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INCENTIVES AND SUPPORT SYSTEMS FOR FOOD AND AGRICULTURE IN THE LDC STATES OF CARICOM*

A Draft Report

Research Team:

W. Dore
D. Campbell
K. Archibald
S. Bedran
A. Phillips
C. Browne

Project Coordinators:

C. Pemberton
R.H. Singh (Asst.)

Project Supervisors:

C. Bourne
L. Rankine

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Over the years, many Caribbean governments have committed considerable resources in the form of incentives and other forms of support as part of their broad policy instruments geared towards the development and transformation of the agricultural sector as well as the stabilization of food prices to the consuming public. Concurrent

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with these provisions, have been continuous increases in the Food Import Bill for many of these States. In the face of dwindling financial resources as well as the emergence of new development strategies, several of the States have, for example, withdrawn subsidy programmes from certain production subsectors and removed price support from others. The result has been, in some cases, dramatic increases in the price of certain food items. Such decisions though considered rational in certain cases, in general, have not had the benefit of a rigorous analysis to assess the impact of such actions on the current and future performances on the agricultural sector in terms of its ability to fulfil its role as the primary source of food for most of these economies.

This study was undertaken by a group of researchers on behalf of the Caribbean Agro-Economic Society in an effort to partially fill this gap and to sensitize these States who have not already done so, to the need for such studies to guide their actions with respect to the critical areas of incentive and support systems for food and agriculture in the LDC States of the Caricom Region.

This preliminary study focussed on three major issues:

1. the development of an inventory of incentive and support mechanisms that forms part of that broad group of policy instruments designed for the agricultural sectors in the LDC States;
2. preliminary evaluation of the effectiveness of these programmes in terms of their impact on the agricultural and food sectors;
3. identification of projects for further empirical analysis.

In order to carry out the above projects, a research team comprising members of the Caribbean Agro-Economic Society was mobilized in November 1985 with field work beginning in February 1986.

Special thanks are due to the Caribbean Food and Nutrition Institute (CFNI) for their generous financial support for the execution of the project and to the International Research and Development Centre (IDRC), Canada, for supplementary financing for the study.

The Study could not have been completed without the collaboration and support of the officials in the relevant ministries, organizations and institutions in the LDC States; to them we express our deepest gratitude.

Members of the research team made tremendous sacrifices in the conduct of the field activities. Such efforts are duly acknowledged, as are those provided by the staff of the Department of Agricultural Economics and Farm Management (DAEFM).

The results of the Study presented here, are indeed preliminary, owing to the limitations of the data base and general variation in quality of information available for the agricultural sector in the States in which the Study was conducted. Notwithstanding, it is hoped that the findings presented herein will serve to sensitize and stimulate discussion and further indepth research on the very important area of incentive and support systems for food and agriculture in the LDC States and for that matter, the entire Caricom Region.

(C. Bourne, L. Rankine; March 1986)

PART I

A. INTRODUCTION

Attaining adequate levels of food supplies for members of their population has long been recognised by Caribbean governments as a major issue in their planning and development strategies. Achievement of this objective has, so far, proven very elusive for many of these States. This is so for several reasons. Four of these are:

1. inadequate capacity either to provide such requirements locally or finance their purchases externally;
2. significant variation in the performance of the agricultural sector and its resultant impact on the performance of other sectors of the economies;
3. lack of appropriate, well coordinated and defined policy instruments to generate the desired responses at all levels of the sector; and
4. the extreme openness of the economies which continue to expose them individually and collectively to the vagaries of international economic forces.

Notwithstanding the above factors, the governments of the Region have consistently provided some form of support or incentive to the agricultural sector in an effort to increase the scope for security in food supplies consistent with approved nutritional requirements.

Available data indicate that in 1982 the Government of St. Kitts-Nevis spent about EC\$6.9m on subsidies of various kinds; the Government of St. Vincent, EC\$.143m; and EC\$.39m and EC\$.155m for St. Lucia and Montserrat, respectively. These are relatively small figures, when compared to expenditures of TT\$243m by Trinidad and Tobago in the same year. Though small, however, the figure for the LDC's represent important components of the total budgetary allocations.

Invariably, such support is directed toward improvement in production and productivity, stability in costs of inputs to farmers and farmers' incomes as well as prices paid by consumers for food. More recently, support has been forthcoming in the form of stimulation of exports of non-traditional commodities in order to generate much needed foreign exchange to finance, among other things, the purchase of food and other requirements that cannot be produced locally. However, while these provisions have been in force for a considerable period of time, there has been no comprehensive evaluation of the effectiveness of these instruments in terms of their impact on the agricultural sector in particular and on the respective economies in general. A few studies have been conducted in at least one of the More Developed Countries (MDC's). The results of these studies have provided information for the restructuring of some of the above instruments, the complete removal of others and still the introduction

of new ones.*

In several of the Caricom States, there has been widespread removal of these support mechanisms, albeit without the benefits of empirical analysis, either because of austerity initiatives of dwindling financial resources. Usually such actions have become part of structural adjustment programmes being pursued by many Caricom States. While it has been widely recognised that the regimes support need to continue if the agricultural sector is to fulfil its rightful role in the development of Caricom economies, no comprehensive review of these instruments has been undertaken either at the regional, sub-regional or individual levels.

The current study is designed to sensitize Caribbean governments to the need for effective rationalization of various incentive and support systems for the agricultural sector based on detailed conceptual, operational and empirical analysis of the real impact of these instruments on the agricultural sector. Such analysis could provide more than a useful framework for the development of future programmes.

Objectives of the Study

This study is concerned with a review of the various incentive and support systems currently in force as they apply to the food and agricultural situation in the LDC States of Caricom. More specifically the objectives are as follows:

- (i) the development of an inventory of the various support and incentive schemes currently operating in the LDC Caricom States;
- (ii) where possible, comment on:
 - (a) major weaknesses inherent in the system at the national level; and or
 - (b) the relative effectiveness/impact of these instruments on the performance of the agricultural sector in these States;
- (iii) identify areas for further research on these policy instruments.

It is anticipated that this initiative will assist the relevant LDC Caricom States to develop a more rational approach to the design, implementation and monitoring of the effectiveness of support instruments in the agricultural sector.

Scope and Limitations of Study

The LDC States of Caricom broadly comprise the following: Antigua and Barbuda, Belize, Dominica, Grenada, Monsterrat, St. Lucia, St. Kitts-Nevis, and St. Vincent. These countries constitute a

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- (i) Evaluation of Government's Subsidy and Incentive Programmes in Relation to the Dairy and Meat Industries in Trinidad and Tobago.
- (ii) The Economic Evaluation of the Impact of Subsidy and Incentive Programmes (including guaranteed prices) on Agricultural Development in Trinidad and Tobago.

Both of these studies were commissioned by the Government of Trinidad and Tobago and executed by the Department of Agricultural Economics & Farm Management (DAEFM), The University of the West Indies (UWI), St. Augustine, Trinidad, 1983 & 1984.

heterogeneous grouping with respect to size, effective area of land available for agricultural purposes, population density, historical and cultural experiences and level of economic organization and development, features which increase the complexity of the exercise particularly when an attempt is made to compare and contrast the effectiveness of various support and incentive programmes.

A second and perhaps more important limitation is the data base and the state of awareness that exists among high level staff in the public service, relative to the presence or absence of support mechanisms as part of a general agricultural policy framework. In all instances, a comprehensive document or statement setting out the support and incentive mechanisms available to the agricultural sector did not exist. The measures are either vaguely stated in general terms or are hidden in externally funded projects that rapidly become important components of national development activities. Considerable time had to be spent in researching these documents which made it impossible to conduct the indepth analyses contemplated during the early conceptionalization of the project. Another major constraint was the limited financial resources to execute the project in the seven states identified above.

Notwithstanding the above limitations, it is hoped that this pioneering effort will provide the basis for more comprehensive treatments of the project.

Organization of the Report

The report is organized within three major sections. The first section (Part I) includes the background, objectives, scope and limitations, as well as the methodological approach adopted for the study. It also includes a brief overview of the economies being studied focusing on major economic indicators; conceptualization of the role and contribution of incentive and support systems for food and agriculture, as well as general classification of incentive and support systems.

These discussions provide the general background for the state of the art presentation for the various countries, which form Part II of the Study. The country profiles, as they are referred to, highlight the performance of these economies over the recent past. Where possible, the objectives of existing incentive and support systems for food and agriculture are specified, followed by an inventory of the various instruments and mechanisms identified during the conduct of the research. Administrative mechanisms are identified and evaluated followed by an attempt at some evaluation (qualitative) of the performance of these instruments in their respective economic environment. Part III attempts a comparative analysis of the incentive and support mechanisms and provides some recommendations for future action.

B. METHOD OF APPROACH

The methodology adopted in the Study comprises two major activities. The first involved the development of a conceptual framework for the conduct of the study. This entailed clarification of issues relating to those mechanisms that can be regarded as 'incentive' and those that can be correctly be termed 'support' with

respect to food and agriculture. The second involved the development of appropriate operational procedures for the collection, processing and analysis of the relevant data for members of the LDC group.

With respect to the first, considerable time was devoted to the definition of the two concepts 'incentive and support' largely because such definitions would set the limits or boundaries on the instrument that would be researched and provide some indicators for the evaluation of the instruments or mechanisms themselves.

For purposes of the study, incentives were interpreted to mean any instrument, mechanism or programme, temporary or permanent, that forms an integral part of the broad agricultural and economic policy that is designed to stimulate production and productivity within the agricultural sector. Conceptually, such a definition covers a wide range of instruments, both direct and indirect, e.g. subsidy payments in the form of cash or kind, duty free concession on imported agricultural machinery and equipment and non-payment of income tax earned by farmers in the agricultural sector. Similarly, the existence of price control mechanisms as well as the distribution of food stamps to the elderly among the population, is also considered to be an incentive because in both groups of examples, the basic objective is to encourage, induce or influence either the use of improved fertilizers, insecticides or new technologies as well as increased consumption of food through increases in the real income of needy groups among the population.

On the other hand, 'support' is seen in perhaps a much wider context, and in many cases, is largely institutional. With respect to the former, the provision of technical information through the Research Division and the Agricultural Extension Services in the Ministries of Agriculture, and the import policies which attach high penalties to food imports are seen as generally supportive of drives toward self-sufficiency as well as providing the farmers with the opportunity to service a much larger market than that which existed prior to the imposition of such penalties. Policies that induce the establishment of organic linkages between primary producers and agro processors/manufacturers are all seen in the context of 'support'.

Because both concepts, 'incentive' and 'support' are closely related, it is accepted that such intimate relationship itself imposes some constraints on both the data collection and analysis exercise.

With respect to the second methodological issue, the procedure adopted is outlined below. After clarifying some of the conceptual issue relating to 'incentive and support', a preliminary outline of the content of the report was developed and discussed with members of the Executive Committee of the Caribbean Agro-Economic Society. The draft outline was examined against a background of recent attempts at evaluation of the effectiveness of some incentive mechanisms, i.e. subsidies and guaranteed prices, on specific areas within the agricultural sector in at least one Caricom country. Contact was then made with members of the Society located in the countries to be included in the study whom, it was felt, had the technical capacity and the experience to assist in the exercise.* Brief visits were made

*The following disciplines were involved in the exercise: Agricultural economists, economists, agricultural extension specialists, agronomists, livestock specialists and marketing administrators.

to the various countries to:

- (i) assess the data situation; and
- (ii) provide more details on the nature of the study contemplated.

Having gained the agreement and cooperation of the respective 'research officers', work commenced in the respective countries. Government officials, particularly agriculture ministers and permanent secretaries were informed of the Study and with few exceptions, the Study received full endorsement from these officials.

The data collection period varied according to the nature and complexity of the information base, but lasted approximately six weeks in each case. Researchers were then invited to the St. Augustine headquarters of the Society for debriefing, preliminary drafting and analysis.

C. OVERVIEW OF THE ECONOMIES OF THE LDC CARICOM STATES

The LDC Caricom States are taken to comprise the island states of the Leeward and Windward Island grouping and Belize, located as it is, on the Central American continent. Considered as a group, these countries are heterogeneous in nature in terms of land area, population density, other resource endowment, organisation and management of the economy, stage of development as well as cultural and historical experiences. Both the Leeward and Windward groups belong to the Organization of Eastern Caribbean States (OECS), a sub-regional economic grouping with headquarters in St. Lucia. There is also a regional office located in Antigua which handles the majority of the group's economic affairs.

Notwithstanding the obvious differences, members of the group share at least three important features:

- (i) they can be described as open economies with a heavy dependence on imports for basic foods especially cereals and wheat products;
- (ii) because they belong to the same ecosystem, commodities produced in the agricultural sector are highly synchronised, i.e. they are basically of the same types and become available at the same time of the year; and
- (iii) over the last 20 years, only marginal changes have occurred in the structure and mode of agricultural production. Large scale export agriculture continues to dominate production activities side by side with a rapidly emerging vibrant small farm production sector.

Land Area

Table 1 summarises the total land area available for each of the LDC countries and the percentage used for agricultural purposes. The information shows that approximately 50 per cent of the total land area in St. Vincent and St. Kitts-Nevis was used for agricultural purposes compared to only 20 per cent and 6 per cent in Montserrat and Belize, respectively.

TABLE 1: RELATIONSHIP BETWEEN TOTAL AND AGRICULTURAL LAND AREA
IN LDC COUNTRIES IN 1980

Country	Total (ha.)	Agricultural (ha.)	Agricultural/Total (%)
Antigua/Barbuda	44	11	25.0
Belize	2280	125	5.5
Dominica	75	19	25.4
Grenada	34	16	47.1
Montserrat	10	2	20.0
St. Kitts-Nevis	27	15	55.6
St. Lucia	61	20	32.8
St. Vincent	34	19	55.9

Source: Economic Commission for Latin America and the Caribbean (ECLA) (1984): Agricultural Statistics. Vol.VI. Port-of-Spain, Trinidad & Tobago.

Agricultural Employment

Table 2 presents information on total population, number of persons actively employed, as well as those employed in agriculture expressed as a percentage of total actively employed in the entire economy for 1970 and 1982. Perhaps the most important index contained in the table is the number of persons employed in agriculture relative to the total active labour force and the shift that occurred between 1970 and 1982. The information in the table shows that with the exception of St. Lucia, Montserrat and Grenada, agricultural employment, when expressed as a percentage of total active population, increased in all the countries over the period. This ratio was highest for Belize (35.9) and St. Kitts-Nevis (35.7) and lowest for Antigua (9).

TABLE 2: POPULATION ACTIVITY; LDC COUNTRIES ('000)

Country	1970				1982			
	Total	Active	Agricul- tural	Agri./ Active	Total	Active	Agricul- tural	Agri./ Active
Antigua/ Barbuda	65	23	2	8.7	77	22	2	9.0
Belize	120	35	12	34.1	145	39	14	35.9
Dominica	71	21	8	38.1	74	26	8	30.8
Grenada	94	29	8	27.6	107	40	10	25.0
Montserrat	12	4	1	25.0	12	5	1	20.0
St. Kitts- Nevis	45	13	4	30.8	44	14	5	35.7
St. Lucia	101	27	10	37.0	126	44	13	29.5
St. Vincent	87	21	*	*	128	*	*	*

Notes: * Data not available.

Source: ECLA (1984): Agricultural Statistics 1984. Port of Spain, Trinidad & Tobago.

Information on population growth rate, density and per capita GDP are presented in Table 3 for the LDC states. Population growth rates were 3 per cent or less in all states during the period 1979/81 which was more or less consistent with desired levels of increases in population at the national level. The number of inhabitants per square kilometer was lowest for Belize (7) and highest in the case of Grenada (288). Per capita GDP expressed in US dollars was highest in Montserrat (\$2077) and was significantly higher than all the other states. St. Vincent and the Grenadines had the lowest level of per capita GDP (\$677). Comparison with the situation for the More Developed Caricom States can be made using data provided in Appendix I. Also shown in the Appendix is trend in GDP at factor cost for the period 1970-1982.

TABLE 3: POPULATION GROWTH DENSITY AND GROSS DOMESTIC PRODUCT
PER CAPITA (1981)

Country	Population Growth Rate (Average Annual) % (1979-81)	Density Inhabitants sq. km.	Per Capita GDP (\$US)
Antigua	0.8	173	1553
Belize	3.0	7	1066
Dominica	1.2	108	679
Grenada	0.4	288	684
Montserrat	0.7	130	2077
St. Kitts-Nevis	0.3	186	925
St. Lucia	1.3	189	1068
St. Vincent & the Grenadines	1.1	291	677

Source: UNCTAD Statistical Pocket Book: United Nations, New York, 1984.

Agriculture constitutes the major economic activity in the member countries of the LDC group. However, over the years there have been several attempts at diversifying the economic base with varying degrees of intensity as part of a general development strategy. Tourism, manufacture and agro-processing have been the major focus of these activities. Non-traditional export activities have also been added to the list of sectoral thrust.

The contributions of primary agricultural production to growth and development of these economies have been constrained by declining industrial and world demand for commodities, e.g. sugar, bananas, nutmeg, as well as increased protectionist policies in developed economies. These constraints have been so marked that at least two of these countries actually experienced negative growth rates (Dominica and Grenada). Entry into non-traditional export markets is a goal and objective that has been firmly established by many of these states. However, there is considerable doubt as to whether the expectations attached to this new and emerging sector will materialize.

Success lies in their ability to withstand the competitive forces that characterise these markets. Despite the fact that tourism was historically an important sector of these economies, the potential

that exists is yet to be exploited to the maximum. One of the major complaints has been the relationship between prices charged and the value of the services received.

The manufacturing and agro-processing sectors can best be described as assembly/screwdriver industries, due to lack of organic linkages with domestic production.

Nearly all the LDC states experienced balance of payments problems over the last ten years, brought on largely because of the inability to service debts incurred from imports of food and fuel for energy. Foreign exchange earnings fell because the price of primary exports fell in relation to price of imported commodities. The energy crisis which, until recently, continued to plague these states, forced collaborative efforts to develop indigenous energy related infrastructure and exploitation techniques.

Inflationary conditions, though generally moderate, and dwindling financial resources have led many of the states to divert some of their economic activities into private hands - a strategy welcomed by many and criticised by few.

The overall performance of the LDC states over the past ten years, can best be described as disappointing. Inflationary conditions, widespread unemployment, negative or slow rates of growth, severe balance of payments, low production and productivity have been the features of these economies. The major contributing factors have been adverse weather conditions, economic recession in developed economies as well as domestic policy errors particularly with respect to fiscal management and marketing and price arrangements for critical agricultural exports.

Further details on the characteristics and performance of these economies are presented below in the country chapters of this report.

D. ROLE AND CONTRIBUTION OF INCENTIVE AND SUPPORT SYSTEMS FOR FOOD AND AGRICULTURE

The incentive and support system is the collection of price and non-price measures designed to influence production and distribution in the agriculture and food sectors. It encompasses a variety of measures and instruments which are not susceptible to any neat classification but which may, nonetheless, be broadly categorised. One category is commodity price policies. These include price controls, guaranteed prices, and price stabilization arrangements. The common characteristic of these price policies is that they directly influence prices confronting producers or consumers. A second category of incentives and support measures are those affecting input prices. These include price rebates or discounts on producer goods, waivers of import duties and other fiscal charges on imports of producer goods, and the sale by government agencies or enterprises of agricultural inputs at less than free market prices. Credit constitutes a third category of measures. This category encompasses loan interest rate restrictions, credit guarantees, liberal loan repayment conditions, and direct provision of credit. A fourth category may be described as the research, extension and education system. Here, the government generates and disseminates research results and provides advice and training aimed at improving the productivity and marketing performance of farmers. Some activities under this rubric may indirectly affect

commodity prices (e.g. market information) of production costs (e.g. the availability of information on higher yielding varieties). In addition to the types of incentives and supports categorised this far, note should be taken of the international negotiation and diplomatic efforts devoted to enhancing the agricultural sector's participation in foreign markets. Although not readily quantified, these activities may be critical to an export-intensive agricultural sector. A final type of support is restrictions on imports of food products.

The fundamental purpose of agricultural incentives and supports is to effect desired changes in the quality and distribution of agriculture and food supply. The incentive or support may be targeted globally, that is, to the entire sector or set of consumers, or may be directed towards particular commodities, consumers and end-users. Even when intended to be global, their incidence tends to be non-uniform benefitting some types of activities and consumers more than others.

Incentives and support are rarely introduced within the context of a well-designed integrated and coordinated package or measures. Instead, policies are often introduced in bits and pieces in response to particular micro problems which assume policy significance at various points in time. It is thus somewhat misleading to describe the set of measures and policies as constituting a 'system'. Some degree of inconsistency characterise incentive and support policies. In part, this is the result of the ad hoc approach to the formulation of incentive and support policies. Inconsistent policies are also attributable to the problem of competing objectives frequently between maximising producer welfare and maximising consumer welfare.

The modus operandi of incentives and supports will now be explored in an effort to clarify the general principles of their operation and to point to areas of weakness.

Commodity Price Policies

We may distinguish between producer-oriented policies and consumer oriented policies. With producer-oriented policies, the objectives is to stimulate output through raising commodity prices at the farmgate. Higher farmgate prices may be effective only to the extent that supply is price-responsive. As such, the efficacy of price supports depends on the relative strength of the non-price constraints on agricultural production. To express the point differently, price supports enhance the profitability of production but do not release technical constraints, such as resource availability, on output. In developing countries, land tenure arrangements and foreign exchange restrictions on imports of producer goods are powerful barriers to production.

Price guarantees are a direct means of boosting farmgate prices. Import restrictions on competing goods are an indirect way of achieving the same result. Quantitative limits on imports create excess demand for domestic output and push up prices. Also, higher tariffs on imported food raise the market price of foreign competing goods, thereby providing scope for increases in domestic prices.

Commodity price stabilization is an important element in the price-incentive schemes of many countries. Price stabilization may be directed towards raising average prices and producer incomes, reducing commodity price variability and risk, and reducing output variability. Under certain assumption about the producers' risk aversion, and the influence of risk on output, price stabilization schemes can be shown

to encourage agricultural production.

Consumer-oriented price policies are concerned with maximising consumer welfare by reducing and/or stabilizing the price of agriculture and food. Usually specific food commodities are targeted for price controls or for price subsidies. These are typically either commodities which feature importantly in the expenditure budgets of low income consumers or are commodities selected on the basis of their nutritional significance. Imports or cheap food or preferential tariff treatment of food imports are also instruments for increasing consumer welfare. The conflict is most evident when policies of cheap imported food undermine the income prospects of producers of competitive goods. It is less certain that the objectives conflict when price controls are imposed on domestic output. Negative price effects on producer incomes may be offset by positive demand effects on the level of output.

Input Price Policies

This is a wide amount of policies adopted to reduce the cost of inputs to agricultural producers. They include tariff concessions in imported inputs such as capital goods and chemicals, fiscal concessions such as depreciation allowances on capital stock and purchase tax waivers on farm machinery and transport equipment, and the direct provision by government agencies of selected production services, e.g. tillage, artificial insemination, veterinary services, at below market prices. Unlike commodity price policies which operate on the marginal revenue product or the revenue function of producers, input price policies operate on the cost functions of producers. By shifting cost functions downwards relative to the (unchanged) revenue functions, input price incentives and support improve net profitability and thereby, may stimulate higher levels of agricultural output and food supply. Furthermore, by selectively granting input price concessions, the economic authorities may attempt to induce technological change.

As with commodity price schemes, the efficacy of input price measures depends upon the relative strength of price and non-price barriers to output and supply. To illustrate an import duty concession will be of no practical value if foreign exchange rationing includes importation of the producer good.

Another source of potential weakness with input price incentives is the extensive overlay of bureaucratic procedures which may impose transaction costs sufficiently high to substantially offset the value of the price concessions.

Credit

Credit occupies a prominent position in agricultural development strategy. The availability of credit resources is frequently associated with technological improvement in agriculture. Credit may also be used as a support mechanism for particular categories of enterprises for the promotion of agricultural exports and import substitutes and for the expansion of domestic food supply. If interest rates are concessionary, then credit programmes are also being employed as a mechanism for income transfers to credit recipients to a degree represented by the difference between the unit operating costs of the credit agency and the loan rate of interest (this is explicit subsidy); or by the negative real rate of interest (this is the

implicit economic subsidy).

Several serious difficulties beset credit incentives and support policies. The tangibility of money underpins scepticism about the degree of additionality in input use and capital formation; credit diversion is fairly common. The viability of credit programmes is frequently vitiated by high rates of loan delinquency, high operating losses, and capital depletion. Furthermore, credit flows are often skewed towards groups other than the intended beneficiaries.

Research, Extension and Education

Research, extension and education are non-price support systems. The purpose of public research services is to develop through basic and adaptive research, improved inputs and production methods, improved varieties and species of plant and animals, and better information and knowledge about price and other market variables in order to enhance production and market performance. Public research is in the nature of a quasi-public good in that there is no explicit exclusion principle with respect to benefit sharing, and the cost of the service is borne largely by the society as a whole, rather than by the direct beneficiaries. The disposition of resources for research tend to be highly skewed, reflecting the balance of political strengths within the farming community. In the absence of public research, economies of scale consideration would preclude knowledge generation and adoption by most farmers. For this reason, public research and dissemination are important support activities.

Extension and education services do not require much comment since their roles are self-evident. What needs to be stressed is the complementarity of these activities and research activities.

The efficacy of the REE system rests heavily on the appropriations of the administrative structure through which the services are provided. Major weaknesses are the existence of lengthy dissemination lags, the inadequacy of supporting inputs, e.g. field transport for extension workers, and the limited supply of highly trained research scientists and agriculturists.

PART II

SUMMARY OF COUNTRY REPORTS

(Antigua/Barbuda, Belize, Dominica, Grenada, Montserrat,
St. Kitts-Nevis, St. Lucia, and St. Vincent)

A. ANTIGUA/BARBUDA

Antigua and Barbuda desire to create confidence in the agricultural sub-sector attracting personnel and capital to enable production goals to be met to feed its population and tourist with highly nutritional foods thus, improving rural farm income and addressing its serious adverse trade balance situation. Marketing would be stimulated and improved, more land would be bought under the plough, waste would be reduced by processing surplus fruits and vegetables.

Government policy is not geared to programmes of subsidisation. However, many programmes on stream and in the pipeline are testimony to the State's impact on initiation of new production as well as retention and improvement of existing agricultural activity.

Five percent of the annual budget underpins agricultural activity, minimal direct return being realized from the expenditures. The staff of the Department of Agriculture, working in areas of plant propagation, animal improvement, plant protection, pest eradication, soil and water management, animal health, research, food processing, farm plant preparation and data collection and dissemination provide the base on which all food production activities are built.

The Antigua and Barbuda Development Bank provides funding for agricultural and fishery production plans, while the Central Marketing Corporation advances costs of some inputs to regular producers. Animal handling equipment, feeds, agricultural chemicals, boats for fishing, fishing tackle and vehicles used predominantly for activities related to agriculture or fishing are accorded duty free status.

Seedlings, young fruit trees, cultivation, pesticides for cotton, stud service, improved breeding stock and ice for fishermen attract price reductions ranging from 20% to 50%. Irrigation advice, assistance with the establishment of mini-dams and overhead and trickle irrigation systems are provided by the Agricultural Engineering Division. Farmer associations are encouraged and assisted land leases are now being processed for periods of ten years and upwards. Legislation is being enacted to curb the effects of praedial larceny. Total activity in presentation of the sea island cotton industry is government financed.

An expanded Chemistry and Food Technology laboratory with technical assistance and machinery from abroad assists with crop analyses of various kinds, purchases food surpluses, processes them and markets at home and abroad.

A well developed Extension Service serves producers. Many requests emerge from consultations with farmers. Channelling to appropriate service entities is done by the Extension staff. Only on rare occasions do the applications for assistance have to be returned to Extension officers. In respect of duty free concessions, a Review Board settles disputes.

Though desired production goals are not being achieved and the twin spectre of rising imports and declining exports stalks the land, it is clear that the situation would have been much worse in the absence of existing support mechanisms. What seems to be needed is an intensification of activity on all existing fronts. Clearly, agriculture as a 'respectable' occupation needs to be seared on the national consciousness. Without this, the young recruits will not be attracted and the middle-aged will continue to desert the industry.

Other areas needed to be tackled. The current successful cucumber experience needs to be transferred to other areas of production; landless farmers need to be settled.

All of the preceding will be impossible to achieve without the improvement of the data-base so essential for realistic appraisal and forward projection.

B. BELIZE

Over the years, Belize has realized that one of its most promising development alternatives is its inherent potential for food and agricultural development. Abundant fertile land, water and a tropical climate all underline this. At the same time, the size of the population and work force has restricted the potential for and development of the local and export markets. Belize has only been able to supply for its local market the basic grains, legumes, meat and fish and lumber products. It is only during the last five years that a positive move has been made in food processing for the local market and to increase production of other crops, other than sugar, for the export market. The stated aim has been to become self-sufficient in food and have renewed foreign exchange earners.

The government policies that were set prior to 1984 before there was a change of government, were aimed at self-sufficiency and development of products for the export market, but they all had the built-in view that government should take an active role in development which, in effect, created a passive private sector. The present approach to Belize's development is completely opposite. Private sector involvement is considered the key to success with government only functioning as a body that regulates, legislates and sets up the necessary infrastructure which will facilitate the private sector, as it becomes more and more involved in agriculture and food production.

There is a local market for food of over B\$50 million which government wants the Belizean private sector to take full advantage of - as is economically feasible. For those products that an export market already exists, encouragement is being given through the projects that government had instituted with the help of outside lending agencies, so as to upgrade technical know-how, expansion and setting up of necessary infrastructure.

The export crops Belize had depended on have been sugar, banana and citrus, with fish and forestry products having a small but significant impact. With the fall of sugarcane, it is clear that Belize must have a diversified agricultural base. So as to achieve this, through private sector approach, government has taken a close look at all its involvement with agricultural organizations that rely

heavily on government for financial support and intervention. The support and incentives that have been used, such as price support for farmgate prices for basic grains, price controls, input controls through licence and bans for this products that can be or are being produced for the local market, subsidized rates for land clearing, preparation, planting and even harvesting, credit through DFC with limited lending requirement compared to the commercial banks, have all been tried and it is clear that farmers will only produce and the private sector will become involved if there is a profit to be made.

Based on this, government has made some major changes such as privating the Banana Industry so that now there are small farmers owning their own plantation. So far, this has resulted in increased yields. The Marketing Board that has been the organization through which price support prices are paid to farmers for beans, corn and rice paddy, (profits allowed through having the monopoly on the importation of condensed milk) is under review to change it into a commodity price stabilizing body that will be a regulator rather than an active marketer.

Along with the above, there is the fact that the concessions awarding system has been streamlined so as to facilitate awarding of such that fall within government guidelines, as well as being able to filter out those that will result in condoning inefficiency. The concession system which includes awarding tax-free holidays and duty-free advantages has been opened up to welcome foreign capital and technical know-how.

The importance of agriculture and food as well as fisheries and forestry are highlighted through the fact that these are all government stated developmental priorities. The other priority that is of equal importance is tourism since this is seen as a quick foreign exchange earner. The DFC has been the major lending institution for agro-industry and agriculture and it is government who makes this possible by providing the guarantees for the loans from the foreign lending agencies. Besides this support there are policy supports such as the new decision to replace tariffs with licences and bans so as to help local and inter-regional trade.

The real bottom line for Belize is that agriculture, food, forestry and fisheries will be developed, but as private sector ventures rather than through support and incentives that are really subsidies that condone inefficiencies. If the right environment can continue to be fostered in Belize, then development will come and products which have an inherent cost/comparative advantage will be successful and those that do not will simply not be produced or restricted to local market only.

C. DOMINICA

Dominica, the largest of the Windward Islands, is the most mountainous and thinly populated of the group. Agriculture is the most important economic activity. In 1984, agriculture accounted for 29% to 50% of Gross Domestic Product and about 51% of domestic exports. The other economic activities of importance are manufacturing, construction and wholesale and retail. Agriculture also employs the largest percentage of the working population.

In the last ten years, the relative importance of agriculture to

the economy has been decreasing. In fact, during that period, the island was struck by two major hurricanes - David and Allan - in 1979 and 1980 respectively, which practically destroyed the agricultural industry. Bananas and coconuts, being the major export crops, suffered tremendously from these natural disasters.

Dominica's agriculture is characterized by small farm production, the average parcel size being 2.93 acres. Thirty-two percent (32%) of the lands are not owned by farmers. The remaining 68% are freehold. Twenty-four percent (24%) of Dominica's farmers are women, most of whom are engaged in food production - sweet potatoes, dasheen, vegetables.

A large proportion of the food crops produced is used for domestic consumption. This indicates that the women farmers are playing a significant role in feeding the nation. Net consumption of that group of commodities has not increased significantly over the last five years.

In recent times, the government's policy is to move away from direct subsidies, but, at the same time, to provide incentives to stimulate production and consumption. For instance, farmers' income is tax free.

In the agricultural sector, the government's incentive and support system is revealed in the Ministry of Agriculture programme. The many projects being undertaken demonstrate the intention of the government to support the production of food for local consumption and export. It is important to note that under those projects, cash and input subsidies are handed to participating farmers. The financing of these projects is mainly from external sources with government counterpart contributions. In commercial trading of the basic needs - sugar, rice, flour - the government, in a move to stimulate this sector, but realizing the constraints, competitiveness and international markets, has decided to be involved in the initial stages of operation with the aim that one day the operations will be handed over to the private sector. The government provides grants and management expertise to these agencies. In doing this, the government is ensuring that the population is provided with the essential foodstuffs at a reasonable price.

The Island's incentives and support mechanisms are administered by several institutions:

Local: Ministry of Agriculture

Banana Association

Regional: CARDI, CAEP, CARDATS

International: IICA, USAID, OAS, FTC, IFAD.

One can benefit from these programmes by simply being a farmer. In some instances however, the farmer is required to be a member of the donor organization. For instance, the Banana Association, agricultural traders, hucksters and agro-processors must qualify to receive concessions. Qualifying would mean, for instance, the use of a certain percentage of locally-grown raw materials or having a registered organization.

In practice, most of the incentives given are not used for the purpose for which they are intended. Fertilizers for bananas are used to produce food crops. Fishing loans to aid farmers to increase their catch for local consumption ends up with fishermen selling their catch to the neighbouring French island of Guadeloupe and fishermen not repaying their loans.

These are some of the problems of the incentive and support mechanisms of Dominica. However, from preliminary investigations, the support systems have shown positive results in the production of the major export crops - bananas and coconuts. The production of food crops has also shown satisfactory improvements as a result of regional markets and concessions given for packaging material, resulting in improved quality of product. Despite fishermen selling some of their catch to Guadeloupe, preliminary statistics have shown an increase in landing. This has resulted in a reduction in the importation of fish and fish preparation for the period 1975 to 1984.

As a general conclusion, it is observed that the incentive and support systems of Dominica are having some satisfying anticipated results.

D. GRENADA

General

Grenada, Carriacou and Petit Martinique, politically referred to as Grenada, is the most southernly located country of the Windward group. Comprising some 300 sq. kilometers, the state is very hilly in nature. The reputed fertility stems from volcanic origins. Annual rainfall varies from 40 inches in the south to 160 inches in the Central Grand Etang area.

The latest population estimates indicate some 92,300 inhabitants, predominantly of African descent and Catholic in worship. Birth rate is 31.4 per thousand, death rate 8.7. Gross National Product per capita was US\$836 in 1983.

In the early 1980's, economic growth was estimated at 5.9% per annum though there was negative growth in 1983. Agriculture and tourism are the main propellants of the economy which is expected to grow by an annual average of 4% over the next four years. In 1985, agriculture contributed 8%. Hotel and restaurants contributed 4%.

Of a labour force of approximately 48,000 persons, some 17% to 25% are unemployed. Agriculture, commerce, construction and services - including government - are the main employers.

Main Features

Agriculture, while contributing 17.1% of GDP in 1985 shows signs of decline. In 1980, its contribution was 23.8%. The acreage under production has declined over the past 25 years being 60,197 acres in 1961, 46,577 in 1975 and 34,243 in 1981. The number of farmers has also declined from 15,319 farmers in 1961 to 11,442 in 1981. The average age of farmers is 51 years and they occupy, on average, 4.2 acres although full-time farmers only average 5.5 acres. Twenty-five percent of all farms are less than 0.5 acres, 27% being 2 to 10 acres and 5% over 10 acres.

Cocoa, nutmeg and subsistence livestock are the most popular enterprises.

Cocoa and nutmeg, if observations are made for cyclical fluctuations, have been fairly vibrant over the past five years, although this represents a lower production average than the 1970's. Banana shows steady decline over the past six years. However, crops for domestic consumption and non-traditional exports have registered modest increases during the 1980's.

With the exception of crops for domestic consumption, prices have been depressed over the past five years. This was especially so in the nutmeg subsector. Income from the traditional export subsector has thus been at declining levels over the past five years. The export earnings of fresh and exotic fruit, however, has moved from EC\$760,000 in 1980 to EC\$1,390,000 in 1984. This has been achieved largely through individual initiative by traffickers.

Pests and diseases, low prices and the increasing agedness of farmers are the scourges of the sector. Moko disease has virtually wiped out banana in some areas, while in the cocoa cultivation, some 41% of all trees are afflicted by thrips, beetles, termites, witches' broom and black pod. The pests and disease levels continue or are worsening despite the expenditure of more than EC\$9.4 million by the commodity boards during 1980 to 1984. Pests and diseases ranked third as a problem reported the 1981 Agricultural Census. Praedial larceny and the availability of labour were considered more problematic by farmer respondents.

Objectives of Incentive and Support Systems

Specific support to agriculture is generally realized through capital projects and such assistance as is provided by the Ministry of Agriculture, commodity boards and cooperating international agencies.

While government policy statements do not directly address themselves to subsidies and incentives, proposals and strategies for the overall development of agriculture are given considerable attention. In recent times, these have focussed on the stabilization of farm income, increased production, crop diversification, increased training, agro-industrial promotion, institutional marketing strengthening, farm road construction and rationalization of land use.

The most important capital project are in respect to cocoa rehabilitation, fisheries development, crop diversification, model farms, feeder roads and banana development.

Administrative Mechanisms

The commodity boards for cocoa, nutmeg and banana, the Cocoa Rehabilitation Project, the Marketing and National Import Board and the technical divisions of the Ministry of Agriculture are, perhaps, the most important avenues for effecting support actions to the farming community. Actions by the commodity board include marketing arrangements, technical advice and facilitating input procurement. Payments of an incentive character are particularly important in the banana industry and where services and material appear to be provided at no cost to the farmer, these are, in fact, financed from earnings of the marketing function.

Support from the Ministry of Agriculture is predominantly technical although duty concessions and planting material are available. Other major material and technical support through the Ministry are under the aegis of the executing and operational structures of capital projects.

The role of extension officers is of paramount importance in terms of communicating information and requests between the farming community and the support oriented structures. The use of public information and media avenues leaves a great deal to be desired.

Evaluation

The work of commodity boards, particularly in respect of their pest and disease control operations, needs rationalization. Too much is being spent without concrete benefits being derived. The method of incentive payments practised by the banana society is considered worthy of emulation by all.

While capital projects and their implementing and operating structures seem to contribute most significantly to agricultural development, there are concerns expressed about project designs, monitoring and the rates of implementation/progress.

Within the Ministry itself, an improved organization of the technical division is required. There is a dire need for more trained personnel as well as a need for an increase in manning levels.

Grenada's agricultural development or demise seems to depend largely on the extent to which production can be increased, the extent to which a more scientific approach to farming is taken by individual farmers and the extent to which the sector attracts not only finance for capital investment but also an operating labour force that is more able-bodied and more receptive to innovation.

E. MONTSERRAT

Montserrat's current Development Plan sets the goal of programming the orderly production of its nutrient intake, reducing food imports and exporting its surpluses. Livestock, vegetable, orchard crop, meat and fish production are being emphasized and a processing component is being added.

The services of CARDATS, CARDI and CAEP are wedded to its Agricultural Extension Department to impact farm plan preparation, cultivation, training of farmers, irrigation, crop sanitation and marketing, while the government invests in access road construction and procurement of easy credit for fishermen and farmers.

Though the government declares its inability to subsidise food production extensively over long periods of time, it nonetheless, by active intervention, influences the achievement of its set goals. Through the various activities of its Department of Agriculture, it provides expertise in planning, marketing, plant propagation, crop sanitation, soil and water management, provision of farm animals coupled with animal health programmes and research.

Limited finance for farm inputs are available from the Development Finance and Marketing Corporation which also purchases some produce for resale and controls the importation of some vegetables when local supplies are available.

To provide raw material for utilization by an agro-lab, a tree crop project receives subsidies for establishment of orchards. The processed jams and cordials are expected to effect import substitution and improve farm incomes. Profits derived from agricultural activities are not taxed and duty-free status is accorded imports of agricultural implements and chemicals and material used in fishing.

Cultivation, land clearing, planting material procurement, improved sheep, pigs and cattle and ice are all available at less than commercial rates. Free bait is distributed for rodent control. Irrigation water is cheap while mini-dams have been provided free.

A government-owned abattoir is leased to enable a local

entrepreneur to improve meat processing facilities. Intimate contact between producers and the Agricultural Extension staff enables timely and effective use to be made of support mechanisms. Few occasions arise where the Ministry, Water Authority or Marketing Corporation are contacted directly by farmers.

The existing support systems have so far proved inadequate to the task of achieving self-sufficiency in nutrient intake; imports continue to rise and exports to fall. Key factors contributing to this state are:

1. Most production units are small and provide only part-time activity.
2. The insecurity of tenure in some areas hinders the investment of time and energy needed to establish a workable production unit.
3. Workers find agriculture unattractive and not as remunerative as other jobs. Some leave the industry and not enough young persons are being attracted to it.
4. Crop financing is not easily available.
5. The vagaries of weather and pests and high levels of praedial larceny discourage producers.
6. Post-harvest losses are high.

Most of the constraints to production have been identified by the Ministry. More funds and staff are needed to service producers. A massive public relations drive, geared to reducing current negativism attaching to agriculture and related activities, needs to be mounted without delay.

E. ST. KITTS-NEVIS

The islands of St. Kitts and Nevis form part of the Leeward Islands group of the Northern Lesser Antilles (17° - 18° N. latitude and 62° - 63° W longitude), and total 255 km² (100 ml²) in size with approximately 15,000 ha. of agricultural land and 6,000 ha. of forest. The islands are characterized by only moderate rainfall (900 - 1,400 mm annually), with Nevis being distinctly drier than St. Kitts. The soils of St. Kitts are characteristically fertile, free-draining, sandy loams, while those of Nevis are also fertile but high in clay content and bouldery in nature with good moisture retention and require deep tillage. In both islands good responses to applied fertilizers may be obtained.

The population of the island of St. Kitts stood at 35,104 and that of Nevis 9,300 in 1980 giving population densities of 208 and 100 persons/km² respectively, and the rate of population growth has been generally small or stagnant. Most of the working population of the country has been employed in the Sugar Industry either in cultivation or in factory operations. The rest of the population has been involved mainly in farming (and fishing) and a small, but increasing number of persons are employed in light, industrial manufacturing (electrical/electronic components, garments, shoes and beverages).

Employment in the Sugar Industry has been declining steadily over the past five years due to declining sugar receipts and overall production affected by the international sugar markets.

The independent state of St. Kitts-Nevis is unique among the CARICOM countries as it is constituted as a Federation in which the

The independent state of St. Kitts-Nevis is unique among the CARICOM countries as it is constituted as a Federation in which the island of Nevis has an island administration. The island has traditionally had a plantation structure, while in the island of Nevis peasant/small farming agriculture predominates.

Agriculture is the mainstay of the national economy and it is dominated by sugarcane (and sugar/molasses) production and the developing light manufacturing industry in St. Kitts and the production of sea island cotton (lint) and copra for export from Nevis.

The Sugar Industry in St. Kitts which was privately owned in the past has been nationalized and is presently run by the St. Kitts Sugar Manufacturing Corporation (SSMC) which has recently taken over the field operations from the National Agricultural Corporation (NACO). An agricultural diversification thrust is being promoted currently both within the SSMC and in the rest of the farming sector of both islands in order to increase local food production and to reduce food imports (valued at EC\$25m in 1981). The country has been experiencing a trade deficit when the value of the total imports and export earnings have been compared. The Gross Domestic Product (GDP) increased to EC\$115m in 1982 and GDP per capita increased to EC\$2641 in 1982, with agriculture declining to 20.2% of the GDP in 1982. In the agricultural diversification effort peanuts, root crops, vegetables and fruit production are being encouraged as well as the expansion of cotton production in Nevis. The expansion of ruminant livestock (cattle, sheep and goats) production is also being encouraged through control of ticks and the 'humpy skin' disease. There is great need to expand poultry meat and dairy (milk) production in the country. The government is participating and encouraging the development of the dairy industry in St. Kitts, and private enterprise is being encouraged to expand poultry meat production.

There has been an improved agricultural extension thrust in both St. Kitts and Nevis with assistance from the Caribbean Agricultural Extension Project (CAEP). Input supplies (e.g. seeds/seedlings, pesticides, herbicides, fertilizers, etc.) and agricultural services (equipment and machinery for land preparation and crop protection) for small farm production are being expanded and made more effective. Water resources are being given attention in Nevis for both livestock (cattle ponds) and vegetable production (through irrigation). Farmers and fishermen are being given increased credit on soft terms for the purchase of equipment, services and input supplies (at cost) and the importation of equipment and machinery for agricultural use free of duty. A new abattoir has been constructed and operated in Nevis. No cash subsidies are given in St. Kitts and Nevis.

The area of marketing needs to be developed in order to assist farmers in disposal of their produce, and this is being encouraged in Nevis through a concession to a private group; but in both Nevis and St. Kitts export marketing of agricultural produce needs to be developed. The Central Marketing Agency (CEMACO) assists greatly in the local marketing of vegetables, fruits and root crops, but has fairly limited storage capacity.

The regional (e.g. CARDI, CARDATS) and international agencies (FAO, UNDP, BOD, CIDA) made a considerable contribution in research and production systems to assist the Ministries of Agriculture and farmers in St. Kitts and Nevis in expanding food production (including fishing).

F. ST. LUCIA

St. Lucia, the second largest island in the Windwards Chain, has the highest population and largest population growth rate - 30.1 per thousand (1984 figure). This has been an area of concern for the government. In fact, in the last two budget speeches, the Prime Minister made reference to this 'alarming situation' and its effect on economic growth.

Like the other islands, agriculture contributes the greatest share to GDP - contributing 13.76% (1984). The economy is monoculture oriented - the production of bananas. However, attempts are being made to diversify the economy through incentive and support systems. This diversification has become more important in recent times because of the setbacks - hurricanes and low prices - which seriously affected the banana industry. In fact, these setbacks have been the major cause for the country experiencing negative growth rates for the period up to 1983.

Like most of the OECS states, St. Lucia has been having negative balance of trade and the figure is growing. And, like these states, St. Lucia's major imports are agriculturally derived with meat and meat preparations heading the list.

Their livestock programme has, over the years, contributed significantly to the reduction of meat products - for instance, pork and pork products, of which St. Lucia is now self-sufficient. Although some support is given to the livestock programme, it is still felt that more can be done to increase livestock production in the drier northern and southern section of the island.

The government's incentive and support systems has two broad objectives:

1. to reduce the high dependence on bananas; and
2. to encourage investment - local, regional and extra-regional - in the agro-processing industry.

To achieve these objectives, several incentive programmes are now in place. The crop diversification is the Ministry's major effort to reduce the high dependence on bananas. Cash and input subsidies are given to farmers willing to plant tree crops. This project is administered by the Ministry under the tree crop diversification project. Attempts are also being made to reduce the high import bill. The IFAD Small Farm Agricultural Development Project administered by the St. Lucia Development is attempting to increase food crops production through the provision of production credit and some marketing assistance. The CARDATS Black Bay vegetable projects falls within this objective - production of vegetables for local consumption and export.

Other regional and international organizations like CARDI, CAEP, WINBAN, IICA, USAID, OAS and the FTC do provide assistance in one form or another - research, extension or marketing.

Farmers are also provided with the additional incentive of not having to pay personal income tax on farm income up to \$75,000.

In St. Lucia however, there is no system in place to monitor the activities of all the support institutions. It is not uncommon to find overlapping of activities and functions of the various bodies involved. We have been informed that attempts are being made to rectify the situation.

St. Lucia's incentive programme has been having some positive

results. During the past five years, the production of tree crops - cocoa, mango, avocado - has shown significant increases, thus reflecting some successes of its diversification programme. There has also been the establishment of new agro-processing plants during that same period due to the concessions offered duty-free imports on material not produced locally, consumption tax and stamp duty exemption. These two areas reflect the broad objectives of the St. Lucian government.

G. ST. VINCENT

St. Vincent and the Grenadines (located south of St. Lucia and north of Grenada) is a collection of islands in the Windward Island Group of the Eastern Caribbean. It is an independent country and a member of CARICOM and the Organization of East Caribbean States (OECS). The population is estimated at 115,000 (1985 estimates) and land area 385 km².

The economy is an open market, heavily trade-oriented one, with export and imports being 70.12% and 93.5% respectively of the GNP at Market Prices. Devoid of any known mineral resource which can be worked commercially, the economy is heavily dependent on the food and agriculture sector. In 1974, it contributed 17.35% of GDP and 75% of total domestic export value.

The domestic food and agriculture sector falls short of meeting the food requirements of St. Vincent and the Grenadines. Significant quantities (approximately 1/3 of total import value) are imported annually. Linkages between food and agriculture production and the rest of the productive sector is limited, although several strong possibilities exist.

Agricultural production and marketing is the principal activities in this sector. The general structure of agriculture is characterised by small units of production, high input cost, low efficiency of production, high risk, production for sale, especially as exports and the dominating influence of banana the most important single crop. Production is constrained by several problems which can be conveniently summarized as marketing and production support systems constraints. By production support systems constraints are meant access to and availability of planting materials, fertilizers, pesticides, equipment, irrigation, finance, roads and appropriate improved site specific technology.

Objectives

The objectives of the incentives and support system for food and agriculture has been to promote and facilitate increased agricultural output and generate increased per capita incomes. The specific objectives pursued are inter alia:

1. expansion and strengthening of the small farm sector;
2. improved market opportunities;
3. modernization and intensification of agricultural production;
4. increased foreign exchange earnings;
5. reduced dependence on imported foods.

With these objectives in mind, governments over the past 20 years have put in place an incentive and support system for food and

agriculture. This system is composed of:

- (i) a body of legislation and regulation covering pricing regimes on imports, value of imports, protection of national agriculture from exotic diseases;
- (ii) services, extension, research, crop protection, soil conservation, veterinary services, etc.;
- (iii) infrastructure; and
- (iv) fiscal incentives.

The extent to which these are provided is dependent on government's financial ability and/or commitment to providing these incentives and support system.

The principal mechanism for delivery and administration is through the Ministry of Trade, Industry and Agriculture. Some public sector agencies such as Development Corporation Commodity Associations and the St. Vincent Marketing Corporation also participate in this process.

PART III

SUMMARY AND CONCLUSIONS

This section of the report summarises on a comparative basis the systems of incentives and supports in the CARICOM LDC's as a whole in terms of the four main categories outlined in Section I. These are: commodity price policies, input price policies, credit and research, extension and education. For ease of reference, a checklist of specific types of incentives and supports in each country is presented in Table 4 and 5.

With respect to commodity prices, the most prevalent form of incentive is quantitative restrictions and tariffs on imports from extra-regional sources. In most cases, the policies in relation to imports, were limited to food. In at least one country, the prices of food imports are also regulated. There does not appear to be a system of price guarantee except in Belize. In Grenada, unlike the other countries, there is an explicit price stabilization scheme for nutmegs and cocoa. In some other countries, for example, St. Vincent, the role of government marketing boards as a buyer of last resort can be regarded as a price stabilization mechanism. Basically then, the major mechanism of commodity price support is indirect. The imposition of tariffs on imported commodities serves to place foreign goods at a competitive disadvantage thereby providing scope for higher prices and the expansion of domestic output.

While output policies with respect to food may have benefitted domestic agricultural producers, this may have been at the expense of consumers. There is also some reservation about the efficiency of the guaranteed marketing system in Belize largely because it has created storage and disposal problems.

The second category (input prices) is the most extensive of the incentive and support mechanisms. They exist in one form or another in every country. Within this broad category, tariff exemptions and price discounts on agricultural capital goods (equipment, machinery and vehicles), current inputs such as chemicals, fertilizers, planting material, and soil conservation, were most favoured. In a few cases, purchase taxes are waived on transport equipment intended for agricultural use. In all countries, some other production services, notably veterinary services, pest control, and land preparation are provided at nominal non-market prices.

Usually these kinds of incentives and supports are confined to specific types of enterprises, specific farm size categories and are severely limited by the financial resources of the government. Credit arrangements are pervasive. Each country has a development 'bank' with special reference to agriculture (sometimes linked together with industry). The credit resources of these banks are derived mainly from external sources with major support from local fiscal resources. Typically several credit windows are operated, differing with respect to permissible categories of loan use, eligible set of borrowers, and sources of funding. The provision of credit resources is usually tied to some system of loan monitoring and supervision. In all cases, the credit facility has the dual objective of relaxing financial constraints on agricultural production and capital formation and fostering technological progress. Two other common characteristics of the official credit schemes are concessionary loan rates of interest

and long repayment periods. These serve to provide a sizeable grant element. Credit guarantees, while offered in some countries, in relation to loans from commercial banks, and special lines of credit from the development banks, are not widespread. They have not been particularly successful in inducing a greater supply of commercial bank credit nor in safeguarding the loan capital of the development banks. In a few cases, attempts have been made to link credit programmes with the commodity marketing with a view to improving credit delivery and loan recovery.

Research, extension and education constitute the final category of incentive and support mechanisms identified in Table 5. Research services are provided by government agencies including the Ministry of Agriculture, government sponsored commodity boards, and the local arms of regional and international organizations. Extension services and training programmes are important features of Ministries of Agriculture activities in relation to the farm sector. Assistance with these functions is provided by the University of the West Indies, IICA, CARDATS, CARDI and other regional and foreign technical assistance programmes.

Commodity market research is not a strong feature of the research, extension and education system. Some market intelligence is conducted and some price and demand information distributed for a few commodities, but this service is generally inadequately staffed and funded.

The discussion thus far, has focussed on the four categories of incentives and support items in Tables 4 and 5. It should be noted, however, that there are other important mechanisms or support not conveniently included in those categories. Among these are public capital expenditure which improve the social infrastructure to the benefit of both producers and consumers, e.g. feeder road construction, national soil conservation programmes, and nutrition education programmes.

Overall, the system of incentives and support is quite extensive in scope but there are some weaknesses which limit their effectiveness. One is the administrative machinery and processes which are typically insufficiently coordinated, implemented, and monitored. This leads to considerable delays and friction in the delivery system for subsidies, credit, exemptions, and even technical advice and information. Another source of weakness is inconsistencies between various objectives and policies, e.g. maximising consumer welfare while simultaneously seeking to increase farm incomes. A final difficulty to be noted is the instability or erratic introduction and termination of various programmes and instruments. This engenders uncertainty with respect to public policy as it affects agriculture at all levels and compounds the inherent uncertainties of agriculture and food production.

Table 4: Inventory of Commodity and Input Price Incentives and Supports

	Antigua	Belize	Dominica	Grenada	Montserrat	St. Kitts-Nevis	St. Lucia	St. Vincent
A: Commodity Prices:								
(i) Price guarantees	-	x	-	-	-	-	-	-
(ii) Price controls	-	-	-	-	-	-	-	x
(iii) Price stabilization	x	-	-	-	-	-	-	x
(iv) Import restriction	x	x	x	x	x	x	x	x
B: Input Prices								
(i) Tariff Waivers	-	x	x	x	x	x	-	x
(ii) Price Discount	-	-	-	x	x	x	-	x
(iii) Purchase Tax Waiver	-	-	-	x	-	-	-	-
(iv) Service at Non-Market Price	-	-	-	-	x	x	-	x

Note: "X" denotes the presence of an incentive or support
A dash "-" denotes its absence

Table 5: Inventory of Credit, Research, Extension and Extension Incentives and Supports

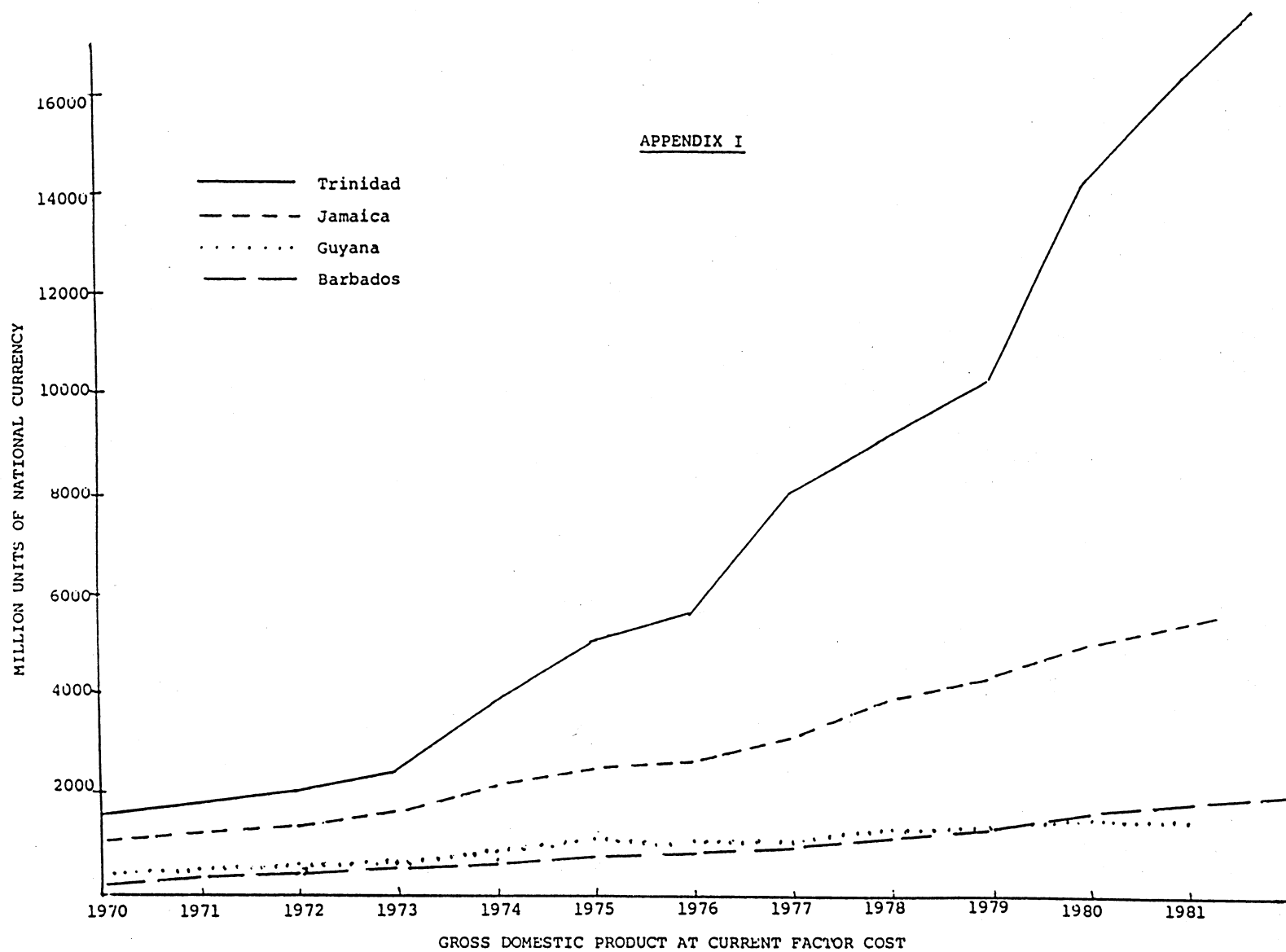
	Antigua	Belize	Dominica	Grenada	Montserrat	St. Kitts-Nevis	St. Lucia	St. Vincent
A: Credit								
(i) Special Programmes and Institutions	x	x	x	x	x	x	x	x
(ii) Concessionary Interest Rate	x	x	x	x	x	x	x	x
(iii) Credit Guarantees	-	-	-	-	-	-	-	-
(iv) Credit Supervision	x	x	x	x	x	x	x	x
B: Research, Extension, Education								
(i) Commodity Research	x	x	x	x	x	x	x	x
(ii) Market Research	x	-	-	x	-	-	-	-
(iii) Extension Services	x	x	x	x	x	x	x	x
(iv) Training Programmes	-	-	-	-	-	-	-	-
(v) Dissemination	x	x	x	x	x	x	x	x

APPENDIX I: TABLE 1: GROSS DOMESTIC PRODUCT AT CURRENT FACTOR COST, CARICOM COUNTRIES, 1970-82

(Million Units of National Currency)

Year	Trinidad & Tobago	Jamaica	Guyana	Barbados	Belize	Antigua	Dominica	Montserrat	St. Kitts- Nevis	St. Lucia	St. Vincent	Grenada
1970	1622.8	1094.3	470.0	289.9	87.6	74.7	37.1	11.9	30.3	60.7	39.7	60.0
1971	1798.6	1186.1	498.4	321.5	90.3	78.1	42.4	14.1	35.7	66.3	42.7	59.5
1972	2034.4	1325.9	530.5	356.7	97.3	81.2	46.1	17.3	43.0	73.3	45.0	64.3
1973	2470.1	1600.0	576.6	418.6	101.5	89.9	48.8	17.3	48.3	74.3	49.6	65.9
1974	3799.0	2064.7	869.8	577.4	141.3	104.0	51.9	20.0	57.2	97.4	57.9	65.4
1975	4959.3	2447.8	1097.6	656.2	170.4	110.0	55.1	21.2	76.5	97.3	58.6	80.5
1976	5607.0	2536.9	1050.0	674.5	161.0	119.3	61.2	24.5	82.0	118.8	67.9	97.0
1977	7963.0	2989.0	1019.0	874.0	187.0	142.0	90.0	22.0	70.0	157.0	85.0	111.0
1978	8966.0	3754.0	1136.0	980.0	212.0	164.0	114.0	25.0	79.0	197.0	112.0	136.0
1979	11407.1	4301.0	1179.0	1190.0	243.0	199.0	101.0	30.0	80.9	238.0	116.0	156.0
1980	15327.2	4756.0	1336.0	1461.0	280.0	223.0	148.0	39.0	95.9	263.0	137.0	
1981	17037.3	5310.0	1350.0	1647.0	-	183.0	93.0	41.0	106.6	295.0	169.0	
1982	17832.0	5799.0		1804.0				42.0	109.5	310.0	173.0	

Sources: 1. Economic Activity in Caribbean Countries; 1980, 1981, 1982
 2. Economic Survey of Latin America; 1979, 1980, 1981
 3. UN National Accounts 1980
 4. Agricultural Statistics of the Caribbean Countries 1982.



APPENDIX I

