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PROCEEDINGS
OF THE
CARIBBEAN FOOD CROPS SOCIETY



FOURTH ANNUAL MEETING
KINGSTON , JAMAICA
JULY 25 -- AUGUST,1 1966

VOLUME IV

C O N T E N T S

	Page
Minutes of the Business Session, July 29, 1966	i
Presidential Message, Dr. George Samuels	v
Address by the Hon. J. P. Gyles, Minister of Agriculture and Lands, Jamaica, at Opening Session	vii
Address by Dr. Luis Passalacqua-Christian, Executive Director of CODECA	x
Program of Fourth Annual Meeting	xviii
List of Participants at Fourth Annual Meeting	xxi
Committees of Fourth Annual Meeting	xxii

TECHNICAL PAPERS AND ABSTRACTS

A. Plant Improvement	2
Evaluation of Tomato Varieties for Use in a Breeding Programme, W. B. Charles	2
Embryo Culture: A Vital New Tool in Banana Breeding, D. S. Lacey	43
In-Bred - Hybrid Method of Maize Improvement, S. M. Sehgal	45
Practice and Preference among Pigeon Pea Growers in Trinidad, T. H. Henderson	51
Corn Improvement Programme, Ministry of Agriculture and Lands, Jamaica, E. R. H. Martin	57
B. General Agronomy	63
Leaf Area and Net Assimilation Rate as Determinantes of Crop Yields, J. A. Spence and P. H. Haynes	63
Evaluation of Black Polyethylene Mulch Paper for Tomato Production in Puerto Rico, H. Irizarry, H. Azzam and R. Woodbury	75
Results of Magnesium Fertilizer Research in Puerto Rico, E. Hernández-Medina	79

	Page
Responses of Red Spanish Pineapples to Various Potassium Levels, H. R. Cibes and E. González-Tejera	92
Pineapple Fertilizer Research in Puerto Rico, George Samuels	100
Fertilizer Research on Food Crops and Vegetables in Jamaica, Hugh Payne	109
Some Spacing Experiments with Sweet Potatoes in Barbados N. K. Taylor	120
Field Experiments on Yams in Barbados 1965-66, E. G. B. Gooding and R. M. Hoad	127
C. Plant Protection	
Diseases of Beans (<i>Phaseolus Vulgaris</i>) and Their Control in Jamaica, A. G. Naylor	134
Control of Bird Damage in Tomatoes in Barbados, V. A. L. Sergeant and E. DeC Jeffers	137
COUNTRY PAPERS	
Research in Food Crops, Barbados Ministry of Agriculture and Fisheries	143
Research in Food Crops, Barbados Sugar Producers' Association	147
Outline of Research in Food Crops, Guyana	149
Outline of Food Crop Research Programme of IFAC, French Antilles	152
Food Crops Research, Jamaica, Ministry of Agriculture and Lands	156
Food Crops Research, Jamaica, Twickenham Park Pilot Vegetable Project	162
Food Crops Research, Puerto Rico	170
Research Projects on Food Crops, Surinam Agricultural Experiment Station	173
Acknowledgements	176

CARIBBEAN FOOD CROPS SOCIETY
Fourth Annual Meeting
Kingston, Jamaica
Business Session, July 29, 1966

MINUTES

The Business Session of the Fourth Annual Meeting of the Caribbean Food Crops Society was held at the Social Action Center, Kingston, Jamaica.

Opening:

The meeting was called to order by Dr. George Samuels, president. Due to the resignation in January 1966 of Mr. R. A. Forman, who is serving in England as a member of the Jamaican ambassadorial staff, Dr. Samuels, former vice-president, has assumed the position of president.

Minutes of the Previous Meeting:

The minutes of the previous meeting were read and approved.

Secretary's Report:

We had a very busy year. The first activity consisted of the Plant Quarantine Meeting which was held in St. Croix under the leadership of Dr. A. Krochmal. The Plant Protection Commission, which was formed as a result of this meeting, drafted a Resolution that was approved by all delegates from all the governments represented. I took the responsibility to circulate the Resolution, as was approved at the Plant Quarantine Meeting, to all the countries concerned.

The main activity of the last year was the Third Annual Meeting itself which was considered a very successful one. The activities ended with the Workshop on Food Processing held at the Food Technology Laboratory of the University of Puerto Rico.

Treasurer's Report:

1. Balance, Bank Statement, June 30, 1965	\$2,087.66
2. Deposits: July 1, 1965 to June 30, 1966	<u>3,879.87</u>
Sub-total	5,967.53

...\$5,967.53

3. Expenses: July 1, 1965 to June 30, 1966:

Office Supplies	\$ 97.93	
Printing (Newsletter, etc.)	186.00	
Postage	123.00	
Travel Expenses (Board of Directors)	507.45	
Secretarial Services	261.00	
Expenses Plant Quarantine Meeting, related items	211.85	
Old Bills (Dr. Krochmal, A.)	81.55	
Telephone and Cables	108.12	
Travel Grants and Hotel Expenses	603.00	
Printing 1964 Proceedings	353.00	
Plaques, Awards, etc.	177.27	
General Expenses for 3rd. Annual Meeting	548.44	
Flowers, Inaugural Session	52.50	
"San Juan Star" Add	55.30	
3rd. Annual Banquet	655.17	
Photos, Annual Banquet	45.00	
Workshop	18.90	
Jamaica Meeting, Preliminary Exp.	200.00	
Miscellaneous Expenses	42.80	
Total Expenses		<u>\$4,328.28</u>

4. Balance: June 30, 1966 \$1,639.25Board of Directors:

The Board of Directors of this Society met on three occasions: July 26, August 8, and November 27, 1965. The main items transacted were:

1. Approval of the purchase of a multilithograph if funds become available.
2. Considerations of the possibility of holding a middle-year activity of a series of field trips separately from the annual meeting activities.
3. Approval of the idea of developing a scholarship fund for society members.
4. The Fourth Annual Meeting will be held in Jamaica, with Surinam as a possible sight for the Fifth Annual Meeting in 1967.
5. Mr. R. A. Foreman presented his resignation as President of the Society. Dr. George Samuels, from Puerto Rico, became the President of the

Society, due to the vacancy created by this resignation. Mr. Foreman informed of his drafting for the Diplomatic services, as Deputy High Commissioner at the Jamaica High Commission in London.

6. Mr. Hugh Miller was appointed Chairman of the Board of Directors due to the vacancy created by the death of Dr. H. Azzam.
7. Mr. Frank del Prado, Surinam, was appointed to fill the vacancy in the Board of Directors created by Mr. Miller's becoming Chairman of the Board of Directors.

Site of the Fifth Annual Meeting:

Mr. Frank del Prado, on behalf of the Government of Surinam, invited the CFCS to hold its Fifth Annual Meeting in 1967 in Surinam. It was unanimously approved by the membership that the Fifth Annual Meeting of the CFCS will be held in Surinam in July 1967.

Election of Officers 1966-67:

President	:	Frank del Prado Chief Plant Protection Officer Department of Agriculture Paramaribo, Surinam
Vice-President	:	H. C. Miller Dept. of Extra-Mural Studies University of the West Indies Mona, Kingston, Jamaica
Secretary-Treasurer	:	A. Sotomayor-Ríos Agricultural Experiment Sta. Corozal Substation Corozal, Puerto Rico
Directors	:	
George Samuels, Chairman		University of Puerto Rico Río Piedras, Puerto Rico

Directors...

Elected 1966-67

V. A. L. Sergeant	University of the West Indies St. Augustine, Trinidad
Simon Soutar	Grace Agricultural Company Kingston, Jamaica
A. Wan Ping	Ministry of Agriculture Guyana

Other Members

R. M. Bond	Kingshill, St. Croix, U.S.V.I.
A. J. Naylor	Ministry of Agriculture & Lands Jamaica
Vernon Royes	University of the West Indies St. Augustine, Trinidad

Amendment to the Constitution:

Notice given - Article 5, Section 2, be amended:
The Chairman of the Board of Directors will be elected by the members of the C F C S.

Article 6 - The words "notice of meeting" be deleted.

New Business:

1. Mr. Hugh Miller notified members that according to a letter received from Mr. George Berg, FAO, the second Plant Quarantine Meeting should be held in the Spring of 1967 and every two years, thereafter.

2. A motion made by Mr. Hugh Miller that the CFCS accept in principle the offer of CODECA to provide office facilities for the CFCS, and that the Board of Directors of the CFCS discuss with CODECA the details.

Seconded by Dr. Bond. Passed.

3. A motion was made by Mr. Patrick Haynes that the CFCS consider the possibility of publishing a Journal with the financial assistance of CODECA.

Seconded by Mr. H. Miller. Passed.

4. Mr. R. Strauss suggested that the CFCS consider the possibility of sponsoring the investigation of the needs of each country of the Caribbean as to production, processing, and marketing of food crop production. Dr. G. Samuels stated that he felt the CFCS can act in an advisory capacity in helping a

country determine its food crop needs and development. To this end, a committee should be formed to determine as to how best this can be accomplished.

* * *

PRESIDENTIAL MESSAGE

by Dr. George Samuels

Fourth Annual Meeting of the CFSC, Kingston, Jamaica
July 30, 1966

Members, Ladies and Gentlemen, Guests:

For those of us engaged in work with living things, such as plants, we are aware that they all pass through five stages in their life: birth, growth, maturity, senescence, and death. Our society, also is a living organism, and it had its birth in 1963 in St. Croix, it began to grow in 1964 in Barbados and 1965 in Puerto Rico. Here in Jamaica in 1966 our society still is growing, but a new element is beginning to enter the picture: maturity. Anyone who has attended our previous meetings, are well aware at this meeting of the improved quality of the technical papers presented.

The papers presented at this meeting on food crops are food for thought for the listeners. We came to Jamaica to learn, and indeed we have.

The various papers and our field trips have made us aware of several things:

1. The Irish potato is an important cash crop that is growing every day in importance. At least 5 technical papers from Jamaica, Barbados, and Trinidad were devoted to this crop.
2. Improved food crop production by the use of scientific agriculture can cause a surplus and present economic difficulties to the farmer and the national economy if proper attention is not given to either new markets, improved home consumption, or restricted crop production.
3. The technics of Leaf Area Index and Net Assimilation rate as utilized by members of the UWI staff may be a useful tool in food crop research.

4. Attention must be given to the economics of the suggested agronomic schemes evolved in our research. Papers from Barbados and Trinidad made us aware of this fact. Also attention must indeed be given to the entire problem of economics from production to marketing of food crops.

Although I had to take over this position in January when our former president, Mr. Forman, took on his ambassadorial duties in England, I feel proud of the progress of our Society. Our Society has grown in membership: both active and sustaining. The quality of our technical papers have increased as well as the interest in our meeting.

I, nor any member, can remain satisfied with our present status. We must grow. There are still several islands who have not joined our society or have been weak in their participation. We have many plans and schemes still to be put into action. However, I can say to our membership that the CFCS has done well this year, and is planning to do even more in the years to come.

* * *

ADDRESS OF WELCOME GIVEN BY HON. JOHN P. GYLES,
MINISTER OF AGRICULTURE AND LANDS, JAMAICA

Mr. President, Members of the Caribbean Food Crops Society,
Ladies and Gentlemen:

At the Third Annual Meeting of this Society which was held in the Commonwealth of Puerto Rico last year, I issued an invitation to you to hold your next annual meeting in Jamaica. I am delighted that you have accepted my invitation and that I have the pleasure and privilege of welcoming you here today.

The stated objective of your Society is: "To advance food production and distribution in all their aspects, to the end of improving levels of nutrition and standards of living in the Caribbean."

These are matters of the utmost importance to all territories in the region, and to none are they more important than to Jamaica. Agriculture is serious business in this country, and we welcome all persons, or groups of persons, who are dedicated to the advancement of efficiency, in this vital sector of our economy, and to the application of science and technology to its practice. Particularly do we welcome you, because there is no aspect of our agricultural industry which needs more stimulus than the production of food. We endorse the basic objective of your Society without reservation, and it is our earnest hope that your activities will lead to the achievement of its purpose.

You visit us at a time when there is great activity in this country in various directions. We have just emerged, unscathed, from the hustle and bustle of island-wide local government elections. It is not uncharacteristic of us that both political parties claim to have emerged victorious - this is part of the charm and enchantment of life in Jamaica! We have, during the past week, been host to a Caribbean Seminar on agricultural extension, which has been both interesting and stimulating. At the end of this month, our Annual agricultural exposition takes place, the Denbigh Agricultural Show, which I hope you will all be able to attend and enjoy. During the first week of August, Jamaica will be host to the British Commonwealth Games for which preparations are now in their hectic, final stages. At least we can say that life in Jamaica is seldom dull. It is an atmosphere in which great things are expected of each and every one, including the Minister of Agriculture, and the farmers on whose efforts the economy of our country so much depends.

In many respects we are passing through difficult times. Our two most important export crops are at the present time receiving very low prices on our overseas markets. Our exports of sugar for 1965 amounted to 424,000 tons, an improvement of 7,000 tons over the previous year, and yet the value of the 1965 output was nearly 4 million less than for 1964. In the case of bananas our 1965 exports showed an increase of 14.9 per cent in volume over 1964, but our receipts increased by approximately only 1.5 per cent. The result is that, although there has been a general and significant increase in the volume of agricultural production, the contribution of agriculture to our Gross Domestic Product for 1965 was slightly less than for 1964. This type of reward for honest effort is disappointing enough, but it is even harder to bear, when within such a context, we must also suffer commentaries to the effect that agriculture is "dragging its feet" by comparison with other sectors of the country's economy. There is, however, one small but significant triumph which nobody can deny us, and that lies in the fact that for the first time in many years our imports of food for 1965 showed a reduction below the figure for 1964. And this was achieved in a year when most of the island was affected by two periods of severe drought. Food production is the business of

your Society and you will, therefore, I am sure, rejoice with us in this achievement.

We are well aware, however, that there is no room for complacency here. Although our efforts in this country to increase food production are beginning to show positive results, there is still a tremendous amount of ground to cover. Our imports of foodstuffs are still over 20 million per annum and out of this amount some 8 million are being spent on commodities which we can produce here, many of which we do produce, but in quantities inadequate to the local demand. We are taking steps to inject more drive and stimulus into the effort to bridge this gap between local production and local demand. One of our most successful measures has been the establishment of an Agricultural Marketing Corporation to provide an assured marketing outlet for farmers produce. This agency, which is only two years old, and is, therefore, far from being fully developed, has already exercised a powerful influence on food production. Indeed, mainly on account of this influence, I can report with some pride, that we have achieved a growth of 14.4 per cent in Domestic Agriculture during 1965. We have also established a Farmers Training Centre, as an integral part of our Agricultural Extension Service, to which groups of farmers are taken for short courses of training in residence. The response to this innovation has been most gratifying and many of the trainees bear voluntary testimony to the benefits which they have derived from these courses. We have also taken a serious look at the matter of unused and under-utilized land. There are extensive areas of farm land in this country which are either unused or grossly under-utilized. On the other hand, there are large numbers of landless agricultural workers and would-be farmers, who have no land on which to farm. We consider that in the light of our under-production of foodstuffs, this is a situation which cannot be allowed to continue. Legislation has, therefore, been introduced under which a Commission is being established to encourage land-owners to make full use of their land, or otherwise to face the possibility of compulsory acquisition by the Government, for re-distribution to those who are willing and able to use it. This is perhaps an extreme measure but in our present circumstances we consider it to be justified, and I mention it here to indicate to you how serious we are about this business of narrowing the gap between local demand and local supply of foodstuffs, and in our drive to exploit fully the resources of our country for the benefit of all our citizens.

In the field of research we are also active. Our agronomists are engaged in testing new varieties of vegetables, root crops and pulses, and in efforts to produce new high-yielding varieties of corn. In this latter endeavour we have the benefit of work which is being done here by the Pioneer Hi-Bred Seed Co. of the United States of America, from which we hope to get in due course hybrid varieties which will far out-yield our present varieties. The Regional Research Centre, which is the research arm of our University Faculty of Agriculture in Trinidad, has also been given a directive to give highest priority to work on food crops. We recognize that the high standards of output and general efficiency which have been achieved in temperate country agriculture, have in great measure resulted from many years of concentrated research, and our only hope of catching up in this race for improved efficiency, lies in redoubling our own research efforts, and in putting into practice such improvements in technology as are obtained from these efforts. The alternative is to stagnate, to relegate ourselves to a perpetual state of under-development and third-class living standards, and such an alternative is unthinkable. The challenge of our times lies in the fact that our people have full knowledge of the advanced levels of living which obtain elsewhere, and they want - indeed, they demand - no less for themselves. We are, therefore, faced with the task of achieving within 10 years what other countries may have accomplished in 50 years.

I suggest that this is a challenge which should inspire excitement rather than dismay. In the matter of food production we have the advantage of a vast unfilled demand. This is the sort of situation which in the field of industry sets people running to the bank to obtain capital so that they can go into immediate production. Why then do we not have farmers rushing to the plough in hot competition to get their land into food production? I think this is where we ought to begin our campaign, and I suggest this as an exercise to which you might apply your minds during the coming week - to identify clearly and honestly those factors which appear to be the major obstacles from the viewpoint of the farmer to putting his land into food production. No easy generalizations will suffice at this stage - the time for that has passed. We need to know specifically why our farmers do not go more enthusiastically into food production. We can only apply specific remedies to a problem when we have specific knowledge of the problem, and when we are prepared to look the facts squarely in the face, not as we would like them to be, but as they are. I suggest that this is the first step to be taken if we in the Caribbean region intend to make a serious effort to meet our food requirements from the output of our own land. It seems to me that this is an exercise which your Society might very usefully undertake, and I commend it to you.

In addition to the serious business which is the purpose of your conference, I hope that the delegates from overseas will take time out to see and enjoy our island - indeed I trust that the programme which has been worked out for you has made adequate allowance for tours and excursions into the country, away from the formalities of the conference room. This is a delightful island; we think so, and most people who come here seem to agree with us. The most striking natural feature is, of course, our mountains, which are so massive that they seem out of place in so small a country. Blue Mountain Peak is just under 7,400 feet high, and it lies in the section of the island which is no more than 30 miles across as the crow flies. There are mountain vistas of beauty and grandeur, such as one would hardly expect to find in a country of only 4,411 square miles. Nature has endowed us well with a variety of landscape and shoreline to suit every mood and every taste. Our people are for the most part friendly and light-hearted, and respond readily to the friendly approach. I hope you will take time out to get acquainted with Jamaica.

One of the obvious benefits to be derived from such conferences as this, is the opportunity which they afford for interchange of thought and experience, between persons with similar interests but different operational environments. None of us has an exclusive franchise on brains or useful ideas, and in a matter such as this - the production of food - which is of vital interest to all countries represented here, it must be beneficial for Scientists and other interested parties from all territories within the region, to meet and exchange ideas - a cross-fertilization of thought, I believe it is called by men of learning. I trust that this cross-fertilization will result in the germination of useful ideas and positive recommendations, capable of being developed with real hybrid vigour.

Mr. Presidente, may the Fourth Annual Meeting of your Society be a truly fruitful one, and, to those of you who have come from overseas, may your stay in Jamaica be a happy and pleasant experience. I bid you all a right hearty welcome.

* * *

ADDRESS BY DR. LUIS PASSALACQUA-CHRISTIAN,
EXECUTIVE DIRECTOR OF "CODECA"
CARIBBEAN ECONOMIC DEVELOPMENT CORPORATION

Mr. Chairman, distinguished guests, ladies and gentlemen:

It is for me a distinct honor and a pleasure to have been asked to address you on this occasion. This is the more so, because of the extremely important role that may be envisioned for the Caribbean Food Crops Society in the coming years. The coming decade will be a crucial one for the countries of the Caribbean. On the work we do in this period hinges the future of these lands.

The economic development of the Caribbean is probably one of the most discussed topics of recent years. The seriousness of the discussion can be gauged by some of the terminology being used. In many quarters, the discussion turns, not on the "growth" or the "development" of the Caribbean countries, but on their "viability". There is small comfort in knowing that the experts are less concerned with how we will grow than with whether we will survive.

It is a consensus among these experts and among many Caribbeans that, individually, none of our lands can thrive and even though some may not fare at all badly, most will decline. On the other hand, the closer we work together, the faster our economic growth will be. This is a fact that has become crystal clear in recent years.

Still, notwithstanding the general recognition of the need for cooperation, only the most optimistic (and I count myself among them) believe that the Caribbeans can work together.

Any discussion of Caribbean unity quite soon elicits the question: "Do you honestly believe that these islands could put aside their reciprocal fears and jealousies and work together? As for me, I see no reason why they cannot."

Over a number of centuries of the Caribbean has survived wars, hurricanes, volcanic explosions, earthquakes, slavery, colonialism and neglect. To overcome fear and suspicion should pose no problem at all, if there is a desire to do so. In great measure these feelings are a product of historical forces; of a policy of dividing us one from the other. It is only logical that a group of islands can be governed more effectively if governed each separate from the others. Thus each country learned to look to its metropole for its needs and to consider its neighbors as rivals rather than allies. The existence of four metropolises, each with sphere of influence in the Caribbean serves only to exacerbate the issue. Add to this the geographic fact which is so seldom considered, that the distance between Kingston and Port-of-Spain is almost the same as the distance between London and Thessalonika or between New York and Houston; and that from Montego Bay to Regina, French Guiana, is the same as from Washington D. C. to Yuma, Arizona or from Algiers across the Sahara to Lagos, Nigeria; or from London to Damascus. It should then surprise no one that habits created by this policy which we might call "insular apartheid" should remain after self-government has been achieved.

Yet, may I suggest that there are those outside this area that are not at all surprised at the persistence of this separateness; I suggest that they may even be pleased; I suggest that its continuation is useful to outsiders and that this is an inverse ration to our well-being. The longer we allow this psychology of insular apartheid to govern our relations, the more advantage others will have and the weaker our own position will grow.

This truth is more and more coming to be accepted by Caribbeans and many are striving to bring about the unity that will mean progress.

It is widely agreed that the desirable goal is a Caribbean Economic Community eventually embracing all of the Caribbean islands and the Guianas, probably with close links to the Central American Common Market and the Latin American Free Trade Area. Yet we know, even as we design and describe a Caribbean Economic Community, that it is still a distant goal and that there are many steps to be taken before it can be a reality.

This is not to say that it cannot be done. I believe not only that it can, but that it must be done. However, I also believe in facing facts. One clear fact is that our preferential arrangements with metropolitan powers are a formidable barrier to free trade. Another clear fact is that no country in the Caribbean would give up a preferential arrangement of that nature in favor of a Caribbean Common Market.

Logic thus dictates that ways must be found to protect such preferential arrangements. Argue that this is unnecessary, and you must answer which metropole would agree to maintain and arrangement which effectively opens up a gateway in its tariff wall to other powers or groups of powers. Until safeguards are devised - or made unnecessary by the unlikely advent of worldwide free trade - other steps must be taken.

The embryonic Caribbean Free Trade Area for the Commonwealth countries of the Caribbean is an approach which suggests the later linking up of other similar arrangements, after the preferential problem has been solved. Let us, however, be under no illusions as to the speed with which this arrangement will move into full operation or the ease with which it will get under way.

Parallel with these long-term moves toward Caribbean unity and to facilitate their success, there is a third line of movement and that is a System of Economic Coordination. This aims at achieving a balanced economic development throughout the region and a habit of working together by mutual assistance. None of the three approaches are antagonistic one to the other. In fact, they are all complementary, for, by coordinating economic development, free trade areas may better save their purpose and by working together the barriers to linking free trade areas may be overcome. When this takes place, there will be free trade in a region where the governments and peoples cooperate and coordinate their economic growth processes. Thence to a Caribbean Economic Community is but another step. Yet each of these prior steps must be taken and we must all be committed to the task.

A System of Economic Coordination must be a regional effort to help each to help himself. It must aim at developing regional boards to handle those sectors where the scale of individual operation would be uneconomic. If I may cite an example from CODECA'S work plan as an illustration: It would be a terribly costly and inefficient procedure for each country to have a broadly based trades school; however, CODECA is now studying how to set up a Regional Trades School with a broad curriculum supported by local branches which concentrate on the more basic trades. Another type would be a Regional Ports Authority (including airports) which, among other benefits, would permit coordinated planning, designing and joint financing of projects which are individually too small to be considered as seriously as they deserve. Such projects may even cost less collectively than they do individually. All of this, and much more, can be done; but it requires the coordination of development plans.

It is these development plans both on a national and regional level that will permit us to confound the pessimists in our midst. According to a recent study of some of the islands, viability in the Caribbean will require large scale external

financing, both private and public, for an extended period; substantial changes in existing tax structures; a substantial reduction in the propensity to imports; a movement out of traditional exports into products or services, mainly tourism where the potential for expansion is greatest; and a higher degree of regional cooperation to make this possible.

Obviously, all of this is going to require a great deal of planning and a great deal of cooperation between the public and private sectors if it is to be successful and democratic planning.

Rómulo Betancourt, former president of Venezuela once defined democratic planning as "the orientation of public investments in accordance with a strict system of priorities and the creation of an atmosphere favorable to private activities that are productive of wealth. It does not mean a police state imposing on every businessman what must be produced and how much should be produced - but a system for the rational application of fiscal resources and the orientation of private capital in directions useful to the whole community".

In this process of planning, both national and regional, account must be taken not of what we wish were true, but of the realities of Caribbean life. Among these realities is the fact that the nuclear age has not yet found a way to obviate the time factor in economic development. We are faced with the necessity of planning our growth over a fairly long period of time.

In this period, agriculture is called upon to play a leading role. We are all aware that there is a strong feeling, not entirely rational but powerful nonetheless, which associates the exporting of raw materials and the importing of manufactured goods with "colonial status". Sensitive national pride rebels against the thought that raw materials producers are "hewers of wood and drawers of water" for the industrially advanced countries. We cry out for the fifth freedom - freedom from contempt.

Here is one of the roots of the demand for industrialization as distinct from improvements in the efficiency of agriculture and commerce; which, in some circumstances may be more immediately helpful in a country's economic advancement. Thus, the degree of industrialization becomes a measure of prestige and the inescapable fact that, in the context of the smaller countries, industrialization for its own sake may be, not a stimulant but a depressant.

It is fairly clear that, in our own context, fifteen or twenty small particles cannot successfully become viable economic entities unless they work together, each helping the others. If our countries are to be viable in the future, there are as I mentioned, certain requirements that we must all meet to a greater or lesser degree and certain priorities that we must all establish.

We know, that the future viability of our countries will require large scale external financing for the foreseeable future. The question that arises is how this financing is to be obtained. In some cases, a large amount will come initially from grant-in-aid but every measure must be taken to reduce and eliminate this as early as possible. A second major source must be from private investment which is a prime generator of local capital. Other major sources are, of course, loans and local bond issues. Both of these will depend on our ability to maintain internal stability and create local revenue; which brings me to another requirement for viability. There must be alterations in our existing tax structure designed not only to produce more revenue but also to spread wealth more evenly. In many areas only a pitifully small amount comes from income and property taxes and there are greater facilities for evasion than for collection. In addition, it would be of value if we conceived

of tax laws in a regional sense, trying to coordinate our laws so as to avoid competing with each other unnecessarily. This does not mean a uniformity of laws but rather intelligent joint planning and mutual assistance to reduce areas of competitive disadvantage. In a closely related field, viability requires that we reduce the extreme propensity to import for which we are, sadly, famous. This implies the meeting of a fourth requirement: the movement out of traditional exports into products or services whose potential expansion is greater. In the Caribbean this might mean gradually moving away from traditional export crops into such fields as tourism and the agricultural and industrial services that support it. This might at the same time tend to reduce imports of foods by increasing local production even to the point of leaving exportable surpluses of certain items. This in turn brings us to a fifth requirement for viability, one which is necessary to permit effective alterations in the existing tax structure and especially to facilitate a reduction in the extreme propensity to import, and a movement out of traditional exports into products or services with a greater growth potential. This requirement is the development of a higher degree of regional cooperation. The final requirement that I will suggest to you is that our economic growth must be planned carefully at two levels, the national level and the regional level and that planning must include a careful allocation of resources.

It is a truism that scarcity of resources requires the development of a system of priorities in the development of the Caribbean countries; but the establishment of such a system cannot be understood as indicating a choice of one program instead of another. It must, rather, be understood as a matter of emphasis with more weight being given to certain aspects of an overall plan. The immediate aim of any plan must be to raise the level of living of the people and here emphasis must be put on increasing family income and the government's sources of revenue. This in turn will serve to increase purchasing power, generating a greater demand for goods and services, thus strengthening the economy by encouraging private investment, increasing borrowing capacity for economic infrastructure programs and allowing funds for social services. All of this will serve to reduce dependence on grants.

Many years ago, Puerto Rico set forth a system of priorities which has served us well. I should like to pass it on to you now as an outline that might be adapted for use in preparing a Caribbean Regional Plan and individual development plans.

Four priority groups were devised and for each budget year allocations were made on the basis of these priorities with the greatest attention going to the first group and proportionately smaller amounts to each of the others. As years have passed progress and growth have called for shifts in emphasis but the overall picture still holds true.

The first priority group includes direct industrial and agricultural development, education, external transportation and electric power. The second priority group covers highways; internal transportation serving key developmental centers; telephone service, labor relations services; water, sewage and other sanitation services; preventive health measures and nutrition; protective services and facilities; and, relocation and re-development of land for industrial use. The third priority group takes account of hospitals and curative health measures and facilities; rural resettlement; public housing; rural electrifications, non-developmental highways and transportation facilities. Finally, the fourth priority group includes recreation and parks; public welfare, and pension.

Each of these programs must be carried on at the same time, on this we all agree; but what is suggested here is a matter of emphasis. And emphasis must be heaviest on those programs

designed to achieve our major goal; those programs that will tend to increase family income and the government's sources of revenue.

Here in the Caribbean, the time-honored tradition has been to look abroad. In our efforts to grow we have sought help from our major partners and have found that there is a limit to aid. To some it has been a bitter realization and a source of despair. How can a successful development program be carried out by a small country? Let me suggest a line of thought that, while it offers no miraculous cures for our ills, does hold a promise of progress.

I am sure that we can all agree that, in the Caribbean, the tourist industry is one which, properly developed, can give a vital shot in the arm to many of our economies. Every year the number of tourists increases. As an example, last year 345,000 tourists came to the Caribbean in tour ships alone. This was 55,000 more than the year before. Many more are coming by plane, and, as air service improves, the rate of increase will accelerate. And there are still sources largely untapped both geographically, such as Europe, and economic, such as the group of Americans in the \$5,000 to \$10,000 income bracket. In 1964, 65% of the tourists entering Puerto Rico were in the \$10,000 and over income group, and we all know that this group is not 65% of the American people.

The increasing flow of tourists does pose problems, however. For one thing investment in the construction industry is lagging demand, not for lack of capacity but for lack of efficient, low cost transportation. This must be one area of joint effort.

Another problem raised by the increasing tourist trade is a parallel increase in the demand for imports, particularly of food-stuffs, to service the industry, which, in some cases has virtually cancelled out the income derived from tourism.

A third problem is the increased need for economic infrastructure such as airports, ports, roads, power, telecommunications, etc.

Not all of these problems can be solved by the traditional expedient of grants-in-aid. Slowly, the concept of economic development has begun to change as it becomes obvious that the aid that the industrialized countries can provide, no matter how massive, will not suffice. Here in the Caribbean it is clear that, if the traditional patterns of the area are maintained, the financial transfusions that we may receive from the metropolitan countries will not save the patient.

We are, therefore, called upon to forsake the old ways and embark upon a new course, a challenging new venture: economic development of the Caribbean through mutual assistance and self-help.

This is not a vain challenge or one to be taken lightly for the industrialized countries' view of economic aid is shifting, to the point that, President Johnson, in his Message to Congress on the smallest Foreign Aid Program in history said:

"The United States can never do more than supplement the efforts of developing countries themselves. They must supply most of the capital, the know-how and the will to progress. If they do, we can and will help. If they do not, nothing we can supply will substitute.....

For the essence of economic development is work---hard, unremitting, often thankless work. Most of it must be done by the people whose futures and whose children's futures are directly at stake."

There are those who will insist that if we are to do it ourselves, we must industrialize at all costs, at all speed and forsaking all else. What the Caribbean must have, they say, is heavy industry, large factories, massive industrial complexes on each island. Yet, despite the fact that this view point is quite beguiling and even persuasive, it would call for massive financial aid to create the economic infrastructure necessary for its success. This capital would have to come from abroad; it would require little enough from the recipient country; but it would conform to tradition and the traditional way is the comfortable way, even though out-of-date.

Perhaps, no other organization in history has been better qualified to offer opinion and counsel in economic development and industrial growth than is the World Bank. In a recent article, its President, George D. Wood wrote that:

"The prime ingredient of economic progress in the underdeveloped countries is their own effort in mobilizing and using their own resources. It is this effort, fundamentally, which determines the rate of growth; it is this effort which provides a basis for external assistance to be received and used effectively.

In many of the underdeveloped countries, economic performance must be greatly improved. Many can take more effective measures to increase the mobilization of capital through taxation and through incentives to investment, both domestic and international. It is urgent to cut down some of the biggest items of waste--excessive military expenditures, prestige projects, inefficient administration and subsidies to public services that should be self-supporting. Measures are widely needed to keep excessive population growth from devouring the hard-won gains of development. Recent technical advances and birth-control methods have proved dramatically effective in pilot projects and give real hope that, for example in India, the growth in population may at last be slowed down. Nearly all the developing countries can redouble their efforts to overcome the lag in agricultural productivity. Agriculture, now generally recognized as the most vital economic sector, is generally the most feeble. And yet, in those places where land reform and the difficult transition from ancient to modern agricultural methods are being effected, hope for solid improvement in productivity runs high."

It is interesting to note that Mr. Wood has linked population and agriculture in the underdeveloped countries. It could be argued, from the statistics available for the Caribbean, that except for Barbados and Puerto Rico, the other countries of the area have little to worry about.

However, the figure normally used in considering population density compares total population to total land area. From this we know that Puerto Rico has a population density of 700 per square mile.

There are, however, more eloquent statistics; the population density per square mile of land under cultivation and the density per square mile of cultivable land.

If we compare these data, we find that in Puerto Rico the density per square mile under cultivation rises to 1,440 per persons with maximum use of its cultivable area. Another such case is Barbados with well over 2,000 persons per square mile under cultivation. The most extreme case of population pressure would be the Netherlands Antilles with nearly 8,000 persons per square mile.

The picture, is not as bleak in other areas, however, where less than half of the cultivable land is under crops. The extreme case at this end of the spectrum is French Guiana, which

has under cultivation some nine square miles out of a total cultivable area of 965 square miles. The present pressure in French Guiana is of 4,444 per square mile of cultivated land (compare this to less than 1 person per square mile of total area). If all of its cultivable land were utilized, the pressure would drop to 414 per square mile.

I submit these figures in evidence of my contention that much can be done in the Caribbean to reduce food imports with possible export surpluses to other countries of the area.

We are all aware of the fact that, except for Puerto Rico, U. S. Virgin Islands and Netherlands Antilles, the islands and the Guianas are predominantly agricultural. We know that they grow similar crops, due, of course, to climatic and soil fertility factors, among others. We also know, that none is self-sufficient agriculturally, that all are more or less tied to monoculture and that all import, mainly from Europe and the United States, the same products that they grow in both their natural state and processed. We know that even in the case of common crops there are variations in growing seasons.

In view of the foregoing, it is conceivable that a considerable improvement in the economies of these countries could be obtained by jointly promoting and increased tourist trade (co-incidentally increasing the activity of the construction industry) supported and served by a combination of more intensive use of cultivable land and improved productivity. This would entail more efficient methods of farming existing major export crops so as to obtain higher yields from reduced acreage; increased livestock and food crop farming; and efficient regional marketing and distribution procedures for exportable surpluses of food-stuffs. This program would also provide a solid base for establishing industries to process the Caribbean food-crops which today are exported to metropolitan countries for processing and resale to us at exorbitant prices.

This type of program, will give rise to many ancillary non-agricultural industries and services which will further cut into our generally astronomical unemployment statistics and even encourage the return of West Indians who have left us in search of better opportunities. It may even serve to make possible the growth of heavy industry the advocacy of which, as a panacea, is becoming fashionable.

In his last message to the Legislature, Governor Sánchez of Puerto Rico, discussing his agricultural program, asked several questions that Caribbean leaders could well ponder in terms, not only with regard to their own economies, but of the entire region as well.

- (1) What must we produce and at what cost?
- (2) What are our present agricultural needs and what will they be in the future?
- (3) With only a limited amount of land available on a tropical island, how shall we use it?
- (4) How we can assure our farmer and farm worker of a better life?

To these, I make bold to add a fifth: Which of us can best produce which crop?

We must work together to strengthen agriculture and food production in those areas where it is feasible. But we must also be willing to provide markets for exportable surpluses. Thus, even while we assist each other in the process of agricultural diversification and intensification in the Caribbean, we must

work out a program of preferential trade among ourselves, not only in the mechanical sense of tariff arrangements, where possible, but especially in the cooperative sense of preference for Caribbean goods regardless of tariffs.

The benefits to be derived from such a joint effort would greatly facilitate the attraction of private capital, local and foreign, into those industries that are desirable and necessary in the area; encourage the industrialized countries to provide needed capital for infrastructure; and raise the standard of living of our peoples, all of which will facilitate increased action in the social fields, and give the growth of these regions a real boost. But, more important, we, the people of the Caribbean, will have done it ourselves proving that the most effective tools of economic growth are mutual aid and self-help.

There is no question in my mind, and there should be none in yours, that with its new, expanded program, the Caribbean Food Crops Society can play a crucial role in such a program. Not only can it do so, but it has the responsibility to do so.

These are our lands, willed to us, as the song says, by our fathers' hands. Tomorrow they will be the lands of our sons, willed to them by our hands. What will their heritage be?

The challenge is there. Can any of us ignore it?

The new course, the only course for the Caribbean is economic development through mutual aid and self-help.

* * *

**CARIBBEAN FOOD CROPS SOCIETY
4TH ANNUAL MEETING PROGRAM
SOCIAL ACTION CENTRE
KINGSTON, JAMAICA**

July 24 SUNDAY

P.M. Participants arrive Palisadoes airport
and transported to Social Action Centre
or to hotel

4:00 - 6:00 - Registration at Social Action Centre

July 25 MONDAY

A.M. 8:00 - Participants transported to Medical
Faculty Lecture Theatre, University of
the West Indies

8:30 - Registration continued

9:00 - Opening Ceremony

Prayer by Chaplin, U.W.I. - Rev. John
Hoad

Opening remarks by the Chairman -
H. C. Miller (Chairman, Board of
Directors)

Address of welcome - Hon. J. P. Gyles,
Minister of Agriculture and Lands,
Jamaica

Reply - Dr. George Samuels, Acting
President, Caribbean Food Crops
Society

Main address - Dr. Luis Passalacqua,
Executive Director, CODECA

Closing remarks by Chairman

11:00 - Participants leave for Social Action Centre

P.M. 12:00 - Lunch

2:00 - Presentation of papers

July 26 TUESDAY

A.M. 9:00 - Presentation of papers

10:00 - Coffee Break

10:15 - Presentation of papers

P.M. 12:00 - Lunch

1:30 - Presentation of papers

4:00 - Visit to Esso Fertilizer Plant

July 27 WEDNESDAY

- A.M. 8:00 - Participants leave Social Action Centre or hotels for country tour
- 9:30 - Christiana - meet Mr. W. McClaren, Chairman Christiana Area Land Authority - proceed on tour of C.A.L.A. area
- P.M. 12:00 - Lunch
- 2:00 - Leave Christiana for Grove Place Experimental Station
- 4:00 - Leave Grove Place for Kingston

July 28 THURSDAY

- A.M. 9:00 - Presentation of papers - Social Action Centre
- 10:00 - Coffee Break
- 10:15 - Presentation of papers
- P.M. 12:00 - Lunch
- 1:00 - Leave on Field Trip to:
- (a) Denbigh Kraal Fruit Crop Station, Agricultural Development Corporation
 - (b) Vegetable Station of Ministry of Agriculture and Lands, Twickenham Park

July 29 FRIDAY

- A.M. 9:00 - Annual General Meeting - Caribbean Food Crops Society
- 10:00 - Coffee Break
- 10:15 - Annual General Meeting (continued)
- P.M. 12:00 - Lunch
- 7:15 - Leave for Banquet at Courtleigh Manor Hotel, commencing at 8:00 p.m.

July 30 SATURDAY

- A.M. 9:00 - Leave Centre for Montego Bay via Dunns River (Box lunch)
- P.M. 12:00 - Lunch at Dunn's River
- 2:00 - Leave Dunn's River
- 4:00 - Arrive "Continental Hotel", Montego Bay
- 7:30 - Dinner with representatives of All Island Banana Growers Association

July 31 SUNDAY

- A.M. 9:00 - Leave "Continental Hotel" - Amity Hall - Mocho - Cambridge
- P.M. 12:00 - Lunch at Cambridge
- 2:00 - Leave Cambridge for A.D.C. Training Farm, Goshen
- 4:00 - Tea at Goshen

AUGUST 1 MONDAY

- A.M. 8:00 - Leave Social Action Centre for Denbigh Agricultural Show
- P.M. 12:00 - Lunch at Denbigh
- 2:30 - Leave Denbigh for Social Action Centre

AUGUST 2 TUESDAY

- Participants depart

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CARIBBEAN FOOD CROPS SOCIETY
Participants
July 25th - August 1, 1966

Abrams, Raúl	Puerto Rico
Aponte-Aponte, F.	Puerto Rico
Barrett, C.	Jamaica
Bond, R. M.	U.S. Virgin Islands
Bowman, H.	Puerto Rico
Cave, C. T.	Antigua
Charles, W. B.	Trinidad
Cross, L.	Trinidad
Davis, F.	Jamaica
Davidson, Marjorie	Jamaica
Del Prado, F.	Surinam
Edwards, L. M.	St. Kitts/Nevis
Garvey, G.	Barbados
Glasgow, S. K.	Jamaica
Gooding, E. G.	Barbados
Grant, R.	Jamaica
Grylls, N. E.	Jamaica
Hall, W. C.	Jamaica
Harnett, V. C.	Jamaica
Haynes, P.	Trinidad
Henderson, T.	Trinidad
Irizarry, H.	Puerto Rico
James, L.	Trinidad
Jeffers, W.	Barbados
King, E.	U. S. A.
Kirkey, C. F.	Jamaica
McKinley, R. E.	Jamaica
Miller, H. C.	Jamaica
Mora, José	Puerto Rico
Myera, E. G.	Puerto Rico
Naylor, A. G.	Jamaica
Payne, H.	Jamaica
Pennock, W.	Puerto Rico
Romney, D. H.	Jamaica
Royes, W. V.	Trinidad
Salette, J. E.	Guadeloupe
Samuels, G.	Puerto Rico
Sargeant, V. A. L.	Barbados
Seeyave, J.	Trinidad
Sehgal, S.	Jamaica
Sessing, J.	Jamaica
Simpson, O. V.	Jamaica
Sotomayor, A.	Puerto Rico
Spence, J.	Trinidad
Stone, D.	Jamaica
Strauss, R.	Jamaica
Thomas, S.	Trinidad
Wan Ping, A.	Guiana
Williams, J. C.	Jamaica

CARIBBEAN FOOD CROPS SOCIETY
Committees for 4th Annual Meeting

Finance Committee

Chairman: W. Bryce, Jamaica Agricultural Society
Members : R. Osborne
 H. Robotham
 N. Ince
 W. Domville
 T. Geddes Grant, representative
 Grace Ltd. "
 J. Carrington (Carib Chemicals)
 J. Haughton

Programme Committee

Chairman: Dr. J. Sessing, Banana Board, Research Dept.
Members : C. Mendes
 J. Haughton
 A. Naylor
 I. Johnson
 S. Glasgow

Co-Ordinating Committee

Chairman: H. C. Miller
Members : W. Bryce
 R. McKinley
 J. Sessing
 W. Domville
 A. Naylor
 D. Stone
 J. Haughton
 J. Rafferty
 R. Osborne

Entertainment Committee

Chairman: W. Domville
Members : G. Gayle
 L. Gregg
 L. Robinson
 Shell representative
 C. Hamilton

Reception and Transport Committee

Chairman: A. J. Naylor, Chief Plant Protection Officer, M.A.L. Hope
Members : S. Glasgow
 S. Mould
 V. Harnett
 D. Stone
 D. Romney
 J. Dow
 A. Briscoe
 G. Gayle

Publicity Committee

Chairman: R. E. McKinley, Agricultural Information Officer, M.A.L.
Members : C. Record (R.J.R.)
 P. Miller (Gleaner)
 I. Rhone (J.A.S.)
 V. Lumsden (J.B.C.)

Field Trips Committee

Chairman: D. Stone, Food Crop Agronomist, M.A.L.
 R. Mais (A.D.C.)
 W. McLaren
 J. Donaldson

Secretarial Services Committee

Chairman: W. Bryce, J.A.S.
Member : R. Osbourne

Special Services Committee

Chairman: J. Haughton, Director Crops & Soils Dept., M.A.L.

Ladies Committee

Chairman: Mrs. J. Rafferty
Members : Mrs. Sylvia Miller
 Mrs. Sybil Francis
 Mrs. Marjorie Haughton
 Mrs. E. Donaldson



FOURTH ANNUAL MEETING
CARIBBEAN FOOD CROPS SOCIETY
KINGSTON, JAMAICA