PN-ABA-270
ISN 57028

Drought

Rozell
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SADCC
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SOUTHERN AFRICAN
DEVELOPMENT COORDINATION CONFERENCE
Lusaka Republic of Zambia, 2/3 February 1984

SECTION 5

COUNTRY REVIEW : MOZAMBIQUE

5.1 LOCATION AND GEOGRAPHY

Mozambique is situated between latitude 10°3' and 27° South and longitude 30° and 40° East. It covers an area of 783 000 km².

The northern part of the country, north of the Zambezi Valley, is largely characterised by ancient crystalline plate formations, the structural continuation of those of East Africa. These plateaux, at an average height of approximately 600 m and strongly eroded, are broken by deep river gorges of a very discontinuous nature, with massifs that reach over 2 000 m in height above sea level towering over them.

Towards the east, the plateaux slope down to the alluvial coastal plain, which broadens out from north to south, until it covers the entire area of the southern section of the country. The coast is generally fairly compact, but somewhat higher and more articulated to the north and sandy and uniform in the central-southern part.

The climate of the whole territory is of tropical type. It can be subdivided into:

- a rainy tropical climate in the northern and central part of the country and in the southern coastal belt, characterised by a longer rainy season and shorter dry season.
- a dry tropical climate that is predominant in the southern half and in the Upper Zambezi Valley, characterised by a longer dry season and a shorter rainy season.
- a highland tropical climate characteristic of the mountain area of the country and fairly wet.

The temperatures are high on average, with not a great variation: 21,3°C in February/March in Maputo; 23,1°C and 29°C in Nampula during the same months.

Figure 5.1 shows the provinces, major towns and rivers.

5.2 EXTENT OF THE DROUGHT

5.2.1 Area Affected

Areas affected by drought are illustrated in Figure 5.2.

Poor rainfall conditions have covered all of the southern and central provinces, with the southern area being afflicted for the second consecutive year. For this reason, together with the normal dry conditions prevalent in the south, the provinces of Maputo, Gaza and Inhambane have been most severely affected. They are followed by Manica, Sofala and Zambezi provinces.

FIGURE 5.1 MOZAMBIQUE : PROVINCES, MAJOR TOWNS AND RIVERS

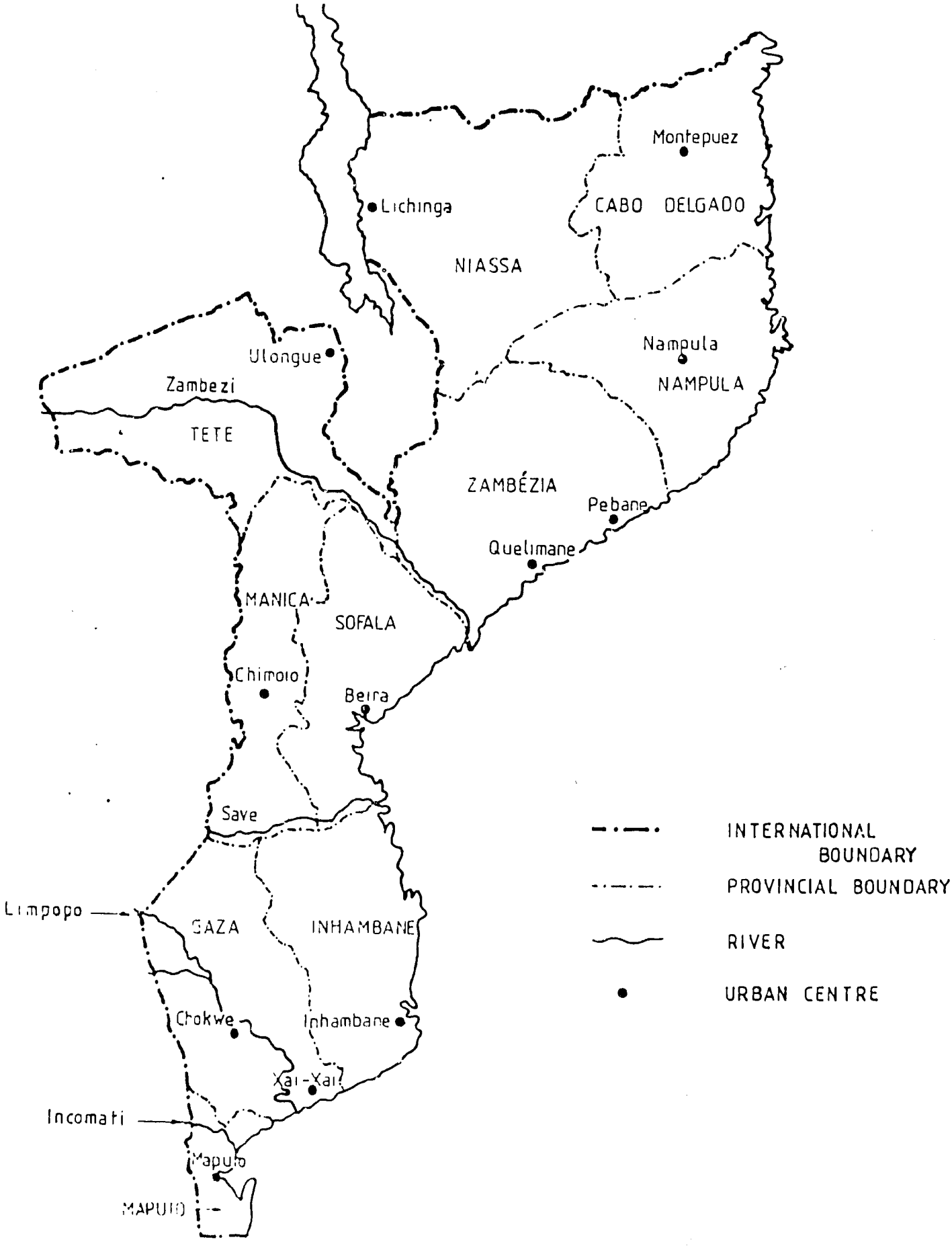
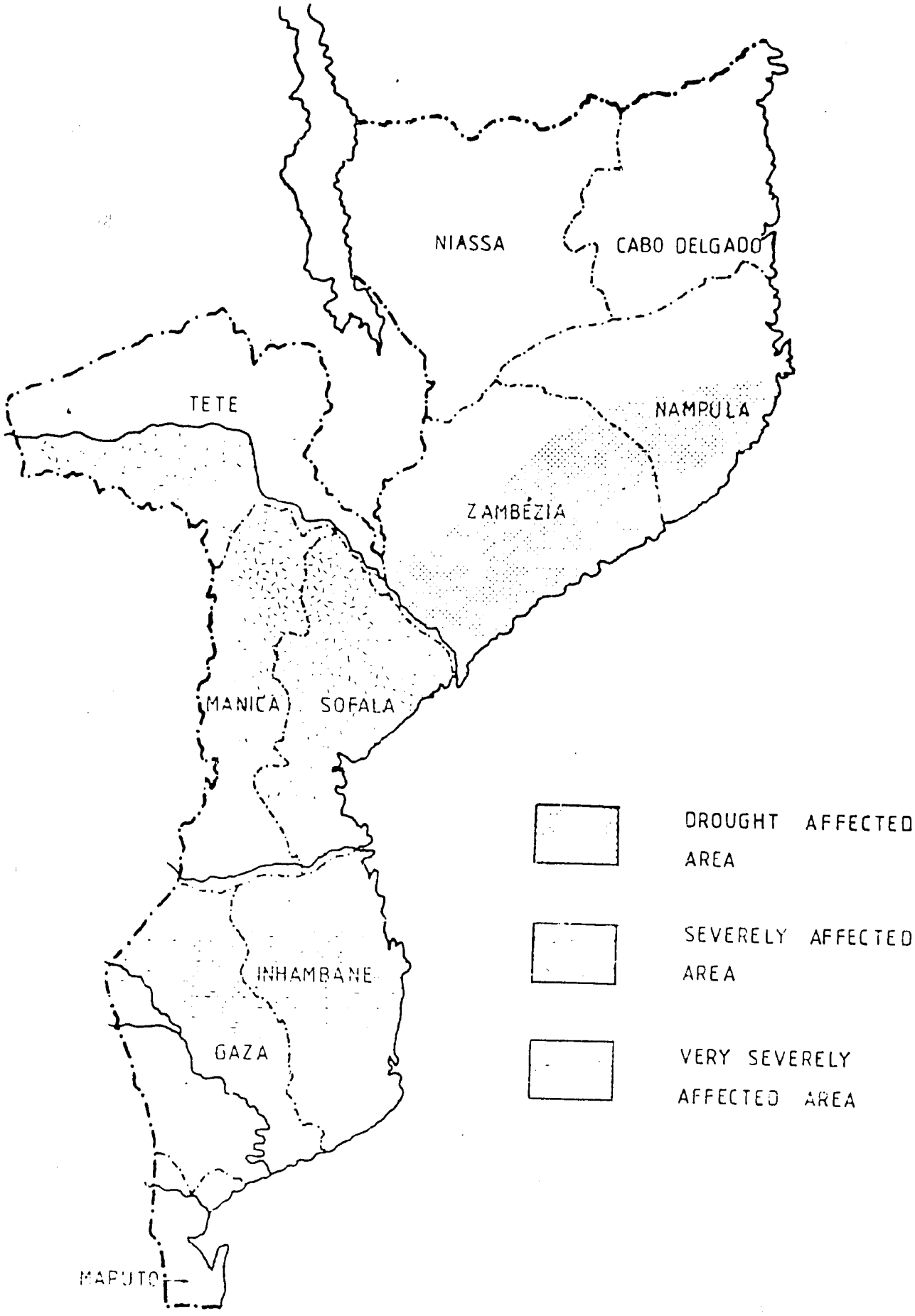


FIGURE 5.2 DROUGHT AFFECTED AREAS



5.2.2 Population Affected

Rural populations are normally the major sufferers in times of drought. With prevailing shortages of water and the breakdown of the marketing chain from producer to consumer, a corresponding burden has been placed on urban dwellers in Mozambique.

Of the 4 million people in the drought-stricken southern and central areas of the country, 45% or 1,824 million are considered to be seriously jeopardised. Their distribution is shown in Table 5.2.1.

TABLE 5.2.1 POPULATION OF MOST SEVERELY AFFECTED AREAS

Province	District	Population
Maputo	Moamba, Marracuene, Manhica, Magude	303 000
Gaza	Chicualacuala, Massingir, Manjacaze, Chibuto, Guija, Macia	404 000
Inhambane	Vilanculos, Massinga, Govuio, Panda, Marrumbane, Homoine	125 000
Manica	Mossurize, Sussundenga, Chimoio	232 000
Sofala	Chibabava, Buzi, Dondo, Cheringoma	575 000
Zambezi	Chinde, Quelimane, Maganja da Cost, Namacurra	185 000
TOTAL		1 824 000

5.2.3 Climatic Data

Table 5.2.2 compares 1982/83 rainfall with the 30 years mean for 6 stations situated in the drought affected areas. Data have been restricted to the main summer cropping season.

Severe drought conditions were experienced as far north as Quelimane. Data for Lichinga and Montepuez, on the other hand, indicate that rainfall in Niassa and Cabo Delgado was well above average from October to December, 1982, whereas that at Ulongui in Tete was poor during December.

TABLE 5.2.2 RAINFALL DATA : OCTOBER, 1982, TO MARCH, 1983 (mm)

	Mean	1982/82	% of Normal
Quelimane	1 060	569	54
Chimoio	904	549	61
Beira	1 253	517	41
Inhambane	734	402	55
Xai Xai	694	258	37
Chokwe	378	275	73

Table 5.2.3 indicates the rainfall pattern during 1981/82 and the first three months of 1982/83 for Magude and Moamba in Maputo Province.

TABLE 5.2.3 MAGUDE AND MOAMBA : RAINFALL DATA (mm)

Month	Magude Mean	Magude 1981/82	Magude 1982/83	Moamba Mean	Moamba 1981/82	Moamba 1982/83
October	41	121	41	35	50	17
November	92	168	11	83	292	10
December	103	29	20	73	17	20
January	104	128		117	41	
February	133	54		80	0	
March	116	66		81	45	
April	45	18		56	188	
May	24	0		32	27	
June	19	0		4	0	
July	15	14		27	0	
August	11	0		21	12	
September	30	24		43	0	
TOTAL	773	622		652	672	

Overall these tables indicate a good 1981/82 rainy season for Moamba and a slightly below average one for Magude. However, distribution during the main summer growing period shows that Magude had severe in-season droughts during December, February and March. The above average rainfall at Moamba also arose from heavy falls during November and April. Within the growing season, critical conditions prevailed with only 29% of normal rainfall being received.

Both stations show potentially disastrous rainfall patterns for the first three months of the 1982/83 season. These conditions apparently persisted for the rest of the season; details are, however, unavailable.

It is apparent that south and central Mozambique have suffered seriously during 1982/83, particularly as this was the second successive drought for the southern province.

5.2.4 Hydrology

The severity of the regional drought is well illustrated by the dramatic reductions in river flow in southern Mozambique. Data from the Inkomati and Umbeluzi rivers are shown in Tables 5.2.4 and 5.2.5.

The 10 year mean flow from October to July is 2 560,8 $10^6 m^3$ whilst that during the same period in 1982/83 totalled only 164,3 $10^6 m^3$ (6% of the mean flow). Flow ceased completely during October, November, December, March, April and May. Since 1966 the worst year (with the exception of the current season) for which complete data is available was 1978/79 which, nevertheless, still experienced annual flow of 436 $10^6 m^3$.

TABLE 5.2.4 INKOMATI RIVER FLOW AT MOAMBA ($10^6 m^3$)

	10 year mean (1966-1976)	1982/83
October	101,4	0,8
November	146,9	0,0
December	400,2	0,45
January	329,4	72,7
February	537,2	73,7
March	418,4	0,59
April	259,2	0,0
May	183,1	12,1
June	106,8	4,5
July	78,2	0,18
August	51,4	
September	34,8	
Annual	2 647,0	

TABLE 5.2.5 UMBELUZI RIVER FLOW ($10^6 m^3$)

	25 year mean (1951/52-1975/76)	1982/83
October	19,1	8,2
November	25,8	4,8
December	41,9	5,3
January	55,9	15,3
February	64,8	5,8
March	37,8	7,1
April	31,3	3,6
May	23,3	2,6
June	16,3	3,3
July	14,5	2,1
August	12,1	
September	11,5	
Annual	360,8	

The 10 months flow of the Umbeluzi River recorded so far for 1982/83 totals 58,1 $10^6 m^3$, which is less than 18% of the mean flow for the same period (330,7 $10^6 m^3$). As it is the source of Maputo's water supply, the Government has an agreement with Swaziland that the latter will release 40% of natural flow from their own storage works. To accommodate Mozambique, 80 - 100% of flow is currently being released, but this is still insufficient to meet the capital's monthly flow requirement of 2,9 $10^6 m^3$.

Water levels in the Limpopo have also been extremely low, as shown by Table 5.2.6.

TABLE 5.2.6 WATER LEVEL OF LIMPOPO RIVER AT CHOCKWE

Month	1981 Max. level (m)	1982 Max. level (m)
February*	7,46	1,33
July	1,43	0,72
September	12,80	0,69

* The maximum water levels occur during this month and normall average around 6 m.

The Olifants river has suffered similar reductions in flow, which has reduced the level of the Massingir Dam to a critical level as is shown in Figure 5.3. Normally 13 000 ha of rice are irrigated from the dam. This year there was only sufficient water for 3 000 ha and even this has now been stopped due to the lack of water.

The flow levels in the major rivers had further deleterious effects in that salinity levels have risen steeply due to incursions from the sea.

Monitoring of ground water levels inland of Jao Belo and Xai Xai commenced in 1981. Results have indicated a steady lowering of the water table.

5.3 EFFECTS OF THE DROUGHT

5.3.1 Crop Losses

The reduction in crop production due to drought is difficult to assess because of the lack of historic data. Information used in the following assessments has been obtained from the Mozambique authorities, the Regional Food Reserve SADCC report and the FAO.

Under normal conditions, Mozambique meets its subsistence requirements and produces approximately 50% of its market requirements. Wheat is the principal exception, with most of the country's requirements imported.

Table 5.3.1 indicates the assessed cereal loss from the commercial farming sector in the 1982/83 season.

Table 5.3.2 summarises the assessed cereal losses from the corresponding subsistence sector.

Total assessed grain losses from the commercial and subsistence sectors as a result of the drought are summarised in Table 5.3.3.

Cassava, which has the advantage of being drought resistant, is the main staple food of Mozambique with a normal production of about 2 645 000 tonnes. The crop is predominantly grown in the provinces of Nampula, Zambezia and Cabo Delgado. No estimates of cassava losses have been made.

FIGURE 5.3

VARIATION IN WATER LEVEL : BARRAGEM DE MASSINGIR

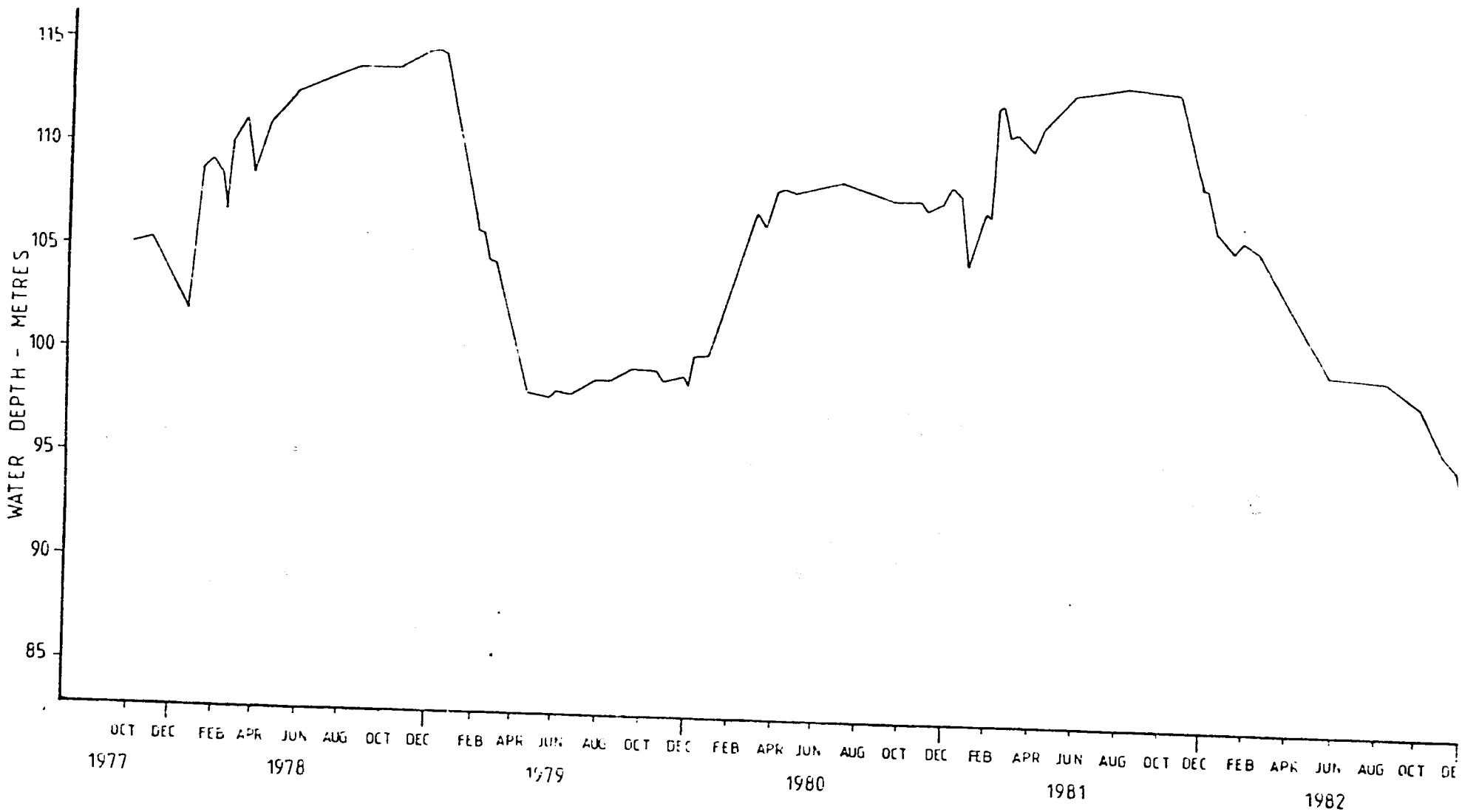


TABLE 5.3.1 ASSESSED CEREAL LOSSES FROM THE COMMERCIAL FARMING SECTOR

Produce	Market Requirement tonnes	Normal Marketed Production tonnes	Est. Marketed Production 1982/83 tonnes	Drought Losses tonnes	Drought Losses US$'000
Maize	187 500	72 500	60 000	12 500	2 125
Wheat	112 500	2 700	2 000	700	154
Rice	82 200	37 000	12 000	25 000	8 750
TOTAL	382 200	112 200	74 000	38 200	11 029

TABLE 5.3.2 ASSESSED CEREAL LOSSES FROM THE SUBSISTENCE SECTOR

Produce	Normal Production tonnes	Est. Production 1982/83 tonnes	Drought Losses tonnes	Drought Losses US$'000
Maize	242 000	60 000	182 000	30 940
Rice	18 000	Nil	18 000	6 300
TOTAL	260 000	60 000	200 000	37 240

TABLE 5.3.3 ASSESSED CEREAL LOSSES DUE TO DROUGHT

Produce	Mass tonnes	Value US$'000
Maize	194 500	33 065
Wheat	700	154
Rice	43 000	15 050
TOTAL	238 200	48 269

5.3.2 Seed Losses

Mozambique is normally self-sufficient in seeds other than groundnuts. This year, stocks are sufficient to supply the commercial sector only. Seed stocks of the subsistence farmers in the southern and, to some extent, central provinces are completely exhausted. With the intermittent rainfall that occurred last season, multiple plantings were resorted to which consumed all seed reserves, but failed to produce a crop.

Replacement of seed stocks for the 1983/84 season is now urgent. The quantity required is estimated to amount to 6 070 tonnes at a cost of US$5,371 million (Table 5.3.4). The seeds would be supplied to farmers in the provinces of Maputo, Gaza, Inhambane, Sofala, Manica and Tete.

TABLE 5.3.4 ESTIMATE OF THE SEED REQUIREMENTS IN THE PROVINCES AFFECTED BY THE DROUGHT

Product	Deficit tonnes	Price US$/t	Total Cost US$'000
Maize	1 800	750	1 350
Sorghum	590	650	384
Butter Beans (Phaseolus sp)	1 480	750	1 110
"Nhemba" beans (Vigna sp)	900	750	675
Peanuts	1 300	1 425	1 852
TOTAL	6 070		5 371

Large deficiencies of vegetable seed have also arisen and estimates of possible requirements amount to 87,8 tonnes at a cost of US$187 300 (Appendix).

5.3.3 Livestock Losses

5.3.3.1 Cattle

The total cattle population is estimated at 1,35 million head with 70% situated in the south. Thus some 920 000 head of cattle are found in the area most severely affected by the drought. Deaths to date due to the lack of grazing and water are estimated at 100 000, with continuing deaths of around 15 000 per month. Farmers in the Moamba and Magude districts of Maputo province have already lost 70% of their herds.

Cattle sales have virtually ceased, because of the poor condition of the animals. This is reflected in reduced beef supplies to Maputo. Annual requirements for the city are estimated at 2 430 tonnes, whereas supply for the first six months amounted to only 300 tonnes with a further 300 tonnes anticipated by the end of the year.

Table 5.3.5 indicates the estimated cattle losses.

TABLE 5.3.5 ESTIMATED CATTLE LOSSES

Cattle deaths	Anticipated Additional Deaths	Total Deaths	Value US$'000
100 000	90 000	190 000	19 000

5.3.3.2 Pigs

Pig production is concentrated in the vicinity of Maputo, where lack of feed is expected to reduce production by a third (Table 5.3.6).

TABLE 5.3.6 PIG PRODUCTION DATA

Capacity	Normal Annual Production tonnes	Anticipated 1983 Production tonnes	Drought Loss	
			tonnes	US$'000
3 000	2 500	1 500	1 000	1 000

5.3.3.3 Poultry

Poultry production is also centred in Maputo and, for a similar reason, is likely to experience a 30% reduction in output (Table 5.3.7).

TABLE 5.3.7 POULTRY PRODUCTION DATA

Capacity	Annual Production tonnes	Anticipated 1983 Production tonnes	Drought Loss	
tonnes			tonnes	US$'000
6 000	5 000	3 500	1 500	1 500

5.3.4 Effect on the Population

The major effect of the drought on the resident population is an almost total loss of food cereals in the south, together with a high livestock mortality. As a consequence, food supplies to the formal marketing system throughout the country have been drastically reduced.

The subsistence population is facing critical nutritional problems. In addition to serious water shortages and the loss of accumulated savings in the way of food, cash and livestock. As the problems are widespread, and affect both the rural and urban communities, no migrations of the rural people or their livestock are apparently taking place.

Lack of supplies to the formal and informal marketing systems have led to escalating demands for food in the high density areas. To alleviate the problems, Government is relocating people from the cities and towns to productive agricultural areas in the north.

As Maputo's water supply is now precarious, further incentive exists for relocation of sectors of the population.

5.3.5 Summary of Losses due to Drought

Table 5.3.8 summarises the direct production losses arising from the drought, which total US$75,14 million.

TABLE 5.3.8 SUMMARY OF PRODUCTION LOSSES

	Mass tonnes	Value US$'000
Cereals	238 200	48 269
Seeds	6 070	5 371
Cattle	190 000 (head)	19 000
Pigs and Poultry	2 500	2 500
TOTAL		75 140

5.4 CONSEQUENCES OF THE DROUGHT

The immediate consequences of the drought have involved the reallocation of priorities for transport and water supplies. However, it is not possible to assign costs to these operations.

5.5 EMERGENCY MEASURES

5.5.1 Emergency Aid Required

Table 5.5.1 indicates the details of emergency aid required to offset drought losses.

TABLE 5.5.1 EMERGENCY FOOD AID TO REPLACE CROP LOSSES

Item	Mass tonnes	Value US$'000
Maize	194 500	33 065
Wheat	700	154
Rice	43 000	15 050
Seeds	6 070	5 371
Vegetable seed	88	187
TOTAL	244 358	53 827

5.5.2 Aid Received and Committed

Table 5.5.2 summarises the aid required against that already received or committed.

This Table indicates that international aid has already supplied 59% of the assistance requested with additional commitments more than covering the remaining 41%. However, this is not an accurate representation of the facts as Mozambique normally requires international assistance for about 50% of its annual food requirements. Aid already negotiated for normal assistance is also included in Table 5.5.2.

TABLE 5.5.2 AID SUPPLY SITUATION

Item	Required tonnes	Received tonnes	Committed tonnes	Outstanding tonnes
Maize	194 500	71 000	60 000	63 500
Wheat	700	38 000	44 000	-
Rice	43 000	36 000	32 000	-
Seeds	6 070	-	-	6 070
Vegetable Seed	88	-	-	88
TOTAL	244 358	145 000	136 000	-

Mozambique usually requires the importation of 341 000 tonnes of cereals to make up the shortfall between production and consumption, although this shortfall has been over 400 000 tonnes in recent years.

Table 5.5.3 illustrates the cereal situation including the anticipated shortfall.

TABLE 5.5.3 SUMMARY OF CEREAL SUPPLY SITUATION (TONNES)

Normal Imports	Additional due to Drought	Total Requirements	Aid Received & Committed	Commercial Imports	Shortfall
341 000	238 000	579 200	281 000	103 000	195 200

Thus there is a shortfall of 195 200 tonnes of cereals, assuming that the 136 000 tonnes already committed do in fact arrive.

Of immediate concern is the fact that no assistance has yet been offered for the supply of seed for the forthcoming summer season. This is now assuming an urgency as, if sufficient seed fails to arrive in Mozambique before the end of September, the subsistence sector will be condemned to further poverty regardless of the 1983/84 season.

5.5.3 Transport

The authorities consider that they can cope with transport of food supplies with the exception of supplies to Inhambane. At present there are 5 000 tonnes of grain flour and oil for Inhambane in storage at Maputo which the authorities are unable to move to the province. It is extremely difficult to supply Inhambane by road (500 km) due to sabotage and vehicle shortages. The ideal transport system involves the use of coastal boats, followed by internal distribution by road. The harbour can accommodate ships up to 2 500 tonnes provided they have self-contained discharge facilities.

There is a shortage of coastal ships in Mozambique and assistance is therefore sought for the provision or charter of one ship to the state shipping company, Navique.

5.6 LONGER TERM MEASURES

5.6.1 Borehole Drilling and Rehabilitation in Maputo and Gaza Provinces

An accelerated programme of borehole drilling and rehabilitation is required to improve the water supplies in the most badly affected districts. These include Chibato, Monjacaze and Xai Xai in the Gaza Province and Magude, Moamba, and Matutuine in Maputo Province.

There is a requirement for the rehabilitation of 200 boreholes and the sinking of a further 500 new holes. A project proposal has already been proposed to increase the drilling capacity in these districts from 25 boreholes to 75 boreholes per annum by the provision of two rotary drilling rigs.

Mozambique, through Geomoc, would provide the necessary crews. Technical assistance would be required for 2 chief drillers, 1 rig mechanic, 1 hydrologist and 1 geo-physicist.

Four borehole rehabilitation units are also proposed with a total capacity of 80 holes per year. Geomoc would once again provide the operating crews.

TABLE 5.6.2 RUNNING COSTS OF DRILLING OPERATIONS

Item	US$ per annum
15 handpumps/year inclusive of PVC drop-pipe 15 x US$666	10 000
15 submersible pumps including electric overload protection at US$4 000	60 000
45 diesel motor pumps at US$3 000	140 000
1 000 m of steel casing 200 mm	28 000
3 800 m of steel casing 150 mm	76 000
Sub-total	314 000
Technical Assistance - 5 experts at US$60 000/year	
Sub-total	300 000
Total Annual Costs	614 000
TOTAL FOR 3 YEARS	US$1 842 000

TABLE 5.6.1 CAPITAL COSTS OF DRILLING OPERATIONS

Item	US$
2 rotary drill rigs with capacity of 150 m with 8" and 100 m with 12" mounted on truck complete	360 000
10% spare parts : truck	12 000
30% spare parts : drilling rig	28 000
Extra bits : materials	30 000
Transport insurance	10 000
Sub-total	440 000
2 x 7 tonne 4 x 4 trucks	80 000
15% spares	10 000
Transport insurance	6 000
Sub-total	96 000
4 borehole rehabilitation units on trailer 4 x US$30 000	120 000
15% spare parts	16 000
Sub-total	136 000
7 jeeps	105 000
10% spares	10 000
Insurance	5 000
Sub-total	120 000
TOTAL FOR 3 YEARS	US$792 000

5.6.2 Rehabilitation of Small Irrigation Schemes

There are 10 000 ha of previously irrigated land in Maputo and Gaza which have ceased to operate due to a lack of repairs and maintenance. Rehabilitation of these schemes is now a priority. The Directorate of Agrarian Technology in the Ministry of Agriculture is in the process of producing a comprehensive document for submission to potential donors by the end of September.

The rehabilitation project is conceived as a long term programme with the first phase lasting three years. Irrigation brigades will be established to undertake the work, but some technical assistance will still be required. A first approximation of the imported component of the capital costs involved is shown as Table 5.6.3 and amounts to US$5 million.

Item	Quantity	Total Cost US$'000
Construction/transport Equipment		
Bulldozer 300 HP	2	330
Excavator 0,5 m³	2	130
Grader	2	120
Compressor	2	60
Tank-truck (8-10 t)	2	80
Dumper-truck (8-10 t)	2	90
Jeep 4 x 4	4	40
Spare parts	-	170
Sub-total		1 020
Agricultural equipment		1 100
Irrigation equipment		1 400
Imported construction materials		1 480
TOTAL		5 000

5.6.3 Raw Materials for Animal Feed

The reduction in cattle populations and the lack of maize for the poultry and pork production has severely affected the supply of livestock products. In order to alleviate the existing shortage, an emergency plan is being prepared to produce a further 3 - 4 000 tonnes of poultry meat, which corresponds to approximately 70% of the total capacity of the poultry industry in the Maputo Province.

If this target is to be achieved, the following inputs will be necessary.

TABLE 5.6.4 INPUTS FOR POULTRY PRODUCTION

Inputs	Quantity tonnes	US$/tonne	Total Cost US$'000
Maize	7 000	170	1 190
Fish Meal	750	506	380
Soybean cake	2 000	300	600
Premixes			225
Breeding eggs	5 200#	175µ	910
TOTAL			3 505

1 000 eggs
µ US$/1 000 eggs

One of the major obstacles to increasing agricultural production in the more climatically suited provinces (Nampula, Niassa, Cabo Delgado and Tete) is the shortage of consumer goods available as a production incentive to farmers. It is considered that provision of such goods in the region of high agricultural potential will have an immediate effect on the production of crops surplus to subsistence requirements.

Such goods are not readily available in Mozambique and a request for two forms of assistance is therefore submitted.

5.6.4.1 Request for Manufactured Consumer Goods

A request is made for the provision of bicycles and textiles and other miscellaneous items totalling US$7,375 million (Table 5.6.5).

TABLE 5.6.5 MANUFACTURED GOODS REQUESTED

Product	Quantity	Total Cost US$'000
Bicycle and spare parts	30 000	2 250
Textiles and ready-made clothing		3 750
Miscellaneous (mirrors, batteries, tableware, etc.)		1 375
TOTAL		7 375

5.6.4.2 Request for Raw Materials for Consumer Goods

The raw materials requested are to be channelled to those sectors of the national economy that already produce consumer goods of general use in the rural areas (i.e. soap, lamps, kitchenware, plastics, etc.). Factories are currently under-utilised due to the lack of raw materials.

TABLE 5.6.6 RAW MATERIAL REQUIREMENTS FOR THE PRODUCTION OF CONSUMER GOODS

Industrial Branch	Total Cost of the Required Inputs US$'000
1. Soap Production	1 500
2. Edible Oil	1 200
3. Cotton Products	1 600
4. Sacks	550
5. Aluminium dishware	550
6. Plastic articles	190
7. Plastic and rubber shoes	1 100
TOTAL	6 690

TABLE 5.6.7 RAW MATERIAL FOR SOAP PRODUCTION

Raw Material	Quantity tonnes	Total Cost US$'000
Caustic Soda	892	430
Tallow	892	570
Fat Acids	977	50
Sodium Silicate	1 035	390
Sodium Carbonate	58	20
Raw Soapstock	30	40
TOTAL		1 500

TABLE 5.6.8 RAW MATERIAL FOR THE PRODUCTION OF EDIBLE OIL

Raw Material	Quantity tonnes	Total Cost US$'000
Sunflower Seeds	2 358	840
Caustic Soda	211	100
Bleaching powder	83	53
PVC	104	180
Polyethylene	9	15
Ionol	1,5	6
Phosphoric acid	2,5	6
TOTAL		1 200

TABLE 5.6.9 TEXTILES : RAW MATERIAL NEEDED FOR 1984 COTTON SECTOR

Raw Material	Quantity tonnes	Total Cost US$'000
Colorific	200	740
Glue	67	250
Other Chemical Products		480
Caustic Soda	268	130
TOTAL		1 600

TABLE 5.6.10 SACKS

Raw Material	Quantity tonnes	Total Cost US$'000
Polythene	138	145
Polipropilene	126	145
Fibre (Jute)	538	180
Other Chemicals		55
Sacks, kraft	63	25
TOTAL		550

TABLE 5.6.11 ALUMINIUM DISHWARE

Raw Material	Quantity tonnes	Total Cost US$'000
Aluminium sheets	115	285
Aluminium rolls	9	30
Aluminium discs	92	235
TOTAL		550

TABLE 5.6.12 RAW MATERIAL NEEDED FOR PLASTIC ARTICLES PRODUCTION

Raw Material	Quantity tonnes	Total Cost US$'000
Polystyrol ps	22	32
Polyethylene h	44	60
Polypropylene pp	52	63
Colouring paint etc.		35
TOTAL		190

TABLE 5.6.13 RAW MATERIAL FOR PRODUCTION OF PLASTIC AND RUBBER SHOES

Raw Material	Quantity tonnes	Total Cost US$'000
Rubber	500	1 030
PVC	55	70
TOTAL		1 100

5.6.5 Summary of Longer Term Measures

The estimated costs of the foregoing measures are summarised in Table 5.6.14. The assistance requested totals US$25,204 million of which US$23,662 million would be foreign exchange.

TABLE 5.6.14 COST SUMMARY OF LONGER TERM MEASURES

Measure	Total Estimated Cost US$ million	Foreign Exchange Required US$ million
Borehole Drilling and Rehabilitation	2,634	1,092
Rehabilitation of Small Irrigation Schemes	5,000*	5,000
Animal Feed	3,505	3,505
Production Incentives:		
Consumer Goods	7,375	7,375
Raw Materials	6,690	6,690
TOTAL	25,204	23,662

* Estimated import component of only the capital costs.

5.7 AID CO-ORDINATING AGENCY

The agency responsible for co-ordinating all emergency drought relief and for liaison with aid agencies is the Food Security Cabinet, headed by Senhor C. Carvallho. Details are shown below:

The Director,
Food Security Cabinet,
Directorate of the Economy,
Ministry of Internal Trade.

APPENDIX

ESTIMATE OF VEGETABLE SEED REQUIREMENTS

Crop	Varieties Preferred	Quantity tonnes	Value (FOB) US$'000
Pumpkin	Ortolano di Faenza	3,0	25,1
	Flat White Bor	3,0	30,8
Onions	Dessex Hybrid	0,4	32,3
	Texas Grano	0,4	0,7
	Red Creole	1,2	1,7
Tomato	Napole	0,25	0,2
	Mar-Globe	0,5	0,6
	Campbell-38	0,25	8,4
Cabbage	K K Cross	0,06	0,01
	Copenhagen Market	0,06	0,04
	Market Victor	0,06	0,6
	Jersey Wakefield type	0,1	0,4
	Galega	0,1	0,1
	China	0,1	0,3
Cauliflower		0,1	3,6
Lettuce	Romaine	0,02	0,02
	Wonderful Plus	0,02	0,02
	Great Lakes	0,02	0,02
	Minetto	0,02	0,2
	Cos Vallos	0,02	0,2
Garlic		30,0	
Eggplant	Black Beauty	0,25	0,3
	Long Purple	0,25	0,3
Turnip	White Stone	0,1	0,2
Carrot	Chantenay Long	1,0	7,0
	Chantenay Red Cored	1,0	0,8
Cucumber	Ashley Long	0,25	0,1
	Ashley Medium	0,25	0,1
Green Beans	Blue Lake	12,5	0,1
	Contender	12,5	1,5
Peas	Myzard	10,0	32,3
	Primeroy	10,0	39,3
TOTAL		87,8	187,3