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*A Review of Agricultural Diversification in the Organization  
of Eastern Caribbean States*

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INTRODUCTION

The Agricultural sector is of vital importance to the economies of the Organisation of Eastern Caribbean States (OECS) in its contribution to food availability employment and foreign exchange earnings. The contribution of the sector however, varies widely between the countries, with the Windward Islands falling on the upper end of the scale and the Leeward Islands on the lower end. This disparity is demonstrated by the contribution of agriculture to GDP in 1987 of 30.0% in Dominica, 18.8% in Grenada, 20.8% in St. Vincent and the Grenadines, 14.4% in St. Lucia, 4.7% in Antigua and Barbuda, 9.4% in St. Kitts and Nevis and 4.3% in Montserrat.

Historically, agriculture in the Caribbean has been based on the monocultural production of export crops. This phenomenon has continued up to the present time with only occasional changes in the monocrops that dominate the agricultural economies. However, with the decline in the performance of the traditional export crops, and the consequent reduction in agriculture's contribution to the national economies; to diversify their agricultural base is becoming necessary if the sector is to make an increasing contribution to economic growth and development. Moreover, the present uncertainty surrounding the banana industry with the advent of trade liberalisation among members of the European Community in 1992, and the reduction in the United States sugar export quotas of Caribbean producers are both factors which have also underscored the need for a more diversified agricultural base.

Agricultural diversification as envisaged by Demas involves the following elements:

1. Intensification of the product of traditional crops by increased productivity and by adding value through further processing;
2. Increased production of non-traditional crops for national and regional consumption; and
3. Increased production of non-traditional crops for export to extra-regional markets.

This concept of agricultural diversification was enunciated in the medium term strategy proposed by the OECS Heads of Government at their meeting in St. Lucia in March, 1988. An important point that should be noted with this concept of agricultural diversification is that it is not inimical to or incompatible with the employment objective. On the contrary, because a nexus will be forged between agriculture and industry through the transformation of raw agricultural produce into processed finished products, more employment can be generated in agro-industries.

With a dynamic agricultural sector and established processing facilities, employment could also be generated in a number of activities along the food chain through backward and forward linkages. For example, increased demands would be placed on packaging, storage, distribution and transportation services. The increased demands for other services would in turn result in increased demands on the suppliers of inputs.

This dynamic process can only be sustained with strong linkages between agriculture and other sectors, in particular tourism.

## PREVIOUS ATTEMPTS AT AGRICULTURAL DIVERSIFICATION

Interest in agricultural diversification is not new. The West India Royal Commission of 1896 recommended the establishment of land settlement schemes whereby the peasantry could engage in the production of food crops as opposed to sugar cane which was produced by the plantations. The importance of diversifying agriculture was also emphasized by the Moyne Commission of 1939.

## CURRENT AGRICULTURAL DIVERSIFICATION PROGRAMME

### Outline of OECS Agricultural Diversification Programme

At the OECS Heads of Government Meeting in St. Lucia in March, 1988, the Caribbean Development Bank (CDB) and the Inter-American Institute for Cooperation on Agriculture (IICA) were mandated to prepare an action programme which would further the agricultural diversification initiative in the sub-region.

As part of the programme, a select number of crops with good market opportunities were to be identified and back-up facilities necessary for the development of these crops and the requirements for effective marketing were to be proposed. It was also agreed that work on the elements of a medium to long-term strategy and action programme would be undertaken.

In carrying out its mandate, the CDB IICA in collaboration with CARDI identified the following crops for development in the short-term:

- (1) Antigua Black Pineapple
- (2) Breadfruit
- (3) Mango
- (4) Plantain
- (5) Tannia
- (6) Dasheen
- (7) Yam
- (8) Passion Fruit

For the medium to long-term period the following crops were identified:

- (1) Yam
- (2) Pawpaw

- (3) Pineapple
- (4) Soursop
- (5) Okra
- (6) Hot Pepper
- (7) Eddoe
- (8) Ginger
- (9) Sweet Potato
- (10) Tannia

Selection of the crops for inclusion in the programme was based on the following criteria:

- (1) agro-ecological suitability;
- (2) ease of integration into the existing farming systems;
- (3) potential of the commodity for multi-purpose use e.g., regional and extra-regional trade, processing and inter-sectoral linkages;
- (4) transferability of the technology which is available;
- (5) market prospects, particularly extra-regional;
- (6) present or projected competitiveness with other producing countries;
- (7) the capability to produce fairly stable cash flows;
- (8) high export earning potential; and
- (9) employment generation and availability of workers.

Apart from the productive or crop component of the programme, there is also a supportive component which is geared towards the enhancement of the productive and marketing capability of the programme. The supportive component includes the following:

- (1) Strengthening of Embassies (to provide market intelligence);
- (2) Strengthening of Farmers Organisations;
- (3) Germplasm Bank;
- (4) Nursery Infrastructure;
- (5) Reduction of Post-Harvest Losses;
- (6) Exporters' Credit;
- (7) Zoning; and
- (8) Strengthening of the OECS Economic

Affairs Secretariat to monitor and evaluate the programme.

The programme will be implemented in three phases:

Phase I involves the implementation of those crops identified for development in the short-term, and also the supportive activities which are necessary to increase and sustain the performance of the agricultural sector. Phase II involves the implementation of those crops identified for development in the medium to long-term and also the continuation of several supportive activities. An important element in this phase will be research. Phase III involves feasibility studies on frozen food processing and christophene, and also the continuation of the supportive activity - exporters' credit.

The Secretariat has also developed two agricultural projects viz: the Agricultural Adjustment and Stabilisation Project and Development of Agro-Industrial Capability in the OECS Project. Both projects have already been submitted to the EEC and the UNDP respectively for funding.

The objectives of the Agricultural Adjustment and Stabilisation Project are to establish an agricultural adjustment fund which will assist in the diversification of the agricultural sector in the OECS Member States and to establish an agricultural stabilisation fund which will help to increase access to credit by small farmers.

The objective of the Agro-Industrial Project is to assist the economic development of OECS Member States by supporting efforts to diversify agriculture. In this regard, assistance will be given to the Produce Chemist Laboratories and small agro-processors to acquire the technical capability which would allow them to produce and market on a commercial scale, high quality products that meet export standards.

Because the focus of the agricultural diversification programme of the OECS was primarily on crop production, livestock, and fisheries and forestry were not dealt with in any detail. In each island projects have been implemented to promote the development of the livestock and fisheries industries. However, assistance to these industries has been piecemeal. More priority should be given to the development of these industries, given the fact that red meats, chicken, and meat and dairy products comprise one of the major import categories of the food import

bill, and thus provide significant import substitution potential. While forestry does not provide the same direct economic potential to OECS Member States as do livestock and fisheries; in countries where this resource is significant such as in Dominica, its economic potential should be exploited on a sustained use basis. Of greater importance though is the proper management of the forest resource, since it impacts directly on agricultural productivity and environmental stability.

#### Outline of Regional Agricultural Sector Programme

Agricultural diversification on a regional level will be given a boost with the implementation of CARICOM's Regional Agricultural Sector Programme. This programme encompasses not only the production of traditional and non-traditional crops; but also livestock, fisheries, forestry and floriculture.

The programme can be divided into the following categories:

##### (1) Traditional Export Commodity

###### Programmes

- sugar, bananas, tree crops (cocoa, coffee, spices), sea island cotton and arrowroot;

##### 2 Integrated Commodity Programmes

- cereal and grain (rice and corn), oils and fats (coconut oil, palm and soya bean) and livestock (beef);

##### (3) Non-integrated Commodity Programmes

- roots and tuber, grain legumes (peas, beans, peanuts and sorghum, livestock (milk and small stock), fisheries, forestry and ornamentals.

The traditional export commodity programmes will focus on improvements in the efficiency of production and marketing and also the development of new products through processing. The focus of the integrated commodity programmes will be on production and marketing on a regional basis. For example, paddy production undertaken in Belize, Jamaica, Trinidad and Tobago and Guyana could be processed in St. Vincent to meet regional demand for rice. The non-integrated commodity programmes will focus on regional cooperation in marketing and other support services, since most of the countries are capable of producing the commodities.

The support programmes that will be implemented are as follows:

- (1) Human resource development;
  - (2) Technology transfer and information systems;
  - (3) Marketing;
  - (4) Regional plant quarantine;
  - (5) Physical infrastructure and transportation;
  - (6) Agro-industry;
  - (7) Research and development;
  - (8) Finance and credit;
  - (9) Legal support framework; and
  - (10) Institutional, organisational and planning framework.
4. stagnation and regression of the projects with the termination of foreign aid;
  5. application of low levels of the technology; and
  6. sub-optimal farm size which is compounded by the absence of proper land reform and land tenure policies.

Because of the comprehensive scope of the OECS Agricultural Diversification Programme and the Regional Agriculture Sector Programme, the probability of success will be much greater as a result of all the supportive infrastructure and services that will be put in place to facilitate the operation of the programmes.

#### PROGRAMME RATIONALIZATION

Since CARICOM's Regional Agriculture Sector Programme also includes the OECS States, which will also be implementing their own Agricultural Diversification Programme, there is need for both programmes to be closely coordinated to reduce inefficiency in the allocation of resources. Three areas in which a coordinated approach would be beneficial are marketing, agro-industry, livestock and fisheries.

##### (a) Marketing

The marketing infrastructure that prevails is a vestige of the colonial past. It is geared towards the movement of traditional crops to extra-regional markets. However, the marketing facilities for intra-regional trade are inadequate. Currently, the bulk of this trade is undertaken by hucksters who transport their produce by schooners. As a result of inadequate shipping conditions and poor packaging and handling, post-harvest losses are high.

In exporting non-traditional crops to extra-regional markets, shipping and other transportation modes need to be explored. The present efforts of CATCO in export marketing should be studied with a view to making the service more effective. Similarly, the role of Marketing Boards should be reviewed and recommendations proposed to improve their performance. The question of joint supply also becomes germane in order to negate the diseconomies of small export volumes. In this regard both CATCO and the Marketing Boards could play a leading role.

#### EVALUATION OF AGRICULTURAL DIVERSIFICATION PROGRAMMES

In considering the issue of agricultural diversification, the satisfaction of the following objectives are invariably the focus:

- (1) increased food self-sufficiency;
- (2) increased food security;
- (3) more efficient utilization of resources;
- (4) increased employment generation; and
- (5) increased foreign exchange earnings;

An evaluation of any agricultural diversification undertaking therefore, should determine the extent to which these objectives are met.

While the individual country projects cited in Table 2 are useful per se, the ad hoc nature of implementation, the absence of linkages between projects and the lack of concomitant supportive infrastructure have all tended to impair the potential contribution of these projects. In other words, although the individual projects have some relevance to one or more of the objectives of diversification, it is difficult for the objectives to be attained for the following reasons:

1. lack of consideration of the macro-economic environment prior to implementation;
2. inappropriate marketing infrastructure;
3. difficulty in obtaining credit;

(b) **Agro-industry**

In the whole agricultural diversification programme, no sphere provides as much employment generation potential as agro-industry, particularly if this is programmed on a regional basis. Other benefits that would be derived from a regional approach include a wider market, a reduction in the supply constraint since several countries could produce the primary raw materials, and scale economies.

At present, there are a number of processed products in the region. These include jams, jellies, marmalades, hot sauce, tomato ketchup etc. However, a large part of the processing is undertaken by the Produce Chemist Laboratories and small cottage type processors, with operations based essentially on the processing of surplus commodities. The main obstacle to commercialization seems to be the cost of machinery and equipment. Again, the solution to this problem might be the establishment of processing facilities on a regional or sub-regional basis.

A case in point of the coordinative and rational approach to production is the integrated cotton textile plan involving Antigua, Montserrat, St. Kitts and Nevis, Barbados and possibly Belize. Sea Island Cotton will be produced in all the islands and processed in Barbados. This is a joint venture with a Canadian company and the objective is to convert 3 million pounds of lint into yarn annually.

This approach could also be applied to other primary commodities, for example, sugar-cane and arrowroot. Apart from other crop possibilities, if advantage were taken of the agro-industrial potential of just these two crops, the direct and indirect job creation possibilities would be quite large.\*

(c) **Livestock and Fisheries**

Increased food self-sufficiency and food security are two important objectives of agricultural diversification. To meet these objectives the livestock and fisheries sub-sectors will have to make increasing contributions. Presently, the Region is a net importer of livestock and seafood products. With respect to livestock, attempts should be made to satisfy the feedstuff requirements of the

industry from regional sources, since this is a major foreign exchange leakage. A programmed approach which is usually advanced for the Region involves the development of livestock centres in Belize, Guyana and to lesser extent Jamaica and Trinidad and Tobago and Barbados. All five countries would concentrate on dairy, with Belize and Guyana also specializing in beef production. The OECS would specialize in small stock.

The fisheries industry is dominated by small artisanal fleets which lack the technology to efficiently exploit the marine resource. Regional cooperation in this area could also be explored, especially in light of the increased territorial waters and Exclusive Economic Zones that now fall under the jurisdiction of each State.

**CONCLUSION**

Agricultural diversification is now a priority in the Caribbean. Some of the benefits that can be derived from a diversified agricultural base include increased food security, foreign exchange savings and earnings, better utilisation of resources and of course greater employment opportunities.

However, these benefits cannot be fully realized unless a number of prerequisites are put into place. Firstly, on the production side; research, development of appropriate technology and farmer training will have to be undertaken especially with respect to the non-traditional crops since these require higher levels of management and technical skills. Proper incentives will also have to be provided to encourage farmers to produce the crops selected for the agricultural diversification programme. Secondly, marketing should be given top priority since the success or failure of the programme depends upon it. To this end, marketing should be viewed from a macro perspective rather than the narrow focus of just getting rid of the product.

While attention will be placed on the export of traditional and non-traditional crops to extra-regional markets, the intra-regional market and the domestic markets are also quite important. In fact, tourism is a major industry in most of the islands which provides a market with great potential. Consequently, better linkages with the tourist industry need to be established.

\* Editor's Note: The list of products that can be derived from sugar-cane are given on page 17.

Investment in agriculture has been exceptionally low when compared to other sectors of the economy, and in the case of the livestock, fisheries and forestry subsectors, the situation has been considerably worse. With agriculture now being given some priority through the diversification programme, it is hoped that this will be reflected in the budgetary allocations of regional governments to the sector.

The objective of greater food self-sufficiency, requires mechanism to protect domestic (regional) agriculture. While this will mean higher prices to domestic (regional) consumers initially, this will be outweighed by the societal benefits of a more diversified agriculture, balance of payments improvement and greater productive employment.

The question of tastes should also be addressed since it has implications for the success of any import substitution initiative. To this end, buy local (regional) campaigns should be mounted and Caribbean home economists should take the initiative in exploring new and imaginative ways of preparing West Indian dishes.

Finally, the point is worth repeating that great benefits could be derived from a comprehensive diversified programme. Also greater benefits would ensue from a regional approach. This is the challenge that now confronts agriculture in the Caribbean.

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