PROGRAMMES FOR SELF-SUFFICIENCY IN ROOT CROPS AND FRUITS

David J. Demacque
(Agronomist, Ministry of Agriculture, St. Lucia)

Introduction

For many years now, St. Lucia has been faced with the problems of under-development, viz., low levels of income, malnutrition, disease, poor housing, little education and so on.

Recently people have been demanding higher incomes, better housing conditions and there is an overall desire for higher standards of living. But it must be understood that the amenities that go with development can never be enjoyed and sustained without solving the problems of food supply. One way a developing country can sustain development is by reducing the large import bills on foods which can be grown or substituted for locally. That is, such countries must be able to produce as much of their own food as possible to feed the growing masses. Foods must be supplied in the right type and the right amounts and at reasonable prices. In this way the dietary requirements can be made available to all people including those in low income brackets.

Today, St. Lucians have barely sufficient calories to satisfy their dietary needs [1]. Data suggest that energy supplies were only 3 per cent above calculated needs. In developed countries, it is usual for the energy supplies to be 20 to 30 per cent higher.

The cheapest sources of energy in St. Lucia are root crops (sweet potatoes, yams, tannias, mangoes etc.). Production of these items is low and supplies fluctuate from season to season, hence the importation of other forms of energy foods and processed fruits in order to satisfy the needs.

Changing world trends of food supply and inflation have led to the realization of the importance of root crops and fruits and the need for self sufficiency in such products is becoming apparent.

Some Features of the Current Agricultural Situation

In St. Lucia there is an area of 65,766 acres of farm land, over 50 per cent of which is under the control of about 25 per cent of the farmers and comprise farm holdings of 50 and more acres (Appendix 1). At present over 40 per cent of the cultivable land is under permanent export crops - bananas and coconuts (Appendix 2). The arable land consisting of 20 per cent of the potential cultivable land is used for domestic agriculture. About 24 per cent of the land is more or less uncultivated, and approximately 18 per cent of this area is occupied by farms of 50 acres and over.

Agriculture in St. Lucia is export-oriented. In 1971 bananas supplied 62.7 per cent of the total export [2]. For this reason, investment in agriculture has tended towards the export section and away from the domestic sector. The output of farm products for domestic use has been somewhat unorganised. Institutions such as marketing, financing and extension, needed to service domestic production are inadequate, leading to inefficient production. This inefficiency is mainly due to lack of funds for investment in domestic agricultural production due to multiple ownership and insecurity of tenure.

Marketing facilities for fresh products as well as facilities for purchasing, storage, processing, packaging and distribution of locally produced foods are inadequate and do not encourage local production. But on the other hand, the marketing arrangements for imported foods are well organised. As a result of limited marketing and distribution facilities roughly 20 to 30 per cent of the limited local production is wasted and domestic demand for certain food items is met by imports.

Appendix 3 which shows the percentage distribution of Gross Domestic Product by industrial origin emphasizes the export orientation in St. Lucian agriculture and the small contribution of domestic production to the national economy. Bananas contribute over 90 per cent of the total agricultural export in a mono-crop economy [3] in which the agricultural sector employs the majority (39.6 per cent) of the working force compared to 21.4 per cent employed in services (Appendix IV).

Since the country is still largely dependent on agriculture there is need for large scale improvement of domestic agriculture to spearhead the move towards self-sufficiency in food production. Some of the benefits which can accrue from such self-sufficiency are discussed in the following sections.

Potential Benefits from Self-sufficiency in Root Crops and Fruits

Import substitution and replacement: Heavy dependance on food imports places the country in a vulnerable position and at the mercy of world prices which are entirely beyond local control. Trade gaps will widen unless measures are taken to exploit the resources to increase production and move towards import substitution and replacement. Import substitution and replacement will stimulate local production of roots and fruits. In turn, increased availability of these local products will stimulate the development of local food industries. It may be argued that there are very few locally-produced food commodities that are sold at prices lower than their imported counterparts. However, with the present world trends, the prices of imported foods will continue to rise (Appendix 5) and it suggested that there will always be a long-term advantage in local production and self-sufficiency of foods.

Foreign exchange: Table 2 shows that a large amount of funds has been spent on food imports and there have been wide disparities between the values of food imports and food exports. It is envisaged that increases in the local production of root crops and fruits towards self-sufficiency will save and earn foreign exchange directly by reducing imports and increasing exports. The funds earned in this way could be used in the development of other industrial sectors.

Table 1. Value of Total Imports; Total Food Imports and Total Imports of Root Crops and Fruits; St. Lucia, 1970 to 1972

Year	Total Imports		Total Food Imports		Imports of root crops and fruits	
	($)	(%)	($)	(%)	($)	(%)
1970	54,585,176	100	10,374,992	19.0	289,196	2.8
1971	68,998,429	100	12,147,883	17.6	624,050	5.1
1972	68,690,160	100	13,179,121	19.2	595,408	4.2

Source: Statistical Section, Development and Planning, St. Lucia, 1972.

Table 2. Balance of Food Imports and Exports; St. Lucia, 1970 to 1972

Year	Imports ($)	Exports ($)	Trade Balance ($)
1970	10,374,992	5,687,365	-4,687,627
1971	12,147,883	7,346,169	-4,801,714
1972	13,179,121	8,920,060	-4,259,061

Source: Statistical Section, Development and Planning, St. Lucia, Overseas Trade, 1972.

Diversification of agriculture: Programmes for self-sufficiency in root crops and fruits will influence the diversification of agriculture. The structure of the current agriculture is based on production of mainly bananas and coconuts for the export market [4] and about 52 per cent of the total cultivated area is occupied by these crops. Other tree crops occupy about 3.6 per cent and root crops about 25 per cent of the cultivated area. Such crop distribution stifles the development of domestic agriculture. Alternatively the food demands in a self-sufficient agricultural system will lead not only to crop diversification but also to diversification of income both at farm and at national levels. It is proposed that such diversification will lead to stabilisation of the economy.

Development of agro-industries: Self-sufficiency implies an increase in local production of food but since production of both roots and fruits is seasonal a large proportion of the production will be wasted unless small scale industries to deal with processing and preservation of surpluses from the fresh market are developed in programmes for self-sufficiency. Otherwise the demand for these or similar items would have to be met by importation when local commodities are in short supply.

Employment: The population census taken in mid-year 1970 shows that 40 per cent of the total population is in the economically productive age. This means that out of a population of about 101,000, a total of 40,400 can be employed. Appendix 4 shows that only 26,378 were employed in 1970 and therefore some 14,022 persons suitable for employment were not employed. Today, the situation is even more alarming. Self-sufficiency is seen as a means of providing employment for a large number of unemployed people by creation of additional employment through development of agriculture.

It is proposed that the potential benefits of self-sufficiency in food enumerated will provide a round basis for developing agriculture in St. Lucia and will lead to stabilizing the economy of this country.

Considerations

In considering programmes for self-sufficiency, due attention must be given to the steps and measures that would increase the efficiency of agricultural production through increase in productivity of the farm worker. At the same time, other servicing industries must be developed to deal with the increasing production of crops. This will bring about an increase in the income of farmers and enable them to reduce dualism between other sectors of the economy. It is only then that food production would be maintained.

The programmes considered below are directly related to St. Lucian conditions.

Research and Extension

Research and extension are undertaken under the crop improvement and crop expansion programme.

Research work has been undertaken by the Research Division of the Ministry of Agriculture in various aspects for increasing the yields of root crops and fruits. Work is being done on the fertilizer levels and fertilizer requirements of sweet potato and yams in various parts of the State. Selection is also being made for higher yielding varieties.

Planting material for the cultivation of fruits is produced at three propagation centres. Plants are sold to farmers at subsidized rates. Research experiments on fertilizer requirements of pineapple, passion fruit and papaw selection, are also undertaken. The recently established Produce Chemists Laboratory is carrying out research in the preservation and processing of a number of locally grown fruits. The shelf-life of the jams, jellies and other preserves and juices are being examined.

The Extension Division has been working very closely with the farming community throughout the State. It advises farmers on improved methods of crop production. It also advises the Research Division on current field problems. Efficiency of the Extension Division may further be increased if due attention is given to farm planning and farm management. They should also be better equipped to carry out their function.

The St. Lucian farmer is faced with two major problems in his attempt to produce food. These are financing agricultural production on the one hand and marketing agricultural produce on the other. Agricultural credit for financing production inputs, such as labour, fertilizers, insecticides etc. is not easily available. The poor marketing structure and means of distribution do not give the farmer the incentive to produce. Agricultural credit, marketing and distribution are important prerequisites in any programme for self-sufficiency. For this reason, loans at low interest rates should be made available to farmers in cash or in kind for direct purposes of production. Payment of loans could be recovered through a crop procedure. Deductions may be made from growers' accounts on delivery of produce.

The St. Lucia Marketing Board offers contract prices for various food items. These prices are in general minimum prices, but in order to encourage out-of-season production, higher prices are being offered. Support for agricultural produce should also be geared towards rewarding and giving encouragement to the efficient and productive producer. This may be done by:

(i) pricing structures related to the use of productive inputs; and
(ii) differential prices related to product quality.

This of course would require proper co-ordination between marketing and extension activities.

Negative Listing and Licensing

In order to stimulate the local production of root crops and fruits due consideration has been given to negative listing and licencing, but it is important to point out that placing a high tariff on a particular commodity in order to protect local production may not stimulate local productivity unless other productivity enhancing measures are employed at the same time.

Development of Food Science Technology and Food Industries

Mention has been made elsewhere in this paper of the large amount of wastage of the limited food that is locally produced. The reason is because of the lack of improved methods of conservation, handling and packaging of the local produce. Development of these facilities will increase the volume of foods available and thereby increase returns to producers. There will also be upgrading of overall produce quality to the consumer.

Legislation for the Utilization of Available Arable Lands

Data show that a large amount of underutilized land can be found on farms 50 acres and over. These lands should be made to produce roots and fruits. This could be done by the setting up of a producer authority or by imposing heavy taxes on unproductive lands. The large estates that operate on an export production basis should be made to utilize certain acreages for the domestic production of food crops and fruits.

Land Reform and Pilot Projects

Agricultural production suffers great setbacks because of the land tenure situation. Large acreages of family land are usually cut up between heirs. The result is that the plots are too small to sustain a viable income. Some form of land reform coupled with the setting up of pilot projects would increase the agricultural productivity and hence contribute to the achievement of self-sufficiency.

References

1. Government of St. Lucia. *Food Balance Sheet, St. Lucia, 1970.*

2. Government of St. Lucia (1971). *Annual Statistical Digest.*

3. Government of St. Lucia (1972). *Draft Five-Year Development Plan.*

4. Ministry of Agriculture. *Agricultural Census, 1973/74.*

Appendix 1. Acreage Distribution by Size Group; St. Lucia

Size Group	Acres	(%)
0 - less than 10	17,873	27.2
10 - less than 50	12,752	19.4
50+	35,141	53.4
Total	65,766	100.0

Source: Reference [4].

Appendix 2. Farm Land Use; St. Lucia

	Acres	(%)
Permanent crops	26,962	41
Arable land*	13,102	20
Grassland**	6,683	10
Forest & Woodland	15,793	24
Other land	3,226	5
	65,766	100

Notes: * Temporary crops, temporary pasture, temporary fallow, other arable land.

** Cultivated and uncultivated.

Source: Reference [4].

Appendix 3. Percentage Distribution of GDP by Industrial Origin; St. Lucia, 1967, 1969, 1973

Industrial Sector	% Distribution		
	1967	1969	1973
Export agriculture*	19.5	21.5	18.2**
Domestic agriculture	8.1	6.6	6.3
Manufacturing	4.5	3.5	3.7
Construction and engineering	11.8	14.1	11.2
Public utilities	2.4	2.4	2.8
Transportation	2.8	3.0	4.1
Distribution	17.3	15.9	15.2
Finance and insurance	3.8	3.7	3.4
Rent (of dwellings)	6.3	5.8	5.4
Hotels	2.0	2.8	7.4
Services	4.9	4.5	4.4
Government	16.6	15.9	17.9
Total	100.0	100.0	100.0

Notes: * Contribution of bananas over 90 per cent.

** 1973 estimate

Source: Reference [3].

Appendix Table 4. Employment in St. Lucia by Sector; 1970

Sector	Employment	
	No. of persons	% of total employed
Agriculture	10,446	39.60
Mining	18	0.10
Manufacturing	2,153	8.20
Constructing	3,128	11.90
Electricity	2,259	8.60
Commerce	1,339	5.10
Transportation	1,078	4.10
Services	5,653	21.40
Not selected	304	1.10
	26,378	100.0

Source: Reference [2].

Appendix Table 5. Cost per Pound of Selected Imported Food

Item	1970	1971	1972	1973
	($)			
Irish potatoes	0.12	0.09	0.13	0.19
Apples	0.37	0.41	0.49	0.58
Grapes	0.44	0.68	0.90	1.12
Citrus fruits	0.12	0.29	0.29	0.35
Preserved fruits	0.53	0.58	0.68	0.85
Other fruit juices	0.35	0.40	0.40	0.61

Source: Government of St. Lucia Statistics Division, Planning and Development, 1970, 1971, 1972, 1973.