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THE SAHEL DROUGHT CONTROL AND DEVELOPMENT PROGRAMME, 1975-1979: A REVIEW AND ANALYSIS

Please incorporate, as appropriate, in your Sectoral analyses. This is a rare summation.

Please pass quickly -

RBS 2/28/81

SAHEL D(80)101
(September 1980)

THE SAHEL DROUGHT CONTROL AND DEVELOPMENT PROGRAMME, 1975-1979: A REVIEW AND ANALYSIS

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I - INTRODUCTION

1.1 General objective of the Report

The drought which struck in 1968 and became dramatic in 1972 and 1973 drew the attention of world opinion to the precarious situation of the Sahel countries of West Africa.

The ensuing movement of solidarity on the part of the International Community took the form of:

- first, the shipment of food aid, which avoided generalised devastating famine and limited the loss of human life. Since 1973 better climatic conditions on the average have returned. However, certain years had insufficient rainfall, local droughts occured. The level of food aid has declined but has not stopped.
- second, a significant increase in development assistance to rehabilitate and develop the Sahel countries which began as of 1975.

For their part, the Sahelians increased their efforts to control the effects of the drought and to improve the situation of their countries in the aftermath of the drought.

It would have been interesting to make an evaluation of the programs undertaken by the Sahel countries and international donors for the Fourth Conference of the Club du Sahel, that is, make an attempt to estimate the effects that the efforts of all parties have had on trends in the Sahel countries. However, the information necessary to prepare such an evaluation is not available as of now, particularly data on the efforts made by the Sahelians themselves.

One is thus limited to making an initial assessment or a preliminary stocktaking essentially concerned with the effort provided by the International Community for the Sahel since 1975, the scope of which is more restricted than an evaluation. However, making an examination of how such assistance has been oriented, what fruit it has already produced, and the obstacles it has confronted seemed to be a useful exercise. Such an analysis, even though incomplete, can serve both to guide future action of policy makers: Sahelian authorities and donors, and justify to public opinion in donor countries the effort that has been accomplished and the value of continuing it in the future.

The main objective has therefore been to prepare for the Fourth Conference of the Club du Sahel, an initial assessment of development assistance commitments provided to the Sahel countries of West Africa for the years 1975-1978 (and for 1979 to the extent information was available). An attempt has been made to describe trends in such assistance during the period considered and to see if it corresponded to the strategy orientations to control drought and promote development that were adopted by the Sahelians and the International Community.

Also an attempt was made to see whether such assistance has had any perceptible effects on trends in Sahel countries during the period considered. Finally, an attempt was made to draw some enlightenment for future action by donor and Sahelian authorities based on the four year experience of joint effort under consideration.

1.2 Outline of the Report

First, a description is presented of the situation of the Sahel in 1975 at the end of a long period of drought. The trends in the region are described based on several major studies that were made at that time. Then, a description is given of the objectives adopted jointly by Sahelians and the International Community for their common action within the Club du Sahel for the period 1975-2000, of the strategy lines adopted to attain such objectives, and the methods planned to organize joint cooperation.

An analysis is then presented of official development assistance provided to the Sahel from 1975 through 1978(1) to examine trends in overall assistance, how such assistance has been allocated to different sectors, and to study the adequacy of such assistance with respect to the strategy adopted.

Then, an attempt is made to see how such assistance has been coordinated with the efforts made by Sahelians themselves, the difficulties encountered in implementing such assistance, and whether it has already had any effect on the situation of the Sahel countries.

Finally, some general conclusions are drawn notably as concerns the general orientation of joint Sahelian-International Community efforts, their programming, and their implementation, and some reflections are offered that might help to guide future action.

1.3 Source of Information

The preparation of this initial assessment did not involve the carrying out of any specific studies, but rather was done on the basis of available information.

For instance, existing project evaluations carried out by donor sources were used. Some of these were simple surveys of project implementation. But they do contain interesting information about difficulties encountered, the receptivity of local populations etc.... Very complete evaluations (such as the one done on rural development in Southern Chad by FAC/FED) are unfortunately quite rare: a handful of them exist at most.

Overall evaluations of assistance provided by donor sources are even more rare. The European Economic Commission (EEC) made an evaluation of the overall assistance provided by the EEC to an associated country for the period 1960-1978. Such studies are essential to be able to gauge the impact of assistance in a country. But, for the time being, only the evaluation concerning Niger is available.

A certain amount of interesting information was found concerning trends in Sahel countries (for instance in reports of the World Bank) or the effects of

1) Information for 1979 was considered in addition to that for 1975-78 to the extent it was available.

assistance in certain sectors (surveys of irrigated agriculture, livestock strategy, cereals policy, energy report etc.) prepared by the CILSS and the Club du Sahel.

Finally, to follow trends in production and consumption, existing statistics were used, but many of such statistics are unfortunately incomplete or of doubtful value.

In sum, the information available to take stock in an overall manner of assistance provided to the Sahel is considerable, but it has large gaps in it (a list of documents used is found in Annex III). Therefore, because of the gaps encountered, it seemed useful to make some suggestions for the preparation of future assessments that can be richer in information and better documented.

II. THE SITUATION IN THE SAHEL IN 1975

2.1 The situation after the drought

The drought in the Sahel began in 1968. Initially, it did not seem of catastrophic dimensions. But it persisted, and as the rainfall deficit increased, 1972 and 1973 became disastrous years. During these two years, harvests were reduced by one third on average and herds of cattle were reduced on average by at least one third. The Sahel was only saved through massive shipments of food aid. Even so, loss of human lives could not be avoided; the numbers have been variously put as between 50,000 and 100,000, perhaps more.

The figures do not portray the true position of the Sahel. The most southerly regions which have better rainfall were relatively unaffected; by contrast, other regions, particularly those close to the Sahara, were seriously hit: harvests completely lost in one and sometimes two years, up to 90 per cent of herds destroyed, vegetation dried up, the desert seemed to advance.

In 1974, better climatic conditions returned, but emerging from such a long drought, the Sahel was in a particularly difficult position: herds had to be reconstituted, stores of cereal were nil, the system of agricultural production had to be rehabilitated, inhabitants had fled the dry zones, the desert seemed to be advancing south, etc.

The main trends in the Sahel

The occurrence of this unexpected catastrophe and the vulnerability of the Sahel to drought led some observers to reflect on the Sahel's real situation as well as the main trends in its evolution.

The first question was whether the long drought was a sign of a general deterioration in the Sahel's climate, with a long term tendency to lower rainfall, or whether a long drought such as this one was merely a normal incident in the region's climatic history. The most widely accepted expert opinion based on the study of rainfall readings since the beginning of the century is that it would be wrong to say that the Sahelian climate is deteriorating. If there is some lessening in rainfall, it is so imperceptible on the scale of human life as not to be significant and over the long term, over the next 20 or 30 years, climatic conditions of the Sahel can be considered as relatively stable.

On the other hand, the record shows that prolonged drought is, in a way, a normal phenomenon in the Sahel; in earlier times, there have been periods of drought similar to 1968-73, and it is highly probable that drought will recur. In the present state of knowledge, the onslaught of drought cannot be predicted and no effective action against drought itself has been identified. The Sahel, in other words, must be prepared to confront new periods of drought in the future.

The drought has also raised other questions and led to a more thorough analysis of the situation of the Sahel, its production systems and trends. In the aftermath of the drought, there was too little agricultural production to feed the population and some soils had deteriorated, desertification was advancing south and the pace of deforestation was accelerating. Was all of this the consequence of the drought alone? Or could it be due to deeper causes than the drought? A number of studies(1) have gradually made it clear that even before the latest drought, the Sahel was going into blind alleys and that the drought had simply revealed more sharply the existence of fundamental imbalances that affected the Sahel and which, drought or no drought, would have appeared sooner or later. The following is a brief analysis of that situation:

- The gap between cereals consumption and production.

In spite of the great difficulties of assembling reliable data on cereals consumption and production in the Sahel, it appears that, even disregarding climatic uncertainties, production tends to increase much more slowly than consumption. Some experts put cereals production rising by 1 per cent a year, while population in the region is increasing by 2.5 per cent a year. Certainly the gap is widening. Consequently, whereas at the beginning of the 1960s, the Sahel countries were almost self-sufficient cereal producers (except for Senegal which was already a net importer), by the end of the 1970s, recourse to imports and food aid had become a permanent necessity. Local climatic accidents, such as insufficient or poor distribution of rain over a zone, or specific problems such as invasions of rodents or locusts are not enough to explain the permanent cereals deficit.

The IFPRI (International Food Policy Research Institute) has calculated for the five Sahel countries of Upper Volta, Mali, Niger, Senegal and Chad that if the present tendencies persist and if the cereal intake of the Sahelians (in general very low when compared with accepted standards) does not increase, the cereals deficit will reach 3.75 million tons in 1990 and 5.6 million tons if per capita intake is increased by 10 per cent. These estimates must be taken with prudence, given the uncertainty of the basic data, but they nevertheless demonstrate the effort needed to attain cereals self-sufficiency.

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(1) Note - in particular but not solely:

- Perspective study on Agricultural Development in the Sahelian Countries 1975-1990 - FAO, Rome, 1976.
- Attempted definition of a strategy for the struggle against drought in the Sahel of West Africa - SCET - SEDES - ORSTOM, Paris, December 1975.
- Sectoral Team Studies of the Club du Sahel in Preparation for the Strategy (Ottawa - 1977).
- Energy in the Development Strategy of the Club du Sahel - CILSS, Club du Sahel; October 1979.
- A Framework for Evaluating Long-Term Strategies for the Development of the Sahel-Sudan Region - Massachusetts Institute of Technology, Cambridge, Massachusetts, 1974.

Given that cereals are the staple food of the Sahel(1), they show that there is still a long way to go before food self-sufficiency is achieved.

- Soil deterioration.

The rate of increase in cereals production is too low to feed a rapidly growing population. However, it must be stressed that production increases are obtained mainly by expanding acreages cultivated. Food crop production is still extensive in most Sahel regions, using traditional farming methods, and intensification is limited or non-existent. Manual farming remains the standard, and according to the FAO only 5 per cent of farms use animal traction. In some relatively densely populated regions of the Sahel, the enlargement of the area cultivated has already reached the limits set by the availability of arable land. This is true of much of Niger, the center of Upper Volta, and part of Senegal. The farmers in these zones have reduced fallow periods, but the fallow system was and still is the only way to reconstitute the fertility of soils exhausted by successive crops. The land has begun to deteriorate. If there are no changes in farming techniques this will also be the fate of regions which are presently thinly populated: the extension of cultivated land will in many places run into the problem of the non-availability of land, and soil deterioration, which is still geographically circumscribed, will have affected most of the Sahel by the turn of the century.

- Livestock and the deterioration of rangeland.

During the 1960-70 decade, the Sahelian authorities, helped by the International Community, implemented a major programme to foster the development of livestock. This activity was concentrated in two fields:

. animal health: an attempt was made to protect cattle against the epizootic diseases prevalent in the Sahel countries. Considerable progress was achieved.

. a major increase in the number of water points for cattle.

The outcome was a substantial increase in the size of herds. But as livestock techniques had not evolved (livestock basically remained nomadic and extensive) and natural pasture lands had low productivity, by the time the drought struck, cattle numbers had reached the limit of what could be borne by natural pasture lands, and pockets of over-grazed land had already appeared, in particular around certain water points. The drought dealt with this problem - temporarily - by reducing livestock numbers.

On average, more than one quarter of the cattle herd was lost, and 10 per cent of the sheep and goats. However, the problem will recur if techniques of cattle raising do not change. The natural pasture lands in the Sahel can at best sustain a herd of the size which existed at the beginning of the 1970s. But, meat requirements (which are only moderately satisfied today: annual average per capita consumption is 13 kg(2) will rise at the same rate as the growth of population.

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1) Depending on the region, 60 to 90 per cent of the calory intake by Sahelians is provided by cereals.

2) Reported by IEMVT - Elements for a Livestock Development Strategy in the Sahel countries, January 1980.

- Deforestation.

Another major Sahelian problem is forest cover and the supply of wood. The Sahelians are substantial users of fuel wood, particularly to cook their food. This has entailed intensive deforestation around towns. Around capitals, the only trees to be seen in a radius of several dozen kilometers are those which bear edible fruit.

It has at last been realised that deforestation has been speeding up and extending to the whole of the Sahel. Villagers must walk several kilometers to collect fuel wood in regions which were formerly well-endowed with forests. In the absence of data, it is impossible to ascertain exact wood consumption at present in the Sahel, or the natural rate of growth of Sahelian forests, but it is obvious that consumption has outstripped growth, and that the Sahel is eating away its forest capital.

If nothing is done, this situation will lead inescapably to the total disappearance - perhaps very soon - of the Sahel's wood resources. This would not only be felt in the population's way of life (wood is presently the main source of energy in all the Sahel countries), but also in other fields. Total deforestation would certainly have a detrimental effect on soil fertility, on desertification, and perhaps also on rainfall.

In general, these analyses show that the development of the Sahel was not on a healthy basis, even before the drought set in. Soil deterioration, overgrazing of pasture lands and deforestation are the outward signs of a single phenomenon: the Sahelian states are overexploiting their natural resources, given the techniques they are using. Their environment is degenerating, which bodes ill for the future.

Trends since 1975 have confirmed these fundamental disequilibria. The problem for the Sahel is not only to erase the effects of the last drought while taking the necessary steps to shelter itself from future droughts, but also to find and achieve a new equilibrium between the growing number of Sahelians and the necessarily limited natural resources, which must be developed more effectively.

III. ORGANISATION OF THE PROGRAMME TO CONTROL DROUGHT AND PROMOTE DEVELOPMENT

3.1 The CILSS (Permanent Interstate Committee for Drought Control in the Sahel)

Even before the drought ended, the Sahelian States realised that they had to make a special effort to restore their countries' prospects, which had been compromised by the long drought, and to protect themselves from future dry spells. Although at the time the disequilibria analysed above had not appeared as clearly as today, the Sahelians did perceive that they had to struggle against a challenge of nature. And they realised that united they would be better placed to attain their goal.

Thus, the CILSS(1) was created in 1973. Its task was to:

- co-ordinate actions against drought in the Sahelian region and make the International Community aware of the situation;
- mobilise resources for an exceptional programme in the struggle against drought in the Sahel;
- help member States and organisations to seek financing for their own programmes.

In March 1974, Sahelian leaders, meeting at Bamako, stated their objectives in more specific terms, as follows:

- to attenuate the consequences of future emergencies;
- to secure basic food self-sufficiency (cereals and meat);
- to accelerate economic and social development, especially in the least developed countries of the region.

It was obvious that the efforts of the Sahelians to attain these objectives would be more effective if they could count on a parallel effort by the International Community.

It was Sahelian officials who launched an urgent appeal to the International Community for a "Marshall Plan for the Sahel".

3.2 The Club du Sahel

On their side, the representatives of several development aid agencies came to realise that a special and prolonged effort would have to be made for the rehabilitation and development of the Sahel, if its security and progress were to be guaranteed for the future.

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(1) The Members of CILSS are eight Sahelian States: the Cape Verde Islands, the Gambia, Upper Volta, Mali, Mauritania, Niger, Senegal and Chad. It is the permanent organisation for regional co-operation in the Sahel. Its executive Secretariat is located at Ouagadougou in Upper Volta.

To attain this objective, a new formula was devised in Dakar in March 1976 with the creation of the Club du Sahel.

The original mission assigned to the Club was:

- to provide a framework for dialogue between Sahelians and members of the International Community on policies to control drought and to promote development;
- to facilitate the mobilisation of increased resources for the Sahel;
- to encourage cooperation between donors for the implementation of programs.

As an original idea, the Club has several novel aspects:

- first, because of its flexible and informal character; its absence of statutes; it is open to all;
- next, because its purpose is essentially to support action led by an African regional cooperation organisation: the CILSS. Its objective is specific: to attain food self-sufficiency for the region;
- finally, it does not have any resources itself. Assistance continues to be provided by different members of the International Community through normal channels for each of them. The Club is devoted to increasing cooperation between Sahelians and members of the International Community who wish to help and to increase the amount of resources that each provides to a common action.

How have the Club and the CILSS proceeded to increase cooperation and resources devoted to this common action?

3.3 The need for a Sahel Development Strategy

Immediately on its creation, the CILSS set about establishing a framework for common action and drafted an exceptional programme for the struggle against drought, the "Ouagadougou Compendium".

The "Ouagadougou Compendium" was criticized by the donors. In their view, it was not a real programme, but a heterogeneous list of national and regional projects which would not lead to achievement of the objective of food self-sufficiency adopted by the Sahelians. However, the many studies undertaken during and after the drought had shown that food self-sufficiency was a realistic objective. Their conclusions agreed. Despite difficult and uncertain climatic conditions and despite limited natural resources, the Sahel had the overall potential needed to nourish a growing population adequately, to provide its inhabitants with a decent standard of living, and to protect them from the uncertainties of rainfall. The region could achieve autonomous economic growth, without permanent dependence on foreign aid and in particular, food aid. However, its potential remained to be appropriately developed.

The same studies also showed that, over and above the aftermath of drought, the Sahel suffered from a certain number of basic disequilibria, as noted above, some of them serious. If recovery was possible, it would only be attained through continuous and persistent effort over a long period. More thought was therefore required to redefine a new action programme.

Accordingly, one of the first acts of the Club was to organise itself to establish in common a medium and long term social and economic development strategy for the Sahel. It set up a working group to this end.

3.4 The Ottawa Strategy

The draft strategy prepared by the Working Group was adopted by the CILSS Council of Ministers in April 1977. Then, representatives from the International Community and the Ministers of CILSS adopted it at the Second Conference of the Club du Sahel held in Ottawa in May 1977.

Thus, Sahelians and members of the International Community had a framework, prepared together, through which the efforts of all could be brought together to reach the objective of food self-sufficiency for the region. Since the Second Conference of the Club a considerable amount of work has been carried out to make the strategy more specific and complete. A revised strategy will be presented to the Fourth Conference of the Club du Sahel in Kuwait in November 1980.

In its present status the strategy has certain strengths and certain problems. The first point to underline is that the Ottawa Strategy was the product of close cooperation between Sahelians and non-Sahelians and grew out of a dialogue between experts in both communities.

A second point is that the strategy has promoted a better definition of the general objective of food self-sufficiency by setting partial objectives, which are quantified: double the production of cereals and meat by the year 2000, increase by four-fold rice production etc...

Finally, the strategy has permitted above all the definition of lines of action and necessary phases to attain the objective of food self-sufficiency. It shows that:

- the effort will be long-term: the year 2000 was the right one to choose to obtain deep and lasting changes and to prepare the ground for self-sustaining development in the Sahel;
- to meet the objectives of the strategy, we must progressively turn away from the traditional concepts of development in the various sectors. Earlier actions, too many of which were one-time and scattered, should give way to coherent multi-sectoral programmes.

However, it would be dangerous to hide the weaknesses of the strategy. The first is its partial nature.

The task assigned to the Working Group was centered on the struggle against drought, and it was not deemed necessary (or possible) to go into the problems of urban, tertiary and industrial development. These aspects were dealt with only in passing, when they had something to do with rural development. The strategy is not therefore an overall strategy for the development of the Sahel, but a partial strategy to attain a specific, limited objective.

There are even gaps to be filled in as regards rural development. The study on energy requested at the Ottawa meeting and presented at the Amsterdam meeting showed the incidence of energy problems on the ecological balance of the Sahel as a whole, pointed up the drama of the deterioration of forest and set out the steps to be taken to change this present trend before it becomes irreversible.

A second weakness lies in the general character of some of the main lines of the strategy. For instance:

- The future equilibrium between rainfed and irrigated farming and the contribution of each to food self-sufficiency are not set out.
- The main orientations for a livestock strategy were not set forth in the strategy of 1977.

Finally, some other aspects should probably be reviewed anew:

- In spite of the efforts made, consistency between sectoral activities has not been satisfactory.
- Qualitative aspects have been neglected. In particular, the problem raised by the improvement of the standard of living in the rural environment has received little attention.
- Commercial interaction between Sahel countries and other West African countries has not been sufficiently studied.

Nonetheless, the strategy as is, has undoubtedly played and plays a far from negligible role.

The following chapters will show that joint action by Sahelians and the International Community began to change direction over the period 1975 to 1978, and emphasis is being placed on activities which fall within the main lines of the stragety defined at Ottawa, but there is still a long way to go.

3.5 The first generation programme

In order to translate the strategy into action it was necessary to follow up the establishment of the strategy by drafting a programme. This was done by the Working Group and called the "first generation programme".

A number of projects were selected relating to the main priorities adopted in the strategy. Other projects were derived directly from the "Ouagadougou Compendium".

These projects as a group form a programme estimated at $3 billion for the period 1978 to 1982. It was submitted to the International Community at the Second Conference of the Club du Sahel in 1977.

Because of the way in which this first generation programme was drawn up and the limited time available to the Working Group for the purpose, this set of projects does not constitute a programme in the strict sense of the term, associating regional and national projects directly to the objectives of the strategy. To this extent, it is open to the criticism made of the Ouagadougou Compendium, namely, that it is heterogeneous.

Albeit imperfect, this first generation programme is nonetheless a step forward in the search for consistency. Wisely, the Sahelians and the members of the International Community adopted it at the Club's second conference and decided to implement it as it stood and to improve it in the course of operation.

The CILSS and Club du Sahel Secretariats have made great efforts to secure financing for the first generation programme by designing projects and organizing sectoral meetings to present these projects to financing sources. As a result a large part of this programme has been financed and implemented.

It should nevertheless be noted that the International Community has not focused on the first generation programme alone. The Sahelian States have, of course, requested assistance for sectors not included in the programme; in addition, the States and donor sources alike have continued to implement development projects which had already been started or were previously scheduled. Although the first generation programme has undoubtedly helped to recast aid along the recommended lines, it represents part of the total. Moreover, it is not always easy to isolate First Generation Programme assistance from overall assistance. For these reasons it seemed necessary to analyse the overall assistance effort made for the Sahel countries for the purposes of this initial assessment. That analysis is the object of the next chapter. However, specific attention is devoted to assistance provided to priority activities of the Ottawa strategy.

IV. THE TREND OF OFFICIAL DEVELOPMENT ASSISTANCE TO THE SAHEL

4.1 Trend of aggregate assistance

Diagram 1 shows the trend of Official Development Assistance (ODA) commitments to all Sahel countries from 1974 to 1979, and the disbursements effected in following up the commitments made.

There was a large increase in assistance commitments between 1974 and 1979, which rose from a level of about $ 750 or 800 million in 1974 and 1975 to $1 billion or $1.1 billion in 1976 and 1977, reaching $1.4 billion in 1978, and $1.7 billion in 1979.

These figures are in current dollars; the figures for 1978 and 1979 owe something to the weakness of the dollar in that year.

A more realistic estimate is given in Table 2, which shows the total amount of aid commitments in constant dollars. It shows that the effort made by the industrialised countries, international financial institutions and OPEC countries in favour of the Sahel increased by 50 per cent between 1975 and 1979.

Diagrams 1 and 3 also show that the effective disbursements of ODA to Sahel countries (i.e. net disbursements, after taking account of loan repayments) have followed a somewhat different pattern. After a spectacular increase in 1973 and 1974 (at the worst time of the drought), disbursements remained almost constant at approximately $700 million per year for four years, between 1974 and 1977, but in 1978 soared from $700 to $1.1 billion. The amount of disbursements for 1979 is not yet available.

The point made regarding ODA commitments applies also to the $1.1 billion which must be corrected for the monetary factor to make useful comparisons. A major part of the disbursements made to Sahel countries was in currencies other than the US dollar; in 1978, these amounts are artificially inflated when expressed in US dollars through the impact of changes in parities.

After correction for these monetary factors, to give orders of magnitude, it can be said that after a period of stability lasting until 1977, ODA disbursements to the Sahel countries rose by 30 to 40 per cent in 1978.

There is a time-lag of at least two years, between an increase in commitments and in disbursements. This lag can be explained by the time necessary for the implementation of the development projects which the financing organisations agree to support. It necessarily takes some time from the moment when a financing organisation makes a commitment regarding a project to the moment

effective execution of the project in the field enables the promised disbursements to be made. The lag mentioned above suggests that on average the process takes two years. This matter would certainly merit a more refined analysis.

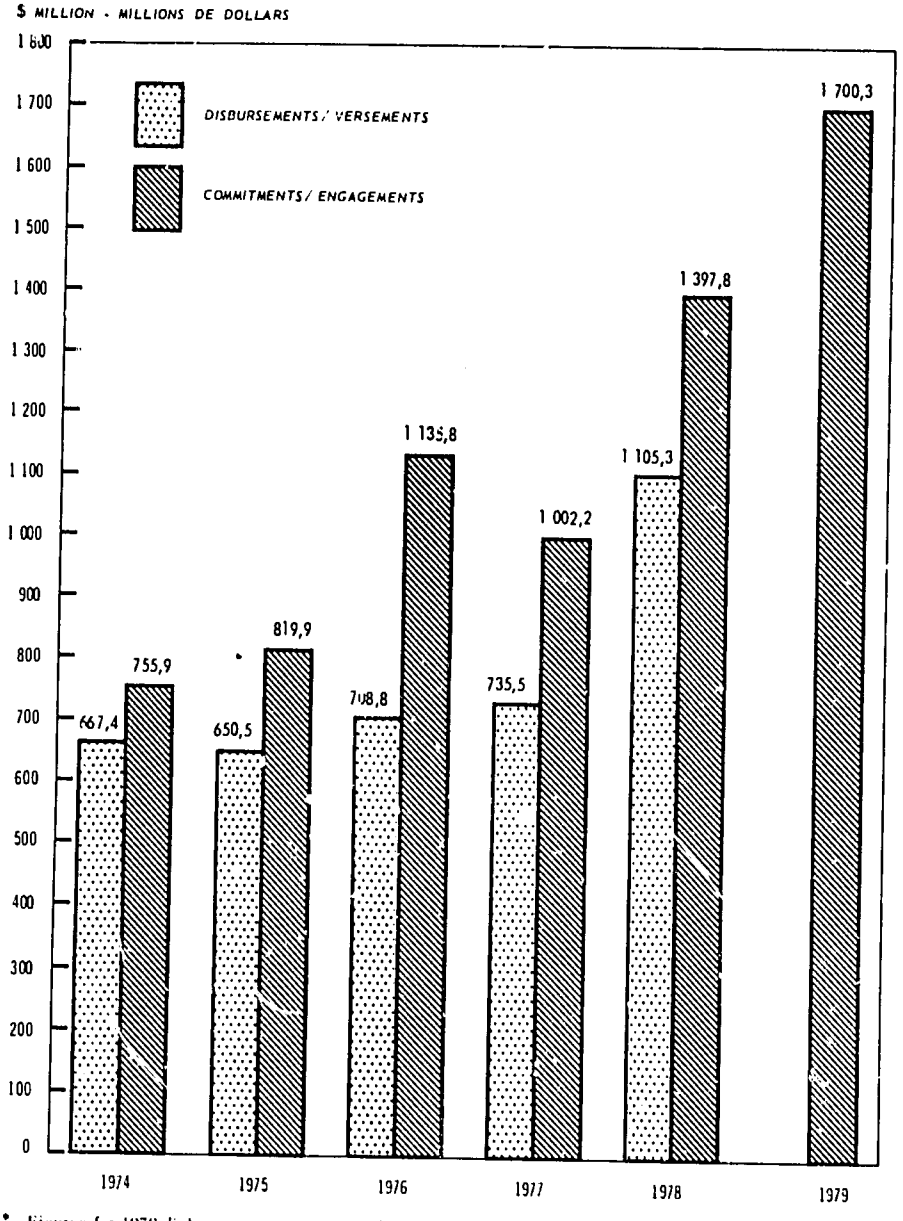
Table 2 shows also somewhat different trends of ODA to the Sahel from each major donor group source. Bilateral aid from OECD countries began to increase in 1977, and rose regularly thereafter. Aid from international financial institutions and from OPEC donors, after a peak in 1976, has moved more erratically. There are fluctuations between different donor sources. OPEC assistance reached two high points, one in 1976 and the other in 1979(1).

(1) Two large projects (the Guelb iron ore project and construction of the Kiffa-Nema Road in Mauritania) accounted for half of OPEC assistance in 1979.

DIAGRAMME 1/DIAGRAM 1

TOTAL DISBURSEMENTS AND COMMITMENTS OF PUBLIC AID FOR DEVELOPMENT IN THE SAHEL 1974-1979

ENGAGEMENTS ET VERSEMENTS D'AIDE PUBLIQUE AU DEVELOPPEMENT POUR L'ENSEMBLE DES PAYS SAHELIENS ENTRE 1974-1979



* Figures for 1979 disbursements are not available.

* Les montants des versements d'APD pour 1979 ne sont pas encore disponibles.

TABLE 2

Trend in Commitments of
Official Development Assistance by Donor Source

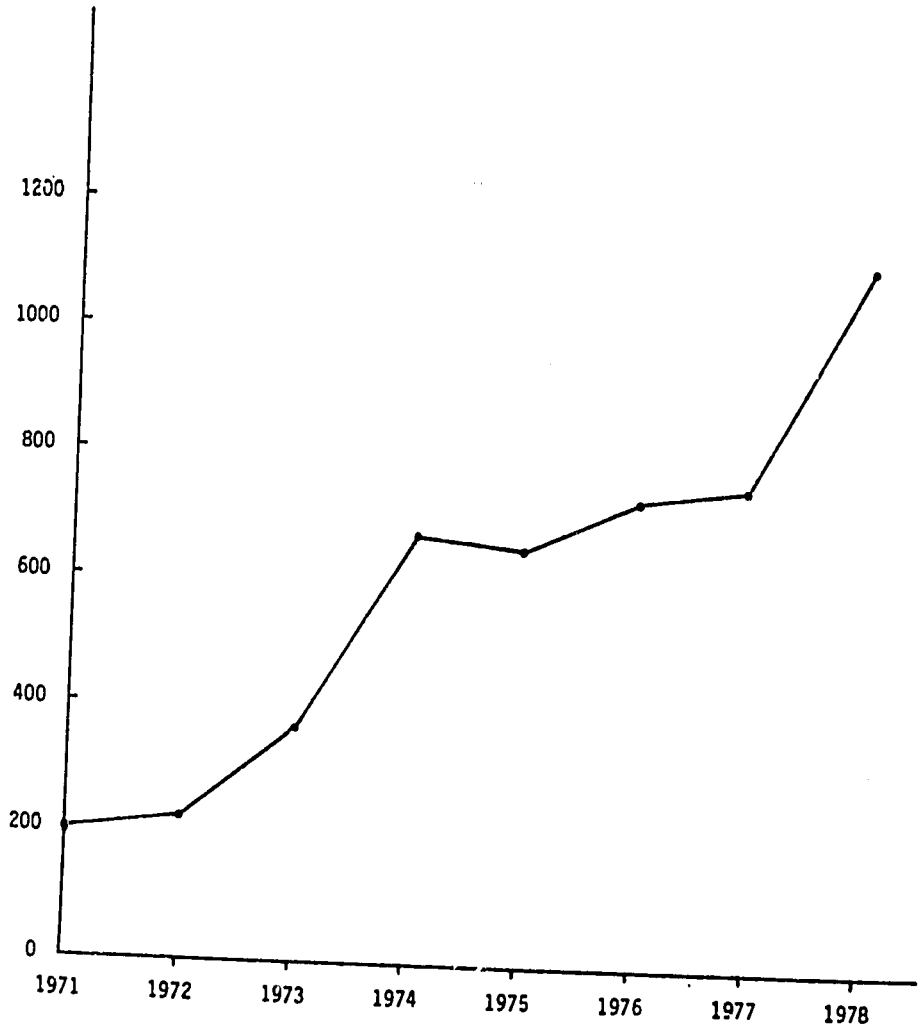
(in constant US$ of 1975)

DONOR	1975	1976	1977	1978	1979(1)
OECD countries	491,690	485,284	534,382	667,282	570,002
Multi lateral financial institutions	217,367	363,909	242,791	361,544	384,516
OPEC countries and financial institutions	107,896	285,612	184,017	148,006	300,361
TOTAL	816,953	1,134,805	960,190	1,176,832	1,254,879

(1) The deflator for ODA resources provided was estimated on the basis of 1975=100 with 1979 = 135.5

DIAGRAM 3

Net Disbursements of ODA to Sahel Countries
(in millions of current US$)



Source : Official Development Assistance to CILSS Member countries from 1975 to 1978 - Sahel D(79)38 - October 1979.

4.2 The share of ODA in the external financial receipts of Sahel countries.

It is interesting to distinguish ODA to Sahel countries within their total receipt of external financial resources. Table 4 gives the figures since 1975.

Table 4

Net Provision of External Financial Resources
to Sahel Countries by Source (in millions of current US$)

	1975	1976	1977	1978
Official Development Assistance (all sources)	651	709	736	1 105
Bilateral and Multilateral financing on market terms(1)	8	115	130	133
of which public and private export credit originating from DAC countries	2	55	80	74
TOTAL External Financial Resources	659	824	866	1 238
Percent of ODA in all external resources	98.7%	86%	85%	89%

Source: DAC - Examination 1979

1) Credit provided by the banking sector is included insofar as Member Countries of the Development Assistance Committee of the OECD were notified of it.

Official Development Assistance (ODA) represents the bulk of the external financial receipts of Sahel countries. This contrasts with the general position of developing countries, whose ODA was only 30 per cent of their external financial receipts in 1978. The share of ODA in total financial flows has been decreasing constantly (see the annual DAC Chairman's Report, "Cooperation for Development", 1979) and has fallen from 45 per cent at the beginning of the 1970's to 30 per cent in 1978 for developing countries as a whole.

The share of ODA in the total resource inflow into African countries is 44 per cent. The Sahel thus enjoys an exceptional position amongst developing countries and even on the African continent, in terms of its high ODA share. Part of the reason is that some Sahel countries are classified as "Least-Developed Countries", and that after the drought which struck the region, the International Community realised that a special ODA effort had to be made in favour of the Sahel.

The high ODA share of the Sahel also reflects tha fact that few development projects in the region appear to offer adequate profit to potential private promoters to justify financing them at market terms. Notwithstanding, the share of funds at market terms has risen considerably by comparison with its very low level in 1975. This trend has had an unfavourable influence on the debt situation of some Sahel countries.

4.3 The financial terms of ODA to Sahel countries

The percentage share of grants on the ODA channelled to Sahel countries is high but it has evolved in a rather irregular manner as shown in Table 5. The percent of grants in OPEC assistance has grown very small in the past two years (such assistance now originates essentially with financial organisations and not governments). The percent of grants in total assistance provided by OECD countries diminished in 1979 because of the increasing activity of the French Caisse Centrale de Cooperation Economique which provides loans only.

Table 5

Share of Grants in total ODA for Donor Groups

(in percentages)

	1975	1976	1977	1978	1979
OECD Countries	73	84	84.6	95.4	86.9
Multilateral Organisations	52	44.2	52	57.9	56.7
OPEC Countries	47.6	36.6	54.7	7.8	1
Share of Grants in Total ODA	64	60.6	72	72.2	57

Source: Official Development Assistance to CILSS Member Countries from 1975 to 1979. Sahel D(80)103- October 1980

4.4 ODA to Individual Sahel countries

As noted, ODA commitments to all Sahel countries rose between 1974 and 1978. There was a particularly sharp increase in aid to the Cape Verde Islands, with commitments tripling between 1975 and 1978. Funds for regional programmes amounts to $18.9 million in 1974 and reached $106.2 million in 1978. This

increase of financial support for regional projects is certainly in large part in response to the expressed desire of the Sahelians to solve their problems in common, and concretized by the creation of CILSS.

In 1979, ODA to Chad decreased considerably as a result of the political situation. Assistance to Mauritania increased sharply because of the implementation of several large projects. Regional assistance continued to increase.

Table 6 below shows the trend of assistance commitments to different Sahel countries and regional projects from 1974 to 1979.

TABLEAU 6 / TABLE 6 - EVOLUTION GENERALE DES ENGAGEMENTS D'APD RECUS PAR LES DIFFERENTS PAYS DU SAHEL ENTRE 1974 et 1979.
(en millions de $ US courants)
GENERAL TRENDS OF ODA COMMITMENTS RECEIVED BY SAHELIAN COUNTRIES FOR 1974-79.
(millions current US $)

	Cape Verde	Chad	Gambia	Mali	Mauritania	Niger	Senegal	Upper Volta	Régional	GENERAL TOTAL
1974		72,500	17,020	125,260	132,770	139,680	141,400	107,400	18,910	754,940
1975	19,463	71,556	12,450	163,317	81,895	121,047	155,327	113,785	78,113	816,953
1976	26,957	115,652	33,262	211,756	234,176	191,695	146,334	120,625	55,332	1,135,789
1977	38,989	86,714	38,840	183,380	135,975	123,071	166,540	151,007	77,688	1,002,204
1978	62,812	182,940	40,804	199,291	143,270	190,613	247,989	223,836	106,295	1,397,850
1979	55,280	67,895	74,834	193,716	434,082	196,259	338,939	206,567	132,792	1,700,364

4.5 International comparison

In 1975, the aid disbursed to the eight Sahel countries amounted to 3.7 per cent of total ODA to developing countries throughout the world. In 1978, this percentage increased to 5.1 per cent of total ODA.

During the period 1975-1978, total ODA disbursements to developing countries remained steady in real terms ($18 billion per year), whereas disbursements to the Sahel countries rose by more than 30 per cent in 1978. (See Annex 1 for detailed comparisons).

4.6 The Role of Assistance in Sahel Economies

Finally, Table 6 - B shows the importance of Official Development Assistance in the economies of Sahel countries. It shows that during three years - 1975, 1976 and 1977, assistance commitments represented on the order of 20 per cent of Gross National Product for the Sahel as a whole.

Table 6 - B

Role of External Assistance in Economies of Sahel Countries

	Population (millions)	GNP per capita in 1977 (US dollars 77)	Total GNP in 1977 (millions of dollars 77)	External Assistance in 1977 (millions of dollars 77)	Aid/GNP
Mali	6.1	110	680	183	27 %
Chad	4.2	130	540	87	16 %
Cape Verde	0.3	140	40	39	
Upper Volta	6.3	110	720	151	21 %
Niger	4.9	160	770	123	15 %
Gambia	0.5	200	110	39	35 %
Mauritania	1.5	270	410	136	33 %
Senegal	5.2	430	2 240	166	7 %
Regional Aid				78	
Total Sahel 77	28.2	195	5 510	1 002	18 %
Total Sahel 76	27.9	180(1)	5 070	1 135	22 %
Total Sahel 75	27.6	165(2)	4 530	816	18 %

Source: World Development Report, World Bank.

(1) in 1976 dollars

(2) in 1975 dollars

V. SECTORAL ANALYSIS OF AID TO THE SAHEL

5.1 Problems encountered

The document prepared by the Secretariats of the Club du Sahel and the CILSS entitled "Official Development Assistance to Member countries of the CILSS from 1975 to 1978" included a review of the breakdown of official development assistance by major sectors of development. The following analysis is based to a large extent on this work. However, the distribution of assistance presented in that document does not provide enough detail to be able to determine whether the Ottawa strategy had induced a priority effort and to appraise its scope.

As an example, we will consider a project classified as "integrated rural development": the fund for the Sahelian zone in Chad, co-financed by the World Bank and the Canadian Agency for International Development (CIDA) (amount: $3.959 million). This project includes no less than 14 sub-projects for the improvement of farming, storage of produce in villages, applied research into farming of subsidence crops, fruit and vegetable growing, animal health, pastoral hydraulics, reforestation, timber supply and transport infrastructure. Unless each project is thoroughly analysed, which has not been possible in the present review, it is impossible to know the amount of investments intended, more important, the amount actually provided for each of the activities in the various sub-projects, which may differ substantially from one to another.

Correspondingly, a sectoral analysis of aid by major functions is hampered by the lack of precision of the data available on the distribution of development projects within programmes, and, even more so, as executed in pursuance to the different functional aims of projects. In the following paragraphs, an attempt has nevertheless been made to give at least orders of magnitude and a broad-brush picture of assistance provided from 1975 to 1979.

5.2 "Non-project" aid

A large proportion of ODA provided to the Sahel is given directly to Governments, and not related to the implementation of a definite development project. This aid is referred to as "non-project" aid.

It includes technical assistance provided to the governments, entirely or partially financed by the International Community, as well as food aid and other emergency aid, plus a certain number of contributions made to support the national budgets and balance of payments: budgetary subsidies, contributions made by STABEX, debt rescheduling, financing of miscellaneous imports, etc. are also financed by donors.

Between 1975 and 1979, non-project aid has remained constant as a percentage of aggregate aid, representing 35 to 40 per cent of total ODA - with an average of 35 per cent. It has thus increased almost at the same pace as aggregate aid.

Table 7 shows the trend of non-project assistance.

Several items are important:

- food aid. Food and emergency aid amounted to 12 per cent of aggregate aid over period considered. It fell in 1976 and 1977, but the bad climatic conditions which prevailed in 1977 caused it to rise again in 1978. Most of this aid consists of shipments of cereals. An estimate of the tonnage of cereals shipped as food aid to all Sahel countries since 1973 is given in the table below (different sources provide slightly different figures):

1973	1974	1975	1976	1977	1978
395,000	710,000	215,000	115,000	115,000	505,000

Source: The Nouakchott Colloquy - Critical Evaluation of Food Aid.

It will be observed that food aid has become permanent, never falling below 100,000 tons per year.

Table 7

Non-Project aid to Sahel countries
(in millions of current US$)

	1975	1976	1977	1978	1979	TOTAL
Technical assistance(1)	99.2	113.6	115.3	188.1	149.6	666
Basic and applied research	16.6	19.7	18.8	28.8	17.3	101
Food aid	94.9	54.5	63.1	112	112.9	437
Emergency humanitarian aid	78	55.2	19	35.2	4,6	192
Balance of payments support(1)	-	11	30.9	95.5	136.8	274
Budget support (1)	33.5	110.2	103.1	37.1	26.5	310
Aid to finance imports(1)	8.3	8.2	14.7	24.5	43.6	99
Cultural activities	0.6	0.3	0.9	1.9	4.2	8
Scholarships	6.2	6.6	8.6	4.8	3.5	31
Loans(1)	3.3	8.2	2.6	13.5	3.5	31
TOTAL	340	387	377	541	502	2 149
Share of aggregate aid (%)	42%	34%	38%	39%	30%	35%

Source: Official Development Assistance to CILSS Member countries from 1975 to 1979 - Sahel D(80)103- October 1980.

1) On the following page an explanatory note on the content of the above items is provided.

Table 7

Explanatory note on the content of certain sectors

Sector	Content
Balance of payments support	- Loans from OPEC countries and financial institutions; - Stabex - Debt cancellation
Budget Support	- Financial support (concours financiers) of French Fonds d'Aide et de Coopération (F.A.C.) - Financial support of certain OPEC countries and financial institutions
Commodity Assistance Programmes	- Commodity import programmes of Germany, Denmark and OPEC countries.
Loan programme	- Loan programmes provided through intermediate credit institutions (national development banks, agricultural credit etc.). These loans are mostly provided by the French Caisse Centrale de Coopération Economique and by Germany.
Technical Assistance	- Cost of technical assistance provided by donors (notably the French Fonds d'Aide et de Cooperation).

- Technical assistance, which is not directly associated with the execution of development projects. It has increased in the course of the period considered, representing over 10 per cent of the aid provided to the Sahel.
- Budget and balance of payments support

The large volume of non-project assistance provided to Sahel countries and which is continually rising in real terms, is striking. To analyse the role played by this assistance, it will be divided into three categories:

- the first category more or less directly helps support economic development. This is the case for technical assistance which underpins planning, the preparation of projects and their implementation, and technical training. It is also true of research projects carried out in Sahel countries (or at least most of them), financed mainly by French aid and whose results will be of value for the Sahel countries' future development: pedological and hydrological studies, agronomic research, etc.
- in the second category, food aid is directly linked to the imbalances which prevent the Sahel countries from attaining food self-sufficiency as well as reducing their capacity to purchase food commodities on world markets.
- the third category is directly linked to the resource shortage which hinders the performance of the Sahel countries' administrative and economic machinery. This applies to that portion of technical assistance which consists of administrative work in the broad sense, to aid for the maintenance of the economic production apparatus, and also to the various subsidies which are provided for budget and balance of payments purposes.

In the present state of data, it is difficult to make a specific estimate of the volume of assistance allotted to the various functions. Nevertheless, an attempt is made to give orders of magnitude for the period 1975 to 1979, with the following results (as a percentage of total aid):

- direct development (technical assistance and research)	6 %
- food aid, emergency aid	10 %
- assistance for administrative activities (of which technical assistance for education: 7%)	19 %
Total of non-project aid	35 %

Assistance to administration represents half of non-project aid. It is rising rather more quickly than aggregate aid, reflecting the growing scarcity of resources in Sahel countries to meet the cost of operating an increasingly complex administrative and para-administrative system. Nevertheless, budgetary resources are not increasing as fast as needs and the productive sector is not able to cover the financial needs of governments.

In a general way, the volume of non-project aid represents the external contribution to the on-going operation of the economy and of the administrations of Sahel countries. In the light of the many problems: foodcrop production too low to feed the population, deterioration of the terms of trade,

the rising cost of oil imports, etc., the Sahel States are forced to use a major part of their foreign resources to survive, to the detriment of productive investment.

It is interesting in this connection to examine the role that external assistance plays in the balance of payments and the budgetary situation of Sahel Countries.

5.2.1 External Assistance and Budget Resources.

First a comparison will be made of budget resources provided for operating expenses and non-project development assistance, which itself represents for the most part operating expenses:

Table 8

Budget Resources and Non-Project Assistance

(in millions current US $)

		Budget Resources Devoted to Operating Expenses	Official Development Assistance (non-project)
Niger	1975	66.8	72.7
	1978	126.9	59.2
Senegal	1975	257	81.7
	1978	395	137.9
Upper Volta	1975	64.3	40
	1978	116.3	69.5
Mali	1975	68.8	58.3
	1978	110.5	71.7

Source: Report of the Monetary Committee of the Franc Zone - 1978
Rapport du Comité Monétaire de la Zone franc - 1978

It can be observed that, apart from Niger which derives revenue from the development of its uranium mines and has progressively lessened its use of foreign aid to operate its economic and administrative systems, non-project aid to the other countries amounts to one third and sometimes two thirds of their budgetary income and this proportion is not showing any tendency to fall.

It is interesting to compare these figures with those relating to budget resources of Sahel countries devoted to investment and ODA provided within the framework of projects, thus in principle devoted to investment.

Table 8 - B

Budget Resources and Project Assistance

(in millions of current dollars)

		Budget Resources Devoted to Investment	ODA Project Assistance
Niger	1975	10.8	48.4
	1978	57.7	131.4
Senegal	1975	72.4	73.6
	1978	80	110.1
Upper Volta	1975	6.07	73.7
	1978	19.5	154.3
Mali	1975	4.9	105
	1978	10.8	127.6

Source: Report of the Monetary Committee of the Franc Zone - 1978
Rapport du Comité Monétaire de la Zone franc - 1978

One can see that with the exception of Niger, the portion financed by budget resources has gone down as a portion of total public investment. In some countries, budget resources devoted to investmentare extremely low and it is outside assistance which not only finances a considerable part of operating costs but also almost all of public investment for development.

A comparison of Tables 8 and 8 - B shows that none of the Sahel countries studied could have provided enough budget resources during 1975-1978 to finance even the operating expenses of its economic and administrative aparatus, even if nothing had been provided for investment. This illustrates well the difficulties that Sahel States have in surviving.

5.2.2 Foreign assistance and balance of payments

Two factors have played a particular role during the period 1975-1978 to make the situation of Sahel countries precarious with respect to foreign transactions:

(a) The Oil Bill

Below for four Sahel countries is the trend in the cost of oil imports (OI) as well as the balance of payments support (BPS) provided by OPEC sources (in millions of current dollars).

		1975	1976	1977	1978	1979
Senegal(1)	O.I(1)	69	80	95	100	145
	BPS	0	0	3.4	19.0	0
Upper Volta	O.I	13.4	11.3	17.8	20.0	30
	BPS	0.213	0	2.250	3.0	4.750
Niger	O.I	12.8	14.8	14.8	16	25
	BPS	0	0	2.9	0	28.2
Mali	O.I	20	21.5	28.6	38	55.0
	BPS	0	0	3.55	10.0	7.970

The amount of the oil bill has generally more than doubled in the past four years. It will increase substantially in 1980.

(b) The trend in the terms of trade,

The graph, page 33, shows the recent trend in the terms of trade. It shows that the amount of groundnuts, cotton, phosphates and iron ore that Sahel countries must sell to buy a ton of oil or a unit of manufactured products has increased spectacularly. This deterioration in the terms of trade has caused a deficit in commercial balances.

In 1976 for five countries: Mali, Niger, Senegal, Upper Volta, Chad, the deficit in the commercial balance reached 156.3 billion Francs CFA or US $630 million.

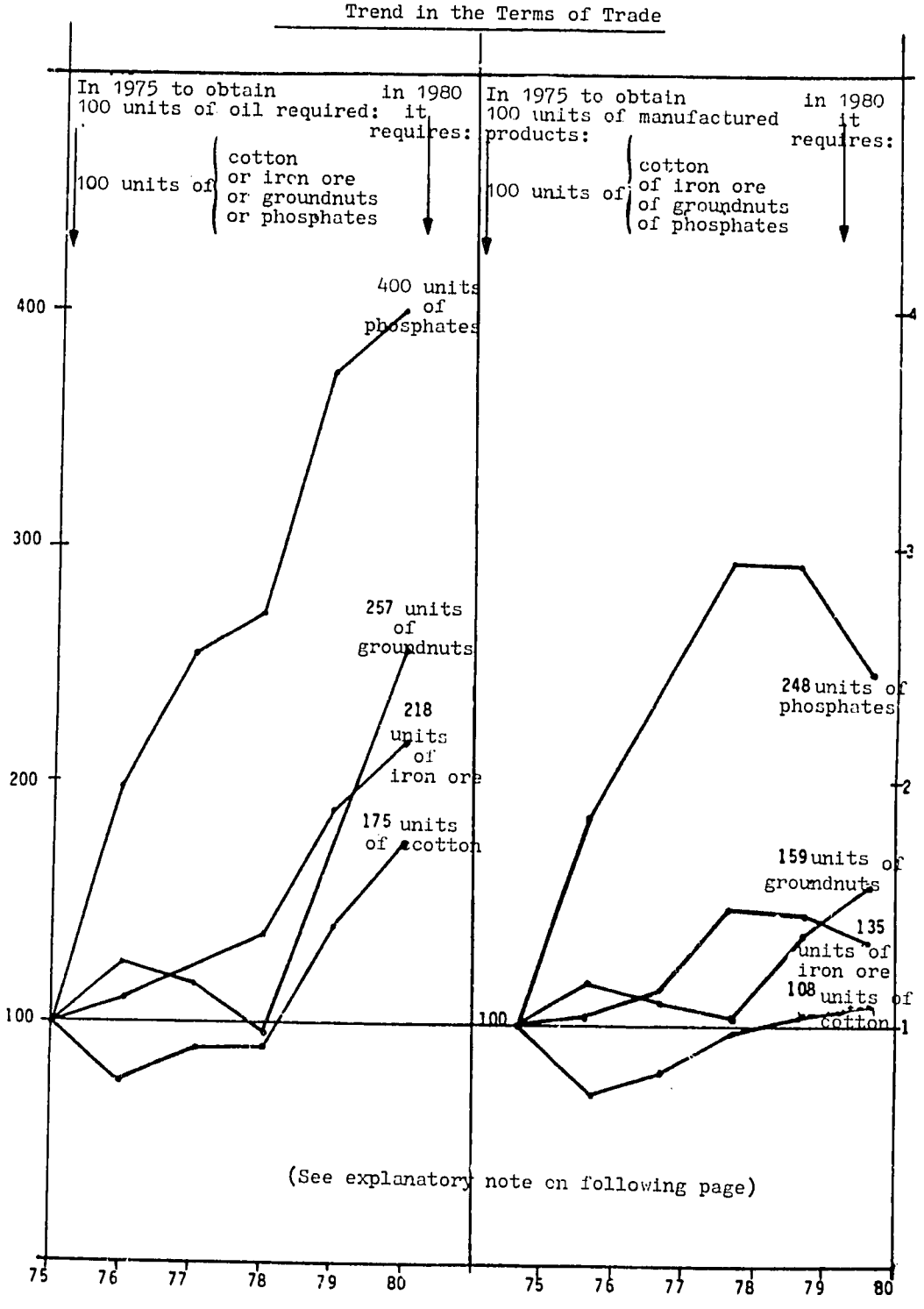
This deficit in the commercial balance was compensated mainly by foreign assistance($709 M. for the eight Sahel countries) and to a much lesser extent by the transfer of private capital (repatriation of emigrant salaries etc...).

Despite the level of disbursements of development assistance in the form of grants, the public debt of Sahel countries continued to grow rapidly, reaching more than $1.72 billion at the end of 1977 (as opposed to $450 million in 1970)(2).

1) Figures do not take into account re-exports of refined oil.

2) According to the World Development Report, 1979. The World Bank, August 1979 (not including Gambia and Cape Verde).

Trend in the Terms of Trade



(See explanatory note on following page)

Note: Explanatory Note for the Calculation of Terms of Trade

1. Unit prices of basic productions, manufactured products and oil were taken from the World Bank Report published in January 1980 "Price Prospects for Major Primary Commodities".

2. The calculations were made by comparing the variations of unit prices of two imported products (oil and manufactured products imported from developing countries) then separately the variation in unit prices of the four major products exported by the Sahel (iron ore, phosphates, peanuts and cotton). For example:

$$\text{Terms of trade for one exported product in 1977 (base 1975=100)} = \frac{\text{Price Index for Manufactured products}}{\text{World Index for exported products}} \times 100$$

or

$$\text{terms of trade of one exported product in 1977 (base 1975=100)} = \frac{\text{Price Index for oil}}{\text{World Index for exported products}} \times 100$$

Note: All indexes were based on 1975=100.
1980 prices are provisional.

5.3 Project assistance

The breakdown of project aid to Sahel countries by main sectors is given in Table 9, page 36. This breakdown is drawn from the survey "Official Development Assistance to CILSS Member Countries from 1975 to 1979".(1)

It is worth highlighting the two major sectors on which aid has been concentrated:

- rural development, in the broad sense, which absorbs 37 per cent of project aid (24 per cent of aggregate aid); (2)
- the development of infrastructure which represents one third of project aid (21 per cent of aggregate aid).

In table 9, the "agricultural production" sector includes projects which cover all aspects of crop production (training projects, for example) and those with several components which could not be classified precisely as "irrigated" or "rainfed" farming.

(1) The same report provided information for Tables 10, 11, 12, 13, 14, 15, 16.

(2) Total aid in this report is understood to mean total ODA = project aid + non-project aid.

Table 9

ODA Commitments

(million US dollars)

	1975	1976	1977	1978	1979	TOTAL
Multi-sectoral rural development:						
. integrated rural development	14.8	70.4	61.6	34.2	53.9	235
. river basins	53.7	68.1	42.8	17.7	51.6	234
Rural development by sectors:						
. agricultural production	19	41.8	27.2	44.5	75.8	208
. crop protection	1.5	3.9	20.7	9.1	8.7	44
. rainfed farming	12.7	23.6	16.2	6	15	73
. irrigated farming	23	63.9	74.7	105.5	74.5	342
. livestock	49	38.9	9.3	59.2	31.8	188
. fisheries	4.7	22.5	19	17	22.7	86
. marketing	0.5	0.1	1.4	27.2	3.6	33
Total rural development:	179	333	273	320	338	1 443
Natural resources:						
. forestry and ecology	2.9	5.4	8.9	18.7	23.3	59
. mining	5.6	4.5	22.1	20.7	214.6	267
. water supply	47	30.2	18.7	47.2	61.9	205
Basic infrastructure:						
. communications	39.7	10.4	12.6	33.6	34.2	131
. energy	5.2	33.7	14.1	60.2	32.5	146
. rural infrastructure	2.4	27.3	12	12	11.5	65
. transport	83.3	226.5	137	178	259	884
. urban development	4.1	5.6	0.3	9.3	15.4	35
Total infrastructure:	135	304	176	293	353	1 260
Human resources:						
. education and training	45.3	37.4	56.1	91.5	129.1	359
. health	38.6	22.5	33.7	38.7	52.2	186
. other	1.6	2.3	1.7	1.3	6.1	13
Industry:						
. industry	21.7	3.3	26.9	24.7	18.6	95
. tourism	-	6.1	8.2	-	1.5	16
Total project aid:	477	748	625	856	1200	3 906
Grand total:	817	1136	1002	1398	1700	6 053

5.4 Rural development

In the light of the analysis of the Sahel's situation in the aftermath of the drought, the chronic insufficiency of cereals production, the threats to ecological balance, and also given that the main lines of the strategy adopted by Sahelians and members of the International Community relate basically to rural development, assistance should be allocated in priority to this sector.

In reality, assistance for rural development is substantial, and increased during the period 1975 to 1978. Total commitments for rural development projects including livestock and fishing, are as follows:

Table 10

ODA Commitments for Rural Development

	1975	1976	1977	1978	1979	TOTAL
Commitments (in millions of current dollars)	179	333	273	320	338	1 443
Share of total aid	22%	30%	27%	23%	20%	24%

A part of non-project aid should be added to these figures for completeness: technical assistance to the rural development sector, financing of research; but the amounts cannot be distinguished separately in the present state of the data. It can be estimated that their inclusion would raise the share of commitments for rural development by at most three to four points (approximately two per cent for research and perhaps a little less than two per cent for technical assistance).

Rural development aid thus amounts to approximately:

30 per cent of aggregate aid

It is the largest single component of official development assistance to the Sahel.

It can also be observed that assistance commitments for rural development rose from $180 million in 1975 to just below $300 million on average during the three following years, after allowing for monetary erosion .

The effort in favour of rural development has increased by 50 per cent.

An attempt to go further back into the past is hampered by the lack of homogeneous statistics series that could be used to appraise the trend of rural development assistance since the beginning of the 1970s. However, several indicators show that there has been a large increase in this assistance. As regards bilateral assistance provided to Sahel countries by DAC* countries alone, the share of rural development assistance in aggregate aid has increased from 3 per cent at the beginning of the decade (assistance for agriculture was then lower than aid for industrial development) to more than 8 per cent in 1975 and over 14 per cent in 1976.

It is clear that rural development assistance to Sahel countries rose considerably after the drought. Some donor countries such as the Netherlands, the United States and Germany have made substantially larger efforts in this sector.

Nevertheless, limiting consideration to the period 1975 to 1979, the volume of assistance allotted to rural development has risen slightly faster but only slightly faster than the aggregate volume of assistance. In spite of the growth observed, this sector has not yet been the target of the massive effort which would undoubtedly have been justified by the Sahel's situation and the strategy adopted at Ottawa. Later, the reasons why will be examined.

Finally, as regards disbursements although detailed data are not available at present, it is probable that a significant increase only began in 1978.

Rural development is a very wide field. The term covers the development of dryland and irrigated agriculture, the development of livestock, fishing and crop protection, together with complex operations such as "integrated rural development" and the development of river basins. The latter goes beyond the rural sector, to the extent that its aim includes energy production and the improvement of river transport. It is therefore necessary to refine the analysis to the extent possible and to see the role assistance has played in the various sub-sectors of rural development.

5.4.1 Assistance to rainfed farming

The volume of assistance specifically directed at rainfed farming is one of the hardest to determine. Funds provided for the development of rainfed farming are scattered in Table 9 under the headings:

* OECD Development Assistance Committee

- integrated rural development,
- agricultural production,
- crop protection,
- rainfed agriculture
- marketing

Subtracting from commitments for rural development those relating to livestock, irrigation and fishing, yields an estimate of the volume of commitments for rainfed farming (over the period 1975 to 1979) of 9 per cent; this figure is an upper limit.

The expression "rainfed agriculture" covers export crops (cotton, groundnuts) as well as foodcrop production. It is hard to say with precision what percentage of aid is allocated to individual crops. An examination of the projects financed between 1975 and 1978 by France (FAC and the CCCE), the European Development Fund, USAID and Germany shows that:

of commitments of $100 million for rainfed farming,
28 are for food crop production,
and 72 are for export crops.

It is possible, and even probable that funds for food crop production represent a larger percentage of the projects which have not been systematically quantified.

However, it seems doubtful whether over the period considered, total commitments of assistance for the development of rainfed food crop production were much more than three to four per cent of aggregate aid. Bearing in mind that 95 per cent of the cereals produced in the Sahel at present come from rainfed agriculture and that cereals are the staple food in all the Sahel countries, it is striking that the share of resources devoted to the development of rainfed food crop production should have been so low, the more so as the Ottawa strategy stressed the key role played by rainfed cereal farming in the Sahel which it will continue to play until the turn of the century: its role in the agricultural economy and in the general economy, as well as its social role.

The Ottawa strategy recommended a policy based on two main lines of thrust:
- the development of new lands,
- the intensification of traditional farming.

Few projects have been implemented up to now for the intensification of cereals production. Several integrated rural development projects include provision for intensification, the development of animal traction, and the supply of modern factors of production, but they have been relatively isolated. In addition, major programmes for intensification of cereals farming covering a region are much rarer: three or four at most over the whole Sahel in the last four years.

However, it should also be recalled that in the decade 1960-1970, almost all assistance to rainfed farming went to cotton and groundnut projects. There has since been a marked shift to assistance for food crop production.

5.4.2 Assistance for irrigated farming

Assistance for irrigated farming has evolved in the following way:

Table 11

ODA Commitments for Irrigated Farming

	1975	1976	1977	1978	1979	TOTAL
Commitments (in millions of current dollars)	23	63.9	74.7	105.5	74.5	342
Share of total aid	2.2%	5.6%	7.5%	7.5%	4.4%	5.6%

However, assistance specifically for irrigated farming projects does not cover all the assistance to this sector. In particular, the following should be added:

- the major part of credits for the development of river basins, especially those designed for hydro-agricultural development, but also energy projects and possibly navigation projects;
- some financing included in the column "integrated rural development" relating to the development of lowlands, small reservoirs, etc...
- some financing for research into rice farming and technical assistance specifically directed to irrigated farming.

In all, irrigated farming receives a little over 10 per cent of aggregate assistance or approximately one sixth of project assistance.

Assistance for irrigated farming projects has risen markedly from 1975 onward, with at least a three-fold increase over the period. It decreased in 1979.

A major effort is therefore being made to develop this type of farming and to protect part of the cereals production in the Sahel against climatic hazards.

The Ottawa strategy outlined three main lines for this development:

- rehabilitation of deteriorated perimeters;
- studies necessary for the development of the major river basins;
- execution of new developments having the greatest chances of success (Based on good studies, with training of personnel and farmers).

The rehabilitation of deteriorated perimeters has indeed been undertaken, but is far behind schedule. The largest rehabilitation project, that of the Office du Niger in Mali, has now begun: the technical dossier for the first programme prepared by the World Bank will be ready at the end of 1980.

The preparation of the Senegal river valley development programme has made progress. Financing has been secured. Nevertheless, as of the middle of 1980, work has not been undertaken yet.

The Niger river development studies are being actively followed up in Mali and Niger. By contrast, the overall studies of the river which are needed to ensure the consistency of national projectswere dormant for several years, although quite recently activity has begun anew.

Work on new projects has been carried on but at a pace slower than scheduled in the Ottawa strategy, as will be seen in the next chapter.

In summary, international assistance has on the whole followed the general lines set forth in the irrigated farming development strategy defined at Ottawa.

5.4.3 Assistance to livestock

The trend of assistance provided for livestock has been as follows:

Table 12

ODA Commitments for Livestock

	1975	1976	1977	1978	1979	TOTAL
Commitments (in millions of current dollars)	49	38.9	9.3	59.2	31.8	188
Share of total aid	5%	3.4%	0.9%	4.2%	1.9%	3.2%

To be complete, part of the integrated rural development projects involving livestock activities should be added (development of animal traction, fattening lots, various aspects of animal health). Allowing for them, assistance to livestock represents approximately 5 per cent of aggregate aid.

It can be observed that:

- this assistance has not risen substantially over the period in question and has varied sharply from year to year;
- it is also unequally distributed geographically: Chad and Mali alone received half of total assistance for livestock. By contrast, research dislocsed no more than one veritable livestock project financed in Mauritania during 1975-1978.

An attempt to break down assistance between different facets of livestock yields the distribution below:

- 13 per cent for animal health,
- 80 per cent for general development of livestock
- 7 per cent for mixed livestock raising-agricultural projects.

However, most livestock development projects include several headings: animal health, supervisory staff, reconstitution of herds, fattening, supply of equipment, etc. The distrubution of funds between the various items is not accurately known.

At all events, assistance to animal health certainly represents more than the 13 per cent mentioned above which covers aid financing earmarked exclusively for health projects, and perhaps a fifth or even one fourth of the total assistance to livestock.

Similarly, as has already been mentioned, other credits allocated to agricultural animal raising projects are included under agricultural development projects, especially activities related to animal-drawn cultivation, so that the seven per cent share mentioned above should be increased markedly.

The strategy for livestock adopted at Ottawa stressed four main approaches:

- to attain better knowledge of the Sahel's eco-system and to undertake pastoral development projects compatible with the region's potential;
- to develop agricultural-livestock raising activities in association wherever it is possible to intensify both agriculture and livestock raising;
- to pursue animal health projects;
- to raise the number of training and communication activities.

Given the scarcity of specific data on the execution of projects completed or under way which comprise several diversified activities, it is difficult to say whether international assistance to livestock has been oriented along the main lines recalled above.

The following provisional conclusions may be drawn from the available data:

- it seems certain that the action in favour of animal health developed earlier has continued. In all countries (apart from Mauritania), at least one animal health project has been financed, and the share of aid allotted to health has remained high.
- substantial aid is provided to projects listed under "sundry": fattening, animal traction, pastoral hydraulics, etc. These activities are quite traditional and there seem to have been few attempts to innovate in this field. This point will be taken up in the next chapter.
- finally, the development of knowledge of the Sahel's ecosystem, training and marketing activities has given rise only to a few one-time interventions.

5.4.4. Assistance to fisheries

The following table summarises the trend of aid provided to this sector:

Table 13

ODA Commitments to Fisheries

	1975	1976	1977	1978	1979	TOTAL
Commitments (in millions of current dollars)	4.7	22.5	19	17	22.7	86
Share of total aid	0.5%	1.9%	1.9%	1.2	1.3%	1.4%

Approximately $11 million or 13 per cent of this aid went to the development of inland fishing and $75 million or 87 per cent to deep sea fishing.

Most of assistance is provided to build port facilities or purchase supplies for ocean-going fishing vessels.

It should be noted that fish supplies about the same share of the protein in the Sahelian diet as meat, yet assistance to this sector is one third of that to livestock.

5.5 Assistance to ecology and forestry

The following table summarises the trend of aid to this sector.

Table 14

ODA Commitments to Forestry

	1975	1976	1977	1978	1979	TOTAL
Commitments (in millions of current dollars)	2.9	5.4	8.9	18.7	23.3	59
Share of total aid	0.3%	0.5%	0.9%	1.3%	1.4%	1%

Some financing for reforestation projects are included indistinguishably in integrated rural development projects or agro-sylvo-pastoral developments. They are small, however, so that it can be taken that aid to ecology and forestry has not exceeded 1 per cent of aggregate aid by very much.

The Forestry sector poses a basic problem for the future development of the Sahel. Assistance to this sector has not been in any way comparable to the needs.

All the studies on this topic come to the same conclusion: the pace of reforestation in the Sahel today is too slow;

- up to the year 2000, 150,000 to 300,000 hectares on average will have to be planted. The efforts to be deployed for reforestation bear no comparison with present efforts, which are fifty times too small(1)
- another expert(2) puts the fuel wood requirements of the urban and rural population in Africa at one million hectares of forest to be planted per year over the next twenty years, of which 225,000 in the Sahel alone.
- a study presented by IBRD in October 1978 at the 103rd conference of the American Forestry Association states that the area reforested must be increased seven or eight-fold to meet domestic needs in Niger and Mali up to the year 2000.

1) "Energy in the Development Strategy of the Sahel", CILSS-Club du Sahel, October 1978.

2) Reidar PERSSON's "Forest Resources of Africa. An Approach to International Forest Resource Appraisals", Stockholm, 1977

An attempt is made in the next chapter to analyse the reasons hampering reforestation

The only optimistic remark that can be made is that assistance to this sector has started to grow since 1976, and it may be hoped that the present trend will prevail in the future.

5.6 Water supply

Aid commitments for the water supply of urban and rural inhabitants were allocated as follows over the period 1975-1979:

Table 15

ODA commitments for Water Supply

	1975	1976	1977	1978	1979	TOTAL
Commitments (in millions of current dollars)	47	30.2	18.7	47.2	61.9	205
Share of total aid	5.7%	2.6%	1.9%	3.4%	3.6%	3.3%

Table 15 - B

Breakdown of ODA between Urban and Rural Population

(1975-1978)

	Volume of Assistance	Population(1)	Assistance per capita
Assistance to rural population	81.7	24.5	3.3 dollars
Assistance to urban population	55	4.2	13 dollars

On average, aid to this sector has amounted to three per cent of aggregate aid. Its share declined in the course of the period.

Table 15 - B shows the disparity between assistance provided to rural and urban populations.

1) The definition of rural and urban population varies between countries. The breakdown is an approximation.

5.7 Infrastructural Assistance

The following table sums up the trend of this assistance:

Table 16

Commitments of Infrastructural Aid

	1975	1976	1977	1978	1979	TOTAL
Commitments (in millions of current dollars)	135	304	176	293	353	1260
Share of total aid	16.5%	27.3%	17.6%	20.9%	20.7%	20.9%
Of which: transport infrastructure	10.2%	20%	13.7%	12.7%	15.2%	14.6%

The table points up the large and growing share of assistance devoted to the construction, improvement or rehabilitation of infrastructure in the Sahel.

Transport infrastructure alone amounts to two thirds of infrastructural aid. Within this category, the construction of roads accounts for the largest share: 10.9 per cent of total assistance goes to road construction or repair(1). Slightly more than 50% of project aid was for national or international roads and the rest for secondary roads which have a direct impact on opening up agricultural production zones.

In aggregate, if the assistance allocated to this sector in 1975 and in the three following years is compared in real terms, it can be observed that this assistance increased 75 per cent faster than aggregate assistance.

5.8 Thoughts on the sectoral analysis

The distribution of assistance by sector from 1975 to 1979 is summarised in Table 17 below. This table shows:

- the distribution of ODA over this period by major sector, and
- the trend in the movement of each major item is identified.

Perusal of this table leads to some tentative findings:

Non-Project assistance

The substantial share of non-project assistance may seem surprising. It represents an almost constant share of growing aggregate aid, reflecting the growing difficulty met by the Sahelian States in meeting the operating costs of their administrative structures, the recurrent costs of development projects and essential imports.

Food-aid has not stopped and accounts for a non-negligible share of total assistance.

It is to be feared that present difficulties will continue. On one hand, the effort undertaken for the development of the Sahel will impose increasingly heavy costs on Sahel governments and the cost of importing essential products will no doubt have a tendency to increase(2).

(1) Only 1.1% went to railways which are more energy economical than road transport.
(2) See the report on recurrent costs.

Project Assistance

Taking the priorities identified in the Ottawa strategy, the share of assistance allocated to them has been as follows:

- intensification of rainfed foodcrop farming	3 to 4 %
- development of irrigated farming	9 %
- development of livestock raising	5 %
- development of fishing	1.5 %
- reforestation	1 %
TOTAL	20 %

In total this represents approximately one fifth of aggregate assistance, or one third of project assistance.

However, to achieve the objectives jointly adopted at Ottawa, a massive effort must no doubt be made to develop food crops, fisheries, livestock and reforestation.

Development assistance for infrastructure, in particular road infrastructure is large and is increasing. It represents as much assistance as is provided to the priority sectors defined at Ottawa. Of course, better communications have an influence on other sectors, in particular rural development, but in the future it will be no doubt necessary to seek better coherence between priority actions aimed at developing production and other actions such as the development of infrastructure.

Table 17

Breakdown of ODA Commitments to Sahel Countries
1975-1978

Non-project assistance:		
- development assistance (technical assistance, research)	6 %	35 %
- food aid, emergency aid	10 %	
- operating expenses (of which technical assistance to education: 7%)	19 %	
Project assistance:		
- rainfed agriculture(1)	9 %	Total rural development: 24.5 %
- irrigated agriculture	9 %	
- livestock	5 %	
- fisheries	1.5 %	
- reforestation	1 %	
- mining	4.5 %	
- water supply	3 %	
- infrastructure	21 %	
- education, training	6 %	
- health	3 %	
- industry and other	2 %	

1) of which 3 to 4 per cent for food crops and 4.5 to 5.5 for export crops.

VI. IMPACT OF PROJECTS UNDERTAKEN AND PROBLEMS ENCOUNTERED IN IMPLEMENTATION

The action undertaken to attain food self-sufficiency in the Sahel is a long-term programme. The reasons for the Sahel's dependency on outside assistance for its food are profound and cannot be overcome in a few months or even a few years. The ecological unbalance cannot be repaired in a short period. The strategy reflection led jointly by CILSS and the Club du Sahel has shown that while the Sahel can gain improved food security, this will be difficult and success cannot be assured until the end of the century.

It would be illusory to think that the effort undertaken since 1975 could have any spectacular, immediate effects. The purpose of this chapter is rather to give some indications of the tendencies noted during the past few years in the Sahel (based on project evaluations and different work undertaken as noted in Annex III) and to draw some lessons from the experience acquired until now.

6.1 Rainfed foodcrop farming

The intensification of rainfed foodcrop farming, which is one of the priorities identified in the Ottawa strategy, is the perfect example of the type of action which can only bear fruit in the medium or long-term. It would therefore be pointless to examine whether the actions undertaken since 1975 have induced a change in the trends of cereals production over the period considered. It should further be underlined that in the present state of agricultural statistics, the identification of production trends over a four year period is probably a vain exercise.

A first finding is that despite the intensification projects undertaken (but, as has been seen, they have not been the object of massive assistance spending), cereals production has risen mainly through the extention of the acreage farmed (and in some regions, through extension to the detriment of fallow lands with corresponding soil deterioration).

The example of Niger is striking in this regard, as is shown in the following table:

Table 18

Trend of Rainfed Cereal Production in Niger

Agricultural Year	Area Cultivated (thousands of hectares)	Production of Millet and Sorghum (thousands of tons)	Yields Kg/ha
1955-1956	1 570	787	501
1959-1960	2 045	946	463
1963-1964	2 353	1 330	565
1967-1968	2 421	1 342	554
1971-1972	2 935	1 226	418
1974-1975	2 278	1 102	491
1975-1976	2 484	853	336
1976-1977	3 029	1 256	415
1977-1978	3 424	1 451	423
1978-1979	3 430	1 400	408

Source: Ministry of Rural Development

It can be seen that:

(a) the surface area tilled increased from year to year quite regularly until the drought caused it to regress. Nevertheless, after the drought, extension resumed rapidly and the ground lost was rapidly returned to cultivation. Over a 23 year period, the land under cereal crops has been extended at an average rate of 3.4 per cent per year;

(b) cereals production has not kept pace: over the 23 year period, it rose by only 2.5 per cent per year. In the light of the land shortage, some areas are overfarmed, and yields have fallen by 0.9 per cent per year;

(c) population has grown faster than cereals production, at a rate on the order of 2.8 per cent per year.

The drama of the Sahel is summarised in these figures. No marked departure from past trends is to be observed. Although intensification of rainfed cereals farming is beginning to appear in several places, it is still too sporadic and scattered to change the sluggishness of the present trend.

Not all Sahel countries are in such a difficult position as Niger, where extension has been brought to a halt by the limitation of available land. But the trend observed in Niger exists over the Sahel as a whole.

Looking at the three years 1970, 1974 and 1978, when there were no climatic extremes, and comparing data recorded by the FAO, the following are the trends for the Sahel as a whole:

Table 19

Trend of Cereals Farming in the Sahel

	1970	1974	1978	Trend
Cereal production (thousand tons)	4 077	4 597	4 949	+ 2.45%
Area cultivated (thousand hectares)	7 700	8 880	9 840	+ 5 %
Yields (kg/hectare)	530	518	503	- 0.65%

These aggregate figures must be interpreted with great prudence(1). They show the broad trends for the Sahel as a whole. Cereal production increased through the extension of cultivated area, which rose faster than production, so that yields tended to decline.

The conclusion drawn from Niger can be applied to the Sahel as a whole. The intensification of cereals farming has not really begun; the "green revolution" has not yet reached the Sahel.

Examination of several evaluations of rainfed cereal farming projects enables us to understand why full-scale intensification has not yet begun in the Sahel.

The first reason is technical.

For the Sahelian farmer to change his traditional farming techniques to a more productive method, this new method must provide him with undeniable advantages and not cause him to take unbearable risks in the face of climatic

1) The FAO's Regional Food Plan for Africa, which considers the two periods 1962/64 and 1972/74, draws different conclusions:
trend of cereal production:- 1.6%
trend of cultivated areas: - 0.3%
trend of yields: - 1.3%
However, it is our belief that the severe drought of 1973 warps the comparison and explains the observed downtrend of acreage cultivated. But the regression, due to climatic factors, was only temporary.

uncertainties. If a new variety of sorghum has higher yields than a traditional variety under average rainfall conditions, so much the better, but this is not enough: in less favourable years, it must be as resistant as traditional varieties, so that the crop is not a catastrophe for the farmer.

Even in 1979, some experts disagree as to the value of the new methods proposed to farmers. Furthermore, they sometimes disagree about the new varieties to introduce. For instance, in Niger, the authors of USAID evaluation reports find it hard to believe that the new variety of millet proposed to farmers (P_3 KOLO millet) always gives higher yields than the traditional varieties. World Bank and FED evaluation reports also underline the lack or inadequacy of technical studies on sorghum and millet. The setback to the attempted intensification of farming on the Mossi plateau in Upper Volta is attributed to the fragility of new varieties, a risk which the farmer refuses to take. In Chad, the South Chad project which intended to intensify cotton and cereals farming was in fact limited to the development of cotton; sorghum crops were harvested on increased area, but yields did not improve, partly because an appropriate farming method was not presented.

Even though sound technical themes are available, the problem lies in the presentation of a consistent whole covering varieties, production inputs, dressings, etc. The study of the evaluation reports shows that there are still some uncertainties regarding the right combination: animal traction may increase productivity, but its use raises several difficulties and it is not used much for weeding. The association of cultivation and livestock raising is quite fashionable, and its extension is doubtless indispensable. Yet it quite often remains theoretical, since it is not clear how the practical side of this association relates to the models proposed.

The second reason is economic.

Several important facts emerged from the Nouakchott Colloquy on cereals policies held in 1979 by the CILSS and the Club du Sahel.

At the present government-set purchase price for cereals paid by national cereals boards, farmers to grow cereals for marketing are not motivated to contribute to supply the urban population. Their best interests are to grow for their own needs; and the crops marketed correspond in fact to a surplus which the farmer is willing to sell at clearance prices.

At the present purchase price of cereals and given the cost of modern production inputs: fertiliser, pesticides, agricultural equipment, it is not in the farmer's interest to use the more sophisticated model farming methods proposed to them, even if these models were technically appropriate - which they are not always. Present price policies are a factor blocking intensification in many cases.

The Nouakchott Colloquy between Sahelian officials and experts of the International Community laid stress on the need to pursue consistent cereal policies; an adequate purchasing price policy, input subsidies, organisation of a marketing system, etc., which would lead to the intensification of cereals farming.

The Nouakchott Colloquy also insisted on the negative effects of food aid, which has continued to provide cheap food for urban populations, and discourages

Sahelians from producing food for their own cities. The question posed is whether the Sahel should not protect its cereals production in a manner similar to the way it protects its young industrial sector from foreign competition.

Several facts prove that Governments are coming to realise the need for consistent cereal policies. Some have taken measures to raise purchase prices, subsidise inputs, introduce "food plans" or design new models for a better balance between export and foodcrop production. However, there still is much to be done in this field.

Official development assistance to rainfed cereals farming is no more than 3 to 4 per cent of aggregate aid. But 95 per cent of the cereals produced in the Sahel are rainfed, and it is generally agreed that until the turn of the century, cereals will still be grown throughout the Sahel mainly using rainfed farming methods.

It is probable that to attain food self-sufficiency, the share of development assistance for rainfed cereals farming and especially for intensified farming will have to be increased substantially.

However, a substantial increase in assistance will be effective only:

(1) if the technical problems are solved. An effort should be made in the field of technical research (in particular, testing of new varieties) and in technico-economic research (implementation of consistent farming systems, suitable for each soil type and corresponding to the farmers' technical and financial capabilities). Research into foodcrop production is still far behind that of export crops. It would certainly be to the advantage of Sahelian Governments and the Inte national Community to place more emphasis on it.

(2) if economic and political problems are solved. Basically, this means a price policy (for cereal and inputs), as well as marketing systems, which would not prevent but to the contrary would foster intensification. This, of course, is in the hands of the political leaders of Sahel countries.

6.2 Export crops

6.2.1 Cotton

It is easier to measure the effect of assistance provided for the development of export crops. In particular, cotton growing is systematically monitored as to cultivated area, production and yields. Data on cotton are much better than those on foodcrop production.

The three following tables give the trend of cotton farming:

Table 20

Trend of Cotton Growing Area

(thousands of hectares)

	1961-62	1971-72	1977-78	1978-79	1979-80
Mali	42.5	77.6	99.6	113.6	118.6
Upper Volta	22.9	74.0	68.7	71.7	79.2
Senegal	-	18.3	47.1	48.3	31.0
Niger	5.7	20.3	7.5	9.0	4.9
Chad	229.8	315.8	284.0	271.3	180.0
TOTAL	370.9	506	506.9	513.9	413.7

It can be observed that the area under cotton has stabilised at a little over 500,000 hectares since the beginning of the 1970s (by comparison to the 12 to 13 million hectares under cereals). But there was a large reduction of cultivated areas in 1979.

- in Chad, this can be attributed to the troubles suffered by that country;
- in Senegal and Niger, farmers have become less interested in growing cotton. It is a matter of conjecture whether this is a short-term development or the beginning of a basic change in attitudes.

Table 21

Trend of Marketed Cotton-Seed Production

(thousand metric tons)

	1961-62	1971-72	1977-78	1978-79	1979-80(1)
Mali	12.9	67.9	113.7	127.7	144.5
Upper Volta	2.3	28.1	38.0	60.0	70.0
Senegal	-	21.1	37.1	33.8	28.0
Niger	2.3	5.1	3.8	4.4	3.4
Chad	46.8	108.8	125.3	136.7	88.0
TOTAL	64.3	231	317.9	362.6	333.9

Table 22

Trend of Cotton Fibre Production

(thousand metric tons)

	1961-62	1971-72	1977-78	1978-79	1979-80(1)
Mali	3.9	25.3	42.2	48.1	52.5
Upper Volta	0.8	10.4	13.9	22.3	25.1
Senegal	-	7.7	13.3	12.6	10.4
Niger	0.8	3.1	1.3	1.5	1.2
Chad	17.2	41.0	45.4	50.1	31.4
Total	22.7	87.5	116.1	134.6	120.6

(Sources: CFDT)

(1) estimate

It can be seen that production and yields have kept on rising through the actions taken to raise productivity. Yields increased from 450 kg per hectare on average at the beginning of the 1970s to over 600 kg in 1977-78, 700 kg in 1978-79 and 800 kg in 1979-80.

These aggregate results are confirmed by several evaluations made of some individual production projects. For instance, the South Chad project enabled "productive" acreage to be extended from 44,000 to 140,000 hectares (before the recent troubles), and yields to be increased from 285 kg per hectare using traditional methods to 900 kg per hectare. This proves that well-implemented projects, presenting farmers with a valid technique offering an acceptable economic yield, can change the face of the rural world rapidly. It should nevertheless be remarked that the South Chad project is not entirely satisfactory. It was implemented partly to the detriment of foodcrop production and in particular, the extraordinary growth of cotton production was achieved without any particular concern for the maintenance of soil fertility. No inroads have yet been made into the basic problem of maintaining and improving the land tenure.

It is worth pausing to look at the case of Niger, where cotton growing, in spite of efforts made to popularise technical improvements and raise productivity, has been declining seriously for some years. The same is true of groundnuts, long the main export product, and whose production declined sharply : 400,000 hectares planted at the beginning of the 1970s, 165,000 hectares only in 1977-78. By contrast, farming of niébé has expanded greatly: 40,000 tons produced at the beginning of the 1960s, and over 700,000 in the last few years. This vegetable helps to feed the local population and is exported to Nigeria.

Niger is undoubtedly the Sahel country in which the scope for extensive cultivation is the most severely limited by the availability of land; more extensive cereals growing over the past few years has been to the detriment of yields. Perhaps because of Government incentives (the 1976-78 three year programme gave real priority to the development of foodcrop production) but also because of spontaneous reaction, the rural world has more or less given up growing traditional export crops such as cotton and groundnuts, to develop cereals production together with an edible vegetable which deteriorates the soil less than do other plants and even helps to enrich soil with nitrogen.

In the absence of intensification, this is a sound reaction. It may be asked whether it is an advance scenario of the position the Sahel countries will be in sooner or later if nothing changes. There is a limit to the land available. Without intensification of farming methods, a reduction of export crop acreage is the only way to increase cereals production.

The question is whether other Sahel countries are as well endowed with mining resource as Niger, to enable them to compensate for export crops in the balance of trade. It must be stressed that this solution is at best a provisional expedient: the total conversion of the land presently used for growing cotton and cereal crops would yield enough to cover at most the equivalent of two years of increase in the demand for cereals.

6.2.2 Groundnuts

Table 23 outlines the trend of unshelled groundnut crops for the Sahel as a whole.

Production in Senegal, which is the main producer country, peaked in 1975 after the drought, Allowing for climatic uncertainties, it has been falling since(1). Similarly, in Mali and Gambia, production reached a peak in 1976 and now appears to be declining. The phenomenon occured earlier in Niger, where the highest production recorded was 260,000 tons in 1972, before the drought, and output has been well below 100,000 tons per year since 1975.

Table 24 shows the trend of groundnut oil exports, which in general follows the trend of production with a short lag.

This brief study of cash crops shows how unrealistic it is to contend that the main cause of the food deficit in the Sahel is the unthinking expansion in the cultivation of export crops.

Groundnut production is falling; the growth of cotton output has taken place in the last few years over a roughly constant acreage; yet the cereals deficit persists and is even tending to increase.

What is actually happening is that increased cereals production obtained through the extension of the area cultivated is not unrelated to the movement away from cash crops (although it is not the only cause), which has been evident for several years for groundnuts and may now be occurring for cotton.

It may also be remarked that the continuous effort to develop cotton production has been a success. Sound agronomic research resulted in improved varieties, effective farming methods, sound supervisory techniques, guaranteed markets, and attractive purchasing prices. The result was increased productivity of cotton growing: something has changed in the Sahelian rural world.

Is it not possible to achieve the same increase in productivity for cereals crops? The argument that traditional cereals crops are much more difficult to act on than non-traditional crops such as cotton(3) cannot stand up as long as the favourable conditions which were put into place for cotton are not brought to bear for cereals, too.

It has often been stated that it is difficult to raise the productivity of small farms; but not much has been done to make this happen (2).

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(1) The project aimed at developing edible groundnuts is Senegal has followed the same trend: output in the 1977/78 crop year was barely one third of forecast.

(2) W. Arthur Lewis (Nobel Prize in Economics, 1979) in "Economic Development and Planning".

(3) Which is only partially true: relatively unproductive varieties of cotton have been grown for centuries in the Sahel.

TABLE No. 23

TREND OF UNSHELLED GROUNDNUT PRODUCTION

(in tons)

	1961	1967	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
MAURITANIA	700	800	3 000	2 000	1 000	980	1 000	2 000	3 000	3 000	3 000	-
M A L I	110 000	116 000	158 000	152 000	134 600	130 000	160 000	205 000	230 000	228 500	146 300	179 000
UPPER VOLTA	50 000	80 000	67 702	66 182	60 408	62 865	65 000	90 000	87 200	85 000	79 000	75 000
NIGER	151 800	298 335	204 600	256 500	260 200	77 056	129 085	41 760	79 200	90 000	73 732	90 000
CHAD	130 000	88 000	96 300	75 000	70 000	78 500	90 000	82 300	87 000	83 000	85 000	-
SENEGAL	995 000	1008 610	589 950	997 120	586 900	692 779	1 005 632	1476 410	1192 130	700 000	1021 000	850 000
GAMBIA	94 000	142 000	125 000	125 000	136 000	115 000	151 500	151 500	156 500	145 000	105 000	112 000

Source : cronos data - Commission of European Communities.

TABLE No. 24

GROUNDNUT OIL EXPORTS

(in tons)

	1970	1971	1972	1973	1974	1975	1976	1977	1978
M A L I	4 547	5 400	3 158	3 564	1 519	600	5 054	10 000	8 000
N I G E R	7 871	10 436	21 550	21 302	5 353	6 219	4 580	1 800	3 900
S E N E G A L	146 065	71 914	229 985	77 264	104 754	196 653	256 073	230 000	76 500
G A M B I A	15 997	14 259	14 093	16 892	17 582	16 889	18 252	18 300	13 309

Source : Cronos data - Commission of European Communities.

Finally, attention should be drawn to a particular point pertaining to foodcrop production and export crops, i.e., the limited financial resources which have been provided for the specific training associated with rural development: a total of $8.7 million over the period 1975 to 1978. This low figure has certainly not prevented the development of cotton crops, but it is difficult not to think that more resources for training in particular, for instance the training of extension agents, would be very useful in speeding up the changeover of the agricultural system when the bottlenecks impeding the progress have been eliminated.

6.3 Irrigated farming

6.3.1 Irrigated area

Investments made in the irrigation sector only bear fruit in the long term. It is premature to measure the impact of the effort accomplished since 1975. Recent studies can only show some trends.

The Working Group on Irrigated Farming of the CILSS-Club du Sahel carried out investigations in 1976 and 1979 into the situation of irrigated farming in the Sahel. The information on area irrigated in the Sahel is as follows, according to the surveys:

Table 25

Irrigated Area

(thousand hectares)

	1976	1979
Good or full control water	82.8	73
Partial control	149.8	154
TOTAL	232.6	227

Although data compiled in each survey are not completely homogeneous(1), it appears that the area equipped with modern means of irrigation (traditional recession agriculture and lowland (water catchment) farming are omitted from the table above(2) did not expand greatly from 1976 to 1979.

Since irrigated farming received approximately 10 per cent of aggregate aid to the Sahel, this stagnation is surprising. It appears to be due to a duality of causes:

- on the one hand, new projects have indeed been implemented (or old developments without full water control were improved), but the pace of implementation has not increased markedly by comparison with the preceding period: no more than 5,000 hectares per year has been developed in the Sahel as a whole (of which 4,000 hectares of rice). The ambitious programmes drawn up by the Sahel countries have lagged behind schedule. The first generation programme adopted at Ottawa looked for the development of an additional 140,000 hectares within five years. This would have required a revolution in development planning, in project implementation and in the training of farmers in irrigation methods. This revolution did not take place.
  In Senegal, for instance, the Fifth Plan (1977-81) had targeted the areas developed by the SAED to increase from 9,000 to 33,000 hectares. In 1979, halfway through the Plan, only 4,000 hectares had been developed.
  In Mali, the 1974-1978 plan aimed fully to develop 37,000 hectares: 17 per cent of this target was completed; 106,000 hectares were to be partly developed; 38 per cent of this target was completed, etc.
- On the other hand, several existing developments have deteriorated, and the area actually farmed has decreased. In Mali, at the Office du Niger, out of 53,200 hectares developed, 39,500 were cultivated in 1976-77 and 35,500 in 1978-79.

In sum, it seems that the entry into service of new developments has only barely exceeded the pace at which earlier developments have been abandoned.

The survey made in 1979 shows that close to 26,000 hectares of developed land in the Sahel needs to be rehabilitated:

- Gambia	1,750 hectares
- Mali	17,000 "
- Mauritania	300 "
- Niger	1,000 "
- Senegal	5,150
- Upper Volta	660
Total:	25,800 hectares

(1) The 1976 inquiry probably overstated the area irrigated with full control over water.

(2) It covers approximately 200.000 hectares.

6.3.2 Production

Table 26

Trend of Paddy Rice Production

(thousand tons)

	1961-65	1974	1975	1976	1977	1978
Chad	29	35	37	40	20	40
Gambia	33	55	60	50	11	29
Mali	172	90	218	237	182	270
Mauritania	1	4	4	5	5	12
Niger	11	30	35	29	30	34
Senegal	103	116	136	112	62	127
Upper Volta	33	39	33	40	23	32
Total	382	369	523	513	333	544

Source: FAO

The 1979 harvest will be below 400,000 tons.

However, it should be observed that this amount includes the production of modern irrigated farming, traditional farming with flooding, and rainfed crops grown in the Casamance region and in Gambia; this explains the wide fluctuations due to climatic variability.

According to the WARDA, out of a production of 524,000 tons:

- 50 per cent of rice is grown using modern irrigated farming methods,
  - 30 per cent with full control over water, and
  - 20 per cent with partial control.
- 50 per cent is completely dependent on rainfall,
  - 40 per cent with flooding,
  - 10 per cent of rainfed crops.

It may be observed that:

- rice production is not keeping up with needs. By comparison with the early 1960s, rice production in a normal year has risen by approximately a third; meanwhile, through population growth and urbanisation, needs have increased by two thirds, thus, the recourse to rice imports: they were under 130,000 tons at the beginning of the 1960s, 190,000 tons per year from 1965 to 1969, and now often exceed 300,000 tons per year. This will be the case in 1980 as a result of the poor harvest in 1979.

During the period 1975-1978, leaving aside the drought year 1977, rice production all but stagnated, while needs were increasing at 8 per cent per year, i.e., more than had been forecast.

- Modern irrigated farming developments supply only half the rice grown, and only 30 per cent of that is protected from climatic effects by full water control. Rice production is still extremely vulnerable to drought, as is proven by the years 1977 and 1979.
- the share of irrigated cereals in total cereals production in the Sahel is only 5 per cent, of which 3 per cent only is relatively safe from climatic hazards. Wheat production is 12,000 tons per year, i.e., four per cent of consumption in 1979. It did not rise markedly between 1975 and 1978. Most wheat is grown using traditional farming methods, only a limited amount using modern irrigated farming.

At the same time, wheat, and wheat flour requirements, are growing fast in the Sahel. From 1975 to 1978, the annual rate of increase of consumption was approximately 11 per cent. Imports have thus risen steeply:

- 100,000 tons per year around 1965;
- 200,000 to 300,000 tons per year since 1975, i.e. the same order of magnitude as rice imports.

Irrigated farming is also used for sugar:

- approximately 50,000 tons in 1976,
- approximately 90,000 tons in 1978.

The Sahel now meets about one third of its needs, and the coverage ratio rose substantially in the course of the period considered.

6.3.3 Problems posed by the development of irrigated farming

There still is a major effort to be made to ensure food self-sufficiency of the Sahel under all climatic conditions. However, although a large share of aid has been allocated to irrigated farming, its development has been slower than the Sahelians and the International Community would have wished. The following analysis can help to explain this situation:

- First, these developments are costly: while controlled submersion (which provides only partial control of water) may cost between $500 and $1,200 per hectare, developments with full control over water are much more expensive: usually $10,000 or $20,000 and even $30,000 per hectare. Once the developments have been completed, they call for continuous maintenance, which is also costly. Should it be neglected, the developments deteriorate and their rehabilitation becomes even more expensive than their maintenance.
- These investments are justified economically only by yields which are much higher than those obtained with rainfed crops or traditional subsidence crop farming. Such yields can be obtained through intensive farming and the harvesting of two crops annually.
- In practice, the return to investment in the Sahel remains low. At the Office du Niger, rice yields have varied between 1.7 and 2.6 tons per hectare in the past few years, while according to the experts, they should have reached five to six tons. A single annual crop is grown,

whereas two crops would be needed to make the investment worthwhile. Yields of 8, 9 or 10 tons are extremely rare; but it can be done, as in Niger where two crops annually are harvested using intensive farming methods(1).

The development of irrigated farming is handicapped by low yields, which are caused by a number of factors grouped under three headings:

-Technical problems

The inadequacy of maintenance is cited by all the experts. This is the reason of the need to rehabilitate which has been noted, and which applies to relatively long-standing developments such as those of the Office du Niger as well as projects which have only been in existence for a few years, such as DAGANA, NIANGA or BOUNDOUM in Senegal.

The inadequacy of preliminary studies has been highlighted in several cases, leading to higher investment costs or lower productivity than had been foreseen. A checklist approach to the study of a project (technical and sociological investigations) might be useful to avoid the recurrence of such mistakes.

Projects can produce a satisfactory yield only through a substantial intensification of farming. The agronomist's work is at least as important or perhaps even more so, as the hydraulics engineer's art in the success of a development project. The inquiries made in 1979 pointed up some gaps in this field and showed that an effort in agronomic research is still needed, development of wheat varieties suited to local conditions, and continuation of research into rice varieties. An even greater effort should be made to spread knowledge of more intensive farming methods which also preserve soil fertility.

-Training and management problems

The management of many irrigated perimeters is far from always being satisfactory: uncertain supplies, delays in the delivery of spare parts, poor water management, etc...

All of these management problems are associated with the training of personnel: training of managers and supervisors.

It has been noted that in most irrigated projects where good yields have been obtained and where maintenance is good, such projects are of modest size and producers are closely associated in their management. This suggests the interest of decentralising whenever possible.

1) But there is some question whether these fine results are not obtained to the detriment of soil fertility. The activity report on the TOULA project (January 1978) notes the decrease in soil fertility although farming only began during the rainy season of 1975.

- Agricultural policy

Irrigated farming is subject to the same price and marketing problems as rainfed cereals farming: Producer prices must be offered which yield a financial return to irrigated growers and allow for the costs of maintenance and the purchase of the production factors needed for intensification, and a marketing system is needed which ensures that there are outlets for production.

It is a striking fact that the same fundamental problem can be found in the field of irrigated farming and rainfed cereal farming, namely the availability of more intensive production techniques and their acceptance by the farmers of the Sahel.

Despite these problems the effort made for irrigated agriculture should not be relaxed. Otherwise, wheat and rice deficits will increase and so will the need for food aid.

First of all, these deficits must at least be stabilized and eventually in a later phase reduced.

To attain that it is probable that the effort for the development of irrigation agriculture should be made somewhat differently than it has. The direction should be to rehabilitate projects, maintain existing projects, intensify farming, involve farmers in the design and management of projects: these should be the main priorities.

6.4 Livestock Production

"The first task to accomplish is the reconstitution of livestock lost during the drought." - the Ottawa Strategy.

As shown in the two tables below, this is becoming a reality:

Table 27

Livestock numbers in 1968
(unit: 1,000 animals)

	Cape Verde	Gambia	Upper Volta	Mali	Mauri-tania	Niger	Senegal	Chad	TOTAL
Cattle	14	221	2600	5067	2100	4100	2747	4500	21349
Sheep	3	78	1700	5200	2600	2500	1347	1800	15228
Goats	23	108	2400	5100	2200	5870	1490	2000	19191
Camels	-	-	6	231	500	380	31	325	1473
Horses	5		70	174	21	160	189	150	769
Donkeys	7	4	180	528	210	330	167	300	1726

Tab. 8

Livestock numbers in 1977

	Cape Verde	Gambia	Upper Volta	Mali	Mauri-tania	Niger	Senegal	Chad	TOTAL
Cattle	11	290	1900	4076	1400	2900	2440	3716	16733
Sheep-	2	95	1300	4437	4700	2560	1760	2448	17302
Goats	20	92	2377	4057	3100	6200	895	2448	19189
Camels	-	-	5	188	700	265	6	316	1480
Horses	2	-	90	160	16	210	216	145	839
Donkeys	8	4	170	429	180	370	200	300	1661

Source: FAO Production Annual

More than 1/4, perhaps 1/3, of the cattle herds were lost in the drought. One can see that in 1977 the herds increas but that their numbers had not reached the level attained at the end of the 1960s.

On the other hand, sheep and goats, less affected by the drought, had increased in numbers since 1968.

Camels are as numerous as they were ten years ago.

On the whole, Sahelian livestock v estimated to number in 1977:

21 million UBT(1)

while in 1968 it was

24 million

and probably descended below 18 million UBT after the drought.

The reconstitution of livestock in the Sahel is well on its way.

But, as a consequence of the drought, the reconstituted herds contribute less to feeding the population and to exportation than in the past.

- according to IEMVT, average meat consumption was:

17 kg per capita in 1968

and only

13 kg per capita in 1977

- meat exports which represented:

21 billion CFA francs in 1968

represented

23 billion CFA francs in 1977

In real terms, meat exports dropped sharply.

- milk imports, however, increased in volume by five during the same period, and now represents 14 billion CFA francs a year.

1) UBT: Unité de Betail Tropical (Tropical Livestock Unit). Theoretical unit weighing 250 kg.

Although the reconstitution of the herds is on its way to being accomplished, there is still much to be done so that livestock production can play the same role it played before the drought, contributing more to feeding the population and to exportation. Where are we in applying the Ottawa Strategy?

- Animal health: the International Community has not relaxed in its efforts. During the period 1975-78, animal health was reasonably satisfactory.
- In the pastoral zone, evaluation of natural resources potential, implementation of a policy to maintain that potential (elimination of brush fires), and a development policy for this potential (introduction of newer more productive species of forage), placing a rational value on resources, has only been begun.
- modern production projects have been implemented on a trial basis and ranches installed in the Sahelian and Sudano-Sahelian zones. But, results on the whole have not been satisfactory: the investments called for were too heavy; the farms, placed in regions poor in resources resulted in mediocre productivity; and finally, marketing of production was hampered because the ranches were too far from the large commercial centres.
- The pastoral zone is still mainly under a system of extensive traditional livestock and the productive limits of that system are understood. Intensified production hardly exists yet.
- In the agro-pastoral zone, a certain number of fattening lot projects, breeding of small ruminants, and development of animal traction, have been implemented. Lack of statistical data makes it difficult to determine with precision the development of intensification. It appears that the agriculture-livestock association is still the exception (according to FAO, in 1975, only 5 per cent of the farmers in the Sahel had access to animal traction). This development has caused problems between herdsmen who feel that cultivated land is encroaching upon their grazing land, and farmers who complain about damage caused by animals (Upper Volta and Niger).

Also, these projects have not been well integrated as a whole in all aspects of agricultural activities. In Niger, for example, a fattening lot project has no link with animal traction and with fertilizer development.

Finally, one notes that irrigated forage crops are practically inexistent in the Sahel. This is doubly regrettable because it could provide a quantity of forage for the development of pasture land and at the same time serve as a rotation crop along with rice, and therefore maintain the fertility of the soil in the irrigated perimeters.

After the drought, there were two distinct types of action to be entertained: reconstitution of the herds and transformation of livestock production from extensive to intensive. But these changes have not occurred. The work of the Working Group of the Club du Sahel has permitted us to just begin on an outline of what Sahelian livestock development can be in the years to come. The Ottawa Strategy was not clear on these points. The latest documentation published gives better defined guidelines and appears to be more operational.

The period 1975-1978 can be considered a time of reflection. This was a necessary step in beginning to change the pastoral system and which can be done in years to come.

6.5 Fisheries

Assistance to fisheries development is quite modest and is mostly for marine fishing. The impact of this assistance is difficult to evaluate given poor statistical data.

Inland fishing plays an important role in feeding the population in the landlocked Sahelian countries, and exportation to coastal regions. But, a large part of the production is consumed locally or exported by traditional methods which does not allow statistical information to be gathered. Also, does the published information represent reality? In Niger and Mali, published data indicate a decrease in production, but this concerns only the officially controlled production.

Production of Dried and Smoked Fish (in tons)

	1973	1974	1975	1976	1977	1978
Mali	5 223	5 850	7 634	8 055	7 916	5 859
Niger	4 771	4 180	2 439	1 184		

What is probable is that inland fishing has not really changed during the past years. Efforts undertaken to develop and modernise inland fishing remained isolated operations without major effect. Fishing techniques have remained traditional (in Niger, only three per cent of the fishing vessels have outboard motors), marketing is difficult due to the enclavement of the fishing communities which preserve fish by smoking, thereby using large amounts of wood in areas already located in deforestation zones; and finally the Fisheries Services do not have sufficient financial resources to carry out their jobs and also lack personnel trained in inland fishing techniques.

Finding a solution for the problem of trained personnel is fundamental for fisheries development in the landlocked Sahelian states. The Regional Training Centre proposed for MOPTI (Mali) in 1974 was still without funding at the beginning of 1980. Pisciculture is practically inexistent in the Sahel (despite the BAZEGA project implemented in Upper Volta).

As for Maritime fishing, with the exception of a few Senegalese industrial fishing vessels, the majority of the fishing vessels in Senegalese and Mauritanian waters are operating under foreign licences for their own profit. It is estimated that foreign fishing fleets caught 1,200,000 tons of fish which were shipped directly to their countries of origin. Local fishermen and the industrial fishing fleets caught less than 400,000 tons annually(1). The Sahelian countries received very little benefit from this system of licensing (a recent decision of the Mauritanian government marks a possible turning point in this regard). Creation of industrial fishing fleets, modernisation of local

(1) A large part of the catch was processed on the spot and then exported.

fishing techniques [motorised canoes(2)], and creation of commercial outlets have brought about some changes, but as shown in the figures below much has to be done so that the potential fishing resources are beneficial to the population.

In 1975, few people were aware of the important fishing potential in the Sahel. The period 1975-79 was a time of reflection on this potential:

- 18 million hectares of fishing zones (compared to 12 million hectares of cultivated land);
- fish resources on the order of 2,700,000 tons a year (2,300,000 from maritime waters, 400,000 from inland waters, and according to FAO, consumption in the Sahel is only 420,000 tons a year).

This sudden awareness of this potential has resulted in only isolated projects (although certain projects in the field of research for example, are important in preparation for the future). We can only hope that this is the prelude to more rapid development.

6.6 Reforestation

International aid for reforestation is still so low that to evaluate its impact would be an exercise in vain.

Although the need for reforestation is clearly evident and the future is of concern, we need a clearer understanding of why action taken has been so limited. The meetings held under Club/CILSS auspices devoted to reforestation and an informal seminar organised by the United States Overseas Development Council held in Paris on 29th and 30th November, 1979 gave the Sahelian countries and the international community an opportunity to discuss this problem. The following analysis comes from this exchange of views.

Our first question is: Do Sahelian governments and the donor agencies understand the gravity of the situation in the Sahel? The reactions provoked by the Club du Sahel's publication "Energy in the Development Strategy of the Sahel" shows that a few years ago those in decision-making positions had not fully appreciated the severity of the situation. It should not be a surprise that neither the Sahelian governments nor donor agencies gave reforestation priority attention. Hopefully this new awareness will bring about changes.

The second problem is the high cost of reforestation operations. Based on recent experience, the CILSS Secretariat used a ratio of $625 per hectare for the reforestation of a village. The World Bank gave amounts of $300 to $1000 per hectare for different regions in Africa. In light of the poor results obtained from several reforestation projects, these figures are very high. Certain reforestation projects financed by outside donors have been total failures.

A recent regional development project evaluation in Upper Volta showed that in 1977 and 1978, around 40 per cent of the trees planted survived, which puts the price at $1,900 per hectare for those trees (planted in 1977) or even at $2,450 for those planted in 1978.

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2) Senegal - motorisation of fishing canoes increased production from 50,000 tons in 1972 to 150,000 tons in 1978. Cape Verde - modernisation of traditional fishing methods has caused production to go from 6,600 tons in 1976 to 9,100 tons in 1978.

At $2,000 per hectare, large reforestation programmes in the Sahel become impossible.

It is necessary therefore to find less costly solutions and in particular to find the means of enlisting the help of the local population. This then is our third problem; up to now, getting the local population to participate in reforestation projects has been difficult. The November seminar revealed that there are conflicts as to the use of the land area: Hunger today has priority over fuelwood needs for tomorrow(1). When there have been conflict problems, complex concepts of land tenure and land control seem to prevent reforestation (this no doubt explains in part the failure of the ADER DOUTCHI MAGGIA project in Niger).

But perhaps we should ask if there are other, more profound reasons for this lack of interest shown by the population for a problem which is of primary concern for them.

In the past, traditional systems of production in the Sahel resulted in a spontaneous reforestation which assured enough firewood for a then smaller population. Today, the forests must be planted. This calls for important changes in century-old habits. Traditionally, it is the women of the village who gather wood and today they must go further in search for firewood needed for cooking. This, and the fact that gathering wood did not directly concern them, did not lead the village chiefs to react against the deterioration of their environment.

Finally, the fourth problem we must concern ourselves with is the Sahelian Forestry Services and the meagre resources they have to conceive, prepare and carry out reforestation projects and policies. Most must be content with urgent policing operations since their governments do not provide very large portions of national budgets any more than the International Community provides resources to reforestation.

Even if the Sahelian governments and donor agencies wanted to substantially increase, and in a short time, the volume of reforestation projects, they would be hindered by the lack of prepared projects and the means for implementing any financed projects(2).

Even if there is now a certain awareness of the gravity of the problem, there is much to be done by both governments and donor agencies if this awareness is to lead to concrete action.

The example of Cape Verde where important reforestation operations were implemented thanks to the participation of the local population (and the only outside contribution being food aid), shows that concrete actions are possible and that everyone can be mobilised in implementing reforestation projects.

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1) Fuelwood and other renewable energies in Africa. James W. Howe and Frances A. Gulick. The Overseas Development Council - January 1980.

2) The evaluation report cited above gives concrete indications of the paltry means of the Forestry Services. The Staff use their own motorbikes and have access to less than 30 litres of petrol a month to oversee some hundreds of thousands of acres.

Another way to help fight against deforestation would be to reduce the consumption of wood for cooking. The cookstoves used in the Sahel are inefficient and uneconomic. The Sahelian housewife uses more energy for cooking than her counterpart in industrialised countries. It would be easy to remedy this situation by the introduction of a simple but more efficient cookstove, which would help slow down the rapid process of deforestation and give the time necessary to begin replanting.

Actions taken in this field so far, notably in Upper Volta, have been on an experimental basis and limited in scope. In this as in reforestation, only massive operations with the help of the local population, and partly through their initiative, will bring about significant results.

What conclusions can be drawn from this brief outline?

- first, to get results at an acceptable cost the active participation of the local population is necessary. This can be obtained if the inhabitants are made aware of the problems and given technical support over most of the national territories (technical support given to provide both a model fraction and the resources necessary to implement the model);
- this supposes that the Forestry Services' role will go from one of "conservationist" to one of "developer", and that new services will be created to fulfil this new role. This is certainly the most urgent task, and it is one to which the international community can contribute as the political authorities define the necessary orientations.

6.7 Water supply

Table 29 shows the water supplied to inhabitants in four Sahelian states in 1975

Table 29

Water Supply in 1975

	Urban Population Served			Rural Population Served	TOTAL (average)
	Private outlets	Fountains	Total urban		
Upper Volta	19%	31%	50%	23%	25%
Niger	28%	8%	36%	26%	27%
Senegal	28%	28%	56%	-	-
Chad	7%	36%	43%	23%	26%
Total AFRICA	37%	31%	68%	21%	29%
Total WORLD	57%	20%	77%	22%	38%

Source: WHO - Rapport de statistiques sanitaires mondiales, vol.29

In 1975, on average, one Sahelian out of four had reasonable access to drinking water. Lack of information for 1978 does not allow us to give precise data on any recent changes. It is possible however to compare action taken in several countries for the period 1975-1978:

In Upper Volta in 1977, 1,300 villagers had reasonable access to drinking water; 1,250 villages were equipped with wells of bad quality and which needed to be deepened; 4,560 villages needed new water points(1).

Since it is not technically possible to deepen all those wells that need deepening, 5,000 new water points must be created, and 1,200 projects for deepening wells must be carried out to attain the modest consumption of ten litres of water a day per inhabitant(2).

Only 237 new water points were created and 248 wells deepened under the 1978/79 programme. The rate at which new wells were dug was less than in preceding years.

In Mali(1), 8,500 wells must be dug to reach the objective of ten litres of water a day per inhabitant. Over 7,000 villages are serviced by ponds or superficial wells which are far from being suitable guarantee for hygiene safety.

During 1975-1978, 585 new wells were dug, that is an average of 146 per year.

In Niger, it is estimated that 8,000 wells are needed.(1)Projects carried out today are as follows:

Campaign 1975/76: 289 wells
Campaign 1976/77: 261 "
Campaign 1977/78: 221 "

From the above, we can see that the number of wells dug has diminished (although the administrative resources of government agencies in charge of creating and maintaining water wells have increased).

It is evident that the creation of new water points are justifiable first of all for reasons of hygiene, and for the well being of the population, in particular the well being of women who are traditionally the suppliers of water and wood in the villages. If we compare the needs with the operations carried out during recent years, we can see the long road to travel before assuring an acceptable quality of life for the Sahelian populations, especially those in rural areas.

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1) Source: "Etude Sectorielle de l'approvisionnement en eau de populations rurales au Haute Volta, au Mali, au Niger" - Banque Mondiale, June 1979.

2) The FED evaluation report of water supply projects for urban and rural areas estimated the average consumption of water as being 20 litres a day per inhabitant.

One would think also that the creation of water points would have an impact on agricultural production systems: creation or extension of market-gardening for example(1). Project evaluations show that up to now this has not been the case, due perhaps to the lack of coordination between the water supply services and agricultural services (or lack of resources?).

Finally, a word about the modern water pump equipment which has been installed: solar pumps, thermodynamic or photovoltaic.

At this stage, for technical reasons, these pumps can only be considered experimental. Some have broken down. They cannot be put to widespread use a present, and no doubt do not represent an urgent need.

In recent years several organisations (the Entente Council, CEAO, BOAD) (2) have studied the water supply problem to seek ways of accelerating the construction of new water-points. This reflection should permit the launching of major programme soon.

6.8 Infrastructure

We have seen the large share taken for the financing of new infrastructure or rehabilitation of old infrastructure during the period 1975-78. Roads have received large amounts of assistance. The OTTAWA Strategy stressed two points:

- rehabilitation of road networks.
- adaptation of road networks to the needs of agricultural development, especially the opening up of isolated production zones.

Without the necessary data, it is impossible to say just how much work has been done on the 7,500 kilometres of roads designated for rehabilitation. But, since 12 per cent of the first generation programme concerning road rehabilitation had firm commitments at the end of 1978, the programme is somewhat behind schedule. There is no data indicating the actual state of the roads in the Sahel. But various surveys show that they have continued to deteriorate. In The Gambia in 1977, it was estimated that 20 per cent of the asphalt roads could be classified as good or average; this dropped to four per cent for dirt roads. In general, the situation was better in other Sahelian states. Hence, the major part of financial aid went to the construction of new road network infrastructures. It is difficult to answer the question: Were the new roads constructed with the view of satisfying the needs of agricultural development?

No doubt , the efforts made in favour of roads have been useful and everyone knows that transportation in Sahelian states continues to be costly due to inappropriate infrastructure with many regions badly linked with other parts of the country (this was noted above for inland fishing).

But, construction of new roads is an appealing undertaking both for financing sources and governments. As a matter of fact, it poses very few problems:

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(1) "Evaluation (ex-post) sectorielle des projets d'approvisionnement en eau urbain et villageois" - Rapport FED, Août 1978.

(2) BOAD = West African Development Bank
CEAO = West African Economic Community.

- at the level of project preparation. One only has to consult a good engineering firm. There are no bothersome problems as to the type of technological model to propose, as in the case of intensive farming. The technology is known.
- at the level of implementation. One only needs a competent public-works enterprise (national, but more often than not foreign). No need to worry about climate hazards, no need to get local population agreement, always problematic. Final results are assured.
- on the level of usefulness of the construction. It is rare that a new infrastructure is totally without merit. Even if the traffic does not grow as contemplated, one can always nourish the hope that demographic and economic development will come to the rescue - time will justify the investment.

The real bottleneck will come with maintenance. A recent study estimates that $538.4 million (current dollars) is the amount one would have to allocate for expenses on road maintenance and rehabilitation for the periods 1978/79 to 1982/83 (1). It can be recalled that aid commitments for roads (new infrastructure and rehabilitation) during 1975-78 amounted to US $ 475.8 million (current dollars).

It is not possible for Sahelian states to release such a sum from their budgetary resources or from their foreign exchange resources(2).

This means that some serious consideration must be given to reaching a balance between financing new infrastructure and maintenance of existing infrastructure. This reflection has already been begun within the context of CILSS. It would be good to continue it on the level of Member States and donor sources involved in infrastructure development in the Sahel.

6.9 Human Resources

The Sahel countries are making a considerable effort in training and a significant part of donor assistance (9 per cent) is provided for human resources in the wide sense of the word: education, training, health (funds provided for technical assistance personnel are in addition to the 9 per cent figure). It would be well to have an idea of the impact of such a joint effort on Sahelian populations. But in this field, even more than in others, an attempt to evaluate impact runs into difficulties, as follows:

- the almost complete absence of evaluations of training and health projects (the only really thorough evaluation of a training project available is the one done on the Ecole Polytechnique of Thies, Senegal by Canada);
- the poor quality of data. The overall public data published by UNESCO and WHO only runs up to 1975 or 1976 at best, and sometimes stop before those years.

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(1) "Recurring Costs of the Road Infrastructure in the Sahel" by Andre Martens, October 1979.

(2) The portion of foreign exchange in road maintenance is large: 51 to 88 per cent depending on the country.

6.9.1 Education

UNESCO statistics show that the rate of school attendance in the Sahel in 1970 was 7 to 27 per cent depending on the country, and 9 to 29 per cent in 1976. The average for Sahel countries was 15 per cent in 1970 and slightly less than 17 per cent in 1976. The trend in the period 1970-1976 has probably continued since 1976.

As to higher education, the most recent overall statistics found (UNESCO) are for 1975, and it is doubtful if they are homogeneous;

	Number of Students (1975)	Students in Agronomy
Mali	2,936	18
Niger	541	103
Upper Volta	1,067	30
Senegal	1,428	7
Chad	547	1

Studies of trends made by donor sources put the accent on the following points:

- the poor adaptation of educational infrastructure financed by donors to the climatic and socio-economic situation of the Sahel. The maintenance of such infrastructure with only national resources is difficult which results in poor maintenance and rapid deterioration, or the need to obtain additional outside assistance for maintenance;
- a lack of training and upgrading of teachers; and
- a general inadaptation of the educational system to the needs of rural development.

6.9.2 Health

The lack of overall published data renders impossible even a summary assessment of the health situation. WHO, for example, provides statistics concerning rural areas only for the number of hospital beds per inhabitant dating from 1971. Project evaluations and local surveys, which are too few in number, do not fill the gap with respect to this lack of overall information. One can observe that the general orientation suggested by the Ottawa Strategy: the establishment of a village level health system, has begun to be implemented in some countries. In Niger, for example, the project "Village Health Teams" has begun to assume the health coverage of the Niamey Department. But, it only covers 27 per cent of the villages in that Department. This example which concerns a region near a capital city and therefore is not representative, shows that a considerable effort remains to be done in the field.

To monitor the results of efforts made in the human resources sector, there is a need to improve the quality and quantity of information available.

VII. CONCLUSIONS AND LESSONS FOR THE FUTURE

7.1 A mixed review of the situation

Negative points

This rapid examination of certain key sectors and the trends in these sectors during five years, 1975-1979, could suggest that the results are somewhat pessimistic.

Rainfed cereals production , which provides the foundation for feeding the Sahel, has continued to develop by extending areas cultivated and less through intensification of production. Everyone knows that eventually this will lead nowhere. At present, production remains vulnerable to climatic hazards : for example , the years 1977 and 1979 shows this. Also, yields are getting lower which is a sign that at least in certain regions land is over-exploited. In some cases land could deteriorate beyond repair.

Areas irrigated under good water control have hardly increased : despite efforts made, the new irrigated projects developed barely compensate for losses due to the deterioration of old projects. Irrigated agriculture is not very intensive and the need for rice and wheat increases faster than production. Without water control, such production remains quite sensitive to climatic changes.

Overall cereals production - rainfed and irrigated - remains quite vulnerable to drought and is far from satisfying needs; during 1975-1978 the Sahel became dependent on the outside for its food, and recourse to food imports and food aid has become a permanent need.

The Sahel has not progressed towards the objective of food self-sufficiency regardless of climatic conditions which is the goal to be attained.

If one considers livestock, one can determine that the herds which were reduced by the drought have in a large measure been reconstituted. But, Sahelian populations now consume clearly less meat than the modest level of consumption which prevailed prior to the drought. Milk imports have increased considerably. Above all, the intensification of livestock has not really begun and mixed farming, which is an important factor in such intensification, has progressed slowly.

The fisheries potential, both ocean and inland which is known to be considerable, has not been developed for the benefit of Sahel populations any more than it was four years ago.

Despite the lack of statistics, one can say that deforestation in the Sahel is continuing and it is to be feared that it is accelerating : efforts made in reforestation are not equal to the needs.

With respect to export crops, the production of cotton, after a brilliant development, has reached its peak and the production of groundnuts is going down. Except for Niger which exports increasing amounts of uranium, Sahel countries are having increasingly more difficulty in their trade balances, with the cost of manufactured imported products increasing faster than the price of exported products, and the oil bill keeps increasing. 1980 will see a new increase in the oil bill.

Budgetary resources, based on economies which develop slowly, are insufficient to meet the rising needs of public and para-public sectors and recurrent costs. Road maintenance is a striking example, but it is not the only one.

Positive elements

However, optimistic factors are not lacking.

The first one is that despite the after-effects of the severe drought which displaced large numbers of weakened people, wiped out cereals reserves, destroyed herds, fostered desert advance, etc., and despite the climatic setbacks which characterized the 1975-1979 period, and despite an unfavorable international situation, the Sahel has survived without catastrophe during those years. Following the drought, Sahelians went back to work. The area of land under cultivation, which was reduced by the drought, again increased. Herds were reconstituted. Cereals stocks were built back up. With the assistance of the International Community, the Sahel crossed a difficult period in these past years without a major crisis. The joint efforts of all were therefore effective.

Let us underline again that the situation of the Sahel in 1975 was such that it would have been illusory to count on a spectacular and rapid improvement of the situation.

But, what is perhaps the most important factor is that the period 1975-1979 was a time for gaining a progressive and deep understanding of real problems. In 1975, following a long and trying drought, the situation the Sahel found itself in was considered to be the direct consequence of the drought and the generally recognized objective was to shelter the Sahel from such a disaster. Since 1975, the idea has progressively been understood that the drought was only one factor among others to account for the situation of the Sahel. Two examples can be provided.

First, the question of cereals policy. The perspective study of the FAO published in early 1976 was one of the first to show that the situation of cereals production in the Sahel was not due to the drought alone, but that Sahelian farmers were not provided with incentives to increase food production. Other work permitted a closer analysis of the situation. One can also cite those of Professor Berg which were thoughtful, and encouraged further reflection. The Colloquies : the one organized by CEAO in Bamako in 1977 and the one organized by CILSS/Club du Sahel in Nouakchott in 1979, contributed to this common reflection and to the dissemination of ideas. Today, virtually everyone is persuaded that a better balance between the objectives of food

self-sufficiency and cereals policies is necessary and is one of the keys for success of cereals projects. Concrete measures have begun to be taken in this direction.

Another example in the evolution of thinking is provided by reforestation. Alarms had already been sounded concerning the loss of tree cover in the Sahel, but the effect was little. Wood continued to exist. All one had to do was go a little further to get it. As for reforestation projects, they were difficult to implement and they did not satisfy "rate of return" criteria, so beloved by economists in donor agencies. Recent years have been marked by an increasing understanding of the catastrophic situation, and that the disappearance of trees in the Sahel is not a theoretical, faraway danger, but it could become a reality if the present trend is not reversed.

The period 1975-1979, despite the somber diagnostic painted above, can be considered as a period following the dramatic years of the drought, in which understanding was gained of the fundamental problems of the Sahel, as one during which there was an increase in development assistance and when Sahelians and members of the International Community worked increasingly together towards a better future for the region.

This is encouraging, but it can only be really so if the period can be considered effectively as a beginning, as a start, and if the increase in the common efforts of Sahelians and International Community continue, and continue in the right direction towards solutions of the Sahel's development problems.

Also, it is useful after making a sectoral analysis to look at the conditions under which international development assistance has been programmed and implemented during past years to draw some lessons for future reference.

One can distinguish between the following steps :

- the identification, choice and design of projects, these different aspects being practically intertwined. We can regroup them under the heading "programming of assistance";
- the implementation of projects; and
- the monitoring and evaluation of projects.

7.2 Programming of assistance

The Ottawa Strategy underlined the coherence and priorities required. It is a question of passing from a period when the problems and the long term objectives had not been seen clearly and when programming had been done with too limited objectives in mind, to a period when the major objective of food self-sufficiency and ecological balance would be taken into consideration. But, it was also indicated that the weight of the past could not be erased in one day and that during the first phase, it was necessary to modify the certain actions already undertaken.

The Ottawa Strategy was formulated in 1977. It could only have very limited effects up to now. What can one say about it concerning programming ?

7.2.1 Priorities

The changes noted in the orientation of assistance show that the priorities defined in Ottawa have begun to enter the world of fact. A large part of assistance has been provided to projects which address the fundamental unbalances which affect the Sahel. But, it is so far only a modification of direction and there is still considerable hesitation about reel priorities. Assistance programs are rarely the result of a clearly posed choice, but are the result of complex inter-actions between different actors. On the Sahelian side : state organisations, technical ministries, ministries of finance and planning, and political decision makers. And, on the side of the International Community : local missions, technical services, and the political level. All of these actors were not involved to the same degree in the preparation of the Ottawa Strategy, and although the strategy was adopted by the Governments and donors, all of the actors are not concerned to the same degree in the implementation of the strategy lines adopted.

In particular, one should note that in Sahel countries, the Ministries of Plan did not participate in the elaboration of the Ottawa Strategy and have not been involved much until now in its implementation. It would be useful to have these administrative authorities more involved in CILSS work so that regional strategic priorities will have greater influence in national planning and on the projects which is requested of donor sources.

7.2.2 Sectoral Programming

The first generation programme played an important role in mobilizing resources for Sahel Countries. It provided project ideas in numerous priority sectors of the strategy. Being associated with the different sectoral studies that the CILSS and the Club carried out (for example on energy, livestock, fisheries...) it led to the preparation of new programmes. The CILSS/Club also contributed to the preparation of project identification documents which were presented at donor meetings. At such meetings, donors noted their interest for a large number of projects which were discussed and then negotiations were carried on at the country level. As a result commitments of over $ 2.3 billion have been registered (1).

But it has been learned as we went along that the first generation programme posed certain problems. First, the distinction between "CILSS Project" and "national project " was quite artificial since all projects must be submitted for financing in the different mixed commissions or in indicative programmes.

Further, in making an overall sectoral review of efforts made, it was not sufficient to take into account commitments made only for CILSS projects. It was necessary to add other projects submitted directly by governments to donors.

Finally, when project identification documents were presented to national services, it was noted that a number of first generation projects had been replaced by other projects or abandoned or had already been financed.

(1) See "Status of the First Generation Programme" - Sahel D (80) 104.

Would it be good to substitute a new process for the first generation programme which would be aimed at stimulating increased financing and orienting it towards priority sectors linked to the strategy?

This process has already been the object of experimental efforts, for example in the case of irrigation. Other similar efforts are foreseen in rainfed agriculture and reforestation, but this list of sectors is only indicative.

For irrigation, the Secretariats of CILSS and the Club have, with the national services made the following work :

a) critically analyzed on-going projects;

b) made suggestions to resolve such problems;

c) presented projects planned by Sahel countries for the next 5 years.

The experience acquired showed that this type of exercise can be fruitful. To inform the International Community about projects planned over the medium term and on priorities planned in a given sector will permit an acceleration of studies and an improvement of the financing process which is sometimes long. To draw lessons from on-going projects will permit applying them to new projects. Such exercises will also permit projects to be clearly linked to sectoral and global objectives.

Of course, sectoral programming should not exclude coherence between particular objectives and the overall planning of governments and overall balance must be respected to assure national and regional development.

7.2.3 Key Sectors

A number of sectors, although they occupy a key position in the development strategy of the Sahel, were left aside during 1975-1979. These are the "forgotten sectors of assistance" :

- Research. We mean here not only research in research stations (selection of millet and sorghum varieties which are the most productive and least vulnerable, selection of wheat strains adapted to irrigated perimeters in the Sahel, selection of forage crops etc..), but also trials on a real scale (pilot projects) of new farm production systems adapted to each zone and which take account of the economic environment : the cost of inputs, credit etc..
- Training linked to rural development (*). Training of extension agents for rainfed and irrigated agriculture and for feedlots, managers of irrigation perimeters, training in maintenance, training of staff for fisheries, etc...

(*) Training is often a secondary item in projects which is sometimes not even implemented.

- Reforestation. We have insisted on this point and will not return to it. We will only add that under reforestation, one might include projects which are aimed at economizing firewood.
- Fisheries. They are an important resource as yet insufficiently developed to benefit the Sahelian population.
- Rural artisans. Very little has been done in this field in past years. The training and upgrading of rural artisans who can build or repair small agricultural machinery pumps, etc. should necessarily accompany a change in farming systems.

One can affirm without doubt that an additional effort in each of these sectors would be very beneficial for the Sahel.

We must emphasize research as noted above. After reading different project and sectoral reports which provided the basis for the present stock-taking, one fact is striking : it is that in many cases there is lack of suitable technical and economic models which are sure and proven, which can be proposed to Sahelians to intensify their farms or to carry out mixed farming (livestock and crops); better exploit the Sahel zone inhabited by nomads; carry out reforestation etc.. This is certainly one of the essential factors which slows up the development of the Sahel and limits the effectiveness of the effort provided by the International Community.

Hence, the importance which should be given to research for improved systems.

7.2.4 Intersectoral and Intra-sectoral Coherence

The major portion of development assistance is provided within the context of projects. Each project is individualized. Few links exist between projects, even related projects or those which are geographically near one another. To date, inter-sectoral coherence has been poor and this comes, no doubt, from methods used in programming and implementing assistance. One can provide several examples :

- the construction of new wells which, although sometimes linked to livestock, seem to be done independent of agricultural development (vegetable and fruit gardening), or health activities (health education), of women-in development (reducing water hauling duties), of schools or adult education;
- the lack of connection between feedlots, animal traction, the use of manure, and generally between crop production and livestock;
- generally, the isolation of schools with respect to development;
- the development of road infrastructure which seem to be done without linking them closely to productive development activities.

On the level of the States, the inter-sectoral coherence is poorly assured by technical services, which having their own fields of competence are not ready to conceive of and carry out common activities. The problems are the same on the level of development agencies. The work of the CILSS and the Club du Sahel may have inadvertently contributed to this problem in a way by organizing the study of development problems in the Sahel by sector without linking those sectors together sufficiently and in organizing sectoral meetings of donors for projects.

An approach to break down such barriers needs to be found. Some suggestions are made in paragraph 7.2.6.

The coherence within each sector seems to be much better. At least the sectoral planning that has been done since 1976 was carried out with attention given to the need for coherence between projects and policies : the Nouakchott Colloquy for example was the occasion for reflection on the links between development projects concerning cereals production and policies set by Governments with respect to pricing and marketing.

This does not signify that all of the problems have been resolved. One can cite for example several fields where internal coherence is far from achieved :

- the balance between carrying out new irrigated perimeters and the maintenance of existing perimeters needs to be found, as well as the allocation of effort to build new projects and to intensify crops so as to obtain a higher return on existing projects;
- the need to finance a balance between agronomic research and the intensification of cereals production has already been noted. If the need for a cereals policy adapted to the objectives of intensification is already recognized, a lot needs to be done to translate that idea into reality;
- the problems that arise from the building of new roads and the need to maintain the existing road network have already been noted.

7.2.5 Programming capacity

The choice of priorities and a respect for coherency is only one aspect of the programming of assistance. There must also be ideas for projects and these project ideas must be designed to be able to be financed and implemented.

One is naturally tempted to blame the weak programming capacity in the Sahel for the insufficiency of assistance provided to certain key sectors. Many times we have heard that any project which has a good study behind it finds financing and several donor agencies have let it be known that they are continuously looking for well-designed projects.

The conclusion that one can draw is that the programming capacity in the Sahel needs to be strengthened.

This is what was done at the 3rd Conference of the Club du Sahel (Amsterdam - November 1978) which recommended the strengthening of Sahelian programming capacity. In analyzing the manner in which assistance has been programmed during past years, one might wonder if the above conclusion is not a little hasty.

First, in many sectors, the small number of bankable projects is not so much from a lack of capacity on the part of Sahelian administrations (technical ministries and Ministries of Plan) but for intrinsic reasons. If there are few projects for intensifying rainfed agriculture and reforestation this comes in large part from the fact that neither the Sahelian administrations nor donor agencies are able to conceive and prepare a large number of projects with efficiency, and particularly projects which include the participation of the population, and this is because there is a lack of suitable models to follow.

One finds, on the other hand, that in the sector of road infrastructure, the lack of programming capacity in the Sahel has not held up the large number of new projects implemented and the provision of a large volume of financing. In fact, the weak programming capacity of Sahelians exists in this field as much as in others, but it has been overcome by recourse to expatriate assistance and consultants. This was possible because in this field, everyone knows, or thinks he knows, the techniques to be used and the models to follow.

One can note also that several donor agencies provide considerable assistance in preparing projects. By financing experts from the International Community, this assistance plays an important role in substituting for the insufficient number of Sahelians trained in project design. Certain donor sources insist on having a dominant role in this process so that many projects financed by the International Community have been prepared in part and often, completely, by expatriate experts.

It is evident that there is a lack of Sahelians well trained in project design. But, this lack of programming capacity does not completely account for the low level of aid in certain key sectors.

On the other hand, one could speculate as to whether the process for preparing projects by Sahelians and the International Community is well adapted to the needs of the Sahel and in particular might consider changing that system.

7.2.6 Reconsideration of methods of programming ?

We have seen that most outside aid during past years was provided within the context of projects. Almost all assistance provided for development was provided as project aid. When the conception of a project is decided (objectives to attain, general approach) a careful programming of resources needed to attain those objectives is done which includes the preparation of a budget. The numerous reasons that lead donor agencies to require such a careful programming are evident. Donors must justify the use of funds to their legislatures and public opinion. They must therefore institute a system of management control which screens the effective use of funds both before and after.

This system for providing assistance by project also has its drawbacks :

- the projects are individualized and are not linked one with the other, which produces a lack of coherence between sectors;
- projects are focused on one specific subject, arbitrarily isolated, and have a tendency to neglect the overall environment, whereas it is the whole socio-economic context that needs to evolve;
- the preparation of projects and project budgets runs into the lack of local programming capacity. Donor agencies are led to substitute themselves for Sahelians and to provide answers to problems which are not their own; this is not healthy. One can add another drawback which concerns projects where the backing and participation of local populations are indispensable to the success of the project, for instance, to intensify production or reforestation.

On the other hand, it is hoped that the rural population will take things in hand and play an active role in the implementation of the project. If they play an active role, there is little chance that this can be included in an international agreement which defines a project designed without them. Isn't there a contradiction between the very notion of a project such as we now have and the role that a project is supposed to play in the development of Sahel countries ?

Of course, it is not a question of renouncing the idea of a development project. It is applicable for example in carrying out infrastructure. But, one can ask whether when the participation of the population is involved it would not be good to change the notion of a project and conceive of it in a less technocratic way, putting more emphasis on the capacity of the population to innovate and decide their own future.

This supposes a change in attitude of both the Sahelian Governments and donors. The Ottawa strategy did itself suggest, timidly, an approach along these lines whereby farmers would themselves provide their own extension support, a proposal which has not been followed up.

For example, one could conceive of projects where the original agreement would be limited to :

- defining objectives;
- defining the main lines of action to be undertaken and in particular policy actions (for example, pricing and marketing policy), management, mutual responsibilities;
- determine the amount of funds which would be provided for infrastructure, for technical assistance, training equipment and tests, etc., and which could be programmed progressively on a rolling basis as needs arise.

This flexible programming of resources would make it difficult to calculate internal rates of return, but it would permit the breaking of a bottleneck in programming capacity and would permit a better adaptation of assistance to the needs of the population and better efficiency. Should not the finality of assistance be to accompany local initiatives and to give them the necessary resources needed to succeed, rather than to initiate development within a predetermined framework and thus to contribute to a welfare mentality ?

The example of Niger where, to a great extent spontaneously, the farmers abandoned groundnuts and cotton for niebe, which is better adapted to the present situation, shows that one should not underestimate local capacities.

The CILSS Council of Ministers has emphasized several times the functions that CILSS could assume to help member States in their programming. Such a role could be exercised through CILSS National Committees, but it would be necessary to set out such a mandate clearly, its links with CILSS, with local government and with donors.

7.3 The implementation of development projects

A considerable delay often occurs between the preparation of projects and their financing on one hand, and their implementation on the ground, on the other hand. The lag between commitments and disbursements demonstrates this sequence (see Chapter 5.1).

A study concerning 25 projects financed by FED showed that there is an average time lag of 6 years between the conception and the implementation of a project. An examination of the period 1975-1978 gives the feeling that the implementation of many projects is slow and encounters bottlenecks.

What are the obstacles that projects encounter in their implementation.

One appears to be procedures adopted by most donors. Before releasing funds, they require the putting into place of a number of structures and counter-part resources, which provide a guarantee that funds will be used effectively. These procedures should be made more flexible and less bureaucratic and this would facilitate the implementation of projects. Ten years ago, it was probably easier than today, once a need was identified, to put into place and to carry out a project rapidly. Donor agencies in most industrialized countries have not escaped the general tendency to complicate things. The implementation of development assistance is certainly better monitored today, more within normal administrative procedures, but it is unclear whether its efficiency is improved.

A second bottleneck is found on the Sahelian side in the administrations or public organisations charged with the implementation of projects. In three areas at least, the bottleneck is manifest :

- in irrigated agriculture where public organisations which develop and manage new perimeters have not, despite an increased effort by the International Community, gone beyond the pace of 5,000 new hectares per year;
- that of inland fisheries where the absence of resources prevents the carrying out of any major projects;
- that of reforestation which we have underlined above.

Other bottlenecks exist in other sectors which a deeper analysis would show. These are due to :

- the lack of resources (human and material) to implement development projects. One can note for example the difficulty that Sahelian administrations have in providing counterpart funds for certain projects;
- a poor use of existing resources. One can cite, for example, in the irrigated sector which has been better analyzed than other sectors, the poor organisation of certain public agencies charged with the implementation of projects: a delay if the order of 2 years to conclude a vital construction contract is not exceptional. Public agencies thus paralyzed become a bottleneck to development, while they were created to be a stimulus.

There is a fundamental problem. In priority sectors, a massive effort by the International Community, supposing that the problem of project

preparation is resolved, would encounter problems of project implementation in the lack of capacity of Sahelian organisations and their poor adaptation.

The time has come to ask how the development assistance system can be simplified. Is the present method which consists in delivering aid by carefully prepared projects and having them implemented by existing administrative or para-administrative structures a good method ? Other methods imply an active participation of local populations, but wouldn't they be possibly more effective ?

7.4 Joint Projects

During past years, the joint financing of projects by several donors has been generally limited to large projects :

- infrastructure projects which require large investments (dams, roads, ports);
- control of onchocerciasis;
- large agricultural development projects (such as Operation Mali-Sud, the integrated development of Southern Chad etc.) or more rarely in livestock (Western Mali, Eastern Senegal);
- mining projects (Guelb , Sonichar).

OPEC sources have used joint financing more often than other donors.

The question should be raised whether Sahelians and the International Community have an interest in promoting more financing of this type.

It is certainly desirable that several donor agencies pool their resources and their experiences to resolve major or particularly difficult problems. However, one can say that under the present system of programming and implementation of assistance, the carrying out of joint projects makes procedures even more complicated.

It seems that joint operations should be limited to large projects that one donor source cannot cover, or where another donor must complement what is being provided but without taking an active participation in the preparation and the implementation of the project.

The existence of the Ottawa Strategy, especially if it is made more complete and more specific, provides a framework within which donors can provide financial and technical assistance with the assurance that in doing so, it is working in the same direction as other members of the International Community and the Sahelians themselves to reach goals accepted by all. The existence of this strategy framework should promote parallel financing and the sorting out of the roles of different donor agencies, reserving joint financing for special cases.

7.5 Suggestions for future evaluations

The reach of this initial assessment that we have made is unfortunately limited by :

a) an insufficient number of evaluations made on projects;
b) the lack of overall indicators which would permit one to follow in real time without a big time lag, the trends in the Sahel. One constantly

runs up against the lack or the uncertainty of global statistics, whether it is a question of agricultural production, yields, meat consumption, fish, length of roads rehabilitated or needing rehabilitation etc.. One might think a priori that the area cultivated under modern irrigation is well known. It is not, and one cannot even be sure of the trend over the past few years. This is representative of the state of information in the Sahel.

It would be desirable to be able, at regular intervals, not only to evaluate projects ex-post, but also to compare the effort made by the International Community with the real trends in the Sahel and to see whether official development assistance has been well oriented and how it should be re-oriented.

For this, project evaluations should certainly be more numerous. But, they are not. Therefore, we can make some suggestions with a view towards preparing future evaluations which are more solidly based and richer in information.

(a) Evaluations of assistance provided by one donor source over a long or medium term can provide interesting elements insofar as they analyze in depth the impact of that assistance on trends in the country. In this regard, the initiative taken by the EEC to evaluate the assistance provided by FED since the beginning of the Fund until 1978 is excellent, and it would be good if such an example could be followed by other donors. Evaluations over five or ten years made by major donors would certainly provide pertinent and useful information.

(b) Sectoral surveys made at several years intervals such as was done by the irrigation team of the Club du Sahel Working Group in 1976 and 1979, or in depth sectoral surveys such as was done on recurrent costs and on road maintenance, should be done. Despite the difficulty in collecting overall information, the survey of irrigated agriculture permitted the highlighting of development problems encountered in this sector. When the problems are identified in depth and then analyzed, it is possible to proceed effectively. The same is true for road maintenance where a survey was able to uncover certain reasons for the deficiencies encountered.

Other fields would merit in depth surveys of this type: livestock in the Sahelian zone or in the agro-pastoral zone, continental fisheries, training in rural areas, etc.

(c) Finally, with regard to reliable overall indicators which are lacking, one would be tempted to recommend again the strengthening of agricultural statistical services, an effort to assure the homogeneity of regional statistics etc..

But one can wonder if, given the present state of Sahelian budgets, to impose new charges on them is realistic and whether the effort to have useful global statistics is really a priority. So many other priorities exist in the Sahel.

It would probably be just as well to resign oneself that we will not have these statistics for some time, which does not mean that an attempt to improve

the effectiveness of statistical collection capabilities should not be made (a number of improvements could be made : to know for example the number of irrigated hectares does not require increasing the size of staff, but simply a careful definition of the information needed to be collected and the maintaining of such information in the regional development agencies).

But, if we have to forgo overall statistics, it might be considered to monitor the evolution of the Sahel by sampling. One way to do this would be to choose (in principle at random) a certain number of villages (or herder communities) throughout the Sahel. Each village would be described in a detailed monograph indicating for example :

- the status of the population (demographic structure, health, etc.);
- status of agricultural activities (nature of crops, yields, production, storage, marketing);
- status of water supply and energy;
- manufactured goods available;
- cultural activities, etc.

Then at more or less regular intervals the village could be studied again and a comparison made between the present situation and the past. Such comparisons would be no doubt instructive as to the situation of the Sahel and major trends of its development. Without a sufficient factual basis, such trends are difficult to follow.

It is probably through a combination of the three types of action : overall donor evaluation, sectoral surveys, and sampling that one could best monitor real trends in the Sahel, the effect of assistance, and thus rectify, if needed, the policies followed by Sahelians and the International Community.

7.6 Conclusions

What outstanding points can one isolate to characterize the period 1975-1979 ?

A. The period was notable for the large increase in international assistance provided to the Sahel. The International Community tried, more than in previous times, to help Sahelians to solve their basic problems whose solution conditions not only the development of the region but its very survival.

B. The period was notable for the attempt to institute a new approach in cooperation between the Sahel and the International Community. The creation of the Club du Sahel, an informal, flexible organisation charged with developing interaction between those interested in the Sahel, was the starting point. The elaboration of the Ottawa Strategy, original in its objectives (long term) and by the methods used (participation of Sahelians and experts from the International Community), was an important step in this new approach.

C. This new approach contributed to developing reflection on the fundamental problems of the Sahel : the development of extensive farming, the deterioration of land, deforestation,etc.. The period was one of awakening both on the part of Sahelians and the International Community

as to the magnitude of these problems, their interdependence, of the fact that outside assistance could not be the sole remedy for deficiencies observed, but should be delivered within a coherent definition of sectoral policies.

D. The situation in the Sahel has not yet improved much despite increased outside assistance. Climatic hazards and the international situation are certainly related to this. The Sahel has probably lost some ground with respect to food self-sufficiency and food assistance has not stopped. Sahel countries have had to face more and more difficult budgetary and foreign exchange problems simply to assure the functioning of their administrations and of their economies; it is doubtful if the standard of life of the rural masses has improved overall. Some countries are in a more alarming situation than ever.

E. But, it must be underlined that following the dramatic drought, the Sahel was able to survive without a major crisis and this is no doubt a positive element in the balance sheet. It was able to do this while preparing in concert with the International Community its medium and long term future.
This effort of preparation for the future will not have any meaning unless a number of actions are continued with perseverance and others are re-oriented. In trying to draw some lessons from the period 1975-79, some suggestions for the future can be made :

F. First, it seems evident that the effort to assist the Sahel should be continued and strengthened, because the needs of the region are immense in all fields. An increase in assistance towards the strategy lines set out should be vigorously pursued until there is a profound re-orientation of the structure of assistance. The intensification of rainfed agriculture and also of irrigated agriculture should receive much more official development assistance than in the past. The same is true for reforestation and for actions to maintain the ecological balance.
A particular effort should be made quickly concerning certain key points : research and the development of more intensive farming systems and training linked to rural development. Without such an effort, a massive action to intensify production will fail.

G. Strategy lines which were defined are still in part unclear or not sufficiently coherent. A common effort of reflection undertaken between Sahelians and members of the International Community should be pursued by the Club du Sahel. Also, a major effort must be made by Sahelian Governments to make the priorities become facts, to define coherent sectoral policies, notably in cereals policy, livestock, reforestation, infrastructure, and to apply them.

H. The problem of the absorptive capacity of increased aid will become intense. The poor adaptation of Sahelian structures to serve as a point of application for assistance is at present evident. Action should be

initiated to reorganize and better utilize the limited resources that Sahelians have to programme and implement outside assistance. But, the research for new forms of action (at least in certain sectors) should also be undertaken jointly by Sahelians and the International Community : the substitution of assistance and development on a project approach by a sectoral approach, flexible programming of assistance, the taking into account of the capacity of local populations to innovate and to decide their own future, the evolution of outside assistance to a role of accompanying Sahelian initiatives, etc.
These are simple suggestions. A great deal of reflection is still needed. But, it is doubtful and, this point should be underlined, that a massive effort of exterior assistance can really be effective in areas as essential as the intensification of cereals production, livestock or reforestation, if such substantial modifications are not made to the framework of assistance and perhaps to the conception of development itself.

1. Finally, given the difficult situation of the Sahel and the problems that the Sahel countries encountered to meet recurrent costs of projects and to keep their economic and administrative system functioning, it is probable that during the next few years the International Community should, more than in the past, provide substantial assistance for operating costs.
But special attention should be given in the short term to help the Sahel cross a difficult period. It would be dangerous both for Sahelians and for the International Community to neglect middle and long term actions because otherwise the problems of the region would be even more numerous after 1985.

ANNEX 1 :

INTERNATIONAL COMPARISONS

TREND IN DISBURSEMENTS OF OFFICIAL DEVELOPMENT ASSISTANCE TO SAHEL COUNTRIES

	1975/74	1976/75	1977/76	1978/77
Sahel countries	- 2,5 %	+ 9	+ 3,8 %	+ 50,3 %
Africa	+ 61,3	- 10,9	+ 21,6	+ 12,7
Sub-Sahara	+ 32,0	0	+ 11,1	+ 28,3
America	+ 25,5	+ 1,0	+ 1,0	+ 20,0
Asia	+ 18,2	+ 1,4	+ 12,3	+ 14,2
Oceania	+ 19,8	- 6,9	+ 9,9	+ 24,0
TOTAL ODA Disbursements	+ 32,1 %	- 3,7 %	+ 5,8 %	+ 14,0 %

TRENDS IN DISBURSEMENTS OF OFFICIAL DEVELOPMENT ASSISTANCE

in US$ millions

ODA Disbursements	1975	1976	1977	1978
Total 8 Sahel countries	650,5	708,8	735,5	1.105,3
Total Africa	6.859,2	6.109,1	7.430,9	8.377,8
Total Sub-Sahara	3.708,2	3.702,6	4.112,1	5.275,9
Total America	1.785,0	1.769,7	1.754,5	2.103,8
Total Asia	7.887,0	7.995,7	7.012,3	8.008,5
Total Oceania	614,5	571,9	628,4	779,3
Total ODA disbursements	18.596,9	17.904,4	18.937,4	21.588,4
TREND = Sahel disbursements / Total disbursements	3,5 %	3,9 %	3,9 %	5,1 %

ANNEX 2 :

TERMS OF TRADE

TREND IN WORLD PRICES OF PRINCIPAL PRODUCTS EXPORTED BY THE SAHEL (1)

in current US$

	1975	1976	1977	1978	1979	1980(*)
Cotton (per kilo)	123	175	163	161	171	181
Groundnuts (MT)	452	424	551	621	565	533
Phosphates (MT)	67	36	31	29	33	43
Minerals (MT)	22.6	21.9	21.6	19.4	22.2	26.6

MT=in metric tons

TRENDS IN THE PRICE OF AN OIL BARREL (1)

in current US$

	1975	1976	1977	1978	1979	1980(*)
Barrel of oil	10.9	11.7	12.8	12.9	20.0	28.0

TREND IN THE PRICE INDEX (CAF) OF MANUFACTURED PRODUCTS (CTCI 5-8) EXPORTED TO DEVELOPING COUNTRIES

basis 1975=100 (1)

1975	1976	1977	1978	1979	1980(*)
100	101.7	109.8	127.2	144	159.0

(1) Source : "Price Prospects for major primary commodities" - The World Bank - February 1980

(*) forecast

ANNEX 3 :

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