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AMEMBASSY ABIDJAN

FROM ADO/Dakar, Senegal (685)

SUBJECT PL 480 Title I Program for Senegal.

REFERENCE AIDTO Circ A 313 dtd 6/3/76

Pursuant to refair, ADO/Dakar herewith submits a PL 480 paper in support of initiating a Title I program in Senegal. Senegal has regular recurring rice import needs. A PL 480 Title I sale of rice is proposed herein to begin with 25,000 MT in FY 77. Foreign exchange support derived from the sale of PL 480 rice would be used for developmental purposes in accordance with DAP strategy and overall AID strategy in the Sahel. Agreement would be reached with the Senegalese Government on certain policies concerning its development effort as outlined in this paper. Also, the Government will agree to continue rice purchases from Free World suppliers at average levels for past years given a decreasing pattern of purchases so that usual market considerations will be met by this proposed program. Given Senegal's serious economic difficulties brought on by the drought and the inflationary spiral in world commodity prices, favorable consideration of this proposal is requested.

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Attachment ~~is~~ Run is part of AIRGRAM

PAGE 1 OF 1 PAGES

APPROVED BY <i>[Signature]</i> AFell, D/RDO/mmd	OFFICE	PHONE NO	DATE 8/11/76	APPROVED BY <i>[Signature]</i> Arthur M. Fell, Deputy
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AID AND OTHER CLEARANCES
Eugene Moore, FFPO/ABIDJAN (DRAFT)

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BEST AVAILABLE DOCUMENT

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Area Development Office/Dakar
Agency for International Development
American Embassy
Dakar, Senegal

PROPOSAL FOR A PL 480 TITLE I PROGRAM IN SENEGAL

BEST AVAILABLE DOCUMENT

ADO/Dakar
10 August 1976

PROPOSAL FOR TITLE I PROGRAM IN SENEGAL, FY 77

Pursuant to AIDTO Circular A-313 dated June 3, 1976 ADO/Dakar proposes the initiation of a Title I program in Senegal. Senegal is a key Sahelian country, central to AID strategy for the region aimed at reaching food self-sufficiency. Among the Sahelian countries, Senegal is the choice country to increase food production in the medium term and reduce the region's draw on world food supplies. The Senegalese economy has suffered from the drought, dropping prices of its main imports (phosphates and groundnuts) and the inflationary spiral in world commodity prices (food, oil and fertilizers). Thus it has a serious balance of trade deficit which this program could help to alleviate.

Senegal is a net importer of rice but is moving toward becoming a rice producing nation. The proposed program hereunder would begin in FY 77 with a sale of 25,000 MT of rice. Agreements would be reached with the Senegalese Government so that purchases from Free World Suppliers would continue at average levels for the past several years taking into consideration the

decreasing trends in rice imports. Usual marketing requirements will be met. The local currency generated from this program could enable Senegal to move forward in key areas (particularly those related to agricultural production and rural development). This program would not only provide a tremendous impetus to Senegal's development, but would provide strong support for AID's overall Sahelian development strategy.

INTRODUCTION

Covering some 200,000 km² within the Sudano-Sahelian climatic zone, Senegal is a very poor country with limited economic resources. Population is about 4.2 million. Rural activities, mainly agricultural, engage 70% of the labor force. Although the rural sector accounts for only 30 to 35% of GDP, agriculture's leverage on the economy is considerable through its impact on both exports and rural demand for locally produced goods and services. Over the past decade, agricultural exports have accounted for about 60% of total exports. (See Appendix I for basic information on Senegalese agriculture.) The economy is heavily dependent on groundnut production. Senegal's traditional agricultural production is limited by sparse rainfall which occurs in a short period of the year. There is only one substantial mineral resource, rock phosphate, that is presently exploitable. Rapid development of modern sectors is hampered by manpower limitations: only ten to fifteen percent of the adult population is literate.

Overall population pressure is not very high, at 21 inhabitants/km². But over half the population live in the Groundnut Basin, which comprises only 16% of the country's total area.

Senegal's economic growth has been generally slow since independence. The departure of the French in large numbers was a significant factor in the early sixties. Then for three years, from 1968 to 1970, there was an extended groundnut crisis, due to a combination of drought, lower export prices, and organizational problems. Groundnut production was almost 30% lower in these three years than in earlier years; and GDP grew at only 2% per year (constant prices). Since 1970, groundnut marketing conditions and prices have improved; but drought persisted in 1970/71, 1972/73 and 1973/74. As a result, growth of GDP has continued slow.

Background on PL 480 Program in Senegal

The bilateral economic assistance agreement between Senegal and the U. S. was signed on May 13, 1961 and a PL 480 program commenced almost immediately with 25,000 tons of rice worth \$3,600,000 supplied under Title I in 1961. Additional Title I programs were provided in subsequent years through 1964 amounting to 65,000 tons of rice worth about \$9.2 million. The resulting local currency was loaned (\$1.6 million equivalent) and granted to the GOS for a wide variety of development

projects and U. S. uses. Three lycees were built (Dakar, Thies and Kaolack), the road from Cayar to M'Boro along the coast was financed, several primary schools and elementary school inspection stations and five rural dispensaries were built, and a number of smaller projects were carried out with the counterpart funds.

Since 1961 there has also been a PL 480 Title II program implemented by the Catholic Relief Services. This program has varied between about \$500,000 and \$1,500,000 a year rising to a peak of \$1,699,000 in FY 67 when there was a serious shortfall in local production due to a drought year. The commodities provided have been distributed by CRS to a variety of recipients such as school children, hospital patients, and needy families. The program also assisted various refugees, notably from Guinea Bissau.

During the serious drought culminating in 1973 AID provided emergency food assistance to Senegal amounting to over 60,000 tons of sorghum worth over \$7 million. The

emergency food assistance program was carried out with relative ease in Senegal compared to other Sahelian countries because of Senegal's coastal location, smaller size and relatively well developed transportation network. All imported food arrived in Dakar and was moved to recipients as needed. This emergency effort was an overall success and alleviated the suffering of thousands.

PL 480 programs in Senegal have been well received by government officials and have made positive contributions to Senegal's well being and development. However, past PL 480 programs have, with the exception of the CRS program, been either one-time programs or emergency requirements based on the Sahelian drought. Accordingly, the Mission herewith proposes a long-term multi-year PL 480 rice program (four years) of 25,000 MT rice annually to assist the GOS to maintain adequate rice supplies, provide local currency support for certain priority areas and to help resolve Senegal's chronic balance of trade problem which has been steadily worsening since 1968 and which in 1976 is estimated at about U. S. \$120 million.

It is estimated that, at the end of this four-year period, 1981, the F/X position will have improved to such an extent that, coupled with its domestic rice crop, the GOS will be able to satisfy its rice requirements from its own resources. Title I assistance will thus form an important part of the GOS Fifth Four Year Plan which runs from 1977 to 1981.

Senegal is a key Sahelian country. This point is strongly emphasized in the DAP for the region, which points out that things can happen faster in Senegal than in other Sahelian countries. Senegal, from among the other countries in the region, has the most distinct potential to reduce the draw on world food supplies and indeed could even become a net producer of food for other Sahelian countries. A PL 480 Title I multi-year program will make a significant contribution to the realization of this potential and would be strongly supportive of USG Sahelian strategy.

GOS AGRICULTURAL POLICIES AND OBJECTIVES

In the past two years a number of factors indicate that Senegal not only has distinct prospects for improving its agricultural production significantly, but also

has the political will to do so.

In November, 1974, the Government took a very important and politically difficult step towards improving agricultural policy. Prior to November, 1974, rice, Senegal's main import and the most popular food consumed by the urban population, was imported from world market sources at about 100 CFA per kilo and sold to consumers at 50-60 CFA per kilo with the difference subsidized from a stabilization fund. This situation had evolved over a number of years. Because of urban buying habits and political pressures it was an extremely difficult situation to remedy. Nevertheless, a complete overhaul of the pricing system was instituted by the Government in November, 1974. Producer prices of groundnut, millet, paddy, cotton and maize were raised sharply. Consumer prices of rice and bread were also raised sharply with rice prices rising to 100 CFA per kilo. The result of this sweeping and courageous move in increasing the consumer price for rice was: a) to stop a heavy subsidization of rice from the stabilization fund; and b) decrease demand for imported rice. The increase in producer price allows farmers to earn relatively

good returns from rice and millet production and will encourage production of each cereal in areas where it can be efficiently produced.

Since November, 1974 the world market price of rice had drifted down to around 50 CFA per kilo delivered in Dakar, the Government backed off from the 100 FCFA per kilo price in April, 1976 and put the price at 80 FCFA per kilo, still above the world market price. Thus, urban consumption of rice is no longer subsidized. As a result funds are being added to the stabilization fund.

Another example of Senegal's ability to improve prospects is in its policy approach as reflected in its development plans. Until the drought in the early 1970s Senegal tended to neglect its agriculture, a policy which, as pointed out in the DAP, was beginning to bear bitter fruit. From independence in 1960 through 1974 public investment in the primary sector was under 4% of GDP. Recently a much greater portion of the budget is being devoted to agriculture. In the present four-year plan (1973-77) 23% of the budget was devoted to the

primary sector. The forthcoming four-year plan will increase this to 26%, with greater diversification of farm activities than in previous years.

In line with encouragement of farmer production, the Government is financing with its own resources 30,000 MT of storage facilities for cereals purchased. In conjunction with this program AID will finance an additional 30,000 MT of storage space in FY 77 with the project presently under design.

Thus there is tangible evidence that the Government can and will make difficult decisions in the area of agriculture policy.

The Government objectives in agriculture are to increase the output of export crops, to improve foreign exchange earnings and to raise the production of food crops to meet rising demand. GOS also aims at diversifying national output to diminish the impact of weather and price fluctuations, and to reduce income disparities through regional development programs. These regional programs are carried out by specialized agencies which range from corporations to more or less

standard Government services, but their purpose is typically the development of a region or a commodity. Their activities include extension, construction, maintenance of infrastructure, commodities, marketing and processing, training, settlement, input supply and agricultural credit. The GOS intends to transform these development agencies into regional development authorities, one each for the Groundnut Basin, the Region du Fleuve, Eastern Senegal and Casamance.

The GOS proposes to implement projects to increase the production of millet, sorghum, corn and other dryland cereals production. Government encouragement of the regional development agencies will provide the intensive supervision needed to move farmers to higher levels of productivity.

For rice production two areas are receiving particular attention: the Casamance and the Fleuve Region. The Casamance is a potentially rich area with ample rainfall, good soils and a population used to working with rice. In the late 1960s AID initiated an important rice project in the Sedhiou area which was subsequently

picked up by the IBRD and has become a major production area. AID is programming a rice and corn production project in Upper Casamance and will finance a study of the prospects for developing the Baila River, a tributary of the Casamance River. AFDB will be financing development of the Nyassia-Guidel Development in the Lower Casamance on the other side of the Casamance from the Baila. Together with the IBRD project at Sedhiou and a commercial rice scheme in Upper Casamance on the Anambe, it is estimated that an additional 30-50,000 hectares of rice could be brought into production in the Casamance alone. This additional surface could almost make Senegal self-sufficient in rice within a decade. In the Fleuve Region, AID has programmed a 3-4,000 hectare perimeter at Matam with a level of funding in the area of \$15 million. SAED, the regional development agency for the Senegal River Basin, is operating irrigated perimeters covering 11,000 ha. This is planned to be expanded to 45,000 ha by 1985.

AID STRATEGY

Overall AID strategy for the Sahelian region within the context of the Club des Amis du Sahel and the Sahel

Development Program is aimed at bringing the Sahel to a level of food self-sufficiency for the region as a whole. Given the comparative advantages of agricultural production in Senegal, particularly in the Casamance, there is no question but that Senegal is central to AID's Sahelian strategy. The DAP for the region and for Senegal maps out a strategy emphasizing agricultural production in the Senegal River Valley and the Casamance coupled with improved research concerning the right package of inputs for small farmers, micro-level farm economics and conservation needs. It should be noted that Senegal has a very strong research base, without doubt the strongest of any Sahelian country. The Agricultural Research Station at Bambey (ISRA) is the oldest in sub-Saharan Africa and a tremendous amount of agricultural research experience has been built up through ISRA, ORSTOM (a French overseas research organization) and Senegalese agricultural extension agencies such as SODEVA (which receives AID support).

STRATEGY AND PROPOSED USES OF COUNTERPART FUNDS GENERATED BY PL 480 PROGRAM

AID Support of the Small Farmer

AID already has an important program involving small farmers in the groundnut basin involving extension

work by SODEVA to expand and intensify drylands agricultural production in the Thies-Diourbel region. This is part of the Groundnut Basin, the principal area for the production of millet in Senegal. For a number of years the National Agricultural Research Center at Bambe (Senegal) carried on research to perfect drylands extension methods adapted to the needs of the small Senegalese farmer. The necessary technology and methods have been developed to assist small farmers to obtain greater dryland productivity. The program financed by AID includes working with small farmers in the use of better seed varieties, light fertilizers, animal traction, specially adapted intermediate technology and farm implements, and the introduction of rational and timely planting methods all through an extension service and graduated program of intensification.

The role of Promotion Humaine, financed by AID within this program is to bridge the gap between the technical and sociological aspects of the program. Promotion Humaine activities are designed to assist the small drylands farmer to assimilate the new technologies. This is done through a series of activities such as special

artisanal training, women's programs, literacy training and other community activities and has been operational for over one full year.

AID and GOS have considered it likely that the above project would be extended and replicated in other departments. To enlarge this small farmer dry-lands agricultural program, which already has a solid research and operational base behind it, would require additional financing which would be available from Title I counterpart funds.

Nutrition

Local currency generated by a multi-year Title I program in Senegal will be useful in assisting the Government to continue and expand its program to combat malnutrition among vulnerable groups of its population.

Malnutrition, especially in the form of kwashiorkor and marasmus, is a major health problem in Senegal. There are real food shortages during the seasons before harvest and in areas subject to drought. There is poor utilization of existing food resources, both in the cities, where rural immigrants settle, and in the rural areas. The latter type of malnutrition could be corrected through programs of nutrition education, as well as by encouraging the consumption of more pulses and other protein-rich

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vegetable resources widely available in the country.

Health workers report that the number of cases of serious malnutrition among children has increased enormously in recent years. Senegalese physicians say that the reasons for increasing malnutrition among children are: shortages of foodstuffs in general, decline in quality and quantity of personnel dealing with children, and money shortages for keeping nutrition education and rehabilitation programs operating. Recent droughts have magnified the problem.

It is estimated that 9-14% of the under-five-year-olds in Senegal suffer from Grade III malnutrition (very serious level of malnutrition) while Grade I malnutrition (a less serious level) is so common that it is considered a normal state. Infant malnutrition is especially acute at time of weaning. Efforts to correct this situation include:

- (1) educating mothers to prepare porridges and other weaning foods based on locally grown protein-rich resources, such as niebe (cowpeas) and pulses (peas and beans) and
- (2) producing a manufactured weaning food primarily for use in urban areas. The first type of activity is carried out at maternal and child health centers (PMI).

A pilot center is located in Fatick, where integrated medical, health and social services are provided, is supported by UNICEF and also received AID R&R funding. The Government hopes to expand such services to 200,000 additional inhabitants per year. The World Food Program supports four types of projects in Senegal: (1) school feeding programs, (2) socioeconomic projects of 3-5 years duration, such as foodstuffs provided for resettlement project families, (3) semi-emergency projects, and (4) emergency projects. The school feeding program reaches children in 280 schools; the main difficulty is to adapt foods donated by various countries to local tastes. While wheat is an acquired taste in rural Senegal, for instance, rice is in great demand and is distributed without difficulty. Food for Work activities provides food in lieu of salaries to villagers. Emergency projects include relief food supplies to drought-stricken areas, and furnishing food for 15,000 refugees.

The UNICEF "Women, Youth, Children" Project, in addition to improving health, emphasizes distribution of clean water, rural and agricultural education of youth with emphasis on truck gardening, and home economics with

emphasis on transforming the way of life of young mothers and their children. Specific goals include assisting women to free themselves from domestic chores in order to devote more time to their children, and improving nutrition through school gardens, canteens and small animal projects.

The program of Catholic Relief Services, supported by Title II donations, is probably the largest voluntary nutritional program in Senegal. It reaches over 150,000 recipients with the majority of the beneficiaries in priority MCH and pre-school categories. The Government is particularly cognizant of the need for the pre-school feeding program. The Fourth Development Plan of Senegal states that "malnutrition combined with infectious child diseases, is one of the most important factors influencing mortality at a young age and its incidence on the later development of children is heavy with consequences. It is connected to a poor education of mothers and manifests itself at weaning, particularly in the urban zones." The CRS pre-school health program consists of advising, promoting, and carrying out activities aimed at maintaining adequate growth of pre-school age children. These activities are complementary with other current medical and socioeconomic programs operated at the level of the family and community by

governmental and other agencies. It includes i) education of the mother in child care; ii) periodic assessment of the child's nutritional program (physical growth, through the use of a weight chart); and iii) provision of supplementary food.

In its FY 1977 Annual Budget Submission (p. 61) ADO/Dakar submitted a PID for Nutrition Education Project in Senegal aimed at promoting good diet and better utilization of existing local resources to combat malnutrition. It was pointed out in that PID that the major chronic cause of malnutrition in Senegal today is lack of knowledge of the basic principles of good nutrition and of how best to utilize existing local resources to promote good diets. Unfortunately, this program could not be initiated due to lack of funds.

A Title I program will enable the Mission to encourage and expand on-going nutritional programs, particularly CRS, and initiate a nutritional education program. It would also provide the food itself which will fit into programs for nutritional improvement.

Family Planning

Local currency generated by a Title I program in Senegal will be used to encourage the Government to support an emerging family planning program which is badly needed, and which AID is considering for a grant in a PID dated June 2, 1976.

Population pressure in the cities and in the most fertile agricultural areas is becoming intense. The relatively productive "groundnut Basin" in west-central Senegal is so heavily populated that the Government has attempted a resettlement scheme involving migration to Senegal Oriental.

Given the amount of productive land available, the composition of Senegal's population, and its growth rate (2.5%), the Government is gradually moving towards a policy supportive of family planning. Up to the present time, some family planning clinics and activities have been permitted to operate, but without direct Government support. Some AID assistance through the Pathfinder Fund and IPPF has been provided to the Croix Bleue, a private clinic in Dakar providing training and some family planning services.

An officer in the Ministry of Health has been given responsibility for family planning activities and the Government recently sent several midwives for training in family planning to the Croix Bleue clinic in Dakar.

It is obvious that there is a very thin resource basis from which to operate a family planning program in Senegal. There are virtually no supplies, no equipment for gynecological examinations, and the medical profession and health professions in the Government services have had little exposure to the techniques of family planning. There is a great need for training at all levels and for basic supplies. The Title I program would generate local funds which the Government will use to support, on a gradual basis, an expanding family planning program.

Non-formal Rural Education

There have grown up in Senegal over the past fifteen years a series of programs designed to compensate in various ways for the shortcomings of Senegal's school and agriculture extension systems. The lengthy, expensive task of reforming the state school system to more adequately address the needs of the rural areas got underway only in 1971. Many years must pass before schools in Senegal become a more effective means of raising rural literacy rates,

nutrition, health, and employment opportunities. Similarly, the extension services, including SODEVA, remain oriented in the formal tradition towards the delivery of special knowledge and techniques. Senegal's extension services are not yet staffed with personnel possessed of a solid technical background who are at the same time well practiced in teaching and organizational skills.

To compensate for these deficiencies, various programs have emerged in Senegal since 1960, each independent of one another in conception and in source of financial support.

- The oldest of these programs is Animation Rurale, a service of Government since independence (1960) in the community development style of the anglophone areas. Animation Rurale was established to help local people to organize themselves and, with the help of the Government's regular technical advisors, to make needed changes.
- Sometime later, in the mid-1960s, the Maison Familiale program, imported from France, took root in Senegal, offering practical training to rural men and women in the 15-25 year age group.
- More recently, a literacy program, still in fledgling form, has set up a national office in Dakar, and has begun to offer literacy training on a

special request basis, mostly thus far for industry.

- Ten years ago, the I.L.O. assisted in the establishment of the Rural Professional Training Program for the training of rural artisans, builders, "pilot" farmers, and fishermen. (I.L.O. support for this program terminated in 1975 under the I.L.O.'s ten-year rule for maximum duration of support.)
- Most recently, the Practical Middle-Level Training program (EMP) was founded, designed principally for the 80% of primary school graduates who do not gain entry to secondary school. This program recently received \$3 million in support from the IBRD to build and equip the first 30 EMP centers under a careful program of phased expansion.

Given their common set of objectives and their independent origins, these programs all overlapped each other to a greater or lesser extent. In an effort to coordinate rural training programs, the GOS in 1973 brought these five activities together within the same bureau, entitled Promotion Humaine. Early in 1975, Promotion Humaine was elevated to the rank of a State Secretariat, formally

attached to the Ministry of Education.

A major objective of the DAP was to recommend ways in which AID could assist with the development of human resources in the rural areas, in order to compensate for the deficiencies of the present education and extension systems. Following a survey of Promotion Humaine activities, the DAP team recommended that AID should consider long-term support to Promotion Humaine. The major premise upon which AID support must be based, the DAP made clear, should be Promotion Humaine's ability to work closely with the agriculture, health, livestock, and education services in better preparing rural peoples to raise their own standards of living.

To encourage Promotion Humaine and these technical services to work in a mutually complementary fashion, the DAP report suggested that AID should begin its assistance to Promotion Humaine in a modest way. The DAP specifically recommended that AID approve supplemental appropriations to ensure Promotion Humaine participation in the two medium-term food production projects authorized by AID in December 1974, namely Senegal Cereals Production (SODEVA) and a livestock project in eastern Senegal.

Promotion Humaine authorities themselves welcomed this recommendation, believing that the two medium-term projects would present an unusually good opportunity to demonstrate the value of their activities.

The Mission believes that Promotion Humaine represents *a* unique and highly innovative endeavor by the Senegalese Government to promote non-formal rural education. There is probably no better example of a viable, government-supported program of non-formal rural education in any Sahelian country. Thus, the Senegalese example merits support, not only for its in-country development effects but also as an actual example for other Sahelian countries of what non-formal rural education is all about and how to structure such a program.

Continued AID support for Promotion Humaine can translate the theory of non-formal rural education into practice starting from a viable base. ^{Budget assistance generated from} /a Title I program would be particularly welcome by the Government in this area which suffers from severe budgetary constraints.

Rural and Agricultural Education

Local currency generated by a Title I program in Senegal can be useful in assisting the Government to

continue and to expedite its program of rural education. Such a program would seek more direct, less costly ways of improving the productivity and the living conditions of the country's rural population (compared with the school system of the past).

The Government plans by the end of this year to have at least one teacher training college for primary teachers in each region of the country. The Technical Training Division of the Ministry of National Education is charged with overseeing some 50 vocational, technical, professional and teacher training schools and centers.

Examples of technical schools are the Technical School for Agricultural Agents at Ziguinchor, the Technical School for Livestock Agents at St. Louis, and the Technical School for Water and Forest Agents at Ziguinchor. The National School of Horticulture is an example of a professional school. Twenty-seven of the centers and schools, some in every region, are concerned with housekeeping and home economics work.

The National School for Rural Officials is the chief middle-level agricultural training school. It is located at Bambey, close to the main agricultural research station of the country.

Most important of all are the plans underway to establish a degree training program in agriculture. At present candidates for study in this critical speciality are sent primarily to France for training. The need for university level agricultural training in Senegal has long been identified and was highlighted in the DAP. The Government is studying this project intensively. The Mission proposed a PID for the FY 78 ABS to support the university level school perhaps by providing drylands/ water resource teaching units linked institutionally to the Consortium for International Development (CID - a group of U.S. drylands agricultural schools). Title I counterpart funds would be programmed for local costs in this extremely important and necessary agricultural education program. In addition, this program would be supportive of the overall strategy in agriculture for the Sahel and in fact is an absolute necessity for the long-term success of that strategy.

Livestock and Land Resources

In livestock Senegal's policies are somewhat less well developed than in other areas of agriculture. AID is financing one major project designed to introduce improved range management. This project is located in eastern Senegal near Bakel and covers 130,000 hectares. It is situated near the IBRD/Arab financed livestock scheme in Senegal Oriental. The DAP recommends that AID work towards enhancing Senegalese experience in conservation, land-use planning, water management and commercialization in addition to range management already undertaken in the Bakel project. For FY 78 AID has proposed a major reforestation-land resources management program. This kind of a program is of extreme importance in controlling environmental degradation and working towards revegetation of the Sahel.

Women's Development

Another area of AID interest, improvement of the status of women, was supported by the earlier PL 480 Title I program of the 1960s when counterpart funds were used to construct the John F. Kennedy Lycee for Girls in Dakar. The Government is keenly interested in following up on this assistance to expand the Lycee and the Mission would support this project with counterpart funds.

Health

In health, AID is in the final design stages of the rural health project for Sine Saloum. While rural health is a sector of primary concern to the Government, as in many developing countries, there is serious pressure to provide curative medical facilities for the urban populations. Thus, there is a severe resource gap which needs to be bridged to enable the Government to be involved in rural health delivery to the extent it should and plans to do.

Need for Counterpart Funds

The problem of local costs for supporting these programs is highlighted in the DAP. "AID projects in Senegal will have to be on quite concessional terms, including a substantial grant element, and to cover some portion of local costs." (P. 163 of DAP.) The Government cannot, given its balance of trade and internal budgetary problems, cover adequately the local costs of the expanded program aimed at by overall AID Sahelian strategy or even DAP strategy without the additional assistance proposed under this Title I program.

Moreover, the strategies outlined above fit into AID's overall Sahelian strategy. Senegal's central importance as a productive area in the Sahel with the potential to reduce the draw on world food sources for the region as a whole makes it a particularly attractive candidate for Title I assistance.

Senegal's Development Progress and Prospects

In the first decade of independence between 1960 and 1970 Senegal's real growth rate was nil. Real national income fluctuated around \$160/capita (1970 prices), in close correlation with weather conditions, and declined between 1969 and 1973 because of the impact of the Sahelian drought, but has since recovered to pre-drought levels. The central problem of the Senegalese economy is the country's continued dependence on rainfall to grow the essential peanut and foodgrain crops. With only 2% of the cultivated land under irrigation (Ministry of Rural Development estimate) Senegal is dependent upon exogenous factors beyond its control: weather, and world prices for vegetable oils and phosphates.

Following the drought, Senegal's reserves reached an all-time low of minus \$10 million in 1973. A slight improvement in 1974 with the increase in prices of Senegal's main exports (groundnuts and phosphates) was wiped out in 1975 with a drop in prices. The trade deficit in 1975 was estimated at \$120 million and in 1976 at \$225 million. The current accounts deficit has reached \$96 million and the overall deficit after capital movements is \$30 million. This situation is not the result of inappropriate GOS economic/financial policies but comes about primarily from the world market price of phosphates and groundnuts which make up 90% of Senegal's export earnings. With respect to phosphates world market price was at \$72 in 1974 and has now dropped to \$41. However, due to market conditions Senegal is forced to sell at \$25 per ton leaving almost no margin over actual production costs estimated at \$22 a ton. Groundnut prices dropped from \$300 per ton in 1974 to \$200 per ton last year and more recently to \$160 per ton. An Article XIV IMF Consultation dated 3 January 1975 calls attention to the fact that Senegal had virtually depleted its external reserves at that time, but commends

(an unusual high point in price cycle)

Senegal for having rationalized its consumer prices, subsidies and producer prices.

Since 1970, and particularly since the experience of 1973, the Government has made a number of policy changes to reduce the effect of exogenous variables and stimulate growth. External borrowing has risen dramatically: the debt service ratio went from 2% in 1970 to 10% in 1976. Most of this borrowing went into infrastructure (roads, ports, railroad, telecommunications) or projects to directly increase agricultural production. The flow of internal credit has also been greatly liberalized. Subsidies on mass consumption articles have been reduced^{or eliminated} and producer farm prices have been raised. Finally, the design and implementation of development plans has become markedly more sophisticated, as is seen in the high rate of project completion during the Fourth Plan (compared to previous efforts) and the emphasis on directly-productive projects which will mark the Fifth plan.

Focusing on the area of agricultural production, a number of strengths and weaknesses can be seen. On the positive side is the progress made along the Senegalese River Valley in bringing increased surface area into

productive use, the gradual increase in the use of fertilizer, improved seed and implements, and the diversification of output into such products as sugar, tomato paste and export-quality fruits and vegetables which were not produced locally before 1970. On the negative side is the relative neglect of the Casamance, potentially the richest agricultural area in the country, the continuing disequilibrium between farm and, consumer and world market prices, and the weakness of the extension services.

The Senegalese Government overall has an ambitious program of development based on maximum use of the country's available resources to gain a measure of independence from external factors. A respite from drought, insect invasions and depressed export prices, coupled with increased donor assistance is needed over the next five years to permit the construction of a solid economic base.

Macro-Economic Framework for Senegal

A comparison of one actual and two budget years is given in Table I. Recurrent expenditures for the rural sector increase by 42% (in current prices) over two years, in line with the same increase in the total recurrent budget. Development expenditures for the rural sector increase over the same period by double the original figure. However, because of the increase (almost five times) in the

total development budget, the actual percentage represented by agriculture actually drops from 14% to 10% of the total. Actual total recurrent and development budget apparently increased by more than 100% over the two years, and is planned to increase again next year by 24% over this year. All percentage comparisons have been adjusted to a per capita basis.

The development budget and fund sources are covered in Table 2. Total four-year budgets for the two national plans are included. The total budget (on a same-price-level basis) appears to increase slightly, and the primary sector increases by the same proportion.

The Gross Domestic Product is divided by major sectors in Table 3. While the per capita GDP increases slightly over the decade the value added by agriculture drops by 6%. Undoubtedly, a strong influence in this prediction is the anticipated values of the major crops, and their reflection of low, long-run world prices.

The balance of trade is shown in Table 4. Over the decade, the net trade balance is expected to move from a negative 16 billion francs (imports larger than exports) to a positive 10 billion (exports larger than imports). At the same time, consumption per capita will be forced to decrease

by 9%, but capital formation will increase by 80%. These figures certainly show the determination of the Government to proceed with the building of a base for development. At the same time, one must remember that these figures represent goals to attempt to reach, and practical difficulties may intervene to prevent complete achievement within the limited time framework.

TABLE I
GOVERNMENT EXPENDITURE BY FUNCTION - SENEGAL
 (billions of F CFA at current prices)

	ACTUAL 1973/74	BUDGET ¹ 1975/76	PPP CAP		BUDGET ² 1976/77	76.7 ³ %	75/76
			75/6	73/4			
Recurred Expenditures							
General Services	18.09	29.48					
Social Services	14.19	22.25					
Economic Services	6.16	8.58					
Agriculture and Rural Development	(2.34)	(3.44)	142				
Public Works and Other Exp.	(3.82) 5%	(5.14) 5%					
Unallocable	9.59	10.69					
Total Recurrent	48.03	71.00	140		108.78⁴		149
Development Expenditures							
Studies and Research; Water supply; Energy; Industry; Commerce; Tourism	0.68	1.79			5.49		
Agriculture and Rural Sector	0.81	2.59	300		2.94		111
Transport and Telecommunications	0.77	1.41			3.57		
Social Projects	0.76 14%	4.07 10%			7.71		
Administrative Equipment	0.60	5.02			7.98		
Participation	2.15	6.97			7.23		
Carryover and Unclassified	0.0	3.15			5.80		
Total Development	5.80	25.00			10.72		
Total Recurrent & Development	53.83	96.00	168				
Revised Recurrent & Development Budget		117.30²			119.50		121

¹ Source: Budget Général, Section 1975-76

² Source: Le Moniteur africain, Juin 1976

³ Actual expenditure, reported in Le Moniteur africain.

⁴ Includes 30.5 billions of advances from the Treasury which cannot at present be allocated to appropriate functions.

TABLE 2
DEVELOPMENT BUDGET EXPENDITURES - SENEGAL
 (billions of F CFA)

	(1974-77)		(1978-81)			PER CAP (V adj.) (IV adj.)
	PLAN IV		PLAN V			
	Initial ^o	Adjusted ^{oo}	Initial ^a	Adjusted ^{oo}	1977 Prices	
Primary Sector	41.3	75.3	72.8	87.36	104.83	106
Agriculture	(24.8)	(47.6)	26%	47.6	57.12	68.54
Livestock, water, forestry, fisheries	(16.5)	(27.7)				
Secondary Sector	26.7	41.8	67.2	80.64	96.77	
Tertiary Sector (incl. Transportation)	37.9	34.8	23%	70.0	84.00	100.80
Infrastructure	22.0	53.5				
Social Sector	39.7	86.5	22.4	26.88	32.26	89
Research and Administration	12.0	31.9				
TOTAL	<u>179.6</u>	<u>323.8</u>	<u>280.0</u>	<u>336.00</u>	<u>403.20</u>	104
Sources of Development Budget Funds						
External	135.0	178.0	221.0	221.0	265.2	124
Internal	45.0	146.0	59.0	115.0	138.0	79
TOTAL	<u>180.0</u>	<u>324.0</u>	<u>280.0</u>	<u>336.0</u>	<u>403.2</u>	

o Per capita based on 1976 and 1980 population. Primary sector uses rural population only.

o 1972 Price level

oo 1975 Price level

oo Includes current expenditures. 1975 price book

a Capital formation only. 1975 Price level.

Source: Ministry of Planning

TABLE 3

GROSS DOMESTIC PRODUCT BY SECTOR
(billions of F CFA, 1973 Price Level)

	Actual 1972	1976	1981 (est)	Per Cap. 81/72
Value added by Agriculture	73.86	85.44	84.27	94**
Value added by Industry	54.46	76.29	84.26	
Value added by Services	115.55	143.43	168.52	
Adjustment	<u>9.79</u>			
Gross Domestic Product	253.66	305.16	337.05	103
Production by business	243.87			
Production by Government	2.59			
Production by households	7.00			
Adjustment	<u>0.20</u>			
Gross Domestic Product	253.66		337.05	

* Including consumption on the farm. (Source: Ministry
(of Planning

** Including government and households.(

*** Per Capita rural population only used here.

TABLE 4

BALANCE OF TRADE AND GROSS DOMESTIC PRODUCTION ●
(Billions of Y CPA at 1973 Prices)

	ACTUAL 1972	1981 (est)	'81/'72	PER CAP. '81/'72
<u>Resources</u>				
Gross Domestic Product	253.66	337.05	133	103
Trade Balance	+15.88	+10.11	164 °	
Exports	(54.41)	(680.11) ^{°°}		
Imports	(70.29)	(670.00) ^{°°}		
Total Resources	<u>269.54</u>	<u>326.94</u>	121	
<u>Resources Use</u>				
Consumption	242.30	286.49	118	91
Capital formation	25.63	60.67	237	183
Added to stocks	2.80	3.36		
Net errors and omissions	- 1.19	-23.58		
Total resources used	<u>269.54</u>	<u>326.94</u>	121	94

● Source: Ministry of Planning.

° Total difference of 25.99 used for 1981.

°° Estimated, based on actual 1974 exports and imports, with annual increases of approximately 39% for exports and 33% for imports.

General's Balance of Trade

As noted above, the GOS balance of trade has been steadily worsening and for the last nine years has been in deficit each year. As will be seen from the following table, the increase in the deficit has been somewhat regular (the drought year 1973 was a one-time aberration) although it appears to be increasing at a faster rate in recent years.

Senegal Trade Balance
(Billions CFA Francs)

	1968	1969	1970	1971	1972	1973	1974	1975	1976 (Est.)
Exports:	35.9	38.8	44.1	38.5	56.8	47.5	94.6	92.9	109.0
Imports:	52.9	57.5	62.8	68.2	79.5	92.7	121.7	126.1	162.0
Balance*	-17.0	-18.7	-18.7	-29.7	-22.7	-45.2	-27.1	-33.2	-53.0*

These balances include a certain amount of commodities which do not actually enter into commercial channels (such as POL for ocean vessels) and are held in bond, which in some years amount to 40% of the total value of imports.

Traditionally these net trade deficits have been covered by government borrowings and by advances from the West African Monetary Union. However, Senegal has a chronic trade deficit which the GOS is attempting to stabilize so that it will no longer need assistance from the other countries of the West African Monetary Union. One of the means of course is to attempt to reduce imports although essentials as food, POL, fertilizer and equipment cannot be reduced in large amounts without adversely affecting the economy. The Title I program proposed by the mission would provide

a needed balance of payment support to the GOS during its second Four Year Plan.

PL 480 Title I Proposal

As stated above the mission proposes a four year rice program under Title I, of 25,000 MT annually beginning in FY 1977. The following tables (all in thousands of metric tons) provide the statistical data for consideration of that program.

TABLE I

Supply/Distribution
(Rice Table)

	1974	1975	1976	1977 (Est.)	1978 (Est.)
I - Supply					
a) Carry-in	13.0	40.0	35.0	40.0	40.0
b) Domestic Production	41.8	76.0	87.0	100.1	115.1
c) Imports:					
i) Commercial	141.3	123.8	130.0	120.7	87.5
ii) Concessional					25.0
iii) Grant	<u>2.2</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
d) Total Supply	198.3	239.8	252.0	260.8	267.6
II - Distribution					
a) Consumption	151.1*	197.0	203.4	211.4	217.5
b) Feed, Seed, Waste	7.2	7.8	8.6	9.4	10.1
c) Carry-out	<u>40.0</u>	<u>35.0</u>	<u>40.0</u>	<u>40.0</u>	<u>40.0</u>
d) Total Distribution	198.3	239.8	252.0	260.8	267.6

* Decreased consumption due to drop in production as a result of drought during CY 1973.

TABLE II
SenegalCOMMERCIAL RICE IMPORTS
Countries of Origin

	-----Calendar Year-----					
	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
USCR			3,170	7,715	60,113	16,300
China		11,600		46,200		1,499
Cambodia	50,735	12,969				
Subtotal	<u>50,735</u>	<u>24,569</u>	<u>3,170</u>	<u>53,915</u>	<u>60,113</u>	<u>17,799</u>
Brazil		25,178		22,222	15,750	
Italy				16,173		
Pakistan				7,170	22,652	55,402
Thailand	68,400	137,000	166,500	74,500	21,823	36,600
USA				17,300	18,360	14,000
Argentina/Uruguay					2,618	
Subtotal	<u>68,400</u>	<u>162,178</u>	<u>166,500</u>	<u>137,365</u>	<u>81,203</u>	<u>106,002</u>
Total Imports	119,135	186,747	169,670	191,280	141,316	123,801

Source: ONCAD

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professionals, particularly in the rural/agricultural sector.

6. The Government will continue to explore means of increasing budgetary allocations for food production and livestock production program.

Uses of generated local currencies: the GOS selling price for rice is 60% higher than the landed price. We estimate that a 25,000 MT rice program would amount to approximately US\$ 5.0 million, which, subtracting the IP and CUP, would leave US\$ 4.0 million for GOS uses. However, US\$ 4.0 million of rice will, at present prices in Senegal, generate about \$6.4 million worth of local currency. Over the four year planned period, this would generate approximately US\$ 25.0 million for local uses. Although the practice in recent years has been to loosen U.S. control over PL 480 generated local currencies, the Mission proposes the following attribution of these funds over the four year period as an integral part of the PL 480 agreement.

1. Carriacou Regional Development and Rural Development \$ 6.0 million

This project programmed for \$25 million over 5 years has the following elements: a) small farmer credit, b) farm-to-market crop extraction roads, c) polder development (salt intrusion control, and d) MONTVAC Regional Studies. Funds would be used for local costs related to this regional rural development program.

2. Fleuve Regional Development \$ 2.0 million

Matam Perimeter. This project presently under design and programmed for authorization in the Transition Quarter FY 76 or early FY 77 will provide financing for the development of 3-4000 ha under irrigation.

3. Sahel Irrigated Perimeters + Livestock \$ 4.0 million

This is a village level irrigated perimeters project to be carried out under AID financing. It will provide financing for the development of 1,800 hectares for irrigation of rice. AID dollar financing is programmed for \$ 4 million over four years. An expansion of this project to increase surfaces of irrigated rice is envisioned. In a near-by area, AID is financing a major livestock/range management program. Expansion of that program would also be undertaken, coupled with Promotion Humaine rural non-formal education activities.

4. Rock Phosphate \$ 2.5 million

Soils in the Sahelian Zone are weak in phosphate. Senegal has large deposits of phosphates and exports 1.5-2 million tons per year. Almost none of its production is used locally or in the Sahel. The development of cheap rock phosphate for use in the Sahel needs to be explored and ADO/Dakar is working on a project along these lines. The need for local cost financing could be covered by PL 480 counterpart funds. This project could have a great impact on food production in the Sahel.

5. Institut Agronomique \$ 5.0 million

A University level agricultural school is proposed for FY 78 funding. AID is planning to finance a drylands agricultural unit, possibly agricultural economics and construction related to AID inputs. Local costs for construction could be financed with PL 480 proceeds.

6. Rural Health, Nutrition, and Family Planning \$ 2.0 million

Sine Saloum Rural Health.

This project is under design and will provide village level health

delivery services, nutritional education and reconstruction of some 70 secondary health posts. Project will also provide funding for training of sanitarians at Khombole School. This project could provide the model for rural health delivery in the Sahel. PL 480 funds for local costs would be programmed for expanded activities related to this project and related to family planning and nutritional education.

7. SOBEVA - Promotion Humaine (Small farmer production and non-formal rural education) \$ 2.5 million
- AID has a program with SOBEVA in the groundnut basin. PL 480 counterpart funds would be used to expand activities such as: extension, micro level farm economics, conservation, further development of package of inputs for small farmers on drylands and Promotion Humaine non-formal rural educational activities.
8. Education - Women \$ 1.0 million
- Expansion of John F. Kennedy Lycee for Girls (Dakar).
- \$ 25.0 million

Conclusion/Recommendation:

Senegal is a key Sahelian country, central to AID strategy for the region aimed at reaching food self-sufficiency. Among the Sahelian countries Senegal is the choice country in the medium term to increase food production and reduce the region's draw on world food supplies. For several years Senegal's economy has suffered from the Sahelian drought. Production of cash and subsistence crops dropped and livestock losses were quite serious. The prolonged drought and the inflationary spiral in world commodity prices (food, oil and fertilizers)

have contributed to Senegal's balance of trade difficulties.

Senegal is a net importer of rice but is moving toward becoming a rice-producing nation. During the proposed 4-year Title I program, rice purchases from Free World Suppliers would continue at average levels for the past several years. The counterpart generated from this program could enable Senegal to move forward in key areas (nutrition, rural development, agricultural education, family planning and agricultural production). It would not only provide a tremendous impetus for Senegal's development but would give strong support for AID's overall Sahelian development strategy.

Given Senegal's balance of trade difficulties, its severe economic problems brought on by the drought and the squeeze inflicted by the inflationary spiral in world commodity prices, ADO/Dakar recommends favorable consideration of a Title I program beginning in FY 77 with a 25,000 MT sale of rice.

APPENDIX I
AGRICULTURE IN SENEGAL

INTRODUCTION

The agricultural sector engages over 70% of the labor force and contributes more than 30% to GDP. Groundnuts remain the dominant cash crop despite efforts at diversification into production of cotton, rice, and vegetables. Groundnuts are grown in rotation with millet and sorghum, the major food crops, especially in the rural areas, and potentially important substitutes for rice, which is the preferred staple, particularly in the cities. Up to now adequate exploitation of the country's agricultural potential, which exists primarily in the southern and southeastern regions, has been hampered by a critical shortage of water and recurring adverse climatic conditions. During the six-year period ended 1973/74 a principal factor in agricultural production was the climate, which overshadowed the Government's productivity-raising programs. Thus serious shortfalls in domestic supply of both foodstuffs and export crops have been recurrent, particularly when weather conditions are unfavorable, as they were in 1972/73 when the prolonged drought, which has affected most of the Sahelian region, became especially severe.

In 1972, a typical good year, total agricultural production amounted to nearly 1,950,000 MT, of which over half was groundnuts, and about 1% was cotton, both cash crops. The remainder of production was for food crops of which 62% was millet and sorghum, 15% manioc, 12% rice, 4% corn and 7% vegetables.

Table 2 gives acreage and production of principal crops (cereals and cash crops) for the past decade. For the five-year period 1970/71 to 1974/75, the three major cereals increased in hectares by 16% and in production by 77%. The two major cash crops (cotton and groundnuts) increased in hectares by 14% and in production by 76%. Neither of these years was a drought year.

* Appendix I to Proposal for a PL 480 Title I Program in Senegal submitted by ADO/Dakar, 10 August 1976.

Production for 1975/76 is estimated at 14% less than the previous year for the major cereals (sorghum, rice, maize), but 44% more for the two cash crops. The Government has long sought to increase peanut production, which accounted for about 70% of exports during the 1960's and is a major source of government revenue (about 60%). Production was anticipated to attain the 1.3 million ton mark by the end of the Second Plan in 1969. However, a combination of the low price incentive offered to the peasant, the mediocrity of extension services, and the practices of ONCAD, the marketing board, prevented production from expanding rapidly and even promoted widespread smuggling to Gambia which offered higher prices.

Thus peanut production was only 830,000 MT in 1968/69 and dropped to 583,000 MT in 1970/71, owing in part to drought conditions, but mostly to a shift toward subsistence production. A temporary reversal occurred in 1971/72, when with a view towards regaining peasant confidence the government introduced far-reaching measures including: 1) the cancellation of farmers' outstanding debts, 2) the payment of premiums for 1970/71 production and 3) a 15% increase in groundnut prices. As a result, small farmer demand for fertilizer doubled, that for small equipment tripled, and short-term credit jumped by almost 60%. Although acreage remained at about a million hectares, production increased nearly 70% from 583,000 MT to 989,000 MT in 1972, while 95% of farmer debts were repaid. Unfortunately, 1973 was a major drought year, and in the two crop years of 1972-74, peanut production remained low. The government is continuing its promotional policy by having pardoned farmers' debts and by having undertaken emergency measures for food distribution and cash grants. In the two years 1974-76, both land area and peanut production increased substantially. Less affected by the 1972/73 drought, cotton production has increased by nearly 50% in the last 5 years, due mostly to expanded acreage. In addition to agriculture, the livestock industry, which is the primary activity in the northern regions of Senegal and a secondary activity for farmers in the southern and central regions of the country, suffered a severe setback. In the livestock sector Senegal has made little use of its comparative advantage. This is

due in part to insufficient allocations of only 1% of the government budget. Livestock suffers from the inadequacy of production infrastructure, extension services and commercialization channels.

AGRICULTURAL POLICY

A strategy of diversification is generally consistent with the objectives of agricultural policy in Senegal.⁹ These include:

- a. increasing farmers' incomes and improving income distribution,
- b. reducing the risks in agricultural production,
- c. minimizing the country's dependence on food imports,
- d. maintaining and improving the ecological balance, and
- e. transferring resources from the agricultural sector to help develop the whole country.

The objectives of reducing risk, minimizing dependence, and controlling the ecological balance have been made especially pressing by the effects of the severe drought in recent years.

Aside from the limitations of its natural environment, Senegal faces another important constraint on the policies it might employ to achieve these objectives. In part as a result of its role as capital of the French West African Federation during the colonial period, Dakar has a relatively large number of white and blue collar workers. They have resisted strongly any attempt to decrease their standard of living after the breakup of the Federation into independent states. As a result, the government has a strong commitment to prevent any decline in real income of the urban population due to inflation and for this purpose, price regulation of important consumer items has been extensively employed until recently.

⁹ See: IBRD, "Economic Incentives and Resource Costs in Senegal".

Table 4

Land Area & Production of Cereals and
Major Cash Crops: Senegal

		<u>(000) Hectares</u>	<u>(000) Metric Tons</u>
1964/65	Millet/Sorghum	1010.8	531.8
	Paddy rice	86.6	118.0
	Dry beans (cowpeas)	56.4	16.8
	Maize	47.2	37.2
	Fonio (wild millet)	11.6	3.4
	Cotton (unginned)	1.6	0.5
	Groundnuts (unshelled)	1055.6	994.0
1965/66	Millet/Sorghum	1069.4	553.8
	Paddy rice	89.2	122.3
	Dry beans	53.5	13.7
	Maize	54.3	40.8
	Fonio	12.5	3.7
	Cotton	1.5	0.7
	Groundnuts	1115.0	1123.6
1966/67	Millet/Sorghum	996.5	423.4
	Paddy rice	88.1	125.5
	Dry beans	85.9	18.2
	Maize	53.8	41.8
	Fonio	12.7	4.7
	Cotton	1.0	1.2
	Groundnuts	1116.7	872.6
1967/68	Millet/Sorghum	1155.4	655.0
	Paddy rice	101.2	137.5
	Dry beans	99.1	30.4
	Maize	71.7	86.5
	Fonio	16.0	6.1
	Cotton	4.0	4.3
	Groundnuts	1082.3	1000.8
1968/69	Millet/Sorghum	1049.7	449.5
	Paddy rice	64.6	58.3
	Dry beans	67.8	17.1
	Maize	36.3	25.3
	Fonio	10.2	3.4
	Cotton	6.7	9.8
	Groundnuts	1195.1	835.8
1969/70	Millet/Sorghum	1037.3	634.8
	Paddy rice	102.6	155.9
	Dry beans		
	Maize	55.4	48.8
	Fonio		
	Cotton (unginned)	9.8	12.0
	Groundnuts (unshelled)	953.1	789.0

Note: Source for 1964-69 is KSU "Regional Grain Stabilization.."; for 1969/70 is IMF report on Senegal released Jan. 1975 (don't quote). Note (p.2): for 1970-73, same IMF report (don't quote); for 1973-76 ; Ministère du Développement Rural.

2: Land Area and Production...

	<u>Hectares (000)</u>	<u>Metric Tons (000)</u>
1970/71		
Millet/Sorghum	975.4	411.0
Paddy rice	88.0	90.5
Dry beans		
Maize	50.6	38.7
Fonio		
Cotton (unginned)	13.6	11.6
Groundnuts (unshelled)	1049.0	583.0
1971/72		
Millet/Sorghum	974.6	582.7
Paddy rice	83.7	108.2
Dry beans		
Maize	48.8	38.5
Fonio		
Cotton	18.3	21.2
Groundnuts	1060.3	988.5
1972/73		
Millet/Sorghum	936.3	322.9
Paddy rice	53.7	36.7
Dry beans		
Maize	32.3	20.2
Fonio		
Cotton	20.4	23.5
Groundnuts	1071.4	570.0
Sugar (cane)	0.2	0.2
<hr/>		
1973/74		
Millet/Sorghum	1093.5	510.8
Paddy rice	64.6	64.3
Dry beans	52.9	15.2
Maize	39.3	31.8
Fonio		
Cotton	28.7	33.1
Groundnuts	1044.5 (est.)	689.5 (est.)
Sugar (cane)	1.2	15.0
<hr/>		
1974/75		
Millet/Sorghum	1153.9	795.0
Paddy rice	84.6	117.0
Dry beans	59.4	22.1
Maize	48.6	43.3
Fonio	8.7	3.9
Cotton	38.0	40.6
Groundnuts	1170.4	1008.8
Sugar (cane)	2.1	25.0
Manioc	33.4	120.1
Patates	4.3	7.4
1975/76 (est.)		
Millet/Sorghum		647.7
Paddy rice		133.8
Dry beans		20.9
Maize		42.0
Fonio		3.3
Cotton		39.0
Groundnuts		1476.4
Sugar (cane)		25.0
Manioc		91.8
Patates		4.0

CEREAL GRAIN PRODUCTION

The recent, severe drought has impressed the Senegalese with the need for a wide range of measures to promote increased cereals production and to provide adequate storage facilities to assure the commercialization of the increased production and to store buffer stocks. The principal cereal crops of Senegal are millet and rice with lesser amounts of sorghum and corn being produced. With the full implementation of current production programs, Senegal will be self-sufficient in respect to millet and sorghum in years of normal rainfall. This will require an annual production of 600,000,000 MT to 700,000,000 MT. Rice consumption averages about 200,000 MT per year (milled) and domestic production varies from 40,000 MT to 100,000 metric tons (milled).

Years prior to the drought of 1972/73, there appeared to be a lack of interest in encouraging the domestic food production of rice, millet and sorghum. Rice was grown, but in much smaller volumes than internal consumption. (Table 21) a popular and fast-growing staple of the Senegalese diet, especially in urban areas, and constitutes a major import and substantial negative factor for Senegal's balance of trade, (Table 22, 23).

Since 1973, the Senegalese Government has displayed an interest in developing self-sufficiency in grain production as exemplified by the Government of Senegal's current agricultural policy. Its current policy is to promote domestic agricultural production to cope with a population growth of about 2.2 percent, most of which is in urban areas.

To date much of the Senegalese grain production has not been commercialized. Most of the rice, millet and sorghum is consumed in the villages where it is produced. The Government is now making an effort to encourage commercializing millet and sorghum with a price support and purchasing policy.

Storage facilities in the GOS buying program appear to be one of its limiting factors. Adequate grain storage facilities are limited, as well as trained qualified personnel to implement a buying and storage program.

One announced goal of the GOS was to establish a reserve of millet and sorghum of 200,000 MT as a contingency for drought over the period 1975-80.

Land holding patterns are mostly traditional. There is no private land ownership outside urban areas, and the right to assign land for cultivation is vested in the village chiefs who are appointed by the GOS. With the exception of the overcrowded groundnut basin, rural production is not limited by land availability. Output is primarily limited by production techniques. While these have gradually improved, they remain predominantly traditional. Low productivity reflects the absence of formal education and practical training (the literacy rate outside urban areas probably is no more than three to four percent) and the limited amount of capital available for investments. Traditional techniques keep an active adult from cultivating more than about four to five acres (one and a half to two hectares) of groundnuts or millet and somewhat less of rice. With the help of draft animals, this figure might be doubled. Depending on the size of the family and on the use of animals, farms average seventeen to twenty-one acres (seven to eight hectares) and rarely exceed 35 acres (15 hectares).

POPULATION

The estimated population of Senegal for 1974 was 4,311,000 persons with an estimated average yearly increase of 2.2 percent. Unemployment is considered serious in the cities, particularly in Dakar. Seventy percent of the working force are estimated to be directly engaged in agriculture.

TABLE 3

Demographic Statistics - Senegal - 1974

<u>Regions</u>	<u>Total Population (000)</u>
Cap-Vert	824
Sine-Saloum	863
Thies	596
Diourbel	680
Fleuve	417
Senegal Oriental	267
Casamance	664
Total	<u>4311</u>

TABLE 4

Senegal - Population of the Major Urban Centers, by City

(Estimate as of 1974)

<u>City</u>	<u>Population (in thousands)</u>
Dakar	714
Diourbel	39
Kaolack	106
Saint Louis	87
Tambacounda	23
Thies	98
Ziguinchor	49
Total	<u>1,116</u>

MILLET AND SORGHUM PRODUCTION

Millet and sorghum are the basic food grain crops of Senegal. The production for 1975/76 is estimated to be 648,000 MT. Millet and sorghum production figures are usually composite figures with millet normally representing three fourths of the total. Production by region is shown in Table 5 for the 1974/75 season.

in Table 5.

TABLE 5
Food Grain Production - Senegal, 1974/75

Region and Department	Millet and Sorghum	Paddy Rice	Cowpeas	Corn	Fonio
Sine-Saloum	(metric tons)				
Region Total	332,200	6,600		2,000	100
Thiès					
Region Total	87,700	200	6,900	-	-
Diourbel					
Region Total	185,800	-	10,800	-	-
Fleuve					
Region Total	53,200	17,200	3,400	5,700	-
Senegal-Oriental					
Region Total	32,900	6,600	-	19,000	1,700
Casamance					
Region Total	101,900	86,400	1,000	16,500	2,200
Cap-Vert					
Region Total	1,400	-	-	-	-
NATIONAL TOTAL	795,000	117,000	22,100	43,300	4,000

Source of Data: Rapport Annuel, Direction des Services Agricoles, Ministère du Développement Rural, Senegal Campagne 1974-75.

Millet and sorghum production in Senegal has been increasing in recent years. Much of this increase can be attributed to normal or better growing conditions as well as the introduction of improved inputs which includes heavier fertilizers, better seed varieties and the increased use of animal traction.

As a part of the overall GOS policy with regard to cereals, concerted efforts have been underway since 1972 to stimulate production within the country. These special efforts have been carried out by SODEVA (Société de Développement et de Vulgarisation Agricole), first in Sine-Saloum region with assistance from the CCCE (Caisse Centrale) from 1972 to 1975. A similar project was initiated by AID in March, 1975, with SODEVA in the Thiès and Diourbel regions, whereby a package of technical practices are introduced on farms through extension-

like activities to intensify local production. Emphasis is given to such things as animal traction, improved implements, fertilizers, and good seed which are factors known to increased yields of millet and sorghum grown in the area. The IBRD in recent years provided a credit of dol. 15 million to continue and expand the SODEVA/CCCE in Sine Saloum.

The areas served by these projects constitute the groundnut basin of Senegal which is also a highly important cereals production area. Increased cereal production from these two projects will most certainly add to the already acute nature of the cereals storage problem.

Because of wide fluctuations in annual rainfall, crop outputs of millet and sorghum in Senegal tend to fluctuate widely. In 1965/66 estimated production of millet and sorghum was 554,000 metric tons, but the following year production dropped to 423,000 metric tons. More recently a short crop brought on new awareness by the COS of the country's disruptive production pattern, when production dropped to 323,000 tons in 1972/73, but has averaged over 650,000 MT annually since that year.

CONSUMPTION

If the Senegalese derived all their calories from cereals, it would take from 250 to 300 kg per year of cereals to supply them. A decade ago, the typical resident of a major city in Senegal consumed 3200 calories per day, 800 coming from vegetable oil. At the same time, the typical rural resident consumed 2400 calories per day, with more rice, fish and fruits in his diet in the south, and more millet in the diet in the north. It appears that at present, urban residents are consuming approximately 2800 calories per day, with higher food prices prevailing. Nutritionists recommend consumption of 1 gram of protein per kg of body weight per day with at least 1/3 of that protein derived from animal sources. °

° Interview July 29, 1976 with Dr. T. N'Doye, B.A.N.A.S. (Bureau d'Alimentation et de Nutrition Appliquée du Sénégal), Ministère de la Santé Publique et des Affaires Sociales.

In normal times, a Senegalese would derive 1250 calories per day from the four major cereals (rice, maize, wheat and millet/sorghum). This would amount to approximately half his daily requirement for energy. In present times, with the massive reduction in livestock herds due to the several years of drought, less calories and less protein are available from this source because it will take some years to build up herd numbers again. It is also possible that the government interest in expanding the export of groundnuts and groundnut products (oil and cake) is tending to limit urban consumption of vegetable oil and groundnuts, domestically.

Data on production, stocks, imports and estimated quantities of the four major cereals available for consumption, are shown in Tables I-A to I-E. The five-year average per-capita estimated consumption of maize is 10.2 kg; of wheat is the equivalent of 23.2 kg; of millet/sorghum is 119.9 kg. Total imports of milled rice have been erratic and decreasing over the period.

Per capita consumption of all four cereals varied from about 150 to 230 kg per year over the period (Table I-E). Theoretically, and with adequate amounts of the other foods that are typically in the diets, these grains should have provided adequate amounts of energy on the average. As was mentioned above, adequate amounts of the other foods have not been available on a dependable basis in recent years. Furthermore, it is well known that many people do not have enough to eat in months just before the grains are harvested, and that there is widespread malnutrition among various groups of the population.

Consumption of millet and sorghum is higher per person than any other food grain. It is generally concluded that millet consumption is significantly higher in the rural areas because of lack of availability of cheap imported rice and because of lower per capita incomes. A study of overall national consumption was carried out in 1973 showing a per capita consumption figure of millet and sorghum of 114.89 kg/year (Table 6). This figure is now considered to be low since the data was collected during a year of a below average crop.

TABLE I - A

PRODUCTION-CONSUMPTION

MAIZE, Senegal (000 MT)

	Pop. (000)	Production	Beginning Stocks	Net Imports	Ending Stocks	Domestic Disappearance	Consumption after loss	Per capita (Kg/year)	Calories */ cap / day
1971/72	4071	38	2 [°]	10 [°]	5 [°]	45	40	9.8	97
1972/73	4189	20	5 [°]	10 [°]	3	32	27	6.4	64
1973/74	4311	32	3	34	17	52	47	10.9	108
1974/75	4436	43	17	15	14	61	56	12.6	125
1975/76	4565	42	14	10	9	57	52	11.4	113

[°] Estimate

[°] 3630 calories/Kg. Composition des aliments par 100 GRAMMES.

TABLE I - B

PRODUCTION-CONSUMPTION

WHEAT, Senegal (000 MT)

	Pop (000)	Production	Beginning Stocks	Net Imports	Ending Stocks	Domestic Disappearance	Per Capita (kg/year)	Calories ² /Cap /day
1971/72	1071	0	30 ²	80 ²	23	87	21.4	193
1972/73	4189	0	23	125	15	103	24.6	222
1973/74	4311	0	45	75	15	105	24.4	221
1974/75	4436	0	15	100	10	105	23.7	214
1975/76 (est)	4565	0	10	105	15	100	21.9	198

² Estimate

³ 3300 calories/kg.

TABLE I - C

PRODUCTION-CONSUMPTION

SORGHUM/MILLET, Senegal (000 MT)

	Pop (000)	Production	Beginning Stocks	Net Imports	Ending Stocks	Domestic Disappearance	Consumption after loss	Per Capita kg/year	Calories ² /Cap day
1971/72	4071	583	10 ²	30 ²	30 ²	593	538	132.2	1268
1972/73	4189	323	30 ²	10 ²	5	358	303	72.3	693
1973/74	4311	511	5	55	25	546	491	113.9	1092
1974/75	4436	795	25	5	60	765	705	158.9	1524
1975/76	4565	648	60	0	90	618	558	122.2	1172

² Estimate

² 3500 calories/Kg

TABLE I - D

PRODUCTION—CONSUMPTION

RICE (milled), Senegal (000 MT)

	Pop (000)	Production	Beginning Stocks	Net Imports	Ending Stocks	Domestic Disappearance	Consumption after loss	Per Capita (Kg/year)	Calories ^a Cap / Day
1971/72	4071	70	20 ^b	170	33	233	233	54.8	52.8
1972/73	4189	24	33	188	13	240	230	54.9	52.9
1973/74	4311	42	13	141	40	158	151	35.0	33.8
1974/75	4436	68	40	124	35	205	197	44.4	44.0
1975/76	4565	78	35	130	40	212	203	44.5	42.9

^a Estimate

^b 3520 calories/Kg

TABLE I - E
PRODUCTION-CONSUMPTION
4 MAJOR CEREALS, Senegal
 (000 MT)

	Pop (000)	Production	Beginning stocks	Net Imports	Ending Stocks	Consumption after loss	Per Capita Kg/year	Calories/ Cap /day
1971/72	4071	691	62 ^e	290	91 ^e	888	218.1	2086
1972/73	4189	367	91 ^e	333	66	663	158.3	1508
1973/74	4311	585	66	305	97	794	184.2	1759
1974/75	4436	914	97	244	119	1063	239.6	2303
1975/76	4565	777	119	245	154	913	200.0	1912

^e Estimate

Sources: Population - Ministry of Planning

Production - Table 2

1973 - 76 : Losses, Imports and Stocks - US Agricultural Attache, report of 4 Aug. 1975

1971 - 72 Imports: I M F report (don't quote)

TABLE 6

Food Grain Consumption 1973

<u>Crop</u>	<u>Consumption kg/yr/person</u>
Millet and sorghum	114.89
Rice	80.85
Wheat	22.7
Maize	14.35

Source: Projet d'implantation d'une Minoterie de Mil - April 74,
Société Nationale d'Etudes et de Promotion Industrielle.

An early study made in 1969 by the Société Nationale d'Etudes et de Promotion Industrielle indicated that a more normal consumption of millet and sorghum was 137 kg/year/person.

The consumption of rice has been growing rapidly in Senegal. Production has not kept up with the rapidly expanding demand, requiring very large imports. The demand for rice is growing because of its ease of preparation compared to millet, and increased urbanization. However, the demand appears to diminish during years of a poor peanut harvest when incomes are low.

Despite importations, the total amount of cereals available per year and per inhabitant has remained inferior to 250 kg, an amount considered as representing the necessary consumption level.

Table 8 summarizes the probable evolution of national needs to the year 1984/85. It is based on an average consumption of 250 kg/year/inh. and the assumption that the consumption proportion between the different cereals will remain constant. This hypothesis might need changing in the long run.

TABLE 8
National Cereal Needs (Kg)

Cereal Hypoth.	Demogr. Hyp.	76/77	80/81	84/85
Total amount of cereals	2.2%	1,103,000	1,202,750	1,312,500
250 kg stability	2.5%	1,118,750	1,235,500	1,304,000
Millet and Sorghum	2.5%	562,864	610,997	666,750
127 kg	2.5%	568,325	627,634	692,912
Rice	2.2%	327,020	408,935	446,250
85 kg	2.5%	380,375	420,070	463,760
Corn	2.2%	66,180	72,165	78,750
13 kg	2.5%	67,125	74,130	81,810
Wheat	2.2%	98,936	110,653	120,750
(23 kg)	2.5%	102,925	113,666	125,488

Note: Two demographic increase hypotheses are used: 2.2 and 2.5%. Official sources.

Tables 9-12 indicate the foreseen production capacity for the different cereals.

They were made according to projects going on at the present time and other projects already identified and to be completed during the 4th and 5th Plans.

TABLE 9

Rice - Horizon 1980-81

Region	Ha	Average Yield	Total Yield	Observations
<u>Fleuve</u> <u>SAED complex</u>	20,000	4 tons	80,000 T	<ul style="list-style-type: none"> - Surface developed 25,000 ha - Production Surface 20,000 ha - The Diama dam will be in operation
<u>Eastern Senegal</u> <u>and Upper</u> <u>Casamance</u>	13,000	2.4 T	32,000 T	- Program run by SODEFITEX
<u>Casamance</u> <u>Sedhiou II</u>	11,500	2.8 T	32,000 T	Takes into account Nyassa-Guidel development and the first flood-gate dam.
Total	84,800	2.4 T	204,000 T	

TABLE 10
Corn - Horizon 1980-81

Projects	Ha	Average Yield	Total Yield	Observations
<u>Traditional Production</u>				
- Casamance	20,000			
- Eastern Senegal	13,000			
- Other regions	5,000			
	<u>38,000</u>	0.8	30,400	
Sine Saloum Project	10,800	8.36	25,500	Managed by SODEVA
Eastern Senegal and Upper Casamance projects	16,000	2.5	40,000	Managed by SODEFITEX
TOTAL	61,800	1.48	95,800	

TABLE 11
Wheat in 1980

Projects	Ha	Average Yield	Total Yield	Observations
SAED Wheat	5,000	3 T	15,000	

.../...

TABLE 12
Millet and Sorghum in 1980

Projects	Ha	Average Yield	Total Yield	Observations
<u>Irrigated Crops</u> SAED Sorghum	10,000	2 T	20,000	
<u>Dry Crop Culture</u> Traditional Millet and Sorghum	500,000	0.5 T	300,000	
Traditional Millet and Sorghum	400,000	1 T	400,000	Farmers supervised by SODEVA, SODEFITEX and in the Casamance
TOTAL	1,000,000	712 kg	720,000	

If all projects to be developed are normally completed, the cereal deficit of the country will substantially be reduced by 1981. The evaluations are based on the present structures of cereal consumption. One must, however, keep two important points in mind:

1) As far as rice is concerned, the national needs will not be fully covered.

2) For wheat, it will only be possible to cover 15,000 T of the total need, the culture of wheat being possible only on part of the land on the river valley, and is moreover limited by the quantities of water available in the dry season. The national need in wheat will only be covered if the Manantali Dam is completed. The needs for corn will however be covered and those in millet and sorghum also.

.../...

GRAIN: MARKETING AND STORAGE

In general, the Senegalese farmer considers his millet and sorghum crop a subsistence crop, however, during years of surplus production, these farmers enter the market economy.

Peanuts are generally considered by the farmers to be their cash crop, thus in response to favorable prices and guaranteed markets more land has traditionally been devoted to peanut production than to the primary food crops of millet and sorghum. Because the Senegalese farmer is now at least partially in the money economy, his needs for income to buy consumer goods have increased in more recent years. Cash to satisfy his family's needs for consumer items such as sugar, cloth, salt and grain has increased. Cash returns from peanuts are not evenly distributed throughout the year and the need for cash is just before peanut harvest. Historically it is in this period just before harvest that he must buy grain at much inflated prices. Many times he will sell or contract part of his new crop before harvest at reduced prices (below official prices).

ONCAD's 1975 millet and sorghum policy was announced in November 1975, and included a plan to purchase 100,000 MT of sorghum and millet at 30 CFA/kg throughout the entire season. It was unclear exactly what part private trade would have in the new program but as it is presently stated it would be illegal for the private trade to buy directly from farmers. The GOS has announced that it has a goal to establish a reserve of 200,000 to 300,000 MT of millet and sorghum for a drought reserve.

Until November 1974, when the GOS eliminated the subsidy on imported rice, consumer prices were at an irrationally low level. The GOS recognized that subsidized consumer prices were taking away incentives for farmers to produce for the market economy and major subsidies on vegetable oils, rice and sugar were all practically eliminated. New marketing policies now in effect include guaranteed farm level prices 30 to 40 percent above old levels.

The GOS has responded to present needs by enacting the Food Law Program which provides for measures to increase the commercialization of millet and sorghum (the basic subsistence crops in the rural areas of Senegal), including the expansion of storage capacity to be reserved explicitly for

better stocks of millet and sorghum.

The implementing institution of this program is ONCAD. In the past, ONCAD has been responsible for marketing groundnuts and minor purchases of cereals. Because of the recent priority emphasis placed upon commercialization of food grains to be implemented by ONCAD, the organization is currently required by law to purchase any amount of millet and sorghum offered for sale by the farmer.

In the past much of the marketing of food grain has been through private traders. A typical pattern was to have a price of 10 to 17 CFA/kg from harvest time to December. From January to the summer months, prices would increase to 25-35 CFA/kg (the period when the needs were the greatest). Prices in drought years, or just following drought years, might be double the prices of a normal year.

In the past, decreed prices have existed and were to be enforced by the Government's official marketing agency, ONCAD, by purchasing and storing millet and sorghum for resale. Because of a lack of suitable storage, competition with its peanut programs, and other factors, ONCAD has not purchased a very high percentage of the millet and sorghum crops.

The GOS current agricultural policy is to obtain self-sufficiency in grain production through the commercialization of the food grains. Because storage facilities for food grains have been a limiting factor the GOS has let contracts for the construction of 30,000 MT of storage (July 76). The storage structures are to be all of the 1,000 to 2,000 MT size. ONCAD is to use these storage facilities as buying stations and establish cooperatives similar to the present peanut marketing program.

ONCAD bought 30,000 MT of millet and sorghum in 1974 at a price of 30 CFA/kg which it stored in its peanut seed "seccos". Storing in the seccos is currently a problem because there is not enough space for the millet and the peanut seed, consequently when the peanut seed enters the "seccos" the millet must be moved outside and stored in the open thus exposing the millet to potential losses. So far, losses from storing outside have been minimal because the peanut seed has been taken out of storage and shipped just prior to the wet season with the millet returned to the "secco" before the rains. If an early rain should occur, damage could be substantial.

All existing warehouse space is being utilized either for the 45,000 MT of grain in storage, or being readied for peanut seed. ONCAD is expected to commence purchases of peanuts on December 15. While the majority of the peanut purchases could be temporarily stored outside, the seed must be protected and thus requires warehouse space, and a crop of increasing size requires more space than it formerly did.

In order to maintain the momentum in the commercialization of food grains ONCAD has proposed the construction of an additional 250,000 MT of storage capacity. This construction is to be in 1,000 and 2,000 MT units located throughout Senegal with the exception of Dakar. The GOS plans to construct 30,000 MT in 1976. The plans of the units have been approved, sites located and bids received. AID proposes to finance 30,000 MT of the remainder on a fixed amount reimbursement method.

Without the additional storage and trained manpower to manage the stocks, ONCAD would be forced to store the grain outside under marginal conditions which would result in increased losses hence making the commercialization of cereals a very costly operation. ONCAD will continue to purchase from the farmer all millet and sorghum offered for sale regardless of storage capacity. However, it is doubtful if the commercialization program can withstand the probable heavy losses over several years. Hence,

the economic feasibility of the commercialization program would be questionable without expansion of storage capacity despite the obvious policy commitment to this activity. The commercialization program with resulting buffer stocks would benefit the total population in the event of drought and the small farmer in particular, by offering a ready market and an alternative commercial crop already familiar to him.

A program with SODEVA for the construction of on-farm and cooperative (village) level medium to small-sizes of storage units is also planned. This will not conflict with, but will be supplementary to the inputs of constructing larger units of storage for ONCAD envisaged.

The cereal marketing system set up by ONCAD has to answer the following requirements:

- Setting-up of a marketing network adapted to production. This marketing network should essentially be useful for:

- a) Increasing the value of the production at the market price set by the Government;
- b) The elimination of speculators from the market (in earlier speculative markets, the producers caught up in a situation where they needed money badly, were compelled to sell a good part of their production at low price at the beginning of the harvest period);
- c) constitution and maintaining of stocks in marketing areas (closest to the production zones) in order to guard against the lack of foresight of some producers and also to avoid a lack of gap-bridging food reserves, in so-called production zones;
- d) Regularization of stock movements in harmony with all grains, either imported or given to Senegal;
- e) Setting-up a distribution network that makes it possible to have a balanced food availability between the zones with an excess of food, and those that are deficient, and also with the urban areas;
- f) Setting-up of appropriate locations for domestic milling facilities of adequate volume to handle planned production;

.../...

- g) Constituting a storage network for long-term storage, planned for the regrouping and conservation of excess production;
- h) Elaborating a transportation plan that is efficient and makes it possible to reduce costs.

The importance of preservation and maintenance of cereal grain (millet, sorghum, maize, rice, wheat) quality has not been fully realized in Senegal. Efforts are being made to increase production so that imports of cereals can be reduced and reserve stocks accumulated for periods of drought and poor production. As greater quantities of cereals are produced and reserves accumulated the need for adequate storage facilities and knowledge of improved methods of preservation increases.

(ONCAE) stores commodities at several levels in the marketing system. Groundnuts are purchased at "Coops" and stored in large piles directly on the ground. A coop probably exists for every 5 villages. From the Coops, groundnuts are placed in covered warehouse storage for seed purposes. Market groundnuts are left in piles in bulk on the ground or on concrete pads. Bagged groundnut or woven fence may be used to bulkhead piles of groundnut.

The primary beneficiaries of the proposed storage activity are the subsistence farmers raising millet and sorghum as food crops. The secondary beneficiaries would be the general populace in Senegal who in the eventuality of a drought year would have sufficient buffer stocks of grain for emergency relief.

Small farmers (less than 12 ha) produce 80% of the millet and sorghum grown in Senegal and should receive most of the benefits from storage and pricing stabilization programs. Small farmers in Senegal need an alternate cash crop to groundnuts to increase their farm income as well as a hedge against a crop disaster.

High risk areas of food grain production such as Senegal need a grain reserve as an emergency safeguard. The history of West Africa has had a bleak food situation recurring often. Drought is probably the number one reason; however, inadequate food storage and distribution programs have worsened the problems. The proposed storage system could distribute warehouses throughout the rural areas, thus adding protection against

food shortages and malnutrition.

The role of Senegalese women is unclear in the short-run consideration of the storage activities. It is expected, however, by the establishment of storage facilities a favorable situation will be created for the formation of cooperatives.

ONCAD has indicated that the establishment of cooperatives in conjunction with the operation of the storage facilities is part of their marketing plan. Women in Senegal have in the past used cooperatives as a means of expression and change. It is anticipated that ⁱⁿ the processing of millet and sorghum, threshing could become part of ^{the} cooperative functions in rural Senegal. The addition of millet and sorghum threshers at the cooperative level would free an estimated 2-4 hours a day that women are now spending threshing grain by hand.

TABLE 13
Grain Storage

Region	Planned ^o Capacity (M. Tons)	Irregular-sized Units of Temporary Storage (NO.)
Casamance	46,000	69
Diourbel	80,000	8
Senegal-Oriental	18,000	60
Sine-Saloum	68,000	37
Fleuve	5,000	-
Thies	30,000	-
Regional Total	247,000	174
Dakar	15,000	
National	262,000	

^o Construction begun on first units in July 1976.

Source: ONCAD (Office National de Coopération d'Assistance pour le Développement), 24 November 1975.

The data in Table 13 shows storage capacity planned by the GOS in the near future. Good intentions are shown by the fact that 30,000 tons of storage capacity construction were initiated in July 1976. The storage presently being built will almost handle two months of rice consumption for the country. The storage planned will more than be adequate to handle 2-3 months of consumption of the four major cereals and cereal products. The GOS has as its aim the provision by ONCAD of 2-3 months of the annual consumption needs of the country for the cereals, in storage capacity^o.

PRICE INCENTIVES

Besides rice, Senegal's annual food grain imports are approximately 80,000 - 110,000 tons of wheat, and some 50,000 tons of other cereals, including sorghum and millet. Dependence on the world market for cereals absorbs 15-20% of total export earnings. A principal reason for this dependence is that a main concern of the public authorities for the past century has been to develop groundnut production (to support Government's recurrent and investment budgets) and, as a result, farmers have had little incentive to produce millet for sale, for which there was limited and erratic demand. In recent years, progressive urbanization led to increased independence on imported grain. It could be argued that, to the extent that Senegal has a comparative advantage in groundnut production, it could increase the production of groundnuts for export in order to balance payments for cereal imports. A strategy based on this reasoning would be economically sound. However, two points must be borne in mind that limit the possibility to follow such a strategy, one concerning technical limitations and the other concerning risks. First the expansion of groundnut production, like other rainfed crops in Senegal, has limited scope. In addition, groundnuts are grown necessarily in rotation with cereals, and therefore the expansion of one crop cannot be entirely disassociated from expansion of the other. Second, the degree of comparative advantage of groundnuts, vis-à-vis cereals, depends on

^o Interview with Mr. N. Diouf, ONCAD, July 23, 1976.

relative prices which are difficult to predict. For example, within the first six months of 1974, estimates of 1980 world market prices (in current terms) changed from US\$265/t to US\$465/t for groundnuts and from US\$180/t to US\$120/t for rice. In the past year (1976), these prices have dropped by almost as much as they rose then. The risk implied in those price variations together with the technical constraints weakens considerably the argument in favor of crop specialization that should only be pursued with caution.

To reduce its dependence on imports, Senegal is already attempting to increase production of grains such as millet, the main foodcrop; wheat, as a possible dry season irrigated crop along the Senegal River (it might have advantages over rice in terms of growing cycle and water requirements); and rice, major production of which will depend on irrigation schemes along the Senegal River. Actions proposed to increase the supply of foodcrops cannot achieve significant results if, in the meantime, no action is taken on the demand side. Therefore, government food policy affecting urban consumers is an important ingredient of overall agricultural policy. To increase consumer's relative demand for millet compared to other cereals, the Government could act simultaneously on two fronts: improve millet processing and relative prices.

Can price policy affect production and marketing decisions? A grain price stabilization policy has been recommended to Senegal and accepted in principle. The drought caused the necessary support stocks to be diverted to the more urgent task of survival, but with the return of more benevolent rains the opportunity will return. A somewhat different problem exists in the case of each cereal: the coarse grains (millet and sorghum), rice and wheat.

over
Senegal grows 300,000 tons of coarse grains annually. Almost all farmers grow some. Almost all is consumed on-farm. Even on-farm reserves appear

limited. Until a guaranteed market is established and prices competitive in terms of net margins relative to peanuts are supported, much influence cannot exist. This sort of program would require that a buffer stock be established, which need not be large given the very inelastic nature of prices which commonly prevail for such commodities. In addition, new technology and extension efforts would have to be made available. Equity would be served, as such a scheme, to be effective, would have to reach a very large number of farmers. Coarse grains, unmilled, cannot compete with rice or flour. Some value-added from milling will be necessary to make these grains competitive. There is a reason to believe that a ready to cook millet for couscous could be marketed at CFA 65, which now compares favorably with the wholesale price of domestic rice.

In the case of wheat, there is a general feeling that imports could be replaced by winter wheat production in polders along the Upper Senegal. In common with other countries whose political structures are urban based and where rural areas have much less than proportionate political influence, price policies as regards basic staples have been clearly biased ^{in the past} to favor the urban population. Where civil servants play a major role in political life, the cost of living is a vital political issue to which government is very sensitive. In Senegal, agriculture has been taxed to support a cheap food policy. Not only have farmers been paid low prices for their marketing, but imported cereals have been subsidized to compete with domestic production. In late 1974, this policy was substantially reversed.

The mechanism through which this policy is managed is ONCAD. In 1972-73, to use the example of a recent year, ONCAD paid farmers CFA 23/kg for peanuts and in turn sold them to oil mills for CFA 40/kg. A bit less than a third of the gross income, of CFA 12 was turned over to the Price Stabilization Fund. In that year, the gross transfers from ONCAD to the Fund were \$76 million, or 40% of total government revenue.

.../...

In 1972, \$8 million was used to subsidize farm inputs (equivalent to about 30% of the cost of production). The effective tax rate on farmers that year was 20%. In 1973-75 this rate jumped to 55% ! There has been an inevitable decline in inter-sectoral terms of trade-rural/urban; from 100% in 1963 to 83% in 1973. In late 1974 government undertook to make some redress to this situation in terms of prices to farmers.

Most farmers, even in the peanut basin, employ a farm program designed to produce a subsistence cereal crop first of all and then, as conditions permit, a cash crop. Very few farms devote all their resources to cash crops. It would not be economically rational to depend only on the market for cereals at present. Whereas it may cost up to CFA 28 to produce a kg of millet on farm, and this is equivalent to the 1973/74 harvest sale price at the farm, the same quantity off-season may cost three times as much, if it were available at all! Peanuts do not offset the average value of millet; only at harvest do they compete and then a guaranteed market exists.

Producer prices, which are fixed annually by the Government, have been raised substantially during the most recent seasons (Tables 14-A, 14-B) from CFAF 21/kg in 1971/72 to CFAF 35/kg in 1973/74, and that of millet from CFAF 17/kg to CFAF 28/kg. The average producer price of unginned cotton was also raised from CFAF 31.0/kg in 1971/72 to 33.9/kg in 1973/74. For the 1974/75 crop, in the context of a general revision of the price and subsidy structure, producer prices of groundnuts and cotton, the principal export crops, were boosted by 40% and 37%, respectively, bringing their corresponding values to CFAF 41.50/kg and CFAF 46.5/kg. The producer price for rice was also increased by 19% to CFAF 41.5/kg, but that for millet was raised by less than 8% to CFAF 30/kg.

TABLE 14-A

Senegal: Producer Prices of Selected Cash and Food Crops

1971/72 - 1974/75
(In CFAF francs per Kg)

	1971/72	1972/73	1973/74	1974/75
Groundnuts	29.50	31.00	29.50	41.50 (35.0) <u>1/</u>
Cotton (unginned)	31.00	29.90	33.90	46.50
Rice	21.00	25.00	35.00	41.50 (35.0) <u>1/</u>
Millet	17.00	18.00	28.00	30.00

Source: Data provided by the Senegalese authorities.

1/ Figures in brackets are prices announced prior to November 1, 1974.

For 1974/75, the new structure of producer prices was estimated to provide almost CFAF 9.5 billion additional cash income to farmers during the year, while transfers from ONCAD to the CPSP were estimated to fall slightly to CFAF 16 billion.

TABLE 14-B

Price Changes
(Nov. 1974)

<u>Producer Prices</u>	-----(CFAF/kg)----	
	<u>Before</u>	<u>After</u>
Groundnuts	29.5	41.5
Millet	25	30
Paddy	25	41.5
Cotton (net of input cost)	33.93	46.50
Cotton (gross of input costs)	44.53	62.80
Maize	25	30 (35 - 1976)

Table 14-B (Contd)

	----(CFAP/kg)----	
	<u>Before</u>	: <u>After</u>
<u>Consumer Prices</u>		:
Rice	60	: 100
Bread	28	: 37

Better producer prices for rice are likely to bolster the successful drive toward rice growing in Eastern Senegal and Casamance, but it is doubtful that all increased production would be marketed through official channels. Even in Eastern Senegal, where official channels are considered a success, only about 20% of paddy production is collected. ^{1/} There are two main reasons for this limited share: (a) the producer price for paddy (CFAP 41.50/kg) is equivalent to a milled rice price (CFAP 85/kg) that is lower than the ^{former} consumer price (CFAP 100/kg); since markets of neighboring towns are within reach of farmers, they are encouraged to process their paddy for direct sales to urban populations; and (b) the Government's purchasing arrangements are never ready in time. A ministerial decree ("arrêté") must be issued to license a private trader to deal in agricultural commodities. Until this decree is issued not even one bag of millet can be transported from the countryside to the cities without being authorized by the Minister of Finance. This decree is usually delayed due to political controversies, and funding is uncertain because of liquidity problem in the Treasury and, in any event, ONCAD's administrative procedures are cumbersome.

Nominal protection coefficients (NPC) ^{2/} and effective protection coefficients (EPC) ^{3/} have been estimated for several agricultural

^{1/} In Eastern Senegal, purchase of paddy has been prefinanced by SODEFITEX, on the behalf of ONCAD, with surplus funds from its cotton-marketing operations.

^{2/} NPC = Ratio of domestic producer price to world market prices.

^{3/} EPC = Ratio of domestic value added to value added in world market prices. The latter net foreign exchange saved through import substitution or exportations.

activities involving the production of groundnuts, millet, cotton, and rice in several different regions of Senegal. These indicators, together with estimates of the domestic resource cost (DRC) ^{1/} of foreign exchange in 1972 and 1980, are grouped by region in Table 15.

It is apparent from these tables that the nominal protection coefficients for exports of groundnuts and cotton fiber and seed were much lower than for the import substitution products, rice and millet. ^{2/} This was because of the relatively high payments made to the CPSP by ONCAD and SODEFITEX. Domestic consumer price for rice and millet, on the other hand, did not differ in 1972 very much from world prices.

The contrast between export and import substitution crops is greater for effective than for nominal protection coefficients. In the Groundnut Basin in particular, the EPC of millet produced using fertilizer was large because of the relatively slight responsiveness of millet yields to fertilizer application in this region.

The structure of effective subsidy coefficients largely accentuated that of effective protection. The contribution made by producers to ONCAD's expenses and the assessment by ONCAD for seed collection and storage, for example, outweighed the benefits received in the form of extension services and credit subsidies for all groundnut production except that which was most intensive. For millet, net subsidies were slightly negative, except for intensive production, for which they were quite high, especially in the North where yields were low. Most important were the high effective

^{1/} DRC = Ratio of domestic resources expended in saving or earning a unit of foreign exchange, to actual exchange rate.

^{2/} The nominal protection coefficient of millet was estimated as unity by comparing the official purchase price of ONCAD with the economic farm gate price derived by adjusting the estimated CIF price Dakar in 1972 of U.S. N°2 Milo yellow grain sorghum for transport and commercial margins. Actual official trade in millet very slight.

subsidy coefficients for rice. In part, this was due to the lack of any mechanism in 1972 whereby farmers would pay for the cost of tractor services or of constructing and operating irrigation systems. It was also due to the relatively high subsidy implied by an official producer price for paddy of CFAF 25/kg at the same time that the CIF price was CFAF 32/kg of millet rice, equal to about 20 CFAF/kg of equivalent paddy.

However, since 1972, changes have taken place in the incentive system.

Table 15 also contains estimates of the domestic resource cost of foreign exchange earned or saved in each of the agricultural activities and regions previously described. These are shown in terms of both actual 1972 prices and prices projected by the World Bank for 1980.

The DRC's were considerably more favorable for groundnuts and cotton than for millet and rice.

TABLE 15
Nominal Protection and Effective Protection Coefficients
and Domestic Resource Costs

1972 - 1980

Region	Crop	Nominal Protection Coefficients	Effective Protection Coefficients	Domestic Resource Costs	
		<u>1972</u>	<u>1972</u>	<u>1972</u>	<u>1980</u>
<u>North</u>					
	<u>Groundnuts</u>				
	By hand	,70	,76	,68	,91
	With Draft Animals				
	Traditional	,70	,56	,51	,69
	With fertilizer	,70	,61	,54	,75
	Irrigated	,70	,65	,78	1,06
	<u>Millet</u>				
	By hand	1,00	,98	1,48	1,38
	With Draft Animals				
	Traditional	1,00	,94	1,61	1,48
	With fertilizer	1,00	3,42	2,69	2,40
<u>Center</u>					
	<u>Groundnuts</u>				
	By hand	,70	,61	,62	,82
	With Draft Animals				
	Traditional	,70	,57	,52	,70
	With fertilizer	,70	,60	,46	,63
	Intensive	,70	,63	,50	,68
	<u>Millet</u>				
	By hand	1,00	,98	1,25	1,16
	With Draft Animals				
	Traditional	1,00	,97	1,00	,93
	With fertilizer	1,00	1,35	1,16	1,05
	Intensive	1,00	1,29	1,97	1,78

Source: Various official and unofficial estimates.

.../...

TABLE 5 (contd)

Region	Crop	Nominal Protection Coefficients	Effective Protection Coefficients	Domestic Resource Costs	
		1972	1972	1972	1980
	Cotton				
	With Draft Animals				
	(Groundnut Basin)	,74	,61	,67	,62
	(Senegal Oriental)	,74	,59	,53	,49
	<u>Rice</u>				
	(Senegal Oriental)				
	Pluvial	1,02	1,51	1,66	1,33
	Rice "du nappe"	1,02	1,45	1,02	,83

PRICING AND EXPENDITURES

Until 1973/74 a number of commodity price stabilization funds, dealing with the marketing of specified commodities, carried out their operations through Treasury special accounts. They included the Groundnut Fund, the Sugar Fund, the Cotton Fund, the Wheat and Flour Fund, the Grain Fund, and a fund for the promotion of fishing. Over the past years these funds accumulated large reserves, which contributed to the resources available to the Treasury for the financing of its other operations, including budgetary deficits. The Groundnut Price Stabilization Fund was by far the main contributor. At the end of June 1973 total claims of these funds on the Treasury amounted to CFAF 11.9 billion. On July 31, 1973 the Price Stabilization Fund (CPSP) was established as a public agency which took over the operations formerly performed by the various commodity funds, whose accounts with the Treasury were closed. The CPSP is financially autonomous and deposits its operating funds with banks and the Treasury.

In the 15-month period July 1973-September 1974, total receipts of the CPSP amounted to CFAF 17.9 billion (Table 20), including CFAF 16.8 billion of the marketing profits transferred from ONCAD and CFAF 1.1 billion of earmarked taxes on exports and imports (para-fiscal receipts). Total expenditures was CFA 13.8 billion, of which CFAF 11.6 billion was on account of subsidies for rice (CFAF 5 billion), groundnut oil (CFAF 1.5 billion), and sugar (CFAF 2.1 billion). Other CPSP expenditures included subsidization of fertilizers and other necessary inputs of farmers to the tune of CFAF 1.3 billion under the Agricultural Productivity Program, and CFAF 0.7 billion in equipment. Consequently, the CPSP realized an overall surplus of CFAF 4.1 billion, which was transferred to a reserve account to be maintained against future contingencies, such as a drop in export prices. At the end of June 1974, CPSP net deposits with the Treasury amounted to CFAF 2.0 billion.

For 1974/75 (October-September), on the basis of prices prevailing at the time of the revision in subsidies and producer prices in November 1974, CPSP receipts were estimated at CFAF 17.5 billion and para-fiscal receipts at CFAF 1.5 billion. The CPSP intended to contribute CFAF 2.8 billion toward subsidizing fertilizers and other inputs under the Agricultural Program, and to invest CFAF 2 billion either directly in equipment or indirectly as participation in some agro-industries. About CFAF 1 billion would be transferred to the revenue account.

The Groundnut Stabilization Fund, which provided 40% of government revenue, realized a larger trading profit than forecast in 1973 owing to a 35% increase in the world market price for groundnuts

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and a 100% increase in the price of groundnut cake.

A major concern of the public authorities for the past century has been to develop groundnut production, on which Government has been dependent for its recurrent and investment budgets. The former colonial trade organization had little interest in developing cereal channels, either from or for the rural population. As a result, farmers have had little incentive to produce millet for sale, and only small traders have ever shown any interest in handling the limited and erratic quantities involved. Consequently, between 1930 and 1950, cereals supply for the cities was organized on the basis of imports, notably broken rice from then-French Indochina. Since then, progressive urbanization has led to increased dependence on imported grain. Moreover, the recent droughts worsened the situation.

Senegal is not alone in its predicament. As one observer recently pointed out: "the developing countries had come to depend on cheap grain imports to supplement their own production and implicitly on grain stocks in the exporting countries. With hindsight it is now clear that they over-estimated the increased productivity stemming from the "green revolution", relied too heavily on continued availability of cheap imports, and devoted insufficient resources to food production." ^{1/}

In short term, whether or not domestic rice eventually becomes the preferred cereal, there is a substantial demand for millet in urban markets that should be met. When Government increased the consumer price for rice, it forewarned ONCAD to prepare itself for marketing 100,000 MT of millet. ONCAD responded with a proposal that, to achieve this objective, it would have to have a monopoly. Indeed, ONCAD understandably fears the competition of private traders who, although offering only CFAF 15-20/kg instead of ONCAD's 30, purchase the bulk

^{1/} Quoted from "Restructuring the World Economy"; Hollis B. Chenery; Foreign Affairs, January, 1975.

of the crop. The farmers have a strong reluctance to deal with ONCAD because they fear such transactions would become entangled with their credit and tax accounts. Further, ONCAD has difficulty in funding its purchasing agents, and requires the farmer to transport his millet to its purchasing station. Government could adopt a policy of encouraging the development of private trade in millet in a climate of competition. More generally, given the difficulties that ONCAD has had in carrying out its important responsibilities with respect to groundnuts, there is a strong argument against saddling it with sole responsibility for millet marketing.

Marketing of groundnuts is entrusted exclusively to ONCAD, and most groundnut production is processed domestically into oil and cake before exportation. Despite the increases in producer prices, ONCAD's trading profits from groundnuts increased, especially in 1973/74, when they reached nearly CFAF 14 billion, reflecting the substantial increases in export prices.

In June 1972 the Government reached an agreement with the groundnut oil processing industry designed to ensure that ONCAD's selling price (prix de cession) moved closely in line with the world market prices and that the oil processing mills phase out their purchases in accordance with agreed quotas in relation to the forecast volume of ONCAD purchases. Under the agreement, the responsibility for determining ONCAD's selling price to the oil millers is entrusted to a committee (Comité de Quotation) comprising representatives from ONCAD, the Ministry of Finance, and the oil processing industry. The committee fixes the price periodically as a composite price taking into consideration the prevailing spot and future prices of shelled groundnuts and groundnut oil, meal, and cake in the principal export markets (namely London, Hamburg, Paris and New York) and overall developments in the international market for edible oils. The price or quotation is initially established in pounds sterling, which is then translated into the CFA franc equivalent, using the prevailing cross rate in French francs. In the 1973/74 season, when, as a result of

.../...

the shortfall in production and continuously rising world market prices during the trading season, there emerged a significant divergence between ONCAD's realized average selling price and world market prices, a "fair selling price" was renegotiated with the oil millers and made retroactive for the entire season. In that year while the forecast of the marketable output of groundnuts was originally put at some 680,000 tons, the actual turnout was 520,000 tons, which was practically "bought out" early in the season before the swiftly evolving high prices came to prevail later in the year.

As a result of changes in producer prices and of the developments in production, the cash incomes of farmers, mainly from the sale of groundnuts, which had declined from CFAF 19 billion in 1971/72 to CFAF 11,6 billion in 1972/73, increased by over 44 percent to an estimated CFAF 16.7 billion in 1973/74 (Table 16). At the same time, however, the trading surpluses of ONCAD rose from an estimated CFAF 5 billion in 1972/73 to CFAF 16,8 billion, of which CFAF 15.3 billion was on account of groundnut trading. The huge profits reflected a substantially higher average sales price for the 1973/74 crop. CFAF 11.6 billion of this amount was used by the Caisse de Péréquation et de Stabilisation des Prix (CPSP) to meet the cost of consumer subsidies on rice, sugar, and edible oils.

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TABLE 16

Senegal: Farmers Estimated Incomes, 1971/72-1974/75

(In billions of CFA francs)

	1971/72	1972/73	1973/74	1974/75 (estimate)
Groundnuts	18.11	10.76	15.34	20.1
Cotton	0.66	0.70	1.16	2.1
Rice (paddy)	0.23	0.09	0.18	2.1
Cash Incomes	<u>19.00</u>	<u>11.55</u>	<u>16.68</u>	<u>33.3</u>
Millet	0.99	0.58	0.13
Total Income	<u>19.99</u>	<u>12.13</u>	<u>16.81</u>	<u>....</u>

Source: Data provided by the Senegalese authorities.

POLICY REGARDING CONSUMER PRICES AND GOVERNMENT SUBSIDIES

Subsidization of certain commodities considered as essential had been initiated originally to soften the impact of rising import prices on the cost of living. These subsidies were given essentially for three staples in the ^{Senegalese} consumer budget: rice, sugar and edible oil, and supplemented by price controls on other consumer articles. Although, in September 1973 the Government allowed increases, ranging between 40 and 50 percent, in consumer prices of these three commodities, the further subsequent rise in their import prices imposed a heavy subsidy bill on the resources of the public sector.

In 1973/74 (October-September) the cost of the subsidies is estimated to have been CFAF 11.6 billion and was financed by the marketing surplus of CFAF 16.8 billion of the ONCAD. According to estimates by Senegalese Officials, at world market and domestic prices prevailing in October 1974, the cost of these subsidies would

have risen to about CFAF 27 billion in 1974/75. Notwithstanding the favorable export prices, such a cost could not have been met from the surplus resources likely to accrue to the Price Stabilization Fund (CPSP). In the circumstances, the government was anxious to modify policies with a view to minimizing the cost of subsidies and conserving resources for investment and for improving the growth performance of the economy. The main elements in this strategy were a sharp upward revision in the consumer prices of subsidized commodities through lowering of subsidies, and a substantial increase in producer prices for the main agricultural crops. Accordingly, effective November 1, 1974 the Government announced substantial decreases in subsidies by decreeing increases in consumer prices. Simultaneously, it raised producer prices for groundnuts, millet, rice (paddy), and cotton. To compensate fixed income earners, raises were also granted in wages, salaries, and pensions. The wholesale price of rice was raised by nearly 70 percent, thus eliminating the subsidy on rice. Also, the subsidies on sugar and oil were reduced by 68 percent and 50 percent, respectively, raising the corresponding prices by 88 percent and 33 percent. The producer price for groundnuts was increased by 41 percent, for cotton by 37 percent, for rice (paddy) by 19 percent, and for millet by 7 percent. Increases granted in salaries and wages ranged between 60 percent for salaries below CFA 12,000 per month and 3 percent for salaries above CFAF 150,000 per month. Pensions were also increased, by up to 82 percent.

Groundnut prices are now (mid-1976) considerably off from their two-year high levels, dropping from about \$300 per metric ton to \$200, and more recently to \$160 per ton (FOB). Prices are expected to hold steady at the latter level. This has led to a serious financial situation for ONCAD. Since ONCAD has free access to Central Bank funds, (the whole GOS has a ceiling) ONCAD's debts have risen from 10 to 15 billion CFA. Because of the GOS limitation, they have been unable to repay ONCAD. Recent figures showed that ONCAD might face an estimated loss of 6 billion CFA or \$25 million during 1976.

In November 1974, the guaranteed minimum wage rate which applies to agricultural workers, the Salaire Minimum Agricole Garanti (SMAG), and that which applies to all other workers, the Salaire Minimum Interprofessionnel Garanti (SMIG), were each boosted by 60% to CFAF 107.06 and CFAF 97.77 per hour, respectively (Table 17). The overall average rate of salary increases was based on an average family consumption of 70 kg of rice, 10 kg of sugar, and 25 liters of edible oils per month, implying that the direct cost to consumers of the price increases was CFAF 5,000 compared with a salary increase of some CFAF 7,200 in the lowest salary brackets. According to official estimates, the November wage increases would entail an additional budgetary charge of at least CFAF 4.5 billion per annum.

The increase in wages and salaries appeared to overcompensate employees for the direct increase in the cost to the consumer owing to the reduction in subsidies. According to official estimates, the immediate impact of the announced increases in consumer prices were to raise the food price index by 14% and the overall cost of living index by about 7%, based on an average family consumption of these products. The Senegalese authorities said that this overcompensation was meant to meet the cost of further induced increases in other prices. They did not feel that the increase in wages would unduly compromise Senegal's international competitive position. They rather expected that productivity increases would absorb a large part of the wage increases.

TABLE 17
Senegal: Evolution of Minimum Hourly Wage Rates
for Industrial and Agricultural Workers (1968-74)^{1/}
(in CFA francs)

Effective Date	SMIG	SMAG
July 1, 1968 ^{1/}	50.60	43.85
August 13, 1973	58.19	50.42
March 5, 1974	66.91	57.98
November 1, 1974	107.06	92.77

Source: Data provided by the Senegalese authorities.

^{1/} Established on the basis of a 40-hour week and a 48-hour week for the SMIG and SMAG respectively.

Comprehensive information on the current employment situation and recent developments in the labor force are not available. However, there are indications that in recent years the expansion of employment opportunities has not kept pace with the growth of the labor force. Employment for 1971 and 1972 is shown in Table 18. Apparently, however, the setback in agricultural production in the two crop seasons after 1972 had unfavorable repercussions on the employment situation.

PRICING AND CONSUMPTION

In recent years the consumer price index, which is based on the spending patterns of moderate income Senegalese families in Dakar, has shown an acceleration in the rate of increase. The acceleration has occurred despite the continuation, since 1965, of direct controls on the prices of many items, the partial freezing since 1971 of the prices of essential commodities, and until late 1974 the maintenance of domestic prices of rice, edible oils, and sugar, three major articles of consumption in the urban sector, below the international prices through a subsidy scheme operated by the Government.

After increasing at an average annual rate of 3.9 per cent in the four years 1968-71, the consumer price index for average Senegalese families rose by over 12 per cent in 1973 (Table 19). This was attributable mainly to developments in the domestic supply situation, particularly shortfalls in the output of foodstuffs, although inflationary trends abroad were also a contributory factor. In 1973, the prices of foodstuffs (including imported cereals) which constitute the major component of the general index with a weight of 56 per cent, increased by nearly 19 per cent, more than double the rise in 1972 and well above the average rate of 4 per cent in 1969-71.

During the first half of 1974, although the rise in prices of foodstuffs moderated to an annual rate of some 6 per cent, the overall index of consumer prices continued its upward trend, rising by an annual rate of

Table 18. Senegal: Sectoral Distribution of Recorded Employment,
February 1971 and February 1972

	February 1971			February 1972		
	Permanent	Seasonal and temporary	Total	Permanent	Seasonal and temporary	Total
Agriculture, fishing, and livestock raising	2,265	966	3,231	2,303	1,039	3,342
Mining	1,304	557	1,861	1,352	392	1,744
Manufacturing	12,219	2,808	15,027	13,225	4,188	17,413
Construction and public works	1,912	988	2,900	2,150	1,205	3,355
Electricity, water and gas	1,801	437	2,238	2,809	806	3,615
Commerce, hotels, and restaurants	9,035	1,874	10,909	9,590	3,547	13,137
Transport and communications	6,429	3,980	10,409	7,034	4,953	11,987
Banking and insurance	2,148	16	2,164	2,170	20	2,190
Services	3,211	144	3,355	3,336	144	3,480
Total	40,324	11,770	52,094	43,969	16,294	60,263

Source: Ministère des Finances et des Affaires Economiques, Direction de la Statistique,
Situation Economique du Sénégal 1973, 1974

over 22 per cent, mainly on account of the steady rise in import prices and the repercussion of higher prices of petroleum products. The sharp upswing in domestic prices reflected significant increases in the prices of all major components of the consumer basket, particularly in household goods, transportation and rent. The recorded increase in the general index would have been higher but for the continued maintenance, through government subsidies, of domestic prices of rice, sugar, and edible oils well below their import prices, which rose very sharply during the period.

To further moderate increases in the cost of living, in July 1974 the Government negotiated with business enterprises a major restructuring of their profit margins as well as a freezing of the prices of many largely domestically produced consumer goods -such as soap- at levels prevailing at that time; price increases in respect of certain other goods were to be allowable only if justified by the actual unit production or import cost (prix de revient).

The actions proposed to increase the supply of food crops cannot achieve any significant result if, in the meantime, no action is taken on the demand side. Therefore, Government food policy affecting urban consumers is an important ingredient of overall agricultural policy. The demand for millet is of particular concern because agricultural development in the Groundnut Basin calls for intensification of a cropping pattern that of necessity includes millet to a substantial degree. Therefore, agricultural development in most of Senegal has the potential of generating millet surpluses. The demand for millet will be decisive in terms of rural areas taking advantage of the relative affluence of urban areas, and in terms of the Government's objectives of increasing farm incomes and reducing the country's dependence on food imports. Millet preparation is a serious constraint on its popularity. It takes much longer than does rice, and its home processing is not well suited to an urban development. As currently purchased, millet must be processed for five to seven hours:

.../...

(a) shelling, (b) winnowing, (c) grinding, (d) stirring, (e) steam-cooking, and (f) soaking in a broth; and once begun, the processing cannot be interrupted. In comparison, rice is purchased ready for cooking and stores well. Fortunately, a program of research into millet food technology being undertaken by the Food Technology Institute (ITI), gives promise of successful commercial development of a dry, stabilized millet flour.

Table 19. Senegal: Index of Consumer Prices for the Average Senegalese Family
in Dakar, 1968-74^{1/}

(1967 = 100; annual averages)

	Number of items	Weight	1968	1969	1970	1971	1972	1973	1974 (est) ²
Foodstuffs	71	56.0	101.0	103.4	107.4	114.0	122.5	145.7	150.3
Clothing	22	11.9	101.6	100.6	102.4	104.7	108.7	114.0	122.5
Rent	17	16.2	100.3	100.8	109.1	111.0	118.0	120.1	143.3
Household goods	14	4.0	100.8	101.9	103.9	104.4	112.7	117.3	198.2
Transport, leisure and sundry	27	11.9	101.4	107.9	105.7	103.2	105.4	108.3	144.5
General index	151	100.0	101.0	103.2	107.1	111.2	117.8	132.2	147.1

Sources: Ministère des Finances et des Affaires Economiques, Situation Economique du Sénégal 1971; and data provided by the Senegalese authorities.

1/ The index measures changes in consumer prices for moderate income Senegalese families living in the Dakar area. The weights in the index were established on the basis of a survey undertaken in 1960-61 of consumption patterns of a sample of Senegalese families living in Dakar and having monthly incomes not exceeding 60,000 CFA francs.

² Based on June price levels.

Table 20. Senegal: Financial Operations of the Price Stabilization Fund (CPSP), 1973/74-1974/75

(In billions of CFA francs)

	1973/74 ^{1/}	1974/75 (est)
Receipts	17.9	17.5
Transfers from ONCAD		
of which: Groundnut trading	(15.3)	(14.4)
Parafiscal	1.1	1.5
Expenditure	13.8	12.3
of which: Agricultural program		
Subsidies	1.3	2.8
Rice	11.6	6.7
Oil	(5.0)	(---)
Sugar	(4.5)	(2.2)
Development expenditure	(2.1)	(4.5)
	0.7	2.0
Overall surplus/deficit (-)	<u>4.1</u>	<u>5.2</u>

Source: Data provided by the Senegalese authorities

^{1/} Reflects position for the 15-month period July 1973 - September 1974.

TABLE 21

RICE PRODUCTION
(CY after Harvest)

Previous year	Land (000 Ha)	Yield (MT/Ha)	Paddy Prod. (000 MT)	Feed Waste (000 MT)	Net Paddy Prod. (000 MT)	Milled Prod. (000 MT)	Begin. Stocks	Ending Stocks	Commercial Imports	Donated Imports	Total Consump. (000 MT)	Consump. per Cap. (Kg/yr)
1970	102.6	1.52	155.9	11.4	144.5	93.9	20.0°	-20.0°	110.6	8.6	213.1	53.5
1971	88.0	1.03	90.5	10.9	75.6	40.9	20.0°	-20.0°	187.5	0.0	228.4	57.7
1972	83.7	1.29	108.2	7.0	101.2	65.8	20.0°	-33.0	169.9	0.0	222.7	54.7
1973	53.7	0.68	36.7	8.4	28.3	18.4	33.0	-13.0	188.5	3.5	230.4	55.0
1974	61.6	1.00	64.3	11.0	53.3	34.6	13.0	-40.0	141.3 ^{oo}	2.2	151.1	35.0
1975	84.6	1.38	117.0	12.0	105.0	68.2	40.0	-35.0	123.8 ^{oo}	0.0	197.0	44.4
1976	92.3°	1.78°	133.8°	13.2	120.6	78.4	35.0	-40.0	130.0	0.0	203.4	44.6
1977	101.2°	1.52°	153.9°	14.4	139.5	90.7	40.0°	-40.0°	120.7	0.0	211.4	45.0°
1978	110.6°	1.60°	177.0°	15.5°	161.5	105.0	40.0°	-40.0°	87.5	25.0 ²	217.5	45.0°

^{oo} Source: CFCAD

² Proposed PL 480 Title I Quantity

^{oo} 130 kg/Ha for some year land area.

^o Milled conversion from paddy = 65%

^o Estimates. Production is assumed to increase at rate of 15% per year, and yields to increase at rate of 5% per year. Prices of rice and other major grains (maize and millet) are assumed to remain where they are now (1976). Some fertilizer application per hectare as now (1976) is assumed.

FA 11 22

IMPORT-EXPORT BALANCE FOR PRINCIPAL FOOD GRAINS (SENEGAL)

YEAR	PRODUCT	(000 METRIC TONS)				
		COMMERCIAL IMPORTS	FOOD AID IMPORTS	TOTAL IMPORTS	EXPORTS	IMPORT (-) EXPORT (+) BALANCE
1965	Wheat	61.1	0.6	61.7	27.4 ^a	- 34.3
	Rice	256.0	-	256.0	-	-256.0
	Millet/sorghum	22.5	8.8	31.3	-	- 31.3
	Maize	-	6.9	6.9	-	- 6.9
	Total	339.7	16.3	356.0	27.4	-328.5
1966	Wheat	76.0	4.0	80.0	25.6	- 54.4
	Rice	227.6	-	227.6	-	-227.6
	Millet/sorghum	3.1	48.5	51.6	-	- 51.6
	Maize	-	4.2	4.2	-	- 4.2
	Total	306.7	56.6	363.3	25.6	-337.7
1967	Wheat	62.2	5.6	67.8	12.9	- 54.9
	Rice	219.3	-	219.3	-	-219.3
	Millet/sorghum	3.1	9.0	12.1	-	- 12.1
	Maize	-	12.8	12.8	-	- 12.8
	Total	284.6	27.3	311.9	12.9	-229.0
1968	Wheat	62.4	2.4	64.8	22.9	- 42.0
	Rice	264.5	-	264.5	-	-264.5
	Millet/sorghum	2.9	10.3	13.2	-	- 13.2
	Maize	-	3.8	3.8	-	- 3.8
	Oats	-	4.3	4.3	-	- 4.3
Total	329.8	20.8	350.6	22.9	-327.8	
1969	Wheat	81.4	0.3	84.8	24.3	- 60.5
	Rice	208.4	10.8	219.2	-	-219.2
	Millet/sorghum	38.6	10.4	49.0	-	- 49.0
	Maize	-	8.1	8.1	-	- 8.1
	Oats	-	0.1	0.1	-	- 0.1
Total	331.5	29.7	361.2	24.3	-336.9	
1970	Wheat	108.4	4.0	112.4	47.1	- 65.3
	Rice	110.6	8.6	119.2	-	-119.2
	Millet/sorghum	0.2	-	0.2	-	- 0.2
	Maize	-	9.6	9.6	-	- 9.6
	Total	219.2	22.2	241.4	47.1	-194.3
1971	Wheat	112.0	-	112.0	25.6	- 86.4
	Rice	187.5	-	187.5	-	-187.5
	Millet/sorghum	28.9	0.7	29.6	-	- 29.6
	Maize	-	2.1	2.1	-	- 2.1
	Total	328.4	2.8	331.2	25.6	-305.6

TABLE 22 (Contd)

Year	Cereals	COMMERCIAL IMPORTS	FOR AID IMPORTS	TOTAL IMPORTS	(1000 METRIC TONS)	
					EXPORTS	IMPORTS (-) BALANCE (-)
1972	Wheat	95.4	-	95.4	22.9	- 72.5
	Rice	169.9	-	169.9	-	-169.9
	Millet/sorghum	10.4	-	10.4	-	- 10.4
	Maize	-	1.0	1.0	-	- 1.0
	Total	276.7	1.0	277.7	22.9	-253.8
1973	Wheat	62.1	43.3	105.4	23.4	- 82.0
	Rice	188.5	3.5	192.0	-	-192.0
	Millet/sorghum	26.4	15.0	41.4	-	- 41.4
	Maize	-	46.6	46.6	-	- 46.6
	Total	277.0	108.4	385.4	23.4	-362.0
1974	Wheat	81.3	5.4	86.7	19.9 ^a	- 66.8
	Rice	141.3	2.2	143.5	-	-143.5
	Millet/sorghum	33.5 ^a	21.5	55.0	-	- 55.0
	Maize	-	28.0	28.0	-	- 28.0
	Total	256.1	57.1	313.2	19.9	-293.3
1975	Wheat	93.8 ^a	6.2	100.0	23.0	- 77.0
	Rice	123.8	-	123.8	-	-123.8
	Millet/sorghum	5.0 ^a	-	5.0	-	- 5.0
	Maize	-	-	5.5	-	- 5.5
	Total	222.6	11.7	234.3	23.0	-211.3
1976	Wheat	105.0 ^a	-	105.0	24.2 ^a	- 80.8
	Rice	130.0 ^a	-	130.0	-	-130.0
	Millet/sorghum	0.0	-	-	-	-
	Maize	-	2.4	2.4	-	- 2.4
	Total	235.0	2.4	237.4	24.2	-213.2

a Wheat milling byproducts

^a Estimates. Commissariat à l'Aide Alimentaire; for 1974 & 1975 AID figures.

For 1970-1973, Catholic Relief Services.

For 1965-1969, "Regional Grain Stabilization ...".