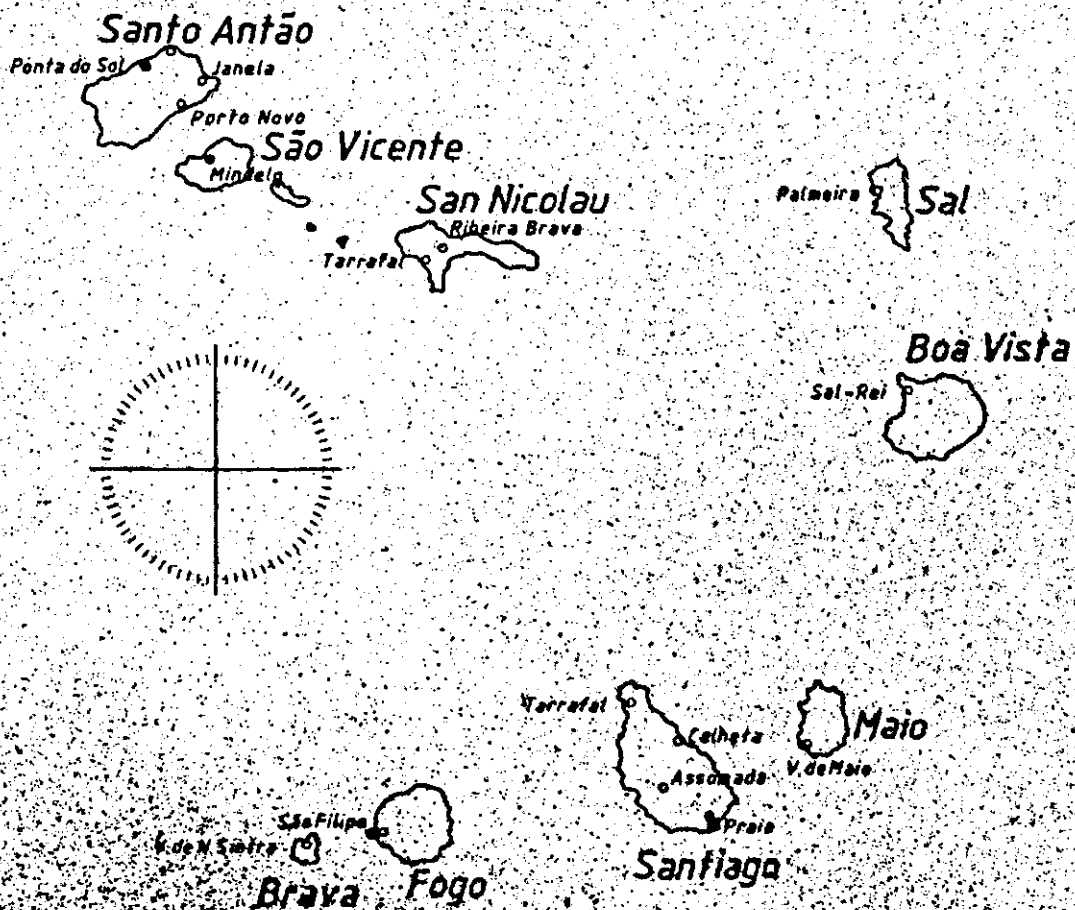


# FOOD STRATEGY STUDY THE REPUBLIC OF CAPE VERDE Preliminary Report



Volume VIII

MARKETING OF AGRICULTURE PRODUCTS

FOOD STRATEGY STUDY

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THE REPUBLIC OF CAPE VERDE

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Preliminary Report

Volume VIII

MARKETING OF AGRICULTURE PRODUCTS

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ABBREVIATIONS AND ACRONYMS

BCV	Banco de Cabo Verde
EMPA	Empresa Publica de Abastecimento
FAO	Food and Argriculture Organization of the United Nations
FAP	(Empresa Publica de) Fomento Agro-Pecuario
GDP	Gross Domestic Product
ILO	International Labour Office
JAP	Junto Autonomo dos Portos de Cabo Verde
MDR	Ministry of Rural Development
PAICV	African Party for the Independence of Cape Verde
SCAPA	Sociedade de Comercializaçao e Apoio a Pesca Artisanal
UNDP	United Nations Development Programme

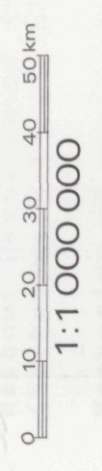




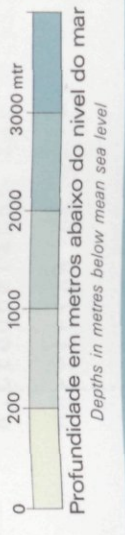
# República de Cabo Verde *Republic of Cape Verde*

UTM projecção  
*UTM projection*

Elevação em metros  
*Elevations in metres*



1:1 000 000





PREFACE

This paper is the eighth volume of the 1981-1982 Food Strategy Study of the Republic of Cape Verde, which was carried out as a bilateral project between the Republic of Cape Verde and the Kingdom of the Netherlands. The conditions of the study have been outlined in the first volume of the present report.

The report is composed of the following ten volumes (the names of the authors are given in brackets):

FOOD STRATEGY STUDY OF CAPE VERDE

Volumes:

- I. General Outline of the Strategy (R.Best)
- II. Water Resources and Irrigation (A.Bosscher and R.van der Weert)
- III. Food Storage (S.van Roon)
- IV. Food and Water Technology (H.O.Breukink)
- V. Fisheries (P.Knoops and J.W.de Wilde)
- VI. Export Marketing of Fish and Fish Products (S.Våland, revised by P.Knoops and J.W.de Wilde)
- VII. Harbour Development and Inter-island Shipping (harbours: R.Moor; shipping: P.Knoops)
- VIII. Marketing of Agricultural Products (R.Best, H.Creupelandt and M.Th.G.Meulenberg)
- IX. Nutrition (A.Smits, revised by R.Best and J.A.Kusin)
- X. Maps and Drawings

## SUMMARY AND CONCLUSIONS

- a. The marketing of agricultural products in Cape Verde is characterized by the fact that the islands traditionally have had to supplement their food production by imports. During the recent drought this dependence on imports increased dramatically. Food production covered about 70% of the annual domestic needs in 1967. According to official statistical data, this dropped to an average of about 7% per year in the period of 1971 to 1978. Drought, an increase in population density, the land tenure system, the fragmentation of the plot size of agricultural land, the cultivation of crops which are not tolerant to drought, all contributed to this result.
- Imports of food were originally handled by the colonial administration and private enterprise. After independence in 1975, such imports (mainly donations) were principally channelled through a public enterprise, EMPA, which acted as a wholesale distributor by selling the foodstuffs to the retailers (mostly small shopkeepers).
- b. Prices of imported products and the profit margins of the retailers are fixed. This arrangement still exists, except in the case of wheat, which is handled by the MOAVE milling company in Mindelo.
- Prices of domestically produced foodstuffs are fixed by the Government at the level of the producer and of the consumer. These prices are observed only by public and semi-public enterprises (the state farms, EMPA, SCAPA and FAP). With the exception of SCAPA (fish), there is no Agency which buys surpluses of foodstuffs at the official prices. Actual market prices, generally set by the law of supply and demand, are usually much higher than the official prices.
- c. Marketing systems on the islands have always been poorly developed because normally there have been few marketable surpluses while the population is poor, very small and scattered over nine widely dispersed small islands. The situation remains the same, although a few areas with a relatively high purchasing power have developed. These are to be found in Praia, Mindelo and Sal island, among the Cape Verdean upper income groups as also among embassy personnel, foreign experts, and foreign ship and aircraft crews who have much more money to spend on food than does the local population.

- d. Imports of food (largely donations) and the distribution system of this food, have tended to hold back domestic food production and the development of a corresponding marketing system because of relatively large supplies and fixed (low) prices in the shops.  
A good marketing policy, a realistic price policy and an adequate marketing system are usually among the prerequisites if food production is to be increased substantially. This applies in particular to Cape Verde because of the limited marketing possibilities in the islands.
- e. The traditional staple food crops of Cape Verde, maize and beans, are insufficiently tolerant to the prevailing dry climate in most parts of the islands. A major increase in staple food production is therefore possible only if the traditional crops are largely replaced by drought tolerant cereals (sorghum, millet) and beans (pigeon peas). Sorghum, in this case, would have to be milled to produce flour to be used in composite flours for making bread, macaroni, 'ships' biscuits, etc. and Pearl Dura. The sorghum will thus be a substitute for foodstuffs which are well-known and appreciated by the local population.
- f. In respect of the staple foods, the Government will have to fix a price for the farmer which will be an incentive for him to produce sorghum, maize, millet and pigeon peas. An organization will have to be established to buy these products from the farmers at the guaranteed price. The organization will have to come under the jurisdiction of the Ministry of Rural Development (MDR) and will consist of a central office in the Ministry or in FAP<sup>x)</sup> and small local offices (units) in the production areas. The local units will consist of a shop where the farmers can buy agricultural inputs, a purchasing counter for the staple foods, a credit counter for providing agricultural credit on behalf of the Caixa Credito Agricola, an office for the local agricultural extension service and a small warehouse where the purchased bags of staple foods can be stored. It is proposed that the functions of extension worker, agricultural shopkeeper, credit agent and purchasing agent should be combined and two officers put in charge of each unit, taking turns to function as an extension worker in the field and as a manager of the unit.

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x) FAP = Public Enterprise for the Improvement of Agriculture and Livestock Production.

- g. The warehouse keeper will act as an agent for EMPA in buying those staple foods which will not be processed (maize, millet and beans). These will be transported to the EMPA warehouses. In the case of sorghum, the keeper will act as an agent for the MOAVE milling company, and the bags of sorghum will be transported to the warehouses of the mill. Quality standards will have to be introduced for these purchases. The distribution of the products of the mill (flour, macaroni, Pearl Dura) can be along the same channel but in the opposite direction to economize on transport costs.  
Part of the supply of staple foods will pass through private marketing channels, but the farmer will always have to be certain that he can sell his products to the local MDR warehouse keeper at the official prices.
- h. The organization which buys the staple food will have to be established as a Marketing and Extension Division of the Ministry of Rural Development (either separately or as part of FAP<sup>x</sup>). This Marketing and Extension Division would have six major tasks, namely (1) to advise the Government on its marketing and price policies, (2) to advise the Government on the import of agricultural products which are also produced in Cape Verde, (3) to establish the local extension/marketing/credit units mentioned under (f) and (g), (4) to establish and maintain marketing regulations, (5) to assist in the execution of the land reform programme and to set up farmers' associations through which marketing and pricing information can be channelled, and (6) to provide training in marketing to its field staff and inspectors.
- i. It has been concluded that guaranteed prices should be introduced only for the staple foods (cereals and beans). The prices of more perishable products will be determined by supply and demand (as at present). However, the market infrastructure will have to be greatly improved (particularly in the field of packing materials and transportation). This will substantially reduce losses, facilitate marketing, increase the quantities of products available to the consumer and, consequently, tend to reduce prices paid by the consumer. Easier accessibility to the markets and more market information will tend to increase the prices to the producer.
- j. Caution must be taken in providing credit to the small farmer who, in fact, runs an economically non-viable enterprise. Important changes in agriculture such as the

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introduction of land conservation and dry farming techniques, will have to be subsidized. Only measures such as changes in cropping patterns could be made eligible for providing credit. So far credit is only available to large farmers (with one hectare of land or more). Credit facilities for the small farmer can be created by providing credit to groups of three, four or five farmers in association, collectively responsible for a loan given to any one of them. Should any farmer fail to repay his loan, the whole group would then be excluded from further credit. It is recommended that for agricultural credit in general, including the marketing operation, no separate bank need be created. The credit function would remain in the hands of the Caixa Credito Agricola, as a branch of the Banco de Cabo Verde. Furthermore, they will handle the subsidies for land conservation, the introduction of dry farming techniques, etc.

- k. It has been concluded that a training component is a prerequisite for the establishment of a Marketing and Extension Division of MDR. Training in marketing will have to be provided at different levels to the staff of the central office, the inspectors in charge of local markets and the warehouse keepers/credit agent/extension workers in charge of the purchasing units in the production areas. It has been proposed to set up a project for such training, e.g. in Portugal. Foreign aid can be requested to assist the project financially and technically.
- l. Much attention must be paid to the development of an infrastructure which will provide a regular link between the main production and the main consumption centres. The successful increase in food production in Cape Verde will depend on a greatly improved infrastructure as has been outlined in the Chapters 7 and 8 of this volume.



## INTRODUCTION

1. The marketing system of domestically produced agricultural products is poorly developed in Cape Verde. This is not surprising in view of the prevailing dry climate in combination with a difficult topography, resulting in a very limited agricultural production potential. The situation has worsened considerably during the extraordinarily long dry period of the last thirteen years. Of the total land surface of 400,000 ha, not more than about 40,000 ha are actually cultivated, 1,870 ha of which are irrigated.
2. The present annual requirement of staple foods, cereals and beans, is estimated at 72,000 tons (240 kg head/year). The types of cereals involved are maize (45,000 tons), wheat (12,000 tons) and rice (7,000 tons). The requirement of beans is estimated at 8,000 tons. The average annual production during the past 13 years is officially reported to be about 5,000 tons of maize and 3,000 - 4,000 tons of beans per year. More detailed data for 1982 on food requirements, domestic production and imports are presented in Table 1.
3. An increase in the production of staple foods is considered in this study to be a major requirement for making Cape Verde less dependent on food imports than at present. This has implications on the production side but depends also on marketing and price policies (incentive prices) and a good marketing system.  
In this volume an outline is presented of the present situation in marketing of agricultural products. The marketing and price policies and marketing systems required for major increases in domestic food production are discussed in some detail. Special attention is paid to the possibilities for improving the national marketing infrastructure.

Table 1 FOOD SUPPLIES AND REQUIREMENTS, 1982 (in tons<sup>x</sup>)

Commodities	SUPPLIES				
	Estimates production	Estimates stock 1/1/82	Purchase	Aid already confirmed	Total supplies (1)
Maize	3,000	7,000	10,000	15,000	35,000
Wheat	-	6,000	-	-	6,000
Rice	-	500	-	3,665	4,165
Beans	500	3,000	-	-	3,500
<b>Total</b>	<b>3,500</b>	<b>16,500</b>	<b>10,000</b>	<b>18,665</b>	<b>48,665</b>
Powdered milk	-	160	-	450	610
Vegetable oil	-	200	-	-	200

Commodities	REQUIREMENTS			
	Requirements (2)	Deficit as compared with requirements (3)=(2 - 1)	Amounts necessary to replenish stocks (4)	Total deficit still to be covered (5)=3 + 4)
Maize	45,000	10,000	9,300	19,300
Wheat	12,000	6,000	2,500	8,500
Rice	8,000	3,835	1,700	5,535
Beans	8,000	4,500	2,600	7,100
<b>Total</b>	<b>73,000</b>	<b>24,335</b>	<b>16,100</b>	<b>40,435</b>
Powdered milk	2,500	1,890	350	2,240
Vegetable oil	2,000	1,800	300	2,100

x) Source: OSRO Report W/P 6700, January 1982.

N.B. OSRO estimates of maize requirements (45,000 tons) vary from Government estimates (48,000 tons) which include residues for feed grain.

The estimated production for 1982 (3,000 tons maize, 500 tons beans) is much lower than the 1981 estimates (7,000 tons maize, 1,900 tons beans). Both figures will probably have to be increased by a few thousand tons (see Volume I), but this does not alter the overall picture of supply and demand.

## 1. IMPORT MARKETING SYSTEM

4. Imported agricultural products, cereals in particular, are major components of local consumption. The marketing system developed for these products is in general more advanced than the one for domestically produced foodstuffs.

### 1.1. The Public Sector

5. Imports are controlled by the State Secretariat of Commerce, Tourism and Handicrafts, which determines prices and trading margins, and grants import licences according to the commodities concerned. Imports of foodstuffs (and some other commodities) are handled by a state-owned public enterprise, EMPA (Empresa Publica de Abastecimento, see also Volume III, Chapter 1). EMPA comes under the jurisdiction of the State Secretariat of Commerce.
6. International food aid received by the Government of Cape Verde is sold by the Ministry of Economy and Finance (MEF) to EMPA at a fixed price. The proceeds are made available by the Ministry of the National Development Fund (FND) to finance local projects which provide additional employment, particularly in the rural areas (rural works programme, see also Volume IX, Annex XVI).
7. EMPA controls essential imports to ensure a regular supply of foodstuffs, cement, construction materials, etc. It carries into effect the Government's price policy for these goods. EMPA thus serves as importer and wholesaler, and generally operates on a ten percent profit margin. The same wholesale prices are maintained throughout the country by paying the transport costs to the more remote islands. The official prices allow EMPA to be self-supporting. Moreover, some products subsidize others. For instance, the price for imported white sugar is kept high to discourage the production of a poor quality rum, while the profits are used to subsidize the prices of the staple foods, maize and beans.

### 1.2. The Private Sector

8. EMPA has a chain of warehouses in the archipelago (see also Volume III), from which it sells to retailers in the private sector (often small shopkeepers). The official retail prices

allow the retailers in general a 10-15% profit margin. Inspectors enforce these official prices. This marketing system for handling imported goods largely functions satisfactorily.

9. Non-essential goods are imported and distributed by private firms. An import license for such goods is issued by the State Secretariat of Commerce in conjunction with the Banco de Cabo Verde (BCV). Private firms were also allowed to import essential goods before independence in 1975. Their profit margins are at present generally fixed at 10-15% of the wholesale level.

## 2. EXPORT MARKETING SYSTEM

10. Cape Verde has a very small export trade in bananas, coffee and sometimes castor beans. The livestock production on the islands supports a small trade in the export of hides and skins. Export statistics over the years 1969 to 1978 are presented in Table 2.

Table 2      EXPORTS OF BANANAS, COFFEE, HIDES AND SKINS  
(1969 to 1978)

(in millions of CV escudos)

Year	Bananas	Coffee	Oils	Hides and Skins
1969	10.3	0.4	0.4	1.4
1970	10.0	-	0.6	0.6
1971	8.1	-	0.2	1.2
1972	7.7	0.4	0.2	0.9
1973	3.1	-	-	1.0
1974	1.3	-	-	0.3
1975	0.0	-	-	0.2
1976	9.0	-	-	0.0
1977	8.7	-	-	0.3

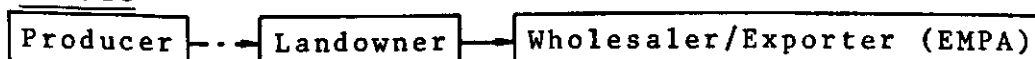
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Source: Boletim Trimestral de Estatística, 1975-77 issue

Banana exports totalled about 700 tons in 1977 and 500 tons in 1980. Coffee exports were 14 tons in 1977.

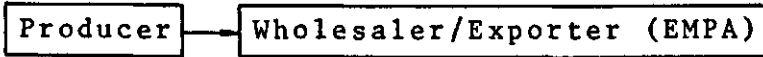
11. EMPA acts as exporter of these commodities. The marketing channels are:

Coffee





Bananas



Hides and Skins



12. Under the present law in Cape Verde the landowner not only remains the proprietor of the coffee trees on his land, but also of the harvest. Therefore the producer (generally a tenant farmer) does not sell the coffee himself but delivers it to the landowner. Bananas for export are grown on a relatively large state farm near Santa Cruz on Santiago island. The bananas are exported at a much lower price than that charged on the domestic market, where the fruit is usually in short supply. The export of bananas had a fairly long history in colonial times. The trade is still maintained at present and yields a small amount of foreign exchange. But, in view of the actual prices paid on the domestic market and the short supply, such exports are no longer justified. This aspect is taken into account in the long-term development plans outlined in the present study. These anticipate that Cape Verde will eventually be able to produce sufficient bananas for its own population but will have no surpluses for export.



Fig. 1 Transport of firewood. This scarce commodity is usually traded in exchange for services or used in bartering for other goods.



Fig. 2 These bananas for export are stored in a shed on Santa Cruz State Farm, Santiago Island.

### 3. MARKETING SYSTEM FOR DOMESTIC PRODUCTS

#### 3.1. Market Channels and the Functions of Trade

13. Depending on the economic development of a particular area, agricultural products can pass through some or all of the following hands: the buying agent (merchant, small or itinerant merchant or middleman), the landowner, the wholesaler and the retailer.
- For the small markets of Cape Verde and the small volume of goods handled, several of these functions are usually carried out by the one and same person. The producer can sell his products on the market as a retailer. An itinerant merchant may act as a wholesaler by selling some of his products to retailers, while at the same time he may also act as a retailer, selling directly to the consumer. The wholesaler, present in the market channel of a few products only, usually operates on a very modest scale.
14. The itinerant merchants are often numerous and are only interested in very small quantities of products to avoid risks. The itinerant merchants, also the retailers, are mostly women, especially when tubers, fruits and vegetables are marketed. Small quantities are generally handled by women, while big quantities or transactions involving large sums of money, as in the grogue trade, are invariably dealt with by men.
15. The most important functions of trade in the various stages between producer and consumer are: assembling, storage, transport, financing, grading, standardization and information. Most of these remain poorly developed or are completely absent in Cape Verde.

#### 3.2. Assembling

16. Farm sizes are generally very small in Cape Verde and the land belonging to one farm often consists of tiny plots (sometimes not more than 10 m<sup>2</sup>) scattered over a wide area. More than 90% of the rainfed land is planted to a mixture of maize and beans, but on other plots, particularly on irrigated land, a mixture of tuber crops, vegetables, bananas, etc., are grown. Consequently only very small quantities can be harvested of each of these crops. The farmer normally keeps 80-90% of the harvest to meet the

needs of his family and himself. This leaves very little to be sold on the market.

17. The assembling of agricultural products for local markets is usually done by women merchants who visit the farmers. Deals are struck according to the crop harvested, the price being reached by bargaining. The small loads bought (generally not exceeding 25 kg in total) often consist of mixed products. Payment is in cash and each woman carries the load on her head to the market where she sells her merchandise to one or more vendors (generally also women).
18. A different procedure is followed by larger farmers, particularly on Santo Antao, who bring their products in quantities of 100-150 kg or more to the town of Mindelo. There they sell their products to merchants on the quayside and use part of the money for shopping in town. The function of assembling various quantities of a particular product is then carried out by the merchant on the quay.
19. EMPA acts as a collecting wholesaler in the distribution of fruits, vegetables and tubers, buying the products at state farms and transporting them to the food deficit islands. There, the products are sold at the EMPA selling points.
20. In the case of sugar cane, the assembling function is carried out by the local miller/distiller. The growers generally sell directly to the miller/distiller who extracts the juice from the cane shortly after delivery. The juice is then allowed to ferment after which the rum (grogue) is distilled at the sugar mill in small artisanal distilleries.

### 3.3. Storage

21. Storage can be carried out by the farmer, the landowner, the itinerant merchant, the wholesaler and, to some extent, by the retailer. At present, most products which enter trade are not stored or at best, are stored by the farmers under very poor conditions. This does not cause serious losses if the storage is for short periods only. However, most of the products stored by the farmer are for his home consumption (mainly maize and beans), and they sustain serious losses over long periods. The other links of the trade chain account for only 0-15% of the harvested volume. This is because the marketable surpluses are small and are poorly disposed of after harvesting. This is to be expected as there is no incentive for the trade to provide bigger or better storage facilities.

22. The products are usually sold directly or very soon after harvesting so their supply to the consumer is very seasonal. The buffering function of stocks held by wholesalers is absent in the case of nearly all products. However, the need for such stocks is not much felt at present because of the small surpluses and the distribution of imported food through EMPA.
23. When agricultural production in Cape Verde is increased substantially, (see Volume I, Chapter 2), one essential provision will be to build warehouses at collecting points in the production areas. Such warehouses will have to be combined with shops for the sale of agricultural tools, fertilizers, sowing seed, etc., the provision of a local extension service and the supply of credit facilities x) under the jurisdiction of a proposed Marketing and Extension Division of the Ministry of Rural Development (MDR). A staff of two men will be required at each of these places to take care of the extension work in the field and to manage the shop, credit counter and warehouse workers. Only staple foods, such as maize, sorghum, millet and beans (mainly pigeon peas), will be assembled and stored in the warehouse.

#### Methods of storage

24. As already pointed out, farmers generally have inadequate storage facilities, often resulting in losses of 15 to 30 percent. Rodents and insects are usually the most destructive enemies of stored products. Maize is usually stored in the cob in large round baskets. These provide no protection against rain, insects or rodents. Beans may be stored in the house. Roots, tubers, fruits and vegetables are usually transported to the market shortly after harvesting. Storage takes place in the field, on the ground in the farmyard, or in the house. Maize is normally sold in sacks and transported by the buying agent and the retailer. When the product is stored for several months in badly protected sheds or barns substantial losses may occur.
25. It has been outlined in Volume I that land conservation and dry farming techniques, including the introduction of drought tolerant cereals and legumes, can result in a markedly increased production of rainfed agriculture.

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x) as an agent of the agricultural credit branch (Caixa Crédito Agrícola) of the Banco de Cabo Verde (BCV).



Under such conditions it will be very important that the storage facilities at the farm level can be improved substantially since this will strengthen the position of the farmer in the marketing channel. He can then wait until a fair price is offered before selling his products.

#### Storage costs

26. Storage costs generally consist of amortisation of fixed capital, interest on invested capital in stocks, repairs, losses in storage, supervision, handling and insurance.

Under Cape Verdean conditions, amortisation of fixed capital is generally low and losses high, while costs of handling vary according to conditions but are usually on the high side. Insurances are rarely involved.

Over periods of 6-9 months, storage costs, mainly because of losses caused by rodents, insects and micro-organisms, may rise to one-third of the value of the stock.

Insufficient data are available to calculate accurately the storage cost of marketing in the private sector. Only the EMPA costs in this respect are known (see Volume III).

#### 3.4. Transportation

27. Transportation accounts for a substantial part of marketing costs in countries with an inadequate infrastructure. Transportation from the farm to the road, or to a harbour, may be provided by either the producer or the first buyer. In Cape Verde the available transport facilities are limited to loads of between 25-150 kg, in bags or baskets carried by women on their heads, or sacks loaded on donkeys or mules, carts, etc. It should be noted, however, that such transport is often the most expensive in the chain from producer to consumer because of the bad roads, small capacity and low speed. The farmer does not usually take such costs into account.

28. Trucks, vans and ships are used for further transport. The absence of regular shipping services between most islands is a major obstacle to the proper development of market channels (see also Chapters 7 and 8).

Delivery to the retail outlet may be part of the service of the itinerant merchant, middleman or wholesaler (often EMPA) while the last movement of the goods from the retailer is usually conducted by the consumer.

### 3.5. Grading and Standardization

29. The main contributions of grading to marketing are the following: (1) selling becomes possible on the basis of standard samples, which speeds up the sale of products; (2) it stimulates the cultivation of uniform varieties of crops; (3) farmers can obtain higher prices for their products since grading controls quality and size of products, enabling the farmer to meet the demands of various markets; (4) competition is stimulated which may result in improved quality and supply, leading to better prices for the producers and more uniform quality to the advantage of the consumer.

30. Grading and standardization have hardly been developed anywhere in Cape Verde and, if they are to be introduced, price incentives will be indispensable. Only through such measures can the marketing system be developed and improved.

At present, consumers' quality appreciation is mainly concerned with the size, shape and colour of the products. But processed products need other criteria. For example, sorghum will require quality criteria set by the miller, such as the milling output and the percentage of Pearl Dura and broken grains, while the consumers will be especially concerned with the colour and quality of the flour as these will affect the acceptability of the bread and other products to be made from it, mixed with wheat flour.

#### Criteria for the grading of agricultural products

31. Standardized grading of agricultural products should take three criteria into account: it should meet the demands of the individual markets; uniform criteria should be applied to all characteristics; and cooking qualities should be stated.

In respect of the first criterion, the factors which affect consumer preferences, for both processed and non-processed products, should be determined.

With regard to external characteristics not only size, colour, shape, flavour, etc., but also the percentage of damage and contamination should be taken into account.

Cooking qualities will be concerned with the time of cooking, the water absorbed and the properties after cooking.

32. Grading is not easy for most products. For a long time to come a number of broadly defined criteria will be sufficient to bring about a major improvement in Cape Verde compared

to the present condition in the country. The third criterion, cooking time, is of particular importance because of the shortage of fuel (firewood) and its high price on the islands.

### 3.6. Financing

33. If the consumer is to be supplied regularly with agricultural products (fresh or processed), short or long-term investment is required in all elements of the marketing system. For example, the producer is usually in urgent need of money before and during harvest when he is awaiting payment for the produce sold. Then the buyer needs capital to buy, transport and store the product. The wholesaler needs to invest capital for warehouses and stocks in a long-term venture. Again, the future miller of sorghum will have to invest in buildings and processing equipment, another long-term undertaking. The retailer also needs capital to buy stocks to provide the consumer with a choice of products. All these financing processes involve interest charges which may be high in countries such as Cape Verde where capital is scarce and risks may be high.
34. The financial needs of the producer and all those employed in marketing are influenced by seasonal variations and by the characteristics of the business. Although most agricultural products are grown in a relatively short time (3-7 months), their production (seeds, fertilizers, wages, etc.) must be financed in advance, which involves a certain risk. For the farmer the greatest need for credit is likely to occur near the end of the growing season. The buyers are most in need of credit just after the harvest when the products come on the market at their lowest price.

### Sources of Credit

35. Under present conditions of economic development in the rural areas, most producers and buyers (merchants) obtain credit from private sources. Large farmers (with one or more hectares of land) can obtain credit from the Caixa Credito Agricola, a branch of the Banco de Cabo Verde (BCV). The provision of credit to small farmers will have to be done in a very cautious way since they have enterprises which are not, in fact, economically viable. This implies that credit can readily bring them into a position of being permanently dependent (in debt), thereby seriously weakening their position in the marketing channel. This danger exists particularly when credit is given on the crop

before harvesting, when crop failure can still destroy the security of the farmer.

36. In the plans to improve agriculture (Volume I, Chapters 2 and 6), the proposed introduction of land conservation and dry farming techniques will have to be accomplished on the basis of subsidies and not of credit for which the average farmer is economically too weak. Once the small farms have become economically viable enterprises, credit can be given for some purposes. An example is the conversion of a sugar cane field into coffee land, provided the marketing prospects for coffee are substantially better than for the cane.

It is recommended that the proposed Marketing and Extension Division promotes the association of small groups (three, four or five farmers) through its local branches ("units", see paras 98, 99).

Thus farmers, who collectively own more than one hectare of land, will, under this system, be responsible collectively for a loan given to any one of them by the Caixa Credito Agricola.

When agricultural production is increased substantially, there will be a corresponding increase in the need for credit from all those involved in marketing. It is recommended, therefore, that this demand should be met by an enlarged Caixa Credito Agricola since the number of firms or people involved is too small to justify the establishment of a separate financing institution for this purpose.

37. The buying agent, local merchant, shopkeeper, miller and wholesaler all sometimes play a part in financing. With the small quantities of domestically grown products which enter the trade in Cape Verde, most of the credit is provided by relatives and friends. The farmer can sometimes borrow money on the maturing crop, particularly in the case of sugar cane. Such loans are usually repaid in kind. They are generally made on a straight interest charge basis. If the producer fails to repay the loan within the prescribed time, extra interest is charged for the time overdue.

38. As yields (and therefore prices) can fluctuate greatly, so the risks involved in such financing are usually considerable. Further, the resources of the producer are so small that the crop is the only collateral he can offer the lender. This adds to the high costs of trade. Small groups of three, four or five farmers would be better able to handle such business as they could spread the risks more effectively than the individual and would be stronger in bargaining for a fair price for the producer (see also Chapter 6.2.).

### 3.7. Inspection

39. Imported agricultural products are inspected and, to a limited extent, so are bananas for export. Inspection by the milling company will be necessary when sorghum is processed. Inspection of fruits, vegetables and other commodities which enter the village or town markets, is much needed if the quality standards are to be raised.

### 3.8. Information

40. One of the serious problems in marketing agricultural produce in developing economies is the lack of valid market information. Such information may cover current prices, data about the planted area, potential market outlets and forecasts of the volume of supply. This information is of vital importance to both buyer and seller. The producer is usually very badly informed and price information is in the main obtained from merchants. Consequently, the producer is in a weak position to bargain with the buyers.

The wholesalers (with the exception of EMPA, which at present handles only a limited number of products) and large retailers (shopkeepers), are usually well informed about current marketing news. They gather information from Government channels (Government price regulations) and from colleagues. The dissemination of marketing news by radio, newspaper or pamphlet is essential if producers are to be kept informed of market prices, trends, etc. The proposed Marketing and Extension Division, agricultural extension services and future farmers' associations, could play an important role in ensuring that such an information service is received by - and understood by - all farmers and other producers.

### 3.9. The Traditional Market Places

41. There are no markets in small villages in the rural areas in Cape Verde. Trade there is normally a transaction between producer and consumer whereby no money is involved. Agricultural products, eggs, poultry, etc., are either bartered for other goods, exchanged for services or given for nothing. The latter is a result of the strongly felt social responsibilities in these small communities. Those who are in need should be helped.
42. Markets in the larger villages are usually rectangular or square spaces surrounded by a wall. Along the walls there are open stalls where garments, textiles, etc., are sold.



A relatively small area, often in the centre, is occupied by double or single rows of vendors of food products. There are separate sections for meat, agricultural products, etc., in the better organized markets.

43. The old two-storey central market building in Mindelo is no longer in use. Its place has been taken by an annex. More modern markets have been built in two of the newer districts of the town. They have 12 m<sup>2</sup> stalls (shops) which can be closed. The rows of these stalls are separated by wide lanes. At present, three or four retailers share one stall to reduce the rental costs of each. It is expected that a situation will gradually develop whereby each retailer rents a shop for himself.
- The markets have separate sections for different types of commodities. All stalls are supplied with water and electricity.

Market authorities, with the support of the public, strictly enforce selling by weight in the Mindelo markets. This is not common elsewhere in Cape Verde.

44. Characteristics of the market situation are: official prices are not observed; there is no institution which buys products at the official prices; no distinction is made between staple foods and the more perishable products.



Fig. 3 Market vendors in Praia, Santiago. They offer for sale very small quantities of vegetables, beans and sweet potatoes.



Fig. 4 Tunas landed by artisanal fishermen, are cleaned and sold on the beach. As most of the fish are sold directly after landing, only the surplus to this trade reaches the markets.

#### 4. THE PRICE MECHANISM

##### 4.1. The Actual Situation

45. Prices of foodstuffs in Cape Verde usually reflect international price fluctuations. Apart from the first two years after independence, when the national economy had to be adjusted to the new situation, the general price index for Praia has largely moved parallel to that of Lisbon, Portugal. Price increases generally have been restrained from 1976 until 1981. The official price index for living expenses is unit-value weighted based on some 80 commodities, in which one kilogramme of maize has the same weighting as a dozen eggs or a kilowatt of electricity. The inflation rate during the past few years has been about ten percent except in the most recent period of 1981-1982, when it increased to more than twenty percent (see also Volume I, Chapter 7).
46. Domestic products are preferred to imported products, a preference which manifests itself in the prices paid on the markets. More, sometimes much more, is paid for domestic than for imported products. This preference is so marked that sometimes higher prices are paid for products grown on the home island than for the same product brought from in other islands of Cape Verde. Examples are the prices paid for home-grown vegetables, sweet potatoes, etc. on São Vicente compared to those paid for products imported from Santo Antao. There is no ready explanation for this phenomenon which is contrary to the situation commonly found in other countries.

##### 4.2. The Present Price Policy

47. The price mechanism of foodstuffs in Cape Verde differs markedly between imported and home produced products. Imported foodstuffs, which are channelled through EMPA, acting as importer/wholesaler, are traded at official prices, which are fairly well observed by the retailers. Official prices for home produced foodstuffs are set for both the producer and the consumer. But, with the exception of fish bought by SCAPA, there is no institution which buys the products at the official prices. In other words, there is no price guarantee. The present price policy tries to keep consumer prices low but it is purely an administrative exercise as the set prices are not generally observed for home products. The consumer therefore usually pays much more, depending on supply and demand.

48. The prices of products imported are set by the State Secretariat of Commerce while those for home produced foodstuffs are proposed by District (Conselho) Committees to the State Secretary of Commerce, who finally sets the prices. Santiago, for example, is divided into four and Santo Antao into three Districts. Each Committee has five members, two appointed by the Party (PAICV) and the other three nominated by Government Institutions. The Committees set prices for most products at the producers' and the consumers' level. An exception is the price for potatoes, which is set by MDR.
- The prices of most products are reviewed each season after a discussion with MDR, and require the approval of the State Secretariat of Commerce. The procedures followed are long and take insufficient account of actual supply and demand situations, transport costs, etc. However, this does not interfere with the marketing mechanism since, as stated before, official prices are rarely observed by the private sector. In a few areas supply of some products sometimes surpasses demand which results in market prices lower than official prices. An example is presented in Table 3 for the market of Ribeira Grande, Santo Antao.
49. The system of setting official prices per District implies that differences, sometimes marked differences, occur between Districts. At the village level there are committees to control prices (Commissions de Moradores) and in the markets there are price inspectors. However, official price control is not effectively enforced. The inspectors will not act when the products are over-priced unless a customer asks them to do so. The customer will not do this for fear that retailers will refuse to sell to him the next time. Another factor is that the Cape Verdean community is a small one and people know each other too well.

Table 3 SOME PRODUCERS', OFFICIAL, AND MARKET PRICES IN  
RIBEIRA GRANDE, SANTO ANTAO, APRIL 1982

(Prices in CV escudos per kg)

Commodity	Producers' Price	Official Consumer Price	Actual Consumer (market) Price
<u>Cereals</u>			
(from the land and from Argentina)	- x)	17	17
<u>Roots and Tubers</u>			
Cassava	13	15	11-15
Sweet Potatoes	10	12	8-11
Irish Potatoes	20	30	15-35
Cocoyam	10	12	11-15
<u>Beans</u>			
Pigeon Peas (green)	13	15	20-25
(dried)	22	20	34
<u>Vegetables</u>			
Leaf Cabbage	6	9	6
Carrots	-	20	25-30
Tomatoes	-	20	15-25
Onions	25	30	40-50
Garlic	150	140	300
<u>Fruits</u>			
Banana	10	11	10
Papaya	8/piece - x)	10/piece	10-20/piece
Mango	-	-	2½- 5/piece
Breadfruit	6	8	10
<u>Meat &amp; Poultry</u>			
Pork	-	-	80
Small Goat	-	-	400/whole
Chicken	-	-	150-200/whole
<u>Coffee &amp; Grogue</u>			
Coffee	420	-	500
Grogue	150/litre	-	200/litre
<u>Fuel</u>			
Bundle of dried sugar cane residues from the mill for fuel (1-3 days)	30-50/bundle	-	100/bundle

x) No data available at the time of the enquiry.

Source: Personal Communication, MDR, Ribeira Grande.

#### 4.3. Proposed Developments

50. For future developments in the marketing system (see Chapter 6) no major changes are proposed for the price policy regarding the import marketing system. The overall price level will have to follow the trend of the world market to avoid Government subsidies. In respect of home produced foodstuffs, a different policy is proposed for the staple foods and for the more perishable products. In future, guaranteed prices will have to be introduced for such staple foods as sorghum, maize, millet, beans, etc. The farmer will be able to sell such products at the official prices at any time at one of the proposed purchasing (extension) shop units in the production areas (see par. 24 and Chapter 6). These prices will have to be high enough to provide an incentive for the farmer to increase his production. In addition, private merchants will still trade in these products but their share of the market is not expected to be large when official prices are sufficiently high to act as an incentive to increased production.
51. Regarding the more perishable agricultural and horticultural products (tubers, roots, fruits, vegetables, etc.), it is proposed that no official prices should be set, but that increased marketing is encouraged through the introduction of improved packing material, reliable and frequent transport facilities, and so on. By these means the present price system, depending on supply and demand, will be legalized, the supply to the market greatly promoted, with the producer earning more and the consumer paying lower prices (this at the expense of the profit margin of trade). Price guarantees for the more perishable agricultural products have always failed in developing economies because of the storage and distribution problem and the absence of processing industries. Instead, it is proposed to promote the marketing of these products as much as possible to lower actual market prices.
52. It is proposed to simplify the existing system for fish marketing with no fixed prices for fish after landing and SCAPA selling at realistic market prices which take account of production costs, marketing costs and a fair profit margin for the fishermen. The system of cold storage facilities recommended in this study (see Volume V) will be sufficient to take care of any fish surpluses.

## 5. MARKETING ASPECTS PER COMMODITY

53. Marketing channels may vary according to commodity. In this chapter a survey is presented of the main groups of domestic products which are marketed in Cape Verde.

### 5.1. Cereals and Beans

54. The only cereal which is cultivated in Cape Verde is maize (apart from a very small quantity of millet grown on the island of São Vicente). Several species of beans (*Phaseolus*, *Vigna*, *Cajanus*) and many varieties are grown. The quantities of maize and beans coming on the market are very small. They are usually offered for sale not because surpluses are available but due to the producer's need for cash.

55. The customary marketing channel is:



Dry beans can be stored without loss in quality for 4 to 6 months and maize for a longer period. However, inadequate storage for long periods by the producer generally leads to heavy losses. In the EMPA warehouse these losses are much smaller.

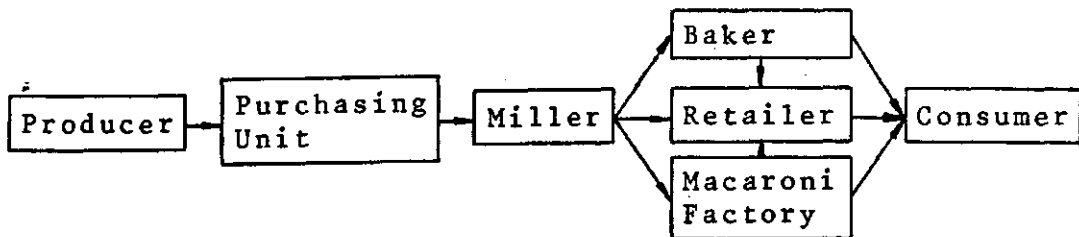
56. As has been outlined in Volume I, Chapter 2, it will be necessary to introduce dry farming techniques and drought tolerant cereals (sorghum and millet) in order to bring about a major increase in cereal production. In addition, legume production must concentrate on the drought tolerant pigeon peas. The introduction of these crops would result in a new situation for Cape Verde, as sizeable marketable surpluses would have to be stored and transported to the market and to the mill. Further, a part of the processed products would have to be transported back to the producer.

57. As domestically grown grain will largely take the place of imported grain, there will be a need for proper storage (warehouses) in the production areas. This cannot be met by the existing and planned warehouses of EMPA for imported grain in the distribution centres. Therefore, additional (small) warehouses will have to be constructed in the production areas. With an estimated production of 29,000



tons of sorghum and 16,000 tons of pigeon peas, an additional storage capacity for about 14,000 tons of cereals and beans will have to be provided at collection points in the production areas. The storages needed will be 51 type A warehouses (200 m<sup>2</sup>) - 4 on San Nicolau, 1 on Brava, 13 on Santo Antao, 21 on Santiago, 12 on Fogo. Two type B warehouses (600 m<sup>2</sup>) - 1 on Santiago, 1 on Fogo. For the EMPA warehouses see Volume III, Chapter 2. The estimated cost for the construction of these warehouses (US \$ 150 per m<sup>2</sup>) will be US \$ 1,710,000. With 30% additional costs this will amount to about US \$ 2.2 million. When about 40,000 tons of cereals (sorghum, maize, millet) and legumes (peas, beans) pass through these warehouses, a 3% depreciation and 1.5% maintenance cost per annum can be covered by a levy of about US \$ 2.50 per ton.

58. The marketing channel for sorghum will eventually be:



The marketing channel for pigeon peas is at present as stated in paragraph 55.

In the future the itinerant merchant will most likely be partly replaced by the MDR Purchasing Unit and EMPA. A similar channel can be envisaged for the marketing of maize and millet.

The warehouses will be a part of the MDR purchasing shop extension and credit units mentioned in par. 24. Maize, millet and beans will be bought for EMPA and transported to EMPA warehouses. Sorghum will be bought for the MOAVE milling company and transported to its (transit) warehouses.

## 5.2. Roots and Tubers

59. The roots and tubers marketed in Cape Verde are cassava, sweet potatoes and Irish potatoes. In addition, small quantities of cocoyams (*Xanthosoma* sp.) are sometimes on sale.

Sweet potatoes and cassava are generally grown at low altitudes under irrigation in cultivation with other crops. Cassava roots can be harvested when needed at any time from several months to about one year. Sweet potatoes have a much shorter harvesting season. They are also grown without

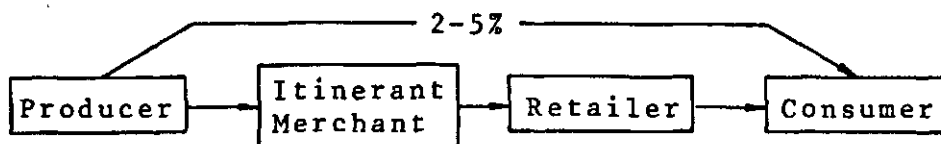


irrigation in the cool higher rainfall areas in the mountains. The same applies to Irish potatoes, the cultivation of which has recently increased in Cape Verde.

60. The storage of Irish potatoes is much more exacting than that of sweet potatoes but proper storage facilities are virtually nonexistent. If storage facilities were provided in the higher mountainous areas and cold storage provided in the distribution centres, Cape Verde could become self-sufficient in potatoes for about nine months of the year instead of four to five months as at present. Unfortunately, domestic and import supplies are not yet adjusted to each other and marketing problems arise when the domestic product has to compete with potatoes imported by EMPA.
61. Of the three crops, cassava, sweet potatoes and Irish potatoes, cassava roots are the least and Irish potatoes the most vulnerable to damage during harvesting, transport and handling. The very poor provisions for the handling, packing and transportation of these products often lead to losses, sometimes substantial.
62. Cassava and sweet potatoes are harvested according to requirements throughout the whole year. Both are highly appreciated and by far the largest part of the crop is consumed by the producers. Only the small farmers, who are badly in need of money, sell part of their harvest. The product is usually marketed shortly after harvesting. Storage may be required for a short time, not more than about two weeks.
63. The demand for sweet potatoes is somewhat higher than that for cassava. Production of the potatoes has decreased substantially in recent years because of severe damage caused by beetles (*Cylas puncticollis*). Varieties of potatoes resistant to this pest could be introduced to reduce the loss. Both cassava and sweet potatoes are only available irregularly on the urban markets and are, therefore, always in short supply.
64. Irish potatoes are largely grown for the market. The crop may be grown on irrigated plots or on rainfed land in the so-called fog areas (above 500 m altitude) where the precipitation (rain and dew) ranges from 1,000 to 1,300 mm per year.

Potatoes are planted at various times from November until well into January, rarely later. Harvesting takes place from January until May. The potatoes are generally marketed immediately after harvesting. Storage by the producer, if at all, does not exceed three weeks. It has been planned to establish small cold storage units for potatoes in order to supply the market during the off-season. Potatoes are popular in Cape Verde and off-season supplies are at present provided by imports. Millipedes form a serious pest to the crop and the cultivation of potatoes on rainfed land is limited to areas not yet infested by the pest. Effective measures to control it have yet to be introduced. Seed potatoes are imported from Europe but could be grown in high-altitude regions in Cape Verde.

65. The marketing channel for roots and tubers is the following:



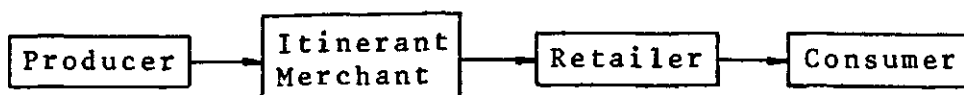
The producer sometimes sells directly to the consumer on village markets.

EMPA, acting as wholesaler, supplies the retailers or markets with imported potatoes through its own selling points. Such imports will have to depend, when domestic production is increased, on the stock of the home-grown potatoes. This market position can be judged best by MDR, which can advise the State Secretariat of Commerce (EMPA) on import requirements (see also Chapter 6).

### 5.3. Fruits and Vegetables

66. Fruits and vegetables are generally harvested shortly before being transported to the markets. Neither the producer nor the first buyer has proper storage facilities. The produce is packed in cases, baskets, sacks or cartons (generally the used package material of imported products) and is often left in the open when transport to the market takes longer than a day. This lack of care by transporters in preserving the quality of such perishable produce results in very heavy losses.

67. The marketing channel is generally



The itinerant merchants are numerous. They visit the producers to buy the fruits and vegetables. The transport to the road in baskets or boxes, carried by men or women or loaded on the backs of donkeys or mules, is usually provided by the buyer but sometimes by the producer. The road transport is always paid by the buyer who hires some space in a van or truck, sharing it with other goods and passengers. The itinerant merchant may sell the products to retailers in the market or directly to consumers or may combine the two functions. These merchants trade in small quantities only, thus reducing their risks of loss to a minimum. They do not function as the wholesaler in acquiring large quantities and standardizing qualities. Only EMPA functions in this way when it buys fruit and vegetables and ships them to islands where such products are in short supply.

In addition to the home-grown products, imports of canned fruits and, particularly, of fruit juices are of some importance.

68. The marketing channel on the islands of Santo Antao and Fogo sometimes differs from the one described in paragraph 67.

In Santo Antao producers may arrange for road and ship transport to Mindelo harbour, a practice which is common in the Paúl valley but is also found elsewhere. Merchants buy the products on the quay of Mindelo harbour and sell them to retailers or directly to the consumer. In other cases, producers bring their products to a merchant in a village or to a retailer in the local market or sell them directly to consumers in the neighbourhood.

An example of official prices for some fruits and vegetables on the central market in Mindelo is presented in Table 4. The consumer often pays two to three times more.

Table 4 OFFICIAL PRICES FOR FRUITS AND VEGETABLES ON  
THE MARKETS IN MINDELO, SEPTEMBER 1981

Commodity	Price per kg, in CV escudos <sup>x)</sup>
Bananas	
hand of green bananas	12.50
hand of ripe bananas	15.00
Papayas	38.00
Pumpkin	20.00
Carrots	28.00
Onions, imported	24.20
local	27.50
with leaves	20.00
Cabbages (leaves)	20.00
Tomatoes	25.00
Peppers	38.00

x) 1 US \$ = 51 CV escudos

69. The producers are mainly small farmers with small plots of rainfed land and/or possessing 0.1 to 0.25 ha of irrigated land where they grow sugar cane, vegetables, bananas, cassava, sweet potatoes, etc. They sell very small quantities of each product and usually wait until they have made a sale to an itinerant merchant before harvesting. There are a few large farms with several hectares of irrigated land. These farmers tend to organize transport to the markets themselves. The two most important state farms on Santiago island, Santa Cruz and Santo Domingos, sell their produce at the official prices at the farm gate and also at one selling point in the central market of Praia, or directly to EMPA for shipment to islands where there is little or no production of fruits and vegetables.

#### Bananas

70. The banana and sugar cane are the only crops in Cape Verde which, in addition to mixed cropping on the land of smallholders, are grown in monoculture on relatively large plots (1-15 ha). Several varieties of *Musa cavendishii* are grown. Bananas are harvested throughout the year, but certain



Fig. 5 The town market of São Filipe, Fogo.



Fig. 6 Products sold by a market vendor in São Filipe; in this case a small quantity of cashew nuts.

varieties are distinctly seasonal such as the "Banana rosa" which is harvested in February-March. One of the main problems in banana cultivation is the high population of nematodes which gradually builds up in the plantations and also seriously affects vegetables growing on neighbouring plots. Much damage in Santo Antao has been reported recently from a stem borer. Phytosanitary measures are urgently needed. However, incentives to increase production substantially are lacking in most areas because of the poorly developed marketing system and, consequently, the low price paid to the producers, who are ill informed, or not informed at all, about the market price.

71. Bananas are transported in bunches in wooden boxes, baskets, sacks of jute or nylon (generally the used packing materials of imported products) or just wrapped in banana leaves. The producer, if necessary, stores the bunches on the ground or, at best, on a cement floor, for a short time. Storage facilities at the other trade links are lacking. What is needed, with bananas in particular, is the intervention of the wholesaler in town to buy them according to quality and hold them in cold storage for up to one month, if necessary, to ensure a regular supply to the market.
72. Bananas are very popular in Cape Verde and are eaten green, cooked in cachupa (see Volume IX, Annex I) or, mainly, as ripe fruit. The product is generally in short supply on the consumers' markets and the prices are, in comparison with the average income level in Cape Verde, very high. As a result, the lower income groups generally cannot buy bananas. Those produced on the state farm at Santa Cruz are largely exported to Portugal (about 500 tons in 1981) at a price which is substantially lower than the domestic price in Cape Verde.
73. The retailers of bananas are not only to be found in the market places. Street vendors in town sell two bananas for five escudos. Prices may even be higher in a centre such as Mindelo. Small shops in villages and towns often sell some bananas and eggs in addition to tinned food, sugar, coffee, maize, vegetable oil, etc. Women, carrying baskets of bananas on their heads, sell the fruit from door to door in residential areas.

#### Fruits other than Bananas

74. Papaya is available the whole year round, although there is a main production season from the beginning of the rainy



season (July) until March. The varieties and the cultivation techniques used can be greatly improved. Papayas are often grown in farmyards and between other crops on irrigated land. Regular small plantations are rare, restricted to large farms and state farms. As with bananas, nematodes are a serious problem for papaya growers.

75. Second-hand packing materials are used for the transport of papayas. The fruit is highly perishable and, in addition to careless handling by the transporters, it is often also damaged in the trucks during a rough ride over the cobblestone roads of Cape Verde. Subsequent "storage" on the ground in market places, etc., accounts for further losses which often exceed 50%. The marketing channel is the common one for fruits and vegetables (see paragraph 67). The fruit is popular but, because of its price, generally available only to the producer and the higher income groups.
76. Mangoes are next in importance to bananas and papayas. The picking season is concentrated in the period of May to September. The quality of the varieties grown is poor. The FAO re-forestation project in Cape Verde (FAO/Belgian Foreign Aid) has recently begun to introduce, on a small scale, superior mango varieties. The marketing channel is the same as for other fruits. In the case of mangoes, substantial losses are often caused by poor picking methods. The stalk of the fruit is twisted with a forked stick and the fruit is allowed to drop to the ground. The fall causes serious damage.
77. Mangoes are very popular but only a minor part of the production reaches the markets. Most of the fruit is eaten in the production areas. It is assumed that a three- or four-fold increase in production would be completely absorbed by the market. However, there is no incentive for tenant farmers to plant new trees or to replace old ones with improved varieties because the trees and their produce remain the property of the landowner. Thus the tenant farmer or share-cropper does not profit from the trees on his land. Indeed, the trees, which are generally found on the lower slopes of irrigated valleys, may reduce the yield of other crops (see also Volume I, Chapter 2). Planting new trees is, therefore, of interest only to farmer proprietors. From the technical and marketing viewpoints, a substantial increase in mango production could be achieved. What is needed to bring this about is an incentive scheme shared by all farmers.

78. Guava is also widely grown. The tree is tolerant to drought. However, the varieties grown in Cape Verde produce a poor quality fruit. The trees are usually badly neglected.
- Other fruits include avocado pears, which are grown on a very small scale in high valleys (300 m or more) where there is a reliable water supply. The pears, in the main, are marketed in the towns.
- The number of citrus trees is very small in Cape Verde. It is remarkable that hardly any limes are grown in gardens or on farms especially as citrus fruits fetch high prices on the markets.
- Coconuts are grown in the lower parts of valleys or near the sea shore. The palm is not grown as an oil crop but the nut is consumed as a fruit when picked young or is used as an ingredient in the preparation of certain dishes when picked ripe.
- Other fruits include a very small number of pomegranates, and apples, peaches and figs, which are grown at high altitudes.
79. - The climate of Cape Verde is very suitable for the production of good quality pineapples. The crop has to be grown under irrigation to produce well-developed fruit. However, local farmers do not accept that this spiny plant requires a regular supply of irrigation water. As a result, production is often very poor. Pineapples produced by the state farm at Santo Domingos are marketed in Praia.
80. In the rainfall areas at higher altitudes some passion fruit is grown but is not particularly popular with rural people. Most of the produce is marketed in town. Grape vines have been planted in several gardens in Cape Verde, where they are irrigated. "Vineyards" are found at high altitudes only. The largest area planted with grapes is found near the summit of Mount Fogo. Some of the grapes picked are transported in baskets on the heads of women down the slopes of the mountain to the roads. Vehicles transport the grapes to the harbour of São Filipe from where they are shipped to Praia and, sometimes, to Mindelo. The product is sufficiently expensive to permit occasional air transport to Praia.
81. Some of the grapes are used to produce raisins but mostly to produce wine (in sheds near the houses of the growers). The raisins and wine are sold in the villages and in São Filipe. Some are also exported to other islands, mainly to



Santiago (Praia). The vines have to be grown as creepers on the volcanic debris because the prevailing strong winds would blow stakes or fences down. Small distorted apple trees are used as windbreaks. The vineyards are often large, but only a few vines are grown per hectare.

### Vegetables

82. The production of vegetables takes place almost exclusively on irrigated land. The largest production is to be found on the islands of Santiago and Santo Antao (Annex I). In addition, vegetables are grown on a state farm (Monte Genebra) and on some small farms on Fogo and, to a minor extent, on a few smallholdings in Brava, Maio, San Nicolau and São Vicente. The last four islands are net importers of vegetables.
83. The vegetable season is short. Sowing starts in October/November. The crop is marketed in January-May, with a distinct peak in the months of February and March (Appendix II). The most important vegetables are: cabbages, onions, carrots, beans, tomatoes and courgettes. In addition, smaller quantities are marketed of garlic, cucumbers, melons, water melons, French beans, cauliflowers, peppers and egg plants. In general, vegetable production can be much improved through the use of better varieties (certified sowing seed) and better cultivation methods, including phytosanitary measures. In addition, the growing season of most vegetables can be extended markedly (see Appendix II), while vegetables could also be grown in the hot season when tropical species are introduced from South-East Asia. Examples are: *Amaranthus spinosus*, *Alternanthera sessilis* and *Euphorbia thymifolia*. One of the prerequisites for such a prolonged growing season will be a regular and more reliable supply of irrigation water than at present (see also Volume II).
84. Average yields are very low for vegetables grown under irrigation. An extension service and agricultural shops where the grower can buy good sowing seed, fertilizers, pesticides, etc., are much needed if production is to be increased substantially. However, priority must be given to an improvement of the marketing system. Various sources (see also CAP-CANELLAS & LE LANDALS, 1980) have estimated that no less than half of the vegetables produced are lost through careless handling, abominable transport conditions and lack of proper storage. In other words, proper marketing conditions could double the total volume of vegetables available to the consumer, and would also lower

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prices, which is necessary to make possible a higher demand. The majority of the population at present does not buy vegetables on the market. This is partly because rural people engaged in agriculture tend to buy directly from farmers, and partly because many people still do not have sufficient income to buy vegetables. The existing supply and demand will have to be studied in some detail before money is invested in measures to stimulate production.

85. The marketing channel for vegetables, basically the same as for fruits, has been presented in paragraph 67. The trade, particularly on Santiago island, is in the hands of numerous itinerant merchants (virtually all of them women), who may sometimes act as retailers on the market or as door-to-door vendors. On the Santo Domingos state farm, most products are sold at the farm gate at the official prices. Ordinary consumers normally have little chance to buy them because of the complete domination of the women merchants. They buy the products at the official prices and sell them 15 km away in Praia for two to three times more. The Santo Domingos farm has, in addition, a selling point in the Praia market. The products are also sold there at official prices. However, the selling arrangements are poorly organized, the quality of the products is lower than that of those bought by the women merchants at the farm gate. The vendors usually wait until all the products in the farm stall have been sold (which is normally early in the morning) and then display their fruits and vegetables, selling at their higher price level. Recently the Public Enterprise for the Improvement of Agriculture and Livestock Production (FAP) attempted to establish a greengrocer's section in a shop in the Achada San Antonio, one of the districts of Praia where apartments for higher income groups have been built. However, this enterprise has not been a great success because of the very limited range of products for sale and shortcomings in the management.
86. The limited supply season for vegetables can be substantially expanded (cf. Annex II), while proper storage of certain products would ensure their regular availability on the markets throughout the year. This applies, for example, to onions. Most varieties grown at present have a poor keeping quality. The introduction of varieties with a good keeping quality, plus the use of proper storage facilities, could make the country independent of imports.

#### 5.4. Cash Crops

87. There are three categories of cash crops in Cape Verde: (1) the so-called "surpluses" of food crops sold to obtain a cash income, (2) the food crops which are grown to obtain cash incomes, and (3) the non-food cash crops. The first category has been dealt with in the preceding sections. The second category is small. It covers those areas where certain crops, for example, vegetables, are grown exclusively as cash crops (e.g. Alto Mira on Santo Antao) and where the population may suffer from vitamin and protein deficiencies because they sell the vegetables and beans which they produce. Another example is egg plant, which is not eaten by the local population and which is produced only for the urban market. The banana plantation on the Santa Cruz State Farm, which produces for export to Portugal, also comes into this category. A major constraint for both the first and the second category is that the landowner can determine which crops the tenant farmer should grow on his land. This seriously restricts the tenant in choosing to grow cash crops to meet the demand (price) situation on the market. The third category is of a different nature and will be discussed in this section in more detail. The crops in this category are sugar cane and grapes (both for the production of alcoholic beverages), coffee and castor beans. Crops such as sisal and bamboo, which are not exploited commercially on any scale so far, will not be considered in this section.
88. Of the third category, sugar cane is by far the most important cash crop. It is generally grown on irrigated land with an unreliable water supply. The crop is "safe" in the sense that it can withstand periods of drought. The combination of very low yielding varieties, poor cultivation methods and irregular periods of water supply, results in very low yields of some 10 tons of cane per hectare. Sugar cane is the most widely grown crop under irrigation in Cape Verde. Of the approximately 1,800 ha of irrigated land, about 1,000 ha are planted with cane.
89. Many small artisanal sugar mills and distilleries can be found in the irrigated valleys. The cane is processed in a primitive ox- or donkey-drawn crusher. The juice is allowed to ferment in barrels. Afterwards, the alcohol is distilled in copper kettles. The crude rum which is thus obtained is stored in barrels and is usually sold in various types of bottles. The rum, locally called "grogue", is a very popular product for which surprisingly high prices are paid (US \$ 2 to 3 per bottle of 0.7 litre to the distiller). Santo Antao has the reputation for producing the best grogue in Cape Verde.





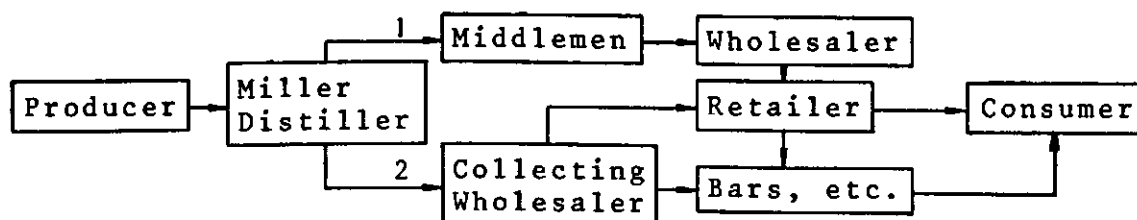
Fig. 7 Sugar mill (trapiche) on Santo Antão.



Fig. 8 Distilling fermented sugar cane juice. The product, rum (grogue) is sold through a relatively well developed marketing system.

Wholesalers may be involved in the grogue trade. They buy either directly from the distillers or from middlemen, using plastic containers for the transport of larger volumes. Wholesalers in town usually blend the different rums which they have bought from various distillers, store the product in barrels (often old whisky barrels, locally called "barril") and bottle it for sale.

The marketing channel is generally



The marketing channel for grogue is, in fact, fairly well developed. Storage, some standardization and a system of financing have been developed. This is not surprising since the production of sugar cane, the artisanal milling of sugar cane and distillation of grogue, form Cape Verde's most important industry. The product has the advantage that it does not lose quality when stored and can be held until a favourable opportunity for transport presents itself. Storage in barrels for several years even improves its quality, in addition to which there is a constant demand for the matured product.

90. The favourable marketing structure for grogue determines more than any other single factor the strong position of sugar cane cultivation in Cape Verde. The grower, under present conditions, usually has no other crop which is so profitable per hectare. Only a substantially improved marketing structure for the food crops can lead to similar or better returns from, for example, a hectare of potatoes, onions or peppers.
91. The market position of wine producers is much weaker than that of grogue distillers. The wine produced is of a fairly low quality and has to compete with imported Portuguese wines. The producers usually transport the wine to a merchant in town who sells it to retailers. An improvement of the quality of the locally produced wine is possible, although the quantities involved are, and will remain, small.
92. The quality of the coffee produced on Fogo island is famous in Cape Verde. It is, indeed, a quality which fetches a premium price on the world market. However, the coffee

produced on Santo Antao may well match the Fogo quality, but that produced on Santiago is generally regarded to be of lesser quality. Coffee production is expanding somewhat on Santo Antao, but in the best production area on Fogo it is in a deplorable condition. The difficulty is basically the same as with the fruit trees. The coffee shrubs and their products belong to the landowner, and are thus of no value to the tenant farmer/share cropper, who is only entitled to have his share of the food crops he grows. As a result, some very old (80 years or older) totally neglected coffee shrubs are to be found in the least accessible parts of the terrain, whereas maize, beans, cassava, etc., are planted on the more gentle slopes. A properly attended coffee plantation could give the farmer an income which is seven to ten times higher than the one which he obtains now from his food crops. The growing of coffee on land now sown to maize would, therefore, be expected to take place rapidly once the farmer has the right to the revenue from the harvest of the coffee shrubs on the land he rents. A revision of the existing law could thus greatly stimulate coffee production in the country.

93. In some years small quantities (12-20 tons) of Fogo coffee have been exported. However, coffee is in short supply in the country and lower quality coffee, largely from Angola, has to be imported. Technically, it would be possible to make the islands self-sufficient in coffee and to export a few hundred tons annually, but this depends on changing the law in favour of the tenant farmer and on proper agricultural extension work.

94. Locally produced coffee is highly valued in Cape Verde and domestic market prices are well above world market prices (cf. Table 3).  
The marketing channel is:



Large importers/shopkeepers may also act as wholesalers in buying coffee from various sources, assembling it in larger (mixed) quantities, storing it, and selling it in portions to retailers. This situation occurs only when sufficient supplies are produced in a particular year.

## 6. PLANNED DEVELOPMENTS IN MARKETING

### 6.1. General Outline

95. Four groups of factors are involved in the planning of the food strategy study to improve marketing, viz.:
- 1) Organization
    - by the Government,
    - by the producer,
    - by the trade links.
  - 2) Marketing and Price
    - marketing policy,
    - price policy.
  - 3) Marketing Infrastructure
    - physical infrastructure,
    - communication and information.
  - 4) Quantity and Quality
    - requirements of village and town markets,
    - meeting quality and quantity demands of hotels, restaurants, etc.,
    - catering for foreign ships and aircraft.
96. Much will depend on the development of agriculture in the coming 20 years. The considerations given in this chapter are based on the development plan presented in Volume I (Chapter 2 and 6), which has, as its main elements, land conservation, dry farming techniques and the growing of drought tolerant crops to achieve a substantial increase in staple food production, which is the basis for the proposed public marketing structure in the rural areas. However, irrespective of the type of development of agricultural production, an improvement of the marketing infrastructure alone would greatly improve the marketing situation without any change in the other factors mentioned in paragraph 95.

### 6.2. Organization

97. It is proposed that the marketing organization on the part of the Government should include a Marketing and Extension Division for Agricultural Products established at the



Ministry of Rural Development (MDR)<sup>x</sup>). Such a Division could either be part of the Ministry itself or could become the principal part of the Public Enterprise for the Development of Agriculture and Livestock Production (FAP). The main tasks of the Marketing Division would be:

- to advise the Government on its price policy for home-grown agricultural products and on supplementary imports of these products;
- to improve and control marketing;
- to provide training and extension in marketing.

Each of these three tasks will be covered by a separate branch of the Division.

98. An integrated organization of marketing, agricultural extension and credit services is proposed for the rural areas. In each of the more important production areas a unit will have to be set up, consisting of the office of the local extension worker, a credit counter of the Caixa Credito Agricola, a shop where agricultural inputs can be bought (tools, sowing seed, fertilizer, pesticides, etc.), and a counter where the staple foods can be bought at guaranteed prices (see section 6.2.). In general, a small warehouse (type A, 200 m<sup>2</sup>, rarely type B, 600 m<sup>2</sup>) will have to be constructed for each unit to store the staple foods before these are transported to the EMPA or MOAVE warehouses. Each unit will have to be located along a road which can be reached by trucks.

99. The units (paragraph 98) will come under the jurisdiction of the Regional Director of MDR. Two staff members (in a few cases three) will be in charge of a unit, one being made responsible for it.

The tasks involved are:

- the provision of agricultural extension services in the area of the unit;
- the provision of agricultural credit on behalf of the Caixa Credito Agricola of the BCV;
- the purchase (through MDR) of agricultural inputs and the selling of these inputs to the farmers;
- the purchase of staple foods (sorghum, maize, millet, beans) at the guaranteed prices;

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x) In a study on the marketing of potatoes and vegetables in Cape Verde, CAPO-CANNELLAS and LE LANDAIS (1980) suggested the establishment of a national bureau for the supply of fruits and vegetables. This is a valuable suggestion, and the plan mentioned above to set up a Marketing Division for all agricultural products covers the need for such a bureau.

- assistance in implementing land reform programmes;
- facilitating marketing (by providing market information, standardized packing material, promoting transport, etc.).

These tasks should be carried out alternatively by the two staff members. In other words, when one is in the field to do the agricultural extension work, the other takes care of the shop, the agricultural extension office, the credit counter, the purchasing counter and the stocks in the warehouse. The combination of so many tasks in one unit is necessary because of the very small scale of each of the activities involved in the small and often topographically isolated production areas.

100. It is recommended that the introduction of the "units" will take place very cautiously. In Santo Antao, where the first trials with sorghum have been planned (see Volume I, Chapter 6) the first unit should be established in an area where sufficient sorghum is produced for a first milling programme at the MOAVE flour mill, Mindelo. From there on, with the experience gained with the first unit, the number of units can be gradually increased to keep pace with the increase in staple food production. This procedure, once it has been successful, can be repeated on the other islands.
101. The units may also become collecting points for the perishable products offered for sale by producers to merchants who visit the units with a van or a truck. This type of "producers' market" will be assisted by the unit by providing market information, standardized packing materials, the use of scales, etc.
- These markets have several advantages, such as:
- 1) grading products for quality;
  - 2) collecting and standardizing quantities of products, thus economizing on the time and cost of handling, transporting and trading the goods;
  - 3) making price comparisons possible in dealings with buyers; and
  - 4) making it possible for producers to act as a group when collective measures need to be taken.
- However, the development of such markets will depend on local conditions, the crops grown on a reasonably large scale in a particular area, etc.
102. The Marketing and Extension Division of MDR will provide training courses in marketing for staff members of the units and for the inspectors of village and town markets to make them aware of marketing aspects and their implications. A foreign aid component should be involved in setting up such a training course.

103. The task of the Marketing and Extension Division of MDR in advising the Government on the price policy for home grown products should be confined to the staple foods (sorghum, maize, millet, peas and beans). The advice will have to be based on surveys of all the costs of the producer and on the price level required if it is to be an incentive for the farmer to produce more. The findings of the Marketing and Extension Division will have to be presented to the Minister of MDR, who can advise the State Secretary of Commerce on the official price level.
104. The task of the Marketing and Extension Division in advising the Government on supplementary imports must be based on information about domestic stocks and supplies. Such information can be collected from the units in the rural areas (pars. 98, 99), the inspectors of village and town markets, EMPA, private merchants and shopkeepers. In case of a short supply situation, e.g. of potatoes or onions, the Minister of MDR can request the State Secretary of Commerce to issue an import license for the required quantity to EMPA or a private importer. This procedure would protect the Cape Verdean producer against over-supply to the market and unfair competition from imported products.
105. The task of the Marketing and Extension Division in improving and controlling marketing will consist of:
- advising the Government on marketing regulations and their implementation;
  - promoting the establishment of simple farmers' associations in each production area as a first step towards a more comprehensive organizing of producers;
  - promoting transport facilities between production areas and consumption centres;
  - introducing standard packing material (see section 6.3.) and making its use compulsory for all products brought to the village and town markets;
  - controlling market regulations.
106. The traditional village and town markets (see Chapter 3) can be improved by providing a better division of sections. Town markets could be improved by copying the new market design in Mindelo with the 12 m<sup>2</sup> stalls. Mindelo, with its two modern markets in the newer town districts, should also replace its old central market with a modern market. Further, other modern markets need in due course to be established to meet the demands arising from the continuing expansion of the town. In Praia, the old central market, which is in an appalling condition, should be closed as soon as

possible and replaced by three modern markets located in the main parts of the town. Two modern markets will also have to be established in Tarrafal de Santiago, one of them for the harbour district along de Chão Bom Bay. Calheta de San Miguel (Santiago), Assomada (Santiago), São Filipe (Fogo), Ribeira Grande (Santo Antao) and Tarrafal de San Nicolau will also need new markets to cope with their growing population (see Volume I, Chapter 5).

107. Each market will need an official to enforce the regulations on hygiene, the use of scales, and so on. In addition, the official will have to list the current prices on a board exhibited prominently in the market place. Under this new regime it is likely that the role of the itinerant merchants will diminish while the function of the wholesaler will gradually be strengthened, leading to improved storage facilities. This, in turn, will promote the regular provision of supplies.

108. The position of the producers, now extremely weak, could be greatly strengthened by establishing simple types of farmers' associations in each production area. These could be set up with the assistance of the local extension/marketing credit units (pars. 98, 99). The units would become the central point of the activities of the associations, which could provide services to the member-farmers, such as making price information available. Such associations would also make it possible for the producers to act as a group when collective measures need to be taken.

### 6.3. Marketing and Price Policy

109. A main requirement of a marketing policy is to set a guaranteed price for staple foods (cereals and pulses) which can be stored for a considerable length of time in the consumption centres (the EMPA warehouses and silo, and the warehouses of the private shopkeepers). The new organization discussed in the foregoing, covering extension, agricultural credit, farm supplies and marketing should take care of the purchase of staple foods at guaranteed prices. The staple foods will then go through the existing channels of the EMPA and the MOAVE milling company.

110. The guaranteed prices for the staple foods should not lead to a monopoly of the Marketing and Extension Division in buying these products. Private marketing channels should operate parallel to the Marketing and Extension Division

and some of the staple foods will continue to find their way through these channels to the village and town markets.

Regarding sorghum, the consumption pattern will determine the marketing situation. When there is only a demand for flour and Pearl Dura, then all sorghum will be bought through the "units" by the MOAVE milling company. But when part of the sorghum is pounded and incorporated in the cachupa, then a part will remain on the farm or enter private marketing channels. Any surplus will be bought by the MOAVE milling company.

111. In a developing economy, such as that of Cape Verde, fixed prices of perishable products cannot be expected to work satisfactorily. For instance, when official low prices for fish were enforced in the central market of Praia, the result was an exodus of the retailers who became street vendors and sold the fish for the old high prices from door to door.

A system of guaranteed prices for these products would be too risky. Deterioration of the products during assembling, transport and storage could lead to heavy financial losses.

The best marketing policy for these products would be to: improve supplies and lower prices by providing better packing material; greatly improve the infrastructure, which would help in establishing regular and reliable transport from production areas to consumption centres; promote the organization of producers (farmers' associations); stimulate the farmers through the extension service to establish a longer production season for fruits and vegetables; and provide market information to both producers and consumers. All of these measures will tend to promote production, increase the flow of products to the markets, reduce losses, increase the price paid to the producer and lower the price for the consumer. Prices should be allowed to depend on supply and demand as they do at present.

112. Guaranteed prices for staple foods can be established through surveys of production and marketing costs. They will have to be high enough to be an incentive for the farmer to produce more and will have to be reviewed every year to meet changes in production costs, inflation, etc. The surveys should be carried out by a branch of the Marketing and Extension Division, enabling the Division to advise the Minister of MDR on the prices to be established in coordination with the Secretary of State of Trade.

113. A small deduction from the prices of staple foods bought by the Government will be used to cover the costs of the purchasing units. EMPA, the MOAVE milling company, and the retailers, bakers, macaroni factory, etc., should also be allowed to recover their costs and make a profit of 5-10%. The added costs will determine the price for the consumer. The Marketing and Extension Division will have to calculate these costs to be able to advise the Government (the State Secretary of Trade) on consumer prices. Thus, the Marketing and Extension Division will replace the District Price Committees in this respect.

#### 6.4. Marketing Infrastructure

114. As has been explained in Chapter 3, agricultural production is mostly derived from very small plots of land, usually located on terraces, where mixed cropping is the rule. Consequently, the total quantity of each product sold by each farmer is very small. It is essential for a satisfactory functioning of trade that these small amounts be brought together, standardized, and transported to the consumption centres. The accessibility of the production areas is of great importance in this respect. There are fairly good roads between most of the main centres in Cape Verde, but connections with the valleys, where irrigated agriculture is found, and to the rainfed lands, are often limited to tracks which are passable only on foot or with donkeys or mules. The construction of feeder roads to valleys with a sufficiently large production potential is essential to improve the transport of products to consumption centres.
115. The plans for the development of the economy of Cape Verde (outlined in Volume I, Chapter 6) are based on the concept of trunk roads in the most densely populated areas, leading to the main consumption centres or to ports which allow for inter-island shipment. Feeder roads are to connect the production areas to the trunk road to provide the necessary transport facilities.
116. Development and improvements of certain harbours in the archipelago are indispensable in the transport chain. A third link is air transport, both inter-island and international. Improved air transport facilities are included in the development plans. It will be advantageous to establish simple collecting points where the products from different farms can be assembled, graded and packed for transport by road, sea or air. The units discussed in par. 98, will function as such for staple foods. Some of them can also function for transport of the more perishable products (see par. 99).

117. Packing materials will have to be improved and standardized to permit proper stacking in vans and trucks to avoid damage. It will probably be sufficient to have two sizes of plastic and/or wooden boxes and one type of jute sack, all of which can be returned and will have to be used many times to reduce costs. The volume of goods to be transported should be sufficiently large to fill a whole van or truck, thereby avoiding the hazards of miscellaneous loads. Properly defined responsibilities for assembling, grading, loading and unloading and for deduction of payment for damaged loads, will have to be established.
118. Storage facilities will have to be provided in the harbours and in the consumption centres, where cold storage for perishable products will ensure a much more regular supply to consumer markets. At present cold storage facilities are largely limited to fish. Wholesalers can play an important part in providing the new storage required in the consumption centres.
119. Improved means of communication (telephone, radio-telephone, etc.) between the collecting points in the production areas, the stores in the ports, and the stores in the consumption centres and the markets, are essential to the efficient functioning of the marketing system.
120. The development planning for Cape Verde includes the promotion of the productive sectors of the economy in the main consumption centres. This will increase the purchasing power in their markets. It would lead to a further increase in supplies and to increased incomes for the workers in the production areas.

#### 6.5. Quantity and Quality

121. The total quantity of domestic agricultural products which can be absorbed by the market depends greatly on supply and import volume. For example, a large import of cereals and beans has to be absorbed. In the case of roots and tubers there is a high demand but, because of their high prices, their sale is restricted. The same applies to fruits and vegetables, although all these are products in short supply. Such high prices are chiefly due to the deficient marketing system. The irony of the situation is that the farmer gets a lower price for his products than he should. Improvement of the market channel by introducing better packing materials, a good transport system, improved market facilities and more market information, would undoubtedly

result in a substantial reduction of prices for the consumers and a moderate increase in the price received by the producers. This situation would increase demand. However, major increases in demand can be expected only when there is a higher level of employment than at present and an increase in the income level of the population, leading to the general economic growth of the nation.

122. Part of such increased demand for agricultural products, particularly for fruits and vegetables, will be for high quality products. Some of this demand will come from the higher income groups and some from hotels, restaurants, etc. Catering for foreign ships and aircraft will further increase such demand when trade with them is developed. Private enterprise can effectively organize services in the catering fields.

Collecting wholesalers could separately or in combination take up contracts with large farms or groups of small farmers for the delivery of agreed quantities and quality of products. This would introduce a vertical structure in the market from producer to consumer. Such a development would promote the grading for quality at the producer's level.

123. The recommended introduction of guaranteed prices for staple foods will make quality control by the purchasing units inevitable. Sacks of cereals and beans containing more than a few percent of crop residues, sand, stones, etc., will have to be rejected, while a premium should be paid for a first quality clean product. The level of the premium should be determined by the saving obtained by the sorghum mill in processing a first quality clean instead of an average quality slightly contaminated product.



## 7. THE WINDWARD ISLANDS

124. The Windward Islands can be divided into two groups, namely the three relatively large neighbouring islands of Santo Antao, São Vicente and San Nicolau, which have more than 90% of the population and nearly all of the agricultural production, and the more remote islands of Sal and Boa Vista. Sal, with no agriculture, is economically important because of the international airport, and its salt flats and fisheries. Boa Vista is a fairly large island but has a low population and hardly any infrastructure. Its economic activities are limited to a small amount of agriculture and fisheries.

### 7.1. The Position of Mindelo

125. The town of Mindelo, the largest port in Cape Verde has a dominant position on the Windward Islands because of its national and international position, its trade, shipping and export of fish, its enterprising population, and the best infrastructure of any place in Cape Verde. The town of Mindelo represents by far the most important market for agricultural products and fish in the region. It is this market and the food processing industries which will largely determine the development possibilities of agriculture on Santo Antao and, to a lesser extent, on San Nicolau. The first prerequisites for such a development are the transport links between the production areas and the large consumption centre of Mindelo. Further, a frequent and reliable transport system is required at relatively low cost to permit a regular flow of agricultural products to the Mindelo markets. Surplus landings of fish can be shipped to Mindelo for export to foreign countries (see Volume II).
126. The demand for food in Mindelo will be markedly influenced by the general economic development of the town. Because of its position as the only large, well-organized market in the region, much attention has been paid in the present food strategy study to the economic growth possibilities of Mindelo in general and of its harbour in particular (Volume I, Chapter 6, Volume VII, part A). Since the production areas of Santo Antao and, in future, of San Nicolau, depend for their export of agricultural products almost exclusively on this single market, any increase in demand will benefit the production areas.

## 7.2. The Production Areas

127. The following areas can be distinguished on Santo Antao where crops are grown for the Mindelo market:
- The southern part of the island, with the isolated fishing villages of Tarrafal and Monte Trigo. Fish is brought to Mindelo in small fishing boats. There is hardly any agriculture in this area and most foodstuffs have to be imported.
  - The central part of the island has two areas (Alto Mira and Ribeira das Patas) where vegetables, potatoes and sweet potatoes are grown for Mindelo. These areas, with the exception of a track over a mountain ridge to Alto Mira, have good road connections with the harbour of Porto Novo, from where the products are shipped to Mindelo.
  - The northern part of the island, from the Ribeira da Garça to Janela, has the best agricultural potential and is also the most densely populated. Tubers, fruits, vegetables and grogue are produced in this area for the Mindelo market, notably in Ribeiras de Janela, Paúl and Xoxo, the upper part of the Ribeira de Torre. In addition to agricultural products, small shipments of poultry, pigs and goats are also sent to Mindelo.
128. Agricultural products command 100% more on the Mindelo markets than they do on Santo Antao. The reverse is true for fish, prices for which are much higher on northern Santo Antao than in Mindelo because the districts have no harbour and the fishermen have difficulties in operating from the rocky coast. The roughness of the ocean makes it even impossible for the small boats to put to sea from December until March. Thus, only small quantities of fish are landed, resulting in short supply and high prices on the village markets. Only when there is a surplus on the markets will the fish mummies trouble to go up into the valleys to sell fish from door to door.
129. San Nicolau has been particularly hard hit by the drought of the past 13 years. Agriculture is largely concentrated in the western highlands. The introduction of dry farming techniques and drought tolerant crops would greatly benefit agriculture on the island. San Nicolau is much farther away from Mindelo than Santo Antao and, consequently, there is less contact between them, much to the disadvantage of the island. About 3,000 ha are at present under cultivation and production is low so that much of the food consumed has to be imported. There is no export of fruits and vegetables to Mindelo.

### 7.3. Transport Routes

130. Southern Santo Antao largely depends for its cash income on the fish market of Mindelo. The island's small fishing boats usually sail directly to Mindelo to sell their catch. A ferry boat from Mindelo calls at Tarrafal once a month and one of the Arca Verde boats also calls at this small fishing port once a month. No additional infrastructure for southern Santo Antao is proposed apart from provisions for the fishermen (see Volume V).

Central Santo Antao has good roads leading from points at or near the agricultural production areas to Porto Novo. The infrastructure can be considered adequate to deal with the present situation and only minor extensions will be required when the planned developments (Volume I, Chapter 2) are effected. These will require the transport of relatively large quantities of sorghum, millet, pigeon peas, fruits, vegetables, timber and pozzolana to Porto Novo and their shipment to Mindelo.

The transport of agricultural products from northern Santo Antao takes place almost exclusively in small boats from the coastal villages to Mindelo. Lightering is the rule since there is no real harbour on the northern coast. Ships are chartered to carry certain quantities of products to Mindelo. Sometimes the vessels fail to turn up. This results in the loss of all the perishable products waiting for shipment. Transport by road and sea from Ribeira Grande is over the mountains by truck to Porto Novo and then by boat to Mindelo. Such transport is often considered to be too expensive. A recurring hazard is that landslides often block the road during the rainy season.

131. The very poor transport route between Santo Antao's largest production area and Mindelo is a main constraint to the development of food production for the town market. Furthermore, it stimulates the production of grogue and sugar cane is a safe crop to grow since it is a non-perishable product. High priority has been given in the food strategy study to a plan to solve the problems involved. These plans include the construction of a small harbour for vessels up to 5,000 tons at Janela (Volume VII, part A) and the completion and improvement of the road from Ponta do Sol to Ribeira Grande, Paúl and Janela. This will become a trunk road with feeder roads leading into the valleys and to some of the productive highlands. A ferry service is planned for six days of the week to connect Janela with Mindelo (Volume VII, part B), providing a regular and reliable means of transport for agricultural products and (frozen) fish. This will ensure

a bigger flow of products to the town markets, where prices are double those on Santo Antao. With an increase in supplies these price differences are expected to come down by 20-40%, but will be compensated by the sale of larger quantities.

The proposed small harbour at Janela, with ample provisions for fishing vessels, cold storage, and a small ice factory, will undoubtedly increase fish landings substantially and bring down the price of fish. Surpluses of fish can be transported in the cold storage compartments of the ferry boat for sale in Mindelo or for export (see also Volume V and Volume VII B).

132. There is one village on San Nicolau with a clear potential for development, namely Tarrafal, which is located on a well-protected deep water bay. There are plans for the construction of a harbour at Tarrafal but even temporary provisions with a pontoon would allow the Mindelo-Janela ferry boat to call there every other day (Volume VII, part B). This would bring the Mindelo market much closer to San Nicolau than at present. The most important export product will be fish. In addition, some surpluses of drought tolerant crops may in future become available; such as sorghum for processing in Mindelo, and millet and pigeon peas. There may also be some surpluses of sweet potatoes and Irish potatoes. Further, the transport service will encourage the import of processed foodstuffs (particularly flour, macaroni, Pearl Dura) and other products from Mindelo.
133. The planned inter-island shipping services (see Volume VII, part B) include a circle line for a ferry boat that will visit most islands in about a week. This will promote the regular transport of foodstuffs and other products to the islands of Sal and Boa Vista. The ship, coming from Mindelo, will call at Palmeira (Sal) and Sal-Rei (Boa Vista) once a week. The islands will thus be supplied with food (and other goods) from Mindelo, providing an additional market outlet for Santo Antao. The only food export of the islands will be fish.

## 8. THE LEEWARD ISLANDS

134. The Leeward Islands have a relatively large agricultural potential. This applies in particular to the islands of Santiago and Fogo. The lowest potential is found on the fairly flat and very dry island of Maio, but even there an increase in agricultural production is still possible. This situation implies that, with the exception of Maio, the production areas and consumption centres are located on the same island. Exports are small, viz. from Santiago to Portugal (bananas, about 500 tons per year) and fruits and vegetables to islands where these are in short supply (Maio, Boa Vista, Sal), while there is also a small export from Fogo to Praia (mainly vegetables and grapes). The urban market of Praia is largely supplied with tubers, fruits, vegetables, etc., from the hinterland of Santiago island, but its position as an urban market is much less prominent in the Leeward Islands than that of Mindelo in the Windward Islands.

### 8.1. Santiago, Maio and the position of Tarrafal

135. Santiago, with almost 50% of the population of Cape Verde, has the largest agricultural production of any island in the archipelago. It is also the only island where irrigated valleys with a width of a few kilometres can be found. The two principal agricultural areas are the highlands, with rainfed agriculture in the central-western area, the Santa Catarina District (where some of the best soils of Santiago are found), and the irrigated valleys along the north-east coast of the island. Both areas are separated from the Praia market by rugged mountains. The main valleys, which supply Praia with fruits and vegetables, are Santo Domingos, about 15 km from the town, and the southern valleys along the north-east coast (Ribeira Seca, Santa Cruz). Two state farms, Santo Domingos and Santa Cruz, play an important role in the supply of the town (see also Chapter 4). Most products are in short supply and prices are high, sometimes very high for a developing economy. This is as a result of the high purchasing power of the upper income groups. The high prices they pay for products, such as potatoes, onions, fruits and vegetables, are out of reach of most of the people.

136. For planned developments, the following factors must be taken into consideration:

- The large increase in the production of cereals (sorghum,

maize, millet) and beans (pigeon peas) will require the installation of a mill for the processing of sorghum, and substantial increases in storage capacity, storage management and transport facilities;

- To reduce storage management to a minimum, consumer centres must be established as close as possible to production areas and storage at the farm level must be improved;
- The sorghum mill will have to be planned at a site where transport costs of sorghum to the mill and of processed products from the mill can be kept as low as possible;
- Development of a proper marketing infrastructure should take place along with the projected increase in agricultural production.

137. The improvement in marketing and processing mentioned in paragraph 136, can be accomplished in the planned developments for northern Santiago of which Tarrafal is the main centre. It is planned to have a small harbour there, and a sorghum processing plant as well as a big fishing industry. The roads leading from the agricultural production areas to Tarrafal will also be improved. The north-eastern coastal road has been projected as a trunk road with feeder roads leading into the valleys. An improved infrastructure for the villages along the trunk road will permit developments in non-agricultural sectors. An increase in economic growth will permit the establishment of properly organized village markets close to the production areas (the valleys). Transport of agricultural products to Tarrafal will either follow the coastal road or will go down from the highlands in the western part of the island.

138. Tarrafal is planned as the main market and distribution centre for the northern half of the island, where the largest part of the population and the highest agricultural potential are concentrated. This applies to home-grown products, fish, and imported products which arrive by sea from either Mindelo or Praia. The strategic position of Tarrafal in regard to fisheries has been outlined in Volume V. The necessity for developing Tarrafal to balance the one-sided and too rapid urban growth of Praia has been discussed in Volume I. To this can be added its strategic position as a market and distribution centre which will also allow for industrial activities such as wood processing, fish canning, tanning of hides, etc.

139. Maio is, in relative terms, a fairly large island with a very small population (about 4,000). Most of the island is flat and very dry. Consequently, its agricultural potential is also limited although an increase in agricultural output, may be achieved through the use of dry farming techniques. Fisheries and the exploitation of some salt flats are at present the main activities of the islanders. Most foodstuffs have to be imported, including most fruits and vegetables. The island's trade is in the main conducted with Santiago, particularly through the Praia market. The construction of a cement factory in Cape Verde, as planned, could make the country self-sufficient in this material and able to export some hydraulic cement. More intensive exploitation of the salt flats is also a possibility. For these developments the construction of a harbour at Vila de Maio is required (and planned) for the export of cement and salt and the import of pozzolana. In the food strategy study it is foreseen that there will be a substantial increase in population and that the strong attraction of the Praia market will lessen and be diverted towards other harbours and distribution centres such as Tarrafal de Santiago and Mindelo, in particular.

#### 8.2. Fogo and Brava

140. The small island of Brava, which has suffered much from the drought, is largely supplied with food and other goods from the larger island of Fogo, with which it is connected by ferry boat. However, its agricultural potential would allow the island, which is thinly populated, to become largely self-sufficient in food as and when dry farming techniques are introduced. The sorghum then produced would have to be shipped via Fogo to Tarrafal de Santiago for processing, while composite flour, macaroni, Pearl Dura, vegetable oil, sugar, lard, etc. would have to be imported. Unfortunately, there are no practical harbour facilities in Furna. However, the installation of a pontoon or a short jetty could permit the loading and unloading of ships, sufficient to meet requirements for many years to come.
141. Fogo has one of the best agricultural potentials of all the islands, almost exclusively in rainfed agriculture. However, it needs to adopt dry climate cultivation of cereals and beans and take into account the fog on the mountain slopes, from which trees and tall shrubs can extract considerable amounts of water. Dry farming techniques could make Fogo and Santo Antao major exporters of cereals and beans in the archipelago, and, to

a lesser extent, of fruits, tubers and coffee. If this happens, their main market will be Mindelo, not Praia, as is the case at present for Fogo. The infrastructure of Fogo requires several improvements to facilitate marketing of agricultural products to cope with the much larger volume of future exports. Such improvements include the completion of the north-western section of the road from the capital São Filipe to Mosteiros. This road will connect the most productive area with São Filipe. To cope with such increased trade, São Filipe will require new harbour facilities for ships of up to 500 tons. The best site for the harbour would be the Bay of Nossa Senhora de Soccoro, south of the town. In addition, the runway of the airfield, at present dangerously short, must be extended. All such provisions are included in the development plans, to be carried out with aid from the German Federal Republic. The planning of the present Food Strategy Study includes the development of the town's central market, the export and import centre of the island. This development will promote growth of the town by 50 percent or more.

### 8.3. Transport Routes

142. The road passing through the mountains from Praia to Pedra Badejo, which continues along the north-east coast to Tarrafal, can be used by both cars and trucks. A part of the section between Assomada and Tarrafal is in a very bad condition and needs to be repaired, while the old road from Assomada to Tarrafal, partly along the west coast (Baia do Chão Bom), needs to be paved. When much larger volumes of home-grown agricultural products have to be transported than at present, all road transport routes will have to be made as short as possible. The access from the production areas to Tarrafal, the main marketing, processing and distribution centre, demands major improvements of all three roads. The construction of a harbour and a site for industrial development in the northern part of the Bay of Chão Bom, directly to the south of Tarrafal, must also be undertaken.
143. The sea transport routes to and from Tarrafal are partly determined by the scheduled ferry service from Tarrafal to Mindelo, São Filipe (Fogo), Praia, and Vila de Maio (see Volume VII, part B). The weekly passenger and goods services will sail to São Filipe and to Praia with an extension to Vila de Maio to take in cement, salt, etc. The service to Mindelo will be three times in two weeks. The boat will transport the following foodstuffs to various markets in the archipelago



- Fish: frozen fish from Tarrafal to the large cold storage facilities of Mindelo (Tarrafal will become the main centre of industrial fisheries in the Leeward Islands).
- Sorghum, millet, beans, tubers, fruits: occasionally from São Filipe via Tarrafal to Mindelo (these products will generally be shipped directly from São Filipe to Mindelo by the "Circle Line" (Volume VII, part B).
- Wheat flour from Mindelo to the flour mill in Tarrafal for the production of composite flours.
- Composite flours to Vila de Maio, Praia and São Filipe.

In addition to these shipments, Tarrafal will also function as a distribution centre for the whole of the northern region of Santiago (road transport by truck to the small towns and villages and sea transport in small boats to the fishing villages along the west coast). Imported commodities such as vegetable oil, sugar, and milkpowder will also be shipped from Praia or Mindelo to Tarrafal.

144. São Filipe, Fogo, will be served by three shipping lines - the ferry from Praia to Fogo and Brava, the line to Tarrafal (Santiago) and the "Circle Line". The latter will take about six days to sail from Mindelo to Palmeira (Sal), Sal-Rei (Boa Vista), Praia, São Filipe and back to Mindelo. São Filipe therefore will have a direct connection with Mindelo once a week, and an indirect connection, via Tarrafal, also once a week. The latter connection also runs from Mindelo via Tarrafal back to São Filipe. The connection with Praia will be twice a week by the ferry service Praia - Fogo - Brava.
145. The transport routes described in this chapter will make it possible for São Filipe and Tarrafal to function as regional central markets, import, and inter-island export and distribution centres. Tarrafal in this concept will be far the most important and will also operate the flour and macaroni processing plants for the Leeward Islands. Both centres will have regular and direct connections with Mindelo and will largely be orientated towards that centre - São Filipe for the export of agricultural products and Tarrafal for the export of fish and the import of wheat flour. Passenger transport on the ferry boats is expected to follow the trade pattern.
146. Praia will be supplied with foodstuffs from the southern region of Santiago, from Maio (fish) and from Tarrafal flour, macaroni, Pearl Dura, etc. The strategic maize stock of the country will be concentrated in the silo in Praia,

whereas the harbour, which can be used by ocean-going ships, will function as the import centre for the Leeward Islands. Imported goods can be shipped from here to Tarrafal and São Filipe as secondary distribution centres for their regions (northern Santiago and Fogo, Brava), with Praia as the distribution centre for southern Santiago and Maio.

## 9. CONCLUSIONS AND RECOMMENDATIONS

147. The absence of a marketing policy and a proper marketing structure for home-produced foodstuffs is not critical at present because of the low level of production and the small quantities of products marketed. However, a good market policy and an adjusted price policy, along with a proper marketing structure, will become increasingly necessary with the increase of home-produced foodstuffs which will largely replace imports. Such a structure should be kept as simple as possible and not hampered by over-organization.
148. A good marketing structure in Cape Verde cannot be accomplished without some major improvements in the country's infrastructure (see Chapter 7 and 8). In addition to the present functions of Mindelo and Praia as import and distribution centres, there will be a big increase in inter-island trade in home-produced commodities, especially of foodstuffs. Mindelo and Praia will become the marketing and distribution centres for these products, with secondary centres in Porto Novo (Central Santo Antao), Janela (Northern Santo Antao), Tarrafal de San Nicolau (San Nicolau), Tarrafal de Santiago (Northern Santiago) and São Filipe (Fogo, Brava). Mindelo will become by far the most important centre of marketing and industrial development and for the export trade. Tarrafal de Santiago will become the most important centre in these respects on the Leeward Islands, followed by Praia and São Filipe. Porto Novo, Janela and Tarrafal de San Nicolau will be entirely, and Tarrafal de Santiago and São Filipe partly, orientated towards Mindelo.
149. The development of secondary marketing and distribution centres, which will also assemble and store home produced products, will stimulate economic growth of these centres and in the surrounding region.
150. The following recommendations are given regarding the required marketing and price policy
- guaranteed prices must be introduced for the staple foods at a price level high enough to be an incentive for the farmer to produce more.
  - neither price guarantees nor fixed prices should be set for perishable products, but their marketing should be made as simple and speedy as possible.

- the marketing structure must be improved by training staff to a professional level in marketing work and operations. At the same time better storage and transport facilities must be provided and better packing material used.
- the control of local markets with regard to hygiene and quality of products and selling them by weight or volume must be established through the effective introduction of market rules and regulations.

151. The organization of marketing needs the following action to be taken.

- An Marketing and Extension Division for Agricultural Products must be set up by the Ministry of Rural Development (MDR) to advise the Government on marketing and price policy and to be responsible for the programme referred to above for the improvement of marketing in general.
- The Marketing and Extension Division will organize facilities for buying and storing staple foods and selling to farmers agricultural inputs, such as seeds, fertilizers, insecticides, pesticides, tools, and so on.
- The field units of the Marketing and Extension Division will act as agents of the agricultural (rural) credit branche of the Banco de Cabo Verde in providing credit to the farmers.

One function of special importance will be the organizing of farmers' "associations" to provide a channel through which farmers can be kept informed of marketing conditions, prices, and outlook. Such a channel of information is essential for the healthy development of farming and marketing of agricultural products. The provision of such an information service must be undertaken by the Marketing and Extension Division with fully trained staff in its headquarters and in the field.

152. As part of the programme to improve the agricultural infrastructure in Cape Verde, the cultivation of drought-tolerant varieties of food crops along with improvement in farming practices are essential. So, too, in the development of the harbours of Janela (Santo Antao) and Tarrafal (Santiago) and the road systems leading to them. Linked with such developments is the improved and extended ferry services, as explained in Volume VII, Part B, of this report.

153. As little expertise in marketing is available in Cape Verde, the staff of the Marketing and Extension Division will have to be given thorough training in all aspects of their work through instruction courses provided by foreign assistance.

154. In view of the importance of the language used for instruction and of Portugal's leading role as a trading partner of Cape Verde, Portugal is clearly the most suitable country to provide the training assistance required with, if desired, financial support from other countries.

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Annex I AREAS PER ISLAND OF IRRIGATED LAND PLANTED TO ROOTS AND TUBERS,  
BANANAS AND VEGETABLES (Areas in hectares)

Island	Total area irrigated	Cassava and Sweet Potatoes	Bananas	Vegetables and Irish Potatoes
<u>Windward Islands</u>				
Santo Antao	772	143	36	36
São Vicente	25	5	-	20
San Nicolau	46	1	4	2
Boa Vista	2	1	-	1
<u>Leeward Islands</u>				
Maió	17	6	-	2
Santiago	975	150	96	120
Fogo	20	-	-	20
Brava	13	1	-	2
Total	1,870	307	136	203

Sources: Volume II and personal communication J.J.VAN DER ZEE.

Annex II PRESENT AND PROJECTED HARVESTING SEASONS OF VEGETABLES

Crop	Growing cycle in days	Harvesting Season											
		Oct	Nov	Dec	Jan	Febr	Mar	Apr	May	June	July	Aug	Sept
Tomato	60				—————	—————	—————	—————	—————				
Pepper	70				—————	—————	—————	—————					
White Cabbage	75 80				—————	—————	—————						
Leafy Cabbage	45 50				—————	—————	—————	—————					
Cauliflower	80				—————	—————	—————						
Carrot	90					—————	—————	—————					
French beans	55				—————	—————	—————						
Lettuce	45				—————	—————	—————	—————					
Courgette	100- 120	—————	—————										—————
Cucumber	60				—————	—————	—————	—————	—————				
Melon	80								—————	—————			
Water Melon	80								—————	—————	—————		
Onion	90				—————	—————	—————						
Garlic	160							—————	—————				

————— harvesting season at present  
 ————— harvesting season in future when improved varieties, water supply cultivation methods and pest and disease control are used  
 - - - - - possible extension of the harvesting season at high altitudes

Source : CAPO-CANELLAS & LE LANDAIS, 1980

NB: In the off-season period, June until November/December, alternative sources of green leafy vegetables could be: young leaves and tops of sweet potatoes and cassava, as also the South-East Asian vegetables *Amaranthus spinosus*, *Alternanthera sessilis* and *Euphorbia thymifolia*.