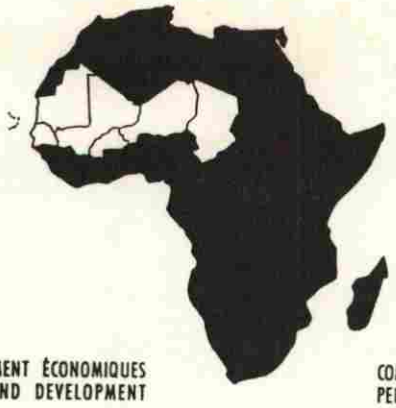
00028



OCDE/OECD
ORGANISATION DE COOPÉRATION ET DE DÉVELOPPEMENT ÉCONOMIQUES
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

CILSS
COMITÉ PERMANENT INTER-ÉTATS DE LUTTE CONTRE LA SÉCHERESSE DANS LE SAHEL
PERMANENT INTERSTATE COMMITTEE FOR DROUGHT CONTROL IN THE SAHEL

CLUB DU SAHEL

SAHEL D(86)288
March 1986
Or. Engl.

GENERAL DISTRIBUTION

CEREALS POLICY REFORM IN THE SAHEL

Mauritania

CEREALS POLICY REFORM IN THE SAHEL

Mauritania

The ideas expressed and the facts given in this document are the sole responsibility of the author and do not necessarily represent those of the OECD, the Club du Sahel or the CILSS.

by Frédéric Martin

Elliot Berg Associates
907 Duke Street
Alexandria, VA 22314

36011

Table of Contents

I. INTRODUCTION: THE SPECIAL FEATURES OF THE MAURITANIAN CASE

1. Mauritania presents a special case among the Sahelian states because of the limited development of its rural sector, and of its agriculture in particular. Ninety-one percent of the Mauritanian labor force was occupied in agricultural tasks in 1960, while agriculture's contribution to the GDP was only 44%. Little improvement in this situation was made in the following twenty years. In 1980, 69% of the labor force was in agriculture which accounted for a mere 29% of the GDP. The rate of growth of agriculture was 1.4% per year from 1960 to 1970 and 3.4% per year between 1970 and 1982. 1/

2. These poor results can be explained in part by the natural constraints facing the country. The Sahelian and desert climates limit agricultural activity to the extreme south along the Senegal River and in Gorgol. The climatic constraint has been especially severe because of the poor rainfall over the past ten years.

3. Not only is production limited (Table 1), but the marketing of agricultural products is also handicapped by the immense size of the country, the dispersion of the relatively small population (1.7 million people) and the lack of infrastructure, and of roads in particular.

4. Given its limited agricultural potential, Mauritanian development strategy has given a privileged place to livestock raising and the export of iron and copper. The foreign exchange earned from mineral exports has largely been used to import low priced rice (Asian "brokens") (Table 1). However, commercial food imports have not been able to meet all the needs of a population that is growing at a rate of 2.4% per year. Consequently, food aid is also required to make up the structural deficit in cereals.

5. Imports are large relative to locally produced cereals. In the ten years between 1973/74 and 1983/84, food aid represented approximately 41% of total cereals availability and commercial imports another 33%. All imports are controlled by public or parapublic organizations; the state, therefore, plays a large role in the national cereals market. Despite efforts to develop irrigated perimeters, production is marginal--below 10,000 tons of rice and maize. 2/ In the short and medium terms, then, the principal source of cereals remains food aid from donor countries.

6. Mauritanian cereals policy must, then, be analyzed in its own special context. We will begin this analysis by briefly recapping the general diagnosis of cereals policy that was formed in the late 1970s. Next, we shall turn our attention to the principal aspects of the reform effort which followed from that diagnosis. Finally we will underline a number of factors which either aid or stand in the way of reforming Mauritanian cereals policy.

II. PROBLEMS BEFORE 1980

7. During the last half of the 1970s and the beginning of the 1980s a number of studies appeared which diagnosed Mauritanian cereals policy problems and proposed reforms. 3/ From these reports and others a general consensus emerges of the factors that explain the low levels of agricultural production. While climatic factors are recognized as important, these reports emphasize that certain aspects of cereals policy share some responsibility for the stagnation of production.

8. The most often criticized aspect of cereals policy is the priority given to maintaining low consumer prices. The Societe Nationale d´Importation et d´Exportation (SONIMEX) subsidized the consumer price of rice, thus bringing it down well below world market prices. The Plan d´Urgence, charged with the distribution of food aid, sold a part of this aid at a very low price--3 ouguiya per kilogram (81 ouguiya per dollar)--and gave the rest away free.

9. This policy guarantees the Mauritanian people a continuing supply of cereals, but it is subject to a number of criticisms: it discourages local production since imports sell at lower prices than local costs of production allow; and it entails an inefficient allocation of resources by keeping imported cereals at artificially low price levels--i.e., well below the world market price. The policy also encourages consumers to develop tastes for cereals which cannot be grown in the country, and creates an incentive to smuggle artificially low priced cereals out of the country to neighboring states where prices are higher.

10. Government also sets unremunerative official producer prices for rice. This has discouraged the development of irrigated crops, which the Societe Nationale pour le Developpement Rural (SONADER) has been trying to promote since 1976. Prices are not the only obstacle to increased agricultural output. The structure of land ownership rights are also recognized as a critical roadblock to increased irrigated production.

11. Finally, most of the studies note that the carrying out of reform in the cereals sector has habitually been hampered by the general lack of knowledge about the sector at all three levels--production, marketing and consumption, and by a lack of coordination among the agencies concerned: SONIMEX under the Ministry of Finance and Commerce; the Office Mauritanien des Cereales (OMC) and SONADER, both under the Ministry of Rural Development (MDR); the Plan d´Urgence; and, of course, that part of the private sector charged with marketing local cereals (see Annex 1).

12. A consensus exists in all these documents on a certain number of reforms to carry out: the raising of producer and consumer prices; the promotion of irrigated crops; the limiting of free food aid to truly needy persons; and gathering of more information on the cereals marketing chain. Other points, however, are not agreed on by all.

i. Subsidies on agricultural inputs are defended by SONADER, which views them as being crucial for developing irrigated perimeters. Some donors, notably the World Bank, have criticized these subsidies as being too costly and having little effect.

ii. SONADER has also championed the creation of large irrigated perimeters (grands perimetres irriguees); this policy was strongly criticized by Dumont, who favors smaller perimeters. 4/

iii. The appropriate role for the private sector to play in the marketing of cereals has also been contested. Most government documents argue in favor of keeping the marketing chain wholly under public sector control (une "maitrise" de la filiere cerealiere par le secteur public). The OMC, for instance, was created "to organize the marketing of cereals." On the other hand, the CRED report for CILSS 5/ and Martin 6/ argue that the private sector should be granted a larger role in trade.

iv. The practice of selling food aid at lower prices in rural areas than in the capital is designed to put a brake on the rural exodus, according to those in charge of the distribution of food aid. However, aside from this, prices remain uniform everywhere in the country. Lack of differentiation among types of cereal is also criticized; wheat, for instance, was sold at the same price as sorghum. 7/

III. THE REFORM EFFORT: 1980/81 - 1984/85

13. We now look at the principal reforms in cereals policy enacted over the past few years. Aid policy is of such importance in Mauritania that it will be given especially detailed attention.

A. Input Supply

14. Input supply policy concerns primarily water, seeds, fertilizer and agricultural equipment. Agricultural credit, research and extension policies are also relevant to the extent that they influence input supply, so they too will be addressed here.

15. The fundamental characteristic of agricultural input markets is the widespread presence of shortages.

16. Water is most certainly the key constraint to the augmentation of production. In the course of the last eleven years, the annual rainfall index has only once (1979/80) been equal to its average from 1941 to 1970. Five times it has been a little lower than the 1941-70 average and five times it has been much below. 8/ The drought has hit rain-fed crops particularly hard (over 96% of the cultivated area).

17. Government began to give priority to the development of irrigated agriculture with the creation of SONADER in 1976, and its participation in the creation of the Organization for the Development of the Senegal River (OMVS). However, irrigated perimeters have made little headway. In 1975/76 there were no irrigated perimeters and in 1983 only 3.6% of cultivated areas were irrigated. The factors behind this stagnation are examined below (Section III.C); here we need note only that the major constraint to increasing the area under cultivation is lack of water.

18. The improved seeds available in Mauritania are insufficient in quantity and quality. There has been no major effort to improve seed quality. The Centre National de Recherche Agronomique et de Developpement Agricole de Kaedi (CNRADA), created in 1974, does not have the qualified staff and the money needed to operate research stations in different regions. There is a particularly great need for seed varieties with short growing cycles more adapted to drought conditions.

19. Fertilizer imports are furnished by SONADER exclusively for the irrigated areas. Nevertheless, a parallel market has long existed which furnishes Mauritanian farmers with Senegalese fertilizer. The flow of Senegalese fertilizer has, however, recently dried up due to price hikes and supply problems in Senegal.

20. Practically no fertilizer is applied to rain-fed crops. First, the supply of fertilizer for these crops is minimal. Secondly, demand is also very weak because producers consider such an investment to be too risky given the variability of rainfall. Fertilizer demand in particular and other agricultural input demand in general are also limited by the lack of financial resources among the producers. The effect of the recent drought has been to lower production levels and hence bring down marketed volumes and revenues, all of which leaves producers sorely strapped for money.

21. Agricultural credit is underdeveloped in Mauritania; the SONADER "credit" system is in reality a system of subsidies. The only credit available is that offered by private traders to producers. Though little studied, these credit arrangements are limited in volume, judging from the small quantities of marketed cereals.

22. In 1980 a commission of high-level civil servants from the major ministries and parapublic organizations recommended the creation of an Agricultural Credit Bank, but this proposal has not so far produced any results. 9/

23. Nevertheless, the Fonds National de Developpement (FND) was created in November 1980 with a capital of 400 million UM. The FND's objective is to finance rural, industrial and housing development projects. The FND obtained an additional line of credit to the tune of 7 million dollars in April 1984 from the Fonds Arabe de Developpement Economique et Special (FADES). 10/ The FND proposed in 1982 to create a Societe Rurale d'Approvisionnement, d'Education et de Location (SORAPEL). 11/ This mixed organization would supply the rural sector with agricultural equipment, material and input. It would also be responsible for maintaining public works and renting needed equipment to producers. SORAPEL's distribution network would benefit greatly from the infrastructure already set up by other societies such as SONADER, the CSA (Commissariat a la Securite Alimentaire) and SAMALIDA 12/ and the cooperatives and "pre-cooperatives."

24. SONADER has tried to make inputs more accessible financially through a policy of subsidization. Upon the establishment of a new irrigated perimeter, the producers working on it receive all the piping equipment at no charge and pay only half the cost of the first group motor pump. When that pump wears out, they receive a 33% reduction on a second; for subsequent pumps they are required to pay the full price. Furthermore, they receive without

charge all consumable inputs needed to produce their first crop, i.e., seeds, fertilizer, fuel, lubricant and spare parts. For the following planting, fertilizers and seeds are subsidized at a 50% level. 13/

25. These subsidies have aided the development of irrigated agriculture, but they are open to criticism on several counts.

- They contribute to an inefficient allocation of resources because of the price distortions they create; they favor chemical fertilizer use, while labor and organic fertilizer use is discouraged.

- The financial burdens they represent will become intolerable if the planned growth in irrigated agriculture actually occurs. 14/

- They are exclusively given by SONADER, which precludes the participation of the private sector in input supply. They also penalize the small perimeter producers around Rosso who do not have access to inputs subsidized by SONADER.

26. The permanent subsidization of input prices has, then, many negative effects. Furthermore, the positive effects of these subsidies on the growth of irrigated perimeters could be better achieved by increasing the producer price of cereals.

27. Because of donor pressure (the World Bank and the Caisse Centrale de la Cooperation Economique (CCCE) in particular), SONADER has proposed in its new four-year plan (1984-88) to reduce its subsidies. Under this plan, half of the cost of consumable inputs will remain free for the first planting season, and the other half will be granted on short-term credit to be reimbursed after the harvest. Thereafter, fertilizer and seeds will be sold at cost price. This new system is to be introduced gradually, with the price of fertilizer rising by 25% in January 1985, 20% in January 1986 and a last adjustment in January 1987 taking it to full cost price.

28. The effects of the chronic shortage of inputs are worsened by the late delivery of the few existing inputs. The consequences of this tardiness can be dramatic for irrigated crops, which are subject to a very precise agricultural calendar. If all the inputs are not available at the right moment production suffers greatly. The typical example is the lack of fuel and spare parts for the group motor pumps just when irrigation of the cultivated parcels becomes necessary.

29. The weakness of agricultural extension and other rural institutions also worsens the input picture. The problem here is not at the extension agent training stage, which is done at the Ecole Nationale de Formation et Vulgarisation Agricole de Kaedi. Rather it is the shortage of materials and money which prevents extension agents from visiting the parcels. The FAO and the United Nations Development Program (UNDP) are introducing a project aimed at improving extension efforts, but presently the only effective extension efforts are those financed by various non governmental organizations (NGOs).

30. Finally, the rural institutions designed to bring producers together into groups are very poorly developed and hence not able to deal with input provision, or anything else. The cooperative movement is embryonic. In 1980 there were only 452 "pre-cooperative" groups and 21 full cooperatives.

B. Producer Price Policy

31. Mauritanian producer price policy has the following characteristics.

i. The official producer price of millet, fixed at 14 UM/kg. for the 1981/82, 1982/83 and 1983/84 crop years, has always been well below the prices available in the markets of the towns in the producing regions. During the same time period, these latter prices fluctuated between 20 and 25 UM/kg. (Graph 1). The real effect of a policy which fixes official prices at a level below market prices is extremely limited. Farmers and merchants simply ignore official prices and transactions occur at open market rates.

ii. The official producer prices do not seem to cover the production costs of producers who grow rice, maize and sorghum in irrigated perimeters. Labor charges constitute an important portion of these costs. SONADER's usual method of calculating production costs is to equate agricultural labor costs with the minimum industrial salary (SMIG)--around 150 UM per day. If one decides to assign a lower value to agricultural labor, then producer prices are largely sufficient to cover the production costs of the three crops mentioned above (Table 2).

iii. Mauritanian official producer prices are substantially higher than those in Senegal, for the most part. 15/

iv. The official producer price of millet has risen at a much faster rate than has the official producer price of rice. Between 1976/77 and 1985/86 the official millet producer price increased by 169% while that of rice only rose by 75% (Table 3). These price trends do not correspond to any concomitant variations in world prices (Graphs 2 and 3).

v. In real terms, official producer prices fell 13% for millet and 25% for rice between 1976/77 and 1984/85.

vi. The official producer price of millet has increased relative to that of rice. In 1976/77 the official producer price of millet was only 97.5% of the official producer price for rice. By 1985/86 that percentage had risen to 150% (Table 3).

32. The official producer prices do not, finally, seem to be the most important determinants of cereal production levels. Other factors also influence production:

i. rainfall, the most important factor for non irrigated crops. The correlation between the intensity of the drought and millet production is clearly negative; 16/

ii. the lack of an adequate system for supplying agricultural inputs and credit;

iii. the limited availability of cultivable land. In all of Mauritania only 500,000 hectares are thought to be suitable for agriculture--less than .5% of the total land area. Even this land--located in the extreme south--is under constant pressure from the drought and the advance of the desert;

iv. the scarcity of manpower in rural areas, especially for irrigated agriculture which requires heavy labor inputs at planting and harvest time. This shortage is exacerbated by emigration of adult males to Nouakchott, Nouadhibou, Dakar, Paris--a tendency that has become particularly acute during the recent drought;

v. the poor performance of SONADER and the problem of land rights also constitute important handicaps to the development of irrigated crops. These questions will be addressed in the next section.

33. Even if higher producer prices bring about higher levels of production, the total effect on the economy could be negative. In the case where the official price is set above the market price, the hike in producer prices will raise consumer prices, assuming no subsidy on those prices is paid by the government. If subsidies are used to counteract a fall in consumer real income following a hike in producer prices, the budget deficit will increase accordingly. The costs involved may be particularly high in the case of rice, since the cost of producing local rice seems to be much higher than the delivered cost of imported rice. 17/ Higher effective consumer prices could also hurt producers who are net buyers of cereals. Many farmers may be in this category, given the well-known effects of the drought on production. In this case raising prices might have negative equity effects--raising the incomes of a few gros producteurs while lowering those of many small producers.

34. A more efficient marketing system, with reduced collection, transport and storage costs, would facilitate a more remunerative price structure for producers and also help keep prices affordable to consumers. Greater participation by the private sector, in a truly competitive fashion, would be a key step toward achieving this long term goal.

C. The Development of Irrigated Agriculture

35. The Mauritanian government has given priority to the development of irrigated vis a vis rain-fed crops. The decision is justified by the variability and weakness of rain-fed production and by the desire of the government to assure a certain minimal level of food security. The possibilities for expanding rain-fed agriculture (dieri) are extremely limited, given the semipermanent characteristic of the present drought. Production of flood plain crops (oualo) could be augmented by a more efficient use of fertilizer and other improvements. Unfortunately, the drought has reduced the potential of much of the oualo lands by lowering the yearly flood levels of the Senegal river--thus limiting the cultivable acreage. Recent dam construction has also reduced flood levels on the Senegal and, in time, the dikes along its banks will also reduce oualo acres available for cultivation.

36. The only real hope for increasing production lies in irrigated agriculture. To facilitate this, the government created SONADER in 1975 as a public establishment with financial autonomy and a strong mandate to function in both industrial and commercial capacities--all under the tutelage of the MDR. Unfortunately SONADER's achievements have fallen far short of expectations. In terms of areas under cultivation and yields, SONADER has made little impact. SONADER also suffers from a number of important financial problems. 18/

37. Some of SONADER's difficulties lie in factors beyond its control. Such factors include the lack of infrastructure, producer prices which are sometimes below producer costs and the lack of support from other institutions. The Fonds Nationale de Developpement, for example, has not managed to set up a viable credit system; the Commissariat a la Securite Alimentaire has not had much experience in the direct administration of the rice processing factories and the Centre Nationale de Recherche Agronomique de Kaedi has come up with few useful results. 19/

38. Most importantly, however, SONADER has been plagued by severe land rights problems. The development of irrigated agriculture is being constrained by land right structures based on sharecropping and serfdom. A first law on land tenure was passed in August 1960, 20/ but traditional law (Droit Naturel) has prevailed and Mauritania is still, in fact, divided up into a set of territories belonging to different groups and clans.

39. After many conflicts over land rights, particularly in the Gorgol project area, the government began a land reform program with the adoption of an ordinance in June 1983 on landholding and estate reorganization. This ordinance was followed by a decret d'application in January 1984. 21/ The principal points behind these reforms were: the recognition by the state of private property, the transfer of vacant plots to the state, the abolition of the traditional land tenure system, the granting of large plots only in certain cases, and then only if the legitimate interests of smallholders can be safeguarded.

40. It is still too early to judge the impact of this reform. It should promote a more efficient use of the country's agricultural potential while at the same time reducing rural inequalities. By way of example, in the Gorgol project former landowners retained one-third of their original properties. The remaining two-thirds were distributed to new farmers.

41. If it is clear that this reform will strongly influence land utilization, it is not yet known whether it will favor cereals production or livestock fodder production. Similarly, little is known about the respective rights of farmers and herders over land utilization--passage and pasture rights in particular are likely to be the subject of disputes. These questions are becoming even more important as herders seek better pastures in the agricultural zones of the far south.

42. Besides these external sources of difficulty SONADER has also contributed to its own problems. Principally, SONADER has suffered from the "parapublic organization syndrome": shortage of qualified, motivated people, surplus of unqualified staff, bloated headquarters staff in relation to field staff, slow and complex administrative procedures and, finally, lack of administrative control, which encourages waste.

43. Certainly the lack of a clear definition of its responsibilities has led SONADER to take up a multitude of functions and to disperse its efforts in a variety of ways. First, SONADER suffers from geographic dispersion since it intervenes in environments as diverse as Trarza and Hodh. Also, SONADER's role is technically dispersed given its goals of promoting not only large and small irrigated perimeters, but also hillside terraces and ridges. Finally, SONADER

is functionally dispersed, as it is supposed to promote production, supply inputs and credit, supervise irrigation and marketing, etc. 22/

44. The laying out of large perimeters at Boghe, Kaedi and Gorgol Noir has also contributed to SONADER's financial problems. The cost of developing one hectare of a large perimeter is on the order of one million UM compared with 120,000 UM for a hectare on a small perimeter. 23/ Furthermore, large perimeters require a higher level of technical support to maintain their extensive irrigation networks. Pumping stations, dikes and canals all become necessary. 24/ Local populations can hardly be expected to defray much of the cost of these often gigantic projects.

45. The fact that large perimeters have major defects doesn't mean that smaller ones are a panacea. The supply of fonde acres suitable for irrigation in small plots is practically exhausted. In addition, small perimeters are often too small to be profitable and their geographic dispersion makes extension and pump maintenance difficult and costly. 25/

46. The priority given to rice has also been criticized. 26/ Besides the fact that it is less nutritious than millet, rice cultivation requires much water and is subject to a very precise calendar. On the other hand (under good conditions), rice gives high yields and could in the long run substitute for imported broken rice.

47. In the face of these problems, SONADER has embarked on an important restructuring. Management has reduced the ratio of headquarters staff to total personnel from 46% in 1979/80 to 18% in February 1984. 27/ It also in October 1983 created a Bureau d'Etudes et de Controle des Travaux as well as an Entreprise de Terrassement et de Genie Civil open to private sector (both national and international) financing. SONADER will henceforth deal only with irrigation policy and projects.

48. These reforms, which seem to lighten SONADER's administrative functions, are a step in the right direction. The functions of input supply, agricultural credit, irrigation and agricultural equipment maintenance and the milling of local cereals along with their marketing should be given over as much as possible to the more efficient and decentralized private sector. Even traditional extension could be basically modified; it is high time to recognize the magnitude of technological capital already accumulated by Mauritanian farmers. A more relevant extension effort should begin by compiling an inventory of traditional techniques that are too often ignored.

49. SONADER will attempt to promote perimeters of medium size (100 to 150 hectares), hoping that this will combine the advantages of small (10-20 hectares) and large (500-1000 hectares) perimeters. SONADER has also initiated maize, sorghum and vegetable production during the slack season since 1980/81. The perimeters in the zones of Gouraye and Guidimaka are even used to grow maize in season. These changes should realistically translate into improved performance for SONADER.

D. Cereals Marketing

50. Mauritania is atypical among the Sahelian states in respect to the huge role that imported cereals play in its total grain availability. From

1973/74 to 1983/84, local production made up 25% of total availability whereas commercial imports constituted 33% and food aid 42% of total cereals availability. These percentages vary over time. Food aid volumes have been particularly large during the worst periods of the drought. In the early 1970s and again in 1983/84 food aid levels were especially high. It is also alarming to note that even in a "good year," local production has never provided more than 50% of total cereals availability (Table 1).

51. Since the state controls both commercial import and food aid distribution circuits, it has a preeminent role to play in cereals distribution. This tendency has become stronger over the past ten years because of the drought.

1. Local cereals marketing

52. Until the 1970s, local cereals marketing was in the hands of the private sector. The "traditional" private sector distributed cereals from the production zones in the south to the deficit zones in the north. This task was carried out by a number of intermediaries: collectors, transporters, wholesalers, and retailers. 28/

53. This circuit diminished in importance as the decade progressed and poor rains reduced the amount of surplus cereals available for sale. Furthermore, a law was passed in January 1973 which outlawed the sale of free food aid given under the Plan d'Urgence. 29/ This law has had the effect of eliminating the private sector from its previous role in supplying urban markets with millet and sorghum. 30/ The subsequent shortages that resulted from this action spurred the creation of the OMC in August 1975. 31/

54. Placed under the jurisdiction of the MDR, the OMC was supposed to "contribute to the development of a rational policy aimed at supplying the internal market with a basic amount of cereals." 32/ In fact the OMC's role in local cereals marketing is and has been very minor. The OMC has only been able to buy very small quantities of millet, maize and rice because of its lack of financial means and because of the general scarcity of cereals on the market. The CSA, which took up responsibility for the OMC in September 1982, has had no more success in buying millet (Table 4). Millet seems principally to be sold at local markets in very small quantities by producers themselves, to satisfy their basic needs for consumer items such as tea, sugar, cloth, etc.

55. Although almost all rice production is consumed on the farm, farmers are often obliged to sell some rice to pay off debts to SONADER. Until 1980, SONADER collected the marketed paddy rice, milled it in the factories of Boghe and Kaedi and sold it to SONIMEX. The OMC in 1981, then the CSA in 1982, took responsibility for rice marketing away from SONADER, but the volumes marketed remained minimal. The primary marketing of local rice by the private sector is also not very important.

2. Imported cereals marketing

56. SONIMEX has had a monopoly on imports of broken rice since its creation in 1966. Until 1981 SONIMEX sold this rice through a network of branches and licensed wholesalers. In order to obtain a license, a trader had

to have a bank account and pay the bank in advance in order to take delivery of his merchandise. Wholesalers, in turn, sold to retailers at a price set by the Direction du Commerce Interieur.

57. This system was changed following the creation of the Confederation Generale des Employeurs Mauritaniens (CGEM) in May 1980. The CGEM comprises the diverse professional associations (most importantly those of the traders and transporters) and lobbies for the interests of its members with the government. In June 1981, the regulation of rice distribution passed to the CGEM which became the only entity entitled to certify traders as eligible to buy SONIMEX rice. Each month the CGEM, in collaboration with local authorities, establishes the list of traders certified to receive a quota of rice from SONIMEX. These traders then can obtain their quota either at the regional office of SONIMEX or directly from Nouakchott.

58. There is also an illegal private network of rice imports originating from Senegalese regions where the price is below the Mauritanian price. 33/ Most of this rice comes from the Senegalese parapublic retail network of SONADIS, which is more widespread and better provisioned than are retail outlets in Mauritania.

59. Wheat imports are authorized by the Direction du Commerce Exterieur. A private company, FAMO, handles the greater part of these imports in the form of flour.

3. Distribution of food aid

60. Food aid is a major source of cereals. It is particularly important in drought years such as 1983/84, during which food aid shipments totaled 61% of total cereals availability (Table 1).

61. a. Estimating food aid needs. Food aid needs are estimated by a joint commission consisting of government representatives (usually from the MDR and the Commmissariat a l´Aide Alimentaire or CAA) and members of the donor community. This commission regularly makes tours of the country to obtain need and production estimates from local authorities in each region.

62. The general lack of information on the state of nutrition and population movements in Mauritania makes a correct estimate of food aid "requirements" especially difficult. To give one example, the population of the Departement of Selibaby in Guidimaka was estimated to comprise 104,000 indigenous people and 200,000 temporary residents. 34/ Population census taking was made somewhat easier by the enactment in December 1983 of the Structures d´Education de Masse (SEM). Under the SEM each region is divided into Departements which are divided into zones that are in turn divided into quartiers. Quartiers, then, are made up of family cells grouping together approximately ten families. Currently, a Commission departementale, presided over by the prefet and including representatives from the principal administrative services (principally the CSA), is charged with estimating population and food aid needs.

63. It seems that food aid need estimates are often inflated. For example, the request for aid in 1983/84 seems to underestimate local production. The Commission Nationale d'Assistance aux Populations Eprouvees par la Secheresse (CNAPES) estimated production to be 15,000 tons while the MDR's figure was 37,740 tons. Similarly wheat imports are estimated at 20,000 tons by CNAPES and 38,000 tons by the MDR. Along the same lines, the figure for estimated need per capita has grown over the course of years from 120 to 135 and then to 150 kilos. (It is true, one must note, that this rise is partly to compensate for the decline in consumption of other products--meat and milk in particular.)

64. Despite these exaggerations, it is undeniable that need for food aid is very high because of the last ten years of bad rainfall. The fact that food aid has become a structural necessity underlines even more the importance of having a well thought through strategy for maximizing its positive impact.

65. b. Institutional structures. Four different public bodies have carried out the distribution of food aid in the past ten years. The first of those was the Plan d'Urgence which had responsibility for food aid distribution from the beginning of the drought in the early 1970s until 1979, when the CAA was created. 35/ In 1980 the OMC came under the jurisdiction of the CAA and acted as its storage and transport agent. In 1982 the CAA and the OMC were joined together to create the CSA. 36/

66. This most recent consolidation seems to have been well justified. It was hardly appropriate for an organization with a structural role, such as the OMC, to be dependent on an organization like the CAA, which was only created to deal with a (supposedly temporary) crisis. The problems caused by the different orientations of these two bodies came to a head in 1981 with the signing of an accord between the World Food Program (WFP), USAID and the OMC. This agreement specified that the programmed supply of future food aid was to be sold at prices which would gradually adjust to world market levels. The purpose was to stabilize consumer prices, to avoid the negative effects of cheap imported food on local production and to increase the supply of counterpart funds available to aid development projects. As against these activities, which focus on improving long-term market structure, the CAA was concerned primarily with supplying the population with adequate quantities of low-priced food aid. The creation of the CSA, then, represents an attempt at reconciling long-term and short-term objectives, which should make for a more unified and coherent food aid policy.

67. c. Method of distribution. The mode of distribution of food aid has also evolved. After clearing customs in Nouakchott, Nouadhibou or Rosso, food aid is assembled by the Bureau de Transport and shipped to CSA distribution centers. The CSA has a fleet of trucks, but most food aid is transported by the private sector. The network of CSA distribution centers has grown sharply in recent years, from 52 in 1982/83 to 71 in 1983/84. Nine of these centers are administered by USAID, nine others by WFP. The rest are controlled by the CSA. The food is either sold directly from the CSA centers, or distributed at no charge by the SEM under the supervision of the Commission departementale or, on occasion, by an aid mission from Nouakchott.

68. This system, which dates from 1982/83, replaced the earlier system of distribution which bypassed the local authorities. The present system has important advantages. First and most importantly, it assures a sufficient

food supply for the whole population and avoids the possibility of a famine. Also, cereals distribution seems to be relatively efficient. For one thing, the CSA makes heavy use of private transporters. For another, the system of supervision by the Commissions departementales through the SEM minimizes the possibilities for diverting grain from its intended destination--which was a problem in the old system.

69. Nevertheless, the transport of grain from the CSA centers to the final consumers leaves a lot to be desired. The CSA does not have a sufficient motor pool to supply the whole population, which is often dispersed in temporary campsites. Private traders are unwilling to deliver to certain nomadic groups who are mobile and difficult to locate. Consumers must also pay high prices in part because of the bad condition of many roads and tracks. By way of example, to transport one sack of grain from Kiffa to a campsite situated 60 kilometers into the bush costs as much as it would to transport it 600 kilometers from Nouakchott to Kiffa. 37/

70. There is no easy solution to this problem, but a number of measures could be tried:

i. the number of CSA centers could be raised, but this would also be likely to raise CSA's costs and render it less efficient since each center would be handling a lower volume of cereals;

ii. widely dispersed campsites could be grouped along communication axes to make them more accessible. This, however, would entail forced relocation of certain elements of the population and the resulting changes could create grave sociological problems;

iii. in the long run, the best solution would seem to be improving transportation infrastructure in order to reduce the difficulties of reaching isolated groups.

71. A second problem with the present distribution system is that administrative procedures are too cumbersome. The procedure for distributing free aid requires functionaries from the SEMs to find a minimum number of family tents in one place to obtain a delivery coupon from the local CSA center. This condition is often difficult to meet given the dispersed nature of the nomadic population. Furthermore, the procedure separates the operations of taking the census of families, of distributing the food and of regulating its use into three distinct steps, each to be carried out at a different time. This is hardly compatible with the nomadic lifestyle. Oftentimes, the SEM agents identify a particular campsite, survey the families residing there, return to the CSA center to obtain the delivery coupon and the food only to return once again to the campsite and discover that the nomads have moved on. Sometimes it also happens that though delivery of the food is carried out, its division and eventual use are unregulated because the groups simply move beyond the reach of the local administration.

72. The procedure for distributing sold food aid (aide vendue) also poses certain difficulties. Each sale, for instance, must be accompanied by a delivery order and receipt. The heads of the local CSA centers thus find themselves burdened by a huge load of paperwork. Collective delivery orders that would indicate the quantities to be sold to a number of consumers who

wanted to buy food at the same time could help lighten this load. Also a single daily receipt indicating the amount of payments received during one day would be sufficient. Finally, it seems that the consumers waste their time by going to the CSA to fill out their purchase orders, then to the bank to carry out the payment and finally back to the CSA to get their merchandise.

73. Lastly, there is sometimes a real gap between how distribution is supposed to work and how it actually does work. If there is a delay in deliveries or if the CSA estimates that urgent needs still have to be met, it will often meet those needs with food aid in a manner not necessarily agreed to by the donor whose aid is so used. As soon as a new shipment of aid arrives, a good part of it is immediately used to shore up the deficits created by the utilization of the previous shipment in ways other than planned. For example, 21,000 tons arrived in 1983 under the title of food aid for 1983-84 granted by USAID in the framework of its multiyear program of 20,000 tons of aid each year. Fifteen thousand tons were immediately used to replace cereals already sold. Thus the CSA utilized 55,000 tons in two years instead of the 40,000 tons planned for.

74. This system of allowing unplanned changes is justified because of necessity in case of urgent need. But it poses vast accounting problems and pushes the CSA to distribute more than it is supposed to do according to its agreements with the donors.

75. d. Timeliness of distribution. The distribution of an adequate quantity of food aid is not the only element of a coherent food aid policy. The time factor must also be taken into account. A true food aid policy assumes that a multiyear program of food aid will be forthcoming from the donors. Without this long-term aspect to food aid policy, such aid remains only a stopgap measure useful only for overcoming periodic crises. It will have little policy impact. The agreement in 1981 with the WFP and USAID is interesting from this standpoint. WFP pledged 8,000 tons and USAID 20,000 tons per year for three years. The CSA, in return, has agreed to raise the price of aide vendue to the level of the world market price in 1987.

76. It is also important to forecast aid arrivals so that they may be spread out over appropriate intervals. Since Nouakchott's deepwater port is not yet completed, the aid distribution system suffers from a severe bottleneck because of the low capacity of the Nouakchott wharf. A staggering of arrivals over the year would minimize the problems created by this constraint and thus diminish distribution delays, losses due to overlong storage in ships' holds and also the costs of delaying ships at the wharf.

77. The period in which food aid is distributed must also be considered. Food aid has the biggest nutritional impact during the soudure or hungry season when cereals reserves are drawn down and agricultural work is at its peak. On the other hand, certain encampments are inaccessible during the hivernage and it is important that they are supplied with a sufficient quantity of food before the rains begin. Even the hour of distribution can effect the impact of aid. For example, certain people think that it is best to give meals to children in the Centres de Rèhabilitation Nutritionnelle at times other than the traditional family mealtimes. This avoids the possible substitution of the family meal by the Center's meal and assures that the children receive both.38/

78. e. Recipients of food aid. Not every region receives the same amount of aid per capita. The Northwestern regions, Adrar and Inchiri in particular, get a lot of aid. On the other hand, the urban zones of Nouakchott and Nouadhibou as well as the regions of the extreme south like Gorgol and Guidimaka, receive little aid. This divergence is justified in part by the different economic characteristics of the various regions. The urban areas offer more chance for productive employment and the Southern regions are agriculturally productive. The Northwest, however, has been hardest hit by the drought and it is there that the proportion of indigents to total population is the highest. If one classifies the regions by quantity of aid received by indigent persons, Tiris-Zemmour, Guidimaka and Hodh El Chargui are at the top of the list while Brakna, Nouakchott and Gorgol are last. 39/ These results should be interpreted with caution since the statistics used (particularly for the estimates of total and indigent population by region) are of doubtful quality.

79. Better targeting would improve the nutritional impact of food aid. Some targeting has been tried. The Centres de Rehabilitation et d´Education Nutritionelle (CREN) were created in 1980 to treat the most severe cases of malnutrition among young children and pregnant or lactating women.. The CRENs have had a significant impact in urban areas, though they are currently constrained by a lack of money and equipment.

80. The Ministere de la Sante with the help of a number of donors and UNDRO began to set up in 1984 the Centres d´Alimentation Communautaires (CAC). The CACs are supposed to see to the nutritional rehabilitation of malnourished children from birth to five years of age. The operation has just gotten off the ground, but it seems that the CACs are already having logistical problems that are severely reducing their ability to supply food. The CACs are a good idea for better targeting food aid, but their future is uncertain. It is unlikely that these centers could become self-supporting or autonomous in the near future. This is because it is doubtful that each community will furnish the CAC of its zone with vegetables, milk and butter all without charge, during a period when the drought has reduced both agricultural and livestock production and raised prices. Also, operating costs of the CACs will have to be covered, but it is unclear how this will be done.

81. Forms of food aid. Food aid has a strong impact on consumption habits in Mauritania because it represents a major source of food. Currently 90% is given in the form of wheat, very little of which is grown in Mauritania. 40/ One can see a subtle change in food habits in favor of wheat except for the regions of Gorgol and Guidimaka. This trend obviously threatens to increase Mauritanian dependence on this cereal. Sorghum, which only represents 10% of total food aid, is not subject to the same criticism since it is also an important component of local production. Nevertheless, the imported red sorghum is much less preferred than local millet and sorghum.

82. The ideal solution would be to import local-type millet. However, this proposition runs up against two main problems. First, there simply is no world market for millet. The only producers of millet are the neighboring Sahelian states who share Mauritania´s problems and thus have no exportable surpluses. Secondly, donor nations want to give their surplus cereals away, and they consist mainly of wheat. There is no easy solution to this problem. The most that can be done is to try to increase the ratio of sorghum to wheat.

4. The desirable roles of the State and the private sector

83. Up until the 1970s the private sector marketed the great majority of cereals. The advent of the drought, however, brought about a rise in the proportion of imported cereals and also an increased role for the state. The private sector is still responsible for most of cereals marketing; but marketed volume has declined because of the drought, and the state distributes the relatively more abundant food aid. The distribution of broken rice is, however, in the hands of a number of traders licensed by the CGEM. Wheat flour imports are also in the hands of a private group. Food aid is still transported mainly by private companies. Lastly, the private sector mills food aid wheat to produce flour for consumption.

84. The private sector, then, is a vital actor in the process of cereals marketing. It has an especially crucial role because it is the only source of credit for both consumers and producers. Retailing and transformation of cereals are similarly handled by the private sector. As opposed to this, the consumer who wishes to buy directly from the CSA must, for example, pay in cash for at least 50 kg. of grain.

85. It would be desirable for the private sector to play even more of a role--particularly in food aid distribution. There is no reason why a system similar to that in place for the distribution of broken imported rice could not be put into effect for sold food aid. Like SONIMEX, the CSA could sell food aid to private traders and charge them with the task of retailing it to consumers.

86. Certain critics of such a system warn of the dangers of speculation and of unjustified consumer price hikes which they fear would be rampant if the private sector were granted a larger role. This attitude reflects the view that private markets are not competitive, that traders can and do exploit both producers and consumers.

87. The validity of this fear is difficult to assess because of the lack of information. One must note that the experience with imported rice marketing strongly suggests that the dangers of monopsony, 41/ of "speculation" and artificial price hikes are not very great. The system proposed above, then, does not seem too unrealistic. As further evidence, a recent study by SONED on cereals marketing in neighboring Senegal has produced some interesting findings. It found that: the margins received by traders varied between 11% and 17% on the average depending on the scale of the trader's activities; and that stocks held by most traders were quite small, in general on the order of only a few days sales volume. 42/ Finally, prices charged by private sector transporters were approximately 40% less than the transport costs of the CSA. 43/

88. These empirical findings do not support the hypothesis of the parasitic, speculative, monopsonistic trader. They rather paint a picture of a competitive economic actor who allocates scarce resources in an efficient manner. Unlike public or parapublic agents, private traders must make a profit to survive and cannot count on the safety net of foreign aid. Operating on a small scale, the private trader is more flexible and rapid in his decision

making. In fact, many traders are only "part-time" traders who also carry out other economic roles, such as driving taxis or trucks, government service, etc.

89. These arguments in favor of private traders do not mean that the state should never intervene in marketing. The state will always remain responsible for supplying the population with an adequate quantity of food. But a greater government effort to develop a dynamic and competitive private sector is clearly called for. It could do this by encouraging greater private sector involvement in cereals marketing--particularly in sold food aid marketing; improving the collection and diffusion of information about harvests and prices in different markets; promoting a standardized system of quality control and of weights and measures; improving road networks to facilitate access to isolated areas, thus creating truly integrated markets; diminishing the constraints to marketing and production by more effective research and extension efforts along with a credit system open to all operators along the cereals marketing chain.

E. Producer and Consumer Price Stabilization

90. The government has for a long time sought to stabilize producer and consumer prices by fixing official prices. One objective has been to reduce uncertainty among economic operators, thus facilitating their planning and decision making processes. However, fixing official prices does not always lead to a reduction in uncertainty. In effect, official prices are in a large part the result of political considerations and are therefore very unpredictable. Paradoxically, it is far easier to estimate what market prices will be because these adhere to the known laws of supply and demand. If the harvest is plentiful, economic actors know that market prices will be low, and inversely, if the harvest is scarce, they will expect high prices. In addition, it is doubtful that the government possesses the storage capacity and financial means to buy enough grain to be able to impose floor or ceiling prices.

91. A second objective of price stabilization is to establish a remunerative price for cereals producers. Nevertheless, as many economists have noted, most producers are not really interested in stable prices. Stable revenues, on the other hand, are of major importance. A stable price can actually destabilize revenue because the same price is paid no matter what quantity is harvested. In contrast, a variable price--high if the harvest is poor and low if the harvest is plentiful--stabilizes producer revenues.

92. The third goal of price stabilization is to maintain affordable prices for consumers. If consumer prices were to rise too high, consumers would see their real incomes fall and the possibility that social troubles would result cannot be discounted.

93. Finally, the State seeks to avoid all "speculation" by traders. What "speculation" means is usually unspecified. It usually means "excessively" fluctuating prices. But a flexibility in prices is necessary to cover transport and storage costs; otherwise no trader has any interest in storing or transporting cereals. Speculative storage can be avoided by greater competition and is not, in any case, an empirically verified phenomenon. 44/

94. The state has tried to stabilize producer prices by intervening in the primary marketing of cereals. The major part of paddy marketings were bought at the official price by SONADER from 1976 to 1980, by the OMC in 1981 and by the CSA since 1982. On the other hand, the OMC and the CSA have never been able to maintain the official producer price for millet through the use of a buffer stock.

95. Two factors explain this lack of success. First the OMC has lacked the means to effectively carry out a buying campaign. In fact, this problem has been solved by an agreement between the government and the WFP over the setting up of a price stabilization program. This program, whose execution began in 1981/82, calls for the sale of 8,000 tons of wheat per year to consumers over three years. The counterpart funds generated from these sales are supposed to be used to finance local cereals purchases. However, a second factor has prevented the realization of this objective. The drought has strongly reduced marketed volumes of local cereals and driven their market price above the official producer price. So, the CSA has been unable to buy millet and the WFP office in Nouakchott has proposed to release the counterpart funds for the construction of a buffer stock of imported millet and sorghum.

96. Even if production returns to normal levels, it is not at all evident that true price stabilization would be an easy objective. First of all, it would require huge financial inflows to cope with the great variations in marketed quantities from one year to the next. A streak of good or bad years would place huge demands on storage capacity and most likely necessitate more costly construction. An effective price-stabilization program would also cost the CAA extremely dearly, for it would have to be ready to buy at any moment throughout the country.

97. The relative interannual stability of consumer prices has been made possible by the fact that commercial imports and aide vendue are both sold at the official price. Since the consumer can almost always buy rice, wheat and sorghum at fixed prices, the open market prices of local millet and sorghum are indirectly stabilized. 45/

F. Storage Policy

98. Mauritania's current storage policy calls for an increase in storage capacity. The storage capacity of the OMC and then the CSA rose from 16,000 tons in 1976 to 52,000 tons in 1980 and 104,000 tons in 1984. About 30,000 tons of the present storage capacity is in open air depots. 46/ This sharp rise has been financed mainly by the African Development Bank and the Netherlands. Beyond this capacity, there exists a large capacity of private storage, mostly on-farm and little studied. In effect, since most cereals production is consumed within the village that grows it, the vast majority of cereals are stored by the producers themselves. These traditional stocks are particularly important to the Soninke of Guidimaka who try to keep at least a year's supply of food available in their granaries. Finally, it is also true that traders possess some storage capacity.

99. Overall capacity seems broadly sufficient given actual or desirable use. Current stock levels fall well below total storage capacity. The CSA had 24,500 tons of cereals stock in April and 20,000 in June 1984. Traders' stocks are small since they generally have too little money to keep large stocks and

the stabilizing effect of fixed imported cereals prices reduces private incentives to stock large quantities.

100. Three types of storage are usually distinguished: buffer stocks, which are meant to stabilize producer and consumer prices, security stocks which are supposed to provide a food safety net in case of a catastrophic drop in food availability and operational stocks which are designed to improve cereals distribution flows over time and space. In 1981 the FAO proposed an objective of 10,000 tons for buffer stock, 30,000 tons for security stocks and an operational stock of 12,000 tons. 47/ Present capacity is sufficient to handle these objectives.

101. Earlier, we concluded that while a buffer stock could prevent wide fluctuations in producer and consumer prices, the costs would be very high. The advisability of building a substantial food security stock should also be seriously questioned. For one thing, Mauritania's coastal location allows for relatively speedy delivery of food from outside the country in case of crisis. This will be even more true after the planned deepwater port of Nouakchott is operational. For another thing, the drought has become an enduring feature of Mauritanian life, which implies that present stocks will continue to be drawn down on a daily basis. This explains why a security stock has never been established in Mauritania, despite German aid. As soon as it was established, this "security stock" was run down to satisfy urgent food needs.

102. There is a widespread tendency to exaggerate the importance of the construction of new storage capacity on the national level in any food security strategy. This is understandable given the relative ease and visibility of the task. However, the local stocks are often more important for food security since they are already in place. National stocks could also be replaced by a financing reserve which would be more flexible to use and would earn interest as opposed to costing money. Other measures would also contribute to food security, such as the signing of delivery contracts for rice over a long period, and the further development of irrigated agriculture.

103. Having an adequate operational stock of cereals is what Mauritania needs most. This would do much to improve cereals flows in time and space. It would contribute to the creation of a homogenous market where the differences in price for a given cereal in two places or at two times would reflect only storage and transportation costs--which is not always the case at present. 48/

104. In sum, present storage capacity should be sufficient to meet needs and deal with any problems. Rather than adding to this capacity and hence to investment and recurrent costs, the government should seek to improve the utilization of existing capacity.

G. A History of Low Consumer Prices

1. Setting a consumer price for imported cereals

105. a. Low consumer prices in the past. The analysis of this question is linked to the debate over the degree of self-sufficiency that is desirable for Mauritania. The development strategy of Mauritania has long been based on its comparative advantage in the exploitation and export of its mineral resources (iron and copper in particular) and livestock production. As part of this strategy, the country imports low-priced broken Asian rice.

Imported rice has always been available at a lower price than local rice. 49/ Furthermore, the drought has drastically reduced millet supplies so that it has become a luxury cereal that is sold at a price well above that of imported broken rice. 50/

106. Finally, consumer prices for cereals are fixed at levels far below the costs of production. The price of local and imported rice is currently subsidized. 51/ Approximately 20% of food aid is distributed at no charge by the government 52/ and the rest is sold well below world market prices (Table 5). 53/ In a general manner, the official consumer prices have not followed recent trends in world prices (Graphs 4 to 6).

107. b. Factors favoring a rise in imported cereal prices. This strategy has been attacked for a number of reasons. First, it requires substantial growth in export earnings. But prospects for sure growth are not bright. The world market for iron ore is suffering from the repercussions of the crisis in steel production. The Guelbs iron ore project should take over from the present mines which are beginning to dry up. This project, however, has extremely high investment and foreign exchange costs because the ore from Guelbs is more difficult to extract and requires sophisticated imported equipment. The copper mines have recently become uneconomic and have been closed down.

108. The fishing sector represents a major source of foreign exchange. But foreign fishing companies absorb a good part of the earnings from this sector and the present level of the catch cannot be maintained without risking damage to the fish population. The potentials for tourism in Mauritania are slight, and its development requires large scale road and hotel investment.

109. At the same time, food needs are growing as a result of increased demographic pressure--the population is currently growing at a rate of 2.4% per year. Given the structural weakness of production, these growing food needs can only be met by increasing food imports.

110. Because of the stagnation in actual foreign exchange earnings, their limited future potential and the rising needs for foreign exchange, the government is finding its policy options increasingly restricted. A sharp growth in food aid seems inevitable. Higher consumer prices for imported cereals would encourage local production and reduce consumption, alleviating some of the worst effects of the impasse in which Mauritania finds itself.

111. Nevertheless, it is not evident that a strategy of greater food self-sufficiency would economize much foreign exchange. Any rise in production levels must be achieved through irrigated agriculture. While an increase in irrigated rice production would permit a reduction in rice imports and save foreign exchange in that manner, it would also place new demands on foreign exchange reserves. This is true because the development of irrigated agriculture would necessitate the purchase abroad of agricultural equipment, fertilizer, pesticides, gas and (to some extent) technical assistance.

112. A second factor also casts some doubt on this strategy of development: the employment factor. The economic sectors mentioned above have limited employment growth potential either because of their capital intensive nature (mines and fishing) or because of their low levels of development

(tourism). Livestock raising, the traditional activity of the Maures, has been severely hit by the drought. 54/ This has caused massive sedentarization and migration to the cities among formerly nomadic groups. A certain number of these newly destitute people have turned to agriculture in order to feed themselves.

113. Foreign exchange and employment factors tend to push for increased local production. However no increase in production can take place unless there is a corresponding demand for local cereals. For this to happen, it is agreed that the consumer prices of imported rice, wheat and sorghum must rise. This would raise consumer demand for local cereals by making the imported alternatives more costly, and help switch consumer food consumption habits back towards local cereals. It would also generate more counterpart funds from the sale of food aid, which could be used to finance programs to increase local production.

114. Raising consumer prices of imported cereals could also bring about financial equilibrium in the rice marketing chain. Current low consumer prices for rice imply a cumulative loss per kilo between 7.2 and 15.8 UM for the whole marketing chain in 1985. 55/ This loss is incurred by three principal actors: i) by the producers and SONADER; 56/ ii) by the CSA which covers the loss with counterpart funds from food aid; 57/ and iii) by SONIMEX which makes up for part of the lost with revenue from import tariffs on tea and sugar. 58/ SONIMEX also assumes a loss from the low price of imported rice. 59/

115. A higher price for imported cereals would also reduce the attractiveness of reselling cereals bought from the CSA on the open market. In effect, this practice is widespread as in most markets food aid sorghum and wheat are sold at prices above the official prices set by the CSA, 60/ even though this is illegal.

116. Another consequence of higher consumer prices for imported cereals would be to stop the smuggling of cheap Mauritanian cereals outside of the country. Though little is known about exact quantities, clandestine exports of wheat to Senegal, and even to a greater extent to Mali, are not inconsiderable. The price of wheat in Mali is nearly twice as high as that in Mauritania. 61/ Though no one is allowed to buy more than a ton of cereals from the CSA, there is no limit on the number of purchases. The chief of the CSA center has the authority to refuse to sell if he thinks that the cereals are not going to be consumed by the purchaser and will be resold. But it is obviously difficult for him to know the exact destination of each kilogram of cereal. As for the customs service, it cannot police the whole frontier day and night.

117. Another reason favoring higher imported cereals prices is that they would help reestablish a system of true pricing, which would promote a more efficient allocation of resources. Food aid should be delivered free of charge to destitute persons, but it is not good policy to give the great majority of the population permanent access to food at a price lower than its long-term opportunity cost. For wheat, the opportunity cost is the international price, since local production is practically nil. The average cost of imported wheat will probably vary in the future between 18 UM and 27 UM/kg. in Nouakchott and between 23 UM and 32.5 UM/kg. in the countryside. 62/ After the large price hikes of February 1985, the new prices for the sale of food aid wheat are 22.5

UM/kg. in Nouakchott and 21.5 UM/kg. in the countryside. 63/ One can consider the current price of wheat in Nouakchott to be at parity with the world price. The price of wheat in the countryside is, however, still below the estimated world market price.

118. The average cost of imported sorghum will probably vary in the future between 22 and 35 UM/kg. in Nouakchott and 27 and 41 UM/kg. in the countryside. The price of food aid sorghum (22.5 UM/kg. in Nouakchott) is at exact parity with the world price and, as is the case for wheat described above, the 21.5 UM/kg. price in the countryside is below the world price.

119. The average cost of imported rice will probably vary in the future between 22.5 and 51 UM/kg. in Nouakchott and between 28 and 57 UM/kg. in the countryside. The sale price of broken rice of 28 UM/kg. in Nouakchott and 31 UM/kg. in the countryside can be considered as at parity with the world market price.

120. A policy of keeping consumer prices at artificially low levels is dangerous because it hides Mauritania's realities and reinforces Mauritania's dependency on food aid. The recent price hikes of February 1985 serve to remind all parties that the present situation is not economically healthy or viable in the long run.

121. Reestablishing true prices would also permit the private sector to assume a greater role in handling commercial imports. This task would become profitable again with the elimination of the subsidy inherent in the price of rice given by SONIMEX.

122. Finally, raising imported cereals prices would improve the financial situation of the Tresor public. The September 1983 rice price increase is a case in point. The World Bank argued in favor of the change and Senegal's decision to raise its consumer price in August 1983 (from 105 to 130 CFA/kg.) gave it further impetus. But the principal reason for the increase seems to have been the desire to raise public revenues by imposing a 5 UM/kg. tax on consumption.

123. For all these reasons, WFP and USAID began to discuss higher prices for rice with the government in 1981. In exchange for a multi-year agreement on the part of USAID and WFP to furnish large amounts of food aid, the government agreed in 1982 to raise the price of aide vendue by the CAA from 8 to 13 UM/kg. in the countryside and from 10 to 14 UM/kg. in Nouakchott. Secondly, the government agreed to gradually raise the price of aide vendue to 23 UM/kg. in 1987 (the international opportunity cost price). Negotiations have also been held between the government, the IMF and the World Bank to bring the price of rice up to its international opportunity cost.

124. These negotiations resulted, after some initial hesitations, in the government's decisions to raise prices both in the fall of 1983 and in February of 1985. 64/ Nevertheless, one must note that these measures respond more to the necessities of fiscal policy, than to food policy. The government's overriding objective has been to help the public treasury face up to the difficult state of the public finances. 65/ Even more, these large price increases were evidently required by the IMF as conditions for its continued financial support.

125. c. Arguments against higher prices. Higher prices were desirable for the number of reasons indicated above. Nevertheless, the sharpness of these latest hikes may have unfavorable consequences on the real incomes of a population already sorely tested by the drought. 66/ The FAO has estimated that one-third of the total population in 1981/82 and two-thirds in 1983/84 had incomes below the poverty level. The government has estimated the proportion of indigents in each administrative zone; it varies from 90% in the North (Adrar, Inchiri, Tagant) to 20-25% in the South (Gorgol, Guidimaka). 67/ Nutritional studies have uncovered a large number of cases of malnutrition, especially in children. 68/

126. There is no ideal alternative to the distribution of free or low priced food aid to these stricken people. One possible alternative would be to give an income supplement to the truly needy. But this solution would be very difficult to carry out.

127. Another alternative would be "food-for-work" programs. Such projects eliminate the illusion that "free aid" is really free by requiring some return in the form of work. Even more, they stimulate both supply and demand for cereals. Supply would be enhanced, obviously, by the greater quantity of food that would be distributed than in the absence of such a program. Demand would be stimulated by the payment of a salary in kind for work accomplished. Finally, these projects also could contribute to the development of the country.

128. Nevertheless, it's not easy to find potentially productive projects which are heavily labor intensive. Such projects often demand heavy administrative costs to assure that those who get the food are, in fact, those who have done the work. Often, too, a part of the salary must be paid in cash to interest prospective workers. It's no surprise that successful food-for-work projects are rare.

129. Raising consumer prices of imported cereals might also have an unfavorable effect on income distribution. Higher prices would certainly benefit producers who have marketable surpluses. But these are probably few in number. Since the advent of the drought, a large number of producers have become net buyers of cereals: they would be worse off with higher prices. Higher prices would thus transfer income from the majority of the rural population to those who continue to have marketable surpluses. The result would be to accentuate income inequalities.

130. Raising prices of cereals obtained through aid could also, paradoxically, reduce the volume of counterpart funds. If higher prices were accompanied by a fall in the volume of aide vendue and an increase in free aid, the effect of the diminishing quantity would counteract the effect of the higher price. Less counterpart and less budget revenue would result.

131. The effect of a price rise on the quantity of aide vendue is difficult to predict. A major portion of the population is already at the minimum level of consumption necessary to avoid malnutrition. Without any substitutable products at lower prices, people would have to seek new income sources to maintain this minimum level of consumption. The impact of a price

rise on the quantity of aide vendue would be, in this case, weak and the volume of counterpart funds would either stay the same or even increase.

132. The experience that Mauritania has had so far in the area of price rises is too limited to support this hypothesis. The one ouguiya increase in the price of food aid wheat and sorghum in November 1983 did not reduce sales. 69/ It should be noted, however, that in this instance the rise was small and largely counterbalanced by inflation. The sharp rise in the price of broken rice (29.4% in Nouakchott and 19% in the country) in September 1983 only lowered consumption by 8%. 70/

133. Even if a change in relatives prices did stimulate demand for local cereals it is doubtful whether local production could rise to meet it. As was shown earlier, price elasticity of supply is low. However, a price hike could indirectly encourage increased production if it generated more counterpart funds. Assuming that these incremental funds were devoted to production-raising programs, then it seems likely that local production could be raised.

134. d. Free food aid distribution. There are then a series of reasons why the government has maintained the free distribution of a part of its food aid and also has for a long time limited rises in the price of aide vendue. It should be noted, though, that the percentage of freely-distributed aid relative to total aid is very small--16.4% in 1983 and 23.6% in 1984. 71/ Furthermore this percentage seems to be lower than envisaged in the arrangements between the government and the donors. One agreement allowed a proportion of free aid to aide vendue as high as 52.8% for 1984. 72/ This probably reflects the government's desire to generate as large a volume of counterpart funds as possible in order to cover the transport costs of food aid and to increase scarce budget resources.

135. Free food aid is distributed in various ways. In each Departement there is a list of destitute people. Most often these lists include mainly the aged or infirmed. The small number of people on these lists are entitled to receive regular deliveries of free food aid. Next a list of impoverished people has been compiled by the SEMs. 73/ Approximately 64% of the people in 1983/84 who received free food aid were on this list. This portion of free food aid is distributed under the control of the Commissions departementales directed by the prefets. Finally the WFP and a few non-governmental aid organizations also give away food at centres scholaires, women's health centers, etc.

136. Not all regions receive the same amount of free food aid per capita. The northern regions (Adrar, Tagant) and the Southwest (Trarza) receive a lot. On the other hand, the regions of the extreme South (Gorgol, Guidimaka) receive little free aid. This pattern is easily explained by the differential impact of the drought. 74/

137. In sum, the policy of raising imported cereals prices is difficult to evaluate. This is not surprising given the complex nature of the direct and indirect effects of price policy and the lack of information. The general conclusions seems to be that: 1) the consumer price of rice is now at an acceptable level--quite near its international opportunity cost; 2) the consumer prices of food aid wheat and sorghum in Nouakchott are at an acceptable level, near their international opportunity costs; 3) these last

prices in the countryside could be slowly raised to approach their international opportunity costs; 4) future price increases should be accomplished in a more progressive fashion than was done in February 1985 in order to give economic actors the time to adjust their incomes and consumption levels.

2. The question of relative consumer prices

138. Besides the question of the appropriateness of a higher consumer price for imported cereals, there is a second question concerning price policy--namely what should be done about relative prices for different cereals in different regions.

139. First of all, there is no reason why food aid wheat and sorghum should be sold at the same price. 75/ The international opportunity cost seems to be higher for sorghum than it is for wheat, 76/ and wheat is not produced locally. Therefore, wheat consumption should be discouraged, to switch consumption habits back in favor of locally produced cereals.

140. Next, the prices of cereals outside of Nouakchott are artificially low compared to those in the capital. Food aid wheat and sorghum are sold for 1 ouguiya less in the countryside than in Nouakchott, which represents an average subsidy of around 6.5 ouguiyas. The price of broken rice in the countryside is only 2.5 ouguiyas higher than in Nouakchott--a subsidy of 3 ouguiyas on the base price in the capital. 77/

141. These price policies are meant to discourage the rural exodus to Nouakchott--a legitimate objective. Nouakchott has experienced one of the highest rate of urban growth in all Africa--growing from just a few inhabitants at independence in 1960, to over 12,000 inhabitants in 1964, 135,000 in 1976 and 378,000 in 1982. 78/ Nevertheless, a large subsidization of cereals prices in rural areas to stem migration towards the cities is not a good way of dealing with the problem.

i) It is very costly. In 1983 these subsidies amounted to 503 million UM for food aid 79/ and 18.5 million UM for broken rice 80/ combining for a total of 521.5 million UM or 9.2% of the state's budget. 81/

ii) It has not proven to be particularly successful at dissuading people from emigrating to the cities. Surprisingly, most of the producers we spoke to for this study did not know the consumer prices for cereals in Nouakchott; the majority of them could not even approximate the price. Also, even if some did know that prices in Nouakchott were higher than in the countryside, this factor appears to be of minor importance in the decision to emigrate or not to emigrate. The key factor is the availability of food aid and that, despite the noteworthy efforts of the CSA, remains better in the cities than in the country.

142. Other factors contribute to the rural exodus. The possibility of finding work in the city is one attraction that is not present in rural areas. It also seems that certain numbers of rural inhabitants come to Nouakchott to obtain land at no charge because of their indigent status, which they then resell illegally afterwards.

H. Counterpart Funds Policy

143. With the growth in food aid over the last few years and the simultaneous rise in the selling price of aide vendue, the amount of counterpart funds generated by the sale of food aid has grown fast. In 1983 the total volume of counterpart funds amounted to only 996 million UM, whereas by 1984 that figure is estimated to be over 1,700 million. 82/ These figures represent 18% and 30% of the public deficits in each year respectively. 83/

144. This large amount of financing represents an important resource for encouraging rural development. Unfortunately, these funds have not yet been put to use to maximum effect.

145. There are, first of all, some administrative problems. Until 1983 counterpart funds were transferred from the point of sale to Nouakchott by the banking and postal systems. This arrangement did not work terribly well because of the small number of bank branches and the slowness of the postal system. Since January 1983 the funds have been sent by the CSA centers to the local tax collector who, in his capacity as representative of the Tresor public, takes the responsibility for sending the funds to Nouakchott.

146. Though this system works better than the preceding one, it seems that the CSA is experiencing difficulties in obtaining funds from the Tresor public. It is common to have delays of a few months between the time of sale of food aid and the moment when the counterpart funds generated by the sale become available for use. This delay is particularly long when the funds are not placed in a special joint donor-CSA account, but remain within the Tresor. This is the case for all the donors except USAID, the WFP and the Federal Republic of Germany--all of whom have special joint accounts.

147. The way these counterpart funds are used also poses certain problems. Transport costs of the food aid absorb a major part of the funds (around 40% in 1983), which limits the balance available for development uses. Their use exactly as specified in accords between the donors and the CSA is not always possible. For example, the counterpart funds generated by the aide vendue from the WFP were to have been used to purchase cereals on the local market, but the drought made this impossible by drying up marketed surpluses.

148. Finally, there are the macroeconomic effects on the budget and balance of payments. The use of these funds is restricted to projects with primarily local costs. The budgetary impact (maintaining the deficit) also defines a limit.

149. Despite these difficulties, counterpart funds can play a vital role in financing rural development projects. American counterpart funds, for example, currently play an important part in the construction of new roads, thus contributing to the removal of rural isolation and to the creation of a more integrated cereals market.

IV. THE FACTORS FAVORING OR HINDERING CEREALS POLICY REFORM

150. The Mauritanian government has undertaken a certain number of reforms: particularly reforms in property holding rights, the reduction of input subsidies, the creation of the CSA out of a fusion of the OMC and the CAA and the hike in prices of aide vendue and commercial broken rice imports. Some attention must now be given to the factors that have favored or constrained these reforms.

A. Factors Favoring Reform

151. Two key factors give impetus to reform. The first, paradoxically, is the drought; its problems have made Mauritania's more acute--thus making reform a virtual necessity. The drought has sharply cut agricultural production and decimated a large part of Mauritania's livestock. Food aid has become the principal source of basic food staples, which underlines the urgency of a positive policy in this area. Steps such as the fusion of the OMC and CAA into the CSA reflect this need. The land right reforms enacted so far are also partly due to the drought. Because of the changing climatic conditions, herders have been bringing their herds into the fertile southern zones and even in a few cases have adopted an agricultural lifestyle themselves. Land right law reform has, then, become a necessity because of these social trends.

152. The second factor which serves to encourage reform is the changing attitude among some donors. At the beginning of the 1980s, certain donors entered into a dialogue with the Mauritanian government in order to negotiate changes in cereals policy in return for increased aid. Thus, beginning in 1981/82, USAID and WFP began discussions with the government over the consumer price of aide vendue. These discussions resulted in an agreement whereby the donors agreed to furnish more food aid over several years in exchange for Mauritanian agreement to raise the selling price of aide vendue so that it will have reached parity with import prices by 1987.

153. By the same token the sharp hikes in the consumer prices for imported cereals are the direct result of the IMF's pressure on the government and constituted a key condition for the Fund's continuing its financial aid to Mauritania.

154. Donors have also become more strict with the CSA over the uses of food aid. USAID, WFP and the German technical assistance mission to the CSA all have begun to monitor the use of food aid. In addition, at the end of August 1984 a Cellule de Suivi de l'Aide Alimentaire or Monitoring Unit was created within the WFP with Dutch financing. Composed of two people for the moment, this Unit will follow all developments in aid policy.

B. Factors Hindering Reform

155. The first obstacle to reform is the complexity of cereals policy. There is no simple solution to the problems in Mauritanian cereals policy. Movement towards one goal is often done at the expense of another. This necessitates a certain amount of compromise, which usually satisfies nobody. One instance of this is the government's wish to guarantee a remunerative price

to producers in order to favor local production while at the same time seeing that consumers have "affordable" prices so that their purchasing power, already diminished as a result of the drought, does not decline any further. One possible solution would be to subsidize one or the other of these prices, but the government also is looking to minimize budgetary outlays. It is clearly impossible to satisfy all three objectives.

156. Also, successful cereals policy reform would have to be accompanied by simultaneous action in other domains. Isolated actions are rarely effective. For example, the impact of an increase in the producer price of cereals would be diminished by an inadequate program of agricultural credit and input supply.

157. Reform is also held back because the traditional social system is not always open to change. An example is SONADER's difficulties in trying to reconcile the traditional property rights system with irrigated agriculture.

158. Reform is also obstructed by the persistent lack of information about the cereals marketing chain. Many studies have been done on Mauritania, but very few of them include any collection of primary data. Raw data is not lacking, but very little of what exists is statistically consistent or valid. 84/ To remedy this lack of trustworthy data the FAO has initiated a technical assistance project designed to improve the MDR and CSA's statistical collection methods.

159. Lack of institutional and technical capacity for analyzing cereals policy is another obstacle to further change. There is no group in Mauritania with the human capital or technical and financial resources to be able to do an adequate analysis of cereals policy alternatives. The only cereals policy study done by a Mauritanian group was the SONADER study on the costs of irrigated rice which was used by the Comite National de Securite Alimentaire (CNSA) to determine a remunerative producer price. Most of the cereals policy analyses, therefore, have been done by foreign missions on short-term assignments or by permanent donor mission staff according to their current needs and with little coordination.

160. This lack of information and limited policy analysis capacity in the area of cereals policy has serious negative consequences. It perpetuates misunderstandings of how markets (especially cereals markets) function. For example, all variation in the price of cereals between harvest and the soudure is interpreted as "speculation" by traders when such price changes may well be justified by storage costs. It also contributes to unrealistic goal-setting, such as food self-sufficiency by the year 2,000.

161. Certain questions are analyzed from a very narrow perspective. For example, food security is often reduced to a question of food aid storage. The clandestine cereals trade is not taken into account nearly enough by the people responsible for formulating cereals policy. The differences in prices, for instance, among Mauritania and its neighbors causes flows of rice from Senegal to Mauritania, flows of millet from Mali to Mauritania, and flows of wheat from Mauritania to Mali and Senegal. Reform programs will not succeed without recognizing the importance of these flows across national boundaries. Unfortunately, few do so.

162. Some general features of the public sector obstruct reform. High level people are often forced (because middle level staff is weak) to pass much of their time seeing to routine administrative tasks, which leaves them little time for strategic planning, including planning for change. Furthermore, motivations are weak because salaries are low, and chances for advancement are limited, and usually based on seniority rather than merit. Political considerations often predominate over professional competence as criteria for choosing directorial posts. The rewards for good work and penalties for unsatisfactory results are limited. Finally, the rapid rotation of both Mauritanian and expatriate staff also limits continuity and prevents the accumulation of experience, thus leading to a situation where different people repeat the same mistakes.

163. The parapublic and public organizations that intervene in the cereals marketing chain are numerous. 85/ To better integrate the activities of these organizations the government has created coordinating structures. However, these structures themselves are also beginning to get numerous which risks further complicating the cereals policy decision making process. 86/

164. Reform preoccupations are often crowded out and relegated to lesser levels of priority by concern over short-term crises. Despite the existence of a national development plan and a plan for the development of irrigated agriculture by SONADER, there does not seem to be any long-term vision of food strategy. The long-term objective of self-sufficiency is vague, in Mauritania's circumstances, and unrealistic. The major priority of cereals policy is to find and distribute adequate quantities of food aid to meet the short-term needs of the population.

165. Related to this is the persistent gap between official policy and policy in practice. Officially, rural development is one of the government's highest priorities. Certainly this priority is reflected by the large share of the investment budget going to the rural sector in the Fourth Plan (29% or 89 billion UM), up from 14% of 42 billion UM in the previous Plan. However almost all these funds come from foreign financing--98% for the Third Plan and 94% for the Fourth. Thus, to have a clearer idea of government's rural development effort, it is better to look at the operating budget: only 1.3% of this budget goes to the rural sector.

166. As in many countries in the world, certain groups have an interest in keeping the present system and opposing reforms. Urban consumers are of course the main beneficiaries of low consumer prices. However it is not evident that urban consumers have much influence on the government, if one can judge from the important price increases in 1983 and 1985, which they had to endure. The consumers of Nouakchott were particularly hurt by the 65% price increase over two years in the price of broken rice because they are the largest purchasers in Mauritania. In 1983, 90% of SONIMEX's broken rice was sold in Nouakchott. 87/ Furthermore, Nouakchott receives only 13 to 15% of the total food aid distributed in the country, even though its population constitutes 21% of the national population and 19.2% of the indigent population. 88/ In general, one cannot say that the evolution of the terms of trade between the rural and urban sectors has favored the urban sector. 89/

167. Civil servants are often said to be an important pressure group, effective in defending their real income. However, the real incomes, particularly of high level civil servants, have deteriorated sharply. The real salary of high level functionaries fell 54% from 1976 to 1985, while that of low level functionaries fell by only 43%. 90/ The urban minimum industrial wage rose by over 28% during the same period. It is difficult to calculate changes in real incomes because the consumer price index in Mauritania began to be calculated only in 1980/81. Nevertheless, the index rose from 100 in May 1981 to 125 in May 1984. And the GDP deflator shows a general price rise of about 75% between 1975 and 1984. So it is obvious that real wages of public servants have fallen substantially since 1974, probably by one-third.

168. Certain groups have an interest in maintaining high volumes of commercial imports and food aid. The ports where the cereals are unloaded, the CSA and the private transporters who carry out the distribution all benefit from the current high levels of imports. The principal interest is, however, the public treasury. It receives appreciable amounts of revenue from the 5 UM/kg. consumption tax placed on rice imports in September 1983. This tax brought in an estimated 280 million UM in 1983/84. 91/ The public treasury also benefits from an operating budget constituted with counterpart funds from food aid sales, which reached a billion UM in 1983/84. 92/

169. Certain aspects of donor policies have also been responsible for holding up reforms in the past. First, one can cite the fact that the considerable amount of aid received by Mauritania, as necessary as it is, has allowed the government to avoid making unpopular reforms. Mauritania received 1,389 million nominal U.S. dollars between 1974 and 1982, 93/ which comes to 104 dollars per person per year, 94/ or 38.4% of the GDP/per capita. 95/

170. Unconditional aid may indeed retard the reform process. This explains why many donors feel aid must be tied to specific reforms. The lack of donor control over the use of aid is aggravated by the fact that many donors do not have any diplomatic representation in Mauritania. This, too, has slowed the pace of reform. Finally, even if donors have pushed for reforms in the past and tried to follow their execution, the results produced have not always matched the prior expectations. Thus the donors have for a long time financed the somewhat anarchic growth of SONADER and the development of very costly large perimeters such as those at Foungleita.

171. Another obstacle to reform is the lack of consensus among concerned organizations in Mauritania which may have different and even opposing interests. The case of local rice is instructive here. SONADER, the CSA and SONIMEX all seek to minimize their own contributions to the financing of the marketing chain deficit for local rice and the fixed prices reflect the respective power of each organization rather than the true economic costs.

172. The donors and the government are also in disagreement a lot of the time. Discord in relations between USAID and the MDR in the past, for example, has limited possibilities for the use of counterpart funds in development projects.

173. A final, and important, element in the reform environment was the war with the Polisario Front from 1974 to 1979. It led to a decline in mineral exports which contributed to balance of payments difficulties and limited the

possibilities for importing agricultural inputs. Military expenses squeezed out development spending. Much of the active population was mobilized at the front, reducing available agricultural manpower.

V. CONCLUSION

174. Mauritania has undertaken substantial effort to reform its cereals policy in recent years. The fusion of the OMC and the CAA into the CSA, the setting up of a food aid distribution system that has successfully prevented famine, the raising of the sale price of aide vendue, reforms in land tenure law and a reorganization of SONADER are significant improvements.

175. Paradoxically, reform has been accelerated by the difficult environment in which Mauritania finds itself, notably drought and military tensions with its neighbors. The Mauritanian government has had no choice but to change certain elements of its cereals policy given the catastrophic state of the economy and growing pressure from the donor community. Recently, this pressure has grown with the rise in the volume of food aid which assures Mauritania's continued survival.

176. Many problems still require attention. Free food aid, in particular, should be targeted more accurately, notably by more careful determination of who is "indigent." The private sector could be given a bigger role in the distribution of food aid. The management of counterpart funds could be improved.

177. The slowness with which reforms are implemented is the result of a set of technological, economic, sociological, psychological and political obstacles. Certain obstacles are inherent to the process of reform, such as social inertia or the complex and sensitive nature of cereals policy. Others are easier to address. In particular, a more systematic research effort would help--e.g. by providing information and analysis of the effects of alternative policies on each of the operators in the cereals marketing chain (producers, traders and consumers).

178. The donors have an important role to play in helping the government to eliminate some of these obstacles. In particular, they can collaborate on the formation of a long-term food strategy. The donors should also help the government improve its capacity to analyze policy alternatives by contributing to its human capital resources and by simply engaging in a true dialogue for purposes of instruction.

179. One must also guard against the danger of adopting a too narrow vision of cereals policy--in which rapid adjustments of relative prices become the paramount concern. Correct price levels and the reestablishment of macroeconomic equilibria are necessary conditions of a successful economic policy, but they are not sufficient. Important institutional reforms must be taken into consideration too. What should be the respective roles of the state and the private sector in the cereals marketing chain? What sort of incentives should be given to the actors in the cereals marketing chain to get them to improve their performances? Answers to these questions will require not only sound knowledge of economic theory, but also of the socio-political environment

in Mauritania. Doing justice to each of these two aspects of Mauritanian cereals policy is the true task of the cereals policy analyst.

Footnotes

1. See IBRD, World Development Report (Oxford University Press, 1984), Table 2, p. 220; Table 3, p. 222; Table 21, p. 258.

2. See Table 13 in Annex 3.

3. For example:
- The 1976/77 CRED (University of Michigan) study for CILSS/Club du Sahel on price policy, marketing and storage in the Sahelian states;
- The "Actes du Colloque de Nouakchott" organized by CILSS/Club du Sahel in 1979 on cereals marketing in the Sahel;
- The report by the German Agroprogress firm in 1978 on cereals marketing in Mauritania, Upper Volta and Niger (K. W. Gall, September 1978);
- The two studies by the FAO in 1981 on the conditions for improving food security and developing a strategy for rural sector development;
- The study by SCET-AGRI in 1982 financed by the French Ministry of Cooperation and Development on the food strategy of Mauritania (RIM, MDR 1982b);
- The study by F. Martin in 1982 on Aide alimentaire et politique des prix céréaliers en République Islamique de Mauritanie, University of Montreal, April 1982.

The Mauritanian government has published its position in: The Third Development Plan--1975/80; The study by MPAT in 1979 on marketing, price policy and storage; The Fourth Development Plan--1981/85.

4. R. Dumont, Mauritanie, mimeo, April 1982 (not distributed).

5. CRED, Commercialisation, Politique des Prix.

6. Martin.

7. See Martin.

8. See Table 6 in Annex 3.

9. RIM, MDR, Rapport final sur le crédit agricole en Mauritanie, mimeo (May 1980).

10. D. Robert, Note sommaire sur la Banque Mauritanienne pour le Développement et le Commercial, le Fonds National de Developpement et la promotion industrielle en Mauritanie (November 1984), pp. 8-10.

11. For a complete presentation of SORAPEL, see E. Mokrane, S. O. Tar and A. Wane, Projet de création d'une Société Rurale d'Approvisionnement, d'Entretien et de Location (SORAPEL, August 1983).

12. Société Mauritano-Lybienne pour le Développement Agricole. This society sells veterinary products.

13. Interview: SONADER.

14. Provisionally, the total fertilizer subsidy for 1983/84 was 7.5 million UM (10 UM/kg subsidy x 260 kilos/hectare x 2890 hectares). This figure represents 28% of the predicted budget deficit of 26.76 million UM in 1984 (SONADER, 1984, p. 2). For an area of 10,000 hectares, the total subsidy would approach 26 million UM.

15. See Table 8, in Annex 3.

16. See Table 6, in Annex 3.

17. See Table 12 in Annex 3.

18. See Table 13 in Annex 3.

19. SONADER, Plan quadriennal d'activités: 1984-1987 (March 1984), p. 16.

20. Loi 60-139 from 2 August 1960.

21. Ordonnance no. 83-127 of June 5, 1983 and Decret no. 84-009 of January 19, 1984.

22. SONADER, Plan quadriennal 1984-1987, p. 16.

23. Ibid., pp. 6 and 7.

24. Ibid., p. 7.

25. Ibid.

26. Dumont.

27. See Table 13 in Annex 3.

28. CILSS, Rapport préparatoire de la réunion régionale sur les politiques des prix agricoles des Etats du CILSS, Rapport par pays: Mauritania (Ouagadougou, 2 volumes, February 1982), p. 1.

29. Loi 73-011.

30. CILSS, Rapport préparatoire (1982), pp. 1 and 2.

31. L'Office Mauritanien des Céréales was created by the decret 75-265 of 12 August 1975.

32. CILSS, Rapport Préparatoire (1982), p. 2.

33. By way of example, the annual average price of a kilo of rice in 1982 was 25 UM at Selibaby, 22 UM at Kaedi and 19.5 UM in the neighboring Fleuve region of Senegal. In 1983 these prices were respectively 26,26 and 18.4 UM. In 1984 they reached 29,27 and 20.4 UM. The Senegalese prices presented here are based on the market prices in Dakar plus a 10 FCFA/kg markup--all converted at the official rate of exchange into UM. (Mauritanian prices are from Table 22-B in

Annex 3; for Senegalese prices see the Senegal country study in this same volume. For the exchange rate, see Table 9, Annex 3.)

34. Interview with the Governor of the Guidimaka region.

35. The Commissariat à l'Aide Alimentaire was created by decret 79-158 on July 9, 1979 and modified by the decret 79-246 of September 11, 1979.

36. The Commissariat à la Securite Alimentaire was created by the decret 82-90 of September 22, 1982.

37. Interview with the head of the Kiffa CSA.

38. It is also important to provide at the same time cereals, oil and milk. for the combined impact of these three foods is greater than their individual effect.

39. See Table 15 in Annex 3.

40. See Tables 6 and 17 in Annex 3.

41. Monopsony is characterized by market dominated by a single buyer who profits from this advantage to obtain lower prices from the sellers.

42. SONED, Etude de la commercialisation des céréales au Sénégal (Dakar, February 1985).

43. See Table 19 in Annex 3.

44. At least if one can judge by the results of the Senegalese SONED study cited above.

45. See Table 7 in Annex 3.

46. See Table 20, Annex 3 for a listing of this capacity.

47. FAO, Conditions d'amélioration de la sécurité alimentaire en République Islamique de Mauritanie (Rome, 1981).

48. A good illustration of this is provided in Table 7 in Annex 3. The millet prices observed in various markets were classed by geographic location going from west to east. Actual prices in nearby markets can be very different and do not follow the same evolution over time. This indicates the market is segmented.

49. The cost price (prix de revient) of local rice is estimated to lie between 38 and 47 UM/kg (see Table 12, Annex 3). The cost price of imported rice is estimated to be between 22 UM/kg in Nouakchott and 28 UM/kg in the countryside (see Table 21, Annex 3). The overvaluation of the Ouguiya has also contributed to artificially lower prices for imported cereals.

50. The average price of millet from 1981 to 1984 in Mauritanian markets was 28 UM/kg while that of broken rice was only 22 UM/kg (see Table 22, Annex 3).

51. The average price of broken rice was 22 UM/kg in Nouakchott and 25 UM/kg in the country side during 1984. Cost prices are indicated in footnote £49.

52. 16.4% in 1983, 23.6% in 1984 (Table 16, Annex 3).

53. The sale price of sorghum and wheat food aid was 15 UM/kg in Nouakchott and 14 UM/kg in the countryside during 1984. The 1984 cost price of imported wheat was estimated to be around 18 UM/kg in Nouakchott and 23 UM/kg in the countryside. The same prices for imported sorghum were, respectively, 22 UM/kg and 27 UM/kg (Table 21 in Annex 3).

54. The number of cattle decreased from 1.37 million in 1982 to .99 million in 1984. Sheep and goats decreased from 7.64 million in 1982 to 6.03 in 1984. The number of camels over the same period dropped from .76 million to .71 million (FMI, Mauritania: Recent Economic Developments (26 November 1984), p. 87.)

55. See Table 12 in Annex 3.

56. SONADER indirectly incurs part of the loss of the rice marketing chain by according subsidies for inputs and by paying its fixed costs.

57. The CSA pays 19.4 UM/kg for paddy rice and 33.4 UM/kg for milled rice. The CSA receives 24 UM/kg for milled rice from SONIMEX. The CSA's loss on one kilo of milled rice is, then, 9.4 UM.

58. SONIMEX pays 29 UM/kg for milled rice and receives 26 UM/kg. Even if the sale price is 31 UM in the countryside, SONIMEX only receives 26 UM. The rest is placed in the public treasury as a tax on consumption. SONIMEX's loss on a kilo of rice sold in the countryside is 3 UM.

59. See Table 24--losses from 1979 to 1984. In 1984 the cost price of a kilo of broken rice paid by SONIMEX was 22 UM in Nouakchott and 28 UM in the countryside. The sale price was 22 UM in Nouakchott and 25 UM in the countryside. However, a tax of 5 UM/kg is placed in the public treasury. SONIMEX's loss, then, is 5 UM/kg in Nouakchott and 8 UM/kg in the countryside (Table 5, p. 20a and Table 21 in Annex 3).

60. Table 23 in Annex 3.

61. The price of wheat at Kayes in Mali was 26 UM/kg against a Mauritanian price of 14 UM/kg in 1984. (D. McClelland, L. G. Cowan, L. S. Makey, and C. A. Stengel, Evaluation Report - Mauritania PL480 Title II, Section 206 Program, USAID (Nouakchott, December 1984), p. 7.

62. See Table 21 in Annex 3.

63. In February 1985 the sale price of food aid wheat and sorghum rose from 15 UM/kg to 22.5 UM/kg in Nouakchott and from 14 UM/kg to 21.5 UM/kg in the countryside. The price of rice was also raised from 22 to 28 UM/kg in Nouakchott and from 25 to 31 UM/kg on average in the countryside. CHAAB, Declaration de Monsieur Bably, Ministre des Finances et du Commerce, Nouakchott, No. 2845, 17 February 1985, pp. 1 and 7.

64. In September 1983 the price of rice rose from 17 to 22 UM/kg in Nouakchott and from 21 to 25 UM/kg in the countryside. In November 1983, the price of food aid wheat and sorghum was raised from 14 to 15 UM/kg in Nouakchott and from 13 to 14 UM/kg in the countryside. The February 1985 hikes are described in footnote 78.

65. The public deficit inclusive of gifts grew from 2.9 billion UM in 1979 (10% of GDP) to 5.8 billion UM in 1984 (12.5% of GDP). The public deficit exclusive of gifts went from 8.8 billion UM in 1979 to 10 billion in 1984, or 30%, and 21.6% of GDP respectively (IMF, Statistiques Financieres Internationales, February 1985.)

66. The real price of food aid wheat and sorghum rose from 4 UM/kg in 1976 to over 9 UM/kg in 1985 in constant 1976 ouguiyas. In comparison the constant price of rice fell from 15 UM/kg in 1976 to 12.2 UM/kg in 1985 in Nouakchott and from 18 UM/kg to 13.5 in the countryside (Table 5, page 20a).

67. Determining the poverty level is no easy task. Income is often difficult to calculate because it comes from a number of diverse sources: livestock, agriculture, business, salaries, repatriated earnings of emmigated workers, income transfers resulting from the complex system of traditional social relations.

Another difficulty comes from the unequal distribution of indigents throughout the country. Pockets of poverty and malnutrition abound. A Ministere de la Sante and USAID study in Autumn 1983 revealed that the town of Ouadane in the Adrai region did not have a single case of serious malnutrition among its children. On the other hand, Chingetti, only a short distance away along the same road had numerous cases of badly malnourished children.

Nevertheless, it seems that the estimation of the poverty level could be improved by the use of more scientific measures of nutritional status--such as weight and thickness of the arms or by examining mortality ratios.

68. The study mentioned above found 12% of the children in the Adrar, Tagent and Trarza regions suffered from acute malnutrition. The 34 of the surveyed households consumed at or below the mark of 75% of the averages recommended by the FAO and OMS.

69. See Table 18 in Annex 3.

70. See Table 25 in Annex 3.

71. See Table 16 in Annex 3.

72. See Table 14 in Annex 3.

73. As already noted in Footnote £67, to determine the state of indigence is difficult and arbitrary.

74. See Table 16 in Annex 3.

75. See Table 5, page 20a.

76. The international opportunity cost of sorghum is estimated to lie between 22 and 35 UM/kg in Nouakchott. That of wheat is thought to lie between 18 and 27 UM/kg (Table 21, Annex 3).

77. See Table 5, page 20a.

78. According to the survey of households by arrondissement in Nouakchott during 1982.

79. 77,380 tons distributed in the countryside with an average subsidy of 6,500 UM per ton (Table 15, Annex 3).

80. 7,400 tons distributed in the countryside with an average subsidy of 2,500 UM per ton (Table 26, Annex 3).

81. Deficits exclusive of gifts and based on governmental commitments (IMF, Mauritania: Recent Economic Developments).

82. In 1983, 8,527 tons were sold at Nouakchott for 1,400 UM/ton--a total of 119.4 million UM. Outside of Nouakchott 67,424 tons were sold at 13,000 UM/ton for a total of 877 million UM. This gives a grand total for 1983 of 996 million UM. This figure must be considered as a minimum because the price hike in November 1983 of one ouguiya is not taken into consideration in the calculations. 1984 projections called for 13,898 tons to be sold in Nouakchott at 15,000 UM/ton, for a total of 209 million UM. Outside of Nouakchott it is estimated that 108,577 will be sold at a price of 14,000 UM/ton--for a total of 1,520 million--giving a grand total of 1,729 million UM. The 1984 estimates are based on the volumes actually sold during the first semester of that year multiplied by two.

83. Deficits exclusive of gifts and based on governmental commitments (IMF, Mauritania, Recent Economic Developments).

84. For an analysis of the available data on agriculture see the report by Martin on the "grandes series statistiques disponibles en Mauritanie" published by RIM, MEF, Actes du Séminaire sur les besoins statistiques de la planification en Mauritanie (Nouakchott, May 182).

85. CSA, SONIMEX, SONADER, CGEM, la Direction de l'Agriculture du MDR, la Direction des Etudes et de la Progrmmation (DEP) du MPAT, la Direction des Statistiques et Etudes Economiques (DSEE) du MEF, le Ministere du Commerce, le Ministere de la Sante, le Ministere de l'Interieur et les SEM, le Fonds National de Developpement (FND), la Banque Centrale de Mauritanie (BCM), etc.

86. See Annex 1 for a list of these coordinating structures.

87. See Table 26, Annex 3.

88. See Table 15, Annex 3.

89. See Table 27, Annex 3. Determining the evolution of the terms of trade between the rural and urban sectors is difficult because:

- producer price data from rural markets is not available over a long period. One most often uses the official producer prices;

- even if millet prices have risen sharply, few producers have benefitted given the low levels of production;
- the SMIG (minimum industrial wage) is not an accurate indicator of the evolution of the salary paid by the informal urban sector.

90. See Table 27 in Annex 3.

91. 5,000 UM per ton multiplied by 56,088 tons (Table 1, page 20a).

92. See footnote £82.

93. CILSS/Club du Sahel, L'aide publique au développement dans les pays membres du CILSS en 1983 (Paris, November 1984), p. 10.

94. Population at 1.5 million in 1978 (IBRD, World Development Report (1980), Table 1, p. 110).

95. The GDP per capita of Mauritania was $270 in 1978 (IBRD, 1980, Ibid., Table 1, p. 110).

BIBLIOGRAPHIE/BIBLIOGRAPHY
Mauritania

Alavo Kane, H. Sécheresse en Mauritanie - Un dossier d'information. UNICEF, Dakar, mars 1984.

Baro, A. Politique d'autosuffisance céréalière en Mauritanie. Institut Agronomique Méditerranéen, Montpellier, 1982.

BIT. Planification de la formation en Mauritanie. Analyses et perspectives, Rapport de Mission - 17-31 octobre 1984, decembre 1984.

Bocoum. Note sur la politique céréalière de la Mauritanie. Nouakchott, O.M.C. 1981.

Camara, F. Les acquis de la recherche agronomique en Mauritanie de 1951 a 1982, Centre National de Recherche Agronomique et de Développement Agricole, Kaedi, novembre 1982.

Carr, David. Difficulty of Restoring Economic Viability with Lopsided Development: the Mauritanian Case. USAID Nouakchott, April 1983.

CHAAB. Le plan d'action du gouvernement. Nouachott, 26 juin 1981.

CHAAB. "Le Ministre du Développement Rural à son retour de Rome, de Paris et de Bruxelles: des prix incitateurs pour le monde rural." Nouakchott, 1 novembre 1983.

CHAAB. Déclaration de Monsieur Babaly, Ministre des Finances et du Commerce. Nouakchott, no. 2845, 17 fevrier 1985.

CILSS. Conférence des Etats membres du CILSS sur l'aide alimentaire. Rapport Général. Dakar, 26-27 octobre 1981.

CILSS. Rapport préparatoire de la réunion régionale sur les politiques des prix agricoles des Etats du CILSS; Rapport par pays: Mauritanie. Ouagadougou, 2 Volumes, février 1982.

CILSS/Club du Sahel. Commercialisation, Politique des Prix et Stockage des Céréales au Sahel. Etude Diagnostique, CRED, Universite du Michigan, Ann Arbor, 2 tomes, aout 1977.

CILSS/Club du Sahel. La politique céréalière dans les pays du Sahel. Actes du Colloque de Nouakchott, juillet 1979.

CILSS/Club du Sahel. Développement des cultures irriguées en Mauritanie: bilan et prespectives - Propositions pour un Second Programme 1980-1985. octobre 1979.

CILSS/Club du Sahel. Le développement des cultures irriguées dans le Sahel: bilan et perspectives. avril 1980.

CILSS/Club du Sahel. Stratégie de lutte contre la sécheresse et le développement dans le Sahel. Projet de version revisée, septembre 1980.

CILSS/Club du Sahel. Analyse de l'aide alimentaire dans les pays sahéliens. Comité restreint "Prix Commercialisation Stockage," juillet 1981.

CILSS/Club du Sahel. Conférence sur l'aide alimentaire. Dakar, 14-15 juin 1982.

CILSS/Club du Sahel. Bilan programme cultures pluviales: Mauritanie. juin 1982.

CILSS/Club du Sahel. Développement des cultures pluviales en Mauritanie. mai 1983.

CILSS/Club du Sahel. L'aide publique au développement dans les pays membres du CILSS en 1983. Sahel D(84) 250, Paris, novembre 1984.

Conan, T. L'Agriculture en Mauritanie, Situation et projets d'aménagement. Etude détaillée de deux réalisations: Le Projet Gorgol--Le casier rizicole de la Plaine de M'Pourie. ENA, avril 1979.

David, D. Sécurité alimentaire et politique des prix céréaliers en Mauritanie. Délégation de la Commission des Communautés Européennes en République Islamique de Mauritanie, Nouakchott, mars 1981.

De La Tour, T. Note sur la situation alimentaire de la Mauritanie en 1982/83. MPAT, décembre 1982.

Diop, A. Situation socio-économique. DEP, Nouakchott, 1981.

Dumont, R. Mauritanie. Ronéotypé, janvier 1982 (non-diffusé).

Ediafric. La documentation africaine, Le dossier Sahel. 3 tomes, Paris 1978.

FAO. Conditions d'amélioration de la sécurité alimentaire en République Islamique de Mauritanie. Mission de juin/juillet 1980. Rome, 1981.

FAO. Etude prospective pour le développement agricole des pays de la zone sahélienne 1975-1990. 3 Volumes, Rome, 1976.

FAO/PNUD. Mission de formulation d'une stratégie de développement du secteur rural et de programmation des activités de 1982 à 1986: Mauritanie. Rome, 1981.

FAO/World Bank Cooperative Program Investment Center. Projet de périmètres irrigués villageois. Rapport de préparation. Rome, décembre 1981.

FMI. International Financial Statistics, 1984 Yearbook.

FMI. International Financial Statistics, avril 1985.

FMI. Projet de création d'une Societé Rurale d'Approvisionnement, d'Entretien et de location, août 1982.

FMI. Mauritania: Recent Economic Developments, 26 November 1984.

FMI. Mauritania: Staff Report for the 1984 Article IV Consultation, 19 November 1984.

FMI. Statistisques Financières Internationales, fevrier 1985.

Gall, K. W. Eine Getreidepolitik fur die Sahellander Mauritanien, Mali, Obervolta und Niger. Agroprogress. Bonn, septembre 1978.

IBRD. Price Prospects of Major Primary Commodities, Vol. II: Food Products and Fertilizers, Washington, D.C., juillet 1982.

IBRD. World Development Report. Oxford University Press, 1980.

IBRD. World Development Report. Oxford University Press, 1984.

LeJan, C. "1983: les conséquences de la sécheresse sur l'économie rurale en Mauritanie," Bulletin de Liaison de l'ADFM, No. 9, 14 janvier 1984.

Manzardo, A. E. Régime foncier et developpement de la Communauté en République Islamique de Mauritanie. Land Tenure Center, University of Wisconsin. Madison, WI, 1982.

Martens, A. and F. Mattart. L'économie mauritanienne de l'indépendance à nos jours. Mimeo. Montreal, 1980.

Martin, F. Aide alimentaire et politique des prix céréaliers en République Islamique de Mauritanie. Centre de Recherche en Développement Economique, Université de Montréal, avril 1982. Voir aussi l'article du même titre dans la Revue Canadienne d'Etudes du Développment, Ottawa, vol. IV, no. 1, 1983, et dans la Revue Juridique et Politique - Indépendance et coopération, Paris, 36 annee, no. 3-4, juillet-décembre 1982.

Mattart, F. Modèle du secteur rural de la République Islamique de Mauritanie, CRDE, Université de Montreal, mai 1982 (plus simulations, septembre 1982.)

Mattart, F. Allocation optimale et prix d'ombre des subventions et des investissements publics dans une agriculture de type Sahélien: le cas de la Mauritanie. CRDE, Universite de Montreal, juin 1983.

McClelland, D. G.; Cowan, L. G.; Makey, L. S. et Stengel, C. A. Evaluation report - Mauritania PL480 Title II, Section 206 Program, USAID, Nouakchott, December 1984.

Mitchell, Mark and Stevens, Chris. "Mauritania: The Cost Effectiveness of EEC Food Aid," Food Policy vol. 8, no. 3 August 1983, pp. 202-208.

Mokrane, E.; Tar, S. O. et Wane, A. Projet de création d'une Société Rurale d'Approvisionnement, d'Entretien et de Location. SORAPEL, août 1983.

Mondat-Bernard, T. Demande alimentaire et stratégies nutrionnelles: Estimations pour l'an 2000. Mimeo, 1981.

OMVS. Etude socio-économique du bassin du fleuve Sénégal. Edition provisoire, 7 tomes, avril 1980.

PAM. Situation d'aide alimentaire en République Islamique de Mauritanie. juillet 1984.PNVO. Rapport sur le situation de la séchesesse en Mauritanie, Nouakchott. Roneotype, janvier 1982.

RAMS:

AE 1-1: L'activité Economique Rurale du Secteur Privé. Christian Juliard. 1980.

AE 4-2: Le Secteur Public: Les Organismes du Développement Rural. Louis Siegel. 1981.

AS1: Situation actuelle du secteur des cultures irriguées, Youssouf Nasri. 1981.

AS4: Production Agricole: Analyses de quelques aspects de L'Agriculture en Mauritanie. Robert Brown. 1981.

AS5: La Consommation des produits alimentaires et non-alimentaires dans le secteur rural. Quan X. Dinh. 1980.

AS6: Le Revenu du Secteur Rural Mauritanien. Quan X. Dinh. 1981.

AS8-2: Changements sociaux: organisation Sociale de la Production Agricole. Mona Fikry. 1980.

AS8-4: Changements sociaux: Mode d'accumulation et Transformations Sociales. 1980.

FS1-1: Essai d'Analyse de la Situation Alimentaire et Nutrionelle en Mauritanie. Youssouf Nasri. 1981.

OP 5: Production Rurale. Quan X. Dinh. juin 1981.

OP 6: Mesures d'Accompagnement. Habib Kraiem. juin 1981.

SS 1: Situation Actuelle du Secteur des Cultures Irriguées. Youssouf Nasri. 1981.

SS 2: L'Agriculture séche. Habib Kraiem. 1981.

SS 4: L'Agriculture des oasis. Habib Kraiem. 1981.

RIM, CNAPES. Commission nationale d'Assistance aux populations Eprouvées par la Sécheresse: Plan d'Action d'Urgence. novembre 1983.

RIM, CNAPES. Deuxième Plan d'Urgence. janvier 1985.

RIM, CSA. Rapport sur l'évaluation de la situation agro-sylvo-pastorale. Campagne 1982-83. décembre 1982.

RIM, CSA. Les éléments du calcul du coût et des pertes de la campagne d'achat du paddy 1982-83. mai 1984.

RIM, CSA. Rapport sur l'évaluation de la campagne agro-sylvo-pastorale 1984-85. Mission conjointe gouvernement/donateurs, novembre 1984.

RIM, MDR. Rapport sur la situation du secteur rural. Execution du IV Plan. Ronéotypé, 1981-82.

RIM, MDR. "Office Mauritanien des Céréales." Eco-Magazine. No. 37, Cotonou, juillet 1981, pp. 31-32.

RIM, MDR. Rapport final sur le crédit agricole en Mauritanie. Ronéotypé, mai 1980.

RIM, MDR. Rapport sur l'évaluation de la situation agro-sylvo-pastorale (campagne 1981-82). Mission conjointe gouvernement/donateurs, décembre 1981.

RIM, MDR. Situation de l'agriculture pour 1980 et 1981. 1982.

RIM, MDR. Etude d'une stratégie alimentaire. SCET-AGRI, Ministère Français de la Coopération et du Développement, novembre 1982.

RIM, MDR. Projet Développement des Statistiques Agricoles: Note sur le modèle des prévisions des récoltes, Production Agricole. Ronéotypé, 1984.

RIM, MDR. Stratégie sectorielle 1985-88. décembre 1984.

RIM, MEF. Actes du Séminaire sur les besoins statistiques de la planification en Mauritanie. Direction des Statistiques et des Etudes Economiques et Centre de Recherche en Développement Economique de l'Université de Montreal, Nouakchott, mai 1982.

RIM, MPAT. Direction des Etudes et de la Programmation Proposition d'une politique de prix applicable au riz produit en République Islamique de Mauritanie." 1er trimestre. 1979.

RIM, MPAT. Note à L'attention du Ministère du Plan. septembre 1978.

RIM, MPAT. IVe Plan de développement économique et social. décembre 1981.

RIM, MPAT. Communication en Conseil des Ministres relative aux prix de référence garantis des céréales produites en République Islamique de Mauritanie. aout 1981.

RIM, MPAT. Communication en Conseil des Ministres relative aux prix de référence garantis des céréales produites en République Islamique de Mauritanie pour la campagne 1979-80. juin 1980.

RIM, MPAT. Les éléments de calcul de la proposition d'une politique de prix applicable au riz produit en République Islamique de Mauritanie. Direction des Etudes et de la Programmation, février 1980.

RIM, MPAT. Les perspectives et les objectifs du développement rural en Mauritanie. Roneotype, juin 1979.

RIM, MPAT. Politique des Prix, du Stockage et de la Commercialisation des Céréales traditionnelles et du riz en République Islamique de Mauritanie. 1979.

RIM, MPAT. Communication en Conseil des Ministres relative à un prix de référence garanti pour le riz paddy produit en Mauritanie. 28 mars 1979.

Robert, D. F. Dossier concernant les relations entre la politique des prix agricoles, l'aide alimentaire, les habitudes de consommation et la production des céréales en Mauritanie. Ronéotypé, Nouakchott, deuxième édition, janvier 1980.

Robert, D. Recueil d'études sectorielles concernant la Mauritanie. Nouakchott, septembre 1984.

Robert, D. Note sommaire sur la Banque Mauritanienne pour le Développement et le Commerce, le Fonds National de Développement et la promotion industrielle en Mauritanie, novembre 1984.

Schmidt, Gunter. Programmes de sécurité alimentaire au Sahel - Base conceptuelle et opérationnelle de réalisation de projets. Agroprogress, Bonn, avril 1983.

SONADER. Plan quadriennal d'activités: 1984-1987. mars 1984.

SONADER. Présentation de la Société Nationale pour le Développement Rural. 4e edition, septembre 1982.

SONADER. Problèmes du crédit et de la commercialisation dans le cadre de la SONADER. janvier 1981.

SONADER. Note sur la politique des prix. janvier 1980.

SONADER. IVe Plan 1981-85, Activités SONADER. Nouakchott, 1980.

SONADER. Stratégie de développement des petits périmètres villageois à l'horizon 1984. décembre 1979.

SONADER. Note sur le calcul de prix de revient du paddy sur les périmètres SONADER. juin 1984.

SONADER. Etude de la filière paddy/riz à la SONADER - Données de base. septembre 1984.

SONADER. Eléments de calcul du prix de revient de la culture céréalière - Riz, mais, sorgho irrigués. 1 janvier 1985.

SONED. Etude de la commercialisation des céréales au Senegal. Rapport sur les resultats des enquétes periodiques, Dakar, fevrier 1985.

Sow, Souleymane. Le développement du secteur rural dans une économie extravertie: étude du cas mauritanien. IDEP. Dakar, 1981.

USAID. Food and Agriculture Sector Assessment. DAI/RTI. January 1983.

USAID. Inventaire des Ressources du Sud-Ouest Mauritannien: géologie-sylvo-forêt-pâturages, Projet "Gestion des Ressources Renouvelables." Institut de Télédiction, K. Dalsted et al. South Dakota State University, Brookings, 1982.

USAID. Program Paper: Mauritania - Food for Development. Title II. Section 206, 682-PL02, June 1982.

USAID. Project Paper: Mauritania - Land Tenure. 1981.

USAID. Procés -Verbal des négociations entre le CAA et USAID. 1981.

USAID. Country Development Strategy Statements: Mauritania. FY 1981. January 1979.

USAID. Etude sur les engrais en Afrique de L'Ouest. IFDC, Volume 7, 1978.

USAID. Procés-Verbal des négociations entre la CAA et USAID. Nouakchott, 1981.

USAID. Mauritania - Food for Development. Title II, Section 206, 682-PL02, June 1981.

USAID. Mauritania - Land Tenure. Project Paper, 1981.

USAID. Food and Agriculture Sector Assessment. DAI/RTI, January 1983.

USAID. Stratégie proposée 1985-88. Nouakchott, mai 1984.

Werbrouk. Problèmes du crédit et de la commercialisation dans le cadre de la SONADER. Nouakchott, 1981.

Coordinating Structures in the Cereals Marketing Chain

1. La Comission paritaire nationaledes prix agricoles was created in April 1979 and was composed of representatives from the MDR and Ministere du Plan. The commission submitted price proposals for the paddy rice producer price and for the price of milled rice. These functions are now carried out by the CNSA (see below).

2. Le Comité National de Sécurite Alimentaire (CNSA) dates from February 1981. Presided over by the Directeur de l´Agriculture, it brings together all the organizations and Ministries active in the rural sector. Its two principal responsibilities are setting the general lines of national cereals policy and assuring that the food needs of the country are met. In practice, the CNSA sets the minimum guaranteed agricultural salary (SMAG) which serves as the base of reference for the calculation of the theoretical cost price (prix de revient theorique) of rice. The CNSA also proposes the official prices for all other cereals to the Council of Ministers.

3. La Commission Nationale d´Assistance aux Populations Eprouvées par la Sécheresse (CNAPES) was created in September 1983 and is presided over by the permanent secretary of the CMSN. It is comprised by the Ministre de l´Hydraulique et de l´Energie, le Vice-Ministre de l´Interieur, le Commissaire a la Securite Alimentaire et la President du Croissant Rouge Mauritanien. At the regional levels there are similar structures called les Commissions Regionales d´Assistance aux Populations Eprouvees par la Secheresse (CRAPES). Both the CNAPES and the CRAPES are responsible for the diagnosis of the drought, for combating its effects and for finding the necessary means for implementing its drought control plan.

4. The Comité Special chargé de la lutte contre les conséquences sanitaires de la sécheresse was formed in September 1983. Headed by the Ministre de la Sante et du Travail, it is made up by the national program coordinator of the WHO, the technical counselor in charge of health, the Director of Health and the President of the CRM. This committee is responsible for planning to prevent malnutrition.

5. La Commission Nationale de Suivi de la Situation Médico-Nutritionelle en Mauritanie was created in May 1984. It is made up of the CMSN, the CSA, and the various NGOs and donor nations. It is headed by the Ministre de la Sante. This commission was responsible for creating the CACs.

6. Finally, a coordinating group for relief action in case of catastrophe was created in July 1982. This group includes the CRM and the different NGOs involved in emergency aid (CARITAS, CRS, FLM, OXFAM, etc...).

Annex II

Calculation of Production Costs for Irrigated Cereals

It is important to distinguish between the real production costs of cereals, which includes the total costs paid by the farmer and by SONADER, and the production costs of cereals for the farmer who benefits from subsidies. The former is a social cost that can be compared with the world price to discover whether Mauritania holds a comparative advantage in the production of a cereal. The second is a private cost that can be compared with the producer price to discover whether production is financially interesting to the farmer.

1. PRODUCTION COSTS OF RICE, 1983-84
(Crops per Year: 1.2)

A. Large Perimeters

- Calculation of Real Production Costs

			UM/ha
SONADER Fixed Costs			15,693
of which	Equipment/maintenance	63	
	Technical Staff	6,242	
	Staff Vehicles	1,817	
	Headquarters Buildings	434	
Farmer Fixed Costs			8,667
Variable Costs			13,970
of which	Tractor Operations	3,000	
	Water	3,450	
	Fertilizer (260 kilos x 22 UM)	5,720	
	Seeds (40 kilos x 40 UM)	1,600	
	Pesticides	200	
Total Excluding Labor			38,330
Labor (200 days x 150 UM per day)			30,000
Total Including Labor			68,330

Real Cost of	Yield in tons per hectare			
Production (UM/kilo)	3.5	4.0	4.5	5.0
excluding labor	10.95	9.58	8.52	7.67
including labor	19.52	17.08	15.18	13.67

- Calculation of Producer Costs

Producers have a fertilizer subsidy of 10 UM per kilo (45%)

			UM/ha
Farmer Fixed Costs			8,667
Farmer Variable Costs			11,370
of which	Tractor Operations	3,000	
	Water	3,450	
	Fertilizer (260 kilos x 22 UM)	5,720	
	Seeds (40 kilos x 40 UM)	1,600	
	Pesticides	200	
Total Excluding Labor			20,037
Labor (200 day x 150 UM per day)			30,000
Total Including Labor			50,037

Producer	Yield in tons per hectare			
Costs (UM/kilo)	3.5	4.0	4.5	5.0
excluding labor	5.72	5.01	4.45	4.01
including labor	14.3	10.01	11.12	12.51

B. Small Perimeters

- Calculation of Real Production Costs

			UM/kilo
SONADER Fixed Costs			18,988
of which	Equipment/Maintenance	6,389	
	Technical Staff	7,500	
	Staff Vehicles	3,798	
	Headquarters Buildings	867	
	Operating Costs	434	
Fixed Costs for the Farmer			
Amortisation of Pumps			5,710
Variable Costs			15,360
of which	Diesel (220 litres x 27 UM)	5,940	
	Oil (6 litres x 150 UM)	900	
	Seeds (40 kilos x 40 UM)	1,600	
	Fertilizers (260 kilos x 22 UM)	5,720	
	Pesticides	200	
	Spare Parts	1,000	
Total excluding labor			40,058
Labor (200 days x 150 UM per day)			30,000
Total including labor			70,058

Real Production	Yield in tons per hectare			
Costs (UM/kilo)	3.0	3.5	4.0	4.5
excluding labor	13.35	11.45	10.01	8.90
including labor	23.35	20.02	17.51	15.57

- Calculation of Producer Costs

Producers have a fertilizer subsidy of 10 UM per kilo (45%)

			UM/ha
Farmer Fixed Costs	5,710		
Variable Costs			12,760
of which	Diesel	5,940	
	Oil	900	
	Seeds (40 kilos x 40 UM)	1,600	
	Fertilizers (260 kilos x 12 UM)	3,120	
	Pesticides	200	
	Spare Parts	1,000	
Total excluding labor			18,470
Labor (200 days x 150 UM per day)			30,000
Total including labor			48,470

Producer	Yield in tons per hectare			
Costs (UM/kilo)	3.0	3.5	4.0	4.5
excluding labor	6.16	5.28	4.62	4.10
including labor	16.16	13.85	12.12	10.77

2. RICE PRODUCTION COSTS, 1984-85

(Crops per Year: 1.2)
Type of Perimeter: Small

- Calculation of Real Production Costs — UM/ha

SONADER Fixed Costs (same composition as 1983-84)	18,988		
Farmer Fixed Costs	5,709		
Variable Costs			16,024
of which	Diesel (220 litres x 28 UM)	6,160	
	Oil (6 litres x 150 UM)	900	
	Seeds (40 kilos x 40 UM)	1,600	
	Fertilizer (260 kilos x 22 UM)	5,720	
	Pesticides	200	
	Spare Parts	1,000	
	Interest	444	
Total excluding labor			40,721
Labor (200 days x 180 UM per day)			36,000
Total including labor			76,721

Real Production Costs (UM/kilo)	Yield in tons per hectare 3.0	3.5	4.0	4.5
excluding labor	13.57	11.67	10.18	9.05
including labor	25.57	21.92	19.18	17.05

- Calculation of Producer Costs

Producers have a seed subsidy of 22 UM per kilo (55%) and a fertilizer subsidy of 4 UM per kilo (18%)

			UM/ha
Farmer Fixed Costs	5,703		
Farmer Variables Costs			14,104
of which	Diesel	6,160	
	Oil	900	
	Seeds	720	
	Fertilizer	4,680	
	Pesticides	200	
	Spare Parts	1,000	
	Interest	444	
Total excluding labor			19,813
Labor (200 days x 180 UM per day)			36,000
Total including labor			55,813

Producer Costs (UM/kilo)	Yield in tons per hectare 3.0	3.5	4.0	4.5
excluding labor	6.6	5.66	4.95	4.40
including labor	18.6	15.95	13.95	12.40

3. MAIZE PRODUCTION COSTS, 1984-85

(Crops per year: 1.2)
Type of Perimeter: Small

-Calculation of Real Production Costs

		UM/ha
SONADER Fixed Costs	18,988	
(Same composition as rice)		
Farmer Fixed Costs	5,709	
Variable Costs		8,464
of which Diesel (105 litres x 28 UM)	2,940	
Oil (3 litres x 150 UM)	450	
Seeds (25 kilos x 40 UM)	1,000	
Fertilizer (120 kilos x 22 UM)	2,640	
Pesticides	200	
Spare Parts	1,000	
Interest	234	
Total excluding labor		33,161
Labor (90 days x 180 per day)		16,200
Total including labor		49,361

Real Producer Costs (UM/kilo)	Yield in tons per hectare 1.5	2.0	2.5	3.0
excluding labor	22.1	16.58	13.26	11.05
including labor	32.9	24.68	19.74	16.45

- Calculation of Farmer Costs

Producers have a seed subsidy of 22 UM per kilo (55%) and a fertilizer subsidy of 4 UM per kilo (18%)

		UM/ha
Farmer Fixed Costs	5,709	
Farmer Variable Costs		7,434
of which Diesel	2,940	
Oil	450	
Seeds (25 kilos x 18 UM)	450	
Fertilizers (120 kilos x 18 UM)	2,160	
Pesticides	200	
Spare Parts	1,000	
Interest	234	
Total exluding labor		13,143
Labor (90 days x 180 UM per day)		16,200
Total including labor		29,343

Calculation of Producer Costs (UM/kilo)	Yield in tons per hectare 1.5	2.0	2.5	3.0
excluding labor	8.76	6.57	5.26	4.38
including labor	19.56	14.67	11.74	9.78

4. PRODUCTION COSTS OF SORGHO, 1984-85

(Crops per Year: 1.2)
Type of Perimeter: Small

- Calcul du prix de revient reel

		UM/ha
SONADER Fixed Costs	18,988	
(same composition as riz)		
Farmer Fixed Costs	5,709	
Variable Costs	7,855	
of which Diesel (105 litres x 28 UM)	2,940	
Oil (3 litres x 150 UM)	450	
Seeds (10 kilos x 40 UM)	400	
Fertilizer (120 kilos x 22 UM)	2,640	
Pesticides	200	
Spare Parts	1,000	
Interest	225	
Total excluding labor		32,522
Labor (90 days x 180 UM per day)		16,200
Total including labor		48,752

Real Production Costs (UM/kilo)	Yield in tons par hectare 1.0	1.5	2.0	2.5
excluding labor	32.55	21.7	16.28	13.02
including labor	48.75	32.5	24.38	19.50

- Calculation of Farmer Costs

Producers have a seed subsidy of 22 UM par kilo (55%) and a fertilizer subsidy of 4 UM per kilo (18%)

		UM/ha
Farmer Fixed Costs	5,709	
Farmer Variable Costs		7,155
of which Diesel	2,940	
Oil	450	
Seeds (10 kilos x 18 UM)	180	
Fertilizer (120 kilos x 18 UM)	2,160	
Pesticides	200	
Spare Parts	1,000	
Interest	225	
Total excluding labor		12,864
Labor (90 days x 180 UM per day)		16,200
Total including labor		29,064

Farmer Costs (UM/kilo)	Yield in tons per hectare 1.0	1.5	2.0	2.5
excluding labor	12.86	8.58	6.43	5.15
including labor	29.06	19.38	14.53	11.63

Sources: SONADER (1984), SONADER (1985).

Annex III

SUPPLEMENTARY TABLES AND GRAPHS

TABLE 1

Cereals Availability 1973/74 - 1983/84

(tons)

	73/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82	82/83	83/84	AVERAGE
Imports	36687	14332	16510	35769	65381	68145	64202	72473	77447	107655	94088	59336
(%)	20%	9%	15%	34%	43%	43%	54%	40%	35%	43%	29%	33%
Broken rice	28878	7679	8000	22790	50257	54145	52202	49473	50447	71655	56088	41056
(%)	16%	5%	7%	22%	33%	34%	44%	27%	23%	29%	17%	23%
wheat (flour)	7809	6653	8510	12979	15124	14000	12000	23000	27000	36000	38000	18280
(%)	4%	4%	8%	12%	10%	9%	10%	13%	12%	14%	12%	10%
Food Aid	116822	85110	40379	24426	60000	53605	23403	59266	63805	88631	197770	73929
(%)	64%	55%	38%	24%	39%	34%	19%	33%	29%	36%	61%	42%
Local Production	28540	54050	50047	43207	27588	38044	31965	48399	78335	52587	31860	44057
(%)	16%	35%	47%	42%	18%	24%	27%	27%	36%	21%	10%	25%
Total Supply	182049	153492	106936	103402	152969	159794	119570	180138	219587	248873	323718	177322
(%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sources: For production and wheat imports, Agricultural Statistical Service of the Ministry of Rural Development
For food aid, World Food Program
For broken rice imports, SONIMEX

Note: We used a conversion rate of paddy to processed rice of 58% in calculating cereals production.

TABLE 2

Comparison of the Official Producer Price and the Costs Borne by the Farmer in the Cultivation of Irrigated Rice, Maize and Sorghum

UM/kilo

Cereal	Year	Type of Perimeter	Labor Cost	Cost borne by the farmer according to different yield assumptions, in tons/hectare					Official Producer Price
Rice				3 T/ha	3.5 T/ha	4 T/ha	4.5 T/ha	5 T/ha	
	1980/81 [1]	Large	excluded		5.8	5.08	4.51	4.06	10
			included		11.37	9.95	8.84	7.96	
		Small	excluded	4.52	3.88	3.39	3.01		
			included	14.52	12.5	10.89	9.68		
	1983/84 [2]	Large	excluded		5.72	5.01	4.45	4.01	12.5
			included		14.3	12.51	11.12	10.01	
		Small	excluded	13.35	11.45	10.01	8.9		
			included	23.35	20.02	17.51	15.57		
	1984/85 [3]	Small	excluded	6.6	5.66	4.95	4.4		12.5
			included	18.6	15.95	13.95	12.4		
Maize				1.5 T/ha	2 T/ha	2.5 T/ha	3 T/ha		
	1984/85 [3]	Small	excluded	8.76	6.57	5.26	4.38		15
			included	19.56	14.67	11.74	9.78		
Sorghum				1 T/ha	1,5 T/ha	2 T/ha	2,5 T/ha		
	1984/85 [3]	Small	excluded	12.86	8.58	6.43	5.15		13-15
			included	29.06	19.38	14.53	11.63		

[1] Assumptions: labor cost of 150 UM/day;
subsidies of 10 UM per kilo of seeds, of 12 UM per kilo of fertilizer,
of 200 UM in total for pumping products and
of one-third of pumping costs for the small perimeters

[2] Assumptions: labor cost of 150 UM/day;
land occupancy rate of 1.2;
subsidy of 10 UM per kilo of fertilizer

[3] Assumptions: labor cost of 180 UM/day;
land occupancy rate of 1.2;
subsidy of 4 UM for a kilo of fertilizer and of 22 UM per kilo of seeds

Sources: for official producer prices, Table 3
for farmer costs, Annex 2

TABLE 3

Evolution of Official Producer Prices

1976/77-1985/86

Season	Nominal Prices (UM/kilo)			Ratios (in %)			Real Prices (UM of 1976)			Consumer Price Index (1976 = 100)
	1 wheat	2 paddy	3 maize	4 1/2	5 1/3	6 2/3	7 wheat	8 paddy	9 maize	
1976/77	7.8 [1]	8		98%			7.8	8.0		100
1977/78	ND	8		ND			ND	7.3		110.3
1978/79	8.2 [2]	10		82%			6.9	8.5		118.2
1979/80	10	10	15 [4]	100%	67%	67%	7.8	7.8	11.6	129
1980/81	10	10	15 [4]	100%	67%	67%	7.0	7.0	10.5	142.8
1981/82	14 [3]	12.5	15 [5]	112%	93%	83%	8.2	7.3	8.8	170.1
1982/83	14 [3]	12.5	15 [5]	112%	93%	83%	7.3	6.5	7.8	191.6
1983/84	14 [3]	12.5	15 [5]	112%	93%	83%	7.2	6.5	7.8	193.3
1984/85	14 [3]	12.5	15 [5]	112%	93%	83%	6.8	6.0	7.2	207.4 [6]
1985/86	21	14	21	150%	100%	67%	9.1	8.1	9.1	230 [7]

Note: We cannot attest that all the prices are correct. Hence they should be interpreted with caution.

[1] This represents the average purchase price for a price range (fourchette) between 7 and 11 UM/kilo.
[2] This represents the average buying price for a price range between 7 and 12 UM/kilo.
[3] This price represents the average for a price range of 13-15 UM/kilo.
[4] This price represents the average for a price range of 11-19 UM/kilo.
[5] This price represents the average for a price range of 13-17 UM/kilo.
[6] This represents the average price index of the second and third trimesters of 1984.
[7] This number is hypothetical; the real number is obviously not yet available.

Sources: for official producer prices, CSA and SONADER
for the index of consumer prices, IMF, INTERNATIONAL FINANCIAL STATISTICS, 1984 Yearbook, p. 415;
and IMF, INTERNATIONAL FINANCIAL STATISTICS, April 1985, p. 319.

TABLE 4

Public Sector Purchase of Local Cereals
1976/77-1983/84

Year	Cereal Type	Quantity Bought 1/	% of Production
1976/77	Wheat	1600	4.4
	Paddy Rice	71	1.8
1978/79	Wheat	1800	5.8
1981/82	Wheat	2611	4.0
	Maize	42	1.0
	Paddy Rice	315	2.8
1982/83	Paddy Rice	2577	17.4
1983/84	Paddy Rice	2873	20.5

1/ Number in tons

Sources: Marketing Department of the CSA for quantities bought
Table 6 and Annex 3 for production

TABLE 5

Evolution of Official Consumer Prices

1978-1985

YEAR	Nominal Price (UM/kilo)				Ratios (in %)				Real Prices (1976 UM)				Index of consumer Prices (1976=100)
	Wheat/sorghum 1/		Broken rice						Wheat/sorghum 1/		Broken rice		
	Nouak-chott	Country-side	Nouak-chott	Country-side	1/2	1/3	3/4	2/4	Nouak-chott	Country-side	Nouak-chott	Country-side 2/	
	1	2	3	4	5	6	7	8					
1976	4	4	15	18	100	27	83	22	4.0	4.0	15.0	18.0	100
1977	4	4	15	18	100	27	83	22	3.6	3.6	13.6	16.3	110
1978	6	6	15	18	100	40	83	33	5.1	5.1	12.7	15.2	118
1979	6	6	15	18	100	40	83	33	4.7	4.7	11.6	14.0	129
1980	10	8	15	18	125	67	83	44	7.0	5.6	10.5	12.6	143
1981	12 3/	10.5 3/	15	18	114	80	83	58	7.1	6.2	8.8	10.6	170
1982	14	13	17	21	108	82	81	62	7.3	6.8	8.9	11.0	192
1983	14	13	17	21	108	82	81	62	7.2	6.7	8.8	10.9	193
1984	15	14	22	25	107	68	88	56	7.2	6.8	10.6	12.1	207 4/
1985	22,5	21.5	28	31	105	80	90	69	9.8	9.3	12.2	13.5	230 5/

Notes: We cannot attest that all the prices are correct. Hence they must be interpreted with caution.

In those cases where a price change occurred during the course of a year, the prices for a given year represent the prices in force during the greatest number of months.

1/ This represents the portion of wheat and sorghum food aid received by Mauritania and sold by the CSA.

2/ The price of rice in the countryside is not uniform. The indicated price is that most frequently encountered.

3/ During several months in 1981, the CAA sold wheat/sorghum at 8 UM/kilo in the countryside and at 10 UM in Nouakchott. During the same period, the OMC sold these cereals at 13 UM/kilo in the countryside and 14 UM in Nouakchott. The figures for 1981 are an average of those prices.

4/ This represents the average price index for the second and third trimesters of 1984.

5/ This figure is based on assumption; the real number is not yet available.

Sources: For wheat/sorghum prices, CSA; for rice prices, SOMINEX.

For the consumer price index, the IMF, INTERNATIONAL FINANCIAL STATISTICS - 1984 YEARBOOK, p. 415 and IMF, INTERNATIONAL FINANCIAL STATISTICS, April 1985.

TABLE 6

Rainfall, Area Cultivated, Yield and Production of Cereals
1973/74-1993/84

	73/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82	82/83	83/84	Average
Rainfall 1/	67	85	90	83	37	92	98	60	91	44	27	70
Area Cultivated 2/	137315	167510	118566	120337	70240	120140	122370	111847	151979	151790	112110	125837
Wheat	300	300	310	420	400	340	400	400	450	450	460	385
Maize	6000	6000	8000	8500	8000	8800	9000	7750	7700	7000	7200	7632
Millet	130000	160000	109000	110000	60000	109000	110000	100000	140000	140000	100000	115273
Barley	200	210	220	230	240	300	300	320	340	340	350	277
Paddy rice	815	1000	1036	1187	1600	1700	2670	3377	3489	4000	4100	2270
Yield 3/												
Wheat	0.50	0.50	0.48	0.55	0.75	0.53	0.50	0.53	0.67	0.69	0.70	0.59
Maize	0.25	0.33	0.31	0.53	0.50	0.55	0.56	0.65	0.68	0.49	0.43	0.48
Millet	0.19	0.31	0.41	0.33	0.35	0.28	0.19	0.37	0.47	0.29	0.20	0.31
Barley	0.75	0.76	0.77	0.78	0.83	0.50	0.67	0.69	0.88	0.91	0.91	0.77
Paddy rice	3.68	3.00	3.71	3.34	2.25	1.94	3.46	3.19	3.18	3.69	3.41	3.23
Production 4/	29800	55310	51660	44870	29100	39430	35850	52867	82989	58790	37740	47128
Wheat	150	150	150	230	300	180	200	210	300	310	320	227
Maize	1500	2000	2500	4500	4000	4800	5000	5057	5209	3400	3100	3733
Millet	25000	50000	45000	36000	21000	31000	21200	36660	66100	40000	20000	35633
Barley	150	160	170	180	200	150	200	220	300	310	320	215
Paddy rice	3000	3000	3840	3960	3600	3300	9250	10780	11080	14770	14000	7325

1/ Percentages in relation to normal rainfall over the last 30 years (1941-1970).
2/ Hectares
3/ Tons per hectare
4/ Tons

Sources: RIM, CNAPES (1983) for rainfall
Agricultural Statistical Service of the Rural Development Ministry for area cultivated, yields and cereal production

TABLE 7
Comparison of the Official Producer Price and Market Prices in Millet-Growing Areas, 1981-84
(FCFA/kilo)

Month	Official Producer Price of Millet	Market Prices of Millet (Taghalit) 1	2	3	4	5	6	7	8	9	10	11	12	13
June 1981	10				18	20		26			30			
July	10				18	17		22			30			
August	10				18	17		22			25			27
September	14				18			19			25			27
October	14				18						30			27
November	14					12								25
December	14					13								25
January 1982	14													25
February	14					17								25
March	14					17								25
April	14					17								25
May	14				13	17				20				25
June	14	20		23	15	17				20				
July	14			25	18	13		17		18				40
August	14			20	18	17		17						
September	14			25	22	17					25			40
October	14			25	22	17	20	20	19	27				25
November	14		20		18	17	15	20	20	25		22	15	25
December	14			23		13	15	18	19	33	24	22	17	25
January 1983	14			21	25					33		22	14	25
February	14				28		25	25	22	33			17	
March	14			20			28		20	20		22	15	25
April	14			21	23	20	28		30	20			17	25
May	14				25	20	30		19	20		30	18	
June	14				25		28	35		20		30	20	25
July	14			25	25	20	30		30	20		30		25
August	14			25	25	20	30	45						25
September	14			25	30		30						23	35
October	14			25					25				18	35
November	14			35	30	20								
December	14					20	20			30				
January 1984	14				23	20	25	28		30				

1-Keur Massene (Trarza)
2-Mederdra (Trarza)
3-Aleg (Brakna)
4-Kaedi (Gorgol)
5-Selibaby (Guidimaka)
6-Barkewol (Assaba)
7-Kiffa (Assaba)
8-Kaukossa (Assaba)
9-Tintane (Hodh Gharbi)
10-Aioun (Hodh Gharbi)
11-Kobonni (Hodh Gharbi)
12-Djigionni (Hodh Charki)
13-Nema (Hodh Charki)

Sources: For official prices, see Table 3,
For market prices, USAID.

Note: All the villages in Southern Mauritania were somewhat arbitrarily placed in the millet-growing area.

TABLE 8

Comparison of Official Producer Prices in Mauritania and Senegal

1976/77-1984/85

Year	Exchange Rate	Price of Rice			Price of Millet			Price of Maize		
	FCFA/UM	Senegal FCFA	Senegal UM	Mauritania UM	Senegal FCFA	Senegal UM	Mauritania UM	Senegal FCFA	Senegal UM	Mauritania UM
1976/77	5.31	41.5	7.8	8	35	6.6	7.8			
1977/78	5.39	41.5	7.7	8	35	6.5	NA			
1978/79	4.89	41.5	8.5	10	40	8.2	8.2			
1979/80	4.64	41.5	8.9	10	40	8.6	10			
1980/81	4.60	51.5	11.2	10	40	8.7	10			
1981/82	5.63	51.5	9.2	12.5	50	8.9	14	47	8.3	15
1982/83	6.35	51.5	8.1	12.5	50	7.9	14	47	7.4	15
1983/84	6.95	60.0	8.6	12.5	55	7.9	14	50	7.2	15
1984/85	6.85	66.0	9.6	12.5	60	8.8	14	60	8.8	15

NA: Not available

Sources: For official producer prices in Senegal, see Senegal paper.
For official producer prices in Mauritania, see Table 3.
For the exchange rate, see IMF, INTERNATIONAL FINANCIAL STATISTICS, 1984 Yearbook and April 1985 issue.

Table 9

Comparison of World Prices with Official Producer and Consumer Prices of Millet/Sorghum 1976/77 - 1984/85

Year	World Price of Sorghum 1/ $EU per ton 1	Exchange Rate 2/ UM per $EU 2	World Price of Sorghum 1/ UM per ton 3	Offical Producer Price of Millet/Sorghum UM per ton 4	Ratio % 3/4 5	Official Consume Price of Millet/Sorghum 3 UM per ton 6	Ratio % 6/3 7	Ratio % 4/6 8
1976/77	105.2	45	4736	7800	61	4000	85	195
1977/78	88.4	45.6	4030	NA	NA	4000	99	NA
1978/79	93.8	46.2	4330	8200	53	6000	139	137
1979/80	108.1	45.9	4961	10000	50	6000	121	167
1980/81	128.9	45.9	5918	10000	59	10000	169	100
1981/82	126.5	48.3	6109	14000	44	12000	196	117
1982/83	108.4	51.8	5612	14000	40	14000	250	100
1983/84	128.4	54.8	7038	14000	50	14000	199	100
1984/85	118.2	63.8	7542	14000	54	15000	199	93

NA: Not available

Note: Since we want to find out if the government takes world prices into account in fixing official producer and consumer prices, we compare the world price for a given year (say 1976) with the official prices of the season n-(n+1) (for example 1976/77), to give the government time to take the world price into account, if it wants to.

1/ American sorghum, number 2 milo yellow, FOB Gulf of Mexico ports.
2/ Average exchange rate for the indicated year "n" for the season n-(n+1).
3/ Price in Nouakchott

Sources: For the world price, IBRD (1982) p. 60, IMF INTERNATIONAL FINANCIAL STATISTICS, February 1985, p. F77.
For the exchange rate, IMF INTERNATIONAL FINANCIAL STATISTICS, 1984 yearbook, p. 415 and April 1985 issue, p. 318.
For official consumer and producer prices, see Tables 3 and 5.

TABLE 10

Comparison of World Prices with Official
Producer and Consumer Prices of Rice
1976/77 - 1983/84

YEAR	World Price of Rice [1] UM per ton 1	Official Producer Price of Paddy Rice UM per ton 2	Ratio 1/2 % 3	Official Consumer Price of Rice [2] UM per tonne 4	Ratio 4/1 % 5	Ratio 2/4 % 6
1976/77	8806	8000	110	15000	170	53
1977/78	10098	8000	126	15000	149	53
1978/79	13640	10000	136	15000	110	67
1979/80	12024	10000	120	15000	125	67
1980/81	16784	10000	168	15000	89	67
1981/82	17739	12500	142	15000	85	83
1982/83	19506	12500	156	17000	87	74
1983/84	15757	12500	126	17000	108	74

[1] 100% broken rice. Price CIF Nouakchott + finance costs + wharfage and transit costs paid by SONIMEX. It is thus a parity price at the point of importation.
[2] 100% broken rice. Price at Nouakchott.

Sources: For the world price, SONIMEX.
For official consumer and producer prices, see Tables 3 and 5.

TABLE 11

Comparison of World Prices and
Official Consumer Prices of Wheat
1976 - 1984

YEAR	World Price of Wheat [1] $E.U. per ton 1	Exchange Rate [2] UM per $E.U. 2	World Price of Wheat UM per ton 3	Official Consumer Price of Wheat UM per ton 4	Ratio 3/4 % 5
1976	133.0	45.0	5988	4000	149.7
1977	103.2	45.6	4704	4000	117.6
1978	127.9	46.2	5904	6000	98.4
1979	160.2	45.9	7352	6000	122.5
1980	172.7	45.9	7929	10000	79.3
1981	174.9	48.3	8447	12000	70.4
1982	160.2	51.8	8293	14000	59.2
1983	157.2	54.8	8616	14000	61.5
1984	152.5	63.8	9730	15000	64.9

[1] American wheat, Gulf of Mexico port.
[2] Average exchange rate for the year.
[3] Price in Nouakchott.

Sources: For the world price, IMF, INTERNATIONAL FINANCIAL STATISTICS, February 1985.
For the exchange rate, IMF, INTERNATIONAL FINANCIAL STATISTICS, 1984 Yearbook, p. 415 and INTERNATIONAL FINANCIAL STATISTICS April 1985, p. 318.
For official consumer prices, see Table 5.

TABLE 12
Calculated Cost Price of Local Rice
(UM/Kg.)

	High Assumption	Low Assumption
1. Production Cost Price	20	15
2. Price Payed to the Producer by the CSA	14	14
3. Producer's Loss	6	1
4. Processing and Marketing Costs of the CSA 1/	5.4	5.4
5. Cost Price of Paddy for the CSA (1+4)	25.4	20.4
6. Cost Price of Finished Rice for CSA 2/	41.8	33.2
7. Price SONIMEX Pays CSA	24	24
8. CSA Loss (6-7)	17.8	9.2
9. SONIMEX Marketing Cost and Retailer Margin	5	5
10. Cost Price of Finished Rice to SONIMEX (6+9)	46.8	38.2
11. Price the Consumer Pays SONIMEX in the Countryside	31	31
12. Total Loss throughout the Rice Chain (10-11)	15.8	7.2

1/ Includes the following costs:

plant costs	3.2	UM/kilo of paddy rice
transport	0.3	
storage	0.2	
personnel	0.7	
general	1	

2/ Includes: Transportation rates 58%
Sale of by-products 2 UM/kilo of rice

Note: These numbers are estimations and are only useful as general indicators.

Sources: Annex 2
SONADER, CSA, SONIMEX

TABLE 13
Growth of SONADER Activities

—Growth of Number of Employees

Years	1979-80	1980-81	1981-82	1982-83	Fevrier 84
Central Office	97	135	147	145	82
(%)	(47)	(30)	(27)	(32)	(18)
Perimeters	112	318	399	316	368
TOTAL	209	453	546	461	450

—Growth of the Budget (millions of UM)

Years	1979-80	1980-81	1981-82	1982-83
Investment	63.1	47.9	614.7	274.2
Administration	338.9	461.6	529.3	568.8
of which Personnel Expenses	63.5	106.4	131.2	133.1
(%)	(19)	(23)	(25)	(24)
TOTAL	402	509.6	1144	843.1

—Results

Years	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
Cultivated Land (hectares)	700	950	1380	1968	2270	2410	2890
of which small perimeters	100	350	780	1368	1670	1810	2140
of which large perimeters	600	600	600	600 1/	600	600	750
of which rice	208	385	631	1232	980	1690	1655
of which maize/sorghum		78	89	736	794	443	80
Production (tons)	835	1885	2400	4720	4125	7250	8500
of which rice		196	310	1990	2700	1150	160
of which maize/sorghum							

1/ There was no planting season in 1981/82 at the Gorgol pilot perimeters because the dam broke.

Source: SONADER Four-Year Plan

TABLE 14

Principal Food Aid Donors to Mauritania
November 1983 - October 1984

Countries	Cereals	Tons	Amount Sold	Amount Distributed Without Charge
Algeria	wheat flour	4000		4000
W. Germany	wheat	15000	15000	
Saudi Arabia	wheat	10000		10000
Belgium	wheat	3000	3000	
Bulgaria	wheat flour	1000		1000
Canada	wheat	22000	5500	16500
	rice	230		230
EEC	wheat	24000	19000	5000
	rice	104		104
China	wheat	209		209
Denmark	wheat	3500		3500
Spain	wheat	8000		8000
	barley	500		500
United States	wheat	27870	15000	12870
	sorghum	15000	15000	
	SFSG	2980		2980
France	wheat	10000	7000	3000
Holland	wheat	3000		3000
	wheat flour	6000	2700	3300
Japan	rice	3100	2325	775
Kuwait	rice	80		80
Lybia	barley	3000		3000
Norway	wheat	900		900
World Food Program	wheat	29377	8827	20550
	wheat flour	545		545
	rice	375		375
	sorghum	3000		3000
Rumania	wheat flour	1000		1000
TOTAL 1/		204042.5	94702	109340.5

1/ Cereal Equivalency (100 kg. wheat flour = 150 kg. wheat)

Source: World Food Organization

TABLE 15

Food Aid, Total Population and Indigent Population
1983 - 1984

	Food Aid				Total Population				Indigent Population			
	1983		1984									
Region	(1)	(2)	(1)	(2)	(3)	(4)	(5)	(6)	(3)	(4)	(5)	(6)
0- Nouakchott	13488	14.8%	20337	12.7%	350	20.6%	39	58	210	19.2%	64	97
1- Hodh el Chargui	10202	11.2%	24455	15.3%	180	10.6%	57	136	90	8.2%	113	272
2- Hodh el Charbi	6560	7.2%	17406	10.9%	150	8.8%	44	116	105	9.6%	62	166
3- Assaba	11214	12.3%	18152	11.3%	150	8.8%	75	121	105	9.6%	107	173
4- Gorgol	5598	6.2%	6438	4.0%	140	8.2%	40	46	77	7.1%	73	84
5- Brakna	7162	7.9%	14980	9.3%	170	10.0%	42	88	136	12.5%	53	110
6- Trarza	15804	17.4%	23703	14.8%	210	12.4%	75	113	168	15.4%	94	141
7- Adrar	8723	9.6%	11004	6.9%	75	4.4%	116	147	67.5	6.2%	129	163
8- Dakhlet Nouadhibou	135	0.1%	2268	1.4%	35	2.1%	4	65	8.75	0.8%	15	259
9- Tagant	5094	5.6%	9757	6.1%	80	4.7%	64	122	72	6.6%	71	136
10- Guidimaka	1766	1.9%	5086	3.2%	100	5.9%	18	51	20	1.8%	88	254
11- Tiris Zemmour	3073	3.4%	4108	2.6%	40	2.4%	77	103	14	1.3%	220	293
12- Inchiri	1786	2.0%	2140	1.3%	20	1.2%	89	107	18	1.6%	99	119
Others	263	0.3%	513	0.3%								
TOTAL	90868	100.0%	160347	100.0%	1700	100.0%			1091.25	100.0%		
AVERAGES							53	94			83	147

(1) Quantity distributed in tons; (2) % of all food aid distributed in a given region;
(3) Number of inhabitants in thousands; (4) % of the population living in a given region.
(5) Aid by inhabitant in kilos, in 1983; (6) Aid by inhabitant in kilos, in 1984.

Notes: Food aid for 1984 was estimated to be twice the food aid distributed during the first six months of 1984.

The accuracy of these numbers—particularly the population figures—is uncertain. They should be used with caution.

Sources: CNAPES, CSA, PAM, USAID

TABLE 16

Donated Food Aid, Total Population and Indigent Population
1983 - 1984

	Donated Food Aid						Total Population				Indigent Population			
	1983			1984										
Region	(1)	(2)	(3)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(4)	(5)	(6)	(7)
0- Nouakchott	4961	33.3%	36.8%	6439	17.0%	31.6%	350	20.6%	14	18	210	19.2%	24	31
1- Hodh el Chargui	1080	7.2%	10.6%	2909	7.7%	11.9%	180	10.6%	6	16	90	8.2%	12	32
2- Hodh el Gharbi	874	5.9%	13.3%	2932	7.7%	16.8%	150	8.8%	6	20	105	9.6%	8	28
3- Assaba	1378	9.2%	12.3%	2402	6.3%	13.2%	150	8.8%	9	16	105	9.6%	13	23
4- Gorgol	8	0.1%	0.1%	680	1.8%	10.5%	140	8.2%	0	5	77	7.1%	0	9
5- Brakna	581	3.9%	8.1%	5339	14.1%	35.6%	170	10.0%	3	31	136	12.5%	4	39
6- Trarza	3137	21.0%	19.8%	6339	16.7%	26.7%	210	12.4%	15	30	168	15.4%	19	38
7- Adrar	886	5.9%	10.2%	4198	11.1%	38.1%	75	4.4%	12	56	67.5	6.2%	13	62
8- Daklet Nouadhibou	95	0.6%	70.4%	680	1.8%	30.0%	35	2.1%	3	19	8.75	0.8%	11	78
9- Tagant	1208	8.1%	23.7%	3927	10.4%	40.2%	80	4.7%	15	49	72	6.6%	17	55
10- Guidimaka		0.0%	0.0%	470	1.2%	9.2%	100	5.9%		5	20	1.8%		24
11- Tiris Zemmour		0.0%	0.0%	844	2.2%	20.5%	40	2.4%		21	14	1.3%		60
12- Inchiri	446	3.0%	25.0%	200	0.5%	9.3%	20	1.2%	22	10	18	1.6%	25	11
Others	263	1.8%	100.0%	513	1.4%	100.0%								
TOTAL	14917	100.0%		37872	100.0%		1700	100.0%			1091.2	100.0%		
AVERAGES			16.4%			23.6%			9	22			14	35

(1) Quantity distributed in tons; (2) % of total donated food aid in a given region;
(3) Ratio of total donated food aid to all food aid in a given region; (4) Inhabitants in thousands;
(5) Portion of the population in a given region; (6) Donated aid per person in kilos in 1983;
(7) Donated aid per person, in kilos, 1984.

Notes: Food aid for 1984 was estimated to be twice the food aid distributed during the first six months of 1984.
The accuracy of these numbers—particularly the population figures—is uncertain.
They should be used with caution.

Source: CSA, PAM, USAID, CNAPES.

TABLE 17

Distribution of Food Aid, by Type of Cereal and by Region

1983-1984

Region	Wheat		Sorghum		All Cereals	
	1983	1984	1983	1984	1983	1984
0-Nouakchott						
tons	10988	10227	1497	1048	12485	11275
%	88.0%	90.7%	12.0%	9.3%		
1-Hodh el Chargui						
tons	8064	21416	760	200	8824	21616
%	91.4%	99.1%	8.6%	0.9%		
2-Hodh el Gharbi						
tons	4898	14474	940		5838	14474
%	83.9%	100.0%	16.1%	0.0%		
3-Assaba						
tons	8685	15906	1020		9705	15906
%	89.5%	100.0%	10.5%	0.0%		
4-Gorgol						
tons	2758	5620	2770	338	5528	5958
%	49.9%	94.3%	50.1%	5.7%		
5-Brakna						
tons	4768	10800	1643	1080	6411	11880
%	74.4%	90.9%	25.6%	9.1%		
6-Trarza						
tons	12088	20727	1682	1670	13770	22397
%	87.8%	92.5%	12.2%	7.5%		
7-Adrar						
tons	7370	9235	220		7590	9235
%	97.1%	100.0%	2.9%	0.0%		
8-Daklet Nouadhibou						
tons	80	2128			80	2128
%	100.0%	100.0%	0.0%	0.0%		
9-Tagant						
tons	4655	8930		200	4655	9130
%	100.0%	97.8%	0.0%	2.2%		
10-Guidimaka						
tons	912	3960	850	656	1762	4616
%	51.8%	85.8%	48.2%	14.2%		
11-Tiris Zemmour						
tons	2913	3264	80		2993	3264
%	97.3%	100.0%	2.7%	0.0%		
12-Inchiri						
tons	1394	1940	60		1454	1940
%	95.9%	100.0%	4.1%	0.0%		
Others						
tons	263	60		410	263	470
%	100.0%	12.8%	0.0%	87.2%		
TOTAL						
tons	69836	128687	11522	5602	81358	134289
%	85.8%	95.8%	14.2%	4.2%		

Sources: CSA, PAM, USAID.

Notes: 1/ Food aid for 1984 was estimated to be twice the food aid distributed during the first six months of 1984.

2/ The accuracy of these numbers is uncertain. They should be used with caution.

3/ The percentages show the relative portions of wheat and sorghum in cereals aid for a given year.

TABLE 18

Quantity of Aid Sold, by Month: January 1983 - June 1984

[tons]

Month	Quantity
January 83	4514
February 83	4093
March 83	2090
April 83	449
May 83	9889
June 83	7947
July 83	4640
August 83	8000
September 83	5004
October 83	6503
November 83	8161
December 83	6987
January 84	9592
February 84	15798
March 84	11498
April 84	6074
May 84	7711
June 84	6913

Source: CSA

TABLE 19

Comparison of Transport Costs Between the Private Sector and the Mauritanian Cereals Office (OMC), 1981

Point of Destination	Private Transport Cost	OMC Transport Cost	% of Private Cost Compared To OMC Cost
Aioun	3000	2850	105.3%
Aleg	1230	2350	52.3%
Atar	3330	3400	97.9%
Boghe	1800	2380	75.6%
Boutilimit	950	2230	42.6%
Kaedi	2560	6090	42.0%
Kiffa	2400	2820	85.1%
Magta-Lajhar	2000	2400	83.3%
Nema	5190	5190	100.0%
Nouakchott	NA	365	
Ould Yenge	NA	7065	
Rosso	600	2445	24.5%
Selibaby	4500	6100	73.8%

NA: Not Available

Note: The cost differences are not as large as they appear at first glance. The OMC numbers include part of the transport cost from the port of Nouakchott to warehouses in the city. Moreover, the numbers are based on the assumption that the trucks fully depreciate in four years and that repair costs equal the cost of the truck when new.

Source: USAID (1982), Table 4.

Table 20

Geographic Distribution of CSA Storage Capacity

June 1984

Region	Town	Capacity in Tons
Tiais Zemmour	Zoucrat	1000
Daklet	Nouadhibou	3500
Inchiri	Akjoujt	1000
Adrar	Atar	2300
Nouakchott	Nouakchott	47100
Trarza	Rosso	13600
	Boutilimit	500
Tagant	Moudjerie	1000
	Tidjikja	2800
Hodh Charki	Timbedra	1000
	Nema	2800
Brakna	Aleg	2300
	Boghe	4800
	Mogta Lahjar	1000
Assaba	Kiffa	3800
Hodh Gharbi	Aioun	2800
Gorgol	Kaedi	6800
	Mbout	1000
	Maghama	1000
Guidimaka	Selibaby	3000
	Ould Yenge	1000
TOTAL		104100

Source: CSA

TABLE 21
Estimation of the International Opportunity Cost of Cereals
(UM constant of 1984 per ton)

	RICE			SORGHUM			WHEAT		
	1984	Low Estimate	High Estimate	1984	Low Estimate	High Estimate	1984	Low Estimate	High Estimate
FOB Price (SEU)	202 1/	200 2/	403 3/	118,2 4/	118 2/	162 5/	152,5 6/	152 2/	200 7/
CAF Price 8/ ($EU)	303	300	604,5	295,5	295	405	228,8	228	300
Exchange Rate 9/ (UM/$)	63,8	65	80	63,8	65	80	63,8	65	80
CAF Price (UM)	19331	19500	48360	18853	19175	32400	14594	14820	24000
Costs to Nouakchott 10/	3000	3000	3000	3000	3000	3000	3000	3000	3000
Cost Price in Nouakchott	22331	22500	51360	21853	22175	35400	17594	17820	27000
Costs from Nouakchott to the Countryside 10/	5500	5500	5500	5500	5500	5500	5500	5500	5500
Cost Price in the Countryside	27831	28000	56860	27353	27675	40900	23094	23320	32500

Note: These numbers are estimations and are only useful as general indicators.

1/ World price of 5% broken Thai rice, FOB Bangkok x 80%
(IMF INTERNATIONAL FINANCIAL STATISTICS April 1985, p. 76)
2/ The low estimate is based on the 1984 price
3/ Represents the highest price during 1985-1995 forecast by the World Bank for 5% broken Thai rice, FOB Bangkok, in 1984 dollars x 80% (IBRD (1982) p. 152)
4/ The world price of #2 yellow milo American sorghum, FOB Gulf of Mexico ports (IMF INTERNATIONAL FINANCIAL STATISTICS, February 1985, p. F77)
5/ The highest price during 1985-1995 forecast by the World Bank for #2 yellow milo American sorghum, FOB Gulf of Mexico ports, converted into 1984 dollars (IBRD (1982) p. 177)
6/ World price of American wheat, Gulf of Mexico ports (IMF INTERNATIONAL FINANCIAL STATISTICS - February 1985, p. F76)
7/ The highest price during 1985-1995 forecast by the World Bank for American wheat, Gulf of Mexico ports converted into 1984 dollars (IBRD (1982) p. 185)
8/ We estimated insurance and transport costs to be 50% of FOB prices for rice and wheat, and 150% for sorghum
9/ The 1984 exchange rate comes from the IMF (INTERNATIONAL FINANCIAL STATISTICS - April 1985) p 318. The low estimate represents the continuation of the 1984 price; the high estimate is the rate attained during the first trimester of 1985.
10/ Estimates based on data supplied by the CSA and SONIMEX

TABLE 22-A
Cereal Prices in Local Markets
1981 - 1984
in UM/Kilo

	1981	1982	1983	1984	AVERAGE
LOCAL MILLET (Taghalit)					
Aioun	28	25		30	28
Aleg		23	25		24
Ater	34	29	38	45	37
Boutilimit	18	18			18
Kaedi	18	18	26	23	21
Kiffa	22	18	35	28	26
Mederdra		20			20
Nema	26	28	28		27
Nouakchott		27	35	47	36
Selibaby	16	16	20	20	18
Tidjikja		25	27	28	27
Zouerate	47	41	51		46
AVERAGE	26	24	32	32	28
AMERICAN RED SORGHUM (Aid)					
Aioun	20	20	18		19
Aleg		13	15	14	14
Ater	20	20	25	24	22
Boutilimit	13	14	19		15
Kaedi	9	13	17	15	14
Kiffa	14	13	15		14
Mederdra			13		13
Nema	16	16	17		16
Nouakchott		27	25	20	24
Selibaby	13		20	20	18
Tidjikja					
Zouerate	25		30		28
AVERAGE	16	17	19	19	18

Source: USAID

TABLE 22-B
Cereal Prices in Local Markets
1981 - 1984
in UM/Kilo

	1981	1982	1983	1984	AVERAGE
BROKEN RICE					
Aioun	19	23	23	26	23
Aleg		21	21		21
Ater	16	20	26	28	23
Boutilimit	19	18	21	21	20
Kaedi	16	22	26	27	23
Kiffa	21	19	19	22	20
Mederdra		23	21		22
Nema	18	21	24		21
Nouakchott		18	17	22	19
Selibaby	18	25	26	29	25
Tidjikja		24	24	28	25
Zouerate	20	23	25		23
AVERAGE	18	21	23	25	22
WHEAT FLOUR					
Aioun	29	26	25	25	26
Aleg		37	23		30
Ater	23	25	25	25	25
Boutilimit	21	22	19	21	21
Kaedi	28	25	25	22	25
Kiffa	19	16	19	19	18
Mederdra		23	21		22
Nema	30	29	28		29
Nouakchott		19	20	21	20
Selibaby		36	31	25	31
Tidjikja		29	28	28	28
Zouerate	28	23	24		25
AVERAGE	25	26	24	23	25

Source: USAID

TABLE 23

Comparison of the Official Consumer Price and Market Prices
for American Sorghum
1981-1984

FCFA/Kilo		Official Consumer Price in Nouakchott [1]	Price in the Nouakchott Market	Official Consumer Price in the countryside[1]	Market Price [2] 1	2	3	4	5	6	7	8
June	1981	14		13				13	14	20		
July		14		13	13		9		13	18		
August		14		13	13		9	13	14	20	16	
September		14		13	13		9		15	20	16	20
October		14		13	13		9	13		20	16	20
November		14		13					14		16	20
December		14		13							16	
January	1982	14		13					14		16	
February		14		13						20	16	
March		14		13							16	
April		14		13							16	
May		14		13			10				16	
June		14		13			11				16	
July		14		13		13	15		13			
August		14		13	14	13			14	20		
September		14		13	14	13	18					
October		14	26	13	14	15			14			20
November		14	27	13		13	9		13		16	20
December		14	28	13		13			13		16	
January	1983	14	28	13	14	15					16	30
February		14	25	13	15							
March		14	25	13	16	13	13		15			25
April		14	24	13	15	13			15	18		25
May		14	23	13	16	13						
June		14	24	13		13	16		15			
July		14	27	13			19				16	
August		14	23	13	14							
September		14	25	13		17					18	
October		14		13	35	13		20			18	20
November		15		14	14	25	20	20				
December		15	21	14	35			20				
January	1984	15	20	14			15	20				24

[1] During several months in 1981, the CAA sold sorghum at 8 UM/kilo in the countryside and 10 UM in Nouakchott. At the same time, the OMC sold the sorghum at 13 UM/kilo in the countryside and 14 UM in Nouakchott. The official prices noted here are those of the OMC.

[2] 1 - Boutilimit [Trarza]
2 - Aleg [Brakna]
3 - Kaedi [Gorgol]
4 - Selibaby [Guidimaka]
5 - Kiffa [Assaba]
6 - Aioun [Hodh Gharbi]
7 - Nema [Hodh Charki]
8 - Ater [Adrar]

Sources: For official prices, see Table 5.
For market prices, USAID.

TABLE 24
Evolution of the Activities of SONIMEX
1978 - 1983

Broken Rice *********	1978	1979	1980	1981	1982	1983 (Jan-Sept)	1983 (Oct-Dec)
1-Quantity imported	54.1	52.2	49.5	50.4	71.7	35	11
2-Value in CAF	686.2	659.2	725.7	791.9	1243	556.9	175.2
3-Price per kilo	12.7	12.6	14.7	15.7	17.3	15.9	15.9
4-CAF value after customs	686.2	659.2	725.7	791.9	1243	556.9	229.9
5-Price per kilo after customs	12.7	12.6	14.7	15.7	17.3	15.9	20.9
6-Amount sold	41.9	45.9	60.9	47	64	51	17.5
7-Value of rice sold	581.9	572.7	808.3	712.2	875.3	775.2	353.5
8-Sale price per kilo (7/6)	13.9	12.5	13.3	15.2	14.5	15.2	20.2
9-Margin per kilo (8-5)	1.2	-0.1	-1.4	-3.5	-2.8	-0.7	-0.7
10-Total margin (9x6)	50.3	-4.6	-85.3	-164.5	-179.2	-35.7	-12.3

Note: Quantities in thousands of tons
Values in millions of UM
Unit prices in UM/kilo

Source: World Bank

TABLE 25
Sales by Month of Broken Rice
1976 - 1984
(tons)

Month	1976	1977	1978	1979	1980	1981	1982	1983	1984
J	1728	2639	3500	3121	4527	3342	1820	5210	5417
F	1092	2990	3465	3404	4375	5485	3411	4596	4459
M	1157	3257	3766	4228	4177	4910	5336	5620	4430
A	1897	1641	3498	3992	4058	3532	4326	6529	5389
M	1498	3184	2930	4919	8483	1641	5793	5666	5604
J	3624	3599	3681	5077	5137	3270	5228	5745	
J	2873	3520	4482	2447	3271	4443	5822	6715	
A	2198	2220	3652	3864	3458	3175	9101	6883	
S	2536	3084	4059	884	8836	3758	5887	5552	
O	2480	3088	3428	6168	6105	3853	4842	5825	
N	1362	3026	3040	2361	6358	5052	4127	5843	
D	1402	3096	3047	5191	3979	4464	4708	6215	
TOTAL	23847	35344	42548	45656	62764	46925	60401	70399	

Source: SONIMEX

TABLE 26
Geographic Distribution of Broken Rice
Sales by SONIMEX
1981 - 1983

Agency	1981		1982		1983	
	tons	%	tons	%	tons	%
Aioun	2066	4.4%	420	0.7%	180	0.3%
Akjout	384	0.8%	365	0.6%	227	0.3%
Aleg	1443	3.1%	243	0.4%	60	0.1%
Atar	1181	2.5%	1093	1.8%	238	0.3%
Boghe	1426	3.0%	739	1.2%	110	0.2%
Imal	28	0.1%	36	0.1%	2	.0%
Kaedi	2212	4.7%	437	0.7%	431	0.6%
Kiffa	1884	4.0%	282	0.5%	69	0.1%
Nema	2351	5.0%	1072	1.8%	223	0.3%
Nouadhibou	2263	4.8%	2991	4.9%	3956	5.6%
Nouakchott	26182	55.7%	50503	83.6%	63129	89.5%
Rosso	2003	4.3%	574	0.9%	400	0.6%
Selibaby	1715	3.7%	610	1.0%	526	0.7%
Tidjikja	975	2.1%	577	1.0%	376	0.5%
Zouerate	861	1.8%	503	0.8%	600	0.9%
TOTAL	46974		60445		70527	

Source: SONIMEX

TABLE 27

Comparative Evolution of the Rate of Growth of Income in Rural and Urban Areas

1976-1985

	Nominal Growth Rate	Real Growth Rate [2]
	%	%
Urban Sector		
SMIG	54	-33
Civil Service [1]		
Category A	5	-54
Category B	5	-54
Category C	18	-49
Category D	30	-43
Rural Sector		
Office Price for the Paddy Rice Producer	75	-24
Office Price for the Millet Producer	169	17

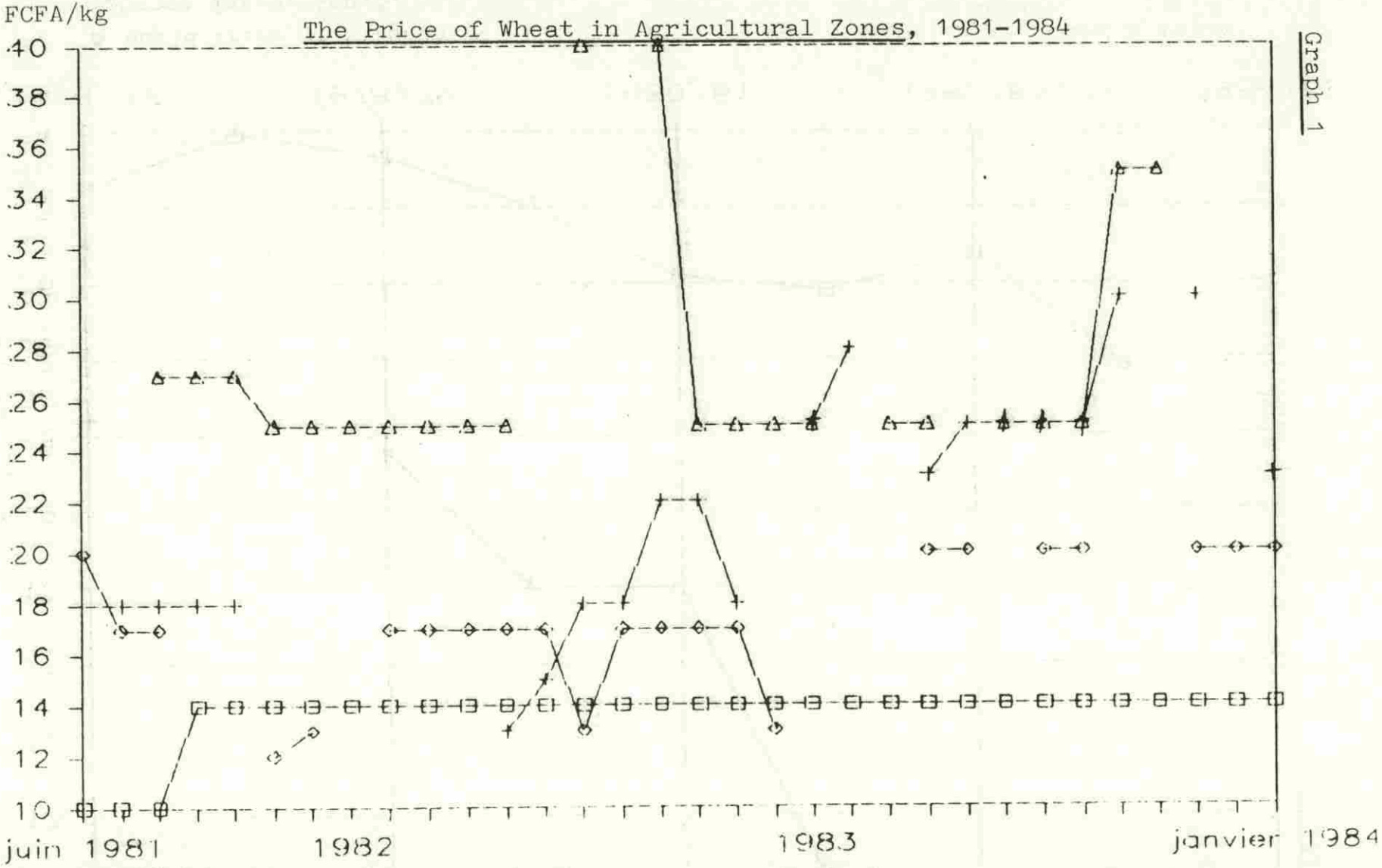
[1] Civil Servants are divided into categories. Category A is the best paid; Category E the worst. For each category, the rate given represents the average salary in that category.

[2] The index of consumption prices is estimated to be 230 for 1985 (from a base of 100 in 1976).

Sources: For the SMIG, the Labor Office, Ministry of Health and Labor and CHAAB (1985), p. 7.
For salaries of the public sector, BIT (1984), p. 121 and CHAAB (1985), p. 7.
For official producer prices, Table 3.
For the index of consumer prices, IMF INTERNATIONAL FINANCIAL STATISTICS - 1984 Yearbook, p. 415 and IMF INTERNATIONAL FINANCIAL STATISTICS - April 1985, p. 319.

Graph 1

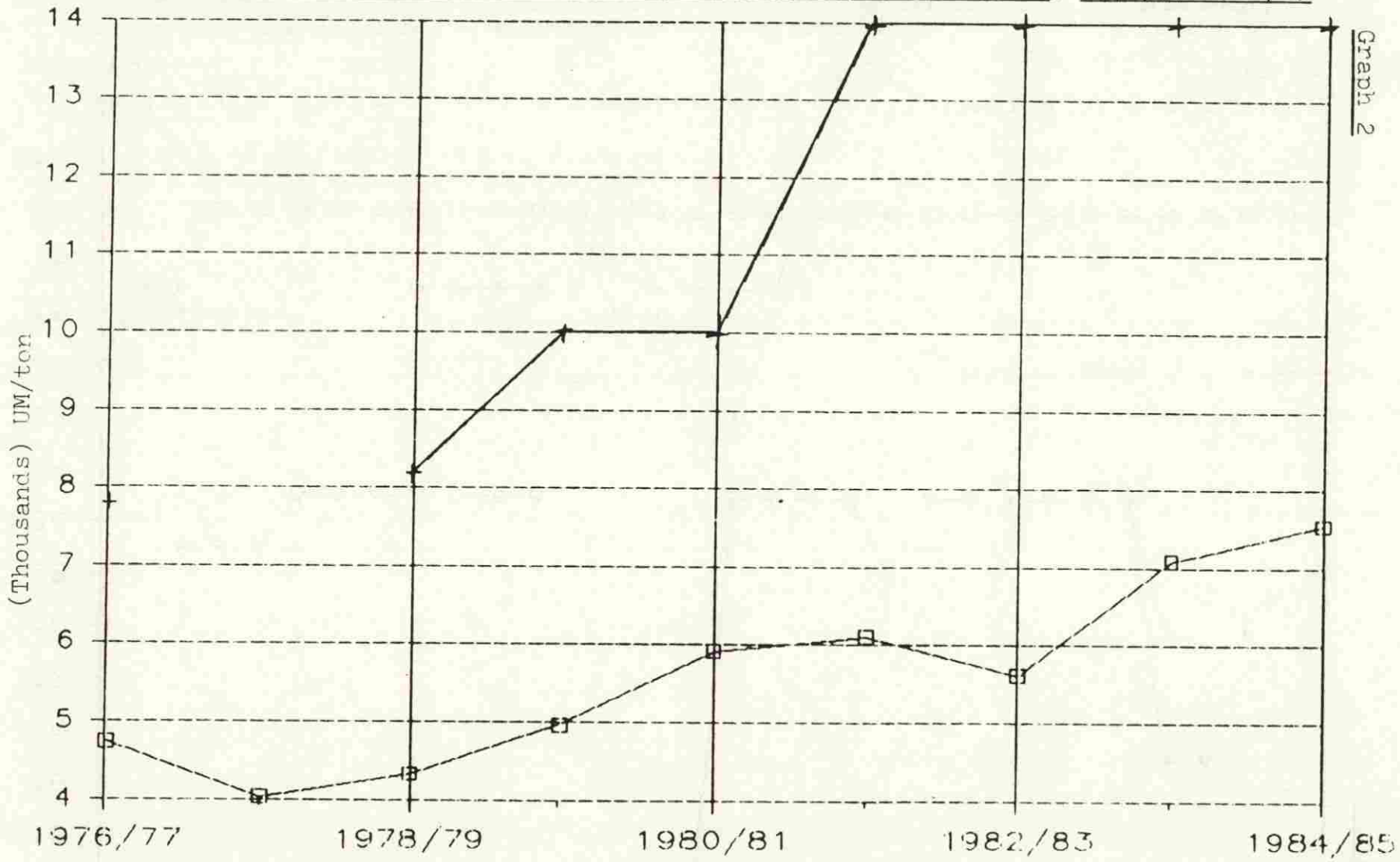
The Price of Wheat in Agricultural Zones, 1981-1984



Source: Tab.7, Ann. 3.

The World Price and Official Producer Price for Wheat/Sorghum, 1976/77-1984/85

Graph 2



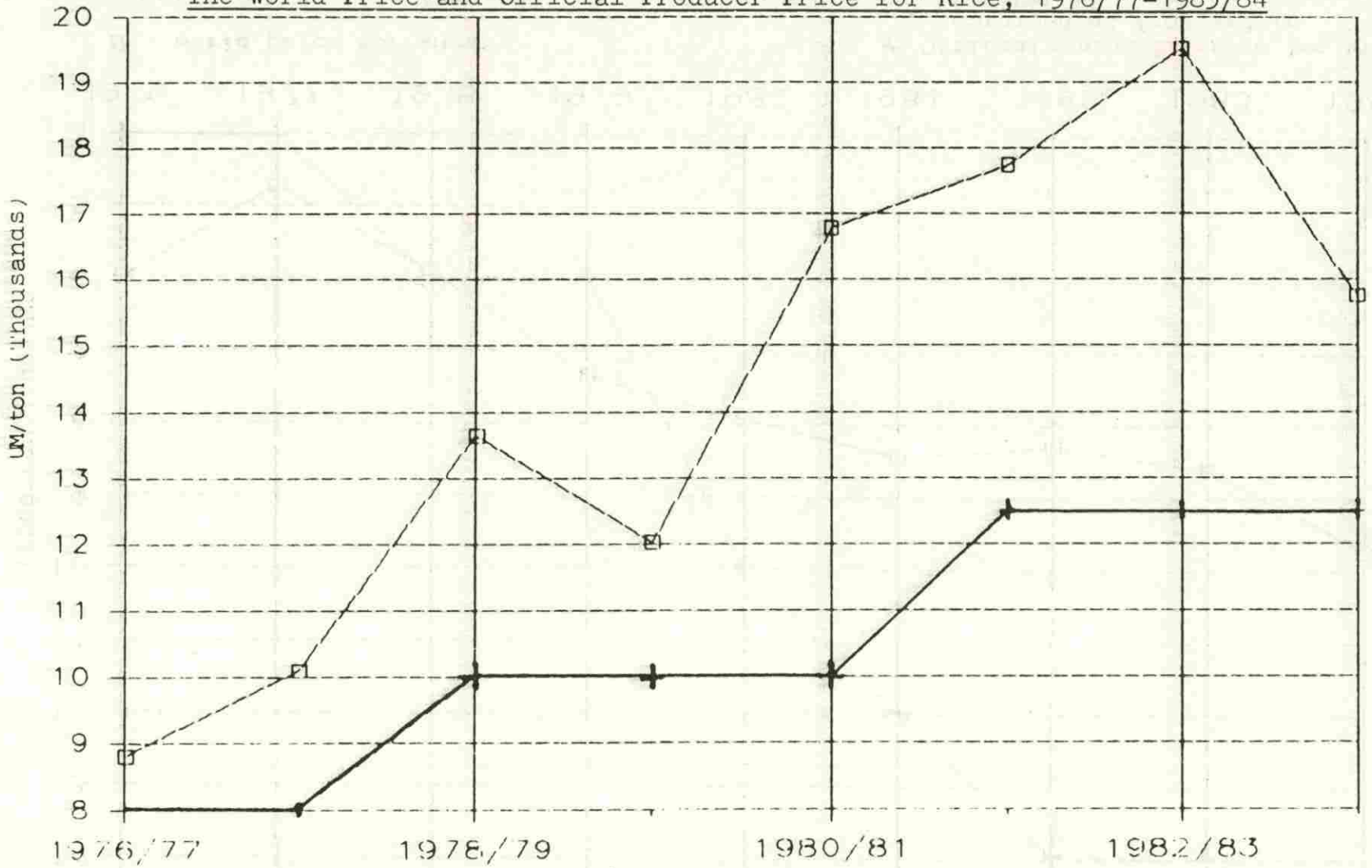
□ World Price of Sorghum

\+ Official Producer Price of Wheat

Source: Tab.9, Ann.3.

Graph 3

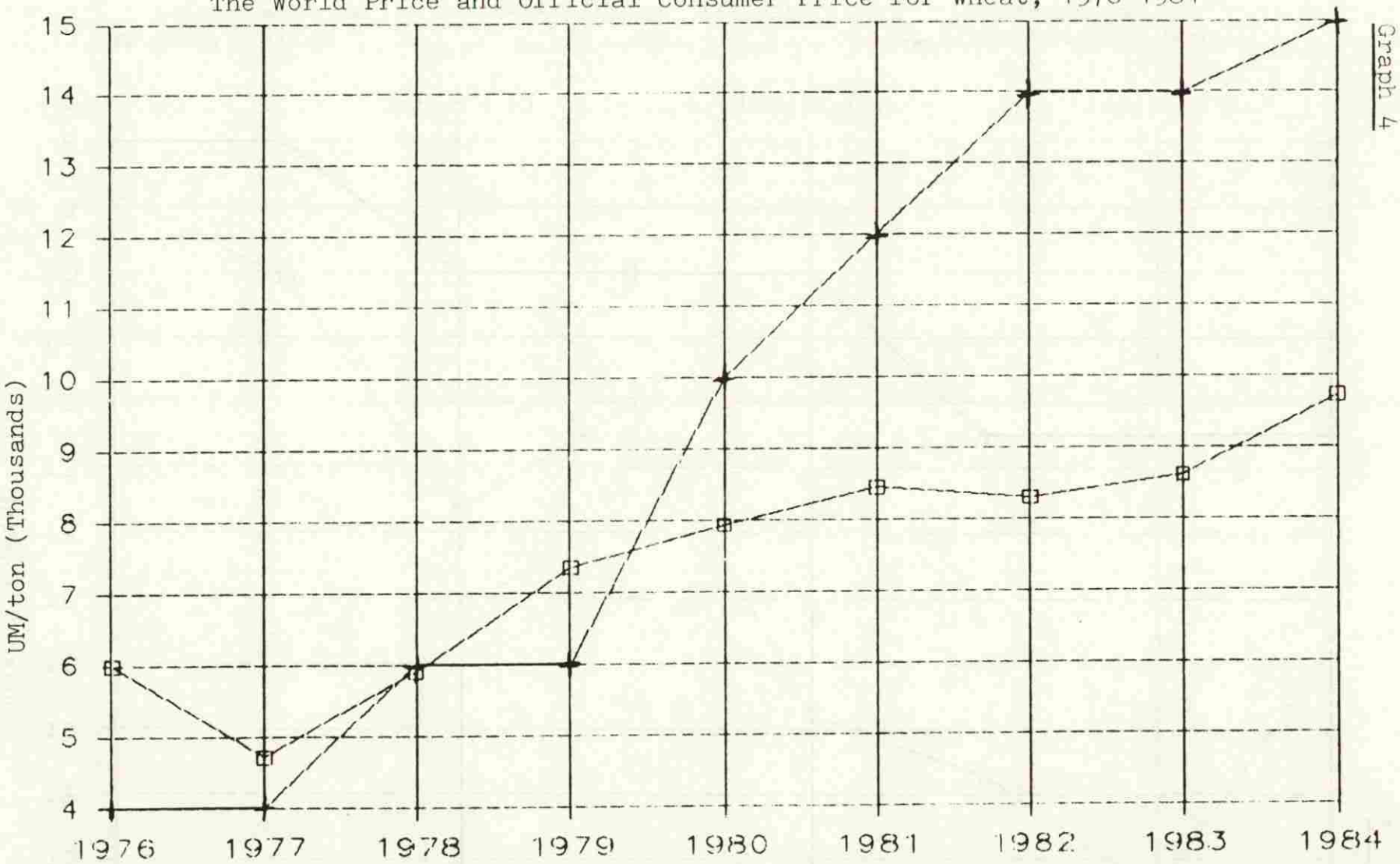
The World Price and Official Producer Price for Rice, 1976/77-1983/84



(Source: Tab.10, Ann.3)

Graph 4

The World Price and Official Consumer Price for Wheat, 1976-1984



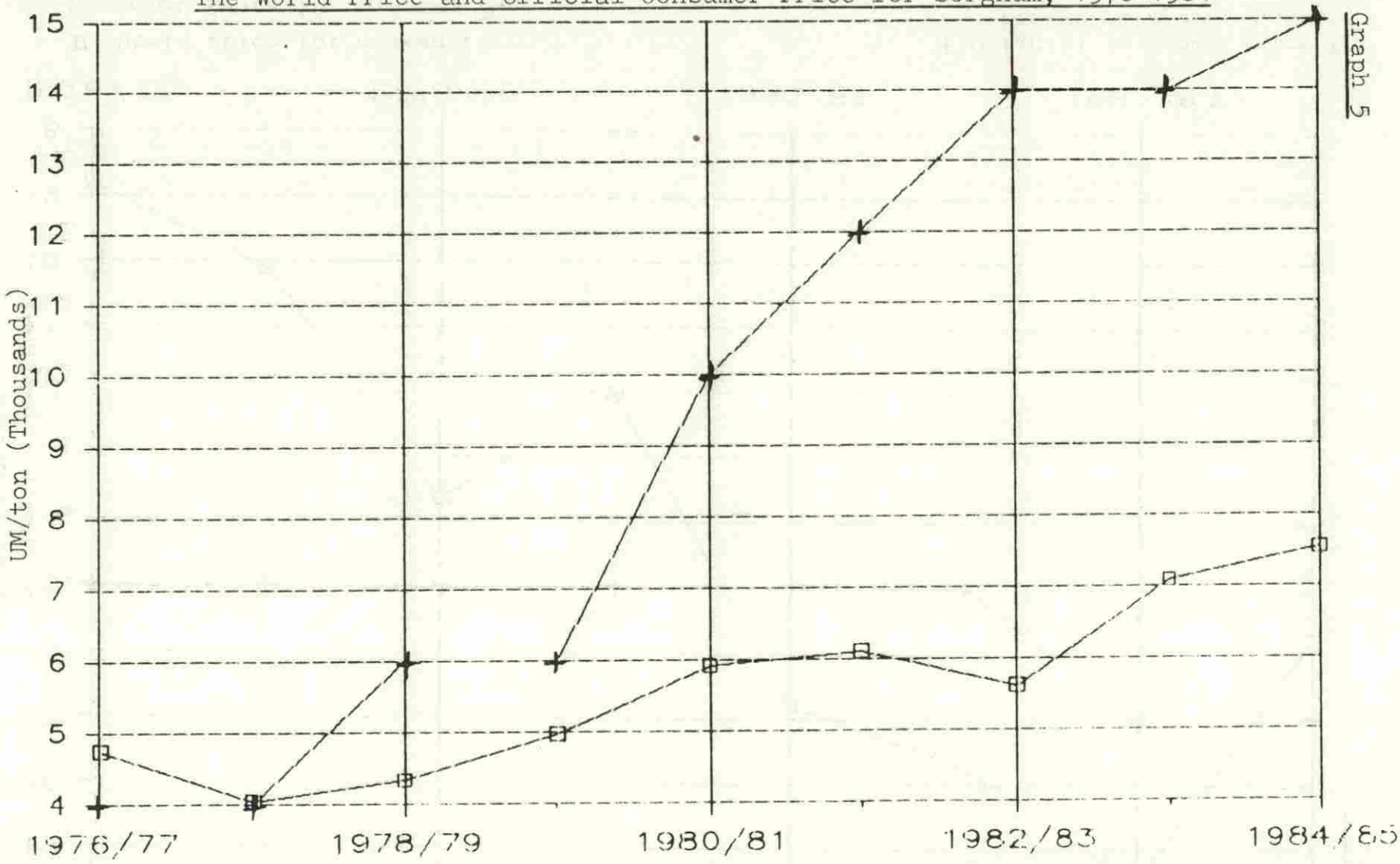
□ World price for wheat

\+ Official consumer price for wheat obtained as food aid in Nouakchott

Source: Table 11 in Annex 3.

Graph 5

The World Price and Official Consumer Price for Sorghum, 1976-1984



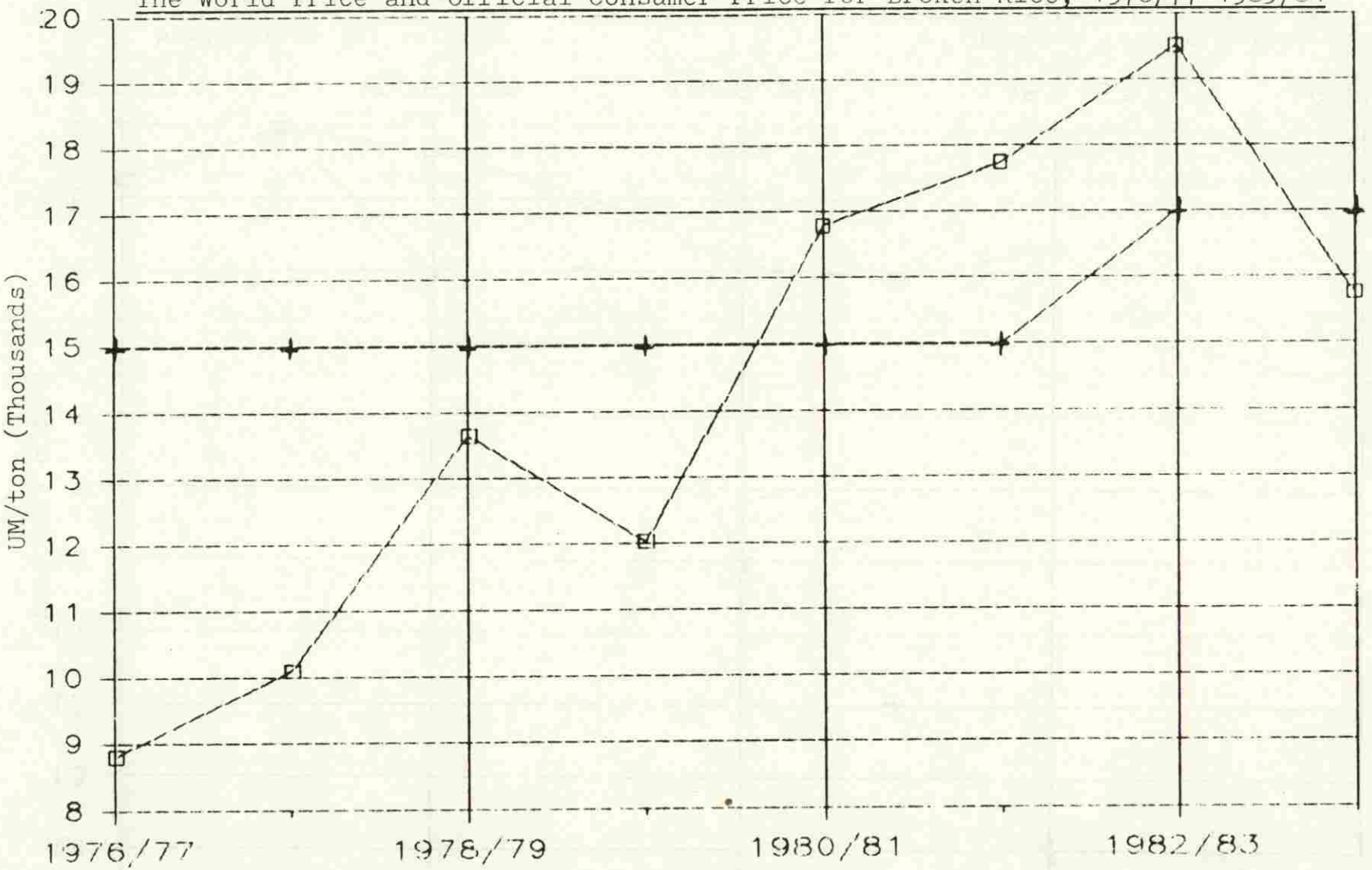
□ World price for sorghum

\+ Official consumer price for sorghum obtained as food aid in Nouakchott

Source: Table 9 in Annex 3.

Graph 6

The World Price and Official Consumer Price for Broken Rice, 1976/77-1983/84



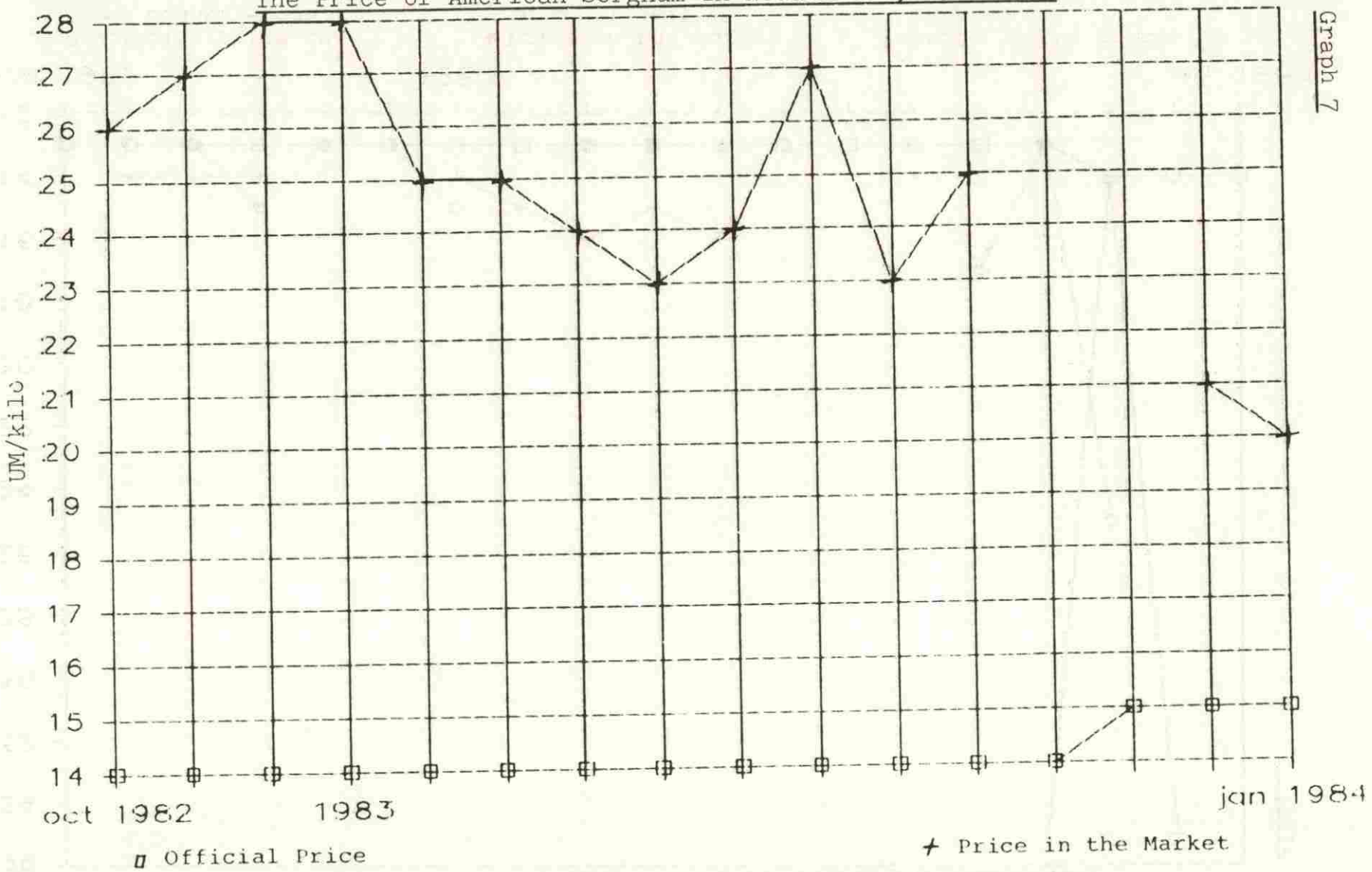
□ World price for broken rice

+ Official consumer price for broken rice in Nouakchott

(Source: Table 10 in Annex 3.

The Price of American Sorghum in Nouakchott, 1982-1984

Graph 7

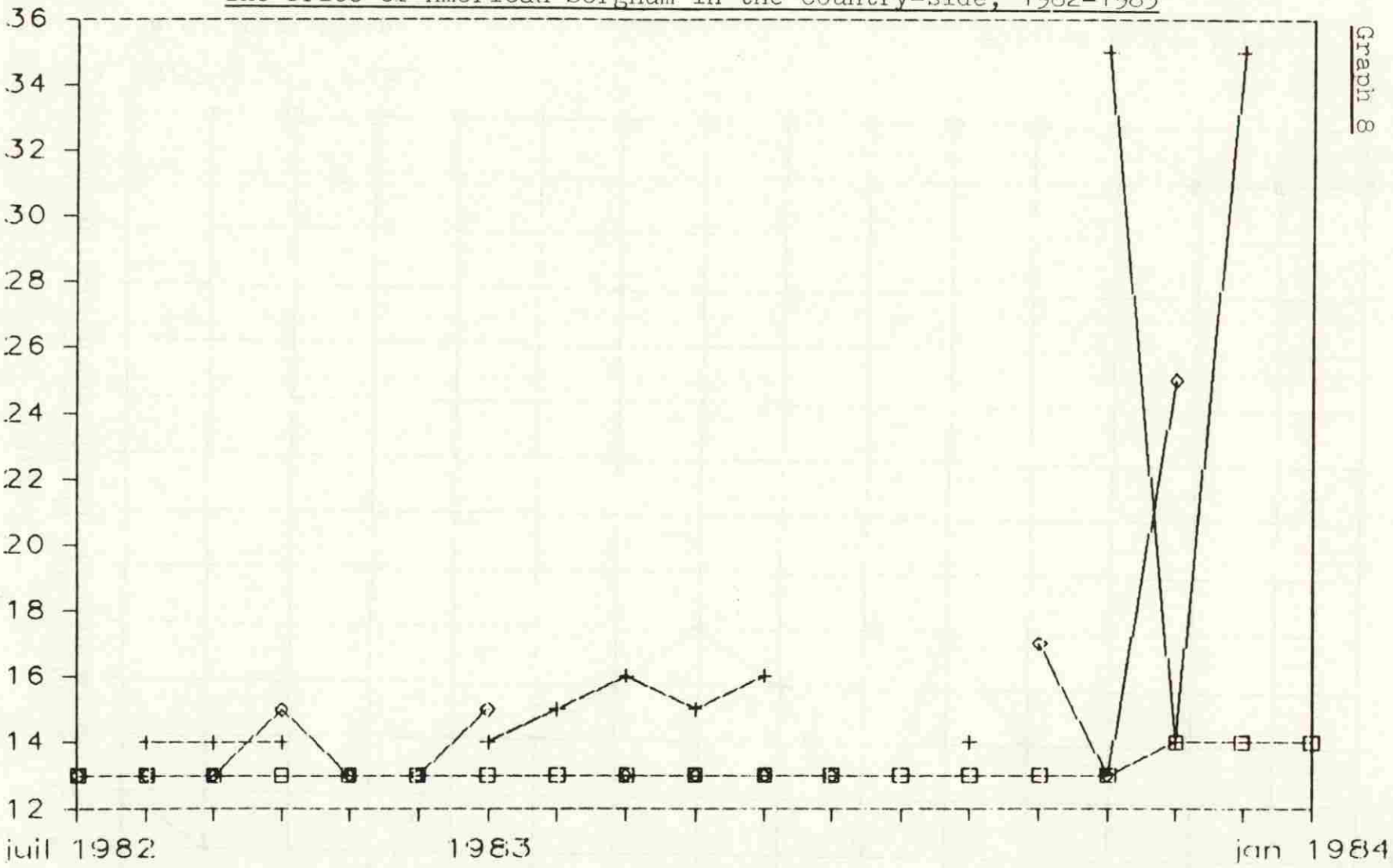


Source: Table 23 in Annex 3

UM/kilo

The Price of American Sorghum in the Country-side, 1982-1983

Graph 8



Source: Table 23 in Annex 3

List of Acronyms Used

BCM	Banque Centrale de Mauritanie
BIRD	Banque Internationale pour la Reconstruction et le Développement
BIT	Bureau International du Travail
CAA	Commissariat à l'Aide Alimentaire
CAC	Centre d'Alimentation Communautaire
CCCE	Caisse Centrale de Coopération Economique (France)
CGEM	Confédération Générale des Employeurs Mauritaniens
CILSS	Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel
CMSN	Comité Militaire de Salut National
CNAPES	Commission Nationale d'Assistance aux Populations Eprouvées par la Sécheresse
CNRADA	Centre National de Recherche Agronomique et de Développement Agricole (Kaedi)
CNSA	Comité National de Sécurité Alimentaire
CRAPES	Commission Regionale d'Assistance aux Populations Eprouvées par la Sécheresse
CRDE	Centre de Recherche en Développement Economique, Université de Montreal
CRED	Center for Research on Economic Development, University of Michigan
CREN	Centres de Rehabilitation et d'Education Nutrionnelle
CRM	Croissant Rouge Mauritanien
CSA	Commissariat à la Sécurité Alimentaire
ENA	Ecole Nationale d'Administration

FADES	Fonds Arabe de Développement Economique et Social
FAO	Food and Agriculture Organisation of the United Nations
FCFA	Franc CFA
FMI	Fonds Monétaire International
FND	Fonds National de Développement
IDEP	Institut de Développement Economique et de Planification
MDR	Ministère du Développement Rural
MEF	Ministère de l´Economie et des Finances
MPAT	Ministère du Plan et de l´Aménagement du Territoire
OMC	Office Mauritanien des Céréales
OMS/WHO	Organisation Mondiale de la Santé/World Health Organization
OMVS	Organisation pour la Mise en Valeur du fleuve Sénégal
ONCAD	Office National de Coopération et d´Assistance au Développement
ONG	Organisation Non Gouvernementale d´aide
PAM/WFP	Programme Alimentaire Mondial/World Food Program
PIB	Produit Intérieur Brut
PNUD/UNDP	Programme des Nations-Unies pour le Développement/United Nations Development Program
RAMS	Rural Assessment Manpower Survey
SAMALIDA	Société Mauritano-Lybienne pour le Développement Agricole
SEM	Structures d´Education de Masse
SMIG	Salaire Minimum Interprofessionnel Garanti
SONADER	Société Nationale pour le Développement rural
SONADIS	Société Nouvelle pour l´Approvisionnement et la Distribution au Sénegal
SONED	Société Nouvelle des Etudes de Developpement en Afrique
SONIMEX	Société Nationale d´Importations et d´Exportations
SORÁPEL	Société Rurale d´Approvisionnement, d´Entretien et de Location

UM	Unité Mauritanienne ou ouguiya (en 1976 1$E.U. = 45UM; en 1984 1$E.U. = 63,8UM)
UNDRO	United Nations Development Relief Organization
USAID	United States Agency for International Development