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*Farm Level Issues in Implementing Agricultural Diversification: The CARDATS Experience**

INTRODUCTION

This discussion paper on farm level issues in implementing agricultural diversification will focus upon the experience of the Caribbean Agricultural Rural Development Advisory and Training Service (CARDATS).

CARDATS was established in 1978 as an agricultural and rural development project designed to solve some of the chronic problems of rural small farmers in the Eastern Caribbean States. It is funded primarily by the United Nations Development Programme (UNDP) and is executed by the Caribbean Community Secretariat (CARICOM). Its substantive focus has been on country programmes which facilitate the diversification of production by lessening or eliminating constraints, and increasing accessibility to essential production inputs and services. The *modus operandi* adopted has been to involve groups of small farmers in each participating country in profitable production programmes – especially those dealing with food production.

In any country, a group of farming units engaged in such a programme constitutes a CARDATS target area, while the activities in all target areas, together with other specialised project operations, constitute the country programme. Thus, CARDATS carries out seven country programmes each serviced by a CARDATS Country Officer assisted by national field technicians and guided, supported and co-ordinated by a regional pool of experts headquartered in Grenada.

The expertise of the regional team is selected not only to carry out CARDATS specialised functions, but also to complement as far as possible, local skills and resources available to the small farming communities.

The small farmer in the Eastern Caribbean can be classified into three groups:

(i) Producers of traditional crops, mainly root crops, whose output is consumed mainly by the household. In international terms, he/she is a peasant farmer.

(ii) Producers at a low level of technology with production satisfying part of their household needs and, on occasions providing a surplus which is offered for sale in order to purchase mainly non-food items.

(iii) Producers at a level of technology which allows them to use the market place to influence their choices of crops and livestock.

Although operating at varying levels of technology, small farmers produce about 70% of food crops grown in the Eastern Caribbean. This fact places them into a special group. They operate within the lowest rungs of the economic ladder and practise production systems and levels of technology which can be upgraded to increase their efficiency of production.

Most target farmers joining the project are in groups (i) and (ii) above. One objective of the project is to transform small farmers (over time) from a state of subsistence to that of commercial operator. When a farmer achieves the status of a commercial farmer, he is graduated from the project as a model to others.

Farmers are taught to look upon their farms as small businesses and, within a mixed farm system, to develop viable farm enterprises. In 1987, the project promoted the concept of on-farm investments and established demonstration units to benefit the production of both crop and livestock. Investments have included the construction of farm ponds, establishment of trickle and

*Discussion with Michael Griffin, FAO Marketing/Post-harvest Specialist attached to CARDATS and the CARDATS specialist staff is acknowledged in the preparation of this paper.

overhead irrigation systems and introduction of improved breeds of small ruminants to farmers' herds, under a livestock upgrading programme.

A principle tenet of the project is that small farm enterprises must be seen as economically viable so that not only part-time farmers, but also youths, will be attracted to full-time employment in agriculture.

THE CARDATS EXPERIENCE

Farm level issues identified through the CARDATS experience as important to the process of diversification are now discussed.

1. *Land and Land Tenure*

The issues of land and land tenure are of crucial importance when increased production through diversification is considered. The principal issues which have affected CARDATS' farmers are:

(a) Size of holding: small size, insufficient to provide full-time employment.

(b) Location: hilly, peripheral land, often of marginal productivity.

(c) Tenure: (i) Where not owned or ownership not formalized: disincentive to investment, lack of long-term development and unavailability as collateral for credit.

(ii) Where owned: family land often sub-divided into uneconomic units.

(d) Degradation of soils: combinations of above factors, often lead to soil erosion and degradation.

In order to be successful, a farmer must have access to an adequate amount of suitable land and must have a vested interest in maintaining or improving its condition.

The CARDATS experience has shown that under a mixed farm system (crop and livestock) a farm family managing a 4.5 acre farm can achieve levels of cash income similar to a lower middle class Caribbean family. These levels, however, are actually achieved by farmers who either own or have formal title (e.g. lease) to the land. Farmers tend not to invest in or improve the quality of the land when they do not have some sort of security.

Governments in most OECS member countries are the largest land owners. They also have the most squatters. With uneconomic sized plots scattered over former plantations, and little or no infrastructure to support meaningful production, Governments by inaction, have allowed, in some cases, the rural equivalent of a shanty-town to develop.

A serious agricultural diversification programme must be planned and managed on the recognition that:

(i) The plantation era has passed, and there is a "middle (production) passage" between the plantation and the peasant farmer.

(ii) Agricultural production is part of an agri-business system, and it is the development of linkages within the system that hold opportunities for job creation.

(iii) The Caribbean needs a "new" farmer – skilled and open to new technological innovations with the ability to manage a farm of about 5-25 acres.

(iv) Having become the new plantation owners either by default or direct intervention, Governments should take bold steps to address the issue of land distribution, fired in the knowledge that there is not enough land for all, and only viable, economic farms should be created and maintained.

2. *Production System*

Most of the farmers with whom CARDATS began working, concentrated their production on root crops. The introduction of "new crops," in particular vegetables, meant that a change in the farmer's approach to his farm, and the way in which he worked, was necessary for the following reasons:

(a) These new vegetables involved more work at every stage of production and required a more sophisticated level of care than the traditional root crops.

(b) A higher level of investment was frequently required for production; higher costs raised the question of the use of, and access to credit.

(c) Many farmers initially regarded the new crops as "tourist food" and did not consume them themselves. Over a period of years, it was necessary to educate farmers on the nutritional value of their new crops and to encourage farm household consumption.

(d) Systems of land preparation and usage had to change from the traditional ridge planting to irrigated bed production. Also the new crops required a more reliable source of irrigation.

(e) The farmer needed to acquire new skills and draw upon persons and resources outside those upon which he had traditionally depended. The role of the extension agent, therefore, became critical since farmers needed more of his time and expertise. Problems were not restricted to agronomy, but varied from farm planning and credit to marketing. It was, however, in the area of post-harvest activities and especially marketing, that the major adjustments had to be made.

3. *Markets and Marketing*

Viewed at the national or regional levels, increased production of existing or new crops quickly becomes a problem. A few acres of vegetables could create a surplus. With small domestic markets, export opportunities had to be exploited.

In introducing "new" export oriented crops to small farmers, the absence of a "fall back" domestic market makes the project a long and tedious exercise. Farmers in St. Lucia could not comprehend a weekly export market of 25,000 lbs. of hot peppers. In the first year of introducing the programme, therefore, under 3,000 lbs. per week were shipped. It took CARDATS nearly 5 years to develop an export market programme in Antigua.

The role of marketing underscores the need for planned production through the use of farm plans to ensure a constant and diverse supply of produce adjusted as far as possible to the peaks and troughs of domestic demand.

There are several important factors which need to be addressed in the development of an export programme, namely:

(a) The identification of the potential market, varieties required, competing sources of supply, expected prices and standards for grading and packaging before an approach is made to the farmers.

(b) Farm inputs – seeds, fertilizers, pesticides, etc. must be available in sufficient quantity.

(c) The large-scale production of a single crop means that the risk of diseases and infestation is increased.

(d) At the time of sale, some crops grown for the export programme could command higher prices in the local market, providing an inducement for farmers not to honour export contracts.

There is need to emphasize the need for discipline among farmers, especially in their relations with supplying overseas markets. Most small farmers think of short-term gains rather than long-term relationships. They have a feeling (possibly from their historical experiences) that things would not last. Thus, while domestic market prices may be higher than extra-regional export prices there is a trade-off – a small seasonal high priced market against a large extra-regional but competitive market. A case in the CARDATS experience illustrates the need for discipline.

In April 1988, target farmers in St. Lucia who were contracted to produce melons for export, sold over 60% of the crop on the domestic market, where prices were higher than the contract export price. Only after the domestic market was saturated did they want to honour their commitments. The exporter and the project management were both embarrassed by the farmers actions, but many of them thought they did nothing wrong.

4. *Production Services*

As the complexity and cost of production increases, individual small farmers become less and less able to cope technically and financially with the demands which are made upon them. It is then that the economies of scale offered by group activities

become apparent. The CARDATS approach has been to work in a particular target area but has also been to encourage such group activity as a medium for farmer development. Joint activities in this area have included:

- purchasing of inputs
- ownership and management of farm machinery (plough, tractor, etc.)
- transport and marketing.

Group action became a powerful tool in organizing and motivating small farmers. New and improved production systems had to be serviced. Inputs and services had to be supplied on a timely basis. Land preparation, pest and disease control, irrigation, etc., all had to be planned and executed at specific periods. Out of such needs resulted the group ownership of equipment. In some cases, specialist sub-groups developed, to carry out tasks such as seedlings production, spraying, farm hygiene.

In terms of CARDATS own approach it has meant that the system of providing a Country Officer and Counterpart, with support from the Head Office specialist staff, is no longer adequate. Increasingly, CARDATS has had to draw upon outside professional advice, especially from the Caribbean Agricultural Research and Development Institute (CARDI), as the range and scale of production activities have increased. The awareness of this situation has been a primary force in the forthcoming merger of CARDATS with CARDI. The union will allow relevant, practical research problems which surface through CARDATS activities to be tackled by CARDI and the results to be translated into increased production.

EFFECTS ON FARMERS OF CARDATS

The discussion so far has focussed on how changes in production call for different approaches and adaptations on the part of the farmer. It is important, however, not to forget the effect of these changes on the farmer as an individual. The main purpose of all the activities which have been mentioned, is to increase the farmer's income and generally improve his standard of living. CARDATS has undoubtedly been successful in increasing incomes. It should be noted, however, that while in some cases, assistance from the project has enabled farmers to act like businessmen in terms of producing and marketing a crop, it may not have been as effective in helping farmers to use the proceeds prudently. To cite some examples:

> A number of farmers do not hold bank accounts and as a result receive payments in cash. This leads to a situation where the money is spent on consumption goods rather than accumulated for productive investment.
>
> Where proceeds are accumulated, they may be invested off the farm in things such as shops or taxis.
>
> Successful farmers may give up farming themselves and begin to use hired labour.

This serves to emphasize the need to develop the "whole man" when we talk about diversification at the farm level. We must not develop large producers who maintain a small producer mentality.

CONCLUSION

In summary, at the farm level, successful diversification requires consideration to be given to a wide range of factors including land tenure, infrastructure, production services, credit, marketing, research, extension, formation of farmers' groups and investment advice. CARDATS has found that its work in diversification has been dynamic with changes in one area of the production system, creating the need for further changes or the development of new areas. In terms of the small farmer, the pattern which has evolved is a movement to mixed farming involving production for home use and domestic and export markets, and the incorporation of livestock. Also, it is not sufficient to be concerned with simply increasing a farmer's income. Once this is achieved, advice on investment and the development of his farm business is needed.

In conclusion, I hope that by outlining the CARDATS experience at the farm level, I have illustrated the issues which will have to be addressed in any diversification programme.