



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

SUMMARY OF PLENARY SESSION I

Papers presented in Plenary Session I were:

1. Kenrick Jordan (Agricultural Economist, CARICOM Secretariat, Guyana): "Priorities for National Regional Objectives in a Diversification Thrust."
2. Alvin Seereeram & Trevor Murray (Agricultural Economists, Planning Division, Ministry of Food Production, Trinidad and Tobago): "Priorities for National Objectives in an Agricultural Diversification Thrust: The Case of Trinidad and Tobago."

The papers attempted to outline priorities for diversification at the regional and national levels. In the case of the national level – the case examined was Trinidad and Tobago.

Mr. Jordan's paper presented a comprehensive overview of objectives that can be sought in a regional diversification thrust. These objectives ranged from: reducing unemployment, achieving food security, meeting nutritional goals, to adequate education of a new set of farmers for continued agricultural production in the Region.

Discussion on Mr. Jordan's paper focussed on the wide scope of the possible objectives for diversification and the need for an approach which could narrow these objectives to a small set that may be achievable by regional countries. Mr. Jordan also related work that is currently being done by the CARICOM Secretariat to aid regional diversification of agriculture.

The paper by Seereeram and Murray outlined the process being taken by Trinidad and Tobago in planning agricultural diversification. The paper pointed out that Trinidad and Tobago had just published a Draft National Agricultural Development Plan which was to guide their planning efforts. Specific projects and programmes to implement the Plan were now being derived.

The choice of priorities for diversification was based on the need to reduce the food import bill and the need to improve the nutritional status of the population. Priorities were therefore being placed on: legumes, fish and fish products, vegetables, dairy, beef and raw materials for agro-industry.

Discussion on this paper focused on the methodology taken in the planning process, whether basing the priorities on those two objectives (self-sufficiency and nutrition) was sufficient for national diversification.

Concern was also raised about the aging population of farmers in Trinidad and Tobago and planning diversification on the basis of such an age structure of farmers. It was pointed out that currently there is a movement of young people back to farming in Trinidad and Tobago.

SUMMARY OF PLENARY SESSION II

Paper presented in Plenary Session II were:

Joseph Campbell, OAS Project Chief, Antigua – "The Applications of Linear Programming Models in Planning the Agricultural Diversification Strategy for Antigua and Barbuda."

Carlisle A. Pemberton and Rita A. Pemberton, University of the West Indies, St. Augustine – "Improving the Methodology for the Formulation of Diversification Strategies."

Dr. Campbell's paper set out a linear programming model for planning diversification of the agricultural sector of Antigua and Barbuda. The model attempted to meet the demands for 22 commodities for this state in 1997 by local production or by imports. The model sought to allocate the agricultural resources for the production of these commodities efficiently. Where such production could not take place efficiently in Antigua and Barbuda, the model allowed the importation of the commodities.

The results of the model showed that currently there was underutilisation of the agricultural resource base of Antigua and Barbuda which could go towards meeting more of the food needs of the country.

The model also showed that more state lands should be put into agricultural production even if higher rents are charged to farmers.

Discussion on the paper focused on the use of the best technology used by Antiguan farmers in the model. It was suggested that this may be too favourable to local production. Similar concerns were raised about the use of a low cost of production for local commodities versus the use of the local price of imports.

The need for such an approach was based on the lack of success of previous attempts at planning diversification.

It was pointed out in the paper that diversification could only be successful if there was a full understanding of all the areas influencing the current state of agriculture in a country. To understand these influences requires an examination of four main dimensions:

- a) The Historical Dimension
- b) The Socio-Political Dimension
- c) The Economic Dimension and
- d) The Technology Dimension

The paper then discussed these dimensions showing how each one had a major potential for affecting the success of diversification efforts.

The paper therefore concluded that to achieve good diversification strategies required inputs from all the dimensions to focus on the problem and provide a comprehensive treatment of the subject.

The systems approach used in the Sondeos in CAEP (the Caribbean Agricultural Extension Project) was put forward as a useful model which could be used in bringing about an integrated focus for the formulation of diversification strategies.

Discussion on this paper focused on the need to bring farmers into the formulation and implementation of diversification strategies. It was suggested that the SONDEO approach was very useful to bring in a farmers' input.

The relationship between the approach of the paper and the quantitative linear programming model was also queried. It was agreed that the other dimensions provided constraints on the economic rationalisation given by a linear programming model.

The area of research and development and diversification was also raised. It was put forward that more research needed to be put into export crops if they were to achieve their full potential even in the current situation.

It was pointed out that historically these export crops received the lion's share of research efforts and given the present unfavourable prospects for these crops, research should be geared for new commodity production which had better long term future for these countries. It was noted however that research and development to obtain new products from the export crops like sucro chemicals or banana based foods should be

supported to the extent that they would improve the overall efficiency of export crop production.

The paper was well received and the Conference noted the attempt at providing quantitative analysis for diversification.

The paper by Pemberton and Pemberton suggested an approach to the formulation of Diversification Strategies as follows:

1. Determination of the mix of dimensions influencing the current agricultural situation of a country, and
2. Using techniques in each dimension to formulate diversification strategies by a systems approach where all inputs are integrated to provide realistic and potentially effective strategies.

SUMMARY OF PLENARY SESSION III

Eight papers were presented in this Plenary Session. They were as follows:

1. Curtis McIntosh (Advisor in Food Economics, Caribbean Food and Nutrition Institute, Trinidad Centre): "Incorporating Nutrition Goals in Diversification Programmes."
2. Carlton Davis (Professor, University of Florida, USA): "Product-Product Dimensions of Agricultural Diversification Strategy in the Caribbean Community - Prospects and Dilemmas."
3. Vincent McDonald (Professor, Howard University, Washington, D.C., USA): "Market Availability - The Basis for Product Diversification."
4. Richard Moore (Economist, Chemical Fuels Corporation, St. Thomas, US Virgin Islands): "CBI Sucrose to Ethanol: The Sugarcane Market Diversification Opportunity."
5. F.S. Leonce (Managing Director, Geest Industries (WI) Ltd., St. Lucia: "1992 - Future Shocks? Future of the Multi-Million Dollar Banana Industry."
6. Richard Graham (Marketing Consultant, CATCO, Barbados): "Export Trade

Potential and Market Requirements for Tropical Agricultural Commodities."

7. Euclid Brancker (Sales Representative, Caribbean Air Cargo Co. Ltd., Barbados): "Transportation: CARICARGO's Experience."
8. S. Cordell (Sales Representative, BWIA, Barbados): "Transportation Services for Agricultural Commodities."

Dr. McIntosh began his paper by stating that of the several development goals, those relating to nutrition are perhaps the least understood and the most under-estimated. He stressed that as diversification programmes unfold, nutrition considerations are crucial. His paper developed a model to illustrate how a combination of a simple concept of nutrition – cost and multi-product mix can be a powerful tool in structuring a diversification programme.

Discussion of his paper centered on the variety of foods which could go into an 'adequate' and low cost diet.

In his paper, Professor Davis focussed on critical economic issues in the diversification question. These economic issues can arise from the different forms of a diversification strategy or the functions selected as modes of action in the strategy. Various economic prospects and dilemmas in diversification were identified in the Caribbean setting. Professor Davis stated that various combinations of traditional and non-traditional enterprises (forms) should be identified and analyzed to attain objectives. Product combinations should be based on an analysis of rates of returns generated in alternative diversification forms. Trade-offs will often develop between multi-crop combination and/or specialization.

Professor McDonald focused his paper on the importance of developing efficient market structure in the diversification process. Markets he stated must be developed in conjunction with product development to reduce the level of vulnerability in diversification models. He further stressed that marketing for non-traditional crops must take on the degree of aggressiveness displayed in both banana and sugar. The paper concluded by presenting an outline of rationalization of the sugar diversification process.

In his paper Dr. Moore argued that the sugar problem in the Caribbean is a long-term structural problem rather than a cyclical

problem. Solutions to the problem must therefore be found in diversification to other enterprises or to other products from sugarcane. He felt that the resource adjustment shocks would be less in the latter case. The results of a feasibility study looking at the potential of ethanol production from sugar were presented.

Discussion of the paper centered on US sugar policy and its impact on Caribbean sugar production.

The paper by Mr. Leonce examined the implications of the European Community's timetable to remove all preferential treatments of imports into the EEC by 1992. This would include banana from the Windward Islands to the UK. Leonce felt that some continued gestation period might come from negotiations in the fourth Lome convention to cover the period 1990-1995. Thus the 'shock' might be delayed until 1995. Mr. Leonce felt by then that significant adjustments in fruit quality and production efficiency could come about, making it possible for the Windwards to maintain market share in the UK market beyond 1995. The paper concluded with challenges which must be met if this hopeful scenario is to develop.

Discussion centred on the challenges put forward and whether they were realistic.

In his presentation, Mr. Graham presented a very practical assessment of the problems faced by CATCO in their efforts to move increased amounts of Caribbean products into international markets. It was pointed out that the Caribbean is not the exclusive producer of any product and that producers here are essentially price takers. Success is, therefore, based on the willingness of producers to meet market demands at competitive world prices. Improved competitive position will be related to improved product quality, consistent quality and improved packaging.

Discussion focused on the potential of individual products in various international markets.

Mr. Brancker in his paper said that the activities of the Caribbean Air Cargo Company Limited allow it to obscure the disproportionate flow of food between the Region and extra-regional sources such as UK and USA. He provided background information on the development of CARICARGO and noted that the Company had stimulated the growth of cargo services in the Caribbean. Mr. Brancker indicated that there is indeed considerable potential for

export of agricultural produce and CARICARGO was meeting a need which could not be met by regular passenger airlines.

Mr. Brancker also dealt with CARICARGO's schedules, handling and insurance procedures, and constraints to the provision of an efficient air service. Some of these constraints restricted the types of aircraft which can be used by the Company. The Company was however evaluating new aircraft.

The discussion looked at issues such as rates, pricing, policy, quality of service, cargo capacity and preferential treatment.

Mr. Cordell stressed BWIA's commitment to the offering of low cost and quality air cargo service for Caribbean products. Specific services available for certain products and specific countries were outlined.

Discussion centred on specific scheduling problems faced in air cargo movement.

SUMMARY OF PLENARY SESSION IV

The paper presented in this Plenary Session was:

Clement Jackson (Director, Planning Institute of Jamaica): "Relevance of the Balance of Payments Objective on the Identification and Design of a Diversification Programme for the Agricultural Sector."

This paper by Dr. Jackson was broadened to include other macro-economic considerations, including Balance of Payments. Some of the issues raised were the chronic crisis in the balance of payment for long periods in several Caribbean countries, and the need to address this by focussing on policy measures such as promoting open trade versus import substitution at particular times.

The question of incentives was addressed. In the case of agriculture, appropriate incentives included the provision of infrastructure, agricultural insurance, and the imposition of tariffs on agricultural imports. With respect to the CARICOM Common External Tariff, he suggested that there was need for a mantle of protection. However, the tariffs should be kept as low as possible as they eventually affect exports. In addition, there was need to separate revenue considerations from tariff considerations.

Also addressed was the question of

'dumping' and the need to protect domestic inputs, consistent with the GATT rules. While the author focused mainly on macro issues, he felt there was need to marry both macro and micro issues relative to agriculture.

SUMMARY OF PLENARY SESSION V

Four papers were presented in this session. They were:

Ranjit H. Singh (Lecturer, The University of the West Indies, Trinidad): "Critical Issues in the Successful Management of Diversification Projects."

Vishnu Ramlogan (Chairman) and Foster Bissessar (Corporate Planner) Caroni (1975) Limited, Trinidad: "Critical Factors in the Successful Implementation of a Diversification Programme - The Experience of Caroni (1975) Limited."

Ashley R. Cain and Glenroy Brown (Agricultural Officer, Ministry of Agriculture, St. Vincent and Graduate Student Department of Crop Science U.W.I. St. Augustine): "Implementing Agricultural Diversification Programmes in a Highly Diversified Agricultural Economy - The Case of St. Vincent and the Grenadines."

Mabel Tenn (Director, Grace Kennedy & Co. Ltd., Jamaica): "Experiences in Diversification - The Case of Jamaica."

Dr. Singh's paper outlined and applied a model for evaluating the development, management and implementation of specific research projects. Dr. Singh's evaluation process involved the use of a quantitative score to evaluate the various steps in project development. A summary of the use of this process on seven specific projects was presented.

Discussion centered on the weighting used in the scoring process.

In the joint paper by Messrs. Ramlogan and Bissessar, critical factors for successful diversification were identified, using the experience of Caroni (1975) Ltd. Bissessar outlined a plan implemented in 1982 to diversify the operation of Caroni (1975) Ltd. away from a heavy emphasis on sugar to other crops and livestock. The paper included an assessment of the success and problems associated with the Caroni (1975) Ltd. diversification.

Discussion centered on specific

adjustment problems faced by Caroni (1975) Ltd. in the diversification process.

Mr. Cain in his joint paper with Glenroy Brown outlined the process of implementing a diversification programme in St. Vincent. The important areas of the diversification programme were stressed in the paper. These areas included: Government agriculture policy, land reform, rural development and extension. The paper traced the relationship of each of these to the development of a diversified agricultural production system in St. Vincent.

Discussion centered on practical problems faced by an extension administrator in implementing a diversification plan.

The paper presented by Ms. Tenn dealt mainly with the winter vegetable project which was started with great fanfare and expectation but failed. It looked at the difficulty of project establishment, the cost of shipping and marketing, including post-harvest losses, finance, management and the lack of confidence on the part of most Jamaicans. The paper ended by advocating that even though the project had failed, that there is need to develop such a project – and if the right approach is taken, having regard to the experience, such a project has the potential to succeed and achieve some of the goals set. In the discussion, it was suggested that it ought to be more appropriate if such projects are funded jointly by the parties in the marketing chain, so that the risks and profits can be shared rather than having an external firm participating only at one end of the marketing chain.

SUMMARY OF PLENARY SESSION VI

The papers presented in this Plenary Session were as follows:

1. Tom Clevenger, John Mexal and Don Cotter (Professors, New Mexico State University, USA): "A Model of Specialty Crop Diversification."
2. Charles Douglas (Agricultural Economist, CARDI, Antigua): "An Approach for Establishing Crop Priorities in an Agricultural Diversification Programme."
3. Suresh Birla (Senior Lecturer, The University of the West Indies, Trinidad):

"Criteria in the Selection of Crops for Diversification."

4. Hugh Saul (Executive Director, CARDATS, Grenada): "Farm Level Issues in Implementing Agricultural Diversification: The CARDATS Experience."
5. E. Ambrose (Plant Protection Specialist, Inter-American Institute for Cooperation on Agriculture St. Lucia): "Fruit Fly Survey in the Windward Islands."

The paper by Professors Clevenger, Mexal and Cotter looked at the forces which created conditions for crop diversification. In the model, these forces were shown diagrammatically as a set of concentric rings and included the individual desire for increased returns, community pressure, Government Programmes, Geography, Climate, Water, Land, Labour, Infrastructure and Management. The initiation of diversification, come about as new crops are introduced and was then affected by individual reactive issues and institutional reactive issues. It was recommended that the crop with the best chance of success should be tried first as success begets success, and that the large outside or foreign firms may be the more appropriate way to start a diversification programme, given their resources. The expansion of specialty crop production was conceptualised as a helical expansion about a cone, and the rate of expansion was explained to be conditioned by several factors.

In the discussion it was stated that in the West Indies, based on its colonial experience, the countries may be wary of inviting foreign firms to undertake this diversification exercise. Domestic firms it was suggested can affiliate with external ones to penetrate a market, or this can be done by a government agency or a co-operative. It was further suggested that there was need to put investment in research and development as part of a diversification programme to deal with the problems that would arise. Further there was need to educate producers as to what was required in the marketing chain from production to consumption. Based on the author's experience, he felt that field trips by farmers to actually see the marketing process at work (e.g. grading, packaging, storing,) was quite an effective learning experience.

The paper by Charles Douglas discussed the rationale for diversification, and on criteria used by CARDI to select crops for promotion of diversification in the Region. The criteria for selection were based on technical, social and economic feasibility. The crops selected were ranked by production and country on a scale of 1-7, 1 being the highest.

In the Region, the crops that showed good prospects based on the criteria were yam, sweet potato, plantain and sweet peppers. The approach used was simple and Douglas stated that it can be improved. For example he explained that the model used did not consider the implications of a change in domestic prices on the selected crops.

In the discussion that followed the presentation, it was pointed out that the paper only looked at selected crops and not livestock. Also, the results of low technology and high technology should be presented and that there was need to identify productivity increases and yield increases because the factors which influence them may be different.

The paper by Dr. Birla considered the case for the promotion of pigeonpea as a crop for the diversification of agriculture in Trinidad and Tobago. The criteria for selection were the scope for import substitution since a large quantity of dried pigeonpeas was imported and the country already produced pigeon peas both in the green and dry stage: the profitability of the crop; the high nutritional status of pigeon peas especially when combined with cereals and root crops; and the linkage effects to processing.

Discussion focussed on the criteria for choice of pigeon peas over other crops. The state of pigeon pea technology for production and processing was also touched on. Finally there was discussion of export prospect, for processed pigeon peas from the region.

Hugh Saul's paper was presented by Hardath Singh. This paper suggested that for successful diversification, a number of issues have to be addressed including land tenure, infrastructure, production services, credit, marketing, research, extension, group activities and investment advice. One of the objectives of CARDATS was to move farmers from the subsistence level of production to commercial production.

In the discussion, it was stated that the criteria used to graduate farmers from one of level production to the next included: Production size, maximisation of returns, current production practices, credit

management and the ability to prepare farm budgets and plans.

The paper by E. Ambrose was on the fruit fly survey which is currently being conducted in the Eastern Caribbean. The paper reported on the activities in the survey which had been carried out in Grenada and St. Vincent and the Grenadines.

The methodology used was discussed, as well as the mechanisms put in place to continuously monitor and evaluate the situation. The results were that no fruit flies of economic importance, were found in the two islands and that the USDA had certified them as being fruit fly free. Also weavils were found in mango seeds so that shipment of mangoes to Trinidad and Tobago could be resumed. The USDA has asked the islands to submit a list of fruits that they want to export.

From the discussion, it was found that even though the islands were declared fruit fly free, there was no guarantee that fruits can be exported to the USA.

SUMMARY OF PLENARY SESSION VII

The papers presented in this Plenary Session were as follows:

1. Thomas Henderson (Project Leader, Caribbean Agricultural Extension Project, UWI Dominica): "Farmer Involvement and Motivation for Programme Implementation."
2. Carlisle Pemberton (Senior Lecturer, The University of the West Indies, Trinidad) and Duane Erickson (Professor CAEP, UWI, St. Lucia): "Diversification at the Farm Level Through a Farming Systems Research and Extension Approach."
3. Dunstan Campbell (Developmental Sociologist, CAEP, UWI, St. Lucia): "Opportunities for Agricultural Diversification in the Windward Islands".

Dr. Henderson in his paper identified the alienation in extension programme planning and implementation between extension personnel and farmers.

The CAEP approach by contrast gave

farmers a sense of ownership of the extension programme and involved them in the process to ensure participation. Farmers involvement was secured by their involvement in committees at the district, regional and national levels. Farmers also participated in the highest policy making forum for CAEP – the Regional Agricultural Extension Coordinating Committee (RAECC). The CAEP approach has resulted in:

- (a) farmers' recognition and sense of ownership of extension programmes
- (b) more positive farmer-extension officer relationships, and
- (c) farmers' committees making more demands on the extension officer.

Dr. Henderson concludes that the involvement of farmers develop a sense of ownership of programmes and increases their involvement in programmes.

During the discussion, one participant asked how farmer participation was measured by CAEP and how the process compared to a national consultation? In response, it was indicated that the CAEP process was continuous whereas the consultation was seen by farmers more as an opportunity to express views and grievances. Evaluation under CAEP was done at the Committee level.

Another issue raised was the weight given to age and educational level in the acceptance process. It was felt that there was some relationship between educational level and involvement. Younger and more aggressive farmers were involved in the key areas of productivity, and involvement tended to decrease with age.

In response to the issue of re-educating farmers, it was noted that education to achieve attitude change was an important part of the CAEP process.

The importance of social demographic factors was questioned. Dr. Henderson indicated that these were largely not critical to the process.

The "marginalisation of the Caribbean man" was noted by another participant. He asked about the marginalisation of women in extension programmes and how it was addressed by CAEP. Dr. Henderson indicated that CAEP recognised the importance of the farm-home system and paid attention to the concerns or needs of women.

In the paper, by Pemberton and Egertson, the authors advanced the view that diversification at this level was best attained by efficient allocation of resources on the farm within the environment of risk and exogenous constraints in existence. Diversification could not be legislated but depended on the efficient use of resources on the farm. There could be a national diversification programme but at the farm level, specialisation should not be precluded if it represented the most efficient allocation and use of resources.

The authors indicated these approaches to achieving farm level diversification:

- o Farm recording and analysis combined with on farm consultation
- o Use of simulated alternatives to generate enterprise options
- o Farming systems Research and Extension Approach (FSR/E).

This latter approach (FSR/E) was used by CAEP. The authors presented the farm as a system consisting of a number of sub-systems. The approach considered all factors impacting on the farming system. The authors then proceeded to outline the approach used under the project; from defining the situation, to analysing the management process, production, marketing and financial activities. It recognised the importance of technical and economic information in the management process, extension's role in processing information, and the quantity of information which can be generated on the farm, through improved farm records.

The authors pointed out that diversification resulted from: improved farm management which led to improved farm organization, appreciation of risk and exogenous factors, application of optimizing techniques for the allocation of resources and the formulation of farm plans that will fit the diversification objective.

The paper next looked at the activities undertaken under the project and concluded by outlining three ways in which the approach will help farmers.

In the discussion doubts were expressed about the system works with small farmers because of low record keeping on small farms. The lack of incentives to retain trained extension staff was also put forward as a

constraint. In response, it was noted that record keeping on farms was poor because few systems were designed to meet the need of farmers. Attempts were being made by CAEP to devise such a record keeping system. Indirect attempts were made to motivate extension officers through improved working conditions and to increase the appreciation of extension officers of the relevance of the programmes in which they were involved.

It was pointed out that the approach treats marketing as an exogenous variable which extension could not affect. What therefore was CAEP doing to influence marketing? It was noted that CAEP attempted to improve extension's understanding of marketing by training. This helps extension officers identify risk and uncertainty factors and develop strategies for managing risk and uncertainty.

One participant asked what staffing intensities were required to carry out the approach, given the range of activities the extension officer must perform. It was acknowledged that the approach was time consuming, and attempts were made to minimize the service roles of extension and to increase their teaching role, — their primary role. It was noted that the approach could improve the quality of the interaction between extension officer and farmer.

The issue of the "privatisation" of extension services was raised. It was felt that at this time, farmers could not afford to pay for extension services. This may eventually occur as States spend less for extension services. Once levels of farm income improve, then the possibility of charging for extension services will increase. The extension services provided by the Banana Growers Associations in the Windwards and the St. Lucia Model Farms were cited as examples of private extension services for which farmers pay.

In this paper Dr. Campbell examined the historical development of the production systems in the Windwards. Factors which have contributed to the decline of plantation agriculture were noted. A change in cropping patterns with an increased number of small farmers was also noted.

The paper focussed on the dominance of banana production in the economies of the Windwards and noted Governments' concern with this reliance on a single crop. Through the use of tables and graphs he examined trends in production and demand in the U.K. Dr. Campbell identified a "banana psychology" as the single greatest obstacle to

effective diversification in the Windwards. Dr. Campbell also linked increased drug use on these islands and the use of child labour in banana production to greater availability of money from banana among rural youths.

Despite a number of problems, Dr. Campbell felt the existing situation provided opportunities for diversification. In conclusion he listed a number of options which could be explored to increase diversification in the Windwards. Opportunities were presented by the following:

- o Trade liberalization agreements within the EEC
- o Increase in the tourist sector
- o Rise of the family farm and the application of farm and home management approaches on these farms
- o Willingness of Governments to introduce land reform programmes, and
- o Joint marketing at a regional or sub-regional level.

In the discussion it was suggested that since agricultural production is already diversified in the Windwards, consideration should be given to moving people out of agriculture given the possible decline of the banana industry. Since as suggested by Dr. Campbell, inefficient producers will be forced out of agriculture in the long run, destruction of farmers lifestyles will result. It was felt that farmers should be educated as to what to expect in case of such an eventuality.

A positive correlation between crop combination and age of farmers was noted. The tendency was that crops for income maximisation were grown among younger farmers. The emphasis for older farmers was on crops that provided stable incomes.

SUMMARY OF PLENARY SESSION VIII

The papers presented in this Plenary Session were as follows:

1. Eugene Petty (Permanent Secretary, Ministry of Agriculture, St. Kitts):

"Consideration of Employment (including Farm-Family and Women Issues) in a Diversification Thrust."

2. Charlesworth Tabor (Agricultural Officer, OECS, Economic Affairs Secretariat, Antigua): "Agricultural Diversification and the Employment Objective: Relevance and Compatibility."
3. Bissessar, Foster (Corporate Planner, Caroni (1975) Ltd., Trinidad): Oral presentation.

Mr. Petty first reviewed the Diversification Project in St. Kitts and Nevis which was the subject of the Panel Discussion. He then went on to look at the potential impact of the Project on employment. He stated that approximately 1848 farmers and fishermen would benefit from the Project. It was also calculated that the Project would provide or generate 59,000 mandays of employment and gives one man would work 250 days per year it is estimated that it would provide direct employment for 236 people.

Mr. Petty also stated that for agriculture to continue to provide employment, it must be seen to be viable compared to other sectors especially tourism and construction.

Mr. Petty also put forward the case that employment will only be generated if other resources are provided and constraints to agriculture are removed. The main resources needed according to Mr. Petty were land and credit. He thus saw land reform as a major concern especially in St. Kitts.

The discussion on Mr. Petty's paper focused on the employment that could be created by downstream industries from agriculture. It was also noted that currently there is a shortage of labour in agriculture especially in the sugar industry and there is need for more entrants into agriculture.

Mr. Tabor reviewed the OECS AND

CARICOM diversification programmes. He noted that the objectives of these programmes include one of employment generation. He noted that there was need for a coordinated approach between the OECS and CARICOM programmes.

He noted that agro-industry has major employment prospects. However he noted that agricultural development had many constraints and there was need for a holistic approach to bring about this development.

Discussion on Mr. Tabor's paper focused on his call for a By Local Food Campaign to stimulate demand for local food for promotion of diversification. His call was supported. Also his focus on agro-processing was supported.

Mr. Bissessar in his oral presentation stated that the diversification of Caroni (1975) Ltd. was started to deal with low returns from sugar. The aim of the programme was to improve the profitability of the Company.

The diversification programme has concentrated on rice, citrus, coffee, plantains, milk, beef and mutton.

The programme has a reduced labour input compared to sugar production. This was because of less rigid union regulations and better labour management.

Mr. Bissessar stated that if the Company stopped growing cane and farmers grew the cane, the farmers would not employ as much labour.

Discussion on Mr. Bissessar's presentation focused on the role of unions in making labour price in industries unrealistic which makes sugar production too expensive.

Mr. Bissessar also stated that while labour had been reduced in sugar production resulting in reduced output, the management input had not been reduced in equal proportion.

Summary of Panel Discussion and Recommendations