appendix N° 15

MAURITANIA : PRODUCTION, IMPORTS, EXPORTS, AMOUNTS AVAILABLE

AND SELF-SUFFICIENCY RATE FOR CEREALS

AVERAGES 1975/77

		Millet and Sorghum	Rice (1)	Maize	Wheat	Miscel- laneous	Cereals Total
1. Production	tons	45.000	3.033	3.000	-		51.033
2. Imports	"	73.400	21.767	5.000	21.298		121.465
3. Exports	"	-	-	-	-		-
4. Amounts available	"	118.400	24.800	8.000	21.298		172.498
5. Self-sufficiency rate	%	38.0	12.2	37.5	0		29.6
6. Amounts available per person	kg	82.5	17.3	5.6	14.8		120.2

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(1) Paddy converted into rice on the basis of 650 kgs of white products for 1 000 kgs of paddy.

Appendix N° 16

NIGER : PRODUCTION, IMPORTS, EXPORTS, AMOUNTS AVAILABLE
AND SELF-SUFFICIENCY RATE FOR CEREALS
AVERAGES 1975/77

		Millet and Sorghum	Rice (1)	Maize	Wheat	Miscel- laneous	Cereals Total
1. Production	tons	1.206.000	19.100	5.300	2.000		1.232.400
2. Imports	"	23.025	3.000	5.000	10.871		41.896
3. Exports	"	36.667	-	-	-		(36.667)
4. Amounts available	"	1.192.358	22.100	10.300	12.871		1.237.629
5. Self-sufficiency rate	%	101.1	86.4	51.5	15.5		99.6
6. Amounts available per person	kg	240.9	4.5	2.1	2.6		250.1

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(1) Paddy converted into rice on the basis of 650 kgs of white products for 1 000 kgs of paddy.

Appendix N° 17

SENEGAL : PRODUCTION, IMPORTS, EXPORTS, AMOUNTS AVAILABLE
AND SELF-SUFFICIENCY ARE FOR CEREALS
AVERAGES 1975/77

		Millet and Sorghum	Rice (1)	Maize	Wheat	Miscel- laneous	Cereals Total
1. Production	tons	536.000	62.833	47.333	-		646.166
2. Imports	"	15.830	173.375	14.520	141.955		345.680
2.bis Food-Assistance	"					60.900	60.900
3. Exports	"	-	-	-	2.800		(2.800)
4. Amounts available	"	551.830	236.208	61.853	139.155	60.900	1.049.946
5. Self-sufficiency rate	%	97.1	26.6	76.5	0	-	61.5
6. Amounts available per person	kg	110.6	47.3	12.4	27.9	12.2	210.5

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(1) Paddy converted into rice on the basis of 650 kgs of white products for 1 000 kgs of paddy.

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CHAD : PRODUCTION, IMPORTS, EXPORTS, AMOUNTS AVAILABLE
AND SELF-SUFFICIENCY RATE FOR CEREALS

AVERAGES 1975/77

		Millet and Sorghum	Rice (1)	Maize	Wheat	Miscel- laneous	Cereals Total
1. Production	tons	535.000	21.700	10.000	2.000	11.000	579.700
2. Imports	"	3.636	510		13.367		17.513
3. Exports	"	-	12	-	-	-	(12)
4. Amounts available	"	538.636	22.198	10.000	15.367	11.000	597.201
5. Self-sufficiency rate	%	99.3	97.8	100.0	13.0	100.0	97.1
6. Amounts available per person	kg	136.5	5.6	2.5	3.9	2.8	151.3

(1) Paddy converted into rice on the basis of 650 kgs of white products for 1 000 kgs of paddy.

Appendix N° 19

TOTAL QUANTITY OF CEREALS EXPORTED FROM SAHEL COUNTRIES
1965 - 77

In 1 000 tons	65	66	67	68	69	70	71	72	73	74	75	76	77
Wheat	104,4	118,1	113,1	109,1	154,8	188,1	179,0	182,9	215,0	209,4	202,9	234,7	348,9
% of the total	30	36,3	34,7	31,9	30,3	44,4	30	32	24,6	17,6	37	32,9	40,3
Rice	193,8	175,3	180,0	211,9	201,7	165,0	231,6	236,1	283,2	339,5	156,4	282,1	300,9
% of the total	55,7	53,9	55,3	62,1	39,5	38,9	38,9	41,3	32,4	28,5	27,2	39,6	34,8
Maize	25,6	17,7	18,6	16,5	73,4	22,2	76,5	57,8	135,2	195,0	78,5	47,2	64,5
% of the total	7,3	5,4	5,7	4,8	14,3	5,2	12,8	10,1	15,5	16,4	14,3	6,6	7,4
Millet & Sorghum	24,0	14,4	13,9	3,7	80,2	48,6	108,9	94,8	239,1	446,0	109,9	148,7	150,8
% of the total	7	4,4	4,3	1,2	15,7	11,4	18,3	16,6	27,4	37,4	20	20,7	17,4
Total for the Sahel	347,8	325,5	325,6	341,2	510,1	423,9	596,0	571,6	872,6	1189,9	547,7	712,7	865,1

Source : Trade annuals, FAO. Vol. 25-28-31.

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Appendix N° 20

IMPORTS OF WHEAT AND FLOUR INTO SAHEL COUNTRIES
(in 1 000 t. Equivalent wheat)
1965-77

In 1 000 tons	65	66	67	68	69	70	71	72	73	74	75	76	77
Cape-Verde	3,5	2,6	3,2	3,6	3,3	4,2	5,2	5,7	7,2	7,6	5,8	2,8	3,5
Chad	2,2	2,3	2,9	3,4	3,7	3,9	3,9	3,0	4,6	4,4	1,9	5,6	3,6
Gambia	11,5	15,5	16,7	18,1	19,9	26,8	17,0	34,4	14,4	20,8	13,4	15,5	29,3
Mali	20,4	12,3	9,8	10,1	6,5	16,7	16,6	16,7	20,8	20,8	48,6	49,0	49,4
Mauritania	0,6	0,8	0,2	1,1	9,7	6,9	8,8	11,1	12,5	19,4	13,9	23,6	26,4
Niger	2,1	5,0	4,9	4,3	4,9	6,9	4,7	5,6	8,6	10,7	5,8	9,4	17,4
Senegal	61,4	77,0	65,6	63,8	96,8	113,2	113,5	96,9	132,0	116,7	104,6	119,9	201,4
Upper-Volta	2,7	2,6	9,8	4,7	10,0	9,5	9,3	9,5	14,9	9,0	8,8	8,9	17,9
Total for the Sahel	104,4	118,1	113,1	109,1	154,8	188,1	179,0	182,9	215,0	209,4	202,9	234,7	348,9

Source : Trade Annuals, FAO. Vol. 25-28-31

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Appendix N° 21

IMPORTS OF RICE INTO SAHEL COUNTRIES
1965 - 77

In 1 000 tons	65	66	67	68	69	70	71	72	73	74	75	76	77
Cape-Verde	1,7	1,5	1,6	1,7	2,3	2,3	3,5	4,2	4,8	5,0	1,6	2,7	2,3
Chad	0,1	0,1	0,1	0,2	0,3	0,8	-	-	-	-	0,5	0,5	0,5
Gambia	6,8	7,7	8,6	10,0	12,5	14,2	7,6	10,4	12,7	6,7	13,5	39,3	32,1
Mali	-	-	-	-	20,4	14,5	15,0	30,5	45,7	65,3	20,0	-	-
Mauritania	0,4	1,6	11,1	13,1	18,8	11,0	16,7	20,0	28,0	32,0	8,0	23,3	34,0
Niger	2,3	1,0	1,4	0,4	-	-	-	1,1	-	-	1,0	4,0	4,0
Senegal	179,2	159,3	153,4	185,2	145,9	119,2	187,5	169,9	192,0	230,5	102,1	200,0	218,0
Upper-Volta	3,3	4,1	3,8	1,3	1,5	2,6	1,3	-	-	-	9,7	12,3	10,0
Total for the Sahel	193,8	175,3	180,0	211,9	201,7	165,0	231,6	236,1	283,2	339,5	156,4	282,1	300,9

Source : Trade Annuals, FAO. Vol. 25-28-31

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Appendix N° 22

IMPORTS OF MAIZE INTO SAHEL COUNTRIES
1965-77

In 1 000 tons	65	66	67	68	69	70	71	72	73	74	75	76	77
Cape-Verde	8,7	6,0	2,9	3,2	32,0	16,8	37,9	34,8	22,9	23,0	32,7	22,7	32,0
Chad	-	-	-	-	-	-	-	-	-	11,0	-	-	-
Gambia	-	-	-	-	-	-	-	-	-	-	-	-	-
Mali	-	-	-	-	-	-	4,9	4,9	25,0	46,0	28,0	-	-
Mauritania	-	-	-	-	-	-	-	1,7	2,0	5,0	5,0	5,0	5,0
Niger	-	-	-	-	-	-	-	-	12,0	26,0	3,0	6,0	6,0
Senegal	16,6	10,0	12,5	13,1	41,2	5,0	32,8	10,4	51,4	60,0	9,6	13,0	21,0
Upper-Volta	0,3	1,7	3,2	0,2	0,2	0,4	0,9	6,0	22,0	24,0	0,2	0,5	0,5
Total for the Sahel	25,6	17,7	18,6	16,5	73,4	22,2	76,5	57,8	135,3	195,0	78,5	47,2	64,5

Source : Trade Annuals, FAO. Vol. 25-28-31.

Appendix N° 23

IMPORTS OF MILLET & SORGHUM INTO SAHEL COUNTRIES
1965-77

In 1 000 tons	65	66	67	68	69	70	71	72	73	74	75	76	77
Cape-Verde													
Chad					-	0,6	-	0,6	3,0	26,0	0,9	10,0	-
Gambia					-	-	-	-	-	-	-	5,0	6,5
Mali	1,5	3,7	3,1	0,4	5,0	-	26,7	21,0	67,0	100,0	23,1	10,0	10,2
Mauritania	-		-	-	22,0	45,0	50,0	50,0	60,0	70,0	71,7	73,4	75,1
Niger	-	2,5	4,6	-	5,0	1,1	1,0	12,6	5,0	150,0	9,1	50,0	10,0
Senegal	22,5	7,8	4,9	3,3	48,2	1,9	31,2	10,6	82,1	70,0	2,5	-	45,0
Upper-Volta	-	0,4	1,3	-	-	-	-	-	22,0	30,0	2,6	0,3	4,0
Total for the Sahel	24,0	14,4	13,9	3,7	80,2	48,6	108,9	94,8	239,1	446	109,9	148,7	150,8

Source : Trade Annuals, FAO. Vol. 25-28-31.

TOTAL PRODUCTION OF CEREALS IN SAHEL COUNTRIES

1965-77

(in thousands of tons)

	65	66	67	68	69	70	71	72	73	74	75	76	77
Cape-Verde	15	15	11	12	12	12	12	13	13	13	5	4	2
Chad	676	937	744	764	709	777	777	407	507	603	564	569	606
Gambia	42	77	65	86	112	81	106	90	80	110	94	68	51
Mali	892	1 036	1 099	962	1 162	822	1 134	859	709	802	1 012	1 150	1146
Mauritania	50	81	96	84	114	85	83	54	34	57	38	69	54
Niger	621	1 218	1 378	1 271	1 425	1 278	1 243	744	803	1 137	871	1 539	1317
Senegal	374	615	886	537	851	870	870	380	624	954	786	714	540
Upper-Volta	676	937	744	764	709	777	777	407	507	603	564	569	606
Total for the Sahel	3 342	5 094	5 361	4 801	5 418	4 638	5 277	3 418	3 613	4 869	4 627	5 220	4734

Source : FAO, Production annuals.

SAHEL : SELF-SUFFICIENCY RATE FOR CEREALS

1965-77

	65	66	67	68	69	70	71	72	73	74	75	76	77
Cape-Verde	51,7	60,0	57,9	57,1	24,0	33,3	20,3	22,4	27,1	22,4	11,1	12,5	5,0
Chad	82,4	88,5	86,4	86,9	87,5	81,8	89,8	86,5	82,5	90,9	85,5	57,6	54,8
Gambia	99,9	99,7	97,7	98,9	97,9	97,2	98,3	95,5	90,5	87,6	96,8	97,4	95,9
Mali	97,6	98,5	98,8	98,9	97,3	96,4	94,7	92,2	82,0	77,9	89,4	95,3	95,8
Mauritania	98,0	97,5	89,9	87,5	69,1	57,4	52,3	39,4	24,5	31,0	27,7	35,6	27,7
Niger	99,4	99,3	99,2	99,6	103,3	104,1	104,4	104,3	100,0	89,6	101,3	98,2	100,2
Senegal	59,7	73,0	79,7	68,8	73,4	72,2	70,9	57,0	58,4	74,5	78,8	68,2	52,7
Upper-Volta	99,6	99,7	98,7	99,3	98,6	98,7	98,9	97,6	96,2	92,3	98,3	96,8	97,1
Total for the Sahel	91,6	94,8	94,5	93,9	92,6	93,3	90,9	86,8	81,6	83,1	90,1	88,6	85,3

Source : F.A.O.

N.B. : In view of the fact that in most countries customs statistics do not include food assistance - the latter being particularly large for some countries in 1973 and in 1974 - these rates have a tendency to overestimate the self-sufficiency rate.

DEMOGRAPHIC PROJECTIONS
(in thousand of inhabitants)

		1977	1980	1990	2000
1. Cape Verde	Hyp. I	300	318	388	473
	Hyp. II	300	328	441	592
2. Gambia	Hyp. I	530	562	686	836
	Hyp. II	530	579	778	1.046
3. Upper-Volta	Hyp. I	5.865	6.224	7.587	9.248
	Hyp. II	5.980	6.534	8.782	11.802
4. Mali	Hyp. I	6.160	6.537	7.969	9.714
	Hyp. II	6.220	6.797	9.134	12.276
5. Mauritania	Hyp. I	1.496	1.588	1.935	2.359
	Hyp. II	1.496	1.635	2.197	2.952
6. Niger	Hyp. I	5.098	5.410	6.595	8.039
	Hyp. II	5.098	5.571	7.487	10.061
7. Senegal	Hyp. I	5.190	5.508	6.714	8.184
	Hyp. II	5.240	5.726	7.695	10.342
8. Chad	Hyp. I	4.086	4.336	5.286	6.443
	Hyp. II	4.086	4.465	6.000	8.064
TOTAL	Hyp. I	28.725	30.483	37.160	45.296
	Hyp. II	28.950	31.635	42.514	57.135

Sources : 1, 2 and 6 : United Nations Annual - 3, 4 and 7 : National records

Appendix N° 27

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PROJECTIONS OF CEREALS REQUIREMENTS IN THE YEARS
1990 and 2000, PER COUNTRY AND PER PRODUCT

		Reference ratios 1975-77 in Kgs. per person	Amounts available 1975-77 ('000 t.)	Requirements 1990 ('000 t.)		Requirements 2000 ('000 t.)	
				I	II	I	II
				Cape-Verde	M/S	-	-
	Rice	7,6	2,2	2,9	3,4	3,6	4,5
	Maize	112,3	32,8	43,6	49,5	53,1	66,5
	Wheat	13,7	4,0	5,3	6,0	6,5	8,1
	Miscellaneous	-	-	-	-	-	-
	TOTAL	133,6	39,0	51,8	58,9	63,2	79,1
Gambia	M/S	73,6	37,5	50,6	57,3	61,6	77,1
	Rice	88,4	45,0	60,6	68,8	73,9	92,5
	Maize	10,4	5,3	7,1	8,1	8,7	10,9
	Wheat	7,3	3,7	5,0	5,7	5,1	7,6
	Miscellaneous	-	-	-	-	-	-
	TOTAL	179,8	91,5	123,3	139,9	150,3	188,1
Upper-Volta	M/S	181,9	1.061,1	1.138,0	1.597,4	1.682,2	2.146,8
	Rice	5,9	33,2	44,8	51,8	54,6	69,6
	Maize	10,8	60,4	81,9	94,8	99,9	127,5
	Wheat	3,5	19,4	26,6	30,7	32,4	41,3
	Miscellaneous	-	-	-	-	-	-
	TOTAL	202,2	1.129,1	1.533,3	1.774,7	1.869,1	2.385,2

PROJECTIONS OF CEREALS REQUIREMENTS IN THE YEARS

1990 and 2000, PER COUNTRY AND PER PRODUCT

		Reference ration 1975- 77 in Kgs. per person	Amounts avail- able 1975-77 ('000 t.)	Requirements 1990 ('000 t.)		Requirements 2000 ('000 t.)	
				I	II	I	II
Mali	M/S	140,0	797,4	1.155,7	1.278,8	1.360,0	1.718,6
	Rice	24,6	140,3	196,0	224,7	239,0	302,0
	Maize	15,5	88,3	123,5	141,4	150,6	190,3
	Wheat	9,0	51,0	71,7	82,2	87,4	110,5
	Miscellaneous	-	-	-	-	-	-
	TOTAL	189,1	1.077,1	1.506,9	1.727,3	1.837,0	2.321,4
Mauritania	M/S	82,5	118,4	159,6	181,3	194,6	243,5
	Rice	17,3	24,8	33,5	38,0	40,8	51,1
	Maize	5,6	8,0	10,8	12,3	13,2	16,5
	Wheat	14,8	21,3	28,6	32,5	34,9	43,7
	Miscellaneous	-	-	-	-	-	-
	TOTAL	120,2	172,5	232,5	254,1	283,5	354,8
Niger	M/S	240,9	1.191,4	1.588,7	1.803,6	1.936,6	2.423,7
	Rice	4,5	22,1	29,7	33,7	36,2	45,3
	Maize	2,1	10,3	13,8	15,7	16,9	21,1
	Wheat	2,6	12,9	17,1	19,5	20,9	26,2
	Miscellaneous	-	-	-	-	-	-
	TOTAL	250,1	1.237,6	1.649,3	1.872,5	2.010,6	2.516,3

PROJECTIONS OF CEREALS REQUIREMENTS IN THE YEARS

1990 and 2000, PER COUNTRY AND PER PRODUCT

		Reference ration 1975- 77 in Kgs. per person	Amounts avail- able 1975-77 ('000 t.)	Requirements 1990 ('000 t.)		Requirements 2000 ('000 t.)	
				I	II	I	II
Senegal	M/S	110,6	551,8	742,6	851,1	905,2	1.143,8
	Rice	47,3	236,2	317,6	364,0	387,1	489,2
	Maize	12,4	61,9	83,2	95,4	101,5	128,2
	Wheat	27,9	139,2	187,3	214,7	228,3	288,5
	Miscellaneous	12,2	60,9	81,9	93,9	99,8	126,2
	TOTAL	210,5	1.050,0	1.412,6	1.619,1	1.721,9	2.175,9
Chad	M/S	136,5	538,6	721,5	819,0	879,5	1.100,7
	Rice	5,6	22,2	29,6	33,6	36,1	45,2
	Maize	2,5	10,0	13,2	15,0	16,1	20,2
	Wheat	3,9	15,5	20,6	23,4	25,1	31,4
	Miscellaneous	2,8	11,0	14,8	16,8	18,0	22,6
	TOTAL	151,3	597,2	799,7	907,8	974,8	1.220,1
TOTAL FOR THE SAHEL	M/S	155,2	4.252,3	5.728,7	6.588,5	7.019,7	8.854,2
	Rice	19,2	526,0	714,7	818,0	871,3	1.099,4
	Maize	10,1	227,0	377,1	432,4	460,0	581,2
	Wheat	9,7	266,8	362,2	414,7	441,6	557,3
	Miscellaneous	2,6	71,9	96,7	110,7	117,8	148,8
	TOTAL	196,8	5.394,0	7.309,4	8.364,3	8.910,4	11.240,9

Appendix N° 28

SAHEL : THE INCREASE IN CEREALS PRODUCTION NECESSARY
TO ACHIEVE SELF-SUFFICIENCY IN 2000

Hypothesis I

	Production 1975 - 77 ('000 t.)	Requirements in 1990 ('000 t.)	Requirements in 2000 ('000 t.)	Increase Necessary 1975/77-2000		Average annual increase 1975/77-2000
				('000 t.)	%	
Millet & Sorghum	4.155,7	5.758,7	7.019,7	2.864	+ 68,9	+ 2,2
Rice	283,9	714,7	871,3	587,4	+206,9	+ 4,7
Maize	213,5	377,1	460,0	246,5	+115,5	+ 3,2
Wheat	6,0	362,2	441,6	435,6	S.S.	S.S.
Miscellaneous	11,0	96,7	117,8	106,8	S.S.	S.S.
TOTAL	4.670,1	7.309,4	8.910,4	4.240,3	+ 90,8	+ 2,7

S.S. : not significant

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Appendix N° 29

SAHEL : THE INCREASE IN CEREALS PRODUCTION NECESSARY
TO ACHIEVE SELF-SUFFICIENCY IN 2000

Hypothesis II

	Production 1975 - 77 ('000 t.)	Requirements in 1990 ('000 t.)	Requirements in 2000 ('000 t.)	Increase Necessary 1975/77-2000		Average annual increase 1975/77-2000
				('000 t.)	%	
Millet & Sorghum	4.155,7	6.588,5	8.854,2	4.698,5	+ 113,1	+ 3,2
Rice	283,9	818,0	1.099,4	815,5	+ 287,2	+ 5,8
Maize	213,5	432,4	581,2	367,7	+ 172,2	+ 4,3
Wheat	6,0	414,7	557,3	551,3	S.S.	S.S.
Miscellaneous	11,0	110,7	148,8	137,8	S.S.	S.S.
TOTAL	4.670,1	8.364,3	11.240,9	6.570,8	+ 140,7	+ 3,9

S.S. : not significant

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A.2

CEREALS PRICING POLICY IN THE SAHEL

Jacques GIRI
with the collaboration
of Soumana TRAORE and
Claude MARSOLAT

"C'est uniquement le prix des grains qui décide de l'abondance et de la richesse du Royaume."

BOISGUILLEBERT - 1704

"Mémoire, qui fait voir en abrégé que plus les bleds sont à vil prix, plus les pauvres sont misérables, ainsi que les riches, qui seuls les font subsister."

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I - INTRODUCTION

Much has already been written on cereals pricing policy in the Sahel. Few of the studies on the future of the region or the development of crop production failed to address the problem of cereals pricing. More specific studies concerning Senegal and Mali discussed the problem of marketing cereals and raised the question of pricing (eleven missions devoted to this subject went to Mali during the past five years).

Within the Club du Sahel, the problem of cereals pricing incited, more than any other topic, passionate discussions.

Certainly this is a sign that both Sahelians and members of the international community interested in the Sahel felt that this was a key topic for the future of the region.

Nevertheless, the abundance of literature on this subject is also dangerous. Swarmed by often contradictory analyses and recommendations, don't Sahelian officials risk being a bit puzzled and think that after all an empiric policy has its merits ?

This paper does not offer a really new analysis, nor a miracle solution to the pricing problem. Its objective is to make a synthesis of studies already carried out. From the complexity of facts and analyses it tries to extract and organize the ones which seem most important today. Most of all, it hopes to initiate a discussion proposing a program of concrete actions.

Also one aspect of this paper must be stressed : based on concrete facts, thoughts covering problems on the major part of the Sahel are encouraged. However, within this framework, it was of course impossible to take into account many specific local or national situations. Thoughts adapted to each particular situation must of course follow the general discussion.

II - THE PRESENT SYSTEM OF FIXING PRICES

First we shall briefly review how cereals prices are determined in the Sahel today.

All francophone countries have established state organisations responsible for cereals marketing. In four of these countries, this organisation has the legal monopoly of cereals marketing and private trade is theoretically prohibited. This is de facto, because this monopoly is nowhere enforced and it has been estimated that the private marketing sector covers 60%-80% of cereals put on the market. Thus the public and private sectors coexist with the latter apparently prevailing.

Each one of these marketing systems has its own corresponding pricing system. For the public sector, after consulting an ad hoc Committee, the Government fixes each year a buying price for cereals which is the price really paid by marketing agencies ; a sale price to consumers which is the highest price for cereals marketed through the public agency and a price table which determines the cost of every service arising between the farmer and the consumer. Only two countries : Mauritania and Gambia are an exception to this rule and do not fix official prices. Usually official cereals prices are announced in October or November (June for Mali) i.e. in all cases much too late to have any influence on the area cultivated.

The price of cereals on the public market are fixed by supply and demand and are generally unknown. Urban market surveys carried out by national statistics departments usually permit us to find out the price of cereals which transit through these markets. However, there is no data on buying prices from farmers carried out by private traders.

Thus, it is quite obvious that both pricing systems cannot be separated and that private traders do take into account the existence of the official market in their strategy. However, it seems that the interaction of the two systems has not been studied.

This has aroused much criticisms. Some concern the existing structures holding that the public sector does not really possess the means to play its role and carry out its monopoly, others say the opposite, wishing more support for the private sector. Other criticisms concern the system's functioning and procedures for setting prices. Finally, the results have been criticised : since publication of the FAO prospective study, many have deplored the low level of prices paid for cereals to Sahelian farmers.

Before continuing the analysis of current price policies and possible future policies, it would be useful to recall the complex role of these prices in the economy.

III - REVIEW OF THE ROLE OF PRICES

The price of goods can have several roles independent of the economic system chosen :

First of all it is an instrument which at every moment permits the adjustment of supply and demand. This could be called "the short term role".

The supply of cereals in the Sahel is far from being constant. It varies during the year between two harvests. It also varies from one year to another, depending on natural factors intervening eventually to make the harvest more or less abundant. Moreover, it is possible to modify this supply (which is done today in all Sahelian countries) by resorting to external food aid or more or less massive imports.

On the other hand the demand for cereals is much more regular. Thus, each Sahelian country has a problem : should the supply and demand adjust itself liberally through its prices or should other mechanisms intervene to stabilize prices ? This problem can be broken down into two quite distinct problems :

- should prices be permitted to fluctuate to achieve at every instant an equilibrium of the supply and demand between two harvests ?
- should prices be permitted to fluctuate from one harvest to another or should there be a total or partial inter-annual stabilisation ?

Prices also play a role which touch even closer the structures of the economy. Every human community, in order to produce what it needs, is confronted by the following problem : a certain volume of scarce resources are at its disposal - land, water, human effort, production factors to be bought outside (for the Sahelians this means fertilizers and pesticides which must be imported). How are these scarce resources to be distributed among the different possible uses ? Between cereals production for human consumption, other crops or cash crops for partial export ?

The pricing system is an instrument for determining a certain scarce resource allocation with a view to satisfying the community's different requests. The pricing system directs the producer's individual decisions concerning the nature and volume of production factors used. Little by little it determines the structure of the economy. This is what could be called the "long term" role of prices.

In this respect and since it concerns cereals in the Sahel, a series of questions different from "short term" questions arises.

Is the current price of cereals satisfactory ? Does it permit a satisfactory allocation of scarce resources among cereals production and other productions (including other prices verified) ? Is this allocation consistent with the established demand ? Is it consistent with long term objectives (food self-sufficiency) established by the Sahelian Governments ? In this respect should the actual price of cereals be modified and in what way ?

Finally, one is tempted to play the pricing game and particularly with certain major consumer products, a role having nothing to do with the economic adjustment of supply and demand or allocation of scarce resources which could be called a more "political" role and experience shows that many governments in this world do indulge in this game.

For example, cereals prices can be influenced to implement a policy for income distribution among the different social classes which is different from the liberal pricing game.

Maybe one can also use prices to foster the development of certain crops, to foster the use of certain production factors, speed up the transformation of the crop production system, etc...

Thus one can see the manifold role of cereals policies. This multiplicity is so large, that it would not be surprising if, trying to make the cereals prices play too many roles at any one time, one does not fall into contradictions. What roles do cereals prices actually play in the Sahel ? How ? What roles could they play in the future ? This will be examined now, with the so-called long term role first.

IV - PRICES AND PRODUCTION

a) - do current prices encourage production ?

In the Sahel, how do cereals prices currently guide the allocation of production factors to cereals crops ? How do they play the long term role which consists of determining the share of cereals in the farming system ?

The first point made by several experts is that the official prices of cereals during the past years rarely encourage production with a view to marketing such production.

The most striking document in this respect is certainly the one prepared by the General Secretariat of WAEC (CEAO) for the Bamako Colloquy from which the following table can be derived :

Comparison of net cost prices (NCP) and official prices (OP) in Upper-Volta in 1975

(Prices in CFA Francs)

PRODUCTS	1975 Prices	Donkey traction	Bovine traction	Traditionnal farming
Sorghum Millet	NCP	37	32.5	47.5
	OP	18	18	18
Corn	NCP		24	27
	OP		18	18
Rice	NCP			54
	OP			35

Certainly, this comparison can be criticised :

- many questionable elements prevail in the calculation of cost prices ;
- these calculations are made by evaluating the farmer's time at the level of the "Minimum Agricultural Wage". It is doubtful that the farmer reasons this way ;
- one can even question the sense of the cereals cost price due to the fact that their farming is rarely isolated and generally associated with cash crops within a more or less complex farming system where it is difficult to evaluate the part of production factors related to millet, groundnuts, cotton.

In fact, due to the price of different products, the price of different production factors : fertilizer, pesticides, traction animals, agricultural equipment, etc. and the value of the farmer's labor, each farming system has an optimum combination which provides maximum revenue to farming.

Sahelian farmers do not need to know computer programming of advanced mathematics to see that due to the official prices for cereals as they have generally been established until now, they have no interest at all in growing these crops to feed the urban population. Even if the calculations of cost prices presented in the report by the WAEC (CEAO) General Secretariat are questionable, they show that the level of both Voltaic and Malian cereals prices no doubt do not stimulate the farming of these crops for sale (official prices for millet, sorghum and corn in 1978 : 36 Malian francs per kilo and rice at 45 Malian francs per kilo).

The WAEC report also states that the cost price for a pencil includes the re-payment of the machines, the cost of raw material, salaries, etc. but it seems that the establishment of cereals prices does not include any of these parameters⁽¹⁾.

But, if it is really so, how can the fact be explained that cereals offices bought in past years a quantity of cereals at official prices, not a large quantity but some ? It is estimated that state organisations have not generally marketed more than 15%-20% of the total quantity put on the market (see Berg report) but this increased during the past years and reached 71 % in Mali, 48 % in Niger during the 1975-76 harvest.

Is the Sahelian farmer a philanthropist to sow, harvest and deliver cereals at a loss to official buying organisations ?

The main explanation for this paradox is that the typical Sahelian farmer, during a year of normal rainfall and with a security margin, sows enough millet and sorghum to feed his family. If he harvests more than he needs (for consumption and storage in case of bad years) he has a surplus which he is interested in marketing at any price, even at much less than the marginal production price.

(1) It is interesting to note that in 1704 when the low price of grains in France blocked all modernization and intensification of agriculture during recurrent bouts of famine, Boisguillebert already thundered out against the "creators of regulations who imagine that grains are of the same type as truffles and mushrooms and need no effort."

Also in some regions farmers feel more or less obliged by the administration to hand over part of their harvest to the official buying organisation even if the price offered is far from reasonably paying for his labor.

Thus it shows that basically the official price is of secondary importance. Whether it is more or less high, it does not incite the farmer to grow for marketing purposes. This could explain the fact, stressed by several authors who have studied the problem, that a good marketing organisation (for example, a delivery location near the producer) has more influence on the quantity marketed than the buying price itself.

However this picture remains to be corrected by private trade whose buying prices remain quite unknown.

Surveys made in Upper-Volta and Niger by Professor Berg's team have shown that with rare exception, private prices were considerably higher than official prices, often double or triple. No doubt at this level they incite the farmer more.

b) - Supplying cities yesterday and today

Based on this explanation, how can marketing history during these past years be explained ?

During the 1960-70 decade, rainfall in the Sahel was good, even higher than normal. Farmers, having sown with a security margin, had available surpluses. These surpluses were marketed through official channels at low prices (since the surplus exists, the farmer is interested in selling it, even at a low price) and probably through parallel channels but at higher prices. Through these two channels, the urban population was rather adequately supplied with cereals, at prices which usually did not cover a reasonable share of the farmer's expenses nor provide a normal remuneration for their labor.

Drought struck and changed the picture. It forced States to obtain emergency assistance and import to feed the urban population and even the rural one after the latter had consumed their security stocks.

After the drought the previous situation was not totally restored for the following reasons :

- Official buying prices were generally not substantially modified and no doubt peasants did not change their attitude either. Since rainfall was generally not very good, available surpluses were usually not large ;
- Farmers had to rebuild their family or village stocks which were used up during the extended drought ;
- The urban population increased appreciably -4%-6% per year (compared to the increase of the total population : 2%-2.7% per year). In 1960 the total Sahelian urban population was only 1.8 million. In 1978 it is certainly over 4 million ;
- City dwellers kept their rural contacts and thus covered at least part of their food needs in this way. This has decreased, at least in relative value.

Cereals demand has considerably increased while production lagged.
That's why food aid is constantly needed.

c)-Supplying cities tomorrow

All authors agree that in the future the Sahelian urban population will continue to grow. According to the United Nations, the increases will be the following : 4.6 million in 1980 ; 7.5 million in 1990 and 11.8 million in 2000. This will be equivalent to 24% of the total population compared to only 15% today (in 1960 it was less than 10%).

This means that supplying cities with the available surpluses as described above, will no longer be sufficient. The only solution for achieving food self-sufficiency, or even to avoid an increase in the current dependency is to change the supply system and to get farmers to sow much more than they need for themselves with a view to marketing part for feeding the urban population.

Farmers must be economically motivated for this.

All studies carried out by the FAO and the Club du Sahel have shown that food self-sufficiency will be achieved only by changing the farming system, by substituting current farming with intensive farming. This means that the required intensification will not be achieved if each farmer is not economically motivated to transfer from one system to a better one.

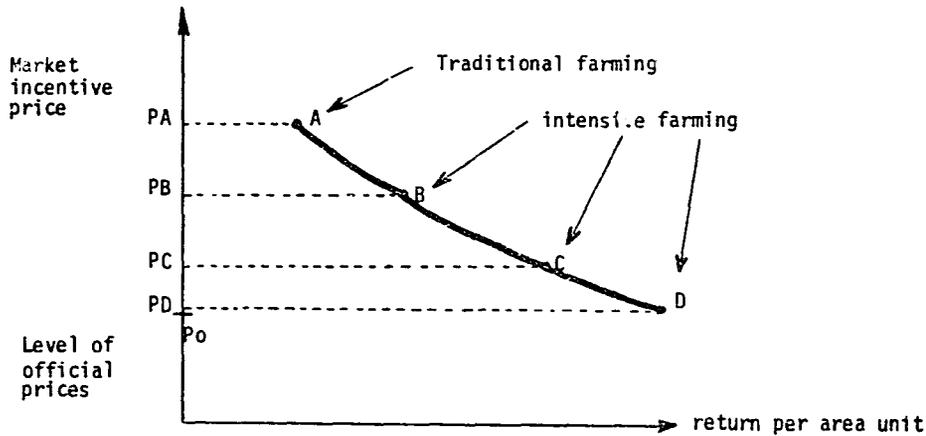
Transferring from one system to another means that the farmer will no longer produce cereals solely for his own use, but for sale. Thus he will compare the income from cereals with other cash crops which he can grow.

Depending on the region, he will compare the net margin per hectare obtained from cereals and other cash crops (when the surface of arable land is a factor limiting production) or income per working day (when production capacity is limited by available labor).

In any case, there is a line which we can call "market incentive price"⁽¹⁾ starting from which the farmer benefits by obtaining part of his income from growing cereals.

Of course this "market incentive price" does not depend only on the current farming system, but also on the selling price of cash crops and buying price of production factors.

(1) In Senegal this line is called "Substitution price" particularly by SUNED. In a way this term does not correspond very well because cereals grown for sale should not be substituted for cash crops in the future, but be next to them.



The above diagram sums up the actual situation. Currently there is an important gap between official prices P_0 and the market incentive price for cereals grown traditionally P_A . The marketing system can collect only surpluses.

Switching over to more intensive farming permits a lower cost price and lowers the market incentive price to level P_B . However, the gap between P_B and P_0 is still too great to motivate the farmer to adopt a more intensive farming system and grow cereals for marketing.

To reduce this gap, one must directly switch to a very intensive and good system D, which is obviously impossible in the Sahel today: the technological jump is too big and certainly system D is overly capitalistic to implement.

Thus the solution would be to increase the buying price P_0 towards P_B and then progressively, along with the modernization and intensification of farming, a price decrease following a decrease of the cost price could be envisioned.

d)-How to transfer from one system to another ?

The most attractive idea to motivate the farmer would thus be to increase the buying rate for cereals so that he would no longer grow millet, sorghum and rice for family use only, but balance them with cash crops.

At the Club meeting in Amsterdam it was stated that cereals crops must become cash crops. No doubt, prices must not be too high so that the farmer will be led to substitute cereals for groundnuts, but he should be encouraged to intensify his cereals system.

Many studies have been made in the world concerning the impact of price fluctuations on cereals production. They all conclude that the flexibility of the cereals supply is limited and generally less than 0.1. But this concerns Asia, South America or Nigeria. No specific study of the Sahel has yet been made.

Professor Berg thinks that farmer response to a change of prices in the Sahel would be relatively strong (compared to other farm products). To support this argument he indicates that food crops and cash crops are easily interchangeable in a large part of the area. Experience in the Sahel apparently supports this; particularly a recent experience in Senegal where the price of millet was increased to 40 F.CFA and ONCAD collected a hundred thousand tons of cereals during the 1978-79 harvest.

Nevertheless the lack of serious studies on this subject in the Sahel should be stressed. This lack is itself related to the absence of available economic analyses concerning different farming systems. This gap currently complicates any forecast of the impact of price fluctuation on cereals production and marketing.

Another possibility to economically motivate the farmer is to subsidize production factors, particularly modern factors: fertilizer, pesticide, equipment for animal traction, etc... Note that this method is already used. In the diagram comparing cost price and official price in Upper-Volta, the price of fertilizer that was used is a subsidized price (the subsidy amounts to 2/3 of the fertilizer's cost price). Despite this subsidy and notwithstanding any doubts about how it was calculated and the cost price of cereals, it is obvious that the official price is far from being an incentive for producing cereals for the market.

Generally speaking, even if the policy of subsidizing agricultural production factors played a positive role in promoting cash crops, experience shows in the Sahel that it has failed to promote cereals production.

In fact, the main interest of this method is to avoid price increases at the consumer level. However, despite considerable advantages it has a certain number of drawbacks :

- First of all drawbacks is the distortion in prices : particularly wasted or badly used production factors which are not paid at their cost price by consumers. Specifically, this rules out total subsidies.
- Second, it induces a more or less complex financial manipulation which means deducting from export earnings to subsidize production factors indifferently for food crops or export crops.
- Finally, it may be doubtful that it is sufficient to create enough economic motivation. The above example illustrates that notwithstanding a large subsidy for fertilizer, official prices for cereals are not incentive. Even if all production factors besides human labor were fully subsidized (which no doubt is not desirable), the cost price of millet and sorghum with bovine traction would still be 25 F.CFA per kilo, which is more than the official price of 18 F.CFA.

Human labor is evaluated at the S.M.A.C. level (minimum agricultural salary). Whatever the value of agricultural labor, in time it can only increase and the objective of the various governments is to raise the standard of living of the rural population, since they cannot indefinitely accept that the difference between them and the urban population continues to grow. It can be thought that in a constant farming system, the share of modern production factors in the cost price will not increase and that the subsidy will stimulate a more or less strong motivation.

The incentive policy for cereals production through subsidies may be a practical solution for the short and medium term (this remains to be proven), but it is no doubt not suitable for the long term.

e) - Possible approaches

How to implement a method, be it a price increase or subsidizing factors ?

An empirical approach comes to mind first : slightly modify official prices, observe its impact and then modify again depending on the impact produced. In the absence of complete and reliable data on farming systems, this approach may seem to be the best suited one. The drawback being that farmers are generally slow in reacting to a relative change in prices.

A systematic approach can also be considered and to seek to determine a price which, even if not applied immediately, would be the goal for a long term equilibrium between urban demand and marketable cereals supply, at least during a normal year. The price would be around the marketing incentive price defined above. The problem is that the latter is located in the middle of a complex system of relations. It is related to :

- existing farming systems in the country with the prices of agricultural production factors, prices of cash crop products ;
- final consumption markets with the price of cereals on the world market, food aid, etc...

The modeling of this system with a view to determine a median price requires the assembling of quite an amount of data. It is a major task, but not unfeasible. In the annexed diagram, an attempt has been made to schematize this system in order to bring out the main relations.

This type of modelling tests were already carried out, particularly in Senegal by SONEC. It permitted to popularize a price which apparently was the origin of ONCAD's successful 1978-79 campaign. Purdue University also prepared one. It is only a first try but leads to differentiated producer prices depending on the region (tests made on 1975-76 generally indicate higher prices for millet and sorghum than those practised before 1978).

Finally, there can be a combination of the two approaches : a systematic approach which would at least permit the determination of a long term price objective and a conservative empirical approach which would take into account the reactions of farmers to changes in relative prices.

V - PRICES AND CONSUMPTION

a) - Price policy at the consumption stage

Until now we were at the producer stage studying the relation between prices and production. What happens at the other end of the line where the consumers are and what is the relation between prices and consumption ?

As the "Pricing, marketing and storage" working group stressed, consumers are the referees of the implementation policy. The supply of cereals grown in the country, whether they go through official channels or parallel ones, is confronted on the market with :

- other food products,
- imported cereals,
- food aid.

Generally speaking, one can say that everywhere, the quantity of cereals consumed, the distribution of traditional cereals (millet, sorghum, maize), rice and wheat, consumption's vulnerability to price fluctuations are not well known. Most authors note an increase in urban rice and wheat consumption and forecast a continuation if not an increase in this tendency during the next twenty years. Senegal, and particularly Dakar, are an exception to the Sahel, because in 1977 90 % of Dakar's caloric intake came from rice and wheat.

Until now the policy of governments was to favor the urban consumer and to avoid passing price increases on to them (for imported or local cereals). This resulted in sometimes massive subsidies as was the case for imported cereals in Senegal, Mauritania and Mali in 1972-74, or smaller ones in Mali in 1978 (9 Malian francs per kilo of millet and 14 Malian francs per kilo of rice).

It has been often stressed, particularly by the "pricing, marketing and storage" Working Group that an increase in consumer prices in traditional cereals accentuates the change of the urban consumer's habits and only leads him to turn even more to imported cereals (or these supplied through food aid), thus constantly delaying the attainment of food self-sufficiency.

The margin for maneuver left to Sahelian officials is, according to the Working Group, very limited.

The ever increasing tendency to perpetuate food aid is parallel to the change in eating habits and can be extremely dangerous. This can be the beginning of a vicious circle which will be very difficult to break : due to lack of motivation, farmers do not grow to feed cities ; the government turns to food aid to insure the supply of food ; food habits change then thus lessening the farmer's chances to contribute to the supplying of cities.

Moreover, most of the experts who have studied the question, recognize that until now the Sahelian governments have used official cereals prices to implement a de facto income policy, prices being established so as not to reduce the urban consumer's buying power (in fact it is the privileged urban consumer who regularly benefits from cereals provided by official channels while another part of city dwellers must mostly buy from the parallel channels which are more expensive) rather than motivating the farmer to increase his production. The composition of ad hoc committees responsible for evaluating the price of cereals is significant in that it consists mostly of consumer representatives.

Thus all analyses show that there is difficulty in increasing prices at the consumer stage. Since it is also recognized that there is a need to increase producer prices, one seems to be a dead end...

b) - What policy for the future ?

In the beginning one can consider whether cereals prices are a mandatory instrument of a policy to protect the income of urban consumers. After all, there are many other ways to conduct an income policy rather than that of permanently subsidizing cereals consumed by urban dwellers. A distortion in the price of a common product has many drawbacks, the main one certainly being to insufficiently inform on the relative cost of products, not including the sterilization of important financial resources.

Moreover, several experts consider that suppressing all subsidies and increasing prices at the consumer level correspond to an increase in producer prices which would not be intolerable to the urban population.

The biggest losers in this operation would be the civil servants who today are the privileged clients of official marketing channels and thus benefit from the low prices, while other urban employees (approximately 10 % of the total population) are often forced to buy at exorbitant prices. In Mali, a short calculation shows that a 25 % increase in cereals prices at the consumer level would lead to a loss in the buying power of civil servants which could be adjusted by a salary increase of 9 %.

Should an operation "truth in consumer prices" be attempted or would it automatically lead to a revolution by urban workers ? The idea deserves to be studied.

Also would an increase in the consumer price of traditional cereals necessarily lead to increased imports of cereals ? All developing countries, and the Sahelian countries first of all, protect their budding industries against the competition of developed countries because everybody knows to what extent new industries are viable, at least in the beginning, confronted with the mass production of highly efficient major world industries. A more intensive and modernized agriculture directed towards cereals production to supply rapidly growing urban markets is also a new activity in the Sahel and it has quite some difficulties in implanting itself. Why shouldn't it also be protected against international competition, at least in the beginning phase ? Western European countries provided an example during their economic start up in the 19th century by systematically protecting their agriculture against American wheat grown cheaply. An exception to this was England and it sacrificed its agriculture. And this was done only after its industrial power was well confirmed with an undisputed advance over the rest of the world.

To return to the description given above, there is nothing abnormal in protecting an agriculture in the first stages of modernization against foreign competition (Part B of description) while agriculture of industrial

countries is located in part D and on. This is even less abnormal since situation B can be considered as a transition phase, the system's modernization continuing normally on towards C and on.

In the opposite direction, the argumentation was developed according to which Sahelian countries should be interested in shopping at lesser cost on world cereals markets and to specialize in agricultural productions for which they are better suited. This argument should be examined but it should be weighed against the security and independence brought about by local food production. Moreover, will Sahelian cereals production ever leave the traditional system for a modern one if it is exposed without protection to international competition today ?

Whatever the method chosen : true prices and protection or subsidizing cereals, the problem is to know where is the optimum level of protection or subsidy for the community. The annexed table, though quite schematic, highlights the complexity of every cereals price policy's interactions and effects on the equilibrium of the balance of payments and the budget.

Here also several approaches are possible. An empirical approach, starting from the current system and acting step by step, observing the reaction of consumers and including the consequences ; or a systematic approach; or a combination of both.

VI - PRICE FLUCTUATION

As was mentioned above, the supply of cereals varies rapidly during the year as well as from one year to the next, while demand is relatively stable on the short and medium term. If no regulating mechanism stretching the supply within a time frame would interfere, the most intolerable price fluctuations both for the consumer as well as for the producer would follow. This control is partially carried out by private traders who buy at harvest time when the supply is abundant, in order to resell later when supply is very low, thus speculating (in the primary sense of the word) which is

not negative, but describes precisely one who contributes to the regulation of market over time. In order to avoid artificial price increases i.e. speculation in the negative sense of the word (a phenomenon always to be feared by traders acting in a society of insufficiently informed people), governments established cereals offices which, among other duties, received that of regulating the market.

Since supplies have until now generally had a reduced role in the marketing of cereals, this regulating task was only partially filled and it has been noted that the supply of urban markets by parallel methods created important price fluctuations.

A certain number of suggestions have been made to correct this. No doubt one of the most interesting ones is the one presented in the FAO report on cereals policy in Mali (De Meel report).

It can be summarized as follows :

- Return to a single market which would substitute the current double market (official and private). This means that private traders will be officially recognized. Agents intervening on the market will thus be recognized merchants, cooperatives and regional rural development organizations;
- Regulation of this market by a cereals office which would intervene within a price bracket, established by the Government theoretically for several years. The duties of this office would then be to :
 - . create cereals stocks (for stabilization and security purposes) ;
 - . intervene in sales if the ceiling price is overstepped ;
 - . intervene in buying if the floor price is overrun ;
 - . operate the monopoly of imports and exports.

Such a system⁽¹⁾ should be able to play a regulating role in the market, on condition that the price bracket is carefully chosen, that a sufficient regulating

(1) It should be noted that the system chosen is of the same type as the one currently in the European Economic Community.

stock is chosen for the start up, that adequate storage facilities are established (in accordance with the price bracket chosen) and that the cereals office has enough financial resources to play its role of buyer and stocker.

If the price bracket is well chosen, framing for example the price-objective described above, then the system would also play an efficient role in encouraging cereals production.

The De Meel report recognizes that a transit period, maybe quite long, is necessary in order to go from the current system to the new one, to insure the singleness of the market and implement a regulatory mechanism.

This regulatory mechanism assures both an annual price regulation and an inter-annual regulation. If the annual regulation does not raise any objections from the experts who studied the matter, things look different for the inter-annual regulation. In particular, Professor Berg notes that variations in cereals harvests can be big from one year to another in Sahelian countries, marketed quantities being low, their fluctuations are even bigger. If there is a succession of good harvests, a large amount of financing will be required to buy and store this surplus. Also, Professor Berg fears that the cereals office may be forced to abandon the floor price which is against the objective and would damage the office's credibility.

On the other hand, if there is a series of bad years, he fears that the office's stocks will be insufficient and that increased speculation not discouraged by the stabilization system will grow up to the limits set by the speculators. Moreover, he doubts that important quantities can be exported in satisfactory economic conditions and thinks that other uses for cereals should be found to absorb the probable surpluses, if it is desired that the system functions appropriately.

It is certain that such a system must be carefully studied and sufficient means provided for its operation.

VII - CONCLUSIONS AND SUGGESTIONS FOR THE COLLOQUE

Many other aspects of cereals pricing policy could be mentioned : differentiation of price according to quality ; differentiation of price according to producing region ; date of publication of buying prices, etc... Without neglecting the importance of these points, this paper has been voluntarily limited to price policies which have seemed to be the most essential ones.

After briefly reviewing the main works on these essential activities, there will be no conclusions, which would be premature, but it should be suggested that discussions at the Nouakchott Colloquy focus on the following points which seem to be key factors for the future :

- a) Most of the works conclude that official prices for cereals do not motivate farmers to produce for marketing. Until now, the supplying of cities was carried out either by the surplus of traders or by private merchants who charge prices higher than those of the official market.

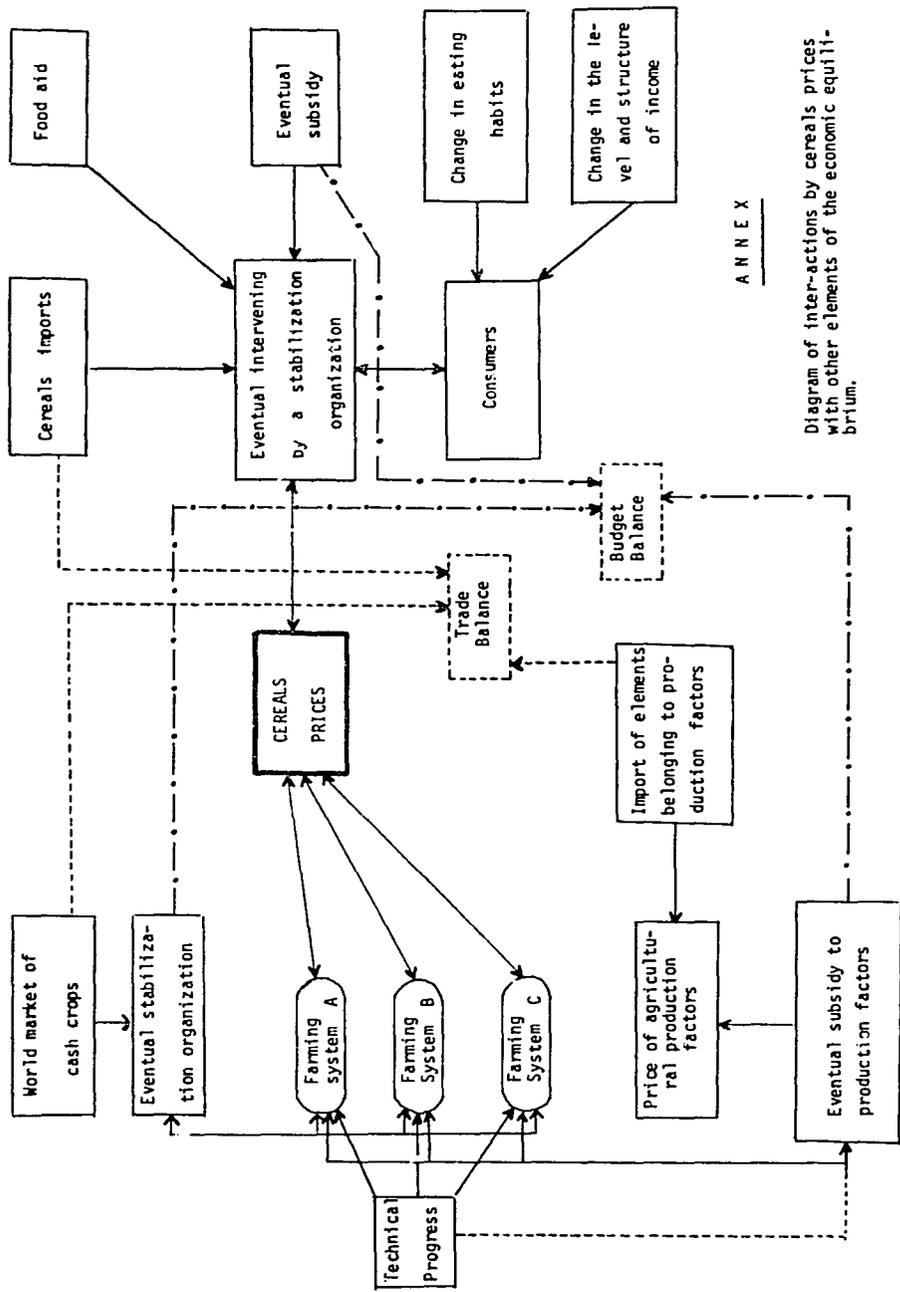
With the ever increasing urban population this system can less and less supply the cities. If the Sahel wants to achieve food self-sufficiency, it should change to a different system where farmers will grow cereals not only for their own needs, but also for cash income. Cereals should become cash crops along with groundnuts and cotton (along with and not substituting themselves for groundnuts or cotton).

To achieve this objective, it seems that cereals buying prices must be increased to motivate marketing by offering a higher price than the actual official one, and which will allow the farmer to obtain income from cereals comparable to cotton or groundnuts.

How to change from one system to another ? At what level should cereals buying prices be established ? This could be the first point of the discussion.

- b) Until now most Sahelian Governments have used cereals policies as a tool in an income policy in favor of urban consumers and led a policy of low sales prices to consumers. The continuation of this policy appears to be hardly consistent with the increase in buying price. Is a progressive increase in consumer prices possible ? Shouldn't this new activity -growing cereals for marketing- be protected as other new activities are protected against international competition ? Thus, protecting national cereals against imported ones ? This could form the second aspect of the problem to be discussed.
- c) The FAO report on cereals policy in Mali suggested an annual and inter-annual stabilization of cereals prices. Can this system be adopted and generalized ? Inter-annual stabilization being considered as dangerous by several experts, should there be only annual stabilization ? This represents a third major point to be discussed.
- d) Lastly, an important point which was not discussed in the present paper : harmonization of national cereals policies. The Nouakchott Colloquy could be an excellent opportunity for discussion. This disparity of prices among Sahelian countries results in more or less clandestine cereals movements among the States which are difficult to control. They upset the implementation of national cereals policies.

Wouldn't it be profitable for all to harmonize policies and progressively reduce disparities ? Isn't there also a certain number of other topics where an exchange of experiences and information would be fruitful for all States ?



ANNEX

Diagram of inter-actions by cereals prices with other elements of the economic equilibrium.

A.3

Marketing, price policy and storage for food grains in the Sahel : a diagnostic survey

EXECUTIVE SUMMARY

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1. Most technicians and officials concerned with grain marketing in the Sahel agree in their diagnosis of the main problems.

a) Policy making is hindered by lack of basic data of the kind generated by ongoing statistical work; by the sparsity of micro-level studies of grain market performance, price behavior and on-farm storage; and by inadequate staff work in policy councils.

(i) The volume of annual cereals production is very imperfectly known because of inherent difficulties in measuring subsistence crop production, because statistical services are understaffed and underbudgeted and because special crop production surveys are few. The volume of cereals marketed is also little known. Most analysts are forced to make arbitrary assumptions about total marketings -- e.g., that 15 percent of the estimated total output is marketed. In most cases, the only firm marketing data are for state grain agency purchases, which rarely cover more than a quarter of the total estimated domestic marketings. Price data are even more scarce; very little information exists on actual grain prices, though it is known that actual producer and consumer grain prices commonly differ greatly from the official prices.

(ii) There exist very few studies of how grain markets actually work; about farmer behavior with respect to production decisions and crop disposal; about on-farm grain storage costs and problems; about price behavior in markets at different echelons of the distribution chain. There are nonetheless many opinions about these matters. Many people believe, for example, that, pushed by needs for money income, most farmers sell grain cheaply at harvest time and buy it back later in the year at high prices. It is also widely believed that farmers are generally indebted to traders, and that they borrow at high real rates of interest. It is also sometimes said that grain markets are noncompetitive, that traders conspire to keep buying prices low and selling prices high. There are, however, reasons to believe that this description of entrapped peasants and noncompetitive grain markets is not generally applicable. Sahelian producers normally have many options when they decide where and to whom they will sell grain. Grain markets seem to be characterized by the presence of many buyers and many sellers. Entry into trade is easy, and people are ready to provide trading services for relatively low remuneration. In addition to these considerations of market structure,

which imply competitiveness, few systematic studies give support to the picture of widespread farmer indebtedness and noncompetitive markets. Some recent research which has been completed in Northern Nigeria concludes that the contrary is true -- that grain markets in that region are in fact reasonably competitive and reveal little evidence of exploitative practices. As yet, no similarly intensive and systematic studies of the structure and performance of grain markets have been done in the Sahelian countries. All observers agree that without the knowledge and insights generated by such studies it will be difficult to elaborate suitable marketing and price policies.

(iii) Grain policies are sometimes made without full use of available information and the insights of socioeconomic analysis. Because of shortages of manpower and other reasons, staff work tends to be inadequate. Policy makers therefore often do not have at their disposal systematic analyses of options and implications on which they can base price policy and marketing policy decisions.

b) Marketing services are deficient. In some countries, traders do not appear to visit villages as frequently as in the past. Transport of grain to primary buying points is often the responsibility of the producers. Credit, off-farm storage capacity, access to off-farm inputs are not easily available to grain producers.

c) Policy objectives are not being met in those states where de jure cereals marketing monopolies exist. The grain market is not "dominated" (maitrisé); producers cannot be guaranteed a remunerative minimum price; prices are not stabilized; private traders supply most of the grain consumed in urban centers and grain deficit regions. Nor has a more orderly and efficient organization of grain markets resulted. In fact, there is almost everywhere considerable administrative overlap and uncertainty. The national grain agencies show various manifestations of inefficiency: frequent storage losses, inadequate transport arrangements, long delays in submission of accounts and reports, large operating deficits (OPAM and OFNACER for example).

2. The only major issue over which diagnosticians of marketing deficiencies differ is the question of farmer behavior and how grain markets function -- i.e., the degree to which those markets are characterized by monopsony, exploitation, inefficiency. These different perceptions can only begin to

be reconciled as more and better information comes from an expanded research effort.

3. On price policy issues, similarly, there exists on a technical level, a broad consensus on what is wrong.

a) Grain price policies have tended to favor urban consumers. Official consumer (ceiling) prices are commonly set too low to cover producer (or market) price plus marketing costs. The operating deficits of some of the grain marketing agencies are one indication. Another is reluctance to raise consumer prices when costs rise.

b) The process is observable in the barèmes or "cost norms", which are used in some Sahel countries for the build-up of official prices from producer to consumer levels. These "cost norms" in the barèmes often do not reflect reality, but depend on political and administrative bargaining. Frequently, when one item is raised, another is cut, so as to maintain the official prices at the consumer level. This is one reason why margins of the national grain agencies are inadequate to cover their costs. In addition to the consequences outlined below, it can lead to grain agency difficulties in purchasing private sector-provided services (e.g., transport in Mali).

c) Official producer prices are frequently announced in October or November - well after planting. This is widely criticized as being unsuitable, since it does not affect the farmers' annual planting decision. But the criticism is unjust. Announcement of prices at planting time would be appropriate only if the grain authority was willing and able to purchase whatever volume of grain was offered for sale. This has not generally been the case in the Sahel, for reasons of finance and storage capacity, among others.

d) The public price structure is not adequately differentiated. In some countries, there is one official price for all the main cereals (millet, sorghum, maize); in most countries, no distinction is made between millet and sorghum prices. No quality differentiation is made, except for rice. Uniform national prices are common at the producer and consumer levels. Many economic problems result. Public sector marketing costs are pushed higher than private sector costs (since the private traders do not buy or sell in the regions of most difficult access), reducing public sector competitiveness. Farmers tend to

sell inferior grains to the public agency. Sorghum production may be encouraged, since yields per acre and per man may be higher for sorghum than for millet. The subsidization of transport costs encourages consumption in distant regions and intensifies use of scarce transport facilities; it also encourages smuggling.

4. Subsidization of grain prices for consumers means that people in towns, many of whom are poor, eat better, and this is a positive result. But subsidizing grain prices in this way is accompanied by a number of less happy social and economic consequences.

a) It can cause major financial disruptions -- large grain marketing agency deficits for example and confusion in public sector financial and price relationships.

b) The domestic costs of these subsidies are mainly borne by the agricultural sector, directly or indirectly. Since export crop levies provide a large share of public revenues, export crop production is less remunerative with consumer price subsidies than without them. To the extent that export crop production falls as a result, there are negative impacts on government revenues, on foreign exchange earnings, on investment and growth. To the extent that food crop producers bear the burden of financing these subsidies, food crop production is discouraged. In fact this often happens directly; the goal of keeping urban food prices low frequently involves keeping prices paid to food growers low, which - to the extent that official prices are paid - reduces the farmer's incentive to produce for sale.

c) The equity effects are negative in two respects: urban consumers are the main beneficiaries and most are already better off than producers of cereals or export crops; and because some grain consumed in urban areas is purchased at free market (unsubsidized) prices, some urban consumers benefit while others do not. Where private traders supply the major share of urban supplies, as is generally the case, the majority of urban consumers do not benefit.

5. If there is wide agreement on the above points, there is considerable diversity of opinion on two major questions:

a) Are official producer prices of cereals "too low?" The evidence suggests that some price-depressing distortions exist (food aid, notably)

but that, by other criteria, it is not clear that official cereals prices in 1977 were generally "too low." Returns to labor are higher in export crops, but the ratios of official cash crop prices to official cereals prices show no general trend unfavorable to cereals in recent years. The agricultural terms of trade were sharply downward from 1960 until 1974. They have since been reversed though in several countries the prices of off-farm inputs have recently risen sharply. Comparison of wage rates with official grain prices does not show that wage earners have systematically done better than grain producers. As of 1977, therefore, there was little strong and general evidence that official grain prices were "too low." The situation however differed between countries, and it may have changed since 1977.

b) Are price fluctuations, both intra-annual (seasonal) and inter-annual (between years), "excessive?" It is often said that distress sales by farmers are common, that many must sell at the times of lowest prices and buy during the pre-harvest soudure, at prices three or four times their harvest level. Analysis of available data on actual market prices does not reveal such wide variations. In most cases, prices diverged by less than 20 percent from the annual average price. The highest price within one calendar year, for six capital cities, averaged 83 percent more than the year's minimum price. The average increase from harvest to soudure is only about one-third this amount. These are much smaller price swings than are commonly said to characterize the Sahel. They do not seem out of line with other LDCs. From the limited data available it appears that potential speculative profits do not greatly exceed estimated storage costs.

6. Sahel governments with de jure state monopolies in grain trading can choose one of three broad directions of policy in organizing their marketing systems: improvement of the present arrangements; a move to fuller public sector control; a move toward lighter, more indirect forms of public control.

7. The "ameliorated status quo" option rests on the view that nothing is basically wrong with the present arrangements; only more resources are needed. This option has advantages: it is easily implemented and there would be improvements in grain agency performance were more money, trained people, trucks, warehouses made available. In those states where the public sector agency plays a relatively minor role (Chad, Mauritania, Gambia) this is

a viable option. For those states where the state grain trading agency is more important in domestic markets, and where the legal position of private traders is uncertain, there are problems with this option.

a) It keeps the private trading sector in an illegal position. This leads to reduced protection and fewer services for producers: risks and uncertainties inhibit trader activities and trader competition is discouraged. The long-term development of trading skills and capital is also discouraged.

b) Stable coexistence of public and private grain trading sectors requires a number of fundamental changes in public policy.

(i) An appropriate price policy must be established. Until now, public marketing bodies have been able to buy significant volumes mainly in years of good harvest, when the official price exceeded the free market price. In bad years the official price is generally lower than the market price, and producers sell to private traders. There are only two ways to avoid this "feast or famine" tendency. The official price can be set at (or higher than) the level dictated by supply and demand, or an effective price stabilization scheme can be implemented. Both possibilities present serious inconveniences. The first implies abandonment of any "positive" price policy; government simply follows the market price. The second, price stabilization, is difficult and expensive, especially between year price stabilization. The reasons are detailed below, paragraphs 14-18.

(ii) The state grain agency cannot pursue a policy of "perequation" - paying the same price to all producers everywhere in the country and charging the same price to all consumers - without incurring operating deficits. The private traders occupy most of the profitable markets and leave the unprofitable over to the state agency. So uniform national pricing must be curtailed if operating deficits are to be avoided.

(iii) So long as uniform national pricing persists, and private traders are allowed to operate, there will continue to be opportunities for smuggling and grain will continue to move across frontiers in response to price differentials.

(iv) Unless the public price structure is made more differentiated than at present, the public grain sector will receive the lowest quality grains, the private traders the highest qualities.

8. The second option is to introduce government monopolies where they do not now exist, and to make the legal marketing monopolies more effective where they exist. Proposals in this direction are in circulation in a number of countries.

9. The arguments in favor are:

a) It would cut the trader-peasant nexus, effectively preventing private exploitation.

b) It could make state grain agency operations more economic.

c) It would remove the "contradictions" inherent in public-private grain trade competition, as noted in paragraph 7 (b) above.

d) It would be a simple extension to foodgrain marketing of the existing arrangements for export crops.

10. The problems with this option relate both to its feasibility and its desirability.

a) The market structure for foodgrain is not the same as for export crops. The growing area is geographically more vast and more dispersed. The bulking function involves thousands of separate transactions. The distinction between producers, traders, consumers is fuzzy. In order for a monopoly to be made effective, it would be necessary to control movement of grain from surplus to deficit regions but, with thousands of individuals dealing in small lots everywhere in the countryside, effective control would seem either impossible or enormously costly and burdensome. Freedom of movement would have to be severely restricted. Opportunities for illegal transactions could multiply, as every bush taxi and bus became the object of official control.

b) The monopoly option raises the critical question of who would replace private traders in primary marketing. Three main alternatives exist: the cooperatives, the rural development organizations and the national grain agencies:

-the cooperative structure is non-existent or weak in most of the region and has the fundamental problem of scarcities of management and accounting manpower.

-the development agencies have as prime task the stimulation of production, with which marketing activities will conflict. This is especially

likely, since experience shows that primary marketing agents in the public marketing system are almost invariably paid too little for the primary marketing activity. Finally, involvement in marketing puts the development agency in a position of potential conflict with the producer, which could also diminish its impact on production.

-the third possible agent of primary marketing is the national grain agency itself, via buying depots or mobile buying teams. The main disadvantage would be that most of the grain agencies have little direct rural contact and a high degree of local knowledge and competence is essential, especially if necessary reforms are introduced, such as quality grading. It would involve considerable duplication of effort, and it is not likely that a buying agency on the scale implied would have the administrative and financial flexibility required for effective grain trading operations. In Sahelian grain trading, diseconomies of scale set in very quickly.

c) A trading system which restricts the role of private traders needlessly absorbs national resources, particularly scarce resources like capital, public revenues, foreign exchange, skill and organizational abilities. A decentralized private trading system tends to be more efficient than public grain trading agencies for a number of reasons.

(i) The private trade relies on a more "appropriate" technology. It draws on human energies and skills developed informally, in the market place. The public trading agency requires formally trained manpower (managers, accountants, clerks, secretaries). Because it tends to be larger scale and more complex, the state structure requires expensive physical capital - offices, warehouses, trucks, cars, etc. - which are much less utilized in the traditional trade. It also requires inputs which may be more scarce than physical and human capital - coordination, organizational capacities and information; a decentralized system economizes on all of these inputs.

(ii) Traders' services are made available to West African economies at very low prices. Private trade is, for many, a part-time activity. Even where it is not, trade has a low opportunity cost; traders do not normally have abundant alternative income earning possibilities.

(iii) Transport services are particularly cheaply provided in the private trade, which is important because foodgrains are heavy in weight

relative to their value. Much grain is carried directly by growers to periodic rural markets. Long-distance transport is frequently provided by "informal" traders - chauffeur of buses and taxis, or travelling individuals. Specialized private transporters economize by quickly adapting to immediate needs and local circumstances - for example in the search for two-way cargoes by bulking delays, mixing cargoes, etc. The state agencies' transport capacities are not so flexible; state vehicles face in particular a very costly general problem of lack of return cargoes.

11. The final option is to move toward liberalization and "light intervention". This would involve legalization of the private trade where it is now illegal. Public grain purchases and sales would be limited to specific and special circumstances - crises, for example, or sales to collective consuming units such as the army or the schools. The state grain agency could provide extension services and information on crop size, prices, road conditions, etc. It might operate a price stabilizing buffer stock. But its interventions would be limited and generally indirect, with most direct trading activity left to the private sector.
12. This option is relatively simple. It places fewest demands on formally trained manpower. It uses trader skills and energies. It avoids most of the contradictions inherent in government attempts to "dominate" the grain market. It would stimulate entrepreneurial development. It also has disadvantages. It may be unattractive doctrinally and politically. It would probably work slowly. It could only work at all if it were introduced in a situation where conditions for its success are present - e.g., no unusual food scarcities and no imposed price structures which make it profitable to behave illegally.
13. It is important to stress that even under a system of "light intervention" a state grain trading agency would have heavy responsibilities, as the following indicative list of possible functions shows: management of a security stock, administration of grain imports during crises or in general; provision of market information; inspectorate functions relating to markets; intervention during localized crises; extension work in grain storage; training and assistance for traders; provision of supplies to the military, etc. It

might also operate buffer stocks to dampen seasonal price fluctuations.

14. With respect to price policy, the central question is: should a "positive" price policy be pursued? Specifically should producer grain prices be fixed at higher than market levels, or stabilized over a period of years?
15. Five underlying factors condition the reply.
 - a) The price elasticity of supply of millet/sorghum is probably low : i.e., higher prices probably do not lead to more than proportional increases in output and marketings. This at least is suggested by the results of most econometric studies which have tried to measure the price elasticity of supply of rainfed foodgrains in other parts of the world. There is however some unsystematic evidence that Sahelian elasticities are higher : when relative prices of millet have risen in some countries, declines in groundnut and/or cotton production have been observed. In any event, even if price elasticity is low, it is surely positive, so with higher grain prices marketed supply will increase.
 - b) Grain production is highly variable from year to year because of variable rainfall.
 - c) Marketed grain supply varies by more than total output.
 - d) The price elasticity of demand for foodgrains is relatively low. Changes in marketed output, therefore, tend to lead to sharp inverse changes in price.
 - e) In normal years, in the interior states, domestic cereals production approximately satisfies domestic demand, except for wheat. Opportunities for import-substitution are few.
16. A positive price policy will induce greater marketed supply. What can be done with this incremental supply?
 - a) It can be sold on the domestic market, but the low price elasticity of demand makes this unfeasible for any substantial volumes.
 - b) It can be stored, but this can't go on forever and is, in any case, expensive.
 - c) New uses can be found - as animal feed, for example. This is a promising possibility, and the search for new uses should be intensified. For the immediate future, however, it does not seem likely that significant quantities of grain could be absorbed in this way.

-it can be exported, but at present only Mali and perhaps the Upper Volta appear to have export potentials, and serious obstacles prevent Malian exports of rice to the main rice importing market, in Senegal, notably, inability to compete against cheap Asian broken. Millet/sorghum may be more competitive. Hence, at least for the next few years, export markets cannot be counted on to provide outlets for surplus cereals which might be marketed in response to higher or more stable prices. It is not clear that the market is of significant size, nor is it certain that supplies would be assured in bad years.

17. Stabilization of grain prices is a frequently-expressed policy objective. Two kinds of stabilization are at issue: within-year (or seasonal) and between-year (inter-annual). Both can be done by buffer stock arrangements. Both can benefit producers and consumers. The former type of stabilization scheme presents no special problems, it is only a question of weighing probable costs against benefits.
18. Between-year (inter-annual) price stabilization, however, is risky and expensive, and has certain disadvantages. Large variations in supply imply large storage capacity requirements. Price stabilization schemes can end up destabilizing prices if the buffer stock is not large; traders will not be convinced that price ceilings can be maintained in a bad crop year, and will be encouraged to speculate. Price stabilization, if effective, will tend to destabilize producer incomes. Most important, there exists a basic contradiction. The purpose of price stabilization is to reduce farmer uncertainty but, for a scheme to be credible, a support price would have to be maintained over a period of years, regardless of harvest size. Thus, a stabilization scheme which effectively increased output by reducing uncertainty would create a financing and storage burden. Holding to a stable price, which is the requirement for reducing farmer uncertainty, prevents price adjustments which might make the stabilization effort sustainable.
19. A "positive" price policy, then, involving establishment of higher than market prices, or stable prices, may not be feasible and, if successful, would probably be costly and unstable. This is due to the difficulty of disposing

of the induced grain "surplus." Macroeconomic consequences would be largely negative. Foodgrain production might expand at the expense of export crop production. Subsidies to foodgrain producers would have to be financed by other sections of the community (or by external lenders) - that is, mainly the export crop producers. The probable consequences are declines in public sector revenues, export earnings, resources available for development expenditure and rates of economic growth. On the other hand, such a policy can generate grain surpluses, should these be desired as part of a food security policy.

20. A special problem of rice-millet competition may arise in the near future, particularly in Mali, which is planning to increase its 1979 rice output by 50 percent over the 1974-75 level; its rice consumption is to increase apace. However, it is not clear how the rice is to be marketed. Exports are not now probable, given the import of low cost broken in the coastal countries, particularly Senegal. Domestic rice consumption increases of the magnitudes envisaged would have to be at the expense of millet. Relative consumer prices would have to move dramatically in favor of rice. However, millet presently costs less than half as much to produce as rice and could become relatively cheaper in the future. Unless investment priorities are reconsidered, Mali may find itself expanding production (rice) so much that it can only be sold by cutting its price below (millet) which is much cheaper to produce. Large social and economic costs could be incurred.
21. Senegal, the Sahel's biggest cereals importer, has recently put forward a new proposal to import-substitute foodgrains on a massive scale. But the proposal takes inadequate account of labor and land constraints to production, which is to say that it does not recognize that expansion of cereals output can at present only be achieved at the expense of export crop production. Also, relative prices to producers now strongly favor groundnut production. Thus, according to this proposal, Senegalese consumers should reduce wheat and rice consumption and vastly increase millet and maize flour consumption, while Senegalese producers are to increase rice and millet production. With rice there is no consistency problem: higher prices can reduce consumption and stimulate domestic production. With millet, however, higher prices to

producers will be needed to stimulate production and sale, but lower prices will probably be needed to stimulate consumption. Subsidies on the scale implied would be highly anti-developmental, but the proposal does not raise this issue.

22. Nor does it raise the question: what price import-substitution? Senegal has comparative advantage in groundnuts. Senegal's national income, rural sector-generated income, government revenue (and hence development spending) and the rate of economic growth are higher with specialization on groundnuts than they would be if the groundnut/food crop mix is shifted in favor of food crops. This can change and may be outweighed by the desire for food security, which has high social priority. However, to minimize the social cost of an import substitution program, the targets could be modified, the timing stretched out and the concept of "self-sufficiency" broadened to include imports from neighboring states. Research and extension efforts should be lavished on rice and millet production, so as to relax the technological constraints which exist. This would allow a more soundly-based import-substitution process, a less costly move toward food self-sufficiency.

A.4

SOME THOUGHTS TO BE CONSIDERED IN DEFINING A CEREALS
POLICY

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The elements which are briefly analyzed in this report aim only to supply material for discussion in the context of the indispensable approach to the definition of a cereals policy. A cereals policy can only be created as a result of a synthesis of all the elements which must be taken into account throughout the process from production to final consumption via all the intermediate stages such as marketing, transport, storage, industrial and small scale processing distribution.

These elements in particular complement the basic report which covers the price policy for cereals in the SAHEL.

Jean Charles LEROY - CEC BRUSSELS

Mai 1979

Cereals produced in agriculture depending upon rainfall only, and cereals produced in irrigated agriculture.

Irrigated agriculture could be the panacea for the SAHEL countries since it would eliminate the dominant weather factor, drought, whose vagaries and uncertainties seriously affect agriculture.

Considering the prospects for the year 2000, a very simple reflection leads one to think that things will be completely different for many reasons determined by the constraints. The main constraints are as follows :

- water availability, linked to large costly civil works,
- the natural geographical distribution of sites suitable for irrigation and their consequences for the farmers (1),
- the limited number of sites suitable for irrigation, the time need for construction and the average annual capacity to absorb these facilities.

According to CILSS/Club du Sahel estimates, it would appear that between now and the year 2000, the areas which are suitable for irrigation (2) add up to about 620,000 hectares. The areas now being cultivated cover 250,000 hectares. At the price of a gigantic development effort, if a program of 620,000 irrigated hectares is completed by the year 2000, we can estimate that the cereals production would reach 2.5 million tons. Overall demand is 11 million tons. So, at first glance, it is clear that the remainder of the demand must be met by rainfed agriculture, that is 80% of the total. Next, it is also clear, taking into account the expected population growth (3), that 20% of the cereals will be produced by 10 to 12% of the rural population, (80% of the total population).

(1) Nearly 50% of the potential irrigation sites are in Senegal.

(2) Completely controlled irrigation making it possible to eliminate weather uncertainties.

(3) Two population growth hypotheses (2.5 and 3%) corresponding to two estimates for the number of inhabitants (45 or 57 million for a present figure of 28.9 million).

By exaggerating this reasoning, we see that 50 to 60% of the rural population would be able to provide self-sufficiency for cereals, by using irrigated areas. There are two problems for such a situation : where to find land suitable for irrigation, what new agricultural activity or non-agricultural activity for the 40 to 50% of the farmers ?

These few examples linked to the constraints mentioned above tend to demonstrate that it would appear to be inconceivable to oppose the two choices : rainfed agriculture or irrigated agriculture, but, to the contrary, it is indispensable to continue the simultaneous development of these two production methods.

There are two necessities :

- to mobilize the financial resources which are indispensable for constructing costly hydro-agricultural infrastructure and to provide training for farmers,
- to supply farmers depending upon rainfall with the appropriate support to minimize the consequences of weather uncertainties.

Cultivation under rain - what strategy to develop in the SAHEL context ?
The cultivation-fallow cycle.

Cereals, essentially sorghum and millet, have constituted, and still constitute the historical agricultural base for the SAHEL and North Sudan zone. To date methods for cultivating and exploiting the soil have made it possible for the land to remain productive. The practice leaving fallow part of the land, practiced according to variable standards corresponding to different ecological areas, has made it possible to preserve production, given the context of the climate and weather.

An environment to balance according to the fallow land principle, must be established between man's needs represented by farm products, animal raising, on one hand, and the requirements in land which are suitable for cultivation or pasturage to obtain these products on the other hand. The fallow land practice is the most economical method for restoring

the soil : it actually requires no investment (1).

The fallow land principle was a step in the practice of itinerant agriculture. In this practice, the cultivation/fallow land cycle developed by a society tends to exploit the land for permanently maintaining a satisfactory level of fertility. Actually, although the degradation process is stopped in time, the fallow land principle makes it possible to reconstitute the soil : the spontaneous vegetation, denser than the cultivated plants, and whose presence is permanent, preserves the ground from violent rainfall and overly intense sunshine ; under the vegetation is created a cool, damp microclimate which tends to develop humus. With its deep roots, the vegetation raises the level of mineral elements ; in this way, the soil is slowly reconstituted. The advantage of this practice is that it requires a little work. However, in spite of its apparent simplicity, this method raises complex problems both in the agricultural field and in the land use and human field. Everyone knows that there are close links between family and land structures.

Since the beginning of the century, with the European colonization and influence, new circumstances have profoundly modified traditional organization. Among these circumstances, except for those very important ones concerning the administration system, the introduction of cash crops (essentially peanuts and cotton in the Sahel region), and the setting up of systems for protecting human (and animal) health limiting the disastrous effect of the major human (and animal) diseases, have very broadly contributed to the destruction of the historical equilibrium which had been established between the population and the fertility of farm land. It is not our purpose here to make value judgments concerning the evils or advantages of colonialism. But, today, we cannot help but see the emergence of new factors which are deeply upsetting the historical system, and we must search solutions to face the new situation.

Observing the landscape in the SAHEL and SUDAN Sahelian zones, we clearly see a process in which the reaction of desert land is accelerating. The two main

(1) Considerable data on "Use of the fallow land principle in tropical Africa" were extracted from the work of Suzanne JEAN (Edited by the National History Museum).

causes are :

- the continuous population increase because of the high birth rate (2 to 3%) (same phenomenon for the herds),
- the development and extension of surfaces reserved for "industrial" crops, cash crops, essentially peanuts and cotton.

Can we reasonably expect to contain, or to minimize these two phenomena which would imply : (1) birth control, (2) limiting cash income for rural producers.

If not, we must adapt ourselves to the new situation and try to solve the problems within the SAHEL climate context knowing, as indicated in the beginning of this document, that the generalization of irrigated farmland is not possible.

In fact, if the fallow land was for a long time the farmer's solution to the severe agricultural conditions, it is not the only solution. In fact, we can imagine today going from the "self-regeneration" technique for soils, to "active-regeneration" techniques.

With this in mind, three farming processes, depending upon rain, can be mentioned :

- temporary farming with fallow land, practiced until now and seeming less and less practical because of the demographic pressures and the development of cash crops,
- semi-permanent farming with fallow land + fertilizer, this is a semi-intensive farming system,
- permanent farming with fertilizer, this is the real intensive farming system.

The choice of one of two systems, intensive or semi-intensive, can be made based upon considerations linked most often to population density. At this time, these two systems are already practiced either in high population zones, or when the farmers go into "modernized" cultivation of peanuts and cotton. This intensive agriculture, therefore, does not result from a deliberate agricultural

policy but from an unescapable requirement in one case (excessive population density), or for immediate income reasons (extension of cultivated land to cash crops).

The advantage of a good policy is to prepare for the future and not to go to intensive production systems when population growth has had irreversibly disastrous effects, which, by extending cultivated surfaces and increasing the need for fire wood, lead to creation of new deserts. This process is aggravated by all the phenomena linked to run off in the rainy season which degrades soils generally.

To define a policy which is applicable, one assumes having the human, material and financial resources necessary. So we must be conscious that setting up an "active regenerating" system, unlike the "self-regenerating" system, requires a major investment in the above-mentioned resources, particularly :

- training of personnel who can provide simple explanations and extension services to rural communities - training of farmers,
- supplying of equipment and indispensable inputs to obtain high productivity,
- sufficient cash income in rural communities so that they can afford the equipment and inputs which they need,
- major research efforts and particularly applied research to obtain high performance according to local conditions.

Within the framework of a semi-intensive or intensive production system, there is an equality of advantage for all the crops produced. Permanent or semi-permanent cultivation requires crop rotation in which the cereals crops must be considered in the same way as the other crops since they will necessarily have a production "cost". Their overall production, at the level of a nation, will depend upon the advantage which they provide to the producer, and, identically, the comparison which may be made, on an income basis, between the various agricultural options, at a given level of technicity. There are the elements which are indispensable for the determination of the purchase price to the producer.

These few elements which it is a good idea to take into consideration for defining a SAHEL agricultural development strategy, when dependent upon rain, and particularly for cereal production, lead one to feel, based upon realities and constraints of today, that the application of an agricultural policy will require an enormous effort in terms of equipment and financing of inputs.

Facing up to this reality, it is evident that in the SAHEL, rural communities do not have the financial capability to meet the requirements of intensive agriculture. So, it must be provided to them.

There are several schools of thought on this subject :

- the subdivized system whose process had been described in a special report weighing the advantages and disadvantages,
- the system which can call the "fair price" system, in which the producers procure all the inputs which they need at their actual cost or sales price. Under these conditions, the production costs must be estimated at their fair price so that producers' selling prices are established which make it possible for them to pay the cost and to receive appropriate remuneration for their work. The present disadvantage would be the repercussions on the consumer of higher cereals prices,
- the mixed system which at the same time uses part of the subsidy with the inputs moderated for the producers, which in a limited way increases the buying prices and selling prices, but which may also require subsidizing the selling price to the consumer. Finally, the overall deficit of the system must be taken over by the national budget,
- a common cereals (and also meat) marketing organization among several nations (CEAO - CEDEAO) which would make it possible to protect the internal market and would ensure the producers of the sale of all the available production. Its evident consequence would be a substantial increase in selling prices of cereals to the consumer in comparison with present prices.

This list is not necessarily complete because it is always possible to fit together or combine several systems. However, whatever approach is chosen, it will be necessary to transfer to the level of the peasant world, part of the national resources including financial resources. In this field, credit to farmers seems to be an indispensable component of a cereals policy. Gradually, the introduction of a credit system making it possible to obtain the necessary resources to give SAHEL farmers the equipment and working capital required should make it possible for them to become responsible economic entities in terms of their farms, therefore, capable of making choices concerning their production based upon the advantage which they expect to gain with regard to market prices.

This concept of credit to agricultural production naturally assumes a national policy which is less directive in the choice of investments destined for the agricultural sector. In fact, it is opposed to an agricultural development policy based only upon the implementation of individual limited projects, as is now most often the case.

Cereals policy is one of the fundamental elements of food policy.

Food policy must take into account the most evident aspects of nutritional balance desirable for the majority of the population. In terms of overall economics, it must also take into account all the activities concerning not only production levels and consumption levels, but also foreign trade and particularly the import of food products.

Food aid must also be very carefully evaluated. A special report has been written on the subject in which its advantages and its disadvantages are described.

Given the trend over these last years to substantially increase cereals imports into the SAHEL from outside Africa, a food plan must take into consideration the secondary reactions which this situation may bring about. We can particularly ask ourselves what will be the impact of imported cereals on the consumption patterns of the majority of urban consumers, and in particular, on the increasing share of wheat flour bread in the food consumed.

Attempts must be made to arrive at industrial or small scale processing of traditional cereals into finished cereal products (flour, couscous, semolia, etc...) which may be substituted for imported cereal products. Depending on the impact of these products on the consumers, it is possible and indispensable to orient production towards cereals most in demand.

Within the framework of an overall food policy, the cereal plan cannot neglect the prospects which in time may make it possible to export certain cereals or certain products made from them. With this in mind, we can easily imagine that the cereals, until now considered as "food crops", become "cash crops" in the same way as cotton, peanuts, or coffee! The world's needs are immense and the new petroleum producing countries are major importers, and they have the necessary financial resources to buy!

A.5

CEREALS MARKETING

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S U M M A R Y

Page

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INTRODUCTION

To assure cereals security for their populations and to avoid large fluctuations in supply and thus in prices from one year to another, the Sahel countries have taken a number of measures over the past decade.

These measures can be grouped around four themes :

- Strategy : the definition of a cereals policy
- Institutions : the creation of public cereals marketing agencies
- Regulation : fixing of prices and definition of conditions for marketing
- Logistics : construction of storage facilities and constitution of buffer stocks.

Each state has put efforts more or less in each of the above domains based on its own development objectives, its resources, foreign assistance and above all its own basic choice among options. The results obtained have led each State to modify its system or strengthen it. Thus, each State is a particular case whose solutions cannot be transposed without risk to another State. Therefore, we will not try to study the functioning of the cereals system in each country.

We propose to adopt another approach, global in character, which consists in :

- first, establishing a diagnostic of the situation,
- second, examining the different options which cereals authorities have to organize their cereals economies, and
- third, to propose a method for preparing a truly integrated cereals, agricultural and food policy.

CHAPTER I

DIAGNOSTIC

Critical Analysis of Present Cereals Policy

- I - Do cereals policies exist ? (1)
- II - The public cereals agency : main tool of cereals policy ?
- III - Limited and disturbing results for the future.

(1) The study of pricing and storage are the subject of separate reports.

I - DO CEREALS POLICIES EXIST ?

Official documents emanating from Ministries of Rural Development, Planning, Commerce and Finance, as well as reports on the cereals economies of Sahel countries, contain all the important elements for the definition of a cereals policy aimed at food independence either total for the better endowed countries, or partial for those able to compensate for deficits by paying for imports from receipts from other agricultural or primary resources exports.

The aims of such a cereals policy are briefly :

1. to develop cereals production
2. to control the marketing of cereals
3. to assure decent revenue to cereals producers and incite them to market more produce
4. to assure a low price to consumers compatible with income policies
5. to assure cereals supplies for urban centers and zones structurally or temporarily in deficit
6. for countries capable of doing so, to develop exports

When countries establish development plans, they generally include a chapter on cereals production or food equilibrium.

Certain countries have made thorough studies of the conditions for increased production and the resources needed to make such production less risky. Mali prepared a Cereals Plan based on a division of the country into ecologic zones. The plan determines the level of production possible based on improved yields and increased acreages in view of the food needs of an increasing population. From these calculations are determined the amounts autoconsumed and marketed. Unfortunately, such plans are often too ambitious and most of the time only partly implemented. However, they permit an estimate of

investments needed and agricultural development activities to promote. Donor sources can probably find in them development activities that they wish to finance to assist these countries in difficulty. However, the absence of reliable agricultural statistics does not facilitate that work and makes the proposals based on existing information uncertain. Nonetheless, we do not believe that failing is the most important factor.

In reality, the essential point is the difficulty of going from objectives to implementation in a tenacious, continuous and efficient manner (supported by political will). A good illustration can be seen in looking at cash crops, mostly cotton and peanuts. We see that for them considerable effort has been made since 1960 both in production and marketing, and sizeable results have been obtained. As sources of foreign exchange and income, these export crops are better treated by the public authorities than cereals production which is aimed at food independence and security.

Thus, cereals deficits which have appeared and in recent years have progressed are often due to the increase in acreages given to export crops. Starting in 1972, the drought spotlighted this slow stagnation of food self-sufficiency due to production. Despite the impression of information, it is estimated that the increase in cereals production has been clearly less than demographic increase. Rural migration to cities which is high in some regions reduces more the only factors capable of maintaining cereals production: the size of the work force and of acreages cultivated in cereals.

Despite declarations of intentions, cereals policies and plans, the reality of the cereals situation is dramatically distant from the objectives that the countries set for themselves.

Two explanations can be proposed concerning this situation:

- i) - The policies were too piecemeal, not global enough, and did not take account of all the essential factors needed for success.

In this perspective, Senegal in its 1974 Law-Programme for Food has made an innovation by promoting a series of investments designed to reduce the food deficit of the country. By making food equilibrium an objective, the authorities could draw all the consequences and define essential sub-objectives : develop exports in the rural sector to increase foreign exchange; substitute local products for imports mostly by increasing cereals production; and changing conditions for food processing and distribution to reverse tendencies towards consumption of imported cereals.

By working on all elements in the chain - Imports, Production, Marketing and Consumption, the Government has increased its chances of success.

- ii) - The policies were properly formulated and the objectives were well defined but measures to implement them were not followed up or were insufficient and did not bring the results expected, or it was impossible to mobilize resources needed for the objectives set. In the rest of this chapter we will examine this second approach.

But, as of now, we note that cereals policies have suffered simultaneously from two problems :

- a lack of coherence between Production, Marketing and Consumption
- difficulties, sometimes insurmountable, in implementing plans.

II - THE PUBLIC CEREALS AGENCY - MAIN TOOL OF CEREALS POLICY ?

In their desire to "control" cereals marketing, persuaded that traditional marketing could not adapt itself, believing that traders could exercise excessive power over farmers and consumers, the governments have based their cereals policies on the creation of public cereals agencies with regulating powers to organize and regularize cereals marketing but such agencies were not always given financial and material resources needed for such programs.

2.1 - Public cereals agencies (1)

In all of the francophone Sahel States, there exists a public agency responsible for cereals marketing and for other food crops. Sometimes these agencies are responsible for marketing cash crops, too, and exporting them as well as marketing imported cereals. Their functions are multiple and can extend to the implementation of food security programs including imports, storage and distribution.

One can note :

- Office of Agricultural Products of Mali (OPAM 1965)
- National Office for Cooperatives and Assistance for Development (ONCAD) in Senegal (1965)
- National Cereals Office (OFNACER) Upper-Volta (1971)
- Mauritania Cereals Office (OMC) 1976
- Office of Food Crops (OPVN) of Niger 1970
- In Cape Verde an agency is being created.

(1) This paragraph is in part taken from the FAO Report by Coudert (1978)

Until now the cereals market was dominated by imports because of low production with very small quantities marketed officially.

- Cereals Department of the Development Fund and Rural Action (DC/FDAR) in Chad (1968) (2)

In four countries : Mali - Senegal - Upper-Volta and Niger, the Official agency has a legal monopoly on the market. Laws, acts and decrees govern the private market which is subject to license or approval by diverse authorities. This situation is not always clear and, in reality, the legal monopolies have never been effectively imposed.

With the exception of specialized agencies to promote and market cotton, almost all the state organizations participate more or less in the marketing of cereals, notably their import and distribution. This use of technical infrastructures which exist is logical but sometimes leads to confusing situations. For example, in Upper Volta SOVOLCOM is in opposition to OFNACER concerning the monopoly of marketing and distributing rice. The two organizations have different sponsoring ministries.

In the Gambia, where official intervention is small in marketing cereals, the Gambia Produce Marketing Board (GPMB) has a monopoly on importing rice and organizes distribution through the mixed company, National Trading Corporation (NTC).

(2) - Starting October 1978, in principle, the attributions of the Cereals Department will be progressively transferred to the National Cereals Office (ONC) of Chad. The decree concerning the statutes of ONC should be published soon. ONC will manage the national cereal reserve stocks.

In most countries, official agencies assure part of their functions by calling on private enterprises. In general, qualified traders are approved by officials and obtain a license to carry out collection and distribution operations at official prices.

Generally, this system operates satisfactorily and permits the use of infrastructure, qualifications and contacts of traditional traders. For example, in the Gambia, permits to buy peanuts and distribute rice are awarded by GPMB.

In Mauritania, SONIMEX provides imported rice to approved wholesalers who distribute it at official prices. The Mauritania Cereals Office does this for emergency food assistance. In Senegal, ONCAD distributes imported rice through approved commercial outlets. Such examples prove that more cooperation is possible. It could permit public agencies to reduce their costs and institutional deficits.

In the Sahel, organizations which market cereals try to enlarge their portion of the market so as to reduce their unitary costs. They also try to develop profitable ancillary activities. For example, OPVN in Niger exports niébe to Nigeria, OFNACER in Upper Volta buys cereals in Ghana to resell them at a profit locally. In Mali, OPAM's fruit and vegetable operation has developed with success the commercial export of peppers and mangos by air to Europe.

According to the Author of the F.A.O. report, the evolution of the Sahel's economic situation in a regional context may lead to a modification of the respective situation of private and public sector operators.

2.2 - Objectives of public agencies

Two examples illustrate the objectives of cereals agencies.

- . The Office of Agricultural Products of Mali exercises its activities over the cereals and agricultural production market and has as its objectives the purchase, conservation, transformation, commercial representation and sale of millet, rice, corn, wheat and all cereals and agricultural products not under the monopoly of other State organizations.
- . The responsibilities of the Office of Food Crops of Niger (OPVN) are as follows :
 - 1 - to organize the marketing of basic food crops (sorghum, millet, corn, wheat, niebe, etc...) and to help improve production.
 - 2 - to establish annual estimates of food resources and needs, and based on such estimates propose storage and import-export operations of basic foods, and to control the implementation of such programmes.
 - 3 - to build buffer stocks to :
 - a) stabilize prices to producers and consumers
 - b) assure inter-regional equilibrium in food resources and needs for the interior of Niger, and
 - c) to participate in a multinational programme of price stabilization and coordination of commerce.
 - 4 - to make useful proposals aimed at organizing and controlling the markets of basic foods and derivative products.
 - 5 - to create and guide the operations of enterprises involved in the processing of basic foods within the framework of conditions set by the government.

- 6 - to take charge of the preparation and execution of food aid programmes provided by national and international resources.
- 7 - to encourage and assist the cooperative movement.

III - LIMITED AND DISTURBING RESULTS FOR THE FUTURE

If we refer to the general objectives of cereals policies, we can see that they are far from being reached.

If we consider the resources mobilized to attain such objectives whether institutional, legal, logistic or organizational, we see that they have not led to a control of the cereals market, even if in certain countries the results have been relatively satisfactory.

First, we will prepare a synthesis table for each cereals policy objectives and the results obtained.

Second, by reference to a report prepared by FAO at the request of the government of Mali, we will describe why and how different methods used in that country have not led to the results hoped for.

3.1 - Results by objective

3.1.1 - To develop cereals production

The table on the following page groups overall information characterizing the eight CILSS countries for the past 9 years. We note that :

- for the 8 countries :

- cereals production went from 4,077,0000 tons in 1970 to 3,222,000 tons in 1973 and 4,734,000 tons in 1977.
- imports of cereals went from 423,000 tons in 1970 to 1,190,000 tons in 1974 during the drought and 731,000 tons in 1977.
- food assistance was 24,000 tons in 1970 grew to 826,000 tons in 1974 and down to 147,000 tons in 1977 but was in net increase in 1978.

SOME OVERALL DATA ON THE CEREALS ECONOMY OF THE EIGHT CILSS COUNTRIES
(in thousands of tons)

	years								
	1969	1970	1971	1972	1973	1974	1975	1976	1977
(i) PRODUCTION	4578	4077	4517	3418	3222	4869	4627	5220	4734
(ii) IMPORTS	510	423	596	572	873	1190	408	713	731
(iii) AID	-	24	56	249	623	826	173	213	147
(iv) TOTAL RESOURCES	5088	4524	5169	4229	4718	6885	5208	6146	5612
(v) EXPORTS	79	88	67	51	44	34	43	48	50
(iv-v) AVAILABLE FOR CONSUMPTION	5009	4436	5102	4178	4674	6851	5165	6098	5562
(vi) POPULATION (in millions)	-	23,8	24,4	25	-	-	26,8	-	28
(iv-v/vi) CONSUMPTION PER PERSON (in kg)	-	186	209	167	-	-	192	-	199
(i)/(iv-v) TOTAL PRODUCTION NET RESOURC	91%	92%	88%	82%	70%	71%	90%	86%	94%
(vii) OFFICIAL MARKETING (except Mauritania)	-	77	57	95	74	132	231	287	-

Source : FAO report "Pre-feasibility study on emergency reserve supplies in the Sahel on the national and regional level (CILSS)" by Y. PAGES.

CILSS/CLUB du Sahel study "marketing, price, policy and storage of cereals in the Sahel", University of Michigan, August 1977.

- During the period 1969/1977, the Self-Sufficiency Rate for Cereals (SSR) followed the following trend :

Percentages

	1969	1970	1971	1972	1973	1974	1975	1976	1977
S.S.R.	91	92	88	82	70	71	90	86	84

$$(1) - S.S.R. = \frac{\text{Production}}{\text{Production} + \text{imports} + \text{assistance} - \text{exports}}$$

Thus the cereals economy did not reach the SSR of the 1970's.

- The trend of net production and resources can be measured by the average of three years which preceded the drought and by the three more recent years.

	Average 69-70-71	Average 75-76-77	Over 7 years	(1)
Production in 000s of tons	4 391	4 860	+ 11 %	+ 1.3 %
Net resources in 000s of tons	4 849	5 608	+ 16 %	+ 1.9 %

(1) Variation rate for one year compared with the preceding.

These differences clearly show the failure of cereals policies which have led the States to rely permanently on imports and foreign assistance, but, at the same time, they show that the need is for sustained efforts concentrated on increasing production.

3.1.2.- Controlling the cereals markets

"Traders" have a dominant position even when agencies have been set up. It should be noted that from 15 to 20% of the production is marketed. The part handled by the private sector is between 60% and 80% of the total amount of cereals marketed.

The prices noted in urban consumption markets are regularly higher than the official sales prices laid down by Governments.

A small proportion of town dwellers can buy their cereals at official prices : civil servants, public services and, to some extent, members of consumer co-operatives, when the latter exist.

Imports and massive aid deliveries have upset markets and disorganized some public offices, which have been unable to cope properly with the large tonnages, owing to insufficient storage capacity. This has proved to be an advantage to others.

3.1.3 - Assuring cereals producers with equitable income and encouraging more marketing of cereals

During the period 1969-1976, official prices for production went from an index of 100 to 187 (1) on the average for the three countries which, since 1969, fixed an official price for a crop year (Mali, Upper-Volta and Senegal). This represents a growth rate for one year compared with the preceding year of 7% each year. During this same period, the retail price index for these countries increased by more than 8%. Furthermore, these prices are not applicable to sales effected by peasants to the offices. We have seen that this only represents 30% of sales.

(1) Index based on Table IV, Volume I of CLUB/CILSS, Diagnostic Study by CRED - University of Michigan, U.S.A.

For the 70% purchased by traders, very little is known concerning prices. At some periods of the year, and depending on the year, they are either lower than the official price, which penalizes the peasants, or above it, which is to their advantage.

And so, it is impossible to state that the target of an equitable income for peasants and producers has been achieved by the action of cereals boards or offices.

The fact that the official network is incapable of buying sufficient quantities of cereals seems therefore to be more disadvantageous to peasants than the price itself.

There is therefore no great incentive for peasants to sell more cereals. Neither of the two elements determining a producer's decision, namely a good price and the certainty of finding a buyer, is assured.

Moreover, in some countries, like Mali, it is not a question of incentive but of obligation. Fixing a quota per village or per geographical zone is considered as an authoritative and compulsory measure from which it is very difficult to escape.

3.1.4. Assuring cereals supply for urban centers and deficit regions

During normal climatic periods, domestic production and imports permitted the traditional and the official markets to meet needs.

During the drought food assistance was substituted for local production but did not always permit all zones to have well balanced nutrition: the quality of cereals, the insufficiency of certain transport networks and lack of storage and organization were the main causes for this.

3.1.5 - Assuring a low price to consumers compatible with income policies.

It is probable that the cereals system functioned the least well here.

In countries where the traditional market is the only one to assure supplies, the law of supply and demand is in play: during periods when supplies are low, prices rise for everyone.

Where the two systems for marketing cereals act either in competition with one another or in complementarity, the results obtained as compared to the objectives set are disappointing as noted above.

The cereals agencies have not been able to stabilize sales prices to consumers during a season because of lack of reserves which would permit them to have an effect on prices at the end of the season when there is scarcity or when speculation raises prices.

In rural zones before the harvest season (soudure), farmers must try to find cereals at high prices - the same cereals they sold after the previous year's harvest to meet fiscal and social obligations, or to reimburse debts. In this system of organization, only a small proportion of the privileged population benefit from the low prices guaranteed during the year. We noted this earlier.

3.1.6 - Developing Exports

Only few countries in the Sahel region can hope to export cereals. During 1969-1977, the official tonnage exported was 425,000 tons or 47,000 tons per year.

Nonetheless, the organization of cereals markets is such that it favors exports by traditional traders: farmers and traders near borders.

An estimate of these exports, which are clandestine in countries where there is a monopoly and legal in others, is a very hazardous undertaking.

3.1.7 - Making the cereals market function at least cost

Although this seventh point does not appear among the objectives set by governments for their cereals policies, it would certainly be desirable that economic and financial statistics be presented in the form of comparative balance sheets for different types of cereals systems. We are not aware of such a study ever being done. Can it be done ? Thus, any attempt to compare traditional and official organizations based on costs is illusory. The only information available concerns the official agencies. They show that, for the most part, the official agencies are in deficit - some to an excessive point. The most costly items concern transport and financial costs. But, it is clear to all observers that the causes of financial losses reside, on one hand, in the weaknesses of the management systems of the agencies and, on the other hand, the refusal of authorities in charge of cereals policies to take into consideration the real costs of production and marketing.

3.2 - Conclusion

Thus, we are led to conclude, as the CILSS Working Group did :

The governmental decisions which led to the creation of cereals agencies were considered as finalities which could resolve the overall problem of food self-sufficiency. But, that problem cannot be resolved except within the framework of a perfectly defined, integrated policy which takes account of the process going from production to consumption. The cereals agencies can only be tools, among others, of a cereals policy, but this does not seem to have been the method adopted.

CHAPTER I I

MAIN OPTIONS FOR SAHELIAN CEREALS SYSTEMS

INTRODUCTION

I - YOUR POSSIBLE OPTIONS :

- Status quo improved
- Increased public control
- Light intervention
- Competitive liberalisation

II - TO CHOOSE A STRATEGY IS NOT ENOUGH : IT MUST ALSO BE IMPLEMENTED

INTRODUCTION

The poor results obtained by Sahel countries are the subject of many studies which have been made by their governments. The Malian cereals system was examined in at least 10 different studies. Studies of other countries are numerous. It seems that everything has been said or written on the subject. The diagnostics are precise, the reasons for the poor present conditions are known and the areas where information gaps exist have been identified. But, it seems that the more information accumulates, the more difficult it is to select an option, as if the mass of information weakens our ability to decide; one is disturbed if not anguished about taking certain measures, sometimes difficult ones, which could improve the situation.

Two kinds of explanations can be given for this attitude :

- either the hesitation is based on a pessimistic evaluation of the consequences such decisions might provoke
- or the analyses, diagnostics and propositions which are presented by technicians to policy makers seem theoretical, too didactic and therefore they are rejected.

Such hesitations come from the gap between the reality in which they live and in which the proposals are made.

In any case, it is desirable that a dialogue begin between policy makers and technicians so that the gap between proposals and reality can be reduced, so the consequences of certain measures which might be taken are clarified, and the cereals system in each country can be made more efficient and less costly.

This is in conformity with the recommendations made by the Restricted Committee of the Club/CILSS which studied the problems of prices, marketing and storage.

" The recommendations of the Committee are only aimed at stimulating discussion between Sahelian policy makers and non-Sahelian technicians, to test some concrete production projects based on new options in countries which would request them, and to help define cereals and food policies truly aimed at food self-sufficiency ".

(Third Conference of the Club du Sahel - Amsterdam - 21-23 November 1978 - Point 2a).

I - FOUR POSSIBLE OPTIONS

Among the documents relating to our subject, one occupies a key place. It is the diagnostic study in two volumes made by the Center for Research in Economic Development (CRED) of the University of Michigan (USA) under the direction of Elliot Berg and dated July 1977.

Two excellent reasons lead us to place this work in a central position to guide the thoughts of this Colloquy. It was a study requested by the CILSS/Club du Sahel which justifies the best use of it by the participants in the Club. Also, it constitutes a considerable mass of information, ideas and thoughts concerning the cereals systems of the eight Sahel countries.

A synthesis of these two volumes was prepared by E. Berg for the needs of the Colloquy.

For our part, we will be most interested in the options for the organization of cereals systems which were proposed in the report.

We will add a fourth option extracted from a report made by the FAO at the request of the Malian Government in 1978.

1.1 - Option 1 : Status quo improved

1.1.1 - According to this option, the Governments would keep their basic marketing structures and policy directions as they are. The public cereals marketing agencies would receive more financial assistance, more staff, and better storage facilities. In the countries with double cereals marketing structures (Mali, Niger, Senegal and Upper Volta), the State sector and the traditional sector would continue to coexist.

The portion of the market attributed to the State would increase up to 25 percent of the production marketed, which would be needed to stabilize prices. In these countries, the legal situation of commercial traders would remain as ambiguous as it is. In the Gambia, Mauritania and Chad, this option would permit the private sector to retain its legality and to operate in the same conditions it has.

1.1.2 - In both groups of countries, efforts would be made to treat the following problems :

- enough and timely financing of crop purchases
- better choice for timing the announcement of price changes
- setting prices for consumers at low levels near real costs
- coordinating price scales with real costs
- introducing differentiated price structures (including quality differences).

1.1.3 - The choice of this option is based on the fact that the structure of the system is good and does not pose fundamental problems - the only change involves an improvement in the present methods and systems. For countries with a double market, acute problems would thus be attenuated.

This approach is popular among cereals staff in the systems of Sahel countries. They think that lack of resources is the major reason for the poor results of public cereals agencies in regulating the market.

1.1.4 - The advantages of this option are :

- continuity of institutions and policies
- politically and administratively justified because it does not modify the balances of interests between different actors
- can be rapidly executed

- improvements in the functioning methods would increase the efficiency of public cereals agencies and permit them to attain the objectives of the government, these improvements can be obtained with new resources ;
- under these conditions, such an option would receive the agreement of donor countries who want to provide technical and financial aid to cereals agencies in transport, storage and price stabilization.

1.1.5 - The problems surveyed in this option are not small :

- the managements of public cereals agencies are slow, inflexible and not likely to use eventual new resources well
- to believe that one can remedy the imperfections of the public marketing sector is a very optimistic view
- this option does not change anything in countries with double markets and the situation of private traders remains illegal. Competition between buyers of cereals from farmers, which would be to the benefit of farmers, is still not possible. Nonetheless, it is probable that new resources will never be enough to bring the public structure close to farmers. Private commerce will continue to exist in the shadows, thus there would be no long term improvement in its behavior;
- private traders operate at unit costs well below public cereals agencies. The reasons for this are :
 - . traders buy cereals when and where they are cheap,
 - . they can make partial and selective purchases,
 - . they transport cereals themselves over short distances and always find return freight,
 - . they adapt their prices to the quality of products

Accordingly, to encourage public cereals agencies will make the whole cereals system more costly.

1.2 - Option 2 : Increased Public Control

- 1.2.1 - The second possibility is for the Government to get more involved in the cereals marketing sector and to provide the execution and control on a scale equal to its objectives.

This option is often suggested by Sahel countries who hope to obtain a better control of their cereals supply system.

This is the case for Upper-Volta (Preparation for the Plan 77-81), for Mali (Commission on Restructuring OPAM - August 1976), and Chad, which just created the National Cereals Office (1978), for example.

1.2.2 - The arguments advanced in favor of this option are :

- it would break the commercial relationship between farmers and traders thus ending the exploitation (real or potential) linked to that relationship ;
- it would valorize the operations of public agencies permitting them to manage larger volumes and thus to reduce their unit costs by spreading out the fixed costs over larger operations ;
- the "contradictions" which came from competition with the private sector would disappear. For example an effective monopoly would spread the prices and costs in an equitable fashion between favorable zones which are productive, and near consumers and zones which are disadvantaged, in permanent deficit and far from production zones ;
- the experience of public monopolies in cash crops working for exports has shown itself to be satisfactory. Why would it be otherwise for cereals ?

1.2.3 - Five arguments are offered which suggest that a real cereals monopoly is impossible :

- the collection of small quantities of cereals among numerous sellers - farmers spread over the national territory - would require the cereals agency to be present in all villages;
- the control of illegal traffic would require an omnipresent economic police force;
- even if public cereals agencies only assumed a monopoly as wholesaler, the traders would have to be replaced for on-farm buying, but by whom ?
- cooperatives appear to be the most plausible replacement for traders to buy from farmers and they could have a buying monopoly (monopsony) and could resell their purchases to the cereals agency.

But, four obstacles should be noted :

- cooperatives do not exist in Chad, Mauritania or Upper-Volta,
- where they exist they are closely linked to the Administration,
- where they seem to be well implanted (Niger and Senegal) their functioning is disturbed by credit modalities (collective security of the village),
- they function for cash crops but very little for cereals.

Even if that solution seems desirable, it does not seem possible to transfer primary purchasing to cooperatives.

- Regional development organizations have the technical and administrative capability that cooperatives lack. They have experience in cash crops. They are possible candidates to make the primary purchases from farmers.

Nonetheless problems exist :

- although financially solid thanks to outside assistance, they are fragile as long as they have not reached a degree of self-financing, which is not the case. To load them down with marketing responsibilities would be unreasonable.
- it is not desirable to give the same organization the responsibility for developing increased production through technical assistance and also marketing functions of production which is based on a policy of low prices to producers.

Thus, the participation of development organizations in primary purchase and collection introduces potential conflicts between those organizations and farmers to the detriment of its primary objective : production.

1.3 - Option 3 : Light intervention

1.3.1 - A third direction that a Government could choose for its cereals policy would be a light and indirect intervention by its public cereals agency.

1.3.2 - The essential reasons for which an organization would be :

- to improve the functioning of cereals markets;
- to reduce monopolistic tendencies;
- to act on prices by stabilisation operations in a free market by using buffer stocks ;
- to promote a better integration of markets linked to rural development programmes by :
 - . opening up isolated regions by intensifying road construction and maintenance programmes,
 - . developing information systems on harvests, prices and markets, by all means including radio,
 - . controlling rural credit and oversight of lenders,
 - . extending family and village level storage facilities;

- to liberalize private trading. No restriction would exist, not even licensing of traders;
- to retain in the national cereals agency some functions of general interest such as :
 - . buying to create public regulatory stocks and selling to limit price fluctuations,
 - . to provide deficit zones with food in case of emergency when private sector traders do not provide such services,
 - . to take responsibility for storing national emergency stocks,
 - . to manage, receive and distribute food assistance.

1.3.3 - The advantages of this option are :

- simplicity and likely good economic results,
- to use the best commercial talents available in the Sahel,
- to economize on human and physical capital,
- to avoid the contradictions inherent in government attempts to control the market,
- to stimulate the private enterprise spirit.

1.3.4 - As with any solution, it has disadvantages :

- it may not necessarily be in line with political and ideological trends in the Sahel;
- the bargaining power of farmers with respect to traders may only gradually evolve to the benefit of the former. We still need to know the degree of exploitation that really exists in the farmer trader relationship;
- the reforms to be made can only be introduced during periods of good harvests;
- the strengthening of the role of private traders should be carried out along with measures to insure that they do not develop commercial activities judged undesirable.

1.4 - Option 4 : Competitive liberalization

1.4.1 - This option is an adaptation of the preceding one. It was proposed by the F.A.O. to Malian authorities in July 1978 :

- liberalize the market and officially license traders so that they can be recognized along with development operations, agricultural groups and the cereals agency as operators in the market. This option rests on the notion that peasants and producers, when in the presence of few potential purchasers, will be incited to produce more.
- keep market prices within a high-low bracket between the ceiling price to consumers and a floor price to producers through interventions by the cereals agency which assumes a regulatory function rather than being the "only" operator in the market :
- provide the cereals agency with resources needed so that it can control the market :
 - . a decentralized stabilization stock,
 - . funds and resources for storage operations (purchase and preservation);
- the price bracket fixed by the government for several years should be wide enough so that the cereals agency can reduce its deficits;
- the price bracket should be regionalized preferably so as to encourage local production in deficit regions;
- the monopoly of exports and imports will be given to the cereals office which will manage security stocks;
- a new set of rules for the cereals sector and the cereals agency should be drawn up.

It should also cover producer groups, organization of traders and the status of development operations.

1.4.2 - Beyond the advantages of options N° 3, we note two others that are characteristic of the proposal :

- traders are not the only buyers from farmers : development operations have as their aim to create producer groups which assure primary marketing; the operations themselves can also buy.
- a socio-professional network can thus be put in place with the help of development operations which can little by little, lead to a more formalized structure of precooperative groups and then to cooperatives capable of providing farmers with services they now receive from traders.

1.4.3 - The disadvantages are linked to the function of the cereals agency as price regulator :

- the establishment of price brackets for several years, designed to favor long term increase in production, can put the cereals agency in a dangerous situation if the harvest is good and the primary collection agents sell massively. Storage capacity and funds would be lacking.
- setting a regional price has a double objective :
 - . to encourage deficit zones to produce
 - . to slow down exports from border areas

This mechanism can stimulate transfers of cereals from zones of low prices to zones where prices are higher, thus disturbing the regulatory scheme.

II - TO CHOOSE A STRATEGY IS NOT ENOUGH : IT MUST ALSO BE IMPLEMENTED

INTRODUCTION

The presentation of these four options should permit the authorities in each country to determine a general strategic plan that they wish to promote to attain food self-sufficiency.

But, the strategy is one thing. Its implementation and application is another.

In reality it is not possible to choose a strategy unless one is assured that the resources to implement it are available, that the different policies that flow from it are realistic, and, thus applicable, that the implementation of technical, economic, financial and social measures are viable, and that their programming will lead in successive steps to the objective desired.

It is not worthwhile simply to choose a strategy. One must also analyse the possibility of implementing such a strategy. To do that, it is necessary to examine the elements composing the system to discover if it will be possible to eliminate bottlenecks or change the system.

2.1 - Reform of the cereals system

First, one must survey the relationships between the different actors in the system and determine the reasons why certain are not satisfactory. The remedies to prescribe flow from that survey.

The value of that approach is its realism. The analysis to be made concerns concrete situations. The solutions to be made are tailored to what the country can do itself to improve the situation.

This procedure is often used by public authorities, for example when they authorize new buyers at the level of the primary purchase level or when they modify the credit conditions of consumers. Behind these decisions are the objective causes which led to them : updating of the prices of producers or costs of marketing ; strengthening the competitive conditions of purchasing ; helping disadvantaged consumers.

The real reasons which lead to taking a decision are never as simple or as clear as we suggest.

Often the decision is taken without sufficient study of its consequences. It can be the result of pressure from a given group in the country.

But, what is serious is when decisions are taken on the basis of a short term analysis of the situation instead of longer term : in such a case one is only reacting to an event.

The consequence, equally serious of this practice, is the impossibility in which authorities find themselves to understand global problems which must be resolved simultaneously where there is a knot of inter-relationships between different actors.

It is proper that in its report of November 1978, the restricted Club/CILSS Committee underlined the need "for a global scheme" adding "the clearly divergent interests of different groups concerned by the cereals problem require that the consequences government decisions can have be carefully evaluated with respect to basic options and, also, with the framework of agricultural policies".

The strategy, which, step by step, consists of directing the system through partial modifications, has not, except in special cases, fulfilled expectations precisely because the global approach was lacking

difficulties encountered. We can take two examples :

- production treated by itself on one side and secondary marketing organized on the other side with the intermediate chain in the link missing : namely primary collection (marketing) ;
- considerable efforts made in production, collection, and marketing of cash crops, including their transformation and export, to the detriment of the cereals system, while the farmer on his level combines the two categories of production with others in order to balance his risks.

The analytic method consists of proceeding to the examination of functional relationships between economic actors : this requires a survey of such actors, sorting them out as a function of the flow of cereals, of resources, and of information for which they are the sources, or of those for whom they are the intermediaries.

This functional approach does not call for à priori judgement about a given actor in the network. The performances of each one and the reasons for good or poor performances are the only criteria to take into consideration.

Numerous studies are available which make diagnostics of the cereals systems in the Sahel and make proposals to restructure, change or improve, but are more or less colored by the "à priori" approach.

Some authors base their proposals on the unexploited capabilities of traders, others are particularly interested in the cereals agencies which they judge apt to play their role if more resources and flexibility were given to them. Several take the view that as long as the producer is not better remunerated, any cereals policy will fail.

The proposals are still the manifestations of a sectoral approach in favor of one of the actors. They are the expression of tendencies in favor of a particular aspect of the cereals system or of a model of organization flowing from an idea which the author conceives to be better.

Such attitudes lead to clashes from which it is difficult to draw realistic proposals. This is the case for example of the "pro-monopoly" and the "pro-trader" approaches that one finds in almost every Sahel country.

In truth, each link in the network is important, each link of the system plays an essential role. If one link is too weak the chain breaks : to turn attention to the weakness of economic agents, those which do not carry out their mission, seems to be a good therapy to help reconstitute the action of the rest of the network.

The discussions of the colloquy should be directed towards overcoming dualistic approaches leading to conflict and be situated on the level where overall perspectives of the working of the cereals system are made perceptible to everyone. The complementarity of actions of each agent should be the rule. Starting from that point the insufficiencies of one or the other, the absence in the system of one agent, or the excessive weight of another become points for reflection and action.

2.2 - Modifying the structure of the cereals systems

When well conceived regulatory actions are implemented and do not have the effects desired, then it may be that the structure of the system is the reason. For example :

- certain actors may be incapable of assuring their functions,
- the characteristics of the environment in which the cereals system functions have been profoundly modified,

- the cereals policy is changed so that the cereals system is no longer adapted
- the political conception of the organization of production and marketing undergoes a change. A redistribution of roles and functions is needed.

CONCLUSION

Thus, although it is for the State to "regulate" the cereals market or to "reorient" it, the approach is the same.

We rejoin, thus, the proposals made by the restricted Club/CILSS Committee in its report of November 1978 : "each Sahelian State is free to choose the cereals policy that considers to be best in conformity with its policy options or its immediate or long term interests. But, it is important that the consequences of such a choice be analyzed especially and that the decisions taken be effectively implemented". After having cited several cases, the report continued : "These examples illustrate the distances between the taking of generous and well intentioned decisions and the consequences of their implementation on all groups concerned. But if decisions of this type (monopoly, official price, etc.) have only given modest results until now, it is generally because they have not been well integrated into an agricultural, cereals and food policy".

The method which permits verifying whether the chosen strategy is really applicable is so important for the discussions of the colloquy that we have made it the starting point for the next chapter.

In fact all action programs must be built around a reflection concerning relationships between the different agents which operate in the circuit and the performance which they give.

CHAPTER III

AN INTEGRATED POLICY (CEREALS, AGRICULTURE, FOOD)

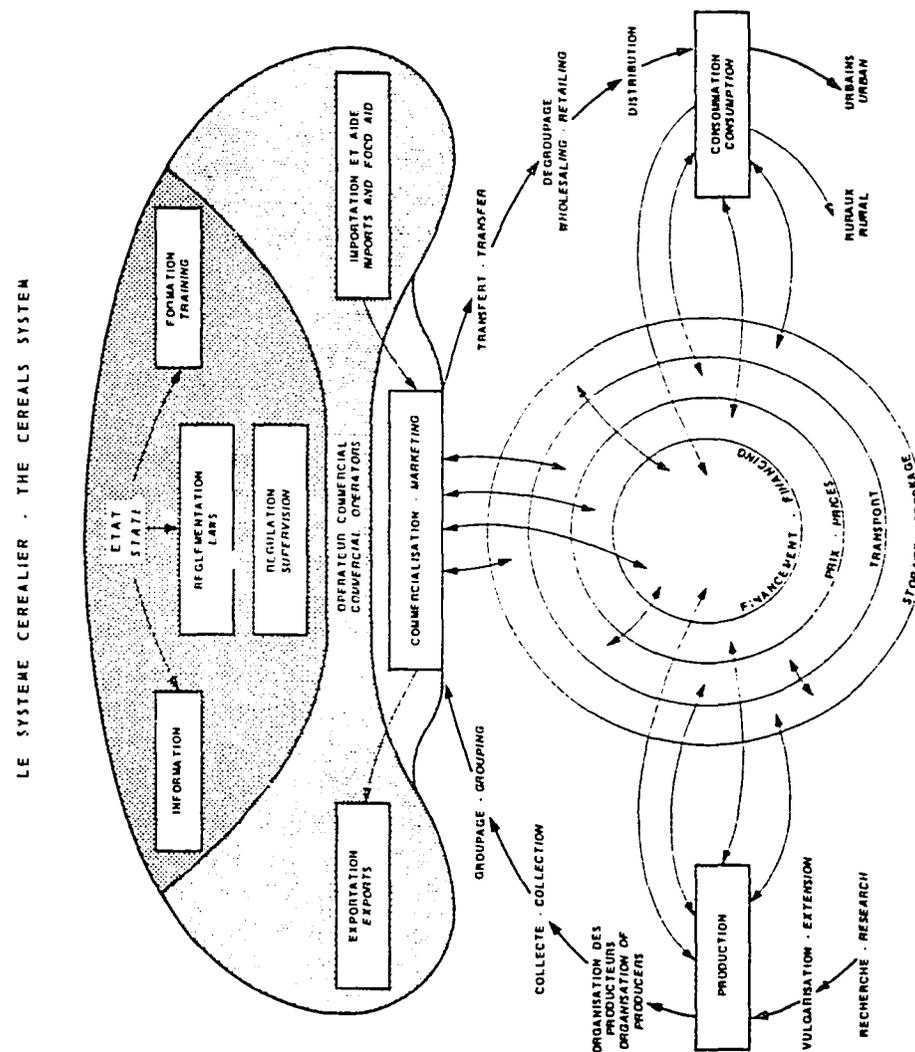
I - FOUR GROUPS OF ACTORS CONSTITUTE THE CEREALS SYSTEM

- 1.1 - Production and Producers
- 1.2 - Marketing and commercial operators
- 1.3 - Consumption - urban, rural consumers
- 1.4 - The State and para-Statal organizations
- 1.5 - Diagrammatic illustration of the cereals system.

II - THE PRINCIPLES OF ACTION

- 2.1 - The unbalances to be overcome
- 2.2 - Linking Production, marketing and consumption
- 2.3 - Each country is master of its options
- 2.4 - The approach by economic agent and by ecological zone
- 2.5 - Common actions
- 2.6 - Cereals, agricultural and food policies
- 2.7 - Modalities of assistance of CILSS

N.B. : The considerations concerning logistics (storage and transport), as well as those concerning prices will not be outlined here. They appear in other specific reports issued at the Colloquy.



I - FOUR GROUPES OF OPERATORS WHICH CONSTITUTE THE CEREALS SYSTEM (1)

The economic agents which participate in the system are numerous but one can group them into major groups : producers, marketing agents, consumers and the State or para-statal organizations.

" The interests of these groups are not only divergent, but more often radically in opposition ". It follows that marketing creates conflicts growing out of these opposed groups. An analysis of the power of each group shows important differences :

- the producers are "poorly organized, spread out, and individually only provide small quantities of cereals for the market ; they are numerous but have limited power " :

- traders, "whether their activity is legal, illegal or tolerated, have real power with respect to other groups thanks to their good knowledge of the market which permits them to skillfully gain profit from price fluctuations, either seasonal or geographic. Opinions are divided as to whether trade systematically or occasionally work to the detriment of the interests of other groups".

- the consumers, "especially urban, are dependent on their food habits and have political weight, rarely used, but which authorities have great respect for "

- The State, "has strong power but rarely the resources needed to implement it (price or control of cereals exports, for example)".

(1) Citations in this chapter are taken from reports of the restricted Club/CILSS Committee.

Moreover in creating a public cereals agency, certain States have become privileged operators in the market. This position as an actor lessens considerably their function as an arbiter between the three other groups.

For each of these groups we will examine :

(i) what function they fill,

(ii) what measures might strengthen the functioning of the network,

(iii) what are the major constraints which each have and which could be remedied.

1.1 - Production and producers

1.1.1 - Production of cereals is carried out by peasants with the essential objective of being able to cover their own food requirements and build up their buffer stocks.

Any surplus production available for sale, when the former exists, comes first from a multitude of small contributors; and second it varies as regards overall quantity from one year to the another.

The cereals circuit therefore depends on the behaviour of farmers in so far as the surface area cultivated and technical considerations are concerned, as well as on climatic conditions in respect of the regularity of the surpluses put on the market.

To modify the behaviour of peasants for the purpose of encouraging them to produce food for town populations seems therefore to be an essential objective.

Satisfactory functioning of the cereals circuit and, in the long run, food self-sufficiency "depends on the decisions made by peasants and producers to increase the areas used for cereals compared with other crops and to intensify their production of cereals".

1.1.2 - Nevertheless, incentive measures can be taken to increase production :

- on the technical level

- . use of more productive, shorter cycle varieties,
- . more use of fertilizers,
- . animal traction,
- . improvement of village level storage;

- extension

- . better extension support for existing operations,
- . creation of new operations associating production and marketing,
- . training farmers in cropping techniques,
- . taking account of production as an integrated whole and not piecemeal,
- . creating producer of precooperative groups which progressively assume responsibility for the harvest and collection of production.

- financial

- . availability of sufficient credit for inputs and equipment and also for advances before the harvest at reasonable interest rates.

- marketing

- . guaranty of purchase for surplus production at reasonable prices,
- . better balance between price of cereals and price of cash crops,
- . improvement in the conditions of transport (infrastructure and transport equipment from village to market) to decentralize bying zones.
- . early start up of trading.

1.1.3 - Two questions should be noted concerning increased cereals production :

- an agricultural exploitation forms a coherent whole.

To isolate cereals as cash crops or livestock have been, is not conceivable. One must take into consideration the "production system" and to consider increases in production and in productivity of the farm. This approach has important consequences :

- . taking into account ecological equilibrium,
- . the productivity of the farm is not a function of costs of production,
- . the reasoning of farmers is respected,
- . development extension programs must themselves modify their methods. They no longer work with the producers of cotton or cereals, but with farmers growing several crops.

- to assure the continuity of production and to help farmers go from a situation of auto-consumption to a situation of being surplus producers to supply cities, it is urgent to give them the possibility of organizing themselves collectively. The extension effort must be joined with a "socio-professional structure" without which technical progresses needed to increase the production level will not have effect.

1.2 - Marketing and commercial operators

Three stages of marketing are to be distinguished :

- collection
- grouping and transfer to consumption zones
- retailing and distribution

1.2.1 - Collection

This is the first stage and has the most problems.

It is evident that farmer-traders, like commercial traders, dealing in cereals as well as other products, constitute an excellent capillary network capable of collecting cereals at low cost and grouping them together so that they are large enough to pass to the next stage.

"The role and behavior of traders with respect to producers is controversial. Considered by some as speculators or unscrupulous "exploiters", and by others as almost irreplaceable elements in the system of cereals marketing in the Sahel".

Without careful study, it is difficult to make a decision on this point. Nonetheless, one must question oneself about the importance that farmers attribute to the ancillary services that traders provide to them and for which they sometimes pay a great deal. Beyond commercial relations, one must talk about social relations with economic objectives, born of long common experience. Under these conditions, can one hope that the network will be able, in the future, to mobilize increasing tonnages of cereals for urban populations which increase at + 5 percent per year? It is difficult to say.

On the other hand, production operations like development agencies are able to participate in the collection of cereals under good technical conditions, and it would be desirable that their statutes be extended to the marketing of cereals as they now do for cash crops.

Three good reasons are in favour of this solution :

- in zones where technical extension operations exist there is the most production and thus a surplus which can be marketed,
- the relation between extension operations and farmers can be integrated into those which already exist. The services which farmers

want can be provided by the development extension operations on the same conditions,

- the socio-professional structure of farmers characterized by their taking collective charge of their own interests is an objective for the future. Experimentation with mutual groups or cooperatives should be based on concrete actions which farmers themselves can control. The primary collection of cereals production is a good point of departure.

A third ingredient should be present in the primary collection : the local office of the public cereals agency. In the majority of countries where a cereals agency exists, this local echelon is absent. Because of lack of resources the agency is unable to put permanent structures at the village level.

It seems that there has not been enough attention given to this rupture in the cereals chain and it is one of the basic reasons for the poor results obtained by cereals agencies.

To attempt to have all the links of the chains together, the following are used :

- fixing of a cereals quota by regulation for each village which must provide it to the cereals agency,
- approval of traders authorised to collect cereals for the agency,
- mobile teams which could purchase from local markets .

In conclusion, it is at the stage of primary collection that the choice must be made to give a privileged place to :

- one kind of operator,
- several in competition,
- or several in association.

1.2.2 - The grouping and transfer of cereals to consumption zones

It is not necessary to describe at length this circuit which does not pose major problems.

Traders who are well equipped, well informed and highly motivated, group cereals and ship them to cities with the hope that a good sales price will justify the transport and storage costs they have incurred. Some of these traders deal in large tonnages, others only transfer a few sacks taking advantage of a little space in a truck or a car. They work on low opportunity costs and keep their fixed costs to a minimum.

The same circuit is followed by the public cereals office which in general ships larger tonnages at official prices, usually through transporters, at fairly high costs and return freight is not always assured.

The essential problems at this level are the following :

- can one lower the transport costs of the cereals agencies ?
- without a public cereals agency, will the traders assure the transport of cereals to far off points ?
- is the transport infrastructure (rail, river, roads, etc) the reason for difficulties encountered ?

1.2.3 - Retailing and Distribution

The large wholesaler or the large dealer delivers cereals to retailers. The real quasi-monopoly position that they occupy permits them to profit from opportunities and to anticipate possible shortfalls by storing and selling at high prices.

The cereals agency, for its part, which is relatively limited, cannot have much effect on prices. As a wholesaler, it resells cereals

that it has transferred from production zones either to consumer cooperatives, to public institutions or to approved dealers.

Thus, we see that the distribution mechanisms are not designed to reduce prices to consumers :

- when only traders are present no counterbalance on prices exists and particularly before the harvest season when prices go up,
- when only the cereals agency is present, it provides cereals at official prices to certain privileged groups creating a notable inequality between social classes.

1.2.4 - Cost comparison between private and official cereals system

Reaching the end of the chain we can ask about price comparisons between the private and the public network.

If it is probably true that the private trader can bring cereals to the urban market at less cost than the public cereals agency, one should not forget that for the ordinary consumer who must deal with him, the cost of his food is notably higher than for the government worker.

Thus :

- the purely private cereals system penalizes urban consumers and creates a cash situation favouring traders.
- the mixed cereals system as it operates provides subsidies (partial or total) for those who can supply themselves at the cereals agency, it penalizes other urban dwellers and provides to the trader a non-negligible margin, given his high productivity and the high sales prices he can charge.

To clarify this question it seems indispensable to make comparative studies based on the results of traders and public cereals agencies. But, is this possible ? Even the comparison between States of functioning costs of public cereals agencies are of great interest to authorities.

1.2.5 - Would it not be preferable to try to unify marketing circuits of agricultural products ?

So-called "cash crops", such as ground nuts and cotton, have benefited, since they have been developed for export, from very efficient trading circuits, equipped with considerable logistic means. As the cereals circuit has no export vocation, but is destined more prosaically for home consumption, it lags behind. Now, at producer level, a farmer producing several crops in order to minimize his risks has no interest in being faced with three different marketing networks on the pretext that the final destination of the product is not the same.

It is urgent to consider whether the three marketing circuits should be maintained independent of each other. By bringing these three networks together, initially for primary collection inside production zones and for development operations no matter what the basic product is - cotton, ground nuts, food cereals - better productivity would be obtained for the means of transport and storage and the technical competence of the personnel would be used to greater advantage.

1.2.6 - Strengthening the productivity of the agricultural sector by unifying the marketing network of inputs and of production factors

When one talks about marketing one is talking about farmers selling their crops. But, one must also talk about the flow of production factors which must be brought to them.

Here, too, a certain unification of the network, through extension operations, should reduce costs.

1.3 - Consumption-Urban and rural consumers

It is good to make a basic distinction between urban consumers, agricultural consumers, and rural consumers because their food habits are becoming less similar.

1.3.1 - Urban consumers

" A priori, playing a passive role, urban consumers are the arbiters of the policy and marketing mechanisms that exist. If one increases the price of traditional cereals, consumers will make substitutions or will turn to imported cereals. In either case food self-sufficiency will be called into question because of the qualitative or quantitative difference between national supply and demand for cereals. Although consumption patterns evolve slowly, they have certainly changed over the past 20 years under the influence of several factors :

- imports of foreign cereals : wheat and rice,
- the development of irrigated rice,
- massive, food assistance programs.

The question is to know whether food self-sufficiency, theoretically attainable over time, of which traditional cereals represent 80 percent of those consumed, will be possible, and at what price, if rice and wheat come to represent 70 or 80 percent of the overall demand for cereals."

" The margin for manoeuvre by authorities facing this problem is very restricted because any increase in price to consumers of traditional cereals - a consequence of a revalorisation of the advantages to producers - risks to accentuate the change in con-

sumption habits and to continually postpone the attaining of food self sufficiency."

The government, within the framework of its cereals policies, should plan measures which promote the use of traditional cereals by :

- favoring research and development of technologies relative to flour and derivative products,
- controlling, as well as possible, the imports of cereals with respect to the progression of domestic production,
- respecting a balance between sales prices to consumers of local production with respect to imported production.

Food aid, which in the Sahel countries seems to be becoming institutionalized, is also a negative factor with regard to the consumption of local cereals both on the qualitative and the quantitative levels.

The lack of information about the amount of production per year, the level of village stocks and stocks held by traders, as well as the uncontrolled movements of export and import between countries constitutes a considerable problem. So as not to find oneself in a situation of under-supply and in the absence of reliable facts, national authorities estimate their food needs on the high side. Consequently, these excess cereals weigh on the market, clutter up warehouses, and definitely have an indirect impact on reducing local production.

The governments should give particular attention to this problem. All the more so, given the fact that normal food assistance reduces the amount of aid that is available for other more productive investments.

1.3.2 - Rural consumers

One problem deserves to be examined : traditionally farmers assured their own food security by keeping cereals on-farm to satisfy their own needs with several years supply.

Since the drought, the on-farm stocks have been probably reconstituted. This basic reflex has as its effect to keep cereals in villages which would be needed to supply urban dwellers while at the same time, the government authorities are obliged to call for imports.

Inversely, when public agencies try to buy, by practicing a procedure of quota by village, it is very possible that the villagers draw from their on-farm stocks thus reducing their own food self-sufficiency, with the risk that Government authorities would be obliged to provide supply at a later date.

A better understanding of this mechanism and its consequences would facilitate the overall management of the cereals system.

1.4 - The State and para-statal organizations

The State exercises its rights and its duties through a number of functions : issuing regulations and information, and training persons.

It can also act as an operator in the cereals market.

1.4.1 - Regulation

The rules of the game between actors in the cereals market must be defined. This is the case for example of traders' working conditions, dispositions relative to the transport of cereals, of the eventual fixing of buying and selling prices and schedules. The State sanctions agents who commit mistakes and acts as an arbiter in conflicts between operators. But, rules must be made on a level commensurate with the possibilities of enforcing such rules. Nothing is worse than legal texts which cannot be enforced.

1.4.2 - Information

Supplying food to the population is a strategic target of the greatest importance for any Government. To master the cereals circuit in question - as we have done here - depending on a triple approach - production, marketing, consumption - the Government has to be regularly informed on all the essential elements in the system : surface areas, productivity, state of stocks, prices, level of stocks both in production areas and in towns, consumption level, etc...

The present difficulty stems from the fact that several institutions have part of the information and that the methods of calculation and presentation of information are not always standardized.

This problem explains many of the difficulties encountered in managing the cereal system.

1.4.3 - Training

The way a cereals circuit functions is linked to the technical competence and the professional capacity of its various operators. Several of the failures that have occurred in recent years have been due to insufficient competency of the agents employed, for example, as regards stock preservation, marketing techniques, management, financial principles, etc... without mentioning the essential element of the technical level of peasants and producers referred to above. It is the duty of the State to develop instruction for young future technicians, but also to provide complementary training for persons already on the spot.

1.4.4 - The State as commercial operator

Hoping to control the cereals network, the State can consider as a good strategy to enter as a privileged actor through its National Cereals Agency. Its involvement can increase in stages as follows :

First stage : imports and food assistance - exports

The public cereals agency is in charge of imports, receives and manages food assistance and is responsible for exports. To manage these movements the agency must have well located infrastructure and logistic capabilities adapted to needs.

The State can give the cereals agency a monopsony, a monopoly, or can authorize it to delegate to approved wholesalers a part of its operations. The State, thus, limits its commercial risks, transfers financing to traders, and reserves its resources for other actions. In return the State cannot hope to make any profits if there are any. At the same time traders, who are not well controlled, can engage in speculation to the prejudice of consumers.

Second stage : Security stocks

The operations relative to security stocks grow out of the import function as well as the food assistance function. Also, the public cereals agency must make domestic purchases to create the stock. For that, the infrastructure and logistics needed can be limited and located in production zones for such purchases, in urban centers and in deficit zones for storage units. Here, the cereals agency can make purchases through approved wholesalers.

Third stage : Supply of distant deficit zones

When the public cereals agency is responsible for supplying distant zones, it is in general because private traders do not see profit in it (prohibition or private marketing, and a uniform price over the whole country can be causes). The cereals agency must therefore procure the tonnage needed by buying in production zones. This involves permanent operations for which it must assume two basic functions : wholesaling and also primary collection and grouping, unless it finds sufficient quantities with primary collection operators.

Fourth stage : Monopoly truly applied

To meet every eventuality the cereals agency is responsible for supplying the whole country. It buys all available cereals, transfers them, retails and distributes them. The infrastructure and logistics must be extended throughout the country. In production zones the cereals agency must go down to the farmer level to collect cereals. But, it must also have a presence in deficit zones and cities.

This description is what is commonly called "monopoly".

A choice has got to be made.

The progression of responsibility of the State which has just been described goes together with the growth in necessary investments, the increase in the costs of functioning of the cereals agency and the increased complexity of problems which are posed.

Each State can choose the stage to which it hopes to see its cereals agency act and verify that the resources put at its disposal correspond to the mission which is asked of it.

The disproportion between the mission and the resources which characterizes the present situation in many countries can be analyzed as follows :

- either the resources are insufficient for the mission,
- or the mission is too vast and on a scale that the resources needed exceed the capability of the country.

It would be good if the choice is reexamined not only based on resources, but also reconsidering the mission of the cereals agency.

The saying : "A Jack of all trades is master of none" is perfectly applicable to this situation.

1.4.5 - Regulation

Another attitude can be adopted : this consists of the State, once it has defined a skeleton relationship for the actors on the market, that is say "the rules of the game", being content to control operations. Its intervention will then only be required to regulate the course of events, to prevent abuses and any one operator from taking up a too dominant position and to favour the task of all those who experience temporary difficulties in carrying out their tasks.

By using incentives and sactions applied to the actors in the cereals system, the State can obtain the same result with less resources than it would in trying to physically control the entire system.

The most obvious area where the regulatory function can be exercised is in cereals price both at purchase and sale. Just as it is not sufficient to give a monopoly to the cereals office to assure it in fact a monopoly, the setting of a high price and a low price does not guarantee at all that these prices will be respected.

Two tools can be used by the State :

- make competition between traders as lively as possible. Unfortunately, this practice is not useful when there is great scarcity or relative abundance,
- create regulatory stocks and use them to influence prices during periods of scarcity ; the reconstitution of such stocks can be done during periods of abundance.

This practice is costly. It implies the existence of a public agency, but in countries where the variations in the volume of production are as large as they are, it is the only way to respond to this objective which is to reduce price fluctuations while at the same time assuring the security of cereals supply for the population.

1.4.6 - Two major logistical functions : storage and transport

A particular kind of relationship develops around storage problems. The conclusions that discussion of that theme engenders should be integrated into the general cereals system.

CILSS is addressing the question of improving transport. The cereals system, particularly the primary collection on-farm and transfer of large quantities to deficit zones depends on the capacities and the possibilities of the transport system in each country.

1.4.7 - Better use of financial resources

The translation into financial terms of the applicable strategy chosen by the government to improve or modify its cereals system constitutes the last phase in our reflection.

What must be financed on a priority basis ?

Production : research - subsidy to inputs - new extension operations - credit

Marketing : functioning of the public cereals agency - credit for the marketing season

Consumption : imports - subsidies for consumers

Logistics : storage capacity - increasing the truck fleet - developing the radio network for better information.

The creation or development of a system of agricultural credit based as near as possible to the farmer is very important for the success of a cereals policy of self-sufficiency based on the idea of increased production. To do it, large financial resources must be put at the disposition of farmers to finance their equipment and inputs.

This is only possible if the control of credit is efficient, that is closely linked to the sale of production and integrated into cereals collection operations.

1.5 - Diagrammatic illustration of the cereals system

The diagram entitled "The Cereals System" summarizes the relations existing between the various different operators and, more exactly, between the functions they carry out :

- the lower part of the diagram reproduces the channel from the source to final food supply for consumers,
- in the centre, four rings illustrate first two complementary technical functions - storage and transport, and second two vital economic functions : price and financing; the arrows indicate the relationship between each of these functions,
- the top of the diagram illustrates the roles that the State can play :
 - . a merely regulating role,
 - . the role of a trading operator for import and export,
 - . a role of a trading operator for internal marketing.

This very simplified diagram nevertheless illustrates the complexity of the many interactions governing the cereals circuit.

It makes it possible to understand that any improvement of the cereals supply system depends on all the coherent actions taken in respect of the weakest points in the system, and not by merely sectoral actions with no links between them.

It is a basis for reflection on implementing an integrated policy (for cereals, agriculture and food supply) adapted to the particular conditions prevailing in each country.

II - PRINCIPLES FOR ACTION

The different levels of CILSS have already reflected on the principles which should be considered in redefining cereals policies capable of leading the Sahel countries to self-sufficiency by the end of the century. We will try to outline some principles which serve as background to the discussion of the colloquy.

2.1 - Three disequilibriums must be overcome as a basis to the CILSS long term strategy :

- the disequilibrium between population growth and food production, particularly cereals,
- the disequilibrium between urban population growth and the relative stagnation of the active agricultural population;
- the ecological disequilibrium due to the over-exploitation of lands without the introduction of conservation techniques and regeneration leading to reduction of its productive potential.

2.2 - Food self-sufficiency cannot be obtained without improving simultaneously the conditions of production, marketing and consumption.

2.3 - Each country is master of its options and its basic choices and it is within this framework that reflection should be carried out leading to a concrete action program.

2.4 - Nonetheless the method of analyzing the problem is common to all. It is based on a double approach :

- Vertical, that is to say based on economic agents so as to detect the measures best designed to make the role of each one more effective within the cereals system, to reduce conflict between them and to assure complementarity in their respective actions (see Chapter III, paragraph 1).

- horizontal, that is to say by major ecological zone in each country. " One of the errors committed until now was perhaps to consider each country as an homogenous and integrated economic unit. This differentiation between the agricultural potential of the different regions is fundamental for the formulation of future cereals policies."

2.5 - The solution of certain problems born from common reflection would merit a common research of solutions. In fact, the actions to be undertaken could, in certain cases, be more beneficial if they received the support of all countries.

2.6 - The elaboration of cereals, agricultural and national food policies which constitute the outcome of such reflection is the exclusive responsibility of Sahel States.

" These policies should introduce more coherence and be designed on the basis of precise qualitative and quantitative demand of cereals and defined on the basis of resources needed to satisfy such demands, such policies to be introduced into :

- national development programs
- into the programs of external assistance since the increase in cereals production will require large technical and financial resources."

In this regard a Food Investment Plan containing all measures to be taken would constitute a framework for coherent interventions and action to be proposed to donor sources.

2.7 - CILSS and the Club du Sahel could act as advisor among the States which so desire :

- to provide useful elements in helping to elaborate an overall coherent policy with regard to their own options
- To help them define the modalities of application of their policies

- to test pilot cereals projects of a new type integrating marketing with production (integrated projects "filières").

A.6

CEREALS STORAGE : SURVEY, REFLECTIONS AND SUGGESTIONS

Michel GROLLEAUD
and
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S U M M A R Y

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INTRODUCTION

Any study of storage of food crops must take climatic situations into consideration, as they play a major part in agricultural production and in the preservation of products. Transport possibilities must also be taken into account, as they enable storage to play its role in the distribution circuit.

In the case of storage in the Sahel zone, which mainly concerns cereals : millet and sorghum, then rice and maize and accessorially wheat, it is essential to start from two basic realities : on the one hand, the precariousness of agricultural and climatic conditions, which make it necessary to be provident and "conservative" ; and on the other hand, the self-consumption system, which is characteristic of rural civilizations. To this must be added the fact that the populated areas are widely spread, the distances to be covered are long and roads and communications often poor.

However, it must be stated straightaway that this situation is changing fast as a result of the trend to urbanization. The appearance of towns and the increase in the urban population, as people gradually abandon agricultural production, bring a necessity for concentration and organization of a market ensured of regular supplies. This in itself requires a commercial network and results in the creation of a new merchant class.

These social and economic transformations, which have considerable influence on cooking methods and feeding customs, cannot fail to have an incidence on the rural and agricultural world and on the latter's traditions regarding food crops. This is particularly the case with storage, whose organization no longer corresponds perfectly to new distribution and consumption forms. Nevertheless, long term emergency storage requirements must not be forgotten and they were very well catered for by traditional storage methods. This is why this chapter, after dealing with traditional storage systems, will go on to discuss successively commercial or operational storage and reserve or emergency storage.

The function and purposes of storage

Before proceeding to describe storage methods, it is perhaps advisable to define a few terms. The essential function of storage of food crops is to carry consumption forward ; it therefore consists of building up a stock, that is to say to store a part of the harvest so as to distribute it and postpone its consumption in space and time.

This major function in the economy is all the more important when it is a question of basic foodstuffs and fragile agricultural and climatic conditions. This is why, given the present social and economic evolution, new institutions appear, which attempt to take over the organization of the storage of cereals.

For the moment, we shall only deal with three main types :

- storage for current supply requirements :

products stored with retail merchants and producers. On the one hand it is a matter of storage for regular current distribution, while on the other hand, of subsistence storage, which may well exceed requirements for the year as a protection against bad crops ; both types can have a speculative purpose.

- regulation and stabilization storage :

this type of storage forms part of the trading cycle, where the law of supply and demand prevails; it acts as a counter-balance to the effects of speculation. It therefore consists of a reserve, which can be used for regularizing arrivals on the market and stabilizing prices ; hence its other name : "operational" storage (in this field, the timeliness of intervention is more important than the quantity).

- emergency storage :

this kind of storage is designed to constitute sufficient reserves to ensure that there is no lack of food in spite of exceptional supply difficulties, in particular in the event of short crops. It can be called :

- . reserve storage,
- . emergency storage or storage for urgent requirements.

I - STORAGE METHODS AND SYSTEMS

A - Traditional storage

1 - Rural and family granaries

Storage of grain in peasant conditions is a very ancient practice linked to the time when agriculturists became sedentary ; it benefits from proven experience. The technical processes used in making storehouses and granaries :
- materials, forms, dimensions, arrangement - are a sign of great capacity to adapt these buildings to local resources and of architectural skill allying the efficacious and the aesthetic.

The capacity of these granaries also reveal the same accuracy of appreciation in the matter of volumes and weight. Thus, the "secco" granary - tressed vegetable fibres - will be twice the size of a granary in "banco" - moulded mixed earth - to contain the same quantity of millet or sorghum ; in the first case, it is a matter of grain in the ear, and in the second of threshed grain, as a granary in "banco" is more resistant and more hermetic. Furthermore, the capacity of peasant-type granaries corresponds to the minimum annual requirements of members of a family i.e. about 200 Kgs. of grain per individual person.

In the event of a surplus crop, manufacture of a new granary with local materials, which cost nothing, makes it possible to store the grain in the village instead of selling it hurriedly and often at a low price.

2 - Efficacy

There are few systematic studies on traditional storage. The study ordered by the C.I.L.S.S. and the Sahel Club in 1978 (1) tries to draw up an inventory and an assessment of these ancestral methods. The information and observations contained therein made it possible to establish the technical efficacy of these granaries beyond doubt, and this seem to be confirmed by various different surveys and research operations.

First of all, the work of a team from I.N.S.E.R.M. (2) must be mentioned. It was directed by Mr Thierry BRUN. This team studied the volume and the contents of peasant-type granaries in the Sahel zone of the Upper-Volta. They discovered that an average family in this region possessed a storage capacity of almost 190 Kgs. per each member of the family. According to the consumption estimates obtained by the same team by means of checking, the granaries represented about 120 % of the annual consumption (i.e. a reserve supply of 14 to 15 months, when the granaries are full).

(1) "Study on storage of food grains in the Sahel"

Arup Partners Ireland International and the Inter G Group, Paris, October 1978. See specially Volumes I and II.

(2) National Institute of Health and Medical Research - see "The risks of famine and the interest in nutritional supervision in the Sahel" ; mimeo, by T. Brun, S. Gohman, F. Bleiberg and C. Layrac - Research Group "GRAINS" - Bichat Hospital - Paris, 1978.

According to the discoveries made by the I.N.S.E.R.N. team, cereals were in a more or less good state of preservation towards the middle of July, eight months after the harvest. However, this study did not try to estimate storage losses accurately.

On this date, the study carried out by H. Guggenheim and H.H. Diallo on the storage practices of the Dogons (1), and the work carried out by the CNRA (2) in Senegal seem to be the only studies that tried to estimate the losses on stocks in traditional granaries. By basing their enquiries on twenty-nine farmers, Guggenheim and Diallo consider that losses after a harvest on the field itself (harvesting, collection, attacks from insects during drying, etc..) are far greater than the losses during storage proper. The latter amount to an average of from 3 to 4 %. In a more specific manner, they reached the conclusion that losses of millet stored in good condition in traditional granaries are approximately 2% during the first year, 3% in the second and 5% in the Third year.

These results are worth comparing with those obtained by CNRA research teams in Senegal. The CNRA teams studies the efficacy of simple technical processes used by Senegalese farmers to reduce storage losses. These results are summarized in Table 1.

- (1) Hans Guggenheim and Hamidy Hama Diallo " Grain Storage in the fifth region of Mali : Problems and Solutions , USAID 1977".
- (2) National Centre for Agricultural Research."Summary of research work on post-harvest technology" - Bambey, Senegal, 1977.

TABLE N° 1

Annual storage losses in traditional granaries

(Bambey, Senegal)

Millet (not threshed)	2.2 %
Millet and Sorghum mixed	12.4 %
Sorghum (threshed) mixed with sand	9.8 %
Sorghum (threshed)	9.5 %
Sorghum (threshed and treated with bromide phosphate)	4.9 %
Sorghum (not threshed)	5.3 %
Sorghum (not threshed, and treated with bromide phosphate)	4.0 %

SOURCE : CNRA/CRDI, op. cit.

If we decide not to take the value of the time into account (cost of timeliness) which the farmer devotes to building his granary, to its maintenance and to its protection when it is full, it can be said that storage losses represent the only real cost of local storage (1). The local materials used (wood, straw, banco, etc...) for making these granaries are free, except perhaps for wood, and available in abundant quantities.

- (1) There are no price details enabling us to estimate the cost of building a traditional granary. However, A. Pinckney ("An analysis of Grain Storage in Three Interior Sahel countries", CRED, University of Michigan, 1978) quotes details with figures in support coming from a study of traditional granaries in Ghana. According to these figures, the total construction cost

.../...

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There are practically no economies on the scale of those that can be obtained by transforming small individual granaries into big storehouses, on the contrary. The fact that a farmer possesses several small granaries enables him to spread his risk of losses due to theft, fire, rodents and attacks from birds and insects. And so, it appears that the traditional storage methods practised by peasants are extremely efficacious.

B - Public storage

1 - Modern warehouses or storehouses

It was especially on the occasion and after the great drought of the years 1972 - 74 that public authorities started to examine the question of equipping their countries with new means of storage. The zones equipped in priority were those most affected by the drought and above all urban centres.

These warehouses are generally big metal hangars, cemented to the floor and closed by means of parpen or sheet-metal walls. Sometimes they consist of fairly low shelters, made of completely metal prefabricated elements, or again of big circular plastic tanks (butyl, etc...), supported all round by a rigid wall and covered with a dome-shaped canvas roof. These last two types of silos, which are very hermetic but somewhat inconvenient to use, are often kept for preserving reserve and emergency stocks.

(1) (continued from the previous page)

of the labour given by the peasant for a granary with a capacity of 5 tons is less than 2 500 F.CFA, that is to say less than 500 F.CFA per ton.

2 - Preservation problems

Anyone visiting these modern storehouses can easily see that the state of the stocks is rarely satisfactory and that, in contrast to rural granaries, losses are sometimes considerable. Some people accuse the cereals boards or cereals organizations with poor management. But it must not be forgotten that many problems are linked to the storage method itself, and this question should be studied before talking about negligence on the part of the civil servants or the organizations responsible.

The ARUP/INTER G study gives several reasons contributing to reducing to a considerable extent the efficacy of storage in warehouses in the Sahel climate. Amongst these reasons are the heat, which allows insects to multiply throughout the year, the difficulty in keeping bags in good condition for more than a few years and the problems linked to cracks in the walls and floors, in which insects take refuge during fumigation operations.

In theory, some of these imperfections can be put right by means of a large number of anti-parasitical treatments (1), by renewing bags and by rotating stocks frequently. However, all that increases the cost of storage enormously and requires the presence of a large number of qualified personnel. If the storage period only lasts a few months, these extra charges are compensated for by savings due to the greater ease of handling cereals in bags. But the warehouses are not suitable for long-term storage.

(1) There is a limit to the number of fumigation operations that can be carried out on a stock of cereals. Above this limit they are no longer consumable.

T A B L E N ° 2

FORECAST OF WAREHOUSE STORAGE COSTS

(in F.CFA.)

It is difficult to obtain accurate estimates of the cost of storage, as there is nothing resembling an analytical accounting system for the warehouses in use. Table 2. gives the overall forecasts mostly based on project documents :

Sources (1)	Recurrent Annual Costs	Total (including depreciation and financial charges)	Observations
USAID	10 100	13 800	Losses on stocks: 4% - Financial charges on the purchase price : 2 275 F.CFA. Cost of central administration, verification and inspection 1 600 F.CFA.
T. P. I.	9 600	12 500	
SONED	4/ 5 000	No reply	Losses on stocks: 3% - No distribution of overhead expenses. Financial charges only 3% - No false expenses for maintaining warehouses. Pre-supposes large capacities (10 000 t.)
F.A.O.	4 400	7 500	No financial charges on the purchase price - Losses on stocks: 3% - No distribution of overhead expenses. No various false expenses for maintaining warehouses

(1) The forecasts given by USAID, TIP and SONED are quoted in "CILSS/CLUB du SAHEL", Study on Cereals Storage, ARUP PARTNERS & INTER G, 1978 ; the FAO source is the recent report on "The system of Reserve Stocks of Cereals in the Sahel Zone", Rome 1979.
 USAID : International Agency for Development, U.S.A.
 TPI : Tropical Products Institute, United Kingdom
 SONED : National Company for Development Studies, Senegal.

The fairly big differences in these forecasts, some double the others, are easy to explain. The forecasts given by SONED and FAO do not include some elements in the cost of storage, which are included in the USAID and TPI forecasts, like, for example, administrative overhead expenses (verification, inspection, etc.), financial charges in respect of the funds required to buy the cereals and the false expenses for warehouse maintenance (1). Even if, at a later date, other agencies are to be responsible for some of these expenses, the latter should nevertheless be included in the cost of storage. Furthermore, the forecasts given by USAID and TPI include some cereal warehousing charges which form part of the purchase price in the figures given by the FAO. Consequently, the figures of USAID and TPI exaggerate the average annual cost of long-term storage to some extent.

All these figures are probably somewhat optimistic for two other reasons. First of all, the assumption that losses on stocks amount to from 3 to 4% represents an ideal situation which has certainly not yet been attained. And then, all the calculations are based on the assumption that the warehouses are used to full capacity. It is obvious that if the available capacity is not entirely used, which is at present the case in all the countries in the Sahel zone, the fixed charges per ton will be much higher.

3 - Management of cereals boards

Management problems are extremely delicate and often leave very much to be desired. This is mainly due to the structure of public storage. The States have set up cereals boards placed (2)

(1) In the forecasts given by USAID and TPI, these charges amount to about 5 000 F.CFA.

(2) See the list of national cereals boards in the following Table (page 14.), with the corresponding storage capacities.

directly under their authority. These boards are responsible for collecting, storing and marketing cereals. Unfortunately, the means do not measure up to the targets : insufficient credits, means of transport and sometimes storage space ; weighty decisions; slow communications and the length of time required for information to circulate.

This often results in the boards failing to carry out their initial task as market moralizers and concentrating essentially on the management and distribution of foodstuffs assistance. But then, for their part, producers become discouraged and turn to private merchants, whose function appears all the more important for having been momentarily neglected.

PUBLIC STORAGE CAPACITIES
IN THE COUNTRIES OF THE C.I.L.S.S. IN 1978 (a)

C O U N T R Y	NAME/INITIALS ^(b) OF THE PUBLIC BOARD	PRESENT AND PLANNED STORAGE CAPACITY (1 000 tons)		POPULATION (Previsional figures 78) (Millions)		STORAGE CAPACITY PER PERSON (Kgs.)	
		Present	Planned (c)	Total	(Urban)	Total	(Urban)
CAPE-VERDE		22	9	31,0	0,3	103,3	(387,5)
GAMBIA	G.P.M.B.	20,9	14,5	35,4	0,5	70,8	(272,3)
UPPER-VOLTA	O.F.N.A.C.E.R.	52,0	-	52,0	6,1	8,5	(120,9)
MALI	O.P.A.M.	88,7	-	88,7	6,3	14,1	(88,7)
MAURETANIA	O.M.C.	14,0	-	14,0	1,5	9,3	(46,7)
NIGER	O.P.V.N.	82,0	10	92,0	5,2	17,7	(219,0)
SENEGAL	O.N.C.A.D.	127,0	-	127,0	5,1	24,9	(83,0)
CHAD	O.N.C.	21,0	-	21,0	4,3	4,9	(35,0)
TOTAL		427,6	33,5	461,1	29,3		(4,49)

(a) Source : see CISS/SAHEL CLUB : "Study on storage in Sahel countries" op. cit.

(b) Meaning of the initials : - G.P.M.G. "Gambia Produce Marketing Board"
- O.F.N.A.C.E.R. : National Cereals Board
- O.M.C. : Mauritanian Cereals Board
- O.P.A.M. : Mali Agricultural Products Board
- O.P.V.N. : Niger Food products Board
- O.N.C.A.D. : National co-operation and Development Assistance Board
- O.N.C. : National Cereals Board.

(c) In the process of being effected or the subject of financing.

C - Private storage

Private storage with merchants is still less well known than peasant storage, both as regards its methods and capacities and its networks and flux. This does not mean it is not important, on the contrary, one is tempted to say the opposite.

To tell the truth, specialized wholesalers or merchants are still rare. Most of them are small merchants, who stock grain along with other foodstuffs according to circumstances.

Rather than speculating on storage, a small merchant will try to benefit from the fluctuation of prices so as to buy and sell quickly. And so, he locks up as little capital as possible and at the same time avoids investment in installations, maintenance and processing. If he buys grain on the occasion of the harvest, he generally asks one of his producers to keep it in exchange for a small consideration. In this way, small services are exchanged and links of dependence formed.

Stocks of cereals with merchants are therefore always small, consisting of a few bags or a few dozen bags piled up in a corner at the back of the shop, or at best in a small brick or cement building with a cement floor. Generally, no anti-parasite measures are taken, but losses are small as the merchandise is only stored for a very short time. However, it is not rare to find bags that have stored for some time seriously infested.

II - SUPPLY AND DEMAND

It must not be forgotten that storage often plays a decisive role in regulating supplies and prices, that is to say it enables supply to be adapted to demand, and is a very important economic and social factor in a country.

But this adjustment between supply and demand essentially pre-supposes that supply is abundant enough and always available. Now, as is well known, in spite of a few good crops since the last great drought, supply of cereals has had great difficulty in following demand. This is clearly revealed by study of the evolution of production and the amount of imports over the last ten years.

When the production figures for grain are examined, especially those for millet and sorghum which constitute the basic foodstuff in countries in the interior of the Sahel zone, a certain stagnation can be observed around an amount of 4 500 000 tons per annum. (1).

During this time, the population has not stopped increasing at a fairly rapid speed (2), gaining, for example, more than three million inhabitants between 1970 and 1975.

(1) It is the arithmetical average between 1967 and 1977.

See the recapitulative table hereafter (Table 4., page 19.)

(2) See in the Synthesis, Volume IV, of the "Study of storage in Sahel countries", already mentioned, Table N° 1., page 11, reproducing the figures given by the FAO.

But it is above all with wholesalers or semi-wholesalers that the problem of the condition of stocks is most serious. Indeed, if the report drawn up by the C R E D (University of Michigan, 1977) is to be believed, big merchants "manage to collect fairly large quantities of grain, in the neighbourhood of a thousand tons" ; it is not merely a question of local grain, but also of imported grain. Even if these merchants have a big clientele - semi-wholesalers, retailers, consumers - they will not be able to sell such quantities in a few weeks and must suffer far greater losses than small merchants.(1).

(1) Reference should be made to Volume I of the study made by the CILSS/CLUB of the Sahel (ARUP/INTER G.) already mentioned for further details concerning storage systems, including those used during the colonial period.

A calculation, on the basis of a ration of 180 Kgs. of food per person per annum, makes it possible to measure the increase in demand, i.e., in this case 540 000 tons. It is therefore not surprising that imports have not decreased since 1969, in spite of the efforts to intensify agriculture and assistance in the matter of foodstuffs. (3)

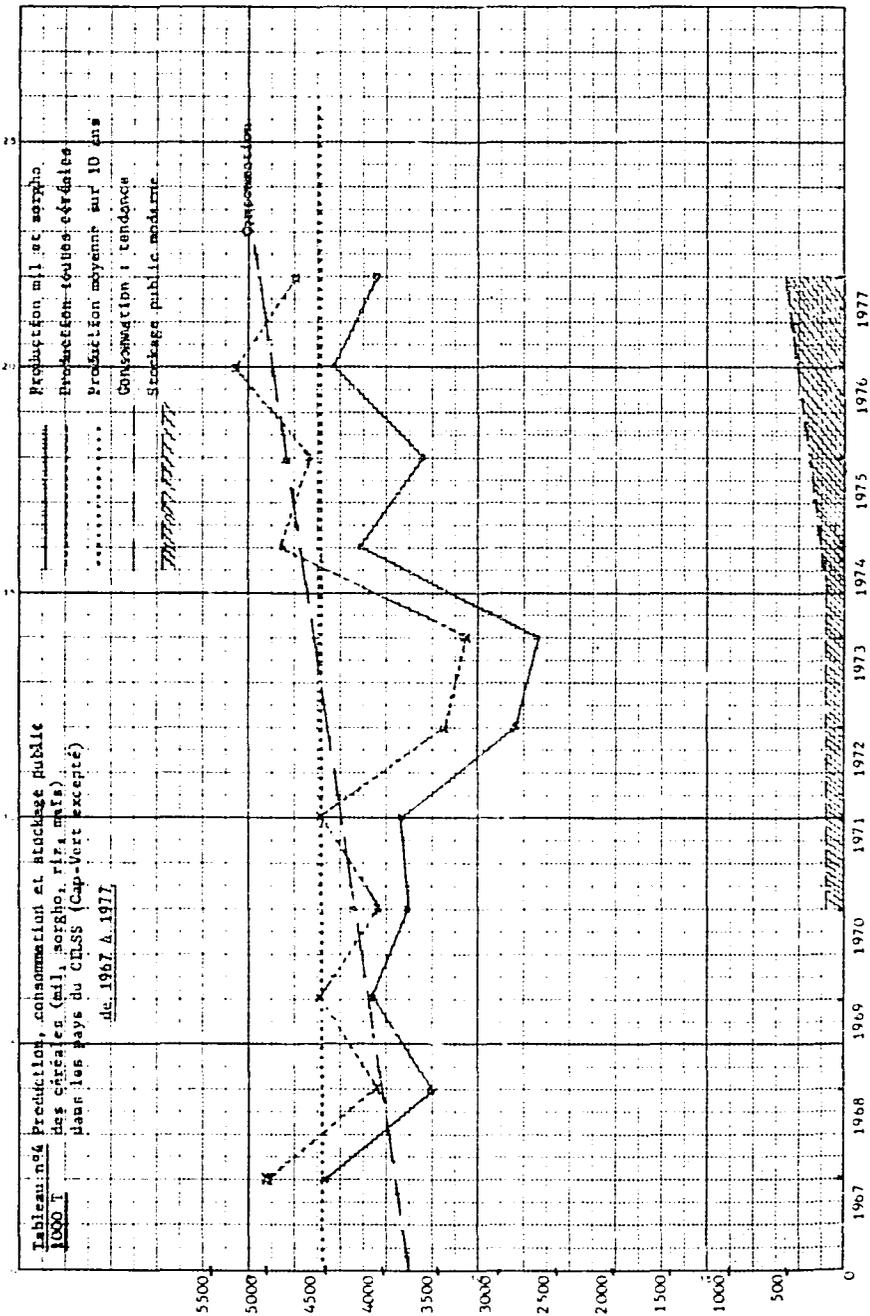
A recapitulative Table below illustrates how the situation has changed since about 1972 and the increasing risk of distortion between supply and demand compared to the average figures for production over a period of eleven years. This corroborates a statement in the Recent FAO report mentioned above : "The Sahel zone shows an overall deficit in the matter of its cereal supplies....".

REMARKS : This Table provides food for reflection :

- For example, it will be noted that whereas overall production seems to be on the increase, production of millet and sorghum seems to have fallen off. The difference obviously lies in new irrigated cereals, essentially rice and maize.
- It should also be noted that peak production since the great drought has never exceeded production for 1967.
- Finally, it should be noted that the amount of cereals stored

(3) According to a report drawn up by the FAO on reserve stocks, already mentioned, "The nett size of imports is probably from 350 000 to 450 000 tons in a normal year". For agricultural statistics, reference can usefully made to the many appendices in this report.

in public warehouses is relatively small, but it must also not be forgotten that its efficacy depends more on intakes of stocks and their availability than on the capacities themselves.



Evolution of demand

To the preceding trends that are quantitative in nature must be added others that are rather more qualitative.

More and more bread is being eaten in Sahel countries, especially in the towns ; the same applies to rice, which is not all imported, whereas wheat is. A large quantity of maize is also now consumed, illustrating the greater extent to which this cereal is now being included in the diet of populations in the Sahel zone. Maize has the advantage to require less water than rice, and it can be more easily adapted to local conditions than wheat. It can therefore be substituted for both of them, either in the form of broken rice, or in the form of couscous (like wheat).

A recent survey carried out by the "African Food and Nutrition Research Board " (1) provides proof of this evolution. The interest of this detailed survey, carried out not only at Dakar but also in two small towns in the interior, lies in the fact that it examines the expenditure of households per revenue levels : in the total expenditure on cereals, whose value amounts to almost 30% of the expenditure on foodstuffs, rice and wheat represent together practically 90% (89.5 exactly, i.e. rice : 16.9 + wheat 9.7 = 26.6 % compared with a cereals total of 29.7%).

These figures should call attention to the extent and the speed of the evolution of feeding trends. Of course, all Sahel countries are not the same as Senegal, where the national dish

(1) See O.R.A.N.A./F.A.O. "Survey of nutrition and food consumption - Dakar, Senegal - June-July 1977" Dakar, May 1978.

is rice and fish. But it is a confirmation of the tendencies that are spreading in Sahel urban areas, and they will also gradually spread to country areas.

This evolution is bound to have considerable influence on the transformation sector. Up till now, this sector has developed little and it concerns essentially urban zones for the preparation of couscous and rice and bread-making. But with the growth of urbanization, which accelerates the changes in feeding customs, and the attraction, especially for the women, of small mills in rural areas, an extension of infrastructures can be expected (flour-mills, semolina factories), as well as the appearance of a number of artisans concentrating on the transformation of cereals. These industrial installations or artisanal activities will naturally require adequate healthy storage capacity, as it is more difficult to preserve flour than grain.

Storage and Transport

A diversified transport network will doubtless develop on parallel lines. Indeed, storage problems cannot be separated from transport problems, and the technical and economic links between storage and transport cannot be underestimated in the food distribution circuit. It is a matter here of both national and international means of communication.

It is often stated that interior countries with no coastline are handicapped compared with coastal countries in the matter of communication with the outside world and with sea ports.

But the handicap suffered by these same countries in the matter of internal transport is never sufficiently stressed. This is the case with Mali, Niger and Chad, to which Mauritania can be added, which have vast territories and whose natural means of communication - rivers and waterways - are impracticable or not extensive, unlike those in Gambia and Senegal. A situation of this kind militates against the development of a country, and in favour of diversification and decentralization of storage and transport means and of making a great effort to build up infrastructures in the field of communications.

At a time when the town population is increasing faster than the rural and agricultural population and when feeding habits are also changing in a parallel manner, the previous observations must not be forgotten when it is a question of organizing a storage system. Whether it is a matter of methods, dimensions or locality, all research work should consider fully the various production areas - well-balanced, areas showing a deficit and areas showing a surplus -, as well as distances, means of access, market centres and consumption localities.

III - PROPOSALS AND RECOMMENDATIONS

Solutions to the problems raised by preservation and distribution of foodstuffs do exist ; the tradition of granaries in the Sahel zone proves this amply. They pre-suppose good knowledge of the natural surroundings and ingenious adaptation to its particular circumstances.

However, to these conditions that are already critical in the case of the Sahel, another difficulty of a different type must be added. This is the appearance of a monetarized merchant economy. In reality, this appearance creates a new situation linked to another type of civilization, which requires new solutions.

This is not a reason for paying no attention to old practices and keeping their positive factors, for example, the virtues of family and village storage or the merits of small-scale rural and itinerant trade. But the present-day evolutions cannot be ignored either, nor can the new requirements or the transformations that will probably take place shortly. This concerns both men and institutions and technical processes and management. We shall try to make a few proposals here on these different subjects, discussing first of all current storage methods and stabilization and then emergency storage.

1 - Current storage methods : subsistence and regular supply

The actors are on the one hand the peasant-producers, and on the other hand the merchants, small wholesalers and retailers.

Whereas it is true to say that peasants play an irreplaceable economic and social role, it is nonetheless true that their future will be compromised if they are not both encouraged and at the same time integrated in national policies concerning storage and distribution. This means first of all that the prices offered on the market must cover all the cost of producing grain, including the cost of storage.

States could also set up additional economic incentives, such as payment of advance sums on crops, credits on the amount of grain stored, in the same way as many co-operative-type associations do. They could encourage the formation of various groups in the field of technical organization, financial loans and initiation in questions of management and accounting. In this way farmers could acquire practical training in the exercise of their responsibilities, and be able to play their part in the organization and management of storage and in marketing their products.

Whereas merchants also play an important part in the matter of transport and distribution, they often appear as competitors to peasants, and even profiteers, at primary collection level. The existence of collective granaries (1) of the village or

(1) See on this subject, in "Study on storage of food grains in the Sahel", already mentioned, Volume I, Chapter 5.1., on "the improvement of traditional storage" - See also the work of the Seminar on "improved grain storage methods in West Africa", held at Ouagadougou in 1978, University Development Studies Institute, Geneva - Next publication.

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improved type, would enable producers to offer bagged and threshed grain in excellent condition and to be more demanding as regards respect for prices.

Private trade and the public sector

Merchants intervene more especially at the other end of the distribution chain. However, they are in close contact with the producers and play the composite role of collectors, transporters, wholesalers and/or retailers. They possess a network of exceptional relations and inexpensive installations, as well as considerable flexibility and skill, which can make them competitors with official organizations. The latter's hostility is not a durable solution and we shall proceed to make suggestions here along the same lines as those made previously.

Incentives initiated by Public Authorities for the purpose of improving storage conditions could well be accompanied by greater severity in the matter of quality control of stocks and control of prices ; this would be to the advantage of everyone.

2 - Regulating or stabilizing storage

This type of storage is designed to prevent abuses and sudden rises in process, which usually occur in the between-harvests period, on the occasion of penury or when supplies are rare (provoked). The task of officers on Public Boards is to supervise prices on the market ; they should have enough liberty and initiative to be able to intervene in the trading circuit with the stock for which they are responsible.

This pre-supposes that the main populated areas or market centres are equipped with means of storage and that the officers on the Boards have been given sufficient responsibility and the proper training. But it pre-supposes above all that stocks are available and immediately mobilizable.

It is generally considered that a proportion of 25 % is sufficient to control market prices. This is the amount taken by "The Study on Storage of Food grains in the Sahel" (1) for calculating the capacity required for regulating storage. The volume that can be put on the market is based on urban consumption (180 Kgs. per person per annum ; average for an urban population : 15,75 %), which gives a theoretical and overall regulating stock for 1975 amounting to 169 710 tons.

If the forecasts made by the F.A.O. for 1990 are taken, as they are stated in the "Appendices" to the F.A.O. Study on "A system of reserve cereal stocks in the Sahel" (2), and a quick calculation is made on the basis of the marketable production (1 634 000 tons), corresponding to 24 % of the non-agricultural population, we obtain the following volume : 392 160 tons.

(1) Op. cit. - See Table N° 6., page 26, Vol.IV "Synthesis".

(2) Op. cit. - See in particular Appendix 10.

It must be remembered that the present public storage capacity is nearly 500 000 tons (1), but the amount of emergency storage is not included and that is what we are going to discuss now. (2)

- (1) All the figures quoted for public storage capacities obviously concern all the countries in the Sahel.
- (2) It must also be remembered that a diagrammatic presentation of "alternative proposals" for an integrated storage system will be found in Volume I and in Volume IV of the "Study on Storage", op.cit.

IV - EMERGENCY STORAGE

1 - Production deficits and reserve stocks

One of the main factors in determining the volume of an emergency stock are obviously the variations that can be expected. These variations can be forecast by studying production variations in the past. Unfortunately, only incomplete data are available to carry out this research work and the results must therefore be interpreted with prudence.

The data available make it possible to calculate the frequency with which production has fallen below normal (represented by the average trend curve). The figures in Table 5 are based on observations covering the last twenty years of production in four Sahel countries (1). It is from these data that we have drawn up the approximative forecasts on the frequency with which the harvest is less than the average.

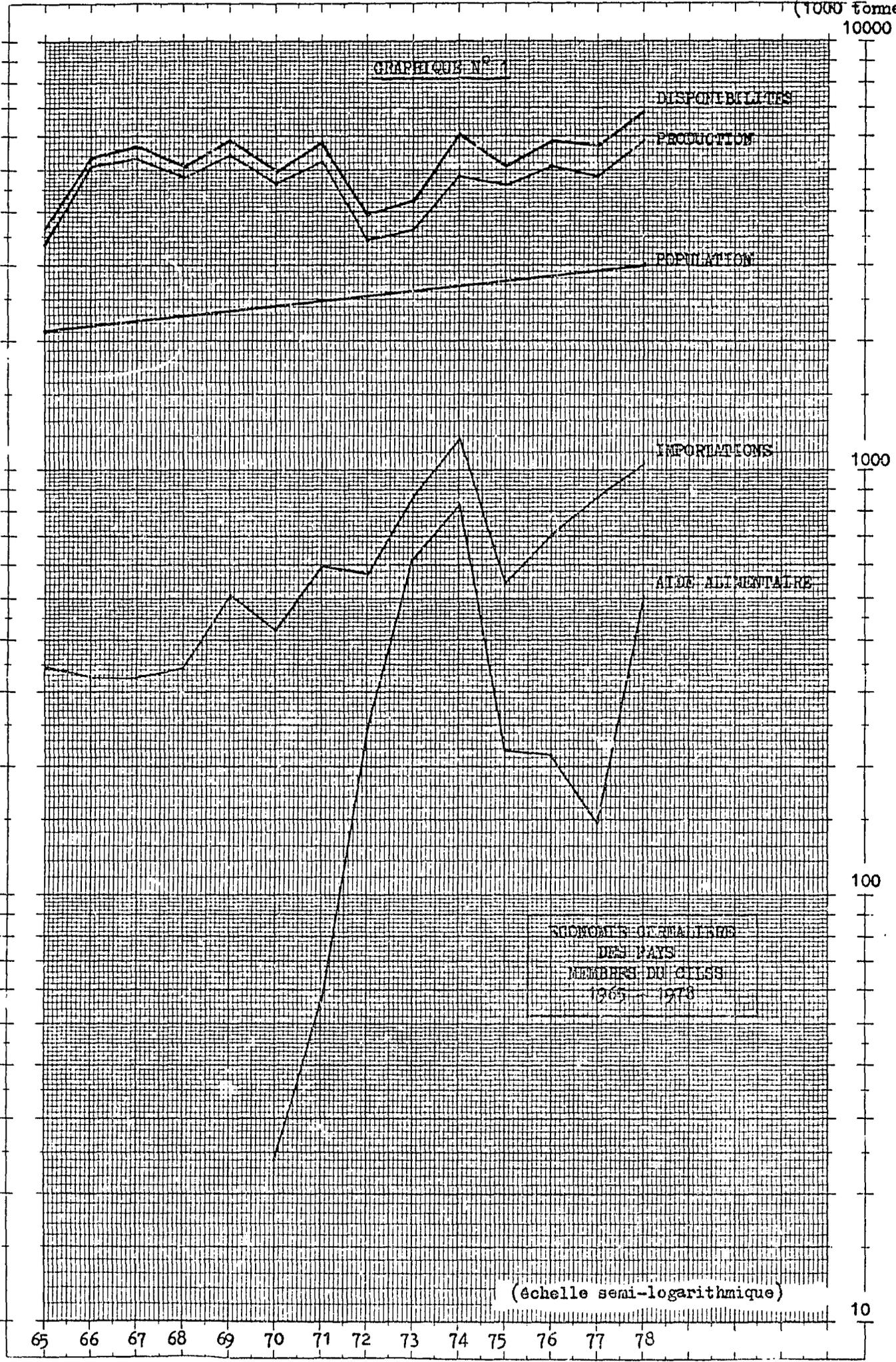
This Table is interesting as it makes it possible to calculate how long grain has to be kept as a buffer stock before being used. For example, cereals placed in a warehouse at a cost of 60 000 F.CFA per ton should be stored for from 2 to 3 years at an average cost of from 10 to 14 000 F.CFA per ton per annum.

- (1) Gambia, Upper-Volta, Niger and Senegal.

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(1000 tonnes)
10000

GRAPHEQUE N° 1



INDICATEURS DE LA SITUATION
DES PAYS
MEMBRES DU CEESS
1965 - 1978

(échelle semi-logarithmique)

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T A B L E N° 5.

Frequency with which production of cereals has fallen below the average

(Millet, Sorghum, rice)

<u>Deficit in production</u>	<u>Occurring on an average once every</u>
More than 5%	2.5 years
More than 10%	3.5 years
More than 15%	5 years
More than 20%	10 years
More than 30%	20 years.

When the cereals finally leave the warehouse, they will have already cost about 90 000 F.CFA. This is why it is important that efficient storage methods should be used and that commercial exchanges should play their part in guaranteeing regular supplies of food. Of course, if import possibilities are uncertain for technical or political reasons, it may be necessary to keep a greater emergency stock.

It is interesting to note that the total cereals production in the Sahel varies far less than production in each country taken separately. It is probable, and this would have been possible in past years, that deficits in some Sahel zones can be compensated for by means of exchanges with other zones. In other words, if the Sahel area was well integrated in so far as inter State exchanges are concerned, it would be much better equipped to face up to production deficits.

2 - Transport and infrastructures

Unfortunately, transport infrastructures in the Sahel area are by no means perfect. Their improvement should be a major preoccupation of the CILSS States and the international community of givers of assistance. As far as the Sahel countries are concerned, they should take good care not lock up large sums, drawn from investment funds and Government resources, in setting up emergency stocks of an excessive volume.

But the buffer stock must not be too small. The study made by the F.A.O. (1) underlines that dispatch of cereals to the Sahel from Europe or the United States can require from 3 to 5 months.

(1) Study of reserve stocks, mentioned above.

SMI

It is possible to reduce this period somewhat by good organization and by means of a crop supervision system, which would enable the signs of a potential deficit to be diagnosed earlier. But there will always be a certain lapse of time during which the people in the Sahel area will have to rely on their own reserves to feed disaster-struck populations.

As far as the volume of this reserve stock is concerned, various hypotheses can be used to estimate it. The same F.A.O. study retains two, by basing its ideas on the forecasts given by "A.F. PLAN" (1) for 1990. The principle of this calculation lies partly on a requirement of 15 Kgs. per inhabitant per month (180 Kgs. per annum) for non-agricultural populations (average rate : 24 %), and partly on a uniform cover period of two months (Hypothesis 1), or two months for countries with a coastline and three months for inland countries (Hypothesis 2). The result in round figures is as follows :

Hypothesis 1 : 250 500 tons.

Hypothesis 2 : 348 500 tons.

These figures are not far removed from the reserve stock figures taken as a target by each of the Governments concerned (2).

(1) "Regional Food Plan for Africa" - F.A.O., 1978.

(2) See the F.A.O. study, Appendices 9 and 10.

On the other hand, these figures are markedly lower than those that would be obtained by the method of calculating proposed in the "Synthesis" of the ARUP/INTER G study, and including a "safety co-efficient", with a "compensation rate" (see the "Synthetic Table", page 24 to 26), on the basis of 6% of the total consumption. If a forecasted consumption figure for 1990 of 6 968 000 tons is taken (for a population of 38 589 000 inhabitants in all), the compensated emergency stock according to this method of calculation would amount to more than 500 000 tons for the whole of the Sahel. But is it normal to take the non-agricultural population alone as a basis for emergency stock ?

3 - Technical processes and costs compared

Up till now, no modern silo nor any large-scale bulk storage structures have been installed in the Sahel. Their greatest disadvantage lies in the fact that in order to be economically viable they must possess a large capacity (10 000 tons) (3). In the Sahel, this condition means that they can only be used in a few big urban areas. Their great advantage lies in the fact that recurrent annual expenses amount to about half those for storage in bags in warehouses. Furthermore, losses on stocks can be reduced to a minimum.

Within the context of a program for an inter-annual emergency stock, where preservation losses and recurrent annual expenses are very big owing to the long storage period, more attention should be paid to the eventual utility of silos. When the insufficiency of warehouses is taken into account, silos offer an alternative for the supply of a buffer stock for big urban centres, where the population has no possibility of building up its own reserve stocks.

The following Table (Table 6.) gives a general view and a comparison of the best forecasts of the cost of storage in the present situation. Prices are approximative. Of course, the exact cost of an emergency stock would be greater if the capacity were not completely used. All the costs indicated are quoted in F.CFA per ton.

(3) The ARUP/INTER G. study, mentioned above, observes that construction costs decrease suddenly between 5 000 tons (about 80 000 F.CFA./ton) and 10 000 tons (about 52 000 F.CFA./ton). See the "Study on storage of food grains in the Sahel", Volume I., page 130.

T A B L E N ° 6

COMPARISON BETWEEN STORAGE METHODS

Type of Structure	Construction costs (1)	Depreciation period (years)	Depreciation per annum (2)	Recurrent monetary costs per year	Losses on stock/year		TOTAL COSTS PER YEAR
					§	F.CFA	
Traditional granary	500	2-3	250	for inf.	4-5	(4) 1800	2 100
Warehouses or Storehouses	35 000	20	2 800	5-9 000 (3)	4-	(5) 2400	10 200 14 200
Modern silo (10 000 tons)	80 000	30	4 400	3-5 000	1	(5) 600	7 800 9 800

- (1) These costs also include purchase of the necessary equipment (scales, elevators, etc...).
- (2) Pre-supposes 6 % interest on the capital.
- (3) The prices given by USAID and TPI (Slough-United Kingdom) have been lowered thanks to exclusion of the cost of cereals storage (included in the purchase price), and the prices given by the F.A.O. and SONED have been raised thanks to inclusion of miscellaneous false expenses for maintaining the structures.
- (4) Pre-supposes a price to the producer of 45 F. CFA. per Kg.
- (5) Based on the purchase price, calculated by the F.A.O. at 60 F. CFA. per Kg., delivered to the warehouse.

4 - Localization of stocks

As has already been stated, the most vulnerable parts of the Sahel in the event of a calamity are those that are completely inland, and inside these, not the highly populated areas but the most distant zones and the nomad populations. This is why it is important to consider the places where reserve stocks should be located.

Several solutions can be envisaged. For example, inter-annual stock installations in the ports of Abidjan and Dakar would be precious in the event of a production failure ; the necessary cereals would already be on the African continent and could be mobilized very quickly.

Another solution would consist in building up inter-annual and international stocks in the Sahel itself. A stock at Bobo-Dioulasso, for example, could be used to supply the South-West of Mali as well as the Upper-Volta, whereas a similar stock at Niamey could be destined for Niger, the East of the Upper-Volta and Mali as far as Gao.

Arrangements of this kind would have great advantages. Stocks could be constituted throughout the year thanks to road networks and railways connecting these towns to the big ports. Furthermore, the quantities stocked would be sufficiently large to make big installations cost-effective. As regards their administration and management, these tasks could be carried out by a qualified staff under CILSS responsibility.

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CONCLUSION

While it is a matter of constructing the economic and social progress of Sahel countries, this must not be effected at the expense of their independence. Now, it must be stated that reliable food supplies constitute the first condition of liberty. This is why a dynamic agricultural policy must be promoted as a priority task.

In saying this, we are not moving away from storage problems. The proposals put forward are often based on two dominant hypotheses, either a chronic deficit, which is the present situation, or self-sufficiency in the matter of foodstuffs. Whereas there can be no question of accepting the first, which would result in dependence and penury, it seems that the second is not "sufficient" and that attention should be paid to a third option, that of surplus production. Indeed, if countries that are big cereals producers are self-sufficient, it is because they have surpluses, or rather to the extent of such surpluses. In other words, self-sufficiency pre-supposes the existence of habitual surpluses.

There remains the question of the use of these surpluses. A part from the reserves that have to be constituted or re-constituted according to the good old peasant tradition, it seems that a factor of the reply is already supplied by tests and early transformations of local cereals : millet and sorghum flour being used to make bread, millet couscous, various preparations with a sorghum basis, etc....

All these prospects may appear somewhat optimistic and even illusory when all the trends mentioned above are considered and in view of the weight of foreign influences. Perhaps too little emphasis has been placed on men's aspirations and their desire for responsibility. Traditional storage is a good example of this : for peasants, it provides them with a means of ensuring their family's subsistence, thus giving them dignity, and above that a certain pride in being able to feed their fellow beings ; to the men who build the granaries, it provides them with a chance to exercise their technical skills ; to the women, who manage the employment of the grain, it brings authority ; on the head of the family, it confers power, the power to control his production, and social prestige that embraces all the family. All these values must in no case be ignored when talking of organizing and setting up a grain storage system.

Rather than searching to affirm their power at all levels and at any price ; would it not be to the greater interest of government authorities to encourage and support all genuine steps taken in the matter of training research, creation, exchange and partnership, which denote a people's vigour, and without which no durable promotion nor any real community are possible.

B - BACKGROUND DOCUMENTS

B.1

THE USE OF FOOD AID IN CAPE VERDE

M. MAZZOCCHI
C.E.C.

SUMMARY

0. Introduction

1. Generalities on Cabo Verde

- 1.1 Geoclimatic features
- 1.2 The country's economy
- 1.3 The drought

2. The use of food aid

- 2.1 Free distribution
- 2.2 Food for work projects
- 2.3 The emergency programme
 - 2.3.1. Objectives
 - 2.3.2. Project identification
 - 2.3.3. Recipients' identification
 - 2.3.4. Organisation
 - 2.3.4.1. Real flows of food aid
 - 2.3.4.2. Financial flows of food aid and management of the emergency programme
 - 2.3.5. Outcomes
 - 2.3.5.1. Implementation rates
 - 2.3.5.2. Employment
 - 2.3.5.3. Macroeconomic equilibrium
 - 2.3.6. Obstacles
 - 2.3.6.1. Management problems
 - 2.3.6.2. Relations with donors

3. Conclusions

0. Introduction

The case of use of food aid in Cape Verde has been examined as the situation of this country is very particular. It is characterised by

- an extremely unfavorable climate, the almost permanent consequences of which do not allow any hope of reaching self-sufficiency in food, contrary to the other CILSS countries
- an almost total lack of alternative employment outside the rural sector.

These are the two characteristics that justify the massive use of food aid for an employment-creating programme in economic development projects, which is not the case in other sahelian countries. The Cape Verdean case is, therefore, very specific.

1. Generalities on Cape Verde

1.1 Geoclimatic features

Cape Verde's archipelago lies 450 km. off Senegal's coast and it is made up of thirteen islands for a total surface of 4033 km².

The soil is volcanic and, in most of the islands, very rough.

The islands lie in the sahelian climatic region and they depend above all on north-easterly winds for their short rainy season between July and October.

The rain pattern is characterised by heavy interannual variation, by a concentration of precipitation within the rainy season to the extent of 90%, and by the probability of a strong concentration within an even shorter period of time (up to 535 mm. in a single day has been recorded).

Cape Verde's population is about 320,000 inhabitants, for a density of 80 inhabitants per km². As the cultivated area is comprised - on the basis of different estimates of between 55,000 and 92,500 ha., there are theoretically between 3,49 and 5,87 inhabitants per ha. of agriculturally exploited land.

The high population density, as well as a fragmented landownership and the prevalent patterns of animal husbandry and of energy consumption have caused serious soil degradation. Today even mountain slopes are under cultivation in Cape Verde but green cover is very scarce, except in certain valleys and in supervised holdings.

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The torrential rains provoke serious damage by washing the alluvial soils directly into the sea, so that the quantity of arable soil is reduced and the year's sowing is seriously damaged.

1.2 The country's economy

Cape Verde's economy is based at present on the services sector (Mindelo's harbour and Sal's international airport), salt mining, and fishing. The agricultural sector contributes by less than 10% to gross domestic product which probably amounts to about US \$ 130 per capita.

Nevertheless, the agricultural sector absorbs 90% of the active population, the in turn represents 40% of total population.

Cape Verdean agriculture is therefore characterised by extremely low productivity.

Main food crops are corn and beans as well as sweet potatoes and manioc, whereas the most important cash crops are bananas and sugar-cane (see table I).

In 1976 the insufficient agricultural production accounted for one third of total imports of the country. Imports were only covered by exports to the extent of 40%.

About half of the population is under 15 years of age. The large Capeverdean community abroad contributes significantly, with its transfers, to the balance of payments (in 1977 remittances from abroad covered half of the trade deficit, see table II).

1.3 The drought

As it has been mentioned, the rainfall problem of Cape Verde lies in its wide interannual variability and in a concentration of rainfall within a short period of time and sometimes within a period of just a few hours.

During almost one fourth of the last two centuries Cape Verde has suffered acute famine.

The current drought has lasted since 1968, although there was a certain improvement in 1975/76 and, to a lesser extent, in 1978/79 (see table I).

However, given a requirement of about 70,000 tons of cereals a year and a maximum productive capacity of 40,000 tons, the cereals deficit in Cape Verde is chronic - barring increases in supervised holdings - and it can be estimated at between 30,000 and 70,000 tons depending on the amount and dispersion of rainfall.

The impact of drought on employment and on purchasing power are obvious and very important.

From this point of view, international food aid seems entirely justified.

2. The use of food aid

Food aid in Cape Verde is basically used in three different ways : free distribution to consumers, food for work projects, and selling of food to finance the "emergency programme" (see table II).

2.1 Free distribution

The government has identified certain "vulnerable groups" to which food is given on a free basis : the elderly, invalids, the sick, pregnant women, children, refugees, women heads of household and families with malnutrition cases.

Subsidies can either be in kind (direct distribution of food aid) or in cash.

This sort of direct assistance has never reached 10% of the annual food aid value.

2.2 Food for work

Another use of food aid consists of salaries in kind for people working on government development projects ("food for work projects"). This use is especially due to the procedures of certain donors (e.g. the World Food Programme and USAID).

This use of food aid is not quantitatively important, according to Capeverdean experts because of :

- the strong monetisation of the Capeverdean economy
- the limited range of distributed food and the impossibility of purchasing non-food items
- distribution costs.

Also, Cape Verdean officials are afraid of creating a mentality of dependency among workers.

2.3 The emergency programme

The most important use of international food aid in Cape Verde is, doubtless, the "emergency programme" i.e. the sale of food aid on the domestic market and the financing of development projects that employ a certain number of jobless workers.

The emergency programme is also financed, in part, by direct contributions (notably Swedish financial aid) and by equipment grants.

2.3.1. Objectives

The main objectives of the emergency programme are :

- a) to absorb a certain amount of unemployment and to supply a minimum amount of purchasing power ;
- b) to implement infrastructure projects that are important to the ecological and economic equilibrium of the country ;
- c) to eliminate direct assistance, which may involve psychological dependency on external aid ;
- d) to lease food distribution problem.

To these four objectives one can add that of attaining independence in the management of projects that are directly financed by the sale of food aid, in comparison with projects that are directly financed by international cooperation.

2.3.2. Project identification

Project selection criteria are :

- a) short-term employment creation;
- b) economic return criteria ;
- c) the possibility of filling the voids in international cooperation (areas lacking projects financed by international aid sources) ;
- d) complementarities with the future development plan.

The most important projects are those of "opening-up" areas (road projects), anti-erosion projects (soil and water conservation), and those of development of small supervised holdings.

In practice, the priority order for projects is established on the basis of priorities by island, each of which being ranked on the basis of several criteria :

- a) population density ;
- b) population density per unit of arable land ;

- c) irrigated area
- d) dependence on the agricultural sector
- e) impact of the drought
- f) availability of alternative employment opportunities ;
- g) national impact of a lack of agricultural production ;
- h) availability of projects already financed by international donors.

On this basis the main islands are ranked as follows :

- 1st priority : Santiago and Santo Antao
- 2nd priority : Fogo, S. Nicolau, S. Vicente
- 3rd priority : Boavista, Brava, Maio
- 4th priority : Sal.

2.3.3. Recipients' identification

Workers to be employed are selected according to the following criteria :

- a) unemployment or underemployment status ;
- b) productivity lower than the emergency programme standard wage ;
- c) physical aptitude and professional qualifications ;
- d) creation of at least one job per household and sharing of additional jobs on the basis of size of the household ;
- e) status of woman head of household.

2.3.4. Organisation

2.3.4.1. Real flows of food aid

The Ministry of Commerce is in charge of estimating consumption needs and the Ministry of Rural Development of estimating agricultural production. Once these parameters are ascertained, EMPA (Empresa Publica de Abastecimento, that depends on the Ministry of Commerce) - the state body in charge of marketing - takes care of commercial imports and the State Secretariat for Cooperation and Planning lays down the food aid requests to international donors

Once arrived at Mindelo or Praia, cereals imported on a commercial basis or as food aid are stored in the EMPA warehouses (capacity : 5,800 tons in Praia, 12,000 in Mindelo, and about 5,400 in the other islands ; 12,000 tons are under construction and 8,000 more are in the planning stage).

Grains are marketed either directly through the 16 EMPA stores or by private traders that may purchase directly from EMPA.

As an example, in 1979, prices and margins on first quality corn and beans are as follows :

1st quality corn :

CIF price	6.73 ex./kg.
EMPA cost price	7.20 ex./kg. (EMPA margin : 7%)
consumer price	9.00 ex./kg. (trader's margin : 25%)

beans :

CIF price	21.10 ex./kg.
EMPA cost price	26.00 ex./kg. (EMPA margin : 23%)
consumer price	36.00 ex./kg. (trader's margin : 38%)

It is to be noted that EMPA enforces price equalisation among islands lying more or less distant.

2.3.4.2. Financial flows of food aid and management of the emergency programme

Income from the sale of food aid by the EMPA stores and by traders is transferred by EMPA to the National Development Fund, which was established in 1975 (Cape Verde's independence year).

The activities of the Fund are coordinated by the State Secretariat to Cooperation and Planning and managed by a board on which are represented Cooperation, Commerce (EMPA), the project executing bodies : Public Works, Rural Development, Home Ministry, etc. (see diagram).

The Fund finances project execution on a monthly basis through the executing bodies that implement projects in the field thanks to their local offices and experts on the spot. The representatives of executing bodies and of the Home Ministry make up the Regional Commissions that ensure personnel selection (see 2.3.3), work supervision, and drafting of periodic reports to the Fund's Board and to the State Secretariat to Cooperation and Planning.

Reports are of three kinds : monthly (use of funds and eventual request for additional ones), quarterly (employment, work progress, impact on project area, schedule for the following quarter) and a final report of actual achievements, economic and social effects of implemented projects.

2.3.5. Outcomes

2.3.5.1 Implementation rates

The emergency programme has gone from 152 million escudos (US \$ 4,2 million) in 1976/77 to 282 million (US \$ 7,8 million) in 1977/78. The budget forecast for 1978/79 is of 232 million escudos, including assistance to vulnerable groups and miscellaneous projects (see table I and III).

The actual implementation rate of expenses to forecasts has been of 42.8% in 1976/77 and of 80.7% in 1977/78, which shows a certain improvement in programme management. At the same time, job creation has in every instance gone beyond the planned objective (in man/year equivalent) with implementation rates of 105.5% and of 120.4%.

Therefore, a smaller amount of money than foreseen has had to be shared among a larger number of workers, which doubtlessly has been made possible thanks to a lower implementation rate for the highly capital-intensive projects (public works).

Neither the implementation rates, nor the employment rates, nor the absolute amounts of actual expenses and of jobs created seem to be in direct relation to the ranking order for the different islands. This is probably due to real as well as unexpected difficulties encountered in the field, as well as to the existence of internationally funded projects that do not appear in this summary table (see table III).

2.3.5.2. Employment

The employment rates of active population in the Emergency Programme have been of 11.2% and 14.2% respectively for 1976/77 and 1977/78 (see table III). In effect, the number of workers employed has been much larger, as jobs are expressed in terms of man/years, whereas most workers have been employed for a shorter period. It would be interesting to know the duration of these jobs in order to establish the impact of this programme on distribution of income and of purchasing power ; unfortunately, this information is not available.

Nevertheless, one can estimate that in 1977/78 190 million escudos (US \$ 5.3 million) have been redistributed to Cape Verdeans as wages of the emergency programme (about US \$ 16 per capita) (see tables III and IV).

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2.3.5.3 Macroeconomic equilibrium

The resources of the National Development Fund make up one third of expenses of the regular budget in 1976/77 and in 1978/79 and half during the serious drought year 1977/78.

These same resources constitute 40% of public transfers in 1976/77 and 36% in 1977/78 (see table II).

Food aid covers between 77% and 94% of Fund resources.

It is clear that food aid and emigrants' remittances are the two key elements for the redressing of the Capeverdean balance of payments.

2.3.6. Obstacles

2.3.6.1. Management obstacles

The rapid putting in place, almost immediately after independence, of a system of micro- projects of different sorts, which are demanding in terms of financial resources and personnel, and contingent on hazardous outside factors (such as food aid), has caused a certain number of difficulties due to :

- a) lack of equipment (logistical problems - always serious in Cape Verde - of transport of material) ;
- b) lack of cadres (which is a general feature of Cape Verde's economy) ;
- c) failure to supply needed implements ;
- d) interruptions in food aid shipments and lack of cash for salary disbursements ;
- e) need to improve the formulation of certain projects ;
- f) workers quitting projects as soon as better-paying jobs become available (daily wage for emergency programme projects of 40 escudos for men and 30 for women, i.e. US \$ 1.11 and 0.83 respectively).

As an example we have tried to show in table V the implementation rates (in value terms) of certain projects of the 1977/78 programme, for which sufficient information is available. It is clear that rural development projects have a higher implementation rate from public works projects, the latter being more demanding in logistical means, in cadres, and in capital.

2.3.6.2. Relations with donors

The basic ambiguity of the emergency programme lies in the different conceptions of it by the Capeverdean authorities and by aid donors.

For the latter, food aid is justified, in general, by an exceptional state of famine that requires direct support to the people in danger.

For the Cape Verdean authorities food aid is part and parcel of a wider and longer-term development strategy for the country, oriented towards real economic independence.

To this end, aid is used for projects that are focussed on the key-problems of the economy of Cape Verde : erosion (small dams, reafforestation, etc.), "opening-up" areas (roads), insufficiency of agricultural output (supervised holdings), marketing of cereals (increase in storage capacity).

3. Conclusions

The government of Cape Verde is going from an "emergency programme" to one better integrated with the multiannual development plan (the plan will likely cover the 1981 - 84 period with an interim plan for 1980).

In this perspective, an uncertain one-time financment, requested every year on the basis of a more or less serious agricultural situation (rather, apparently, than on the basis of longer-term development needs), and which arrives perforce with some delay, involves some difficulty in the relations between caboverdian authorities and aid-giving bodies.

It is understandable that donors wish to be better informed on the use of through careful and periodic reporting on every programme project and that they wish, at the same time, to be closely associated with project development. Donors often have obligations vis-à-vis their national institutions or their Member States, obligations they must respect.

Some donors are starting to move towards multi-year programming of aid, which should ease the problems posed by the annual "cycle" of urgent and dramatic requests and what should ensure Cape Verde with a stable source of income. This multi-year system could involve, on the other hand, a closer cooperation on the subject of programming and project control.

The government of Cape Verde is aware of these questions and it plans some improvements in the system of project management and control. The present problems are, to a large extent, due to the scarcity of cadres and general planning system for the country that is not yet perfected.

It seems desirable that the share of food aid distributed free to vulnerable groups be augmented. In a population with an age structure and with food problems such as Cape Verde's, health and social justifications are not lacking for such an increase. That could solve certain problems with donors who find themselves statutorily constrained to supply food aid to the affected population only.

In this analysis, we have purposefully avoided considering direct financial assistance as an alternative to food aid. We have considered as a given parameter the fact that some donors find it easier to supply goods of which they are surplus producers, and that this form of aid is more flexible, more rapid, and better adapted for the recipients themselves.

In drawing conclusions from the Cape Verdean experience, other countries recipient of food aid should take into consideration the almost total lack of alternative employment in that country, which is not necessarily the case in others.

Nevertheless, the experience of Cape Verde sets an important example of how to utilise international cooperation to approach short-term issues (such as unemp'oyment) and to try to eliminate the longer-term bottlenecks (erosion and "opening-up" of certain parts of the islands), while simultaneously avoiding the creation of a mentality of dependence and having the idea of retain its dignity.

TABLE I
Agricultural Statistics
(*000 Mt. Tonnes)

	1977	6/76	4E/79	59/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79
PRODUCTION	--												
Corn		11058	678	3340	923	910	0	713	2200	15000	5000	0	9900
Beans		5100	392	980	341	271	0	144	440	3000	2000	0	1350
Sweet Potatoes	5000	3170	3900	2300	1470	71	47	-	-	-	-	-	-
Manioc	3440	2950	3000	2100	1100	235	525	-	-	-	-	-	-
Bananas	5500	6900	9300	6300	5400	5190	4690	-	-	-	-	-	-
Sugar Cane	9900	11223	14400	8100	9100	5720	9742	10500	-	-	-	-	-
IMPORTS													
Corn				19087	37852	34826	22956	37556	32861	22674	33569	55319	
Beans				1518	2621	4353	5819	4717	5204	2515	2951	2737	(2)
Rice				2692	3533	4213	4794	3494	1611	2740	10401	5831	(2)
Wheat										2137	8077	7434	(2)
Wheat Flour				3012	3774	4095	5171	2723	4175	1994	502	603	
of which: FOOD AID													
Corn									15716	5952	23827	33100	23000 (3)
Beans											912		
Rice											7919	4750	4750 (3)
Wheat											9000	5500	15000 (3)

Sources : Production : Office Statistique
Imports : Office Statistique
Food Aid : WFP, FAO.

■ Estimations

(1) Production of an agricultural year is shown under the year of consumption for the purpose of comparisons with imports and food aid.
(2) Until November 1978
(3) Provisional Pledges, until March 1979

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TABLE II

Microeconomic Data
(Millions Escudos C.V.)

	76/77	77/78	78/79	
Food Aid	136/321 (1)	271 (1)	218 (1)	(1) Source WFP; calendar year 1978 : including 9000 tonnes of wheat 1979 : forecasts on the basis of pledges until March 1979
Financial Aid	40			
Equipment	?			
	[176]			
<u>NATIONAL DEVELOPMENT FUND :</u>				
Emergency Programme	152	282		(2) Provisional budget for the 1979 financial year, Official Bulletin, 17.2.1979
Assistance to vulnerable groups	10	24		
Other projects	13	17		
	176	323	232 (2)	(3) Calendar year
Disbursements of the regular State Budget	550 (3)	657 (2)	706 (2)	■ Estimate
<u>BALANCE OF PAYMENTS</u>				
<u>Goods and Services</u>	- 1107	- 1537		
Exports	47	42		
Imports	- 1177	- 1535		
Trade Balance	- 1130	- 1492		
Services	23	- 45		
<u>Transfers</u>	958	1688		
Private	514	782		
Public	444	886		
<u>Capital Operation</u>	354	146		
Private	--	2		
Public	354	144		
<u>TOTAL</u>	205	276		

TABLE III : EMERGENCY PROGRAMMES : JOBS CREATED AND DISBURSEMENTS

(Millions Escudos C.V.)

CCE	Priority	Popula- tion (1977)	Popula- tion Active	1976		1977-1978		1978				
				Programmed	Actual	Programmed	Actual					
				Jobs	Disburse- ments	Jobs	Disburse- ments	Jobs	Disburse- ments			
Santiago	1	144 000	54 944	4 860	110 595	3 850	29 162	4 318	115 951	7551*	79 754	
Santo Antao	1	47 473	22 065	5 363	53 070	6 750	61 471	6 788	119 924	7350*	103.076	
Fogo	2	26 692	14 311	2 490	25 966	2 420	14 700	2 206	36 545	3300*	31 200	
S. Nicolau	2	15 237	7 710	500	11 122	400	4 400	671	13 282	?	15 560	
S. Vicente	2	44 059	22 470	1 105	145 546	1 970	33 900	1 900	50 973	988+	43 767	
Boavista	3	4 000	1 964	0	0	170	300	80	1582	170	1 411	
Brava	3	6 606	3 184	825	8975	410	4 300	520	7 612	760	7 135	
Maio	3	4 022	1 798	0	0	40	300	233	4 253	?	561	
Sal	4	6 790	3 620	0	0	0	0	0	0	0	0	
Total :		301 879	142 072	15 143	355 175	15 980	152 040	16 716	350 103	(20119)	282 405	
				Taux d'emploi de la population active %		Coût par emploi créé (escudos par an)			Taux de réalisation %			
				1976-77	1977-78	1976-77	1977-78	1977-78	1977-78	1977-78	1977-78	
				Progr.	Actual	Progr.	Actual	Progr.	Actual	Jobs	Disb.	
Santiago	1			7.5	5.9	6.6	11.6*	22 756	7 552	26 853	10 562	79 4 20 114 9 63 8
Santo Antao	1			24.3	30.6	30.0	33.3+	9 096	9 107	17 667	14 024	125 2 115 3 103 3 85 9
Fogo	2			17.4	16.9	15.4	23.1*	10 423	6 074	16 536	9 454	97 2 56 6 148 6 05 4
S. Nicolau	2			6.5	5.2	3.7	?	22 244	11 000	19 791	?	80 0 39 6 ? 116 7
S. Vicente	2			4.9	3.8	8.5	4.4	131 716	17 208	26 325	44 299	176 3 23 3 52 0 85 9
Boavista	3			0	8.7	4.1	8.7	-	1 765	19 775	8 300	" " 212 5 89 2
Brava	3			25.9	12.9	16.3	23.9	10 879	10 433	14 638	9 388	49 7 47 9 146 1 93 4
Maio	3			0	2.2	13.0	?	-	7 500	18 167	?	" " ? 13 2
Sal	4			0	0	0	0	-	-	-	-	-
TOTAL				10.7	11.2	11.0	16.2*	23 455	9 514	20 944	(14 037)	105 5 42 3 120 4 80 7

TABLE IV

ILO	Priority	EMERGENCY PROGRAMME : BREAKDOWN BY SECTOR																			
		ACTUAL DISBURSEMENTS OF THE NATIONAL DEVELOPMENT FUND 1976-1977					PLANNED DISBURSEMENTS OF THE NATIONAL DEVELOPMENT FUND 1977-1978														
		Public works '000 Esc. %	Soil & water '000 Esc. %	Rural devel. '000 Esc. %	Community devel. '000 Esc. %	Other '000 Esc. %	Public works '000 Esc. %	Soil & water '000 Esc. %	Rural devel. '000 Esc. %	Community devel. '000 Esc. %	Other '000 Esc. %										
SANTIAGO	1						62 000	53.3	30 974	26.3	-	-	1 980	1.7	21 996	18.7					
SANTO ANTONIO	1						63 090	55.3	-	-	54 965	44.1	-	-	1 030	0.9					
FOFO	2						2 200	6.7	27 985	84.7	2 260	2.6	-	-	-	-					
S. NICOLAU	2						660	6.1	7 781	72.3	2 330	21.6	-	-	-	-					
S. VICENTE	2						7 575	14.7	12 201	23.7	1 697	3.3	10 000	19.4	20 000 ⁽¹⁾	38.8					
LA VISTA	3						-	-	1 552	100.0	-	-	-	-	-	-					
PRIVA	3						-	-	6 262	82.3	-	-	-	-	1 350	17.7					
MAIO	3						-	-	-	-	4 233	100.0	-	-	-	-					
SAL	4						-	-	-	-	-	-	-	-	-	-					
TOTAL		78 396	43.8	64 133	25.9	23 803	13.3	8 160	4.6	4 333	2.4	141 925	40.4	86 795	24.7	66 055	19.3	11 980	3.4	44 426⁽¹⁾	12.6
BREAKDOWN OF PLANNED DISBURSEMENTS OF THE NATIONAL DEVELOPMENT FUND, SALARIES AND EQUIPMENT 1977-78 (%)																					
		Public works		Soil and water		Rural Development		Community Development		Other		Total									
		Salaries	Equipment	Salaries	Equipment	Salaries	Equipment	Salaries	Equipment	Salaries	Equipment	Salaries	Equipment	Salaries	Equipment	Salaries	Equipment				
SANTIAGO	1	57.6	42.4	71.8	28.2	-	-	51.0	49.0	40.0	60.0	58.0	42.0	-	-	-	-				
SANTO ANTONIO	1	54.3	45.7	-	-	82.2	17.7	-	-	40.0	60.0	66.7	33.3	-	-	-	-				
FOFO	2	53.4	46.5	90.9	9.1	90.9	9.1	-	-	-	-	80.4	19.6	-	-	-	-				
S. NICOLAU	2	100.0	0	80.4	19.6	80.5	19.5	-	-	-	-	87.7	12.3	-	-	-	-				
S. VICENTE	2	77.9	22.1	57.6	42.4	51.4	48.6	73.0	27.0	-	-	60.7	39.3	-	-	-	-				
LA VISTA	3	-	-	74.0	26.0	-	-	-	-	-	-	74.0	26.0	-	-	-	-				
PRIVA	3	-	-	95.8	4.2	-	-	-	-	40.0	60.0	85.9	14.1	-	-	-	-				
MAIO	3	-	-	-	-	67.9	32.1	-	-	-	-	67.9	32.1	-	-	-	-				
SAL	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
TOTAL		57.2	42.8	79.1	20.9	81.9	18.1	40.0	30.6	40.0	60.0	67.5	32.5	67.5	32.5	67.5	32.5				

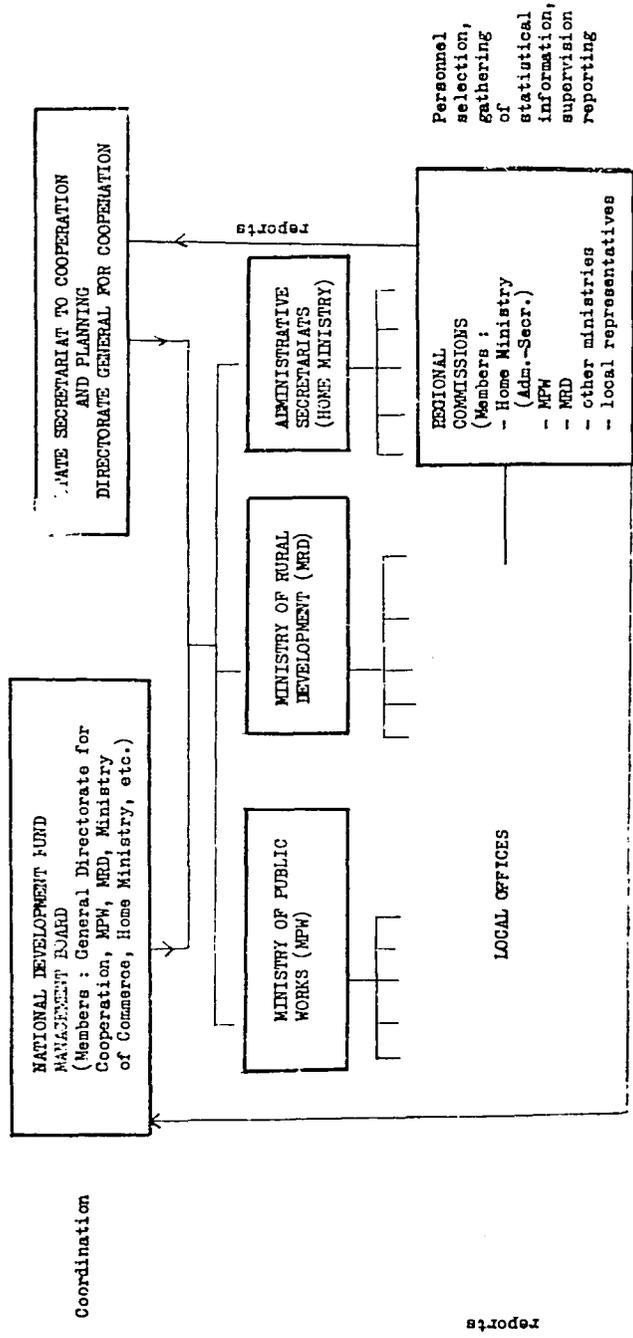
(1) Deudas c.v. 20 000 000 for S. Vicente were not yet attributed to special projects.

TABLE V : PROGRAMMED AND ACTUAL JOBS OF THE EMERGENCY PROGRAMME, 1977-78

PROJECT	(1) JOBS PROGRAMMED	(2) JOBS ACTUALLY CREATED	(3) (2)/(1)
RURAL DEVELOPMENT :			
MDR/LA/77/401-E	1 203	2 300	190%
MDR/L/77/101-E	1 650	2 010	82%
MDR/F/77/902-E	600	600	100%
MDR/F/77/301-E	260	300	115%
MDR/S/901-E	250	290	116%
MDR/E/77/101-E	300	760	95%
MDR/SV/77/101-E	80	170	212%
	4 848	6 430	133%
PUBLIC WORKS :			
ROP/SV/76/101-E	360	125	35%
ROP/SV/76/103-E	150	231	154%
ROP/SV/76/402-E	130	161	124%
ROP/ST/76/101-E	600	367	61%
ROP/ST/77/102-E	350	277	79%
ROP/ST/76/402-E	380	136	36%
ROP/ST/77/103-E	400	258	64%
ROP/F/77/102	200	100	36%
	2 650	1 655	62%

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DIAGRAM I



B.2

CASE STUDY : SENEGAL - O. N. C. A. D.

MILLET MARKETING BY O.N.C.A.D. IN 1978/1979

R.D. HIRSCH
F.A.O.
DAKAR, May 1979.

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Has ONCAD's experience in 1978/79 any value as an example for Sahel countries ?

LIST OF THE MAIN ABBREVIATIONS USED

B N D S	Senegal National Development Bank
C G P A	Committee for Major Agricultural Products
C P S P	Fund for the Pereguation and Stabilization of Prices of Agricultural Products
D G F A	General Agricultural Directorate in the Ministry of Rural Development
F M E R	Mutual Rural Development Fund
I T A	Institute of Food Technology
M D R	Ministry of Rural Development
O K A R A	Organization for Food Supplies and Nutrition in Africa
O N C A D	National Office for Co-operation and Assistance in Development
P A W	World Food Supplies Program
S A F D	Company for Equipping and Fitting out the Delta
S O D E F I T E X	Company for the Development of Textile Fibres
S C D E V A	Company for Agricultural Development and Information
S O R I F A C	Company for Developing Agriculture in the Casamance region
S O N E D	National Studies and Development Company.

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I - INTRODUCTION

With a deficit of 200,000 to 500,000 tons from year to year, Senegal is probably the Sahel country with the most serious problems at present. It is also a country with the seriousness of the problems is beginning to be understood and where a series of vigorous measures to restore the balance of the food supply situation have been taken or are in the process of being taken.

The food investment plan for the period 1977-1985, which sets forth these measures, clearly defines the present situation of the Senegalese cereals economy, as well as medium-term prospects. The main points can be summarized as follows :

- i) a probable deterioration in nutrition during the next ten years, particularly in rural areas, if radical changes are not introduced quickly,
- ii) a very heavy trading deficit, mostly due to imports of cereals (more than 50%),
- iii) a trend, until now irreversible, of consumption habits in favor of the most difficult (or the most costly) cereals to produce locally (rice and wheat), and, consequently, an increasing disaffection on the part of urban populations (but also rural populations) for traditional cereals.

In this context, which can be described without exaggeration as unfavorable, it is interesting to study the 1978/79 millet marketing campaign carried out by ONCAD, which apparently seemed to contradict in spectacular fashion the pessimistic analyses made in Senegal. Marketing by a public establishment of about 108,600 tons of traditional cereals in less than six months constitutes a unique experiment, not only in Senegal but in the whole of the Sahel zone.

In 1977 the member States of CILSS set the fundamental target of food

self-sufficiency. Does the Senegalese experiment have any real value as an example in this matter for other Sahel countries ? Or, on the other hand, is it merely due to a conjunction of exceptionally favorable factors, which may well never occur again ?

To try to answer these important questions, the following will be successively examined :

- the role played by ONCAD in the development of the rural sector of Senegal and more particularly in the matter of marketing cereals,
- the 1978-79 campaign program, changes introduced compared with previous campaigns, favorable or apparently favorable factors, etc...,
- prospects for marketing cereals at the end of the 1978-79 campaign and problems raised.

2 - SHORT OUTLINE OF ONCAD'S ROLE IN RURAL DEVELOPMENT AND IN MARKETING CEREALS (1)

2.1. - ONCAD's role in the development of the rural world

ONCAD was founded in 1966 and constitutes the cornerstone of rural development in Senegal. It lies at the heart of a complex administrative system, within which it intervenes essentially in matters concerning production organization, marketing, food supplies and emergency food storage.

- in the matter of organization of production

ONCAD is responsible for the following :

(1) ONCAD = "Office National de coopération et d'Assistance pour le développement"

1) acquiring and distributing production factors (fertilizers, phytosanitary products, agricultural equipment, work animals and seed) to cooperatives ;

ii) managing cooperatives and assisting them (or pre-cooperatives).

- in the matter of marketing agricultural products

ONCAD is responsible for purchasing and transporting agricultural products collected by cooperatives and regional development agencies (1), except for rice produced by SAED and cotton produced by SODEFITEX. Whereas originally ONCAD's responsibility mainly concerned groundnuts, since 1975 the monopoly for purchasing food crops (cereals and millets) has been granted to it. But groundnuts, which account for the major part of the State's para-fiscal receipts, are preponderant in ONCAD's activities, and local cereals, at least until 1978/79, were only a marginal occupation.

- in the matter of food supplies and emergency food storage

ONCAD holds the monopoly for the import of white rice (imports for the market). It is responsible for storage and distribution of rice to approved traders (those holding a quota), and for the import of other cereals (excluding wheat).

In so far as emergency stocks of food supplies are concerned, ONCAD, as a result of the drought, was made responsible for supplying urban areas and zones where there is a deficit, for building up emergency stocks, and for combating speculation and all levels.

Finally, ONCAD enjoys (since 1975) a monopoly for the primary collection of traditional cereals. Millet producers can deliver

(1) SODEVA, SAED, SODEFITEX, SOMIVAC : these agencies are active in specific zones : the groundnut basin, the River Basin, Eastern Senegal and Casamance.

surplus cereals to their cooperatives (since 1978/79) or directly to the nearest ONCAD storehouse (secco). In this circuit, Private merchants no longer, play any role officially (1).

ONCAD, which controls both cereal imports and their international marketing, should be "a priori" one of the main instruments of Senegalese cereals policy. But, as extensive as its distributions are, ONCAD does not control intensification of production, which is the responsibility of the regional development agencies. ONCAD merely provides services to these agencies by placing production factors at their disposition. Furthermore, ONCAD is under the control of the Ministry of Rural Development. All important decisions (fixing price scales and prices to be paid to producers, for example) are taken by the Committee for Major Agricultural Products (of which ONCAD is a member). Financing the agricultural and marketing program handled by the Mutual Rural Development Fund (subsidies for production factors), the Senegal National Development Bank (campaign credits, medium-term credits and financing marketing), and, indirectly, the price Perekvation and Stabilization Fund. Finally, food assistance, which has been considerable since 1973, is placed under the direct control of the Food Assistance Commissariat. ONCAD only intervenes on a strictly operational basis (unloading, handling, transport) as a purveyor of services.

Illustrating the preponderance of the public sector in the management of the agricultural sector, which reduces producers to a subaltern role, even when grouped together in cooperatives, "ONCAD finds itself at the center of a complex network of inter-administrative

(1) All transport of cereals inside the territory of Senegal requires a Government permit (from the Governor or the Ministry of Commerce depending on the quantity). This measure has recently (March 1979) been somewhat relaxed.

relations" (1), in which financial management has been predominant.

2.2. - ONCAD's activities in the cereals field

The structure of the cereals economy in Senegal depends on the outside world to a market extent. This is accentuated by the fact that consumption habits favor rice and wheat. Appendix N°1 traces the trend from 1971 to 1977 of the principal aggregates (production, imports, exports and apparent available quantities). Over and above fluctuations due to climatic occurrences, it shows that Senegal imports an average of 38% of its available quantities of cereals. Appendix N° 2 indicates the important place occupied by ONCAD in the matter of cereal imports (an average of 59%), which, on the basis of a contract price of 1 000 F.CFA per ton, provides it with considerable resources.

As far as internal collection of cereals (and niebe) is concerned, ONCAD's place until 1977/78 was more modest, as is shown in Appendix N° 3. For maize and niebe, the tonnages marketed are insignificant (377 tons in 1977/78 and 1310 tons in 1978/79 for maize). For paddy, ONCAD does not market the production from the Senegal River region and buys essentially in Casamance and Eastern Senegal, both regions where auto-consumption is high and surplusses therefore small (2). For millet, the quantities purchased by ONCAD varied considerably during the 1971/77 period : nil in 1972/73 (the worst year recorded since 1960), bigger in 1973/74, 1974/75 and in 1977/78 (in spite of a harvest declared to be bad), they have never exceeded 36,000 tons (see Appendix N° 3), which left a very much greater share to private trading circuits.

There does not seem to be any link between the trend of official prices for millet and groundnuts and the quantities marketed. The

(1) Study on marketing & storing cereals in Senegal, July 1977.

(2) The share of the national production of paddy marketed by ONCAD is approximately 2 to 3%.

fluctuations in the official marketing figures for millet until 1977/78 are explained, on the one hand by climatic conditions and the incidence they exercise on production and thus on the surplus available for the market, and on the other hand by ONCAD's purchasing forecasts and the resources of the organization. During 1977/78 campaign, in spite of a harvest well below average according to official estimates, 422,000 as against 540,000 tons, and while ONCAD planned the purchase of 5,900 tons of millet at 35,000F./ton (price which was increased by 5,000 F./ton as compared to 1976/77), 17,900 tons were offered by producers.

In contrast to cereals boards in most of the Sahel countries, ONCAD intervenes more especially for groundnuts and has considerable logistic resources enabling it to market cereals without any special difficulties. Whether it is a question of transportation or financing resources, the mechanisms set up work smoothly. The 108,600 tons of millet marketed in 1978/79 only represent 10% (in volume and in value) of an average groundnut campaign. Only the storage problem, in spite of 130,000 tons storage program in the process of being realized, causes a bottleneck (See 4.1.).

In this brief review of ONCAD's role in marketing, it appears that the major problem, as for most of the Sahel in cereals boards, lies in a lack of interest in traditional cereals rather than any lack of material, financial or human resources. This explains the modest results obtained since the cereals board was granted the monopoly for primary collection.

In this respect, the 1978/79 campaign marks an important turning point.

3 - THE 1978/79 CEREALS MARKETING CAMPAIGN

Among the many factors that influenced the results of the 1978/79 campaign both directly and indirectly, were structural or institutional changes compared with previous campaigns. Certain favorable (or

apparently favorable) factors also had an effect on production or marketing. Distinguishing between them is, in fact, artificial, as interrelations are numerous and any attempt at hierarchization is extremely delicate. (1)

3.1. - Changes of an institutional nature that have occurred in comparison with previous campaigns

There is not doubt a political desire to reduce the increasing cereals deficit in Senegal occurred in 1976/77. Two documents (2) drawn up in 1976 by Senegalese technicians have certainly contributed to accelerating this desire in political circles. They analyse completely and objectively the dangers of a *laissez-aller* policy tending to increase country's dependence on the outside world. The food plan states that "half the trading deficit balance could be attributed to cereals and that more than half of earnings from exports of groundnut - the main export product - is now required to finance imports of cereals". The present situation in the cereals sector is the main problem that this country has to solve at the present time and in the future to attain autonomy in the matter of food supply. Outlining the basis for a cereals policy, this same document suggests a series of measures designed to increase production and to stimulate consumption of secondary cereals while not increasing imports of wheat and rice.

The new attitude on the part of the government, which was particularly noticeable in the reports on the periodical meeting held by the

(1) This all the more so, as the brevity of the survey carried out in Senegal made it impossible to study the all-important attitude and behaviour of producers.

(2) SONED : Study of marketing and storage of cereals in Senegal - 2 Vols. July 1977, Ministry of Rural Development and Hydraulics (Studies, methods and program Directorate) : Food investment plan 1977-1986 - February 1977.

committee for major agricultural products (CGPA), is at the origin of two important decisions, taken in 1978 before the start of the agricultural campaign.

In June 1978, the official price for millet paid to the producer was raised from 35 to 40 F.CFA/Kg. (+ 14%) and thus reached a level comparable to the level for groundnuts, which was maintained at 41.50 F.CFA/Kg. (1). As there was no survey of the problems facing producers, it is particularly difficult to isolate the influence of this measure from the other factors that might have influenced decisions to either produce or sell more. However, compared with the other changes that occurred in 1978/79, the new incentive official price for millet had the effect of removing most of the private trading from the primary collection circuit (2) and thus placing ONCAD in a much more favorable position than in previous years.

Moreover, purchases of millet in the past had been made almost exclusively at ONCAD storehouse ("seccos"). It was decided to decentralize these purchases at production cooperatives. This change was the first step towards setting up markets where supply and demand could encounter each other without intermediaries and seems to have been decisive. And so, in the groundnut basin (regions of Diourbel, Louga, Thiès and Sine Saloum), which marketed 93.4% of the millet purchased by ONCAD, there were about 280 ONCAD "seccos" for about 1,100 cooperatives. Taking into account the fact that not all "seccos" market millet and that some of them were actually closed

(1) Four years earlier (1974/75), when the price of groundnuts was already 41.50 F.CFA/Kg., the price of millet was only 30 F.CFA/Kg.

(2) Officially already removed from the circuits, but nevertheless generally continuing their operations.

where there were located near a cooperative (1), the number of purchasing points was multiplied by at least four. This meant that the distances that producers had to cover, with their generally insufficient transport means, were substantially reduced. ONCAD's purchasing statistics enable the incidence of this decision to be easily measured: from the first year when these new arrangements were introduced, cooperatives purchased 50.2% of the total quantity marketed, i.e. slightly more than ONCAD and certainly more than ONCAD alone in previous years.

Another big change compared with previous campaigns was the decision to launch the millet marketing campaign early. In 1978, buying began the first week in October for ONCAD and the second week for cooperatives. It was then possible to satisfy the needs of producers for liquid funds, generally high at this period. Apart from this attraction for producers, the early purchase of millet also made it possible to use the transportation resources and the personnel of ONCAD. The advantage of this period of time between the two marketing operations is illustrated by the fact that at the end of December 1978, when groundnut marketing was beginning, nearly 50% of the millet put on the market in 1978/79 was already in grain storehouses or in ONCAD's storage areas (see Appendices Nos. 4 and 5).

Another change introduced during the marketing campaign did not, however, seem to have had much influence on the behaviour of producers. It concerns the faculty offered to groundnut producers to pay off their debts with millet. That peasants in the groundnut basin are deeply in debt is well known. It is therefore surprising that this measure introduced rather late, it must be admitted, was not more

(1) In some cases, these "seccos" were made available to the cooperatives.

nidely used by producers (1). On the other hand, it seems that cereals delivered to reimburse owed to cooperatives only represented a small part of the contributions brought in (2). However, debt to private traders, who had been practically eliminated from primary collection operations as a result of the high official price for millet, was mentioned on several occasions, notably in the Louga region, as one of the reasons for the size of sales at the start of the campaign (see Appendices Nos. 4 and 5).

Finally, the way ONCAD solved the technical and financial problems of the 1978/79 millet marketing campaign cannot be considered as a real change compared with previous campaigns. With a forecast for purchases amounting to 80,000 tons, the funds and transport resources made available (and also resources for processing stocks) were roughly similar to those that used for a long time for groundnut. As has already been stated, ONCAD's experience in the field of groundnuts has made these financial and logistic problems much less acute compared with other Sahel countries. These problems cannot be held responsible for the modest results of previous traditional cereals marketing campaigns.

3.2. - Factors favorable to cereals production in 1978/79

Most of the institutional changes that occurred in 1978/79 are

(1) On 21st. May 1979, at a time when more than 900,000 tons of groundnuts had been purchased or recovered in the form of reimbursements of cooperative debts, i.e. more than 9/10ths. of ONCAD's purchasing forecasts, the reimbursement rate only attained 51.6%, whereas the recovery rate for seed on the same date was 62% (at older rates).

(2) The use of this possibility is said to have been discouraged in respect of peasants by ONCAD in some regions owing to storage and marketing difficulties for cereals. In all, less than 126 tons were delivered for reimbursement of their debts by producers.

obviously very favorable factors which go far to explaining the good results obtained. But, in view of the lack of regularity in Senegalese agricultural results, the influence of these favorable institutional factors was not enough to ensure a good harvest or achievement of the marketing targets that ONCAD had adopted. In other words, it is important to be able to analyse the 1978/79 cereals production figure, so as to know whether 108,600 tons were marketed because there was a very good harvest, or whether producers were incited (notably by the price and by the multiplication of sales points) to sell a greater proportion of their millet crop to ONCAD than in previous years.

Factors favorable to production

The rainfall : in general, except for a few unfavored zones - notably the Senegal River basin - meteorological conditions were satisfactory, but not exceptional. The late rains in November 1978 and January 1979 had not marked influence on the production of cereals (1) ; however, they did cause a short pause in marketing operations in January and February. (see Appendix N° 4.)

Areas cultivated : according to the DGPA, surface areas devoted to millet cultivation increased by 13.7% compared with 1977/78, as against only 7% for groundnuts. In view of technical production methods, these growth rates appear very high. SODEVIA considers that the relatively poor quality of the slow growth of groundnut sowings, since the land was left uncultivated, thus explaining the relative increase in surface areas devoted to millet (2). ONCAD does not seem to share this point of view. Whereas the seed-bearing value distribution figures were higher (155,000 tons as against 126,000 tons, i.e. +23%).

(1) Which was certainly not the case for cotton and, very locally, for groundnuts.

(2) Linked, of course, to the rise in the official price.

In any event, estimates made of surface areas by DGPA are only relatively accurate and it seems doubtful that producers, taking the higher price of millet into account, could have revolutionized their agricultural habits in the very first year. However, it can be agreed that the surface areas for cereals increases in 1978/79 at the expense of areas for groundnuts.

Production factors : whereas in the groundnut basin zone (the Thies region), an increase in the fertilizer/millet demand was confirmed by SODEVA, the average proportion of fertilizer used was much lower than the recommended proportions and cannot be alone held responsible for the increase in production.

Estimate of the 1978/79 millet production :

According to DGPA, the production of millet exceeded 800,000 tons as against 420,000 tons in 1977/78, and an average of 540,000 tons for the 1971/1977 period. The figures for production, like those for the areas cultivated, must be handled with caution.

As millet is above all a product of the groundnut basin, it is difficult to see why from 1977 (a bad year) to 1978, groundnut production should only have increased by 57% whereas millet production increased by 90%, even by taking a slight increase in the surface areas devoted to millet into account and the fact the quality of groundnut seed was lower than normal.

This point is, in fact, confirmed by some ONCAD authorities (notably in Diourbel), who consider that the 1977/78 millet harvest in some regions was the same size as the 1978/79 harvest. In support of this view, it should be noted that an appreciable portion of the grain purchased by ONCAD in 1978/79 came from the previous harvest, which thus seems to have been substantially underestimated.

In conclusion, owing to a lack of satisfactory statistics and social and economic data, it is difficult to measure the respective influence of the factors that influenced millet production in 1978/79. Production

was certainly good and very good in some places ; it was certainly very much higher than in the previous campaign.

3.3. - Results of the 1978/79 marketing campaign

In respect of 108,636 tons on 21 May 1979 (1), the millet marketing campaign can be analyzed in two aspects, in space and in time.

3.3.1. - Geographical distribution of purchases

Appendices N° 4 and N° 5, which indicate the distribution of purchases (weekly and accumulated) per region, fully confirm that almost all the millet (93.4%) is marketed in the four administrative regions comprising the groundnut basin. But it is the Sine Saloum region that makes by far the biggest contribution (63.4% of the total) ; besides, this represents 22% of the estimated production. In the Sine Saloum region, the Kaffrine department holds a special position by marketing nearly 31,000 tons. It would have been interesting to study the motivations of the producers in this department, which is also the leader in the groundnut marketing field, but which, on the other hand, has one of the worst rates for reimbursement of cooperative debts.

For the other regions, the relative modesty of the quantities marketed can be explained by the existence of a more precarious balance of food crops, - (even in a good year) - by its excentric position (Senegal basin), by the high auto-consumption figure or by the traditionally lesser importance of millet (Casamance and Eastern Senegal).

It is interesting to note, by studying Appendix N° 6 indicating the trend of the quantities marketed by ONCAD in the different regions from 1973/74 to 1978/79, that except for the Senegal River region, all

(1) According to ONCAD authorities the campaign in fact ended April 30th.

the other regions realized their best performances in 1978/79, at least as far as ONCAD is concerned. This observation can be verified more especially in the Sine Saloum, Eastern Senegal, Thies and Casamance regions, even if it does not necessarily prove that in some years private merchants did not buy equivalent or greater quantities of cereals. Furthermore, the groundnut basin's essential role in the matter of food supplies is confirmed, whatever the year considered. This situation must be seen in the light of the efforts made in the field of intensification over the past twenty years.

3.3.2. - The millet marketing time-schedule

From the weekly statements issued by ONCAD (see Appendices N° 4 and N° 5) from 4 November 1978 onwards, it is possible to analyze the progress of the 1978/79 marketing campaign over a period of about seven months.

From the first week to the beginning of the groundnut marketing period (the week from 11 to 18 December 1978), 14,363 tons (13.2% of the total marketed) were delivered. This rate of buying was exceeded, particularly in the Louga region (97.3% of the total contributions, which no doubt confirms a genuine need for liquid funds in this region) and in the Diourbel region (71%). For the other regions, the millet contributions can be considered as normal (Sine Saloum, Thies, Casamance), whereas Eastern Senegal lagged relatively behind (22.6% of the contributions on 18.12.1979), doubtless owing to competition from cotton.

On 8 January 1979, the date when late rains started to fall throughout Senegal, stopping marketing, one region (Louga) had completed its marketing and two others had delivered more than 90% of their millet to ONCAD (Diourbel and the River region). The percentage for the other regions was between 35.4% (Eastern Senegal) and 74.2% (Casamance).

About this time, storage problems became critical because of the unusual January rains, which led ONCAD to slow down purchases. More

than 78,000 tons - out of an initial target of 80,000 tons - was already in ONCAD's storehouses. The millet was mostly stored in the open air and the general euphoria at the beginning of this exceptional campaign made way to grave anxiety not only as regards storage but also as regards future disposal of millet. Politically, it was impossible to halt purchases and after a slow down period lasting six weeks (except in Eastern Senegal considered to be late as regards to its goals), marketing was once again resumed, thus permitting more than 29 000 tons to be collected and purchased mainly in Sine Saloum, Eastern Senegal and the Thies region. (1)

As noted above, the possibility of paying off groundnuts debts with millet, that had been decided when purchases were halted, had practically no influence on the amount collected during the campaign, even in departments containing big producers with large debts in the groundnut basin. At the end of April 1979, the millet marketing campaign could be considered completed. More than 108,600 tons had been bought from producers, who had received in exchange more than 4.3 billion F.CFA. The time had come to draw up a balance sheet.

4 - The problems raised at the end of the 1978/79 campaign

A good harvest, good prices for producers and decentralization of the primary collection circuit at cooperative level, as well as an early start, were the main reasons for amount of millet purchased by ONCAD in 1978/79. In the opinion of Senegalese authorities themselves, this good result hides a number of grave problems, which, if they are not solved quickly, might have a serious effect on future buying campaigns. Among these problems, which are all linked closely together, are the following: storage, outlets and markets for the millet purchased, and finally the financial incidences of the 1978/79 campaign.

(1) From 8 to 19 January, 1 355 tons were purchased (including 1 136 in Eastern Senegal), i.e. a weekly average of 225 tons as against 4 000 for the whole of the campaign.

4.1. - Cereals storage

When the forecast of a purchase of 80,000 tons of millet was set by ONCAD, the storage problem had not only not been solved, but already constituted the weak point in resources made available ; this was all the more serious as the cereals from the former campaign were still in storehouses (see 4.2. and Appendix N° 6). In its study mentioned above, when analyzing the storage capacities existing in 1977 (capacities that had practically remained unchanged in 1979), SONED reached the following tonnages :

- 28,500 tons in "various warehouses", either rented or loaned to ONCAD (including 12,000 tons in the port of Dakar almost exclusively reserved for imported cereals).
- 30,000 tons in recent storehouses (1976/77), constituting the first phase of a program for 130,000 tons self-financed by ONCAD, whose implementation will be phased during the Fifth Plan (1977/81).
- 13,500 tons belonging to Dakar processing industries (mills, semolia factories, maize factories) and above all used for imported wheat. (1)
- 9,900 tons belonging to regional development agencies used almost exclusively for rice in Casamance and in the Senegal River regions.
- an additional capacity, coming from warehouses rented from private companies or individuals, for which ONCAD could not provide accurate fig.res.

On the other hand, SONED is correct in not taking ONCAD storehouses ("seccos"), used for storing groundnut seeds (about 130,000 tons in

(1) In view of the quantities of wheat imported (180 to 200,000 per annum), the rotation speed of stocks between 13 and 15 , is particularly high and this storage capacity can only be used very exceptionally.

the form of metal warehouses), into consideration for cereals even though they could be used temporarily between the time when the seeds are used and the time they are replaced at the end of the following campaign as the case in 1978/79.

Finally, considering that the storage capacity of 28,500 tons in "various warehouses" is generally poorly adapted to medium and long term storage of cereals, ONCAD only had 30,000 tons available in 1979. Comparison between the tonnages effectively purchased (see Appendix N° 8) in 1978/79 -(1)- indicate that only two regions (Casamance and Senegal River) possessed sufficient storage capacity. The major producing regions did not have sufficient storage infrastructures (30% of the quantities purchased in 1978/79 for the whole of the groundnut basin, taking into account the "various storehouses"). In the medium term, taking the second phase of 30,000 tons (financed by USAID) and the third phase of 20,000 tons financed by RFA (2) for 1979/80 and 1980 respectively into account, as well as the interest shown by France and USAID in the 50,000 remaining tons, the situation should improve. But until then, especially if the 1979 harvest, is as big as 1978 harvest, the storage problem may cause both physical losses and considerable financial charges (renting private warehouses). In early 1979, the Senegalese Government decided to increase its capacity for cereals storage still further by proposing the construction of 100,000 additional tons, but the financial sources approached on the subject seem reticent and hesitate to engage themselves to a greater extent, as long as the outlets for sale or disposal of traditional cereals are not assured.

4.2. - The outlets for millet purchased in 1978/79

In all the other Sahel countries, the problem of outlets cannot be classified among the constraints, but Senegal has a particular cereals

(1) Without taking stocks from previous years into account.

(2) To which be added 5 to 10 000 tons of security stocks

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consumption structure, dominated to a great extent by imported cereals. So, on the basis of 1975/77 data, the gross quantity of cereals available (including losses, seed, uses for purposes other than food) can be figured as follows (in Kg. per person per annum) for the whole of Senegal :

. Millet/sorghum	110.6	52.5 %
. Rice	47.3	22,5 %
. Maize	12.4	5.9 %
. Wheat	27.9	13.3 %
. Food assistance (1)	12.2	5.8 %
Total, cereals	210.5	100.0 %

but this average food supply situation - apparently satisfactory - covers very different regional situations and above all masks the profound differences existing between urban and rural consumption habits. In this way, the balance sheet for the consumption of food, which was drawn up in 1974 within the framework of the preparatory work for the Fifth Plan, estimated net cereal consumption, that is to say in terms of flour, as follows (1) (in Kg. per person per annum) :

	Senegal	Rural areas	Town areas	Urban areas Cape Verde	Urban areas outside Cape Verde
Total cereals	149.1	153.2	140.3	138.1	143.3
including :					
Rice	54.2	37.2	91.0	98.3	82.6
Millet/Sorghum	72.7	96.7	20.7	11.5	31.8
Other flours (2)	22.2	19.3	28.6	28.3	28.9

(1) Fifth Five Year Plan for economic and social development, p.70.

(2) Essentially wheat and mize.

This food supply balance sheet illustrates the story according to which there are three (for the sake of simplicity) cereals consumption models existing in Senegal : a rural model still broadly dominated by traditional cereals, an urban model in which rice and wheat provide the main part of the daily ration and finally an urban model, proper to Cape Verde, - that is to Dakar - in which millet now only occupies a secondary place. These three models have been taken, as it is impossible to analyze consumption on a purely regional basis, the distinction between urban and rural areas being too vague. In its "Report on Goods and Services in agricultural Food Supply", based on data for 1973/74 and 1974/75, the Statistical Department gave the average cereals consumption figures per region and per product. The figures were examined by SONED in its study already mentioned above, so as to take the 1976 demographic census into account. They prove to be somewhat contradictory, as they reveal a higher cereals consumption in urban areas than in rural areas (101 to 150 Kg. per annum, varying with the region, as against 159 to 168 Kg. per annum for urban areas in equivalent flours.)

By their divergent conclusions, these studies, drawn up from aggregates and estimates, show how complex objective analysis of the food supply of a country or of social groups (or regional groups) is. In spite of the fact that there is a lack of homogeneous, comparable and recent data on the consumption habits of the various different sociological groups in Senegal, two surveys carried out in an urban area (Dakar) in 1975 and in 1977 (1) can be mentioned. According to these surveys, mostly concerned with low-revenue families, the figures for cereals consumption are as follows : (in Kg. per person per annum).

(1) University Institute of Technology - Survey of the Household Budgets of Residents of Dakar - 1975 (financed by USAID) ; FAO/ORANA : Survey of the Consumption of Food in 88 Low-revenue Town Families - June - July 1977. Other surveys (Kedougou, Louga, Linguère) are also in the process of being made. On the initiative of the World Bank, two surveys in the Diourbel and Casamance regions respectively are due to be launched in 1979.

	(1)	
	IUT (USAID)	SONED
	362 households	Urban areas Cape Verde
Rice	72,4	98,0
Millet/sorghum	19,3	11,5
Couscous	1,2	-
Semolinas	2,3	-
Wheat flour	1,1	55,2
Bread & pastry, etc.....	24,7	3,4
Total cereals	121,0	168,0

	FAO/ORANA	FIFTH PLAN	SONED
	88 households	Urban areas Cape Verde	Urban areas Cape Verde
Rice	77,0	98,3	98,0
Millet/sorghum	10,0	11,5	11,4
Couscous	0,2	-	-
Semolinas	0,1	-	-
Wheat flour	0,4	28,3	55,2
Bread & pastry, etc.....	32,6	-	3,4
Total cereals	120,3	138,1	168,0

N.B Estimates in the Fifth Plan and by SONED are only given for information and cannot be compared with the two surveys analysed below.

(1) Based on the figures for the goods and services in the food supplies agricultural sector drawn up by the Statistical Department.

Although these surveys are not strictly comparable (1), the information supplied is interesting. In the first place, the average annual cereals ration is stable and above all much lower in urban areas than the (supposed) level in rural areas. Millet and sorghum, which are of interest to us here, only represent the third ranking cereal consumed after rice and wheat, and the quantities per person (2) are extremely low compared with the average supplies nationally available, even in the case of families with other than low revenues. The subsidies policy in respect of imported cereals products followed during the years 1974/76 seems therefore to run against the promotion of traditional cereals.

Whereas in other urban areas the structure of cereals consumption is somewhat similar to Dakar's structure (this cannot be checked at the present time), ONCAD may encounter serious difficulties in finding outlets for the 108,000 tons of millet it has in stock. The urban population (about 1.7 million inhabitants in 1979), on the basis of 20 Kg. per person per annum, only represents a potential outlet for 35 000 tons approximately in 1979 (3). In any event, whether the urban demand for millet is 35,000 or 63,000 tons, this outlet is

(1) Even if a sample of the first served as a basis for the second.

(2) The substantial fall in the consumption of millet per person from 1975 to 1977 (10 Kg. as against 19 Kg.) seems to be essentially due to a price phenomenon. In 1975, the average prices for millet and rice on Dakar markets were respectively 41.6 and 121.8 F.CFA per Kg. ; in 1977, these prices were 60.9 F.CFA for millet (+ 46%) and 89.6 F.CFA for rice (- 26%). In December 1978, the prices of millet and rice were respectively 65 and 80 F.CFA per Kg.

(3) For Louga-Linguère, ORANA estimates provisionally the cereals consumption per annum at 65.3 Kg. of rice, 43 Kg. of millet-Sorghum, 20.5 Kg. of maize, i.e. 129.1 Kg. of cereals per person per annum. We note particularly the 43 Kg. of millet (as against 55 Kg.) according to SONED's estimate.

not necessarily all available to ONCAD. There are good reasons for thinking that urban areas are at present supplied essentially by occasional or clandestine trading circuits or by non-commercial family exchanges. A good example of the difficulties experienced by ONCAD in controlling these urban markets effectively is given by the weekly recapitulation statements of millet stocks (see Appendix N° 9.), which give an idea of the capacity of ONCAD's disposal organization. Out of the 17,922 tons purchased in 1977/78 (the campaign stopped on 8 May 1978), ONCAD still had 7,114 tons (i.e. about 40%) on 31 December 1978. For the whole Senegal, an average outlet of 1,350 tons per month was realized, which is extremely low. Starting 31 December 1978, the 1977/78 disposal of millet slowed down even more, falling to 900 tons for January to May 1979. It is obvious that at this rate, the 115,000 tons of cereals (sorghum and millet for the two campaigns : 77/78 and 78/79) that ONCAD held at the end of May 1979, might become very expensive in storage charges (see 4.3.).

It is difficult to understand in these conditions why 41,000 tons of cereals have been officially requested under the food assistance (international) heading, as a favorable reply on the part of the latter would make it all the more difficult to find outlets for the 115,000 tons held by ONCAD. (1)

In order to find outlets for this considerable tonnage, ONCAD will use approved merchants (quota holders), who already market imported rice. But, there cannot be any question of imposing quotas of millet on these merchants (who, like ONCAD, would have great difficulty in finding markets for them). The essential problem lies at the resale modalities level rather than at the level of the real value of the demand (solvent) for millet.

(1) A favorable reply appears doubtful especially as the Senegalese demand within the framework of the CLISS has not been repeated with much insistence.

It is thus clear that the estimate for purchase of 80,000 tons rested on very fragile economic bases and on a complete failure to analyze the real demand for millet by consumers who are not producers. Since rural requirements have been generally met, this year (1) ONCAD will have considerable difficulty in finding outlets for more than 10,000 tons (2,500 tons per month) between now and next harvest (October 1979).

In addition to an emergency stock which is always necessary and which ONCAD, on Government instructions, must set up and manage, two possibilities are available to it to find outlets for its surplus stocks : to export to third party countries and/or to transform the millet into flour, couscous, semolia, etc...

In view of the agricultural results obtained in neighbouring countries (except in Mauritania and Cape Verde, but the latter consumes practically no millet), export seem difficult in 1979. Furthermore, the cost price for storage in ONCAD storehouses, fixed after long discussions at 51,182 F.CFA per ton, is very high and not very competitive compared to the millet or sorghum of the traditionally exporting countries (United States, Argentina, Brazil, Sudan). At the end of April 1979, American sorghum, quoted FOB a port in the Mexican Gulf, cost 98 dollars per ton. Considering a freight rate of about 17 dollars per ton, this sorghum would have cost about 115 dollars per ton delivered to Dakar. ONCAD's millet (on the basis of an exchange rate of one dollar for 220 F.CFA) cost at the same time 233 dollars per ton, i.e. more than double. In these conditions, it is easy to understand why contacts made with Mauritania, the Upper-Volta and PAM are not achieving results quickly. It also explains why

(1) Except of course, if producers, stimulated by the price offered or forced by cash requirements, have sold more than their annual consumption. According to ONCAD regional representatives, this does not seem to be the case, and, except for a few geographically limited zones, rural requirements should be well covered and self-sufficient between now and the next harvest

ONCAD's representatives are not very optimistic about export prospects.

There remains the possibility of industrial transformation developed a few years ago by the Dakar Food Supply Technological Institute (I.T.A.), but which has only been applied in a limited manner (in volume) by incorporating millet flour in making bread. The technology has been developed, but the rarity of raw materials, their high cost price and the lack of interest on the part of millers have limited the scope of the experiment launched in the early seventies. In view of the results of millet marketing in 1978/79, Senegalese authorities set up a working group at the beginning of 1979, whose task is to study the question of millet promotion and to propose measures likely to encourage consumption of this cereal. One of the first recommendations of this group resulted in a direct contract between ONCAD and two flour mills in Dakar in 1979 concerning 25,000 tons of millet.

According to these contracts, the millers have each undertaken to manufacture 62.50 tons of flour and 62.50 tons of semolia. But, at the end of May 1979, an Order by the Minister of Commerce, making it compulsory to incorporate from 12 (minimum) to 30% (maximum) of millet flour in the wheat flour used for making bread (1), had still not been issued and only 270 tons for test purpose had been delivered to the millers.

These measures were taken much too late (2) and should have been accompanied by a real promotional campaign in favor of new cereal products (flours, semolias, couscous, etc...), as Senegalese

(1) That is to say on a basis of 100,000 tons of wheat imported on an average by Senegal, 12 to 30 000 tons of millet.

(2) A more serious fact : the Order fixing the resale price of millet at different stages (wholesale, semi-wholesale, retail) had not been issued at the end of May 1979.

consumers are not going to modify their feeding habits in a few weeks, if they do so at all.

Another use for millet consists of incorporating it in animal foodstuffs manufactured in Senegal. But, this must be excluded of the cost price.

In short, with a very low internal demand badly controlled by ONCAD, very limited export prospects, and an industrial transformation operation started too late and full of commercial risks, after a technically successful campaign in purchasing millet from producers, ONCAD risks encountering serious difficulties in finding outlets for this millet (1). Out of the 115,000 tons of millet possessed by ONCAD on 21 May 1979, 25,000 tons will go to the millers (if the latter manage to find outlets for their products), 30,000 tons will go to constituting an emergency stock and 10,000 tons will be marketed in rural and urban areas (an optimistic assumption) between now and October 1979. This means that at the beginning of the 1979/80 marketing campaign - except if export negotiations bear fruit - ONCAD will have at least (as the contracts with the millers will not have been entirely completed) 60,000 to 70,000 tons of millet, including the emergency stock, which was not forecast by the schedule adopted in March 1979 by C.G.P.A.

The financial balance sheet for the operation may well be particularly unfavorable, especially if 1979 is a good or average year.

4.3. - Financial incidences of the 1978/79 campaign

As of February 1979, on the occasion of the negotiations with the millers, it was decided that the Stabilization Fund would intervene

(1) During May 1979, fraudulent sales of millet were recorded at 35 000 F.CFA per ton, i.e. more than 16 000 F.CFA below ONCAD's cost price. The retail price at the same time was about 42 F.CFA per Kg.

on a dual front : first of all as regards the raw materials, so as to reduce the resale price to the millers from 51,182 F.CFA per ton to 45,500 F.CFA per ton, and then as regards the finished product (flour), which Fund would subsidize to the extent of 20 F.CFA per Kg., so as to maintain the sale price around 65 F.CFA per Kg. In all, transformation of the 25,000 tons should cost about 317 million F.CFA (1), without taking into account the cost of a commercial promotional campaign in favor of products with a millet basis.

Examination of the cost price structures for millet (see Appendix N° 10.), laid down by ONCAD and approved by CGPA for the 1977/78 and 1978/79 campaigns, show that these figures do not always reflect the real cost prices chargeable to ONCAD.

Thus, in 1977/78 (and before the campaign), storage (treatment, personnel charges), depreciation of storehouses and losses were not included in the price-schedule, but they were included in the accounts (or rather put in together) for the groundnut schedule. These costs, although small compared to the quantities of millet purchased, were distributed over groundnut production amounting to about one million tons and only had a very low incidence.

In 1978/79, when it was required to rationalize costs, the schedule proposed for millet was more detailed and more complete than the one for 1977/78. It figured ONCAD's charges at 11,183 F.CFA per ton and not 7,000 F.CFA per ton - (+ 59% whereas the price to the producer was only increased by 14%), but still underestimates the main headings :

(1) Subsidy to an amount of 20,000 F.CFA per ton: 12,500 tons of millet producing about 10,000 tons of flour, at 4,682 F.CFA per ton, for the 25,000 tons sold to the millers. It has not been stated whether semolia would be subsidized or not.

- transport and handling : this heading goes up from 3,700 to 4,625 F.CFA per ton (+ 25%), but it is open to doubt whether, apart from the "normal" increases in transport charges, the financial incidence of decentralization of purchases at cooperative level has been determined at its real value. It has been seen previously that the main storage capacities of ONCAD were fairly badly placed with the principal production zones, and the average transport distance covered by the 4,100 F.CFA laid for this heading (about 80 Km. on the basis of an empty outward journey and a cost of 25 F.CFA per ton/Km.) might well be insufficient ;

- storage charges : the 864 F.CFA laid down per ton, to which 400 F.CFA of losses (1%) must be added, as well as 185 F.CFA for storehouse depreciation. i.e. 1,449 F.CFA per ton, are also much lower than the norms generally accepted in the Sahel, which are at least between 7 and 9,000 F.CFA per ton/year. Disposal of the 90,000 tons purchased doubtless took longer than expected (1) and so the average storage period envisaged by the schedule (two months according to accepted norms) is obviously too short, and the cost of the charge to ONCAD should be increased accordingly. On the basis of from 7 to 9,000 F.CFA per ton (the norm generally accepted in Sahel conditions - for annual storage charges), storage of 60,000 tons of millet (2) in good storage conditions for an additional year would therefore cost from 420 to 540 million F.CFA, responsibility for which has not been the subject of any discussions between the services concerned.

(1) It must be remembered that 40% of the 17,922 tons purchased in 1977/78 were still in ONCAD's warehouses from 10 to 12 months later.

(2) A plausible hypothesis, as shown in paragraph 4.2., above all if the 1979 harvest is good.

The amount for depreciation of warehouses (1) is also underestimated, even if the material storage conditions for a large part of the millet (concrete slabs and tarpaulins) does not raise this type of problem at the present time.

Finally, all these underestimates, which are due, more to lack of knowledge of the real cost of the different elements and to inaccurate distinction between charges for groundnuts and charges for millet, than to any desire to reduce the overall cost price, as ONCAD has no interest in keeping its charges low, may well inflate the real cost price and make outlets for the millet even more difficult to find. In this way, the question of massive intervention on the part of the Parquetage Fund arises for the purpose of maintaining the cost of millet to consumers sufficiently low to prevent them from turning to rice or wheat. In May 1979, the "bar" of this intervention was at a particularly low level, since millet was being sold in Dakar around 40 F.CFA per Kg., i.e. more than 11 F.CFA below the ONCAD storehouse cost price (thus without margins of intermediaries).

4.4. - Prospects for marketing millet in Senegal at the end of the 1978/79 campaign.

Uncertainties regarding the real possibilities of finding outlets for the quantities of millet purchased in 1978/79, the insufficient storage situation and financial incidences whose extent it is difficult to estimate, form the fairly difficult context in which future campaigns have to be planned. The millet purchased in 1978/79 cannot be substituted quickly for imported cereals (rice and wheat), to which Senegalese consumers are particularly attached. Control of cereals imports and an increase in the sale price of rice and bread

(1) The 30,000 tons capacity financed by ONCAD cost 371 million F.CFA i.e. over a period of 20 years, an annual depreciation amounting to 618 F.CFA per ton.

would certainly be measures favoring outlets for millet. However they are measures that are politically difficult to make, as they would entail a fall in the purchasing power of urban populations, who have already suffered from inflation. This is all the more true as rice and bread are consumed in large quantities by all groups of the population, whatever their incomes may be.

In the same way, for future agricultural campaigns, it also seems impossible to lower the price paid to producers or to limit the quantities purchased (1). Producers, who have received about 4.3 billion F.CFA for cereals this year, which they have sold, would never understand such measures that would in any case run against the official policy of self-sufficiency in the matter of food supply.

Between now and the end of the Fifth Plan, when there is an appreciable improvement in the storage capacity (completion of the 130,000 tons program), it is to be hoped that various promotional campaigns in favor of millet will bear fruit and that the Senegalese processing industry will extend its treatment capacity, thus enabling ONCAD's interventions to be more flexible.

This transition period, which should enable to discover a consumption model better suited to its potentialities, will require a considerable amount of financing, both for storage and for the financial charges involved due to immobilization of cereal stocks. Whether these financing charges are borne by consumers, by the State or by international aid, they constitute the price that has to be paid to attain self-sufficiency in the matter of food supply, or at least to get near to that target.

(1) During the present campaign, purchases were purposely slowed down by some of ONCAD's regional authorities, who were rightly worried about the storage and outlets situation.

Without prejudicing the results of the next agricultural campaigns, it is perhaps useful to recall that the 108,600 tons of millet purchased by ONCAD only represents the surplus crop produced by technical production methods that remain very traditional and can still be improved substantially, although benefitting directly or indirectly from the intensification methods introduced for groundnuts. In medium term, far greater tonnages could be traded if the institutional measures adopted in 1978/79 were to be integrated into a real program for developing the production of cereals, which would bring the 1977-1985 food supply investment program up to date, and above all if the problem of market outlets, which necessarily requires better knowledge of the demand for cereals, is studied seriously for the 1978/79 campaign.

5. - Conclusion : has ONCAD's experiment in 1978/79 any value as an example for Sahel countries ?

At the end of this brief analysis of millet marketing in Senegal in 1978/79, it seems interesting to study to what extent this experiment can be useful to other Sahel countries, or whether, on the contrary, the particularities of the cereals economy structure in Senegal reduces its value as an example to a great extent.

To start with what cannot be transposed, it should be noted that the following do not exist in any other Sahel countries :

- a) consumption habits similar to those in Senegal ;
- b) a structure strictly comparable to ONCAD (1) ;
- c) such a dense network of cooperatives.

In most Sahel countries, all that has been done is to set up a cereals board and fix official prices, without improving or integrating the upstream structures (agricultural credit and a banking system) or the downstream structures (organizing producers). The insufficiency of these measures has often been stressed, notably to reduce the

(1) and to all the structures maintaining it (FMDE - DNDS).

influence of private traders (an objective generally required). They have sometimes been presented as forming the basis of a cereals policy, whereas they are really just isolated elements.

This basic difference between Senegal and the other Sahel countries must constantly be borne in mind when interesting ideas arising out of this marketing campaign are being discussed.

First of all, even if it may look obvious, it appears clearly that a cereals policy cannot be improvised on the basis of a good harvest, but that it must above all be based on sound statistical knowledge of the supply (production), of demand (consumption) and on the minimum storage capacity, enabling production to be adapted to consumption in time. In this connection, the Senegalese experiment demonstrates clearly that the forecast for the purchase of 80,000 tons of millet was very optimistic in view of the internal demand and the storage capacity really available. Improvement of agricultural statistics and data concerning food consumption once again seems to be one of the prerequisite conditions for drawing up cereals policies in Sahel countries.

The Senegalese experiment also shows that a monopoly for cereals collection can be effective and that, if the public authorities so desire, private trading circles can be practically excluded from the primary collection circuit (1), provided that :

- the price offered induces producers to sell ;

(1) Indeed, it seems that in the present state of data available, the size of the quantities of millet traded by ONCAD can be more easily explained by a transfer of the tonnages usually traded by parallel circuits (private merchants) to the official circuit than by a significant increase in the quantities traded, which in an average year amount to around 100,000 tons.

- purchases begin sufficiently early to satisfy the producers' requirements of cash funds, independently of the income they receive from export cash crops ;
- the purchasing points are sufficiently numerous and accessible to most producers.

For these different aspects, even if the other Sahel countries cannot immediately satisfy all these conditions, the value of the Senegalese experiment as an example is undeniable and permits verification of hypotheses that are already known.

The Senegalese experiment also shows that fixing the purchase price of cereals at a high level (1), recovered later through the overall marketing process, can be dangerous. Apart from the encouragement it gives producers to increase production (or to sell more), it may bring about difficulties in finding outlets for stocks and raise unsurmountable storage problems. Rather than buying at very high prices (which are not competitive compared with imported cereals) quantities of cereals produced in rudimentary conditions, it would seem preferable to allow producers of cereals greater access to improved technical processes. This would increase their income per hectare and at the same time maintain the final price to consumers within the limits of their purchasing power. Prices for cereals fixed at too high a figure might also cause producers to abandon export cash crops, whose economic incidences on the States' income (fiscal revenue), on employment (industrial transformation) and on foreign trade remain considerable.

The Senegalese case also shows that effective control of all the stages of marketing traditional cereals is possible, but that it is expensive. It illustrates that its cost must be shared between consumers, producers, the State and possibly international aid

(1) The Upper-Volta & Niger also fixed the price of millet in 1978/79 at 40 F.CFA per Kg.

and that policies governing prices, salaries, imports of food supplies and subsidies must be redefined in consequence.

In this sense, the Senegalese experiment also seems to indicate that self-sufficiency in the matter of cereals is not really a utopian goal for most Sahel countries, provided that the internal demand does not abandon traditional cereals like in Senegal, and that imports and food assistance are better controlled, as and when domestic production develops.

Appendix 1

STRUCTURE OF THE CEREALS ECONOMY IN SENEGAL

	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	Moyenne 1971-77
1. Production								
Millet	577 000	314 750	535 800	775 000	639 600	507 000	421 900	
Rice (1)	70 700	24 550	41 300	67 300	85 300	70 000	39 800	
Maize	38 500	20 600	45 400	43 200	45 700	44 600	48 100	
TOTAL	686 200	360 000	622 500	885 500	771 000	622 000	509 000	637 000
2. Imports								
Millet/Sorghum	-	56 400	13 500	-	48 200	-	36 000	
Rice	187 500	169 900	192 000	175 000	102 100	200 000	218 000	
Maize	32 800	10 400	51 500	26 900	9 600	13 000	21 000	
Food Assistance (2)	-	63 100	93 300	16 600	-	6 000	190 000	
Wheat	105 350	95 200	105 400	61 400	104 600	115 800	201 400	
TOTAL	326 000	395 000	456 000	280 000	265 000	339 000	666 000	390 000
3. Exports (2)	8 000	-	14 000	14 000	8 000	5 000	-	7 000
4. Apparent gross avail- able supplies Including imports	1 004 000	755 000	1 064 500	1 151 500	1 028 000	956 000	1 175 000	1 020 000
	32,5%	52,3%	42,0%	24,3%	25,8%	35,5%	56,7%	38,2%

(1) Paddy converted into rice on the basis of 650 Kg. of white products for 1 000 Kg. of paddy.

(2) All cereals together.

Source : DGPA - ONCAD - PAM - FAO.

Appendix 2

ONCAD'S PLACE IN CEREALS IMPORTS (1971-77)

	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	Moyenne 1971-77
 (en t)							
1. TOTAL IMPORTS OF CEREALS (1)	326 000	395 000	456 000	280 000	265 000	339 000	666 000	390 000
2. IMPORTS BY ONCAD	187 500	226 300	205 500	175 000	150 300	200 000	254 000	230 000
3. ONCAD'S SHARE	57,5	57,3	45,0	62,5	56,7	69,0	38,1	59,0

(1) Including food assistance.

Source : ONCAD

Appendix 3

ONCAD AND INTERNAL CEREALS MARKETING (1971 - 78)

	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79
.....(en t).....								
MILLET/SORGHO								
1. Total production	577 000	314 750	535 800	775 000	639 600	507 000	422 000	803 000
2. Marketing by ONCAD	2 900	-	30 000	36 000	12 100	5 000	17 900	108 636
1/2 (%)	0,5	-	5,6	4,6	1,9	1,0	4,2	13,5
PADDY								
1. Total production	108 900	37 800	63 500	103 600	131 300	107 600	61 230	140 260
2. Marketing by ONCAD	653	427	1 007	3 612	3 920	3 815	1 406	2 991
1/2 (%)	0,6	1,1	1,6	3,5	3,0	3,5	2,3	2,1

Source : ONCAD and DGPA.

Appendix 4

REGIONAL DISTRIBUTION OF WEEKLY MILLET PURCHASES BY ONCAD

(In tons)

SEMAINE DU	CASAMANCE	DIOURB.	FLEUVE.	SEN.OR.	S.SAIOUM	THIES	LOUGA	TOTAL
1- 04 au 11.11.1978	0	2831	0	173	7967	2083	1309	14363
2- 11 au 18.11.1978	235	2203	0	101	0	0	197	2736
3- 18 au 25.11.1978	190	1876	82	28	6228	885	1109	10398
4-25(11) au 03.12.1978	0	1229	36	190	7596	0	1320	10371
5- 03 au 11.12.1978	718	1083	34	239	0	154	80	2308
6- 11 au 18.12.1978	0	0	27	210	10003	396	420	11056
7- 18 au 25.12.1978	503	1406	11	19	7071	1058	257	10325
8-25(12) au 01.01.1979	432	937	8	139	4676	1058	110	7360
9- 01 au 08.01.1979	0	2396	43	374	5489	980	20	9302
10- 08 au 15.01.1979	0	0	0	1	25	107	0	133
11- 15 au 22.01.1979	0	0	0	0	0	0	0	0
12- 22 au 29.01.1979	0	0	0	0	0	4	0	4
13-29(01) au 05.02.1979	0	0	0	0	0	0	0	0
14- 05 au 12.02.1979	0	0	0	647	0	64	0	711
15- 12 au 19.02.1979	0	0	0	488	0	19	0	507
16- 19 au 26.02.1979	0	421	0	204	5107	449	0	6181
17-26(02) au 05.03.1979	0	0	0	96	0	492	0	588
18- 05 au 12.03.1979	0	0	0	279	431	1061	0	1771
19- 12 au 19.03.1979	0	69	6	240	386	1058	0	1759
20- 19 au 26.03.1979	698	0	0	252	828	1247	0	3025
21-26(03) au 04.04.1979	0	156	0	359	1505	42	0	6402
22- 04 au 09.04.1979	0	257	0	60	5204	881	0	6402
23- 09 au 16.04.1979	3	0	0	61	135	280	0	479
24- 16 au 23.04.1979	0	109	0	0	6128	0	0	6237
25- 23 au 30.04.1979	22	0	0	0	59	0	0	81
26-30(04) au 07.05.1979	0	0	0	0	0	0	0	0
27- 07 au 14.04.1979	0	0	0	0	50	26	0	76
28- 14 au 21.04.1979	0	0	0	0	0	2	0	2
T O T A L	2801	14973	247	4160	68888	12746	1822	108636

Appendix 5

REGIONAL DISTRIBUTION OF ACCUMULATED MILLET PURCHASES BY ONCAD

(in tons)

SEMAINE DU	CASAMANCE	DIOURB.	FLEUVE	SEN.OR.	S.SALOUM	THIES	LOUGA	TOTAL
1- 04 au 11.11.1978	-	2831	-	173	7967	2083	1309	14363
2- 11 au 18.11.1978	235	5034	-	274	7967	2083	1506	17099
3- 18 au 25.11.1978	425	6910	82	302	14195	2968	2615	27497
4- 25(11) au 03.12.1978	425	8139	118	492	21791	2968	3935	37867
5- 03 au 11.12.1978	1143	9222	152	731	21791	3122	4015	40176
6- 11 au 18.12.1978	1143	9222	179	1	31794	3518	4435	51233
7- 18 au 25.12.1978	1646	10628	190	960	38865	4576	4692	61576
8- 25(12) au 01.01.1979	2078	11565	198	1099	43541	5634	4802	68217
9- 01 au 08.01.1979	2078	13961	241	1473	49020	6614	4822	78218
10- 08 au 15.01.1979	2078	13961	241	1474	49055	6721	4822	78350
11- 15 au 22.01.1979	2078	13961	241	1474	49055	6721	4822	78350
12- 22 au 29.01.1979	2078	13961	241	1474	49055	6725	4822	78354
13- 29(01) au 05.02.1979	2078	13961	241	1474	49055	6725	4822	78354
14- 05 au 12.02.1979	2078	13961	241	2121	49055	6789	4822	79066
15- 12 au 19.02.1979	2078	13961	241	2609	49055	6808	48??	79574
16- 19 au 26.02.1979	2078	14382	241	2813	54162	7257	4822	85755
17- 26(02) au 05.03.1979	2078	14382	241	2909	54162	7749	4822	86342
18- 05 au 12.03.1979	2078	14382	241	3188	54593	8810	4822	88114
19- 12 au 19.03.1979	2078	14451	247	3428	54979	9868	4822	89873
20- 19 au 26.03.1979	2776	14451	247	3680	55807	11115	4822	92898
21- 26(03) au 04.04.1979	2776	14607	247	4039	57312	11557	4822	95360
22- 04 au 09.04.1979	2779	14864	247	4099	62516	12438	4822	101761
23- 09 au 16.04.1979	2779	14864	247	4160	62651	12718	4822	102240
24- 16 au 23.04.1979	2779	14973	247	4160	68779	12718	4822	108478
25- 23 au 30.04.1979	2801	14973	247	4160	68838	12718	4822	108558
26- 30(04) au 07.05.1979	2801	14973	247	4160	68838	12718	4822	108558
27- 07 au 14.05.1979	2801	14973	247	4160	68888	12744	4822	108634
28- 14 au 21.05.1979	2801	14973	247	4160	68888	12746	4822	108636
TOTAL	2801	14973	247	4160	68888	12746	4822	108636

Appendix 6

REGIONAL DISTRIBUTION OF MILLET PURCHASES BY ONCAD
FROM 1973/74 TO 1978/79

	CAS	DIOU 1/	FLEUVE	S.O.	S.S.	THIES	TOTAL	Including for ground nuts basis
1973/74 tons	619	17 224	313	122	6 395	5 052	29 725	28 671
% of the total	2,1	57,9	1,0	0,4	21,2	17,0	100,0	96,4
1974/75 tons	853	10 082	7 035	1 111	15 225	1 663	35 969	26 970
% of the total	2,4	28,0	19,6	3,1	42,3	4,6	100,0	75,0
1975/76 tons	497	1 000	2 216	252	8 006	154	12 125	9 160
% of the total	4,1	8,2	18,3	2,1	66,0	1,3	100,0	75,5
1976/77 tons	260	1 330	15	212	2 732	353	4 902	4 415
% of the total	5,3	27,1	0,3	4,3	55,7	7,2	100,0	90,1
1977/78 tons	174	6 102	0	48	11 415	183	17 922	17 700
% of the total	0,9	34,1	0	0,3	63,7	1,0	100,0	98,8
1978/79 tons	2 801	19 795	247	4 160	68 888	12 746	108 636	101 429
% of the total	2,6	18,2	0,2	3,8	63,4	11,7	100,0	93,4

(1) Including the Louga region

NB : SAS = Casamance - DIOU = Dourbel & Louga
SO = Eastern Senegal
SS = Sine Saloum

Source: ONCAD

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Appendix 7

THE SHARE IN THE MILLET PRODUCTION OF THE DIFFERENT REGIONS
WHERE ONCAD DOES THE MARKETING
(IN 1978/79)

	CASAM.	DIOUR.	FLEUVE	LOUGA	S. ORIENT.	S. SALOUM	THIES	TOTAL
1. Estimated production (t.)	81 600	126 700	27 100	86 400	50 400	313 000	117 700	803 000
2. Marketed by ONCAD (t.)	2 801	14 973	247	4 822	4 160	68 888	12 746	108 636
	3,4	11,8	0,9	5,6	8,3	22,0	10,8	13,5

Source : DGPA (production) and ONCAD (marketing).

Appendix 8

REGIONAL STORAGE CAPACITIES AND QUANTITIES OF MILLET
MARKETED BY ONCAD 1978/79

	Various Storehouses	1st. phase ONCAD	Total	Millet marketed in 1978/79	
	1	2	3 = 1 + 2	4	5 = 3 + 4
CAPE-VERDE	7 000 ^{1/}	-	7 000	0	-
CASAMANCE	3 000	-	3 000	2 801	107
DIOURBEL	2 000	6 000	8 000	14 973	53
RIVER	-	5 000	5 000	247	2 024
LOUGA	-	4 000	4 000	4 822	83
EASTERN SENEGAL	1 500	-	1 500	4 160	36
SINE SALOUM	-	15 000	15 000	68 888	22
THIES	3 000	-	3 000	12 746	24
TOTAL including the ground nuts basin	16 500 ^{1/}	30 000	46 500	108 636	43
	5 000	25 000	30 000	101 429	30

(1) The 12,000 tons of the port of Dakar are not taken into account.

Source : ONCAD and SONED.

12/1

Appendix 9

EVOLUTION OF REGIONAL STOCKS OF MILLET IN THE 1977/79
CAMPAIGN HELD BY ONCAD (IN TONS)

Region	EVOLUTION OF REGIONAL STOCKS OF MILLET IN THE 1977/79 CAMPAIGN HELD BY ONCAD (IN TONS)											
	27.09.78	18.12.78	31.12.78	07.01.79	22.01.79	04.02.79	26.02.79	05.03.79	19.03.79	02.04.79	21.05.79	
CAPE VERDE	391	391	391	391	170	160	90	24	10	9	-	
CASAMANCE	1915	1917	1883	1883	1908	1965	1874	1868	1851	1793	1618	
DIOURBEL	490	247	247	250	250	100	35	35	35	35	4	
FLEUVE	710	360	360	360	360	360	360	330	255	145	115	
LOUGA	1214	973	909	687	370	156	10	-	-	-	-	
EASTERN SENEGAL	1067	1050	1040	1040	1035	1025	1025	1025	1024	1024	441	
SINE SALOUM	727	836	836	917	917	917	850	695	517	436	419	
THIES	1180	1477	1447	1442	1402	62	45	45	38	38	37	
T O T A L	7694	7252	7114	6971	6412	4745	4289	4022	3730	3480	2634	
Tonnage sold from one period to another (T)	-	442	138	143	559	1667	456	267	292	250	846	
Balance of the harvest marketed in 1977/78 (1977 T) as a percentage	42,9%	40,5%	39,7%	38,9%	35,8%	26,5%	23,9%	22,4%	20,8%	19,4%	14,7%	

N.B. : The statements of stock quantities - especially up till 31/12/78 - comprise a number of errors. For some periods, the increases in regional stocks are no doubt due to transfers from one region to another.

Source : ONCAD (COR/CPA).

Appendix 10

COST PRICE STRUCTURE OF LOCAL MILLET

	1977/78	1978/79	Evolution of the main headings (t.)
in F.CFA/t.....		
Price paid to producers	35 000	40 000	+ 14,3
Sacks & bags	2 100	1 797,75	- 14,4
Transport	3 700	4 100	+ 25,0
Handling		525	-
Storage charges	-	864	-
Premium to weigher	4	125	-
Premium for President	1	25	-
Insurance transport of funds	-	17	- 73,4
Fire insurance	147	15	- 89,8
Financial charges	656	2 642	+ 302,7
Overhead expenses	328	486	+ 48,2
Storage losses	-	400	-
Storehouse depreciation	-	185	-
Total, in round figures	42 000	51 182	+ 21,9
Homologated retrocession prices	-	46 500	-
Differential to be subsidized	-	4 682	-

Source : ONCAD.

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B.3

CASE STUDY : MALI - O. P. A. M.

I - DESCRIPTION OF O.P.A.M. (OFFICE OF AGRICULTURAL
PRODUCTS OF MALI)

II - EVOLUTION OF O.P.A.M. IN THE MALI CEREALS CIRCUIT

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I - DESCRIPTION OF O.P.A.M. ("OFFICE DES PRODUITS AGRICOLES DU MALI") (1)

1. Structure and means available

The "Office des Produits Agricoles du Mali" was founded in 1965 and succeeded the "Office des Céréales" set up in 1959 and the "Office des Céréales" set up in 1964. Its task is to market all the volumes of cereals traded in Mali and to supply all the cereals purchased by Mali consumers, practising purchase and sale prices imposed by the Government

O.P.A.M.'s statutes are those of a National Corporation, defined by a text dated 9th December 1970 and completed by special statutes granting it a monopoly for trading in agricultural products, except those marketed by other State Corporations.

The structure of O.P.A.M. consists of a head office in Bamako and inspectorates in different regions.

- At national level, the General Management of O.P.A.M. is composed various specialized services :

- . the Economic and Administrative Affairs Division manages the personnel and equipment
- . the Commercial Division manages purchases and sales
- . the Financial Division draws up budgets and accounts
- . the Itinerant Inspectorate is responsible for relations with local agencies.

- At regional level, O.P.A.M.'s structure follows administrative regions:

- . for each region : a Regional Inspectorate
- . for each circle : a controller.

O.P.A.M.'s staff is about 750 persons:

- 3 managers (General Management)
- 1 senior executive (General Management)
- 39 foremen, technicians and assimilated persons, including 32 in the General Management and 7 Regional Inspectors
- 380 employees and workmen, including 163 in the General Management
- 32 drivers, including 23 in the General Management
- 295 labourers, including 60 in the General Management.

(1) Inspired by the 1976 CEGOS report :

"Price structure and mechanism for marketing cereals".

The image given by the O.P.A.M. organization is one of a very centralized structure ; furthermore, very little autonomy is left to local agencies, whereas the essential activities concerning purchase, sale, storage and movements of cereals take place at local agency level; all the decisions concerning these activities are taken at the competent management level (that is to say mainly at Commercial Management level).

The logistic means available to O.P.A.M. consist of storage units and a fleet of trucks for transporting the cereals in bags.

- The capacity of the storage units (warehouse and silo) amount to 116 300 tons, whereas new requirements are estimated at 110 000 tons, including a buffer stock (32 000 tons).

- In recent years, the fleet of trucks has been added to by the introduction of 38 heavy-duty long-distance trucks. It is proposed to bring their number up to 60 trucks for the purpose of satisfying about 36 % of the total transport requirement.

O.P.A.M. finances its activities by means of campaign credits granted by B.D.M. at the beginning of a campaign (December), on the basis of marketing forecasts ; a second instalment is released about three months later to complete purchases. These credits merely cover purchases, and O.P.A.M. has to finance its commercial activities from its own funds, that is to say, pay for the expenses incurred by its own activity : collection, transport, storage, etc...

In point of fact, O.P.A.M. lacks funds of its own, which means that its financial situation is very aleatory and involves considerable financial charges. Besides, the purchase and sale prices fixed by decree do not leave O.P.A.M. with a sufficient margin to cover its operating charges.

2. Commercial activities

O.P.A.M. purchases the cereals put on the market by the co-operative movement on the one hand, and by means of some other operations, on the other hand (See below).

There is therefore no contact between O.P.A.M. and the producers ; purchase is made at local centre level, where the grain delivered by co-operatives or by means of other operations is weighed and approved.

At the present time, the total volume purchased varies considerably from

year to year, owing to climatic variations but also owing to competition from the parallel market.

1967-68	57,69
1968-69	7,14
1969-70	26,37
1970-71	11,88
1971-72	28,59
1972-73	10,92
1973-74	10,24
1974-75	55,3
1975-76	
1976-77	
1977-78	

Volume of cereals purchased by O.P.A.M. during the last purchasing campaigns (in thousands of tons)

The main function carried out by O.P.A.M. in the food cereals marketing circuit is the annual storage of cereals.

Storage is effected on the one hand in warehouses and silos belonging to O.P.A.M., and on the other hand in storehouses leased or borrowed by O.P.A.M.

The first storage stage within the framework of O.P.A.M. takes place at local centre level, where the cereals are purchased. The grain bought is then stored in the centre's O.P.A.M. warehouse.

Management of O.P.A.M.'s stocks is mainly exercised on the volumes stored in the silos and warehouses of the Regional Inspectorates, depending on availabilities and the requirements centralized in the General Management : orders concerning removals from stock and storage therefore usually come from the General Management.

The main movements concern consignments of millet from producer areas (SIKASSO, SEGOU, MOPTI) to importing regions (KAYES, GAO, BAMAKO). In addition, some regional centres play a "turn-table" role : MOPTI, for transfers to the VIth region, BAMAKO, for transfers to the Ist region.

O.P.A.M. plays a multiple role in the distribution circuit :

- it forecasts requirements,
- it supplies warehouses in importing regions,
- it sells grain to organizations responsible for distributing it to retailers,
- in some cases, it acts as a retailer.

Forecasting requirements

This is carried out at national level (General Management), where all the information on local requirements from co-operatives and local administrative bodies is collected.

The nature of this information varies : sometimes, it is a matter of a sales forecast forwarded by the Assistance and Control Centre (Co-operation) ; generally, especially in zones where supplies are limited, forecasts are drawn up according to the population figures communicated by Government bodies. The quantities available on the spot (auto-consumption) are either estimated incorrectly or simply omitted.

Supplying warehouses in importing regions

On the basis of the forecasts of requirements, the transport of grain is organized so as to supply the warehouses in urban zones and in areas where crops are insufficient. Final storage is effected at local centre level. In principle, these local centres are supplied from the Regional Inspectorate's warehouse, but it may happen that some local centres are supplied directly from warehouses located in production regions.

In the case of the VIth region, the total volume of supplies is limited by the rhythm of river transport and the duration of the navigable season.

II - EVOLUTION OF O.P.A.M. IN THE MALI CEREALS CIRCUIT (1)

I. Diagnosis

The cereals economy of Mali is characterized by a large gap between the objectives set by the Government and daily reality :

- production is stagnating while Mali should be a producer country capable of regular exports.
- producer prices are among the lowest in the Sahel (25 to 50 % less than others).
- the agency in charge of supplying deficit zones and cities (O.P.A.M.) (2) is incapable of carrying out its objectives. It cannot enforce its buying monopoly because of a lack of technical and financial resources and because of the confusion created by the rules imposed on it.

(1) Extract from : "Cereals Policy in Mali", FAO, H. de Meel, 1978.

- this situation results in a double market in production and consumption. In this market, prices are not in harmony.
- the consumer price in the parallel market is regularly above the official price, which has the effect of favoring those who can supply themselves on a priority basis from O.P.A.M., creating an inequality which evidently was not desired.
- traders assured of selling at higher prices can buy from producers at a price higher than the official price which prevents O.P.A.M. from obtaining its objectives, since farmers are happy to get the higher prices from the trader.
- because of the fact that official marketing does not start until 1 November, traders take advantage of this to buy cereals at low prices from stocks of preceding years that farmers try to sell starting in September to get cash while waiting for the new harvest to come in.

Thus, the objective of O.P.A.M. of stabilizing prices is not attained. As for the second objective concerning the supply of cities and deficit zones, it is only partially fulfilled because of the insufficiency of purchases and the difficulty in creating sufficient stocks.

During this time, private trade provides 60-80 percent of the supply of populations at market prices often higher than official prices.

2. Causes of the present situation

The origins of the present situation have been studied several times. The causes are now known and can be summarized as follows :

A - Causes linked to the nature of things

There exists zones which are structurally deficit areas, distant and not easily accessible.

The drought which hit from 1972-74 disturbed the system. This resulted in a drawdown of reserves. The Government had to request massive assistance and make large imports.

B - Causes associated with the insufficiency of technical resources

Inability of creating security reserves and stabilizing stocks comes from

(2) O.P.A.M. "Office des Produits Agricoles du Mali"

lack of funds.

Insufficiency of storage capacity.

Inability of providing transport because of lack of organization of a private or governmental vehicle fleet.

Transport links of bad quality which makes certain roads difficult and uncertain.

C - Causes which stem from structures in place and laws promulgated

The monopoly of purchase and sale given to O.P.A.M. has never functioned effectively. O.P.A.M. only controls 20-40 % of the market depending on the year. It was hoped that the arrival of new resources would permit O.P.A.M. to play the role it was created to play. At present, one can question the effects of a monopoly which can not be implemented.

The rules for organizing the cereals season, the fixing of a single purchase price, the fixing of commercial margins and consumer prices all constitute a rigid framework imposed on O.P.A.M. which leaves it no room for manoeuvre and no flexibility to meet difficult, unpredictable situations.

The Government cannot control clandestine exports which are encouraged by the higher prices set by neighboring countries, than those set in Mali due mainly to the exchange rate for the CFA franc. For this reason, losses of tonnages from the official system, as well as from the internal private system create or aggravate the overall cereals deficit.

D - Causes linked to the management of organizations acting within the cereals framework

The organizations designed to assure the primary collection of cereals (federations of rural groups) are administrative institutions without resources and without financial or commercial experience.

The development Operations are better equipped and staffed but they know how to count and refuse to collect cereals without proper remuneration.

This is particularly the case in operations of peanuts and cotton which do not collect cereals in their zones.

The banking system, by making O.P.A.M. underwrite the responsibility for consumer marketing and credit, has been able to transfer risks and costs

from itself. The traders are skillful and efficient managers. They buy in production zones, transport production over small distances, and have low general expenses. As for sales, they make them immediately, reinjecting the money in new purchases and thus recycling their investments quickly. They have a turnover rate on capital which is high and not comparable with the operations of the official agencies. Their second strategy consists of storing, speculating on an increase, particularly before the harvest season. Under this hypothesis, they can buy at higher prices than the official price. And each time they come out ahead. The official Cereals agency cannot compete with them because it has no cereals to sell during that period.

The corollary of this is that now traders, in the present situation, take the risk of transferring cereals over long distances towards deficit zones. Private transporters exploit the situation offered to them very well. If the official rate per ton kilometer for cereals is too low, they do not provide transport. This is the case when roads are difficult. The authorities only overcome this attitude by requisitioning vehicles.

The Malian Navigation Company and the Mali Railroad play the role of public transport. Nonetheless, the insufficiency of their technical resources and the large tonnages they had to transport during the drought, are the reason for the disorder they are in. As for Malian Farmers, on one hand they are solicited by traders who, depending on the situation buy at low or high prices, and on the other, by the Federation of Rural Groups (FRG) to deliver cereals to O.P.A.M. They do not have the resources to make true economic choices either about the acreages given over to cereals as compared to cash crops, nor about the dates which are most favorable for selling surpluses if they have any.

3. Aggravation of the situation

During the past five years, certain inefficiencies have become permanent, others have been brought under control, and others still plague the situation with no remedy in sight.

But, what is worse yet is the inevitable chain of factors which we have identified, which leads to a cereals system having results quite different than those hoped for. Let us look at that : Prices which are too low to producers have three consequences :

- a) near border zones they favor smuggling.
- b) in other zones they encourage traders to buy at higher prices, knowing that they will sell it well, to the detriment of FRG and O.P.A.M., which have no resources except through the quota system imposed by the Government.
- c) over a period of time the low prices do not encourage farmers to produce more cereals.

With production insufficient, a situation close to general scarcity is created which encourages the parallel market and uncontrollable price increases. O.P.A.M. does not have sufficient reserves and cannot inject cereals into the consumer market, thus leaving the field to the traders. The control of low prices to consumers is not assured and here again the objectives of the policy are not attained.

When drought intervenes in this fragile system, everything is turned upside down. To meet the dramatic scarcity, a call is made for food assistance and imports. The technical resources of O.P.A.M. being insufficient, it is necessary to use others even more costly O.P.A.M. which has the monopoly on buying and selling, still retains the responsibility for covering the costs. Its financial situation degrades and its cash is depleted. Without its own capital and permanent funds, only short term credit permits O.P.A.M. to keep itself afloat, but at the cost of short term debts of 39 billion Malian Francs, while its average budget is less than 10 billion Malian Francs per year.

The management of O.P.A.M. is too rudimentary to permit detection of the exact points where decisions should be made. Delay in publishing its accounts prevents the Ministries of Finance and Commerce for making timely proposals to reform price scales and commercial margins, which could cover real costs. The style of management introduced during the drought made O.P.A.M. simply a supply house. This administrative style has not been modified to permit O.P.A.M. to attain its second main objective : stabilizing prices.

B.4

CASE STUDY : NIGER - O. P. V. N.

INTRODUCTION TO THE ACTIVITIES OF THE OFFICE DES PRODUITS
VIVRIERS DU NIGER (O.P.V.N.)
(FOOD CROPS OFFICE OF NIGER)

Caisse Centrale de
Coopération Economique
NIAMEY Office
June 1979

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This introduction to the activities of O.P.V.N. in the field of marketing cereals has been drawn up by the Caisse Centrale de Coopération Economique in NIAMEY for the Colloquy held at NOUAKCHOTT in July 1979 on cereals policies. It is merely a work document illustrating a concrete case in the context of debates dealing more especially with price policy themes and intervention by public bodies for regularizing cereals markets.

As very little time was available for drawing up this document, readers are requested to excuse any errors or omissions it may contain.

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NOTE ON OPVN

1 - GENERAL

The Niger Food Crops Office (OPVN) was founded in 1970. It is a public State organization of an industrial and commercial nature; it enjoys financial autonomy and has its own corporate entity. It comes under the responsibility of the Minister of Economic Affairs, Commerce and Industry.

Its main objectives are as follows:

- to organize the marketing of local food products (millet, white and red sorghum, rice) by intervening in the market and building up buffer stocks for the purpose of stabilizing production and marketing prices and assuring balanced conditions for food products in between seasons and between the different regions.
- to assure security in respect to food products at the national level by drawing up annual forecasts of resources and requirements, by proposing a program for storage, imports and exports, by participating in the preparation of national and international food aid programs, and by assuring their execution.

2 - BACKGROUND

Three phases in the development of this office can be distinguished:

- a) from 1970 to 1973, stagnation in the volume marketed owing to a lack of resources available (vehicles, storage infrastructure) and a lack of organization of the marketing system.
- b) starting in 1974, a sharp increase in the quantities marketed locally (about 64 000 tons of millet and sorghum) with a very favorable price structure - official purchasing prices for millet and sorghum (25 F per kg) were considerably higher than the market price (15 F per kg) - this development can be explained by the following:
 - * considerable reinforcement of the resources made available, notably thanks to foreign assistance. Storage capacity rose from 5 500 tons in 1973 to 34 000 tons in 1974 (USAID credit, subsidy in the context of the fight against the effects of the drought). Furthermore, the Office was provided with more than one hundred heavy vehicles, also supplied by

foreign aid.

. extension of marketing circuits by using the co-operative structures set up by UNCC and by having recourse to approved merchants.

c) from 1975 onwards, considerable fluctuation in the volumes marketed, and in spite of continued reinforcement of storage capability, reaching 82 000 tons in early 1979. The causes of these fluctuations are various :

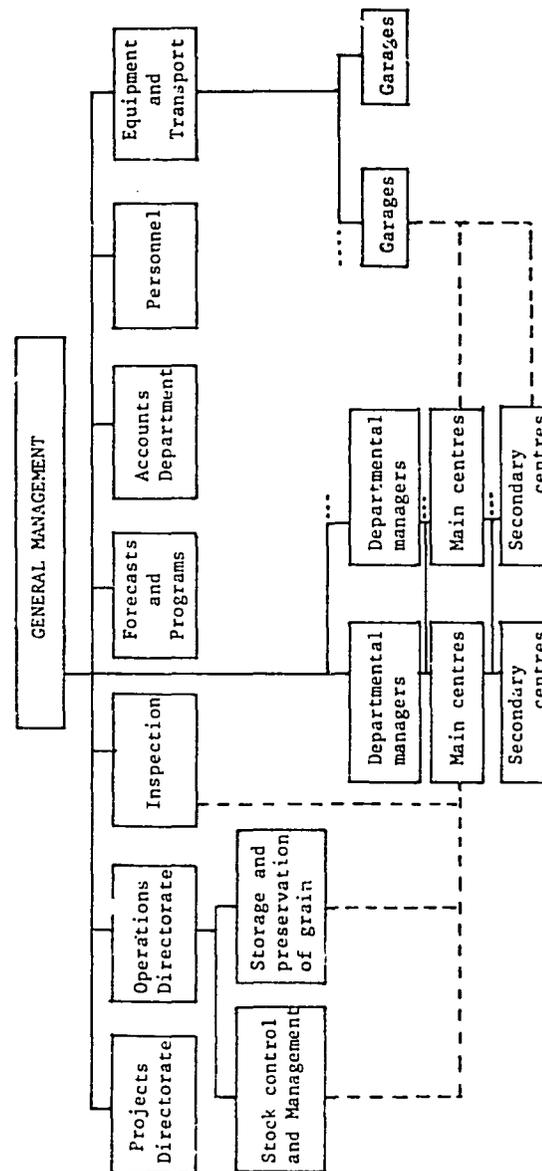
. the low volume marketed in 1975/76 (21 000 tons) seems mainly due to the poor results of the 1975 agricultural campaign.

. the improvement observed in 1976/77 (46 000 tons marketed) reflects the size of the surpluses resulting from the 1976 agricultural campaign (283 000 tons, according to the Directorate of Agriculture). However, the volumes marketed are far from attaining the 1974/75 levels, both as regards absolute value and relative value (16.8 % of surpluses in 1976/77, as against about 50 % in 1974/75). The unfavourable evolution of the price structure, since the purchase price paid to producers remained unchanged, whereas the price on the free market tripled, seems to be the main cause of this situation.

. the fall in the quantities marketed by OPVN in 1977/78 (14 000 tons), which only represented 10.7 % of the surpluses available estimated by the Directorate of Agriculture (129 000 tons), further underlines the differences between prices on the official market, which remained fixed at 25 F per Kg, and prices on the free market, where the rise in prices is favoured by lower surpluses and by the improvement in the situation of persons with low incomes as a result of a reduction in income tax. Other causes may also have played their part, such as the increase in the indebtedness of peasants with merchants owing to the progressive introduction of modern production methods (fertilizers, agricultural machinery), and perhaps also the deterioration of the intervention means available to OPVN in the matter of transport (the fleet of vehicles supplied in 1974 had been only partially renewed).

. the reversal of the trend observed in 1978/79 (34 000 tons marketed on 22nd May 1979, i.e. about 30 % of the surpluses of the 1978 campaign) will be considered in greater detail when we discuss the activities of OPVN during the last financial year (see Paragraph 6.).

3 - ORGANIZATION
OPVN intervenes at national, departmental and local levels in accordance with the diagram below :



———— Hierarchical relations
----- Functional relations

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The projects directorate is more especially responsible for following up the FGR project, which is designed to ensure that reserve stocks are built up, notably by building new storehouses (33 so far).

The stock control and management office collects all the information coming from the various storehouses for which the Office is responsible.

The grain storage and preservation department is responsible for maintaining warehouses and storage equipment, and also for checking the quality of the products stored and processing them if necessary.

The inspection department supervises the management of the storehouses.

Departmental managers are essentially responsible for allocating material and financial resources, for controlling their use and recovering them and for relations with regional authorities (Prefects, UNCC delegates, etc...).

The principal centres are the ones possessing storehouses.

Secondary centres do not possess storehouses. They are merely sales points at village or district level.

4 - INTERVENTION REGULATIONS

a) Marketing food crops

At present, OPVN uses three different marketing circuits :

- agricultural co-operatives,
- approved merchants,
- direct purchases from heads of villages.

- up till now, the co-operative purchases have been made through A.L.C. (Local Co-operative Associations), which possess weighing equipment, infrastructure for storage and the equipment necessary for management and accounting (UNCC agents). It should be noted that the new statute for co-operatives, which is due to come into force in 1979, provides for the disappearance of A.L.C. However, in practice, it should not modify the Office's intervention methods to any marked extent (maintenance of UNCC assistance, which, for an initial period, will continue to be responsible for marketing organization).

The co-operatives are remunerated by a fixed commission of 1 500 F per ton sold ; the OPVN is responsible for transport from the co-operative

storehouses to its own warehouses.

On 22 nd May 1979, 24.8 % of OPVN's purchases in respect of the 1978/79 campaign had been effected by this means.

- recourse to merchants seems to remain marginal, at least as far as local food crops are concerned, since on 22nd May 1979, it only represented 0.2 % of the purchases of the campaign. On the other hand, on this date, OPVN had bought 17 000 tons of imported white sorghum from MARADI merchants at a price of about 55 F CFA per Kg.

In fact, although benefitting from a commission far higher than the one allocated to the co-operatives (4 000 F CFA per ton), it is not in the interests of merchants to sell to OPVN, as the purchase price offered by the latter (44 F per Kg for millet and white sorghum) is far lower than the price on the free market (average price observed in the MARADI department : 70 to 90 F, at the end of the between-crops period of the 1977/78 campaign, 50 to 60 F during the first quarter of 1979).

Furthermore, it must be stated that the size of the commission granted to merchants, justified by the fact that they themselves are responsible for transporting products to OPVN's warehouses, places them in a very favourable position : if the market were to turn, they could compete very easily with the co-operatives by drawing from their margin to grant rebates to producers.

It remains a fact, that recourse to merchants can prove to be an advantage for OPVN, in view of its transport shortages (see under, Paragraph 5).

- the procedure of direct purchases from heads of villages provided strong competition to purchases from co-operatives, since, on 22nd May 1979, it represented 75 % of all local food products marketed by OPVN. The advantage for the heads of villages is obvious : while benefitting from the same commission as the co-operatives (1 500 F CFA per ton), they do not have to transport the goods to A.L.C.'s marketing centres, which may be a long way away from the villages (producers only have rudimentary transport means at their disposal), but only to the collection centres near their villages. The latter are controlled by local authorities (Prefects, Sub-Prefects and Heads of Cantons) and are chosen for their accessibility to the OPVN trucks.

It should also be noted that after deduction of their operating expenses and contributions to various guarantee funds, the share of the commission collected by co-operatives that eventually goes to their members is very small, if not non-existent. Some UNCC officers have complained about this competition, as the volumes marketed by the co-operatives for which they are responsible do not enable them to cover their fixed management costs. However, it is important to discover how the commission paid to the head of a village is distributed - if it is distributed at all - between the members of the community to appreciate fully the advantages of the two systems at basic peasant level.

Whereas the direct purchases procedure seems, if not questionable, at least to have considerable consequences on the co-operative agricultural policy adopted in Niger. It certainly raises some serious problems for OPVN itself, particularly with regard to the means of transport used. In fact, on the one hand, the village sales centres are far more numerous and dispersed than the co-operative markets, and, on the other hand, their means of access (bush tracks) are often far less practicable than those of the A.L.C. (asphalt roads, laterite tracks). Hence a considerable increase in fuel costs and a recrudescence of breakdowns, observed by the management of the Office, and which cause it to entertain grave doubts on the profitability of this operation.

b) Sales to consumers

Sales to consumers are effected at the main centres (storehouses) and at secondary centres (districts and villages).

At the storehouses, sales are held monthly and are in principle reserved for civil servants.

At the secondary centres, sales take place daily and are open to all merchants and private companies. In towns, they are organized by heads of districts, who receive a fixed salary of 10 000 F CFA. per month in remuneration for their services (up till this year, they were remunerated on the basis of a commission of 1 % of the sales effected, but this procedure proved to be too expensive). In principle, heads of districts are required to respect sales quotas established on the basis of 5 Kg. of cereals per person per day. In point of fact, these directives are followed very unevenly.

In villages, the sales are organized by heads of villages. It does not seem that the latter receive, officially at least, any remuneration for this service, either in commission or salary form.

5 - RESOURCES AVAILABLE

a) Resources in equipment and infrastructure

At present, OPVN has 101 storehouses distributed throughout the territory representing an overall storage capacity of 82,200 tons. The ZINDER Department has the biggest capacity with 17,700 tons, followed by NIAMEY (15,500 tons, including 10,500 tons at NIAMEY Town), MARADI (13 500 tons), TAHOUA (12,500 tons), DOSSO (10,000 tons), DIFFA (7,500 tons) and AGADEZ (5,500 tons). Furthermore, the Office runs 9 prefabricated silos with a capacity of 500 tons each at NIAMEY Town and 9 other silos of the same type in the ZINDER Department. In all, the Office's storage capacity is therefore 91,200 tons, i.e. nearly one month's consumption on the basis of 250 kg. of cereals per person per annum.

As already stated, the availability of transport means has deteriorated considerably since 1974. At the moment, the Office only possesses 44 trucks in working order. These are allocated to each department. However, OPVN only possesses four garages at NIAMEY, MARADI, TAHOUA and AGADEZ. It seems that this situation, due to insufficient renewal of equipment in spite of the arrival of some Japanese vehicles, constitutes the main bottle-neck, both at marketing level, after setting up the direct purchasing procedure, and as regards supplying distant rural centres, particularly in the pastoral zone.

b) Financial resources

We have not got any recent figures on the financial situation of OPVN available. However, a rapid analysis of the balance sheet on 30th September 1977 gives a good idea of the basic financial structure of the Office, as it was drawn up at the end of a marketing campaign ; i.e. at a time when between-season stocks have in principle been sold and when only fixed assets and reserve stocks remain.

On 30 September 1977, the balance sheet of OPVN appeared diagrammatically as follows (in millions of F. CFA) :

Fixed assets	1 233	Permanent capital	450,8
including :		including :	
warehouses	443,4	own capital	
vehicles	566,1	and reserves	187
miscellaneous	223,5	subsidies	891
Stocks	1 425,4	long term loans	372,8
Realizable and available	1 329,7	Short term indebtedness	2 537,3
including :		including :	
clients	442,6	external aid accounts	1 560,6
miscellaneous		Treasury loan	600
realizable	272,6	miscellaneous	376,7
available stock	614,9		
TOTAL ASSETS.....	3 988,1	TOTAL LIABILITIES.....	3 988,1

The relatively low state of the working capital, amputated in 1977 by a loss of 116.6 million F.CFA., must be tempered by the nature of the Office's short-term indebtedness. In fact, apart from the Treasury loan of 600 million F.CFA, the latter is mainly represented by the foreign aid accounts, which constitute a debt vis-à-vis the MINISTRY OF THE PLAN. These accounts reproduce the value of sales of products coming from foreign aid, less the expenses incurred by the Office for their storage and distribution, and has to be returned to the MINISTRY OF THE PLAN as and when sales are effected. In view of their public nature, these debts do not present a degree of exigibility likely to upset the financial balance of the Office.

As for the marketing campaign, it is entirely financed by short-term credits, 40 % of which are contracted with CBCA and 60 % with BDRN.

BUDGET

The Office's budgetary exercise is the same as that of the State. The budget is broken down into an ordinary working budget and an extraordinary equipment and public intervention budget. In the ordinary budget, the following appear under takings : the results of marketing operations organized by the Office, operating subsidies granted by the State, local collectivities, and public establishments and miscellaneous accessory products (rents, royalties, etc...). Under the heading of outgoings (expenses), the following appear : current management expenses, marketing expenses and the interest of loans contracted by the Office.

The net results of the ordinary budget, when positive, are transferred

to the extraordinary budget, which, as other resources, includes the financial assistance and equipment subsidies granted by the State, local collectivities and public bodies, gifts and bequests, notably those received from foreign aid and the amount of the loans contracted by the Office.

Expenditure covers acquisition of property and real-estate, the cost of studies and works, publicity operations, market prospection and training, public interventions and the depreciation annuities for the loans contracted.

6 - STATE OF THE PROGRESS OF THE 1978 - 1979 CAMPAIGN

On 22 nd May 1979, OPVN had bought 34 394 tons of local cereal products, to which must be added 17 084 tons of imported white sorghum acquired from merchants in the MARADI Department.

In the above 34 394 tons, millet is included for 17 971 tons (52 %), white sorghum for 12 297 tons (36 %) and red sorghum for 4 126 tons (12 %).

ZINDER Department headed the list of regions showing surplusses with 16 060 marketed tons (47 %), followed by MARADI Department (9 360 tons, i.e. 27 % of the total), then, much lower down the list, by NIAMEY (5 000 tons), DOSSO (2 566 tons), TAHOUA (1 875 tons) and DIFFA (592 tons).

Whereas purchases of white and red sorghum predominated in the Department of DIFFA (100 % of the Department's purchases) and ZINDER (74 %), they fell to less than 30 % of the purchases in the Departments of MARADI and TALOUA, to 15 % in the Department of DOSSO and were practically non-existent in the Department of NIAMEY.

Direct purchases from heads of villages represented the total amount of the quantities marketed in the Departments of NIAMEY, DOSSO and TAHOUA, 73 % of those traded in the Department of ZINDER and 60 % in the Department of MARADI. None occurred in DIFFA Department. The remainder was traded through the agency of UNCC, and, very marginally as we have seen, through the agency of merchants, but only in MARADI Department.

PRICES

For the 1978/79 campaign, the purchase price paid to the producer has been fixed at 40 F CFA per Kg. for millet and white sorghum, as against

25 F CFA during the previous campaign, and at 35 F CFA per Kg. for red sorghum. This substantial improvement in price explains to a very great extent the increase in the quantities traded by OPVN. However, the latter is still far from attaining the targets that it had set itself for this campaign (100 000 tons, including 90 000 tons of millet and 10 000 tons of sorghum).

Sales prices were established on the following basis : 50 F CFA for millet and white sorghum and 40 F CFA for red sorghum.

According to the management of OPVN, the present structure of prices is as follows (millet and white sorghum) :

Purchases from	Co-operatives	Heads of villages	Merchants
Purchase price paid to the producer	40	40	40
Commission	1,5	1,5	4
Bagging	2	2	2
Transport	2	2	-
Management charges	7,4	7,4	7,4
Depreciation	2,6	2,6	2,6
COST PRICE (F.CFA per Kg.)	55,5	55,5	56,0
	*****	*****	*****

In fact, cost structures are probably different, particularly between purchases from co-operatives and purchases from heads of villages in respect of transport costs, which appear to be underestimated in the latter case.

That being as it may, the present price structure does not appear to allow OPVN to carry out its operations in normal conditions of profitability : if the figures supplied are studied, potential losses on the quantities traded on 22nd May 1979 would amount to more than 200 million F. CFA ; and this amount does not take into account any losses made on sales of imported products (we have seen that imported white sorghum was purchased for 55 F CFA per Kg.).

The margins applied on other products sold by the Office appear to be insufficient to compensate for the losses made on sales of traditional cereals. And, thus, whole rice, purchased at 95 F CFA per Kg. from the "RIZ du NIGER" factories, is sold at 105 F CFA per Kg., and crushed rice, purchased at 65 F CFA per Kg., is sold at 70 F CFA. Likewise, the margins applied for imported white and yellow maize, sold respectively at 80 F

CFA and 70 F CFA per Kg., do not exceed 5 F CFA per Kg.

STOCKS

The situation as regards stocks on 10th May 1979 seemed satisfactory, since the latter amounted to 88 600 tons. The Office's total storage capacity was practically saturated, and even exceeded in some Departments (NIAMEY and MARADI notably).

Stocks of sorghum were the highest with 37 316 tons (42 % of the total), followed by millet (21 997 tons, i.e. 25 %), rice (13 425 tons), maize (10 824 tons) and wheat (5 040 tons).

Out of this total, 10 000 tons of maize, 6 123 tons of sorghum and 3 147 tons of millet constitute the reserve stock, amounting in all to 19 270 tons.

It must be recalled that the idea of building up a reserve stock, which was initially due to consist of 40 000 tons of cereals, was first recommended by the Government of Niger in 1974. An official request for foreign aid was transmitted through PNUD in January 1975 and granted by the Federal German Republic. The latter agreed first to finance the extension of storage facilities, and second to provide the funds required to constitute this reserve stock. This program was due to be completed in April 1979, but seems to be somewhat behind schedule.

With an available amount of 21 287 tons, including a reserve stock of 5 563 tons, the Department of NIAMEY is the best supplied, followed by MARADI (20 552 tons, including 5 194 tons in reserve), ZINDER (18 388 tons, including 4 316 tons in reserve), DOSSO (13 059 tons, including 3 034 tons in reserve), TAHOUA (8 736 tons, including 1 162 tons in reserve), AGADEZ (3 460 tons) and DIFFA (3 388 tons), no reserve stocks being provided for in these last two Departments.

Compared with the population of each Department, and still on the basis of an annual consumption of 250 Kg. per person, the present level of stocks would make it possible to cover the requirements of the AGADEZ Department for 40 days, those of MARADI for 32 days, those of DIFFA for 30 days, those of DOSSO and ZINDER for 27 days, those of NIAMEY for 26 days and those of TAHOUA for 14 days.

Except for the Department of TAHOUA, stocks therefore seem to be equitably distributed.

CONCLUSION

On concluding this study, it appears that the main questions raised in respect of the Office concern two major types of problem :

- to define a price policy and subsequently a subsidies policy enabling it to intervene effectively on markets and satisfy its profitability requirements ;

- to draw up intervention regulations, which are first of all compatible with the means made available and which also fit in with the actions of other structures in the agricultural sector.

It goes without saying that it will be impossible to solve these problems at merely OPVN level. They must be studied within the general social and economic policy laid down by the Government of NIGER, and, more specifically, in so far as that policy affects the peasant's world, supply to town and country areas and the country's overall security as regards food supply.

APPENDIX I

RECAPITULATIVE BALANCE SHEET

(in tons)

	1974 - 1975	1975 - 1976	1976 - 1977	1977 - 1978
Quantities locally traded (1)				
Imports	83 931	50 886	49 377	14 862
Exports (1)	-	15 251	15 668	37 045
Aid	11 870	20 135	7 145	-
Internal sales	56 031	74 573	29 136	21 013
Distributions free of charge	67 722	94 821	68 289	64 685
Losses	5 038	10 000	1 652	2 927
	1 648	P.M.	510	P.M.

(1) Includes sales of niébe up till 1977, the date when trading in this product was carried out by SONARA.

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LOCAL PURCHASES

(in tons)

PRODUCTS	1974 - 1975	1975 - 1976	1976 - 1977	1977 - 1978
MILLET	57 621	12 879	43 460	6 415
SORGHUM	6 490	8 813	2 527	7 390
NIEBE	18 832	25 706	-	1
PADDY	988	-	-	-
RICE	-	3 488	3 390	1 056
TOTAL	83 931	50 886	49 377	14 862

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I M P O R T S

(in tons)

PRODUCTS	1974 - 1975	1975 - 1976	1976- 1977	1977 - 1978
WHEAT	-	-	-	4 997
MAIZE	-	-	-	11 380
MILLET	-	11 265	3 039	-
SORGHUM	-	3 986	5 191	4 985
RICE	-	-	7 438	15 683
TOTAL	-	15 251	15 668	37 045

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INTERNAL SALES

(in tons)

PRODUCTS	1974 - 1975	1975 - 1976	1976 - 1977	1977 - 1978
MILLET	20 999	43 251	24 334	23 791
SORGHUM	34 109	35 451	24 906	23 594
RICE	5 101	7 991	10 950	13 730
MAIZE	3 489	3 904	3 774	942
NIEBE	1 895	3 009	-	-
WHEAT	2 130	1 215	3 551	2 527
WHEAT FLOUR	-	-	774	-
IGNAME	-	-	-	101
TOTAL	67 722	94 821	68 289	64 685

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A I D

(in tons)

PRODUCTS	1974 - 1975	1975 - 1976	1976 - 1977	1977 - 1978
MILLET	450	10 406	1 670	-
SORGHUM	39 611	44 955	20 427	17 082
RICE	7 470	1 785	3 755	3 931
WHEAT	3 500	4 973	-	-
WHEAT FLOUR	-	5 975	3 284	-
MISCELLANEOUS	5 000	495	-	-
MAIZE	-	5 984	-	-
TOTAL	56 031	74 573	29 136	21 013

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APPENDIX II

PERMANENT STORAGE OPERATIONS

CAPACITY AND REGIONAL DISTRIBUTION

LOCATION	NUMBER	STORE- HOUSES 1 500 T	STORE- HOUSES 1 000 T	STORE- HOUSES 500 T	STORE- HOUSES 500 T	CAPACITY
NIAMEY C	10	5	1		4	10 500
BALLEYALA	1			1		500
FILINGUE	2			1	1	1 000
AYEROU	1				1	500
ABALA	1				1	500
OUALLAM	1		1			1 000
TILLABERY	1			1		500
TERA	1			1		500
SAY	1			1		500
	19				7	15 500
DOSSO C	7	2	1		4	6 000
DOUTCHI	2		1	1		1 500
GAYA	1		1			1 000
LOGA	1			1		500
BOBOYE	1			1		500
KORE MAIROA	1			1		500
	13				4	10 000
TAHOUA C	4	1	1		2	3 500
KEITA	1			1		500
BOUZA	1			1		500
TCHINTABARADEN	1			1		500
ILLELA	1			1		500
KONNI	5	2	1		2	5 000
MADAOUA	2	1		1		2 000
	15				4	12 500

MARADI C	6	2			4	5 000
GUIDAN ROUMDJ	1			1		500
AGUIE	1			1		500
DAKORO	1			1		500
TESSAOUA	6	1	1	2	2	4 500
MAYAHI	1			1		500
GAZAOUA	1			1		500
TCHADOUA	1	1				1 500
	18				6	13 500
ZINDER C	8	2	3	1	2	7 700
TANOUT	2	1	1			2 500
BAKIN BIRDJI	5			1	4	2 500
MIRRIAH	1			1		500
GOURE	1			1		500
TAKEITA	1			1		500
MATAMEYE	1		1			1 000
MAGARIA	2	1	1			2 500
	21				6	17 700
DIFFA C	2	1		1		2 000
MAINE SOROA	2	1		1		2 000
N'GUIGMI	5	1		1	3	3 500
	9				3	7 500
AGADEF C	5	1			3	4 000
ARLIT	1	1				1 500
	6				3	5 500
TOTAL	101				33	82 200

The number of storehouses constructed in hard materials and now operational is 101, including 68 built by OPVN and 33 by FGR project. In the Departments of NIAMEY and ZINDER, 18 prefabricated silos are in use - capacity 9 000 tons (NIAMEY Town = 9 silos, BAKIN BIRDJI = 3 silos, MAGARIA = 6 silos).

SITUATION CONCERNING PURCHASES ON 22nd MAY 1979 (in tons)

Commercial circuit	NIAMEY	DOSSO	TAHOUA	MARADI	ZINDER	DIPFA	TOTAL
<u>ALTOGETHER</u>	4 000	2 566	1 875	9 362	16 000	531	34 394
including :							
MILLET	3 919	2 162	1 419	6 248	4 223		17 971
WHITE SORGHUM	81	399	247	1 504	9 534	531	12 297
RED SORGHUM	-	5	209	1 610	2 303		4 126
<u>HEADS OF VILLAGE</u>	4 000	2 566	1 875	5 654	11 743	-	25 838
including :							
MILLET	3 919	2 162	1 419	4 988	3 663		16 151
WHITE SORGHUM	81	399	247	483	6 828		8 037
RED SORGHUM		5	209	183	1 252		1 650
<u>UNCC</u>				3 673	4 317		8 522
including :							
MILLET				1 246	560		1 806
WHITE SORGHUM				1 001	2 707	531	4 239
RED SORGHUM				1 426	1 050		2 477
<u>MERCHANTS</u>				34			34
including :							
MILLET				14			14
WHITE SORGHUM				20			20
RED SORGHUM							

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CEREALS BANKS IN UPPER - VOLTA

B.5

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CEREALS BANKS IN UPPER VOLTA

1 - THE GENERAL APPROACH TO THE PROBLEM

Traditional cereals, millet, corn and sorghum, still constitute the essential foods of the population of Upper Volta, with an average consumption of 180 kg. per inhabitant per annum. Experience of the past few years has revealed that there is a cereals deficit in Upper Volta and that the food situation is of concern.

This fact is generally imputed to climatic conditions. Indeed, Upper Volta is experiencing inadequate rainfall, mostly in the Yatenga district, the Mossi plateau, the East and the East-Center of the country.

But, factors other than climatic conditions are also responsible for this scarcity: traditional methods of agriculture, which are incapable of satisfying the demand for food owing to demographic pressure and difficulties encountered in collecting and distributing by cereals agencies are also involved.

The attitude of traders who make advances to producers, favours the maintenance of a cereals purchase system at low prices. These cereals are generally resold at prices that are almost beyond the reach of peasants, notably in the period between harvests, when the purchasing power of peasants is practically nil.

At that time they have sold their crops to pay taxes and to cover family expenses, and are at the mercy of traders.

Faced with this situation, a food strategy must be devised and introduced. An important point in this connection is the setting up of adequate storage infrastructure.

At this level, the actions of public authorities have only been effective in urban and regional centres, where OFNACER (1) has established storehouses. Nevertheless, in spite of OFNACER's efforts, storage infrastructure remains insufficient in Upper Volta. Thus, the ORDs, which enjoy monopolies in

(1) "Office National de Commercialisation des Céréales" (National Cereals Marketing Office).

cereals collection have to make immediate deliveries to OFNACER. If the latter organization is behind in removing cereals, a bottleneck occurs since their storehouses are full, and the ORDs are then obliged to use their backyards as improvised storage areas. This offers little chance for preserving cereals in good condition and late rains can sometimes damage stocks stored outdoors.

It is thus obvious that the low level of storage infrastructure is a considerable handicap with regard to making the operation a paying proposition. Furthermore, it appears that in spite of these arrangements, the risks encountered between harvests are not attenuated at peasant level. Village cereals banks constitute an attempt to find a solution to these problems by extending the action of OFNACER to village level.

2 - THE BASIC PRINCIPAL ACTION OF CEREALS BANKS

Cereals banks assume the form of cooperatives in the interest of the rural groups concerned; they carry out economic and social activities. They purchase cereals crops when prices are low. They then store them and sell them at the critical period at prices accessible to peasants, thus compensating for the penury existing in villages from July to October and safeguarding the food supplies of families.

Initially, these banks are managed by agents of ORD and little by little they are transferred to local authorities chosen by the population.

During the between harvest period, the bank can also make advances in kind to peasants, who are then required to reimburse their debt in kind, with interest, on the occasion of the following harvest.

These banks enable peasants to avoid the consequences of speculation on the part of merchants by trying to eliminate the latter from the marketing circuit, at least at village level, as the sales prices applied by the banks are always lower than market prices.

The cereals bank operation makes it possible to promote methods for preserving cereals at village level. This action is made possible thanks to technical instruction given by ORD agents, who explain to peasants how to avoid deterioration of grain stocks, which often incur considerable losses after the harvest.

Cereals banks try to function as self-managed co-operatives with a view to providing the education so necessary to the organization of rural areas.

3 - LOCATION OF CEREALS BANKS

More than thirty cereals banks were built between 1975 and 1979, and they are now functioning in Upper-Volta.

They are mainly located in the areas that suffered most from the drought. The Departments best equipped as regards banks are those of the North-Centre, where there are 10 cereals banks and the Centre which possesses 15.

To a lesser degree, there are also some in the Black Volta, in the North, West-Centre, East-Centre and East Departments.

For a full list of the cereals banks in Haute-Volta, refer to Appendix n° 1 attached hereto.

4 - PROMOTING ORGANIZATIONS FINANCING THE BANKS

These banks are usually financed by one of the following methods : either by means of State-to-State bi-lateral aid (in this connection, we would mention the Swiss Confederation, which is interested in these projects), or through the agency of non-Governmental organizations. The ONG, co-ordinated by SPONG (Permanent Secretariat of non-Governmental Organizations), which searches for sites suitable for setting up village stocks, appear as the main organizations promoting cereals banks.

It is primarily OXFAM (a British Organization for Co-operation and Development), that is particularly active in this field. For example, in 1977, it contributed aid amounting to 3,716,751 Francs for setting up 6 banks ; in 1978, 14,926,161 Francs were contributed, subsidizing 4 banks in the Ouagadougou Department (Bassinko, Zaktouli, Songame and Dassago), one at Kombissiri, one at Yako, one at Leo and one at Manga.

The C.C.F.D. (Catholic Committee against Hunger and For Development) contributed financing in 1978 amounting to 25,822,500 Francs for setting up banks at Kongoussi, Kaya and Ziniare, under the aegis of FOVODES (Volta Foundation for Economic and Social Development), which often acts as a partner of OXFAM and CCFD.

FOVODES draws up programs for the construction works and supplies initial stocks after providing information and instruction in rural areas.

These subsidies, although primordial, as they constitute the lever for the autonomy of rural communities, do not, however, supply all the financing. If this were so, it would represent the surest way to accustom peasants to receiving presents, which should preferably be avoided.

Promoters of cereals banks therefore try to mobilize local savings, however small, or to grant peasants medium-term loans, so as to engage their responsibility and strengthen their adhesion.

Alongside this monetary participation, the population often contributes assistance in kind for building a storehouse by supplying gravel and sand. Peasants also help in building walls, by providing transport and by supplying unskilled labour free of charge.

5 - THE IMPACT OF CEREALS BANKS

The banks were not designed to make profits, but it often happens that profits are recorded. These profits enable the peasants to consider an extension of the activities of these banks compared with their initial purpose (see the trading account of a bank in Appendix n° 3).

This social capital also enables village committees in some localities to purchase medicines, to set up village pharmacies, open maternities and to sell various products like sugar, salt, paraffin and petrol.

All this helps to extend the field of activity of rural inhabitants through the agency of local village co-operatives concentrating on rural development. A project of this kind can always be considered as a starting point for a chain of development, as co-operative solidarity can also be applied to other fields : digging wells, etc...

It therefore seems, that alongside the undeniable economic role played by these cereals banks, less tangible advantages appear and they are just as important on long term for the population concerned.

It must be underlined also, that the existence of cereals banks is approved by the Government. Indeed, among the projects in the Quinquennial Plan for 1977/1981, there appears a project for constituting village cereals stocks amounting to 550 million Francs.

For indeed, is not the constitution of these self-managed banks entirely in line with Government policy, whose object is to achieve self-sufficiency in the matter of food supply ? However, the real scope of an operation of this kind at the level of producers themselves (more than through the agency of promoting organizations) remains to be defined, both as regards its economic and its social aspects (see the estimate in Appendix n° 3 for some banks).

APPENDIX N° 1

LIST OF CEREALS BANKS

BLACK VOLTA DEPARTMENT

- Niankoré S/Prefecture of Tougan, 23 Kms to the North

NORTH DEPARTMENT

- Zogoré S/Prefecture of Ouahigouya, 32 Kms from Ouahigouya, on the Ouagouya-Tougan road

NORTH-CENTRE DEPARTMENT

- Bourzanga S/Prefecture of Kongoussi, 45 Kms from Kongoussi, take the Djibo road
- Rollo " " 40 " "
- Moméné " " 30 " "
- Kyèla " " 30 " "
- Tikaré S/Prefecture of Tikaré, 26 Kms West Of Kongoussi
- Rouko S/Prefecture of Tikaré, 38 Kms " "
- Kongoussi In the centre of Kongoussi
- Téma S/Prefecture of Téma (centre)
- Sarma " "
- Barsalogo S/Prefecture of Barsalogo, 42 Kms from Kaya to the North

WEST-CENTRE DEPARTMENT

- Poa Loaga S/Prefecture of Sabou, 68 Kms to the West of Ouagadougou
- La Titaon " " 24 Kms West of Yako
- Pélègtanga " " 92 Kms from Ouaga before Yako
- Mia Arbolé district, 80 Kms from Ouaga before Yako
- Compensom S/Prefecture of Yako, 20 Kms Northwards from Yako

CENTRE DEPARTMENT

- Lay S/Prefecture of Boussé, 32 Kms from Ouaga-Ouaga-Yako road
- Zouma " " 9 Kms after Fabré
- Koassinga " of Zigniaré, 11 Kms Northwards after Zigniaré
- Daguilma " " 17 Kms Northwards from Ouaga
- Manéga " " 56 Kms from Ouaga, Kongoussi road

APPENDIX N° 2

- Nioiogo District of Dapelogho, S/Prefecture of Zigniaré, 28 Kms North of Ouaga, Kongoussi road
- Pabré S/Prefecture of Ouaga, 20 kms from Ouaga, Kongoussi road
- Zorgho S/ Prefecture of Zorgho
- Tampoui Parish of Ouaga
- Tanghin Tanghin-Dassouri district, 32 Kms to the West
- Manga S/Prefecture of Manga
- Bousgou S/Prefecture of Kombissiri, 22 Kms West of Kombissiri
- Zagtouli S/Prefecture of Ouagadougou, 12 Kms to the West
- Somgandé " " 6 Kms to the East
- Basséko " " 10 Kms to the West

EAST-CENTRE DEPARTMENT

- Dimistinga S/Prefecture of Koupéla, 30 Kms to the North-East
- Goughin " " 40 Kms to the East
- Nakaba " " 30 Kms to the North-East
- Toulougou Wédego " " 4 Kms to the North
- Niogonssinga " " 37 Kms to the East
- Pilorghin " " 39 Kms to the East

EAST DEPARTMENT

- Bilanga S/Prefecture of Fada, 45 Kms from Koupéla to the North

ESTIMATE OF THE COST
OF BUILDING A CEREALS BANK IN 1979

INVESTMENTS

<u>- Rural engineering</u>	
Fitting out a 50 m ² silo	1 310 537
<u>- Equipment</u>	
1 double decalitre	1 500
1 decalitre	750
1 wooden table	15 000
2 wooden chairs	7 000
6 brackets	64 690
1 paraffin lamp	910
1 cart	45 000
1 donkey	25 000
TOTAL	1 470 387

<u>- Working capital</u>	
30 tons of cereals to make a start	
Purchase of millet per bags containing 100 Kgs	
Millet and transport : 7 850 x 300	2 353 000
Salary, personnel, 10 months	430 000
TOTAL	2 783 000

<u>- Functioning</u>	
1 agent and manager 23 000 per month	300 000
1 labourer (donkey keeper) 8 000 per month	96 000
	396 000

MISCELLANEOUS AND UNFORESEEN 369 000

GENERAL TOTAL . . . 5 020 000

Subsidy requested : 4 000 000

APPENDIX N° 3

ESTIMATE OF THE RESULTS OF CERIALS BANKS
BUILT IN 1975 IN THE VILLAGES OF
GOUNGHIN AND NIONGUESTENGA

(Estimate made in 1977 on behalf of FOVODES)

THE GOUNGHIN CEREALS BANK

Summary data on the village of GOUNGHIN :

Located at 40 Kms from KOUPELA. Capital of a Canton. East-Centre Department.

Population of the village and its surrounding country : 350 inhabitants.

Crops : Traditional methods ; small millet, sorghum, ground nuts, peas, rice and potatoes.

Large ground nut production : 400 to 500 for millet.

Stock rearing : sheep, cattle, poultry.

Determination of the requirements of the village :

Population : 350

Requirements of one person : 500 Gr per day

Annual requirements : 63 T

Co-operative guarantee : 42 T

The bank's guarantee was 35 Tons.

A - INTERVENTION BUDGET FORECAST

1. Civil engineering :

Fitting out a silo, 50 m2 x 1 500 F/m2 750 000

2. Equipment :

1 weighing machine 189 000

1 wooden table 2 000

4 chairs 6 000

Shelf 10 000

2 donkey carts 59 000

2 paraffin lamps 1 800

2 donkeys 20 000

In round figures

F CFA 1 050 000

Working capital :

An average of 125 tons of cereals is considered

Purchase of raw materials	2 750 000
Salary, personnel, 10 months	430 000
Miscellaneous and unforeseen (5 %)	212 000
TOTAL FOR EQUIPMENT	F CFA 4 442 000

3. Functioning

Personnel :

1 agent-manager, who would be responsible for providing information on development problems on the occasion of meetings to convert the group into a reflection and action unit.

25 000 F/month F CFA 300 000

2 labourers (donkey keepers) 8 000 F/month F 192 000

Depreciation :

Equipment 5 000

Weighing machines 39 400

Other items of equipment over two years 78 800 : 2

Civil engineering : 37 500

Silo 2 years 81 900

In round figures 82 000

Maintenance :

20 % of depreciation 16 400

Feeding the donkeys :

The donkeys are used for transporting cereals for distant farms.

2 donkeys, 1 Kg of sorghum per day per donkey during the dry season (8 months): 2 x 8 x 30 x 35 F 16 800

Supplies 170 000

Collecting charges : 1 F/Kg 125 000

Bagging : 2 F/Kg 250 000

1 152 200

TRADING ACCOUNT FORECAST :

<u>CHARGES</u>		<u>PRODUCTS</u>	
Charges	1 152 000	Sale of 125 tons of millet	
Purchase of raw materials		34,31 x 125 000	4 288 750
125 000 x 22	2 750 000		
Profit (8 % of investment)	386 550		
	<u>4 288 750</u>		<u>4 288 750</u>

B - TARGETS NOT ACHIEVED

At personnel level :

1 agent-manager responsible for providing information on development problems on the occasion of meetings to convert the group into a reflection and action unit :

25 000 F/month	300 000
1 labourer (donkey keeper) 8 000 F/month	96 000
	<u>F CFA 396 000</u>

At investments level

Working capital on the 125 tons	
35 tons were purchased, i.e. an achievement difference of	1 920 000
1 donkey	10 000
	<u>1 930 000</u>

C - SUMMARY ANALYSIS OF RESULTS

Sale price of one Kg of millet during the between crops period :

Price on the market	30 F CFA
Price at the bank	26 F CFA
Economy realized per Kg =	4 F CFA

Economy realized during 120 days by a family of seven members :

40 x 500 x 30 x 4 x 7	<u>F 1 680</u>
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Thus, the cereals bank enabled a family with seven members, each one consuming 500 gr of millet per day, to make an economy of 1 680 F. However, owing to the low resources of most families, it must not be considered as an economy effected for the family, but as the sum, that the family would have needed, to buy the same amount on the market. The amount lacking would be 1 680 F CFA, i.e. a cereals deficit of about 65 Kgs during the

between-crops period.

THE BANK'S TRADING ACCOUNT :

<u>CHARGES</u>		<u>PRODUCTS</u>	
Functioning expenses	241 562	Sale of 35 tons of millet	
Purchase of 35 tons of millet at 19 F per Kg	665 000	at 26 F per Kg	910 000
Profit	<u>3 438</u>		<u>910 000</u>
	910 000		

The profit amounting to 3 438 F CFA is far from attaining the anticipated profit which amounted to 386 550 F.

The financial profitability of the bank is low, around 2 %.

The economic profitability of the project will be still lower, as it compares the profit with all the capital invested.

But, whereas the financial profitability of the bank is low, a small self-financing capacity appears with a cash-flow of 149 800 F, which the village committee proposed to use to buy medicaments in the hope of making greater profits before the cereals purchasing period.

II - THE NIONQUESTENGA VILLAGE CEREALS BANK

THE VILLAGE OF NIONQUESTENGA

Located 23 Kms from Koupéla.

Population of the village and its surrounding country : 800 inhabitants.

Crops : Traditional methods : small millet, sorghum, rice, cotton, ground nuts and manioc.

Crops returns : they have decreased by 50 % since 1967 (less than 250 Kgs per hectare for millet and sorghum).

A - MEANS TO BE MADE AVAILABLE

<u>Investments :</u>	
Construction of a storehouse	754 000
<u>Functioning :</u>	
Personnel	
1 bank manager - 4 000 F/month	48 000
<u>Depreciation :</u>	
Millet storehouse over 20 year	37 700

Bagging :

100 bags at 150 F per bag	15 000
	<u>100 700</u>

B - TARGETS NOT ACHIEVED

Investment :

The Nionguestenga bank is smaller than the standard bank originally due to be built.

Working capital :

Personnel

1 manager-agent	300 000
2 labourers (donkey keepers) 8 000 F/month	192 000

Equipment :

Weighing machine	198 000
2 donkey carts	59 000
2 donkeys	20 000
	<u>769 000</u>

C - SUMMARY ANALYSIS OF RESULTS

Sale price of millet per Kg during the between-crops season :

Price on the market	40 F CFA
Price at the bank	26 F CFA
Economy realized per Kg :	14 F CFA

Economy realized during the 120 days of the between-crops period by a family of seven members :

14 x 0,500 x 30 x 4 x 7	<u>5 880 F</u>
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By purchasing cereals from the bank, a family of 7 members, each one consuming 500 gr of millet per day, economises 5 880 F CFA. But, in view of the low monetary resources of most families, it is not really an effective economy, but just the sum that would be lacking if the family had to buy its supplies of millet on the market. The amount lacking would be 5 880 F CFA, i.e. a cereals deficit of 226 Kg.

TRADING ACCOUNT :

<u>CHARGES</u>	<u>PRODUCTS</u>
Functioning expenses	100 700 Sale of 10 tons of millet 260 000

Purchase of 10 tons of millet	Loss	30 700
at 19 F CFA per Kg	190 000	<u>290 700</u>
	290 700	

Financial profitability :

The bank made a loss of 30 700 F CFA. This loss is partly due to the small amount of millet sold (10 tons) and partly to the size of the figure for depreciation in the charges.

The profitability threshold would be about 12 tons.

THIRD CONFERENCE OF THE CLUB DU SAHEL
Amsterdam, 21-22-23 November, 1978

B.6

THE PROBLEMS OF MARKETING, STORAGE AND PRICING POLICY
IN THE SAHEL COUNTRIES

REPORT OF THE CILSS/CLUB DU SAHEL RESTRICTED COMMITTEE
IN CHARGE OF STUDYING MARKETING, STORAGE AND PRICING
POLICY IN THE SAHEL

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I - INTRODUCTION

1.1 Summary of work and studies carried out by the Restricted Committee

The Restricted Committee set up in Rome in October 1977 was integrated into the Crop Production team.

Studies and work carried out by the Committee since October 1977, or under Committee supervision, include:

- Analysis of the situation with regard to marketing, pricing policy and cereals storage in the Sahel countries, effected by a team of consultants from the University of Michigan under the direction of Professor Berg. This report, issued at the end of 1977, has not been reviewed in depth by Sahelian specialists. The Committee has discussed it and agreed that it is useful as an analysis of the present situation. It does not, however, contain detailed proposals, since, in fact, the consultants were not asked to make any.
- Study of cereals storage in member countries of the CILSS. This study was financed by the EEC in co-operation with US AID and begun in January 1978. The Restricted Committee prepared the terms of reference and was responsible for supervision of the work. A provisional report was sent to Committee members at the end of July and the final report will be published in mid-October 1978. This study complements the analysis of the situation (the Berg report), that for lack of time does not cover storage problems.
- Proposed survey on urban consumer reactions to new food products based on traditional cereals (flour, couscous). This survey will be launched at the end of 1978 and financed by the EEC.
- Report on proposals for improving basic data (statistical, sociological, etc.). This report, prepared by the FAO, provoked no comment from CILSS or Club du Sahel secretariats, although Committee members emphasized the need for rapid improvement in basic data quality.

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- Economics of food production in the Sahel: systems approach and food chain concept (INRA, Montpellier). This report, prepared in parallel with the subjects for reflection and study proposed by the former Marketing team at the Rome meeting, proposes an integrated approach to food crop development, integrating both production and marketing.

The Committee also examined the collaboration propositions of the International Centre of Commerce in Geneva, and established terms of reference for a study now under way which is to deal more particularly with cereals trade between Sahel and coastal countries and to evaluate certain potential markets outside the African continent.

1.2 Difficulties encountered

Among the difficulties facing the Committee, attention is drawn to the following:

- under-representation of the Sahel experts (one member out of five), which certainly impeded communication of ideas to the marketing bodies;
- priority given in 1978 to the drafting and preparation of production projects, which limited exchanges of views, contacts, and the dissemination of ideas discussed during the meetings, both with the Sahel countries and with the other teams of the CILSS/Club.

The Committee must, in fact, acknowledge that the study programme defined in the Strategy adopted in Ottawa(1), the University of Michigan report, the FAO reports and the themes for reflection and studies proposed by the Rome meeting, has been carried out only partially.

(1) Strategy and Programme for Drought Control and Development in the Sahel, OECD, May 1977, pp. 100-109.

In view of the meagre results, the question may be asked whether it was reasonable to ask a group without resources (five members of which took part in the work on a part-time basis only) to carry through such an ambitious programme. Although the importance of marketing as a factor for growth of cereals production is stressed on every occasion by the outside aid bodies, only two of them (EEC and US AID) have financed studies and these, though useful, are still insufficient.

II- ANALYSIS OF THE SITUATION

The Restricted Committee made a careful study of the present causes of inadequate cereals production and the short and medium term prospects for improvement. The Committee hopes that these reflections, summarised below, will be followed up in the different countries concerned and that wide-ranging exchanges of views can take place soon.

2.1 Marketing and food self-sufficiency

The widely-held view that an increase in cereals production is necessarily brought about by improved marketing machinery would seem to result from over-simplification of a much more complex reality. The food self-sufficiency objective adopted by the Member states of the CILSS, presupposes the introduction of a consistent set of measures aimed at raising cereals production to a level high enough to eliminate the depressive effects of the deficit years. Among these measures, marketing is only one element of agricultural, cereals, or food policies which in most countries do not exist or are not applied. Such policies should cover not only research and extension of new or better adapted varieties, but also the training of producers in more productive growing techniques and organisation, the supply of modern production factors, short and medium-term financing means, and finally, suitably adapted marketing structures. Placing food self-sufficiency in a more general context, therefore, it is clear that it will not be achieved by trying to solve marketing, price or storage problems in isolation. However, this is precisely what has been done so far: cereals boards have been created,

official prices fixed, storage capacity has been or is being established, but nothing or virtually nothing has been done closer to the source, at the stage of rainfed cereals production.

The present stagnation, indeed the relative downturn in per capita cereals production, seems to be due as much to inadequate technical and financial capacity at the production level as it is to the marketing machinery established in the Sahel countries since independence. Moreover, the situation of chronic shortage recorded over the last few years in certain regions or certain countries is not due exclusively to defects or breakdown of this machinery, but also to the climate factor, or when this was favourable, to farmers' low productivity and to other causes which will be discussed later(1).

However, there are no miracle marketing structures, making food self-sufficiency possible in every Sahel country by adopting a few administrative measures. On the contrary, each country and within the country each region and group of economic transactors concerned presents specific problems.

2.2 Need for a national and regional approach

There is no need to evoke the profound differences that exist between the countries of the Sahel when one looks beyond the obvious similarities. Each country is responsible for its own options and fundamental choices, and it is against this background that the marketing problem must be approached. It is all the more necessary to take national characteristics into account since the various solutions applied in different countries over the last few years, for example those relating to the role of the State, ranging from total monopoly to varying degrees of liberalism (and, in between, all the intermediary solutions imaginable), are usually incompatible and can rarely be applied to the whole Sahel area in a general manner.

(1) Competition from imported cereals and changes in consumption habits

Furthermore, no individual Sahel country is homogeneous. Broadly speaking, each can be said to have a North and a South where the agricultural potential varies considerably, especially in cereals. One of the mistakes made hitherto in the matter of cereals marketing has perhaps been the tendency to regard each country as a homogeneous economic whole, in which the same marketing schedules and the same prices should necessarily apply. Differentiation between the agricultural potentialities of the various regions of each Sahel country is fundamental for framing future cereals policies (cf. 2.4.2).

2.3 Need for an approach by group of concerned economic transactors

Parallel with national and regional approaches, a concerned group approach seems equally essential. In the wide sense, those groups involved in the cereals problem are the producers, private traders, the State and the bodies it has set up, and finally the consumers. This classification, necessarily schematic, does not imply that these groups are homogeneous. A more detailed classification would distinguish between mixed producers (cash crops and cereals) and single crop producers (cereals), urban consumers and rural consumers, casual traders and permanent traders, etc.

The interests of these groups are not only divergent but are usually radically opposed. The consequence is that cereals marketing generates conflict between producers and traders, producers and state structures, consumers and traders, traders and state structures, etc.

No decision taken by the State is neutral but necessarily affects the interests of one group, even if the impact of certain decisions remains highly theoretical (for instance, concerning prices or the distribution of responsibility between public and private sectors).

The political or economic weight of the different groups is, however, far from equal. Producers, with little or no organisation, scattered over the market and each supplying only small quantities of cereals, are the most numerous, but their powers are very limited. Traders, whether their activity be legal, illegal or simply tolerated, enjoy

real power vis-a-vis all other groups because of their good knowledge of the market which enables them to seize advantage of price fluctuations, seasonal or geographical. Opinion is generally divided on whether trader intervention is systematically or accidentally to the detriment of the interests of other groups. Consumers, especially urban, are faithful to their food habits and have only a political influence, rarely used but taken fully into account by the government. The State, finally, possesses wide powers but rarely has the means needed to apply them (price or control of cereal exports, for example).

In the light of these findings the Restricted Committee thought it useful to take a closer look at the role of these four groups.

2.3.1 The State and State structures

In the Sahel countries which decided to assign cereals marketing monopoly to the cereals boards, the conflict is theoretically limited to the producers and the government agency in question, the latter having in mind, in principle, the "general interest" and especially the interest of consumers. But this role and the relations between the State and the bodies it has set up are not always clearly defined.

Through these bodies, which now exist in most of the Sahel countries, the government intends to exercise a triple function:

- (i) technical and/or commercial function which brings it into competition with private traders and which consists of buying, transporting, storing and selling cereals;
- (ii) security function, which by means of security stocks, makes it possible to supply urban or shortage areas during bad years over varying periods, duration of which is calculated according to time needed to organise international food aid. This security function combines, in principle, coordination of commercial cereals imports with food aid;
- (iii) stabilising function aimed at avoiding excessively sharp price fluctuations at both production and marketing levels.

Up to the present, the cereals boards have not shown that they exercise their technical (or commercial) function more cheaply than private traders. The two other functions (food security and stabilisation of cereals markets) have not been carried out. They are, in fact, extremely costly and can not be financed by cereals boards which are not only without resources but usually show a deficit in the exercise of their technical function. These two functions are moreover the exclusive responsibility of the State which cannot expect to control everything without bearing the cost. If the responsibilities of the State (security and stabilisation) and of the boards (technical function) are clearly defined, which does not appear to be the case at present, this would put an end to the ambiguous situation in certain countries where a cereals board is established, assigned a monopoly which is in fact imaginary, and made solely responsible for forming a cereals policy that is not within its competence. The Committee considers therefore that the boards' function is essentially technical (including security stock management), but that their action guide-lines, defined by the State, must be part of a cereals policy in which they constitute only one element.

2.3.2 The producers

Producers are now almost totally dependent on traders or cereals boards and do not participate in the determination of official cereals prices. They might, however, play a much more important role.

In the first place, they remain in complete control of any increase in cereals production. Even though it is difficult to know their motives or the various incentives to which they might react, food self-sufficiency will depend in the long term on their decision to increase acreage given over to cereals as compared with other crops, or to intensify their cereals production.

Their role may also go beyond the production stage if they take over the primary collection of marketed cereals and storage, thus relieving considerably the financial burden on the cereals boards or reducing their

dependence on the traders. More active producer participation in the marketing process obviously raises questions of organisation and financing.

With regard to producer organisation, certain countries have already experimented with co-operatives or village groupings in the case of cash crops, or other original experiments (cereals banks in Upper Volta, for example). As far as financing is concerned, advances on harvest clearly place the producer in a position of dependence on the traders. However, advances on harvest are vital for the rural community, as they constitute practically the only means of obtaining cash well before the beginning of the official marketing season for cash crops. Although the agricultural banks can not take over this responsibility in every individual case, they could provide the same facilities for groups of producers or cereals co-operatives, on the basis of official prices minus charges, the cereals board being responsible for post-harvest cereals collection(1).

Improved outlets for marketing cereals products would seem preferable to higher production prices.

Whatever the solution adopted in a particular country, higher cereals production will be costly, and will in any case involve giving greater benefits to the producers in the form of harvest advances at reasonable interest rates, guarantees in respect of cereals surplus purchase at suitable prices, or net cereals earnings that compare favourably with cash crop income. Determining the relationship between prices of cash crops and cereals prices is an extremely delicate problem and calls for substantial improvement in production cost evaluation for all crops at every technological level that may be envisaged.

(1) Prefinancing by agencies or regional development bodies of production factors required for cotton cultivation in fact constitutes similar machinery, except as concerns movement of funds which would take place before harvesting in the case of cereals, and which clearly raises the problem of guarantees.

2.3.3 Private traders

Their role and behaviour vis-a-vis producers and consumers appears in a controversial light. Traders are regarded by some as speculators or unscrupulous exploiters and looked upon by others as almost indispensable elements of the cereals marketing machinery in the Sahel area. The Restricted Committee was not called upon to take a decision on these contradictory analyses and can only record the fact that even in cases where the monopoly granted to a board has theoretically eliminated the private traders, the latter continue to exist and to render service to both producers and consumers, even though their services are sometimes dearly paid by the beneficiaries.

The share of domestic cereals production marketed by the boards is generally small (the maximum recorded, by OPAM in Mali, 1968, was only 30 per cent). Private traders consequently occupy an essential position in supplying urban areas.

In general, little is known of their methods (do they market cereals alone or do these account for only part of their commercial activity?); this is certainly an obstacle to their integration in a system of mixed marketing in which the respective roles of public and private sectors would be clearly defined and their activities complementary instead of competitive, as at present.

Various formulas for integrating private trade with the public sector appear to be feasible, provided that private traders are fairly remunerated for their services (problem of price scales). Although they do not always work very satisfactorily, these different formulas are already being applied in certain Sahel countries and the Restricted Committee considers that the respective roles of the State, producers and private traders should be re-examined within the framework of future cereals policies.

2.3.4 The consumers

Although consumers appear to play only a passive role, they are, in fact, the arbiters of marketing policy and the marketing machinery that is put into action. If production prices of traditional cereals are increased, consumers will buy substitute products (generally hard to find) or turn to imported cereals. In either case, food self-sufficiency is likely to be called in question when quality and quantity of domestic cereals supply fail to meet demand. Although consumer habits change slowly, they have nevertheless changed over the last 20 years, due to the combined influence of several factors: wheat and rice imports, development of irrigated rice growing, massive food aid, etc.

Since traditional cereals account for 80 per cent of cereals consumed, the question is whether food self-sufficiency, which can theoretically be achieved in the long run, will still be possible - and at what cost - if rice and wheat account for 70 per cent or 80 per cent of total cereals demand(1). An illustration of this fundamental problem is given in the Senegal Food Investment Plan (1977-1985). The authors note:

"The two major cereals imports (wheat and rice) are rising faster than the demographic growth rate, indicating that consumer preference is moving toward more expensive products and those most hard to produce locally."

It is true that in the matter of cereals supplies, Senegal constitutes a special case as compared with other Sahel countries, both with regard to urbanisation rate and cereals shortage magnitude, but urbanisation is increasing rapidly in other countries as well and it is essentially the urban population that creates changing consumption habits. Thus, the same problems are likely to arise later on in other Sahel countries.

Responsible authorities have little freedom of action in dealing with this problem, since any increase in traditional cereals consumer price -

(1) An urban environment food and nutrition survey, carried out by ORANA in co-operation with the FAO in Dakar, June-July 1977, shows that 93.8 per cent of the energy content of cereals was already provided by wheat (22 per cent) and rice (71.8 per cent).

possible consequence of increased cost to producers - is likely to encourage such changes in consumer habits and thus further delay achievement of food self-sufficiency.

Finally, a simultaneous rise in production and consumption of traditional cereals can not come about if urban demand is increasingly met by imports. Although the Restricted Committee sees this as only a hypothetical danger, it does stress that the example of Senegal must not be underestimated, and that encouragement of traditional cereals consumption must constitute a major element of national cereals policies. The growing tendency, therefore, for food aid to take on a permanent character, largely due to lack of information concerning cereals production and consumption, is extremely dangerous. It may well speed up the change in food habits and make it increasingly difficult to market traditional cereals, whereas the sought-for objective is greater production of these very foods.

2.4 The need for an overall plan

The different groups involved in the cereals problem are seen to have clearly divergent interests. It is essential, therefore, that national decisions be made in the light of careful evaluation of their possible consequences in relation to fundamental options, but also in the framework of agricultural policies.

2.4.1 Respect for national options

Each Sahel government is free to choose the cereals policy it considers most in conformity with its policy options or immediate or long-term interests. But it is important that the consequences be analysed, and especially that the decisions adopted be actually applied. A quick review of a few options taken recently in different Sahel countries shows that this is not always the case.

(1) Granting total or partial monopoly of the cereals trade to a cereals board may be considered a failure if the financial, technical and human resources provided do not correspond to monopoly requirements. As a result, boards have been diverted

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from their original purpose and have become agencies for the distribution of emergency food aid supplied by the international community. The Restricted Committee considers that important though this task may be, it has mobilised the limited resources available to the boards but made no positive contribution to the rationalisation of domestic cereals markets.

- (ii) Introduction of large-scale irrigation programmes in which rice often predominates is essential to improve security of food supplies. There is, however, a danger of favouring rice (and, secondarily, wheat) over traditional cereals, the production costs of which are generally much lower. Whether rice predominance is intentional (as in Mali, for example) or simply a result of the extension of irrigated areas, food self-sufficiency may be jeopardized (or made too costly) because the demand for traditional cereals, already fairly stable in a normal year, may well level off or decline.
- (iii) Maintaining consumer prices at relatively low levels is also a double-edged weapon. Though it favours low income urban consumers, a desirable effect, its practical result is preventing cereals boards from buying surplus cereals at official prices, even supposing they are able to do so, since the financial losses incurred, notably in transport and storage, would soon become too onerous. In other words, the manipulation of cereals prices is an extremely delicate operation and its scope remains limited. Simultaneous maintenance of low consumer cost and official producer price can be obtained only by large budget subsidies. In the absence of such subsidies, official prices, substantially increased from 1974-76, remain purely indicative since applicable only to extremely small quantities of cereals in order to keep the boards' financial losses within reasonable limits.

These few examples illustrate the gap between decisions taken in a generous and well-intentioned spirit and the consequences when these

decisions are applied to all groups concerned. However, the fact that such efforts (monopoly, official price, etc.) have hitherto produced only meagre results is generally the result of failure to integrate them into an agricultural, cereals and food policy.

2.4.2 Agricultural policy and cereals

Considerable effort has been made since 1960 to increase export crops generally in view of foreign currency earnings or tax revenue anticipated. Recent efforts to improve cereals production have been very limited. Cereals shortages have developed and intensified frequently for no other reason than the extension of lands given over to cash crops.

Since 1969, the drought has only dramatized this slow decline in food self-sufficiency due essentially to levelling off of productivity. Despite lack of reliable statistical data, it may be estimated that average annual increase in cereal crop productivity was less than 1 per cent, whereas the rate of demographic growth is still between 2 per cent and 2.5 per cent. Rural emigration, very high in certain Sahel regions, still further reduces the only production factor that could maintain cereals production at its earlier level. The situation that can not fail to result if the present trend is prolonged has already been adequately depicted (1).

Therefore, agricultural policy in each Sahel state should be concentrated on giving new impetus to food production through a series of consistent measures relating to:

- popularisation of new varieties developed and the corresponding cultivation techniques;

(1) At the rate of 2.5 per cent per year the population doubles in 29 years, whereas at the rate of 1 per cent per year production would take 70 years to double.

- availability to producers of financing for modern production factors presently little used for traditional cereals;
- organisation of marketing so that surplus can be bought by cereals boards, private traders or producer groups at incentive, profitable and stable prices; encouragement of village stocking, particularly by making credit available to producers during those periods when they most need it;
- progressive control of cereals imports that are expensive and more difficult to produce locally, so that development of traditional cereals production will not be hampered and commercial imports and food aid will be better co-ordinated;
- over the longer term, research into new uses for traditional cereals (industrial or small-scale processing of couscous, flours, semolina, cattle feed);
- limitation of cash crops, profits or apparent advantages of which are considerably reduced by imports of cereals;
- preparation of food plans of the type prepared by Senegal, so that financing sources may be presented with coherent action outlines and proposed measures having a clearly defined aim - food self-sufficiency;
- co-ordination of production and food aid so as to eliminate negative effects of aid on the goal of food-self-sufficiency adopted by the Sahel states;
- improvement of basic data gathering, indispensable for assessment and follow-up of findings.

The need for an overall plan of action and a cereals policy genuinely directed towards food self-sufficiency also implies co-ordination, preferably by a single authority, of administrative responsibilities with regard to production, marketing and imports.

III- RECOMMENDATIONS

The Committee's recommendations are intended simply to stimulate discussion between Sahelian authorities and non-Sahelian specialists, launch some concrete experiments in cereals production on new bases in countries requesting such action, and assist in formulating cereals and food policies that are truly aimed at achieving food self-sufficiency.

3.1 The need for increased awareness of Sahelian authorities

Restricted Committee work carried out by the University of Michigan can serve as a basis for interesting discussions between those responsible for cereals marketing (decision-makers) in the Sahel countries and non-Sahelians. Renewing the request already made to CILSS and the Club du Sahel, the Committee suggests therefore that an informal meeting between responsible parties be organised early in 1979 in a Sahel country(1).

3.2 Preparation of integrated cereals projects in selected regions

On the assumption that food self-sufficiency cannot be achieved by improving marketing machinery alone, the Committee suggests that in those Sahel countries willing to participate, cereals projects of a new type should be prepared and followed through from production to marketing (chain projects). These projects would be located in regions with recognised cereals growth potential. In addition to the technical and popularisation aspects, these projects would involve research on management of intensive cereals production at farm level and on producer reaction to various marketing methods tested. These projects would also include experiments with producer participation in the primary marketing of cereals, and the creation of actual cereals markets (physical markets) in which supply and demand would meet in less artificial conditions than at present. Finally, these projects would make it possible to improve

(1) Mauritania has agreed to host this meeting.

C - RECOMMENDATIONS AND RESOLUTIONS

information available on village storage and farmer-trader relations; to test financing machinery with regard to cereals (harvest advances, agricultural credit) hitherto limited to cash crops; to better define the various incentives which would persuade producers to intensify cereals production.

3.3 Preparation of national cereals and food policies

This question is the exclusive responsibility of the Sahel governments. Cereals and food policies must allow reassessment on clearer bases of the quantitative and qualitative cereals demand, and to define, for each country, measures that will ensure lasting satisfaction of these needs. Such policies should also contribute to better co-ordination of national development plans and foreign aid, because giving a new impetus to cereals production, with the objective of food self-sufficiency, will call for considerable technical and financial resources.

Finally, the preparation of cereals policies, as outlined in paragraph 2.4.2, should provide an opportunity for governments to reflect on the roles that might be played by the four large groups concerned and on ways to give producers more substantial benefits.

3.4 Future orientation of the work of the Restricted Committee

The Committee, as presently constituted, considers that it has now completed its preliminary study.

If it is felt desirable that it should continue its work, the Committee should move on to a more operational stage in which a dialogue could be established with the Sahel States. If certain countries show an interest in the Committee's recommendations, the Committee might be called upon to act as an advisor to governments. But such a new role would mean, of necessity, that its members would have to be able to devote themselves more completely to this task, and certain human, financial and material resources would have to be made available to the Committee.

The Committee might also look beyond the narrow framework of marketing and cereals storage cost, and supervise the co-ordination of the sectoral projects of the various teams of the CILS du Sahel and the integration of production policies. In this new role, the Committee would be called upon to deal with the economic problems of production for the CILSS as a whole.

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C.1

GENERAL REPORT OF THE COLLOQUY
ANNEX : RECOMMENDATIONS

1997

GENERAL REPORT

At the initiative of the CILSS and Club du Sahel Secretariats, a Colloquy on cereals policy in the Sahelian countries was held in Nouakchott 2-5 July, 1979. Besides experts from the eight CILSS Member countries, the Colloquy was attended by experts from the international community. A list of participants is annexed to this report.

After the opening of the Colloquy by Major Anne Amadou BABALY, Minister of Equipment and Transport of the Islamic Republic of Mauritania, representing the Minister of Rural Development and the speech of His Excellency Djibril SENE, Minister of Rural Development of Senegal and CILSS Minister Coordinator, the Colloquy elected officers and appointed three commissions to work on the themes listed in the agenda :

- the food situation in the Sahelian countries and prospects for the year 2000 ;
- price policy and cereals production ;
- marketing and storage of cereals.

The purpose of the Colloquy was to permit participants to reflect together on the different components of cereals policies so as to make them more effective in achieving food self-sufficiency.

The work of the Colloquy, which was carried out under the chairmanship of Mr. Ould Ahmed MOHAMEDEN BABA, Director of External Relations at the Ministry of Rural Development of the Islamic Republic of Mauritania, is hereby summarized and the full reports of the three commissions are annexed.

INTRODUCTION

The Colloquy first noted the insufficiency of cereals production in the Sahel and particularly the insufficiency and inadequacy of production marketed to meet an increasing demand.

This situation resulted in increased cereals imports and food aid from the time of the drought until now and will remain so if special and urgent measures are not taken at the national and regional levels : demographic growth and particularly that of the urban population leads to an ever increasing deficit in cereals production.

All this is not due only to climatic reasons, but also to multiple technical, economic and social factors.

Food self-sufficiency could be achieved through a better organization of the overall production system.

The main options adopted are to :

- (a) increase cereals production so that it keeps pace at least with the demand ;
- (b) increase production mainly through intensified farming ;
- (c) assure that this intensification does not damage the soil nor threaten the ecological and social balance ;
- (d) foster the development of new agricultural activities in structurally deficient zones.

To achieve these objectives the colloquy considers that the following must be undertaken simultaneously :

- massively increase investment for the development of rainfed and irrigated agriculture ;
- accompany projects by a certain number of coherent measures based on a cereals policy designed to assure their complete success.

These measures should cover :

- . production
- . purchase
- . distribution and processing
- . storage
- . development of regional trade.

8/6/

Before spelling out these measures, the colloquy considered that it should stress the general insufficiency of available data on the quantity grown, real purchase prices, quantity marketed, sales prices, structures of food demand, etc... which are essential for designing an efficient cereals policy. Thus a preliminary recommendation on :

IMPROVING INFORMATION

The Colloquy recommends :

- that structures for the collection and use of data required for the elaboration of a cereals policy, particularly basic information concerning production, marketing and consumption be created or supported ;
- that the CILSS Secretariat and the Sahel Institute play a coordinating role in standardizing data collection in Sahelian countries and in disseminating information both in Sahelian and donor countries.

Nevertheless the Colloquy insisted that one should not wait to have complete data before beginning to elaborate and to implement a cereals policy.

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1 - PRODUCTION AND PURCHASE

The first objective of a cereals policy should be to increase production. Since this is entirely up to the farmer, the latter should be motivated to increase his production and market part of it.

The primary motivation is the purchase price. It should encourage the farmer to increase his production and market it.

The colloquy remarked that some states fix official production prices after consulting an ad hoc committee. It would be desirable if these committees would take into account all available data on the cost price, the farmer's salary levels, relation between cereals prices and those of cash crops, the market situation, etc...

It is also indispensable that the price be announced before sowing.

Nevertheless, the colloquy stressed that a manipulation of prices could be dangerous (particularly for conserving soil fertility because it may encourage over-farming) and that it should be accompanied by production organization activities so as to eliminate bottlenecks faced by producers : soil deficiencies, insufficient use of fertilizers and equipment, phytosanitary plant protection, land tenure system, etc... This organization should take into account the balance between cereals and other food production.

This can only be done through subsidies to production factors. However, Sahelian States cannot wholly cover this expense and some outside aid will be necessary.

The colloquy considered that these subsidies should be temporary and progressively assumed by a dynamic and efficient agricultural credit system.

A certain number of other measures are required to increase production :

- extension of results already achieved through agronomic research to improve the productivity of cereals farming and increase the research effort in this field ;
- a specific effort should be made to provide farmers with simple and inexpensive technology, which are both easy to introduce and manage in a village community ;
- guarantee the purchase of cereals offered for sale by farmers ;

- start the collection campaign as soon as offers are made ;
- improve access and transportation to producing areas, etc...

Basically, the colloquy's recommendations concern the following three ideas :

- necessity to offer the farmer incentive prices ;
- the organization of production, particularly temporarily by subsidizing production factors to accelerate change in the farming system ;
- the dissemination of appropriate technologies.

However, the colloquy also considered that setting incentive buying prices and guaranteeing the purchase of quantities offered was not enough and that purchasing and marketing structures must be improved.

The colloquy considered that primary marketing carried out by producer's groups (village groups, cooperative groups) should be encouraged.

Noting the number of agents active in the marketing circuits and that cereals offices cannot always control the collection of all the production offered, the colloquy suggested that the States should study how the different economic agents could take part in marketing.

2 - DISTRIBUTION AND PROCESSING

The colloquy studied existing relations between price and consumption.

It expressed the wish that the incentive price to the producer result in a price acceptable to the consumer.

It thus suggested reducing intermediate costs to a minimum through sound and well managed cereals offices (transport and marketing costs, etc...).

The social role of annual price stabilization as well as that of cereals offices should be underlined.

The Colloquy recommended that the economic reliability of these offices be improved by applying schedules of prices that take into account real costs.

It suggested that comparative studies be made on the economic efficiency of private and public marketing channels as well as different types of cereals offices.

With respect to adapting supply to demand, particularly in the cities,

the Colloquy made two recommendations :

- the first concerns the improved adaptation of agricultural products, after industrial and small-scale processing, to the needs of urban consumers (flours, semolinas, couscous, etc...)
- the second concerns the legitimacy of protecting regional production through taxation of imported cereals. This tax could be used in different ways : support local production, stabilize the market, etc...

Food Aid

The problem of cereals marketing cannot be separated from food aid.

The Colloquy noted that food aid has a tendency to perpetuate itself. While recognizing that this aid partially solves the immediate problems of the population, the Colloquy stressed its negative aspects :

- it modifies Sahelian food habits by introducing new products which risk making Sahelians increasingly dependent on them ;
- it creates a welfare mentality which does not encourage an increase in cereals production ;
- it disturbs traditional channels and projects underway, and discourages producers.

Therefore, the Colloquy recommended :

- that free food distribution be abolished except in cases of disaster and for vulnerable groups ;
- that productive investments be financed from counterpart funds generated by food aid and "food for work" type development projects be promoted.

Finally, it recommended that the Club and CILSS Secretariats organize a concertation on food aid.

3 - STORAGE

The problems of cereals storage are several :

- regulating stocks whose purpose is to stabilize prices during the year;
- security stocks for climatic uncertainties and food self-sufficiency. These stocks could be on several levels :

- . on-farm storage
- . village storage
- . national storage
- . regional storage

The Colloquy noted that on-farm storage appears to be good because there is little loss and it is cheap. That is why it recommended Sahelian States to improve and promote this method of storage which allows farmers to have family reserves and to insure their own food self-sufficiency.

It insisted on the necessity of creating adequate storage capacities not only for regulating the market but also for food security in case of emergency (security stocks) at all stages of the cereals circuit.

The same recommendations apply to transport infrastructure essential for the implementation of this storage policy.

Stocks should be managed carefully and constantly maintained (periodically renewed, systematically treated, etc...)

Finally, for financing these stocks, the Colloquy recommended that the States facilitate the obtaining of seasonal credit at the same rate as that for export products for economic operators and it wished that the international community would participate in the financing of security stocks, and storage and transport infrastructure.

4 - THE DEVELOPMENT OF REGIONAL TRADE

The Colloquy considered that a certain number of problems could be better solved on the regional level and that developing regional trade would increase food security.

Thus it recommended for the Sahelian States :

- to improve information on trade between the countries ;
- to harmonize price policies so as to facilitate the integration of Sahelian agriculture ;
- to promote cooperation among public cereals offices ;
- to standardize crop quality (set standards describing quality of products) ;

and for the International Community :

- to grant priority to the purchase and transfer of production from the

sub-region within the framework of aid operations.

IN SUM, cereals policy is made of an array of different measures. The Colloquy vigorously insisted on the necessity of coherence between implementing measures of each State. Without this coherence, the objective of food self-sufficiency cannot be achieved.

Developing food plans which take into account nutritional needs would help to identify actions to be undertaken and to plan investments at each stage of the cereals system. This could be one way attaining better consistency.

Finally, seeking coherence among national cereals policies through contacts between the States can accelerate cereals self-sufficiency at the regional level which is the basic goal of CILSS.

ANNEX : RECOMMENDATIONS

Recommendations of the three Commissions :

- Food situation in the Sahelian countries and perspectives for the year 2000
- Price policy and cereals production
- Cereals marketing and storage

COMMISSION I

RECOMMENDATION N° 1

FOOD SITUATION IN THE SAHELIAN COUNTRIES
AND PERSPECTIVES FOR THE YEAR 2000

After examining working documents prepared for the Colloquy and a large exchange of views,

THE COMMISSION

CONSIDERING that during recent years cereals production was not able to cope with consumer demand both for climatic and technical, as well as economic and social reasons,

CONSIDERING that population growth and particularly urban growth will considerably increase cereals demand between now and the year 2000,

NOTING that the adjustment between cereals supply and demand, while tending to be met through substantial increases in imports either purchased or granted as food aid, is contrary to the required stimulation needed to reach the objective of food self-sufficiency,

NOTING that the precarious food balance in a normal year and in certain countries could be put into question by the imbalance between demand - mainly urban - and internal marketable production,

CONSIDERING that changes in food habits represent a grave threat to reaching food self-sufficiency by Sahelian States ;

RECOMMENDS THE SAHELIAN COUNTRIES TO :

- encourage extension of results already achieved through agronomic research and carry this research effort over to cereals,
- encourage the marketing of local (traditional) cereals by all possible means in forms most accessible to consumers (flour, semolina, couscous, etc...) and promote their commercial sale ;
- adopt a coherent price policy for local and imported cereals which would promote in priority consumption of local cereals ;
- promote through the development of a food plan, investments at all stages of cereals production to consumption ;

- improve employment and living conditions in the rural zone so as to reduce rural exodus and migrations.

RECOMMENDS THE CILSS AND CLUB DU SAHEL TO :

- facilitate the financing of research, applications of food technology to cereals, and the promotion of new cereals products ;
- provide assistance which may be requested by Sahelian States to prepare and implement their food plan ;
- assist in the preparation of intensive cereals projects in ecologically appropriate zones as well as projects aimed at new vocations for structurally deficit zones.

RECOMMENDS THE INTERNATIONAL COMMUNITY TO :

- provide a higher priority to the financing of cereals projects, agronomic research and cereals processing ;
- soften criteria for choosing projects and speed up the mobilization of necessary funds.

COMMISSION I

RECOMMENDATION N° 2

QUALITY OF INFORMATION

While agreeing that one should not wait until all data on cereals are complete before formulating and applying a cereals policy, members of Commission I nevertheless insist on the necessity to obtain new reliable information for policy orientation.

CONSIDERING the importance of the quantity and quality of information for the preparation and implementation of the most efficient cereals policy.

CONSIDERING the insufficiency or weakness of structures and personnel capable of collecting and using data,

CONSIDERING the difficulty of organising and running various surveys for the elaboration of a cereals policy,

CONSIDERING the diversity of surveys and various methods for data processing in different Sahelian countries that entail comparability problems,

CONSIDERING the high cost of creating or supporting the structures and carrying out periodic surveys :

THE COMMISSION RECOMMENDS THE SAHELIAN COUNTRIES TO :

- create or support structures for collecting and using new or available information required for the elaboration of a cereals policy : data covering production, marketing and consumption, as well as updating demographic data ;

AND THE CILSS AND CLUB DU SAHEL TO :

- assist in carrying out these surveys ;
- play a coordinating role in standardizing and normalizing surveys in Sahelian countries and disseminating results both in Sahelian and donor countries.

THE INTERNATIONAL COMMUNITY TO :

- assist the Sahelian countries in creating new structures or supporting existing ones ;
- assist in the financing of periodic surveys ;
- participate in personnel training and data processing.

COMMISSION I

RECOMMENDATION N° 3

TRADE

NOTING that official foreign trade statistics of Sahelian countries generally underestimate cereals traded among Sahelian countries on one hand, and between Sahelian and neighbouring countries on the other,

CONSIDERING that cereals self-sufficiency is possible at the level of CILSS countries taking into account the potentialities of the Sahelian countries,

CONSIDERING the historic relations between these countries and their membership in regional and sub-regional organization,

THE COMMISSION RECOMMENDS THE SAHELIAN COUNTRIES TO :

- improve data on trade in order to speed up regional self-sufficiency ;
- facilitate trade among Sahelian countries on one hand, and between Sahelian and neighbouring countries on the other under the patronage of public services ;

TO CILSS TO :

- study ways and means permitting the standardization of price policies with a view to facilitating the integration of Sahel agriculture ;
- foster meetings between public cereals offices, particularly periodic ones ;

TO THE INTERNATIONAL COMMUNITY TO :

- accord priority to commodity trade in the Sahelian sub-region.

COMMISSION I

RECOMMENDATION N° 4

PROMOTING PRODUCTION AND MARKETING CHANNELS

NOTING that cereals production, marketing and consumption in the Sahelian countries depend on different more or less interconnected systems, it was decided useful to analyse relations between cereals production and consumption by the channels and stages of operations from production to consumption. Means used and the finalities of operations schematically distinguish farmer self-consumption, farmer channels for small-scale marketing and industrial channels requiring heavy investments,

THE COMMISSION agreed that industrial channels (large irrigated perimeters, large processing or storage plants, etc...) play an important role in the supply of cities and deficit zones. However, the surpluses of the self-consumption channel provide the biggest share of supplies,

NOTING that farmer self-consumption channels through their occasional surpluses cannot face alone the regularly increasing urban and deficit zone consumption, particularly in cases of emergency,

CONSIDERS it essential to foster the transfer from a self-sustaining cereals economy to a small trade economy by facilitating the development of farmer channels ;

RECOMMENDS that the SAHELIAN STATES and the INTERNATIONAL COMMUNITY assist in developing this small trade production on the technical, institutional, financial and social levels ;

REQUESTS that a larger and more specific effort be undertaken to provide the largest number of farmers with simple and low investment cost technologies, easy to introduce and manage in the village milieu ; this would be not only for production, but also for storage, processing and trade ;

DESIRES that institutional measures be taken to insure the financing of the implementation of these channels and facilitate the initiatives of its operators within the framework of a cereals policy,

RECOMMENDS promoting farmer cereals channels and that this permit participation and transfer of responsibility to organized farmer

communities.

Technical measures will concretely concern :

- the use and extension of acquired research information ;
- crop and harvest protection ;
- improving access roads, markets and communications ;
- improving on-farm storage ;
- decentralizing security stocks to obtain greater flexibility in distribution and to reduce costs ;
- processing of production ;
- organization of farmers and their training ;
- efficient organization of the cereals distribution system.

COMMISSION I

RECOMMENDATION N° 5

FOOD AID

After noting the share of food aid in the cereals consumption of the Sahelian countries since 1970, the COMMISSION :

NOTING that food aid has a tendency to perpetuate itself ,

CONSIDERING that aid, even though it partially solves immediate problems, has negative effects on the food habits of Sahelian populations by introducing new products which risk to create increased dependency on them,

CONSIDERING that food aid, by continuing, risks creating a welfare mentality which is not favourable for accelerating cereals production because it disturbs traditional circuits and projects underway and discourages producers,

CONSIDERING that food aid does not foster the return of people to the countryside after migrating to urban zones following the drought,

RECOMMENDS that :

- free food distribution be stopped except in case of emergency and for vulnerable groups ;
- if food aid is necessary, it should be used to foster productive investments in agriculture ;
- food security does not exclusively depend on aid but depends first of all on the development of the national production, storage and regional trade.

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COMMISSION II

PRICE POLICY AND CEREALS PRODUCTION

After analyzing the system for setting prices in different CILSS Member States, Commission II noted :

- a) that these systems are currently evolving ;
- b) that each State has a main cereals office which implements cereals marketing policy sometimes operating a monopoly and at other times acting like a private trader more or less controlling the market ;
- c) that in several states the official price is set at the production and consumption stages after consultations with ad hoc committees. In that case, pricing is national and not regional.

The commission then expressed the desire that donors put their confidence in the States to overcome problems related to an increase in cereals production. These increases should be considered as necessities and the States must take every possible measure to meet them.

Moreover, the Commission stressed the need to intensify cereals farming while preserving and, if possible, improving soil fertility.

The Commission then proceeded to examine relations between pricing and production and presented the following recommendations :

1. Ad hoc committees in charge of setting prices at the production level should include all available data concerning cost price at the farmer level, salary level of the farmer's work, relations between cereals and other products at the farming level, the market situation, etc...
2. Manipulating prices at the production stage, alone, can be dangerous. It should be integrated into a set of measures to rationally organize production.
3. The effort to organize production supposes that various bottlenecks will be efficiently overcome through subsidies. These bottlenecks are different depending on the States and areas inside the States. Their size varies also. For example, restoring soil fertility, equipment, fertilizers, phytosanitary protection, land tenure system, selecting seeds, etc...

The cost of these subsidies cannot be covered by the States themselves.

Thus, it is necessary that projects for intensifying cereals production submitted to donors include a component for subsidies to production.

It is desirable that these subsidies be partial, temporary and that all means be implemented so that they will be taken over by a dynamic and efficient Agricultural Credit system.

4. Moreover, the development of production may be jeopardized if there is no guarantee of purchase of quantities offered for sale. Thus production objectives of development projects must be seriously taken into account in marketing estimates.

5. Development projects should also provide support to producer groups so as to assist them in playing a more efficient role, particularly in extension, marketing and storage activities.

It would also be useful if they would include accompanying measures, for example, opening up producing regions, complementary research, rural handicrafts, produce processing, etc...

The Commission then reflected on relations between pricing and marketing and hopes that the incentive price for the producer leads to a price acceptable to the consumer. It stressed the importance of annual stabilization of this consumer price whose social role should be supported.

It suggests to States that they :

- reduce to a minimum intermediate costs through sound and well controlled management ;
- encourage, according to individual methods of each State, storage by producer groups in rural areas ;
- obtain from external aid sources support for storage to reduce the latter's cost ;
- protect national production by taxing imported cereals. These taxes could be used for different purposes : support for production, market stabilization, etc...
- stabilize consumer prices by creating regulatory stocks ;
- insure varied uses for surpluses, for example, by developing trade among the States, creating processing plants or making animal food, etc...

Finally, the Commission insists on the necessity of coherence among all measures that a State is inclined to take. Without it the objective of food self-sufficiency cannot be achieved.

COMMISSION III

CEREALS MARKETING AND STORAGE

CONSIDERING that marketing starting with the producer and ending with the consumer is a continuous chain where each competent economic agent uses his talents,

CONSIDERING the number of economic agents in the process of marketing and distribution,

NOTING the State's leading role in the form of cereals offices for marketing activities,

CONSIDERING the difficulties that cereals offices have in carrying out their duties which often results in deficits,

CONSIDERING the performance of producer groups of cooperatives as in Niger, Senegal and Upper Volta,

NOTING efficient cereals storage and conservation by producers,

NOTING insufficient adequate storage and conservation by producers,

NOTING the variety of storage infrastructure : silo, metallic storage, mobile structured storage, mixed ones, etc...

CONSIDERING the necessity of developing inter-State cereals trade and creating security stocks on the farmer, regional and national levels,

NOTING the absence of quality norms for cereals,

CONSIDERING the difficulty for mobilizing, in favourable conditions, financing required for marketing campaigns,

CONSIDERING the insufficiency of funds and the banking sector's lack of interest in the marketing of local cereals,

NOTING the difference in performance between cereals offices and multiple-function offices,

THE COMMISSION RECOMMENDS :

1. To study ways to insure the participation of the different economic agents, farmer groups or private licensed traders in primary marketing since cereals offices cannot always control the collection of available production;

2. To pay attention to benefits to producers and consumers from the number of agents intervening ;

3. To announce, before planting, the prices that will be paid for the coming harvest ;
4. To begin collecting when the supply is offered ;
5. To better define the missions of cereals offices, particularly :
 - . by having them regulate prices to avoid excessive fluctuation,
 - . by being physically present in distribution markets,
 - . by managing a sufficient regulating stock to face demand,
 - . by contracting with licensed traders and distributing agencies agreeing to respect prices ;
 - . by creating regulations ;
 - . by having them play a commercial role so that they can achieve the objectives assigned to them.
6. To improve the economic reliability of cereals offices by applying price/cost schedules that take into account real costs ;
7. That the State pay the cereals office for the public benefit missions that it assigns to it ;
8. To make offices more dynamic :
 - through the presence of buyers having the same qualifications as traders to evaluate the quality offered and to know when and where to purchase,
 - by recruiting agents sufficiently capable to manage an office dynamically and not bureaucratically ;
9. The Commission suggests that the comparative prices between different types of private and public marketing be studied in order to make a justified choice between the two types of offices; cereals office and multiple-use office ;
10. To support the development and improvement of storage facilities at the farmer level ;
11. To encourage the creation of adequate storage infrastructure at all stages of the cereals circuits as well as transport infrastructure : roads, railroads and waterways ;
12. Speed up the implementation of national programmes for storage infrastructure both through a national effort and by international aid, for regulating stocks and national and regional security stocks ;

13. To harmonize cereals storage and conservation methods to minimize costs and facilitate trade among the States ;
14. To study and create valid quality criteria for inter-State relations and supporting trade ;
15. Encourage the mobilization of national resources for financing overall operations of the cereals circuit ;
16. The commission recommends the States to request the international community to finance security stocks, storage infrastructure and transport ;
17. Facilitate campaign loans at conditions similar to those for other kinds of crops.

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C.2

REPORT TO THE CILSS COUNCIL OF MINISTERS ON THE
NOUAKCHOTT CEREALS POLICY COLLOQUY

- I - ORIGIN AND PURPOSE OF THE COLLOQUY
- II - MAJOR IDEAS OF THE COLLOQUY
- III - SUGGESTIONS FOR IMPLEMENTING THE COLLOQUY'S
RECOMMENDATIONS

I- ORIGIN AND PURPOSE OF THE COLLOQUY

At the Third Conference of the Club du Sahel (Amsterdam, November 1978), cereals policies were discussed and the ad hoc Working Group, created by the Club du Sahel and CILSS, was requested to gather the necessary information to enable each Sahelian State to define its own overall, coherent cereals policy.

The 10th Session of the CILSS Council of Ministers reiterated this request and decided to organise a meeting for this purpose.

The Club and CILSS Secretariats organised this meeting in the form of a colloquy.

At the invitation of the Government of Mauritania, the Colloquy was held in Nouakchott, July 2-6, 1979. About sixty participants gathered - experts both from the Sahel and from the International Community.

The purpose of the Colloquy was to review activities already carried out in the field of cereals policies in the Sahel and to reflect jointly on the following major themes:

- the food situation in the Sahelian countries and prospects for the year 2000;
- price policy and cereals production;
- marketing and storage of cereals.

Three commissions discussed these questions and prepared a number of recommendations which are annexed. Moreover, a general report was adopted. The following presents the major ideas accepted by the Colloquy.

II- MAJOR IDEAS OF THE COLLOQUY

1- The Colloquy first noted the insufficiency of cereals production in the Sahel and particularly the insufficiency and inadequacy of production marketed to meet monetarised demand.

This situation is due not only to climatic vagaries, but also to multiple technical, economic and social factors. To reverse the present tendency and achieve food self-sufficiency, the Colloquy considered that within the framework of a cereals policy established beforehand, the following must be undertaken simultaneously:

- massive increase of investments for development of rainfed and irrigated agriculture;
- accompany investments for increasing production by a certain number of coherent measures.

The Colloquy also noted the insufficiency of available basic data on cereals production, consumption and marketing in Sahelian States. It is recommended that a specific effort be undertaken to gather and use these data. But it also stressed that elaboration and implementation of a cereals policy must not be delayed until all data are collected.

2- Thus, the Colloquy strove to elucidate several major ideas that should guide each State's integrated cereals policy and that may be summarised as follows:

ACTIONS CONCERNING PRODUCTION

- 1^o) It is necessary to determine and to offer incentive prices to farmers taking into account production costs, work remuneration, and relation to other crop prices (cotton and groundnuts);

- 2°) since price manipulation alone may lead to over-farming, production organisation activities which maintain soil fertility should be stressed;
- 3°) To achieve this, production must be organised, particularly by,
- subsidising production factors, at least during an interim phase, until an efficient agricultural credit is established;
 - disseminating appropriate technologies to limit dependence of the Sahelian States;
 - fostering development of new agricultural activities in structurally deficit zones.

ACTIONS CONCERNING MARKETING AND STORAGE

- 1°) Encourage primary marketing through producer groups;
- 2°) since many different economic agents or actors intervene in the marketing system, States should find ways to make all of them take an efficient part in this activity;
- 3°) on-farm storage should be encouraged and if possible improved, as it is cheap and losses low;
- 4°) on-farm storage should be complemented by adequate storage capacity at all stages of the cereals system both to regulate the market and to assure food security in case of emergency;
- 5°) particular attention should be devoted to transport infrastructure needed to implement a storage policy;
- 6°) finally, the financing of these stocks should be facilitated through appropriate seasonal credit.

ACTIONS CONCERNING PROCESSING, CONSUMPTION AND ENLARGING OF MARKETS FOR NATIONAL PRODUCTION

- 1°) Industrial and artisanal processing of cereals must be developed so as to be better adapted to urban consumer needs;
- 2°) protection of national cereals production by taxing imported cereals should be considered.

C- The Colloquy devoted specific attention to the problem of food aid. It noted that food aid has a tendency to perpetuate itself and, while recognising that this aid partially solves the immediate problems of the population, the Colloquy stressed its negative aspects:

- it modifies Sahelian food habits by introducing new products with the risk of increasing dependence;
- it creates a mentality of assistance which does not favour increased cereals production;
- it disturbs traditional channels and on-going projects and discourages producers.

Therefore the Colloquy recommended:

- that free food distribution cease except in cases of disaster and for the most vulnerable groups;
- that productive investments financed from counterpart funds generated by food aid and "Food for Work" type development projects be promoted;
- that the CILSS and Club Secretariats organise a concertation on food aid.

D- Finally, the Colloquy considered that a certain number of problems could better be solved on the regional level and that developing regional trade would be a factor in increasing security.

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Thus, it recommended for the Sahelian States:

- to improve information on trade between countries;
- to harmonise price policies so as to facilitate the integration of Sahelian agriculture;
- to promote cooperation among public cereals boards;
- to standardise crop quality (set standards that specify product quality);

and for the International Community:

- to grant priority to the purchase and transfer of production from the region within the framework of food aid operations;
- to consider what resources can be provided to increase food production in the region.

E- In sum, cereals policy consists of an array of different measures covering all aspects of the cereals system from the producer to the consumer. The Colloquy particularly insisted on the integration of these measures with regard to each other.

It suggested that food plans, taking into account nutritional needs, would help to identify actions to be undertaken and to plan investments at each level of the cereals system. These plans should be defined by each State in such a way as to achieve the degree of coherence needed in the Sahelian States.

Finally, coherence between national cereals policies would certainly hasten the attainment of food self-sufficiency at the regional level, which is the basic goal of CILSS.

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III- SUGGESTIONS FOR IMPLEMENTING THE COLLOQUY'S RECOMMENDATIONS

The Ministers will find all recommendations adopted by the Colloquy annexed to this document.

The Council of Ministers could, if it deems advisable:

- (a) indicate its approval of the general work of the Colloquy;
- (b) have each State commit itself to undertaking (or pursuing) national level reflection on cereals policy taking into account the Colloquy's major ideas and which could be supported by the Club du Sahel and CILSS Secretariats;
- (c) mandate the CILSS Secretariat to organise such support, particularly from a methodological point of view, and to disseminate information on experience acquired in Sahelian countries;
- (d) mandate the CILSS Secretariat to prepare a regional programme, with a view to improving the collection and use of basic data on cereals production, marketing and consumption and present it to a meeting of donor agencies;
- (e) invite the International Community to support this effort undertaken on the national and regional levels;
- (f) mandate the Secretariats of CILSS and the Club to organise a concertation on food aid.

C.3

RESOLUTIONS ADOPTED BY THE COUNCIL OF CILSS MINISTERS
AT OUAGADOUGOU IN JANUARY 11 - 12, 1980

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RESOLUTION N° 1/CM/12

ON THE SITUATION AS REGARDS FOOD SUPPLY IN SAHEL COUNTRIES AND THEIR PROSPECTS FOR THE YEAR 2000

The Council of CILSS Ministers, meeting on the occasion of its twelfth ordinary session at OUAGADOUGOU on 11 th and 12th January 1980 :

CONSIDERING that during the past few years the production of cereals has been insufficient to satisfy consumption requirements owing to technical and climatological reasons, as well as economic and social reasons ;

CONSIDERING that the population, and particularly the urban population, will increase and thus raise the demand for cereals to a considerable extent between now and the year 2000 ;

CONFIRMING the fact that the adjustment between the supply and demand for cereals, which has tended to be achieved by means of substantial increases in imports, both paid for and free of charge, does not provide the necessary stimulation to enable production to achieve a target of self-sufficiency ;

CONFIRMING that the precarious balance of food supply in a normal year and in some countries could be more and more frequently upset by the difference between the solvent demand - principally urban - and the marketable internal production ;

CONSIDERING that the changes in feeding habits constitute a serious threat to achievement of the self-sufficiency target in the matter of food supply, adopted by the SAHEL States ;

HEREBY REQUESTS THE SAHEL STATES :

- to encourage the distribution of information on results already achieved by means of agricultural research and to devote the efforts of this research, reinforced if necessary, to cereals ;
- to encourage by all possible means the marketing of locally produced (traditional) cereals in forms more easily accessible to consumers (flour, semolina, couscous, etc...) and to promote them commercially ;
- to adopt a coherent price policy for locally produced and imported cereals products, which would give priority to consumption of local cereals;
- by drawing up a food supply program, to favour investment at all sta-

ges from production of cereals to their final consumption ;

- to improve living and working conditions in rural areas, so as to reduce the exodus from those areas and migrations.

HEREBY INVITES CILSS AND THE CLUB DU SAHEL :

- to facilitate research work on cereals and the application of food supply technology to cereals and to promote new cereals products ;
- to supply any assistance that may be required by Sahel countries for the purpose of drawing up and implementing their food supply programs ;
- to assist setting up intensive cereals projects in ecologically favourable zones, as well as a search for new vocations for the zones structurally deficient.

REQUESTS THE INTERNATIONAL COMMUNITY :

- to grant greater priority to financing cereals projects, agricultural research projects and projects for transforming cereals ;
- to make the choice of criteria for such projects more flexible and accelerate the availability of the necessary funds.

Approved at Ouagadougou

On 12th January 1980

THE COUNCIL OF MINISTERS

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RESOLUTION N° 2/CM/12
CONCERNING THE QUALITY OF INFORMATION

The Council of Ministers of the CIUSS, meeting on the occasion of its twelfth ordinary session at OUAGADOUGOU on 11th and 12th January 1980,

CONSIDERING the importance of qualitative and quantitative information in the matter of drawing up and implementing the most efficient cereals policy ;

CONSIDERING the lack or weakness of the structures and personnel capable of collecting and making judicious use of the data ;

CONSIDERING the difficulty of organizing and carrying out surveys undertaken for the purpose of drawing up a cereals policy ;

CONSIDERING the diversity of the models for surveys and processing data used in the various different SAHEL countries, involving comparability problems ;

CONSIDERING the high cost of setting up or reinforcing these structures and of carrying out periodical surveys ;

THE COUNCIL OF MINISTERS REQUESTS SAHEL COUNTRIES :

- to set up or reinforce structures for collecting and making use of the available or new data required for drawing up a cereals policy : information concerning notably data on production, marketing and consumption, and bringing demographic data up to date.

THE CILSS AND THE CLUB DU SAHEL :

- to assist in carrying out these surveys ;
- to act as co-ordinators standardizing and matching the surveys in SAHEL countries and distributing the results in SAHEL countries and in countries which have provided aid.

THE INTERNATIONAL COMMUNITY :

- to help SAHEL countries to set up new structures or to reinforce existing structures ;
- to participate in training personnel and processing data.

Approved at OUAGADOUGOU, on 12th January 1980.

THE COUNCIL OF MINISTERS

RESOLUTION N° 3/CM/12
ON EXCHANGES

The Council of Ministers of the CILSS, meeting on the occasion of its twelfth ordinary session at OUAGADOUGOU on 11th and 12th January 1980,

IN VIEW OF THE FACT THAT the official foreign trade statistics for SAHEL countries generally underestimate the exchanges of cereals between those countries, on the one hand, and between SAHEL countries and other border countries, on the other ;

CONSIDERING that self-sufficiency in the matter of cereals is possible on SAHEL countries' scale, in view of the potentialities of those SAHEL countries ;

CONSIDERING the historic links existing between these countries and their common membership of regional and sub-regional organizations ;

THE COUNCIL REQUESTS SAHEL COUNTRIES :

- to improve their information on these exchanges with a view to accelerating regional self-sufficiency ;
- to facilitate exchanges between SAHEL countries, on the one hand, and between SAHEL countries and other neighbouring countries, on the other, under the aegis of Government authorities ;

THE CILSS :

- to study ways and means for standardizing price policies, so as to facilitate the integration of SAHEL agriculture ;
- to favour concertation between public cereals offices and boards, particularly within the context of periodical meetings ;

THE INTERNATIONAL COMMUNITY :

- to grant priority to exchanges relating to food products in the SAHEL sub-region.

Approved at Ouagadougou

On 12th January 1980.

THE COUNCIL OF MINISTERS

9/2

RESOLUTION NO 4/CM/12

ON THE PROMOTION OF ARTISAN ACTIVITIES

The Council of CILSS Ministers, meeting on the occasion of its twelfth ordinary session at OUAGADOUCOU on 11th and 12th January 1980,

CONSIDERING that industrial installations (big irrigated perimeters, big storage and processing units, etc...) play an important part in supplying food for towns and deficient areas ;

CONSIDERING that peasant auto-consumption channels cannot alone satisfy, by means of their occasional surpluses, the regular increases in consumption of towns and deficient zones, notably during a period of calamity ;

JUDGES that it is essential to favour a transfer from a self-subsistent cereals economy to a small merchant-type cereals production economy, by facilitating the promotion of artisan channels ;

REQUESTS SAHEL states and the International Community to assist in the development of this small merchant-type production system along technical, institutional, financial and social lines ;

REQUESTS that a big specific effort should be made to supply the largest number of peasants possible with simple and inexpensive technological information that would be easy to introduce and manage at village level. This information should cover production, storage, transformation and exchanges.

HOPES that all institutional steps be taken to ensure the financing and introduction of these channels and to facilitate the initiatives of its operators, within the context of a cereals policy ;

REQUESTS that the promotion of artisan activity in the cereals field should be an opportunity to enable organized peasant communities to participate and assume responsibility for these activities.

The technical measures will be applied to the following :

- the use and distribution of data acquired by means of research surveys,
- the protection of crops and harvest,
- the improvement of tracks, markets and communications,
- the improvement of storage at artisan level,
- the decentralization of carry-forward and emergency stocks to achieve

- greater flexibility in distribution and to reduce costs,
- the conditioning and transformation of products,
- the organization and training of peasants,
- the efficient organization of distribution of cereals products.

Approved at OUAGADOUCOU
On 12th January 1980.

THE COUNCIL OF MINISTERS

RESOLUTION No. 5/CM/12
ON FOOD ASSISTANCE

The Council of Ministers of the CILSS, meeting on the occasion of its twelfth ordinary session at OUAGADOUGOU on 11th and 12th January 1980,

CONFIRMING that the demand for assistance tends to be perpetuated;

CONSIDERING that food assistance, while providing partial solutions to immediate problems, exercises negative effects on the food habits of the population of SAHEL countries by introducing new products, which may involve greater dependence;

CONSIDERING that food assistance, by being perpetuated, might create an "assisted" mentality by no means propitious for relaunching cereals production, by upsetting traditional circuits and current projects and thus discouraging producers;

CONSIDERING, finally, that food assistance does not favor a return to the land on the part of populations that migrated to urban zones after the drought;

REQUESTS THAT:

- either free distribution of food assistance in the form of food supply be discontinued, except in the case of a calamity and for vulnerable groups.
- if assistance does prove necessary, it should be used to favor productive investments in agriculture;
- that security in the matter of food supply should not depend exclusively on food assistance, but that it should be based as a priority on the development of national production and storage and then on regional exchanges.

Approved at OUAGADOUGOU
On 12th January 1980.
THE COUNCIL OF MINISTERS

RESOLUTION N° 6/CM/12
ON MARKETING, A PRICE POLICY AND STORAGE

The Council of CILSS Ministers, meeting on the occasion of its twelfth ordinary session at OUAGADOUGOU on 11th and 12th January 1980,

CONSIDERING that marketing from the producer to the final consumer constitutes a continuous chain in which each competent economic agent exercises his talents ;

CONSIDERING the plurality of the economic agents intervening in marketing and distribution ;

CONFIRMING the preponderant place occupied by the State in marketing activities through its offices and boards ;

CONSIDERING the difficulties encountered by offices and boards in exercising their tasks frequently result in situations showing a debit balance ;

CONSIDERING the results achieved by organized producers in groups or co-operatives, like in Niger, Senegal and Upper Volta;

CONFIRMING the insufficiency of adequate storage capacities both at national and at regional levels ;

CONFIRMING the variety of types of storage infrastructures : silos, metal warehouses, storehouses with mobile structures, composite warehouses...

CONSIDERING the necessity to develop inter-State exchanges of cereals and to constitute emergency reserve stocks, at peasant, national and regional levels ;

CONFIRMING the absence of quality norms applicable to cereals ;

CONSIDERING the difficulty encountered in mobilizing, on favourable terms, the financing necessary for marketing campaigns ;

CONSIDERING the insufficiency of financial resources and the little interest shown by banking circles in marketing local cereals ;

CONFIRMING the differences between the performances of cereals Offices and multiple function Offices ;

THE COUNCIL REQUESTS :

1. That a means be studied to enable the various different economic agents,

- groups of peasants or approved private merchants to participate in primary marketing, in view of the fact that cereals offices cannot always control collection of the available production ;
2. That attention be paid to the advantages that might accrue to producers and consumers from a plurality of intervening parties ;
 3. That the prices to be practised for the future campaign be announced before crops are sown ;
 4. That the collection campaign be started the moment offers start to come in ;
 5. That the tasks of cereals offices be better defined, in particular :
 - . by making them play a part in regulating prices to avoid excessive fluctuations
 - by being present physically at distribution markets ;
 - by managing a regulating stock big enough to satisfy the demand ;
 - by signing contracts with approved merchants and with distributing organizations, binding them to respect prices ;
 - by drawing up regulations ;
 - . by making them play the role of a commercial operator, so as to enable them to achieve the targets assigned to them;
 6. That the economic reliability of cereals offices be improved by applying rates that take real costs into consideration ;
 7. That the State should remunerate cereals offices for the public services tasks assigned to them;
 8. That the offices should be rendered more active and dynamic :
 - . by employing buyers possessing the same qualifications as the merchants in the matter of judging the quality of merchandise offered and possessing sufficient knowledge to know when and where to buy ;
 - . by recruiting agents that are sufficiently competent and capable of managing the office in a dynamic and not bureaucratic manner ;
 9. That the Commission should suggest studying the comparative costs of the different types of public and private marketing systems, so as to make a justified choice between the two types of offices, a cereals office and a multiple-function office ;
 10. That the development and improvement of storage means be favoured at

- peasant level ;
11. That the introduction of adequate storage infrastructure should be encouraged at all stages of the cereals circuit, as well as transport infrastructures : roads, railways and rivers ;
 12. That national programs for improving the storage infrastructure should be speeded up by both national effort and international assistance, for the regulating stock and for national and regional buffer stocks;
 13. That the methods for storing and preserving cereals be standardized, so as to reduce costs and also to facilitate exchanges between States ;
 14. That valid quality norms be studied and introduced for the purpose of favouring the relations and exchanges between States ;
 15. That national resources be mobilized to finance all the operations in the cereals circuit ;
- LAUNCHES an appeal to the International Community to :
- ensure financing for buffer stocks and storage and transport infrastructure ;
 - facilitate the obtention of campaign credits by the parties involved, on terms equivalent to those granted to other types of agricultural production.

Approved at OUAGADOUGOU

On 12th January 1980.

THE COUNCIL OF MINISTERS

D - STATEMENTS

STATEMENTS

- D.1 - Major Anne Amadou BABALY, Minister of Transport and Equipement of the Islamic Republic of Mauritania, representing the Minister of Rural Development,
- D.2 - His Excellency Mr Djibril SENE, Minister of Rural Development of Senegal, CILSS Minister Coordinator,
- D.3 - Ms Anne DE LATTRE, Head of Secretariat, Club du Sahel,
- D.4 - His Excellency Dr Oumar BA, Minister of Rural Development of the Islamic Republic of Mauritania.
-

STATEMENT BY MAJOR ANNE AMADOU BABALY
MINISTER OF EQUIPMENT AND TRANSPORT
OF THE ISLAMIC REPUBLIC OF MAURITANIA
REPRESENTING THE MINISTER OF RURAL DEVELOPMENT

Honorable Ministers,
Mr Executive Secretary,
Madam, Head of the Secretariat of the Club du Sahel,
Honorable delegates,
Experts,
Ladies and Gentlemen.

It is not by chance that for the second time in the past six months our country hosts such an important CILSS meeting.

Last December, it was the 10th CILSS Council of Ministers and today we are here again to discuss a subject of prime importance to all of us (both Sahelians and donors alike) : the definition of a cereals policy.

I know that meanwhile several other meetings were held, others are programmed and it is barely one month since we met in Dakar for the 11th CILSS Ministerial meeting.

This proves once again the dynamism of the CILSS and the Club Secretariats as well as the large interest bestowed on our cooperation by the CILSS and Club Member States.

For the first point, allow me, ladies and gentlemen, to briefly recall the major steps achieved within this framework of close collaboration and new type of cooperation which unites us - you donors and us Sahelians - and which we created together barely 40 months ago in March 1976 - the Club du Sahel.

Since that day, we are tied to a task of defining development strategies and programmes for this Sahelian region which has suffered so much and continues to suffer from the effects and consequences of drought.

By adopting, in Ottawa, a development strategy based on food self-sufficiency in the Sahel and our first generation programme, we raised hopes and proved that the Club du Sahel and the CILSS were well qualified for the task which we assigned them.

Afterwards, it was the 3rd Conference of the Club du Sahel which was held in Amsterdam and concerned with the efforts of 18 months of sectoral meetings held between donors and Sahelians on the basis of priority projects and programmes within the framework of the first generation. Nevertheless the Amsterdam meeting drew the attention of CILSS Member countries and donors to the insufficient level of financing of the first generation programme. Certain points of the Ottawa strategy were also studied more deeply, in particular :

- recurring investment costs
- energy in the Sahel
- cereals policy.

The Amsterdam Conference considered that these themes of major importance should be studied more deeply.

It is within the framework of these guidelines that we are meeting today to define cereals policies in the Sahel.

Certainly this task is not easy because the problem is complex and requires that Sahelians and donors alike be conscious of their responsibilities both in defining this policy and mostly in its implementation (technical, human and financial factors).

For the second point, allow me, in the name of the Military Committee of National Safety, the Prime Minister and the Government to welcome you to this Mauritanian land.

Be sure, ladies and gentleman, that even though our means are modest and the welcome simple, we are convinced that your work will be of major importance.

This is why I would like to wish you now full success for your activities which lead to concrete and immediately implementable measures by Sahelians with the assistance of donors.

From our point of view, cereals policy in our sub-region should be based on the goal of food self-sufficiency which depends on increased production and productivity by our farmers.

But that is not all, producers should also be guaranteed remunerative prices which will allow them to produce on one hand but also have access to major consumer goods on the other.

The consumer has the right to regular supplies and prices within the reach of his generally very low buying power.

What should be the role of Governments in this case ? Should they subsidize producers or leave things to be regulated by the market legislation ? We consider that this is the main problem and it should also be recalled that generally Governments have limited resources and cannot carry out such financial activities very long.

Economic and social infrastructures should be created to assist producers on one hand (schools, hospitals) and also insure adequate marketing and product conservation on the other (roads, stocks).

A real cereals policy thus implies that means are available and integrated development programmes implemented.

Due to the insufficiency of the domestic resources of our young States and due to amount of resources needed, I call for your assistance - you donors - so that a real cereals policy can be defined and carried out in the Sahel.

It is only at this price that we can one day see our wish fulfilled : the Sahel self-sufficient in food !

Honorable Ministers, Distinguished Delegates, Ladies and Gentlemen , in the name of the Military Committee of National Safety, the Prime Minister, his Government and my own I wish you success in your activities.

Thank you.

OPENING STATEMENT BY
HIS EXCELLENCY MR. DJIBRIL SENE
MINISTER OF RURAL DEVELOPMENT OF SENEGAL
AND CILSS MINISTER COORDINATOR

Honorable Ministers,
Your Excellencies,
Ladies and Gentlemen,

It is not superfluous to recall that when the decision to hold this Colloquy was taken, our Mauritanian brothers spontaneously offered Nouakchott to accommodate these days of reflection.

In this offer we see two testimonies :

- the importance that Mauritania grants to the subject ;
- but most of all its willingness : one which never failed in supporting, by all means, the efforts of CILSS and the Club in achieving common goals.

Also, my first words will be, Mr. Minister, to be our spokesman to express our appreciation for the warm and African welcome participants received, as well as all efforts undertaken to insure the success of this Colloquy to the Head of State, the Government and the people of Mauritania.

Afterwards, I would like to thank all personalities who came to attend this opening session to show once more all the interest the countries and organizations they represent take in the problems of the Sahel.

Finally, I would like to welcome the experts of the international community, from friendly countries, international and non-governmental organization to proceed with us in a spirit of frankness and dialogue which has always characterized the Club meetings, on an exchange of views on a theme of utmost importance -cereals policy in the Sahel.

If I, as CILSS Minister Coordinator, came to preside your meeting myself, it is to specifically stress this importance and show the particular interest that CILSS Member countries take in the discussions you will have during the week.

Why then this colloquy on cereals policy ?

7-2-73

The third Conference of the Club du Sahel held in Amsterdam, in November 1978, discussed cereals policies.

This discussion permitted both Sahelians and members of the International Community to better recognize the need for implementing an overall cereals policy which includes marketing, price policy and storage, consistent with the objectives sought, and aimed at increasing cereals production. The preparation and execution of projects were not deemed enough.

The third Conference concluded by requesting the ad hoc working group created by CILSS and the Club to gather the necessary facts so that each CILSS Member State could define its own cereals policy.

Last December 15th, the CILSS Council of Ministers, held here in Nouakchott, confirmed this suggestion and decided to organize a meeting of experts both Sahelian and from the International Community.

We preferred to give this meeting the shape of a colloquy during which the most important works on cereals policies will be presented and where everyone will be able to contribute both his experience and ideas. A colloquy where discussions will be open and where each one upon leaving will have a clearer idea of the cereals problems in the Sahel and most of all new elements to offer for a national and regional cereals policy.

Several documents were prepared to facilitate discussions :

- first, to provide participants with essential basic data on the current cereals food and production situation in the Sahel as well as Sahelian and non-Sahelian experience in the field of cereals policy ;
- then by presenting work already carried out on this subject which represents an introduction to discussions on three major themes :
 - . the food situation in the Sahel and its perspectives ;
 - . production and cereals pricing policy in the Sahel ;
 - . cereals marketing and storage policy in the Sahel.

These are, I reiterate, introductory documents prepared to induce an exchange of views. They do not necessarily express the views of the CILSS or the Club. These are elements for thought; they are not constraints.

Nevertheless, I take the liberty of insisting on one fact : you are not here for academic discussions, nor to build new theories which would turn

into vapour as soon as the Colloquy closes. What we expect from you are realistic proposals, easily implemented and taking into account the specificity of each Member State of our organization and also general problems calling for joint solutions.

In this respect there are numerous questions and it would be desirable that the Nouakchott Colloquy answer them :

- what should be changed and what new measures should be taken to define an overall coherent national cereals policy ?
- what to grow and how much to meet the needs of the given population ?
- in the marketing domain should the organization of current cereals channels be amended ?

The report on marketing policies present four possible options for this organization. Beyond the confrontation between advantages and disadvantages of each option, the report asks a major question : before adopting a new organization, shouldn't the capacity of each participant in the cereals circuit be checked to make sure that it can carry out its role ? Shouldn't relations between participants be analyzed first and a new policy built on this analysis ? Isn't this the way of implementing a strategy which is not only an intellectual construction but entirely realistic ?

How to satisfactorily solve storage problems ? In fact, food self-sufficiency includes producing cereals surpluses and creating stocks with the simultaneous purpose of regulation and security in case of deficit years. Recent works have shown the advantage of traditional storage ? How can it be combined with regulating stocks created with modern technology ? Finally, if cereals policy is directed towards usual surplus production, shouldn't the use, processing and location of these surpluses be considered ?

Another question : how to fix cereals prices ? Through pricing, the farmer should be encouraged to grow crops for marketing. How to enter a system where cereals will become cash crops ? Should the producer buying price be raised ? Any change in prices is delicate due to the numerous and sometimes unexpected repercussions it may create. How to act and avoid unacceptable consequences to urban consumers or changes in the consumer structure which would make food self-sufficiency difficult ?

What to do to make urban consumers use traditional cereals more particularly

in the Sahelian coastal States ?

These few questions mentioned in the introductory documents are only indicative and not limitative.

Nevertheless, for the Colloquy's efficiency, it would be desirable that in his heart each participant concentrates on the major themes presented.

I insist again on the fact that this Colloquy should avoid two dangers :

- that of a too general and theoretical discussion not based on concrete data and experience ; that would be unprofitable to the Sahelian States ;
- that of discussing problems specific only to each State and not taking into account common problems for which joint solutions should be found in order to support the solidarity which is the basis of our organization. Specifically the question of transferring cereals surpluses within a country or among Sahelian countries should be the focus of your attention.

We expect from you concrete proposals to define and apply a real cereals policy in the Sahel without which the objective of food self-sufficiency cannot be achieved.

I am convinced that your contribution in this field avoiding any perfectionism, will be appreciable and appreciated.

Ladies andlemen ,

I wish full success to your activities and declare the Colloquy on Cereals Policy in the Sahel open.

I thank you.

STATEMENT BY
MS. ANNE DE LATTRE, HEAD OF SECRETARIAT
OF THE CLUB DU SAHEL
ON THE RESULTS OF THE COLLOQUY

Mr Chairman,

I thank you for giving me the floor so that I can briefly summarize the most vivid impressions of this Colloquy.

First of all very positive impressions.

1. The CILSS and the Club du Sahel have once more played their concertative role. In a friendly atmosphere, we jointly reflected on one of the most important aspects of Sahelian politics -that of cereals policy. Many problems were discussed, concerns on both sides raised. We have the opportunity to take part in the only forum in the world where donors and experts from a group of developing countries can freely present their opinions, fears and hopes. We must thank those who facilitate this rewarding exchange :

- the Government of Mauritania which has so warmly welcome us ;
- the European Development Fund which has financed the most important part of this Colloquy ;
- the restricted committee and its consultants who, under the leadership of Messrs. Ibrahima SY and J-C. Leroy, prepared the documents for our examination ;
- the CILSS Member states and donor agencies which untiringly assist the CILSS and the Club.

We have agreed on certain important points, particularly :

- it is urgent to increase cereals production in the Sahel : the pace of increase must not be related to the past ; it must overtake population increase ;
- food aid meets immediate needs but presents enormous disadvantages. The farmer's participation depends on an improvement of his income and that of his lifestyle. Otherwise rural exodus will continue inexorably. There will be more and more consumers and less and less producers ;

- urgent measures must be taken to improve cereals marketing in the Sahelian States and within West Africa.

I hope that experts from donor countries and agencies have shown that they want to assist the efforts of the Sahelian countries. I am sure that they understood Sahelians when they expressed the following ideas :

- we will need external aid for a long time to come ;
- we would like donors to finance more cereals projects ;
- we would like them to finance our roads with more generosity so that we may open certain deficit regions ;
- instead of bringing cereals from faraway countries, why not arrange the transfer of cereals from one Sahelian country with a surplus to another in deficit ;
- why not finance certain necessary inputs to intensify production which is preferable to food aid ?

Donor representatives agree with Sahelian States when the latter request them to progressively reduce their state of dependency in cereals. In the longer term this dependency presents great danger. Just as today we have an energy crisis, tomorrow there could be a food crisis and it would be the most vulnerable who would risk the most.

If it is necessary to insist that donors should step up their aid and increase their efforts, it should also be recognized that externally financed projects just as national projects, must find a favourable basis for expanding. This means a sound, efficient and voluntary economic policy. Without this support projects cannot succeed, but every policy requires choices and some are difficult.

Donors do not have much influence on the choices made by the States and the Club du Sahel is not a forum for pressures of any kind. It is a forum where we hope to convince that certain options have favourable or negative consequences.

In this respect, I hope that it will be possible to pursue certain ideas initiated during the Colloquy by using a method which has proven itself : the scientific experimental method. This method consists in looking for the real causes of difficulties and when these are well identified, find remedies. Why doesn't a system work well ? Has the goal been related to

the means in hand to achieve it ? Is there one way or several to reach this goal ? Do others succeed better ? Why ? Are there examples from which we can profit ?

Mr. Chairman, several of the Colloquy's recommendations open the way for new concertation :

- on food aid
- on periodic exchanges among officials from Sahelian cereals offices.

Generally speaking, I think it will be useful to take into account the Colloquy's recommendations in the preparation of the future work programme of the Club and CILSS Secretariats. The next Council of Ministers will no doubt provide useful guidelines for this matter.

Thank you for participating and thank you for your frankness. We depart with the hope that our Colloquy has served its purpose and its recommendation will have favourable consequences on both our respective policies and choices.

CLOSING SPEECH DELIVERED BY
HIS EXCELLENCY Dr. OUMAR BA,
MINISTER OF RURAL DEVELOPMENT
OF THE ISLAMIC REPUBLIC OF
MAURITANIA

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Honourable delegates,
Ladies,
Gentlemen,

At the end of these five days of enthralling and passionate debate and fruitful exchanges of views on the theme of : "A cereal policy for the Sahel countries", I am delighted to be able to address a few words to you on behalf of the Co-ordinating Minister of the CILSS in conclusion.

I will not insult you by trying to make a summary of all the expert and important discussions undertaken by the specialists you are, since you are interested and concerned in the future of cereals production in the Sahel region.

Indeed, for you members of the Sahel community, it is a matter of vital, permanent and immediate concern, since the problem is to devise a means of solving the cereals deficit situation in your countries, and for you, friends of the Sahel region, it is now imperative to find a way of reducing and perhaps even suppressing the massive imports of these vital and essential food products, so as to improve the economies of the countries that were so seriously upset by the years of drought.

Obviously, no miracle solutions nor any magic remedies can be suggested to countries in the Sahel region to enable them to recover from such a situation. In fact, although these countries possess similar climatic factors, they nevertheless have their own specific problems, which have to be studied in respect of the regional stock they represent. And so, in our opinion, we must try to propose an approach and a methodology for these problems, or, in one word, a reflection, so that conclusions can be reached, and each country concerned can determine its own attitude, taking its own particular case into consideration as well as those of its regional and international partners.

In so far as this aspect, which I have just touched on without going into the details of your work, is concerned, I can confirm that our objectives have been attained and you must all take the credit for this.

This is why I must ask you to allow me to express the thanks and warm congratulations of the Co-ordinating Minister, and on behalf of all CILSS countries, for the contribution you have constantly made towards solving the many burning problems always confronting our economies.

I can assure you straightaway, that our proposals, recommendations and suggestions will be analysed and put into practice with all the necessary vigour on the occasion of the next Council of CILSS Ministers and certainly also at the next meeting of the Sahel Club.

I cannot end this speech without thanking, in the name of the CILSS Co-ordinating Minister, all those who have contributed to the success of this Colloquy. You will also, I am sure, allow me to mention specially the Secretariat of the Club du Sahel, and more particularly Ms. Anne de LATTRE for all their efforts and highly appreciated help given to the Executive Secretariat in compiling and drawing up the documents for this Colloquy. I would also like to make special mention of the Commission of the European Economic Communities, which undertook to be responsible for a large share of the financial charges involved in convening this Colloquy.

Finally, I hope that all the members of this Colloquy will have good journeys back to their own countries and that they will be able to pursue the reflections we started together so happily at Nouakchott, so that the final results can be of the same dimension as the initial efforts made.

I now declare the work of the Colloquy, devoted to determining a cereals policy for the Sahel countries, closed. Thank you for your kind attention.

E - MISCELLANEOUS

E.1

CEREALS ORGANISATIONS IN CILSS COUNTRIES

LIST OF CEREALS ORGANISATIONS OR AGENCIES IN CILSS MEMBER
COUNTRIES

CAPE VERDE

- Direction de l'Agriculture
Boite postale n° 50
- Service des Aides Alimentaires
PRAIA

GAMBIA

- Department of Agriculture
Cape St-Mary
- Administrative Officer (CILSS)
Section - P.O.E. n° 200
BANJUL

UPPER-VOLTA

- Office National des Céréales (O.F.N.A.C.E.R.)
OUAGADOUGOU
- Direction des Services Agricoles
OUAGADOUGOU

MALI

- Office Malien des Produits Agricoles (O.P.A.M.)
BAMAKO

MAURITANIA

- Office Mauritanien des Céréales (O.M.C.)
NOUAKCHOTT

NIGER

- Office des Produits Vivriers du Niger (O.P.V.N.)
NIAMEY

SENEGAL

- Office National de Coopération et d'Assistance pour le
Développement (O.N.C.A.D.)
DAKAR
- Commissariat des Aides Alimentaires
Ministère du Développement Rural
DAKAR

CHAD

- Office National du Développement Rural (O.N.D.R.)
N'DJAMENA
- Direction de l'Agriculture
N'DJAMENA

E.2

SUMMARY	BIBLIOGRAPHY
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B.3

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