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A PROFILE OF AGRIBUSINESS ENTERPRISES IN THE CARIBBEAN

Ranjit H. Singh, Lloyd B. Rankine and Suresh Birla

(Department of Agricultural Economics & Farm Management,
The University of the West Indies, Trinidad)

Background

One of the major problems facing Caribbean agriculture today is the need to provide enough food in the right quantity that will allow members of the population to achieve their full potential in terms of the development effort. Another problem that it faces is the generation of adequate foreign exchange to satisfy the wider needs of a rapidly expanding population. These two problems have recently become the major targets of Caribbean policy makers. The fact is agriculture in the Caribbean is no longer the pillar of growth and development that it was in the past. It is widely known that with few exceptions, production and productivity in various sectors are declining while commodities traded on the international market are facing rapid deterioration in the terms of trade.

There is a widespread feeling that the sector needs to be revitalized if it is to achieve the two goals referred to above, and despite the current thrusts in agriculture in many countries, such efforts are likely to meet with limited success unless the sector adopts a more business-like approach in spheres of activities such as those practised by input suppliers and agro-processors and distributors, and even primary producers, particularly smaller sized ones. But while this feeling exists there is a marked absence of concerned efforts to bring certain of these producers into the main stream of commercial activities. In fact, not

much is known generally about their behavioural pattern with respect to the management of resources that are available to them. Neither is there a general awareness of the decision-making process relative to the profit motive. Such information are practically non-existent.* The current exercise is the first of a series of studies that will be undertaken in an effort to fill this gap.

Objectives and Scope of the Study

The major objectives of the study are:

- (a) to describe the structure and functions of the existing agribusiness industry in the Caricom Region.
In this regard, major emphasis is placed on the number and types of agribusiness firms that constitute the industry; the size of the various operations as indicated by volume of sales, employment levels, age distribution, ownership structure and various functions performed by these firms;
- (b) to analyse the performance and the various types of linkages that exist within the industry.
The analysis is based on physical considerations such as

*A notable contribution in this regard is a "Study of Caribbean Cases in Small Business." Prepared by George Wadi of the Management Studies Dept., University of the West Indies.

capacity utilization; financial performance based on level of profitability and its relationship with ownership pattern, organizational structure and management style. Other important considerations include the major distributive network used in terms of the acquisition of inputs and disposal of products handled; as well as the specific type of linkages that exist among the various firms that constitute the industry. Attention is also focussed on existing styles of management and their impact on performance of agribusiness operations, together with the types of institutional support utilized by these firms;

- (c) to identify the major constraints affecting the growth, development and expansion of agribusiness operations in the Caricom Region.

In this study agribusiness operations are grouped into three categories, viz. primary products (commercially oriented), input suppliers, and agro processors and distributors. Further, the study of these operations are, in the first instance, restricted to selected countries of the Caricom Region, viz. Jamaica, Trinidad & Tobago, representing the More Developed States, and Antigua, Dominica, Montserrat and St. Vincent, representing the Less Developed States. These countries were selected for two reasons:

- (1) preliminary investigations revealed that there was a heavy concentration of agribusiness activities existing in these countries; and
- (2) given the resources available for the conduct of the study, it was assumed that the information base existing in these countries would provide a reasonable basis for the development of a profile of agribusiness operations in the Caribbean.

Because of the latter constraint, the

findings presented in this Report are restricted to input suppliers and agro-processors and distributors. It should also be emphasized that the data presented herein are based on a partial completion of the study currently in progress. This situation, therefore, restricts widespread generalizations about the state of the agribusiness industry in the Caricom Region.

Organization of the Paper

The material presented in this Report is organized into six sections. Section I and II have already been treated. Section IV describes the general methodology adopted in the development of the data base used in the analysis. It comments on the development of the sample frame, the conduct of the survey, as well as the general quality of the data. Section V gives an overview of the state of agribusiness operations in the Caribbean. This is followed by the presentation of detailed results of the analysis of the survey data. Also included in this section are factors that are generally regarded as constraints to the operations of agribusiness firms in the Caribbean by firms which were included in the survey.

Section VI presents a summary and conclusions drawn from the analysis of data.

It is expected that the results of the overall study, when completed, will help to identify critical issues constraining agribusiness operations, provide information that will lead to the development of more national training programmes in various institutions, as well as inform policy directives relating to agribusiness operations within the overall agricultural development strategy both on a national and regional basis.

General Methodology

Given the objectives of the study, stated above, the methodological task included the design of a questionnaire which would provide the relevant information.

Specific information which is likely to provide an adequate basis for constructing a suitable profile of agribusiness firms includes the following:

- size - volume of sales, assets value, capacity and employment level of agribusinesses
- ownership and organizational structure
- the range of commodities marketed and raw materials consumed and the related distributive network
- the degree of competition which firms encounter in their respective markets and their advertising and promotional thrusts
- the sources of finance and the rates of return on investment
- the human resource structure of the firm and provisions for human resource development
- the managerial approach to operating the firm's activities including the kinds of major plant and equipment used
- the kinds of institutional support/assistance available and utilized by firms in the agribusiness chain.
- the constraints which firms encounter in their respective spheres of activities.

The foregoing information should, theoretically, give an insight into:

- (a) the internal structure and functioning of the agribusiness firm; and
- (b) the linkages of the firm with the external business environment.

The principal objective of the former is to allow for a critical appraisal of the strengths and weaknesses of the agribusiness firm. Such an analysis may be conducted using existing theoretical framework on the efficient organization and management of the agribusiness.

The latter type of information on linkages of the firm with the external environment is useful from a policy viewpoint. There is no doubt that the efficient and smooth operation of the

firm is affected by the level and quality of service in financial markets, technical assistance, marketing services and institutions for both raw materials and products, and the availability of foreign exchange to procure materials.

On the basis of the foregoing information which was identified as pertinent in constructing a profile of agribusiness, a questionnaire was developed and used in the survey.

Problems were experienced in obtaining appropriate sample frames since there was no comprehensive listing of agribusinesses in the various countries. Accordingly, it was necessary to first investigate the approximate number and types of agribusinesses in each country. In this regard, country institutions, knowledgeable agriculturists and other sources of information were collectively used. This preliminary examination revealed the following approximate total number of firms:

| | |
|-------------------|-------------|
| Jamaica | - 130 firms |
| Trinidad & Tobago | - 100 " |
| St. Vincent | - 16 " |
| Dominica | - 18 " |
| Antigua | - 8 " |
| Montserrat | - 4 " |

Given the difficulty of attempting to stratify the population and since the numbers were not excessive, it was considered appropriate to survey the entire population.

The survey of Jamaican agribusinesses was conducted using interviewers who were experienced in conducting surveys. In the LDCs a member of staff in the Department conducted the interview, whereas in Trinidad and Tobago university graduates were employed for this exercise.

As indicated earlier, for purposes of this study, it was decided to focus on the input and product sectors of the agribusiness chain. The rationale for excluding the farm sector included resource constraints for the study and the fact that the farm sector has been the subject of many previous studies. It should also be noted that firms

involved only in selling of products, for example, shops and supermarkets, were excluded from the product sector.

The survey was initiated in late November 1983 and was completed in December 1983.

Survey Results and Analyses

This section presents some of the major findings obtained from an analysis of the data generated from the survey of agribusiness operations described in Section Three of the Report. Firstly, a general overview of the state of the industry is presented. This is followed by detailed results for the specific areas of the industry profile investigated.

For ease of presentation, the results have been categorized into three distinct groups comprising: Jamaica, Trinidad & Tobago and the LDC countries survey - Antigua, Dominica, Montserrat and St. Vincent.

Structure, Size and Functions of Agribusiness Firms:

Table 1 gives an indication of the distribution of firms surveyed in Trinidad, Jamaica and the LDC grouping. As shown in the Table, agro-processors/distributors constituted the bulk of the sample in the case of Jamaica (59%) and the LDCs (85%) while input sector was dominant in the case of Trinidad and Tobago (62% of sample).

The distribution of firms on the basis of sales volume (TT\$) is presented in Table 2. In the case of input suppliers in Trinidad and Tobago annual sales were observed to fall principally into two categories - smaller firms having sales of less than \$0.5m and larger firms with sales ranging from \$0.75m to \$20m. In the case of Jamaica, two groups of firms were also evident but with greater disparity in sales volume than was noted for Trinidad and Tobago. Firstly, there was the group of smaller firms with sales ranging from \$0.1m - \$0.5m. The second group comprised of relatively large firms

TABLE 1: Distribution of Agribusiness Firms Surveyed by Country and Activity

| Country | Number | Per cent |
|-------------------------------|--------|----------|
| Trinidad & Tobago: | | |
| Input sector | 42 | 62.7 |
| Product sector | 25 | 37.3 |
| Total | 67 | 100 |
| Jamaica: | | |
| Input sector | 6 | 10.7 |
| Product sector | 33 | 58.9 |
| Primary sector | 17 | 30.4 |
| Total | 56 | 100 |
| LDCs: | | |
| Input sector | 3 | 15 |
| Product sector | 17 | 85 |
| Total | 20 | 100 |

whose sales were in excess of \$10m.

Volume of sales achieved by agro-processors/distributors was well spread between the range \$50,000 and \$20m in the case of Trinidad and Tobago with a slight concentration towards the upper end of the scale. For Jamaica, the picture was slightly different. Sales volume was more highly concentrated in the range \$.2m - \$10m. Volume of sales achieved by most LDC firms was in the lower end of the scale (less than \$.5m) with only about 6 per cent of few firms achieving sales between \$10m and \$20m.

TABLE 2: Distribution of Firms by Volume of Sales (% of firms responding)

| Annual Sales ('000 TT\$) | Input Sector | | | Product Sector | | |
|-----------------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| 0-50 | 14.7 | 0 | 0 | 0 | 6.7 | 5.9 |
| 50-100 | 3.0 | 20.0 | 0 | 5.0 | 6.7 | 17.7 |
| 100-200 | 8.8 | 0 | 33.3 | 5.0 | 3.3 | 17.7 |
| 200-500 | 17.7 | 20.0 | 0 | 10.0 | 13.3 | 17.7 |
| 500-750 | 0 | 0 | 0 | 0 | 0 | 5.9 |
| 750-1,000 | 8.8 | 0 | 33.3 | 5.0 | 10.0 | 0 |
| 1,000-5,000 | 20.6 | 0 | 0 | 20.0 | 33.3 | 11.8 |
| 5,000-10,000 | 11.8 | 0 | 0 | 20.0 | 13.3 | 5.9 |
| 10,000-20,000 | 5.9 | 40.0 | 0 | 15.0 | 6.7 | 5.9 |
| 20,000 | 8.7 | 20.0 | 33.3 | 20.0 | 6.7 | 11.8 |
| N.R. (% of sample) | 19.1 | 16.7 | 0 | 20.0 | 9.1 | 0 |

TABLE 3: Distribution of Firms by Level of Fixed Assets
(% of firms)

| Assets ('000 \$TT) | Input Sector | | | Product Sector | | |
|-----------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| 0-50 | 11.9 | 0 | 0 | 4.0 | 3.0 | 11.8 |
| 50-100 | 2.4 | 0 | 0 | 4.0 | 3.0 | 17.7 |
| 100-200 | 4.8 | 14.3 | 0 | 4.0 | 8.8 | 11.8 |
| 200-500 | 7.2 | 0 | 33.3 | 8.0 | 11.8 | 5.9 |
| 500-750 | 0 | 0 | 33.3 | 4.0 | 8.8 | 11.8 |
| 750-1,000 | 10.0 | 0 | 33.3 | 0 | 3.0 | 0 |
| 1,000-5,000 | 16.7 | 28.6 | 0 | 40.0 | 26.5 | 29.4 |
| 5,000-10,000 | 4.8 | 14.3 | 0 | 12.0 | 0 | 0 |
| 10,000-20,000 | 7.2 | 14.3 | 0 | 8.0 | 5.9 | 5.9 |
| 20,000 | 2.4 | 0 | 0 | 4.0 | 3.0 | 0 |
| N.R. | 33.3 | 28.6 | 0 | 12.0 | 26.5 | 5.9 |

TABLE 4: Distribution of Firms by Level of
Employment (% of Firms)

| No. of Employee | Input Sector | | | Product Sector | | |
|--------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| 0 - 5 | 28.6 | 16.6 | 33.3 | 17.0 | 0 | 0 |
| 5 - 20 | 35.7 | 0 | 33.3 | 16.0 | 12.5 | 58.8 |
| 20 - 50 | 16.7 | 16.6 | 0 | 28.0 | 31.3 | 0 |
| 50 - 100 | 9.5 | 33.6 | 0 | 16.0 | 18.8 | 17.7 |
| 100 - 200 | 2.3 | 16.6 | 0 | 12.0 | 15.6 | 11.8 |
| 200 - 500 | 7.2 | 16.6 | 0 | 8.0 | 18.8 | 0 |
| 500 | 0 | 0 | 33.3 | 8.0 | 3.1 | 5.9 |
| N.R. | 0 | 0 | 0 | 0 | 3.1 | 5.9 |

TABLE 5: Distribution of Firms According to Length of
Establishment (% of firms)

| Age (yrs.) | Input Sector | | | Product Sector | | |
|------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| 0 - 1 | 16.7 | 0 | 0 | 8.0 | 0 | 0 |
| 1 - 5 | 9.5 | 0 | 0 | 16.0 | 13.3 | 23.5 |
| 5 - 10 | 19.8 | 33.3 | 33.3 | 16.0 | 26.7 | 11.8 |
| 10 - 15 | 23.8 | 16.7 | 33.3 | 24.0 | 13.3 | 17.7 |
| 15 | 30.9 | 50.0 | 33.3 | 36.0 | 46.7 | 47.1 |
| N.R. | 0 | 0 | 0 | 0 | 0.1 | 0 |

TABLE 6: Type/Ownership of Firms (% of firms)

| Forms of Ownership | Input Sector | | | Product Sector | | |
|------------------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| Sole proprietor | 18.4 | 0 | 0 | 8.0 | 6.3 | 5.9 |
| Partnership | 13.2 | 16.7 | 0 | 8.0 | 6.3 | 0 |
| Private company | 60.5 | 66.6 | 33.3 | 44.0 | 68.8 | 23.5 |
| Public limited liability co. | 2.6 | 16.7 | 0 | 24.0 | 15.6 | 23.5 |
| Cooperative | 0 | 16.7 | 0 | 4.0 | 0 | 0 |
| State corporation | 5.3 | 0 | 0 | 8.0 | 3.1 | 0 |
| Statutory authority | 0 | 0 | 66.7 | 4.0 | 0 | 35.3 |
| Other | 9.5 | 0 | 0 | 0 | 3.0 | 11.8 |

Table 3 presents data on the distribution of firms by the level of fixed assets. For Trinidad and Tobago there were firms with assets distributed over the entire range of values which were considered but with a slightly higher number (16.72%) having assets in the range \$1m - \$5m. For Jamaica the largest group of firms (28.6%) had asset in the range \$1m - \$5m; another 28.6 per cent of firms had assets which exceeded \$5m. At the low end of the spectrum there were 14.3 per cent of firms with assets of less than \$200,000. For the LDC countries surveyed assets of the input sector firms were all within the range of \$0.2m - \$1m.

With respect to agro-processing/distribution firms in Trinidad and Tobago, the highest concentration of firms (40%) had assets of between \$1m and \$5m while the remaining 60 per cent were almost evenly distributed among the grouping of assets specified in the Table. The same distribution was generally true of Jamaica with 27 per cent of firms having asset in the \$1m - \$5m range. Twenty-nine per cent of the firms surveyed in the LDCs also had assets of \$1m - \$5m with most of the remaining firms having assets of \$.75m and less.

Employment Pattern

Table 4 presents data on the distribution of firms according to the total number of individuals employed in their operations. In the case of input supply, firms operating in Trinidad and Tobago, a large number of firms (29%) may be considered very small since they employed 5 persons and less; 36 per cent of firms employed between 5 and 20 individuals while 17 per cent employed between 20 and 50 persons. Only a very small number of firms employed more than 50 individuals in their operations. Input supply firms operating in Jamaica, on the average, were evenly distributed over the categories of

employment levels specified in the table. For the LDCs, the majority of the firms surveyed employed less than 20 individuals in their operations.

Very few (8%) of the agro-processing firms surveyed in Trinidad and Tobago could be considered very large, that is employing more than 500 persons. The tendency of most firms was to employ between 20 - 100 individuals in their operations. The majority of firms in this sector firms operating in Jamaica also employed between 5 and 100 individuals, while 16 per cent indicated employment levels of more than 200 individuals. The bulk of the firms interviewed in the LDCs (59%) employed 20 persons or less, 18 per cent employed between 50 and 100 persons and 12 per cent between 100 and 200 individuals. Only 6 per cent of the firms employed 500 and more individuals.

Length of Establishment of Firms

Table 5 provides information on the distribution of firms according to length of establishment of firms. The majority of the input supply firms operating in Trinidad and Tobago were more than 10 years old. For Jamaica, most of the firms has been in operation for more than 15 years. In the case of the LDCs the firms surveyed had been established for 5, 10 and 15 years, respectively.

The majority of agro-processing firms operating in Trinidad and Tobago were over 10 years old while those operating in Jamaica and LDCs were more than 15 years old.

Type/Ownership of Firms

The ownership pattern of agribusiness firms surveyed is presented in Table 6. Sixty per cent of input supply firms operating in Trinidad and Tobago operated on a private basis, 18 per cent were solely owned while partnerships constituted only 13 per cent of the firms surveyed. In the case of Jamaica, private operations dominate the picture (66%) while in the case of the

LDCs, statutory authorities were the major suppliers of agricultural inputs.

Private companies and public limited liability companies dominated the agro-processing industry in Trinidad and Tobago. The same pattern is reflected in the case of Jamaica and the LDCs.

Table 7 presents statistics on the range of goods and services provided by agribusiness enterprises. Input supply firms operating in Trinidad and Tobago indicated a wider range of activities (89) undertaken compared to 20 activities by their counterparts in Jamaica and 3 for the LDCs. The types of input services provided include: provision of planting material, growing and breeding stock, chemicals, feed, veterinary supplies, fertilizers, general agricultural information, farm equipment, plant clinics and other advisory services.

TABLE 7: Number of Different Goods and Services Provided by Agribusiness Firms in the Various Country* Groupings

| | No. of Goods & Services Provided | | |
|----------------|----------------------------------|------|------|
| | T&T | Jam. | LDCs |
| Input sector | 89 | 20 | 3 |
| Product sector | 59 | 56 | 18 |
| Total | 138 | 76 | 21 |

*These goods and services are non-mutally exclusive among firms.

Agro-processing and product handling activities include fish, poultry and meat processing, grading and packaging, oils and fats, detergents, seasonings, horticultural products, tobacco products. The variation in the provision of services among the agribusiness firms in the specified countries was less marked than for the input supply firms. This suggests that there was a higher degree of concentration among input

suppliers in Jamaica than in Trinidad and Tobago and the LDCs.

Performance of Agribusiness Firms

Performance of agribusiness firms was examined both from the physical and financial perspectives. Physical performance was measured in terms of the firm's use of its productive capacity. In this regard, it was a relatively straightforward task obtaining this information for those firms with major plants and equipment. The survey results revealed that firms in the product sector of the agribusiness chain were generally in a better position to provide information on capacity production since many had major items of plant. On the other hand, most of the agribusiness firms operating in the input sector of the chain were service-oriented. Capacity was often a function of the number of staff and though this could be specified, it was indeed a flexible situation.

The above characteristic of the firms surveyed is reflected in Table 8, e.g. all the input sector firms in Trinidad and Tobago and the LDCs indicated that information on capacity was either not readily available or not applicable. However, firms in this category surveyed in Jamaica were better able to provide information on capacity, only 16.7 per cent not responding or for whom the information was not applicable. Eighty per cent of those providing information were utilizing over 80 per cent of their productive capacity.

A smaller percentage of firms (23-32%) either did not provide this information or found that it was not applicable. Generally, there were low levels of plant capacity utilization for the firms involved in processing and product handling. From those responding with the relevant information, as much as 41 per cent in Trinidad and Tobago operated at less than 50 per cent capacity utilization. The corresponding figure for Jamaica was 52 per cent and in the LDCs it was highest - 53 per cent.

Low levels of plant utilization is one important factor which can have adverse effects on profitability. Accordingly, the relationship between these variables will be examined in this section of the paper.

Financial performance was assessed on the basis of the approximate rate of return on investment. Information on rates of return is often difficult to obtain from responding firms, except where financial statements are readily available. Interviewers were therefore provided with guidelines on procedures which may be used to verify whether the responses provided on rates of return, were in general conformity with other data.

Firms were asked to give the average return on capital over the recent past. The data obtained are presented in Table 9. Generally, there was more non-response from firms operating in the product sector as opposed to firms in the input sector. With respect to the latter group, all firms in Jamaica and the LDCs responded whereas there was a 31 per cent non-response in Trinidad and Tobago.

The general conclusions emerging with respect to levels of profitability are as follows:

- (a) a greater proportion of firms in the product sector while responded indicated negative rates of return (unprofitable) when compared to firms in the input sector.
- (b) the largest firms of unprofitable firms were the the LDC, followed by those in Jamaica and finally, Trinidad and Tobago.
- (c) all firms responding, except for those in Jamaica's product sector, had rates of return below 50 per cent. For the product sector in Jamaica 18 per cent of the responding firms had rates of return in the range 50-100 per cent.

Of particular interest is the high percentage of firms responding which indicated unprofitable operations. In this regard, the LDCs show as much

as 94 per cent of product handling and processing firms being unprofitable, whereas 66 per cent of input sector firms were in this category. The respective figures of unprofitable firms for Jamaica are 36 per cent of product sector firms and 33.3 per cent of input sector firms. In Trinidad and Tobago, 33 per cent of product sector firms are unprofitable, whereas only 13 per cent of input sector firms are in this category.

In an attempt to identify possible causal factors for the distribution of profitability and in particular the negative rates of return, the distribution of levels of profitability was examined with respect to the following features of the firm:

1. Ownership structure
2. Volume of sales
3. Capacity utilization
4. The existence/non-existence of a formal organizational structure
5. The number of managerial staff employed by the firm.

For firms in both the input and product sectors of the agribusiness chain, the most dominant form of ownership was the private company and generally, this group had the highest percentage of profitable firms.

Provided other aspects of the firm's operation are economical, a higher volume of sales is generally expected to lead to greater profits. However, no statistical relationships could be discerned between sales volume and the level of profitability. While many factors can be theorized to explain this observation, one possibility could be the fact that although many firms in the product sector have relatively high sales volume, the majority show low levels of plant utilization. Indeed, a study of the relationship between level of profitability and plant utilization indicated that generally, higher levels of capacity utilization were associated with higher rates of profit.

A large percentage of firms had indicated that their organisational

structure was a formal one, but this fact did not seem to influence the levels of profitability.

Further investigation was conducted to determine whether the number of managers employed by the firm was correlated with the rates of return. In the case of the input sector, Trinidad and Tobago showed the largest group of firms to have one manager and was in fact, the most profitable group. For firms in the product sector in this country, the most dominant group was that with firms having two managers and this constituted the most profitable group.

For the input sector in Jamaica and the LDCs, no clear relationship existed between the rates of profitability and the number of managers. The same was true for product sector firms in the LDCs. However, for this group of firms in Jamaica the sub-group with the highest number of managers (5 managers) was most profitable.

In concluding this section of the report, it can be said that in a large percentage of firms, in particular among the LDCs, the product sector group was unprofitable. The latter grouping showed firms with low levels of plant utilization. Further examination did not show any definite relationship between profitability and volume of sales or formality of organizational structure. However, firms showing higher levels of plant utilization tended to be more profitable. There is no direct relationship between the number of managers employed and profitability.

Distribution Network and Major Sources of Raw Material Utilized by Agribusiness Firms

Table 10 presents data on the major outlets used in distributing products by agribusiness operators. Input suppliers in Trinidad and Tobago tended to favour the retail channel for distribution of their commodities. Wholesalers, others,

salesmen and distributors followed in that order. Jamaican input sector firms favoured the distributor and the retailer as the major outlets for their products. Other outlets listed were of lesser importance. The LDC firms were indifferent in terms of the distributor, the retailer and others as the major mechanisms for distributing their commodities.

Agro-processors in Trinidad and Tobago tended to favour the retail outlet, salesmen, the distributor, wholesaler and the supermarket as major distribution channels for their products. Their Jamaican counterpart showed a distinct preference for the distributor, the retailer, salesmen, wholesaler and the supermarket as major distribution outlets in order of priority. Agro-processors in the LDCs chose the supermarket, exports, other and retail outlets as major distribution channels.

Information also presented in Table 11 shows the degree of self reliance in terms of material supply. Input suppliers in Trinidad and Tobago and the LDCs depended heavily on foreign sources for their supply while their counterpart in Jamaica tended to favour local sources for their products/commodities.

Trinidad and Tobago agro-processors showed a bias towards local sources for raw material supplies. This was also the case for their counterpart in Jamaica and the LDCs. However, Jamaica showed the highest level of self-reliance in this regard.

Organisation, Management and Human Resources

Good organisation of a firm so as to effectively utilize its resources in pursuing its goals is an important pre-requisite for successful and efficient business operation. In an effort to determine the extent to which firms attempt to formalize their organisational structure, interviewers were asked to fully explain the concept before soliciting a response. Generally, the results (Table 12)

show a high percentage of firms in the various categories which had formal organisational structures. In fact, all input sector firms surveyed in Jamaica and the LDCs indicated a formal structure. Obviously without further information such responses must be considered highly subjective and therefore allow little opportunity for analytical interpretation.

Adopting a formal structure is certainly more critical for the efficient operation of the agribusiness firm large amounts of resources, particularly human resources. In this regard, Table 13 shows that this is indeed the case for the firms surveyed. For example, of those firms in the input sector in Trinidad and Tobago having employment levels of 0-5 people, 16.7 per cent had formal organization. The corresponding figure for firms having 5-20 people employed was 40 per cent. All firms employing more than 40 people indicated a formal structure.

The ability to have timely acquisition of raw material for production has at various times been a major concern for some agribusiness firms in the Region. Some have therefore attempted backward integration. There has also been attempts to develop forward linkages so as to secure markets for the commodities produced. While basic security may have been a major concern in the attempts to develop backward and forward linkages, it is generally recognized that firms involved are likely to enjoy economies as a result of such linkages. The analysis therefore attempts to determine the degree to which agribusinesses in the Region were integrated. While in Trinidad and Tobago 12 per cent of the input sector firms were linked to raw material supplies and 27 per cent to product sales, the corresponding figures for Jamaica was 66.7 per cent for both forward and backward linkages.

For the product sector 64

per cent of the LDC firms had backward linkage whereas for Jamaica and Trinidad and Tobago the respective figures were 30.3 and 40 per cent. Linkages on the forward side was again greatest for the LDCs - 53 per cent of firms; Jamaica was the next highest with 39.4 per cent and Trinidad and Tobago at 20 per cent.

With respect to the nature of employment for the various staff categories it was generally observed that both for input sector firms and product sector firms, the majority of firms relied on full time employment for managerial, professional and supervisory/technical categories of staff. For skilled and unskilled categories, a significant percentage was employed on a part time basis.

Experience is generally an important attribute of managerial staff. It was interesting therefore to examine the length of experience which agribusiness managers in the Region had. For the input sector, the LDCs had the most experienced managerial staff (Table 15), with 88 per cent having more than 10 years experience. Trinidad and Tobago was next with 55 per cent having more than 10 years experience, whereas Jamaica had only 35 per cent of its input sector managers with this level of experience.

Product sector firms generally had managers with lower levels of experience. In Trinidad and Tobago only 39 per cent of managers had more than 10 years experience, whereas in Jamaica and the LDCs the relevant figures were 43 and 37 per cent, respectively.

Investigations into the management style of firms in the area of finance showed that a high percentage of firms practised both financial planning and control (Table 16). All of the input sector firms in the LDCs practised both functions. In Jamaica all firms in this sector practised financial control, whereas only 68 per cent undertook financial planning. The respective figures for

firms in Trinidad and Tobago were 69 per cent practising financial control and 64 per cent practising planning.

On the product sector side, about 70 per cent of firms in Trinidad and the LDCs undertook financial planning and an equal percentage financial control respective figures for Jamaica were 91 and 94 per cent,

Staff development programmes are considered an important feature of the dynamic firm. Accordingly, firms survey were asked whether there were explicit provisions for such programmes. Generally, it was observed that firms in Jamaica provided more for staff training and development than either the LDCs or Trinidad and Tobago. The provision for further training for managerial staff in the product sector was lowest for firms in the LDCs (12%) and highest for Jamaica (63%). With respect to professional staff, the least provision for further training was among input sector firms in Trinidad and Tobago, whereas in Jamaica this figure was as high as 67 per cent.

The profile presented in this section of the report characterized the structure, function and nature of the operations of agribusiness firms survey. While many of these are essentially pre-requisites for the efficient management and utilization of the firm's resources they do not necessarily guarantee such achievements. To assess such features the analysis of financial statements of the firms within the industry would need to be conducted.

Institutional Services Utilized by Agribusiness Firms

Institutional support is generally vital to the survival of agribusiness firms in the Region. Accordingly, Table 17 attempts to show the range of institutional services utilized by the agribusiness firms surveyed. Twelve per cent of the input sector firms operating in Trinidad and Tobago sought technical advice and

TABLE 8: Percentage of Productive Capacity Utilized by Firms (% of Firm's Responding)

| Percent of Productive Capacity Utilized | Input Sector | | | Product Sector | | |
|-----------------------------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| 0-30 | 0 | 0 | 0 | 11.8 | 8.3 | 29.4 |
| 30-50 | 0 | 20.0 | 0 | 29.4 | 41.7 | 23.5 |
| 50-70 | 0 | 0 | 0 | 5.9 | 25.0 | 5.9 |
| 70-80 | 0 | 0 | 0 | 41.2 | 12.5 | 11.8 |
| 80-90 | 0 | 40.0 | 0 | 5.9 | 12.5 | 5.9 |
| 90-100 | 0 | 40.0 | 0 | 5.9 | 0.0 | 0 |
| NR/NA | 100 | 16.7 | 100 | 32.0 | 27.3 | 23.5 |

TABLE 9: Distribution of Average Rates of Return on Capital Among Firms Over Recent Years (% of Firm's Responding)

| Rates of Return (%) | Input Sector | | | Product Sector | | |
|--------------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| 0 | 13.8 | 33.3 | 66 | 33 | 36 | 94 |
| 0-5 | 17.3 | 16.6 | - | 11 | - | - |
| 5-10 | 13.8 | 16.6 | - | 5.5 | 12 | - |
| 10-20 | 34.5 | 33.3 | 33 | 28 | 12 | 6 |
| 20-50 | 20.7 | - | - | 22 | 24 | - |
| 50-100 | - | - | - | - | 18 | - |
| 100 | - | - | - | - | - | - |
| NR (% of firms surveyed) | 31 | 0 | 0 | 28 | 47 | 30 |

TABLE 10: Percentage of Firms Using Major Channels for Product Distribution (% of firm's responding)

| Marketing Channel | Input Sector | | | Product Sector | | |
|-------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| Distributor | 14.3 | 83.3 | 33.3 | 36.0 | 62.5 | 11.8 |
| Wholesaler | 23.8 | 10.7 | - | 32.0 | 21.9 | 11.8 |
| Retailer | 69.1 | 33.3 | 33.3 | 56.0 | 31.3 | 23.5 |
| Supermarket | 4.8 | 16.7 | - | 20.0 | 18.8 | 64.7 |
| Salesmen | 16.7 | 16.7 | - | 40.0 | 28.1 | 5.9 |
| Export | 4.8 | 16.7 | - | 12.0 | 18.8 | 29.4 |
| Other | 23.8 | - | 33.3 | 16.0 | 18.8 | 20.4 |

TABLE 11: Reliance on Foreign Versus Local Supplies of Raw Materials (% of firm's responding)

| Raw Material Source | Input Sector | | | Product Sector | | |
|---------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| Local | 38 | 56 | 17 | 54 | 70 | 54 |
| Foreign | 62 | 44 | 84 | 47 | 37 | 46 |

TABLE 12: Distribution of Firms with Formal Organisational Structure (% of firm's responding)

| Country | Input Sector | | | Product Sector | | |
|-------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| Trinidad & Tobago | | 55 | | | 84 | |
| Jamaica | | 100 | | | 85 | |
| LDC's | | 100 | | | 65 | |

TABLE 13: Percentage of Firms in Each Category of Number of Employees Employed having Formal Organisational Structure (%)

| No. of Employees | Input Sector | | | Product Sector | | |
|------------------|--------------|------|------|----------------|-------|-------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| 0-5 | 16.7 | 100 | 100 | 33.3 | 0 | 0 |
| 5-20 | 40.0 | 0 | 100 | 50.0 | 50.0 | 50.0 |
| 20-50 | 100.0 | 100 | 0 | 100.0 | 90.0 | 0 |
| 50-100 | 100.0 | 100 | 0 | 100.0 | 66.6 | 66.6 |
| 100-200 | 100.0 | 100 | 0 | 100.0 | 100.0 | 100.0 |
| 200-500 | 100.0 | 100 | 0 | 100.0 | 100.0 | 0 |
| >500 | 0 | 0 | 100 | 100.0 | 100.0 | 100.0 |
| NR | 0 | 0 | 0 | 0 | 100.0 | 0 |

TABLE 14: Type of Linkages Existing for Agribusiness Firms (% of firm having each type - non-mutually exclusive)

| Type of Linkage | Input Sector | | | Product Sector | | |
|-----------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| Backward | 11.9 | 66.7 | 33.3 | 40.0 | 30.3 | 64.0 |
| Forward | 16.7 | 66.7 | 33.3 | 20.0 | 39.4 | 53.0 |
| Horizontal | 4.8 | 66.7 | 0 | 16.0 | 21.2 | 23.5 |

TABLE 15: Length of Experience of Managerial Staff (% of all managerial staff)

| Years of Experience | Input Sector | | | Product Sector | | |
|---------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| 0-5 | 13 | 40 | 13 | 37 | 39 | 42 |
| 5-10 | 32 | 25 | - | 25 | 17 | 21 |
| 10-20 | 42 | 15 | 25 | 16 | 29 | 16 |
| >20 | 13 | 20 | 63 | 23 | 14 | 21 |

TABLE 16: Percentage of Firms Practising Financial Planning and Control

| Activity Practised | Input Sector | | | Product Sector | | |
|--------------------|--------------|-------|-------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| Financial planning | 64.3 | 66.7 | 100.0 | 72.0 | 90.9 | 70.6 |
| Financial control | 69.1 | 100.0 | 100.0 | 72.0 | 93.9 | 70.6 |

TABLE 17: Institutional Assistance Utilized by Agribusiness Firms (% of firms utilizing each type)

| Type of Assistance | Input Sector | | | | | | Product Sector | | | | | |
|--------------------|--------------|----|------|----|------|---|----------------|----|------|----|------|---|
| | T&T | | Jam. | | LDCs | | T&T | | Jam. | | LDCs | |
| | S | O | S | O | S | O | S | O | S | O | S | O |
| Credit | 12 | 5 | - | 50 | 33 | - | 16 | 4 | 18 | 18 | 18 | - |
| Tax | 7 | 2 | - | 50 | 33 | - | 36 | 8 | 24 | 9 | 18 | - |
| Technical advice | 12 | 24 | 17 | 33 | 67 | - | 8 | 24 | 42 | 27 | 53 | - |
| Export promotion | 2 | 5 | - | 33 | - | - | - | 4 | 21 | 15 | 24 | - |
| Marketing | 5 | 10 | - | 33 | - | - | - | 8 | 30 | 27 | 12 | - |
| Input supply | 5 | 2 | 17 | 17 | - | - | - | 12 | 18 | 21 | 6 | - |
| Other | 2 | - | - | - | - | - | 8 | 6 | 3 | - | - | - |

Note: S=State O=Other

credit assistance from State sources while only about 2 per cent of these used similar sources for their export promotion activities. For advice on marketing, sources other than the State were favoured by these firms.

For input sector firms in Jamaica there was less of a dependence on the State for advice and assistance on matters relating to the operations. On the contrary, input suppliers in the LDCs depend heavily on the State to provide advice and assistance with respect to credit, taxation and technical advice.

Agro-processors in Trinidad and Tobago tended to favour state sources for assistance with credit and tax matters. For matters relating to marketing, export promotion, and technical matters there was a tendency to seek alternative sources of assistance rather than the State. In the case of Jamaica there appeared to be a preference for the State in terms of assistance in the area of marketing, technical advice, tax, credit and export promotion. Agro-processors in the LDCs tend to rely almost exclusively on the State for assistance in their operations.

Constraints to Growth and Development of Agribusiness Operations

Table 18 presents information on factors inhibiting the growth and development of agribusiness operations in the Caribbean as obtained from the firms surveyed. The major constraints identified by input sector firms in Trinidad and Tobago were the availability of qualified workers; availability of capital (working and investment) local markets and foreign exchange. The availability of technical and professional personnel was not considered a critical area in this regard. In the case of Jamaica, input supply firms indicated that investment capital, local market, technical and professional staff and the availability of qualified workers were areas of

critical need. Only 16 per cent of the firms surveyed identified foreign exchange as a critical area to the progress of agribusiness operations. Thirty-three per cent of the firms surveyed in the LDCs identified the local market as a constraining factor.

Agro-processing firms in Trinidad and Tobago identified the availability and quality of workers, foreign exchange, local market, technical personnel, working and investment capital as major constraints to their growth process. In the case of Jamaica, availability of technical personnel and foreign exchange were identified as areas of critical need.

Summary and Conclusions

This study was concerned with the development of a profile of agribusiness operations in selected countries of the Caricom Region, viz. Trinidad and Tobago and Jamaica representing the MDCs and Antigua, Dominica, Montserrat and St. Vincent representing the LDCs.

The essential features of agribusiness firms operating in various countries studied may be summarized as follows:

- (a) Although significant percentages (ranging from 5-23%) of agribusinesses may be considered small in that sales volume were below TT\$100,000, there is an even greater number whose annual sales were (ranging from 8.7 - 33.3%) of firms responding in excess of \$20m.
- (b) Most of the firms surveyed had fixed assets below TT\$20m. It was observed that for firms in the product sector there was fairly good distribution of asset values over the range \$0-\$20m. This was also true of input sector firms in Trinidad and Tobago whereas in Jamaica and the LDCs most firms had assets exceeding \$0.5m in value.
- (c) Most agribusiness operations in Trinidad and Tobago and in the input sector in the LDCs may be

considered small commercial operations with less than 50 employees. In Jamaica and the product sector of the LDCs there was a good distribution of firms ranging from small to large where up to 500 people were employed.

- (d) The majority of agribusiness firms surveyed had been conducting business for more than five years, with a significant percentage (at least 30%) which may be considered well established firms with more than 15 years of business operation. New entrants to the industry were observed principally for Trinidad and Tobago and were concentrated more so in the input sector rather than the product sector.
- (e) The dominant form of ownership of agribusinesses is private with the limited liability organisational type being most common. Sole proprietorship and partnership are more popular in Trinidad and Tobago than in the other countries.
- (f) Agribusinesses in the Region produce a wide range of commodities and services. In this regard, Trinidad and Tobago offered the greatest diversity with a total of 138 products/services offered.
- (g) The survey results indicated significant underutilization of productive capacity for those firms with major plant and equipment. The above is probably one of the important factors accounting for the financial losses reported by a significant percentage of firms.
- (h) Foreign inputs for production are required by approximately 50 per cent of all firms surveyed.
- (i) The agribusiness industry in the Region seems to have established a significant degree of forward and backward linkages.
- (j) The unavailability of adequate markets, both local and foreign, for products from the

agribusiness sector, the quality of the work force and the limited availability of finance were identified as major constraints to growth and development of agribusiness.

Because of the absence of a full list of agribusiness firms in these countries, it was necessary to first compile a listing. For the purpose of this paper the analysis was based on the survey of 106 firms comprising 48 from the input sector and 58 from the product sector. Time constraint and lack of an appropriate sample frame would have certainly influenced the quality of the sample of firms used for this paper. Accordingly, generalization of the results presented here should appropriately be cautioned.

TABLE 13: Constraints to Growth and Development of Agribusiness Operations (% of firms for which constraint was relevant)

| Constraints | Input Sector | | | Product Sector | | |
|----------------------|--------------|------|------|----------------|------|------|
| | T&T | Jam. | LDCs | T&T | Jam. | LDCs |
| Markets: | | | | | | |
| -Local | 33 | 33 | 33 | 41 | 10 | 35 |
| -Export | 2 | 16 | 3 | 20 | 67 | 59 |
| Professional staff: | | | | | | |
| - availability | 14 | 33 | - | 20 | 3 | - |
| - quality | 9 | 10 | - | 10 | 15 | - |
| Technical Personnel: | | | | | | |
| - availability | 11 | 33 | - | 20 | 29 | - |
| - quality/competence | 7 | 33 | - | 24 | 16 | 6 |
| Workers: | | | | | | |
| - availability | 40 | - | - | 32 | - | - |
| - quality | 47 | 33 | - | 32 | 12 | - |
| Industrial relations | 9 | 16 | - | 16 | 9 | - |
| Capital: | | | | | | |
| - working | 35 | 16 | - | 28 | - | 18 |
| - investment | 35 | 50 | - | 28 | 6 | 6 |
| Foreign exchange | 33 | 16 | - | 44 | 18 | - |
| Other | 11 | - | 33 | 64 | 15 | 35 |

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