THE DIVERSIFICATION OF PEASANT AGRICULTURE IN BARBADOS

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Problems of Directed Change in a small, open economy.

ABSTRACT

Since 1936, the government of Barbados has been attempting to diversify peasant agriculture in an effort to reduce the heavy volume of food imports, and to generate industries based on local agriculture. These attempts have all failed to achieve much success. This study focuses on these plans for change and evaluates the reasons for the limited success achieved so far.

A major hypothesis tested here posits that the Barbados peasant farmer is, and has long been, economically oriented; and is thus receptive to changes which demonstrably contribute to increasing his income. Any semblance of conservatism is, in most cases, more correctly evidence of sound economic judgment. A second hypothesis tested submits that the failure of the diversification programme so far is directly related (1) to the unfamiliarity of the planners with the realities of the peasant sector, notably in terms of their production and distribution systems; and (2) to certain misconceptions vis-à-vis local attitudes to agriculture and agricultural occupations.

These hypotheses are tested within the context of the historical, cultural and economic attributes of the Barbadian peasantry; and with reference to the specifics of the proposals for change. The results of the study support the above hypotheses, and demonstrate that peasant agriculture has considerable potential for diversification, and that the failure of the current

programme is due mainly to its inherent irrelevancies and inconsistencies as a result of the planners' unfamiliarity with, and tendency to ignore, the economic realities of the peasant sector.

M.A. Thesis
Department of Geography
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La Diversification de l'Agriculture paysanne à la Barbade:

Problèmes de changements dirigés dans une économie ouverte à petite échelle.

Résumé

Dès 1936, le gouvernement de la Barbade s'efforçait de diversifier l'agriculture paysanne afin de réduire l'importation de produits alimentaires, et d'engendrer une industrie de transformation des produits agricoles. Mais ces tentatives n'ont eu que des effets très limités sur l'économie paysanne. Cette étude s'intéresse aux projets gouvernementaux et aux raisons du peu de succès qu'ils ont obtenu jusqu'ici.

Deux hypothèses sont mises à l'épreuve ici. Selon la première, le paysan-fermier à la Barbade a adopté depuis longtemps un comportement économiquement rationnel, et accepte, donc, assez facilement des changements qui contribuent, de manière évidente, à augmenter son revenu. La seconde hypothèse propose que le manque de succès du programme de diversification agricole est lié d'abord, de manière directe, au manque de familiarité des fonctionnaires avec la réalité paysanne, notamment en ce qui concerne les systèmes de production et distribution. Ce manque de succès est également lié à certaines conceptions erronées de l'attitude des populations locales face aux affaires agricoles.

Ces hypothèses sont considérées dans le context du cadre historique, culturel et économique des paysans barbadiens. Les résultats de l'étude confirment les deux hypothèses, et démontrent que l'agriculture paysanne peut subir beaucoup de diversification,

et que l'insuccès du programme gouvernemental peut s'expliquer au niveau de l'application de ce programme par les fonctionnaires: c'est à dire, le manque de connaissance de ces derniers, et leur tendance d'ignorer la réalité économique des paysans.

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THE DIVERSIFICATION OF PEASANT AGRICULTURE IN BARBADOS:

Problems of Directed Change in A Small, Open Economy

by

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A Thesis submitted to the Faculty of Graduate Studies and Research in partial fulfilment of the requirements for the degree of Master of Arts.

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"... This capacity for change in response to the lesson from experience and to changing needs may well be a most significant characteristic of successful institutionalized programs of change - change agencies must be willing and able to change themselves."

Wharton, C.R. (ed.), 1969:437.

PREFACE

The fieldwork for this thesis was conducted in Barbados during the summer of 1970. While there, the writer received generous help from: Messrs. J.O.J. Nurse and S. Broomes of the Ministry of Agriculture, Science and Technology, and Mr. E.L. Murray and other Extension Officers; Messrs. G.E. Amory, Manager, and E.O. Maxwell, Chief Accountant of the Agricultural Credit Bank; Messrs. E.F. Hurley, Manager and K. Chaderton, Purchasing Agent of the Barbados Marketing Corporation; Mr. D. Padmore of the Statistical Services; and Messrs. H. Rawlins and A. Miller of the Ministry of Education. The writer would also like to express his gratitude to the local peasant farmers without whose active co-operation and assistance this thesis could never have been completed.

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Current Views on Peasant Society

Peasant societies in general have received fairly generous treatment from anthropologists and, more recently, from geographers and economists. Generally, however, these studies have tended to treat their subjects within the context of the classical models of peasants. This chapter will first review, in brief, classical and current views on peasant societies in order mainly to highlight the distinctiveness of the Barbadian - and Caribbean - peasantry, and to form the background against which the problems of agricultural diversification are examined in this thesis.

The terms "peasant" and "peasantry" have for many decades been employed to describe or designate a certain group of people who are predominantly rural in their habitat and part-subsistence, part-commercial in their economic activities. Peasant societies have been studied from different viewpoints by Redfield, (1956), Steward, (1956), and Wittfogel, (1956). These writers, among others, respectively stress the cultural, economic and ecological, and political or "jural" aspects of peasant society. These differing viewpoints, however, are not mutually exclusive or even contradictory. They merely represent the treatment of three differing aspects of peasant societies.

Initially, the term was reserved for those employed in agricultural activity, but was later expanded to include fishermen, herders and rural craftsmen (Redfield, 1956). Firth, however, identifies a significant difference between the peasant farmer and other rural dwellers in so far as the former is favoured to acquire

permanent rights to a tract of land which is his primary factor of production, and a more durable resource than those utilized in either fishing, hunting or local crafts (Firth, R. in Wharton, 1969). The term 'peasant' has also been used together with the characterization 'primitive' to denote a similar, if not identical group of people (Nash, 1966). This attempt to equate peasants with primitives is, however, inconsistent and misleading. For peasants remain in closer and more active contact with a larger society of which they form part than do primitives who are, to some extent, isolated from the world around them (Wolf, 1966).

Whatever definition is employed, it has been estimated that the peasant population numbers in the tens of millions and as such, forms a substantial segment of the world's population. This class of people are found, predominantly, in Asia, Africa and Latin America. Until recently, the bulk of the Russian and Eastern European people were also classified as peasants, but under the Communist system of collectivization, the rural population has lost much of its 'distinctiveness'. In Western and Southern Europe, however, abundant evidence of an 'European Peasantry' still exists (Franklin, S.H., 1969).

The obviously significant number of peasants have attracted serious attention in the last few decades, particularly from anthropologists, and, more recently, from economists, interested respectively in their social and economic systems. The outgrowth of this dual approach to the peasantry has been a dual analysis of peasant society.

A society in its totality embraces the social, political,

cultural and economic attributes of the total population and the interrelationships between these, (Firth, R., in Wharton, 1969). As such, it is no easy task to isolate these for separate analysis, particularly in a peasant society where these attributes are closely interrelated to the extent that the economic activities, for example, are influenced by the social structure of the community and the social institutions are themselves partially conditioned by economic circumstance, (Firth, R., op. cit., 1969; Nash, M., 1966). Thus kinship and family ties, together with class and status as social parameters, significantly affect the choice of occupation and the nature of market transactions, as well as other basically economic activities of the group or individual. Similarly, the requirements of agriculture, as an economic activity, influence the structure and importance of the family unit.

Perhaps more importantly, relationships within a peasant society are based on the assumption that a limited supply of goods is available to the society (Foster, G.M., 1965). Thus what Nash (op. cit.) calls a 'levelling mechanism', to even out social and economic inequalities and to ensure that the society as a whole progresses or declines together, is a built-in feature of peasant society.

In the following pages, an attempt will be made to review[1] in brief the current state of knowledge and theories on (1) peasant culture and (2) peasant economy, bearing in mind that these

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[1] Again it should be stressed that what follows is simply that - a review of current theories, and that the writer makes no attempt to formulate a view of his own.

two aspects of peasant society cannot be considered as separate, independent or mutually exclusive attributes.

Peasant Culture

Like most 'non-Western' phenomena which have been studied by Western scholars, peasant culture has, in most cases, been analyzed by essentially 'western' tools, explained in terms of 'western' theories, and assessed according to 'western' values. There are contemporary writers whose work reflects the notion of the lazy, indolent peasant preferring a life of leisure and incapable of accumulating capital savings on his own initiative. Thus Rogers includes among his "ten elements of peasant sub-culture": a mutual distrust in interpersonal relations, a lack of innovativeness, low aspirational levels, and limited time perspectives, (Rogers, E.M., in Wharton, 1969).[1]

This essentially negative view of the peasant is based on their slow rate of change relative to the pace of change experienced in the 'developed' countries of Western Europe and North America since the Industrial Revolution; and on the fact that most studies of peasant society seek to explain the failures of, and obstacles to efforts at directed changes.

Other writers, however, have studied peasant societies sui generis rather than as backward elements of larger societies.

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[1] The other elements listed by Rogers were: fatalism, lack of deferred gratification, familism, localiteness, dependency on government authorities and lack of empathy.

As a consequence, a more meaningful and generally applicable concept of the peasantry has emerged. This concept regards the peasants first as essentially rural cultivators forming a community recognizably different from the national or state system (Redfield, 1956), yet existing in close relationship with this larger society of which they form part and in which they participate (Wolf, E., 1956). The peasant community is also, to a large extent, subject to the cultural and political dictates of a controlling elite in the larger society (Bock, 1969). Redfield characterizes the total state system as consisting of two halves: the local peasant life and the larger national life. These are linked by what he calls "cultural intermediaries", personified by priests, wealthy landowners, professional people or government officials who are all culturally foreign and mentally part of the "distant" urban or metropolitan centres.

Internally, the peasant society displays three main cultural characteristics. Firstly, the family unit is essentially the basic social group and all activities - cultural, economic and otherwise - are planned and executed within the familial framework. Thus all plans are formulated in response to the needs of the family and are designed to satisfy these needs (Wolf, 1966). In this respect, peasant societies are basically subsistence-oriented to the extent that the primary objective is the satisfaction of the felt needs of the group. The driving force behind all activities, therefore, is

the welfare and basic survival of the group or community. Culturally, the norms established by the family unit form the basis for determining acceptable standards of behaviour. These norms, in turn, have been influenced to a large degree by a higher set of values adhered to by the peasant community at large.

Secondly, peasant society is characterized by what Redfield and others call "a mystic attachment to the land" (Redfield, op. cit.; Nash, 1966). This attachment, however, does not imply a reverent attitude, as Redfield himself explains, nor is it universally applicable. In some areas, such as Italy and Spain, the land is worked more as a necessity for survival than out of any special love for it. On the whole, however, the peasant is basically a farmer whose land is his primary factor of production. Productive industry is highly valued and agricultural or manual activity is preferred to such employment as commerce.

Thirdly, in peasant cultures there is a marked emphasis on the inherent value of a large family. This major concern with procreation is directly related to the first and indirectly to the second of the above characteristics. For not only is there the need to establish a socially viable unit in the form of the family, but a workforce is also necessary to cultivate the agricultural domain. For, rooted in the institutional character of the peasant system is the attitude that the supply

of labour is not a commodity to be bought and sold (Franklin, op. cit.). All available capital is obtained from the family enterprise, and what capital is employed in the operation of the farm is derived within the family. Thus the economic values attached to marriage and children are of considerable significance (Redfield, op. cit.).

Peasant Economy

Analysis and classification of peasant economies have been largely based on the theories of classical and neo-classical economics. According to these theories, peasant economies have been attributed the elements of lack of innovativeness, low aspirational levels, resistance to change and a general suspicion to technological improvements. These essentially "western" growth-oriented theories tend to view a non-western, stable economy within a western framework and to place basically "western" measurements on values which, it is admitted, cannot easily be measured (Bauer & Yamey, 1957). The absence of institutions common to growth-oriented economies are singled out as a basic deficiency of peasant economies, for without these institutions of wages, interest, rent and profits, it is claimed, no meaningful progress can be achieved (Lewis, 1955; Thorner, D. in Wharton, 1969).

Recent analytical research into peasant economies, however, have tended to verify some of the initial conclusions of Chayanov, the Russian peasant economist (Thorner, et al., 1966). Chayanov, as early as 1920, maintained that peasant economy ought to be

treated as an economic system in its own right. The primacy of the family unit is equally valid in the economic as well as the cultural sphere, so that peasant economy is essentially a family economy (Wolf, op. cit.), relying substantially on family labour (Firth, 1961; Thorner, op. cit. 1969). Chayanov argues that in a family economy both the quantity and quality of the labour inputs are governed by what he calls the "labour-consumer balance" - a type of equilibrium between the satisfaction of family needs and the drudgery of the work involved. In a family economy, maximization of labour rather than of production is the basic rationale to peasant farming activities. There is, therefore, no valid economic theory for measuring or even estimating the value of family labour in terms of money (Thorner, op. cit. 1966).

The resources of wealth and capital in a peasant economy are vested in, and counted in terms of land and manpower; and the technological factors of production are utilized according to the distribution of these resources. The technology employed in these societies is noticeable in its simplicity (Firth, R., op. cit., 1969). Occupational specialization is not extensively practised, and where it does exist is determined on the basis of age and sex. The units of production, in keeping with the primacy of the family, are based on social relationships and there is little organization of the markets for labour, capital and produce. Relationships between the producer and the consumer are basically more direct and personal than in more complex societies (Firth,

1961). While classical and western economic theory is founded on the concept of market participation in terms of buying and selling (Wharton, op. cit.), peasant economies are characterized by the absence of money as the major and only medium of exchange (Nash, op. cit.). There are, however, four types of exchange prevalent among the peasants which have been identified as reciprocity, redistribution, mobilization exchange and marketing exchange.

Reciprocity or reciprocal exchange is exemplified by the exchange, under certain norms, of goods or services of near or total equivalence. Little or no bargaining is involved and the transactions, resting largely on trust, are not designed to yield a profit. A form of reciprocity operating under political control and involving a high degree of centralization, is identified as redistribution or redistributive exchange. Under this system, goods and services produced are redistributed by a central agency in an effort to minimize existing social and economic inequalities. Mobilization exchange serves a nearly similar function in redistributing goods and services. It differs fundamentally from redistributive exchange, however, both in purpose and procedure. Mobilization, unlike redistribution, seeks to perpetuate and underline existing social, economic and political inequalities. Furthermore, the distribution of the goods collected is exclusively determined by the controlling political elite itself. Finally, in many peasant societies, market exchange, with all the monetary attributes and intricacies

characteristic of 'capitalist' economies, is also practised.

These systems are in no way mutually exclusive, and may, in fact in most cases do, exist in various combinations. Generally, however, the peasants enjoy some measure of economic independence, though any surplus production is usually transferred to the dominant group of outsiders. This produce may be disposed of by redistribution or used to underwrite the standard of living of the elite (Wolf, op. cit.). On the whole, therefore, while it forms a distinct, self-contained community, peasant society exists in an economically subordinate relationship to the group of controlling outsiders.

It is thus evident that the cultural and economic components of a peasant society cannot be isolated for meaningful study. This fact is as firmly maintained as is the inadequacy of the tools of classical economics to analyze peasant economy. Redfield (op. cit.:18) describes peasants as agriculturalists whose occupation:-

> "... is a livelihood and a way of life, not a business for profit."

But the latter part of this definition has been directly and indirectly challenged (Schultz, T.W., 1964; Myint, M., 1964). Schultz argues that farmers, as well as herders and traders everywhere, are ever intent on improving their lot. And, in general, peasant producers in the developing countries are aware of, and take advantage of the economic possibilities:-

> "... within the limit imposed by the state of their technical knowledge and the availability of co-operant resources."
> (Bauer & Yamey, op. cit.:92)

The picture of a generally static and hopelessly impoverished society does not represent a true or adequate assessment of the peasantry. Peasant society is, in fact, continuously in a dynamic state of change and adjustment to the demands placed upon it from within and by the world outside (Wolf, op. cit.). These changes and adjustments occur within the social and technological context of the society - a context characterized by levelling mechanisms and by largely human inputs.

The development of a peasant economy is therefore retarded more by lack of opportunity than by failure of aspirations, (Fish, 1964; Firth, op. cit., 1969). Myint (op. cit.) and Polly Hill (1956) point out that it was the peasants who pioneered settlement in Southeast Asia and West Africa in the late nineteenth and early twentieth centuries. It was they who cleared large tracts of land in order to plant export crops, such as rice, cocoa and palm oil, to meet heavy foreign demands. The idea of the proverbially indolent peasant is therefore quite unsatisfactory, and more rational explanations have been offered for the negative attributes traditionally assigned to peasant society: indolence and conservatism.

It has been suggested that the apparent indolence of the peasant is a legacy of:-

> "... unwanted leisure imposed by the limitativeness first of land and later, as a consequence, of capital equipment..." (Georgescue-Roegen, op. cit.).

Wittfogel (in Thomas, W.L., 1956), while paying ample tribute to the attributes of peasant-farming communities or 'hydraulic civilizations', also concludes that, within the framework of these

cultures, the political impotence of the peasants to change a given economic and technological order condemned them to:-

> "... a man-nature relation that involved unending drudgery on a socially and culturally depressing level."
>
> (Ibid:161)

These contributory factors have been expanded to include limiting factors of market and transportation, (Myint, op. cit.). Myint argues that the Burmese peasants in the early and mid-nineteenth century were capable of producing a surplus. Lack of a market and of transportation facilities, however, led them to the rational choice of increasing their leisure time rather than producing a non-disposable surplus. Peasants are, it is maintained, keenly interested in obtaining maximum returns on their efforts; and if they appear unwilling to invest labour or other capital, it is often due to their awareness that, under the existing state of knowledge and technology, additional investments would not be worthwhile, (Schultz, op. cit.; Myrdal, G., 1968). The apparent 'indolence' of the peasant, therefore, may be more correctly identified as his response to a lack of opportunity to effectively and economically utilize his existing resources. Georgescu-Roegen (op. cit.) has further suggested that in areas where the peasantry has been excessively taxed by the state, they have discovered that their best strategy is in performing a minimum of work in order to stay poor. He adds, however, that 'cumulative inertia' has aggravated and protracted the situation in its current form.

Peasant economic systems are founded on different premises and function on different criteria from western 'growth-oriented'

economies. What may, therefore, appear to a 'western' observer as conservatism or resistance to change, may in fact be sound economic judgment (Schultz, op. cit.), intended to minimize the risks to the operator. The peasant's refusal to accept an innovation or adopt a so-called modern technique is often based on his awareness that, within the framework of what Foster (op. cit.) calls his cognitive orientation, the proposed change is not economically advantageous (Myint, op. cit.). The peasant is often aware that changes in any one aspect of the system of his cultural or economic life will have repercussions in the other areas of the system, and that he will be called upon to bear the burden of the consequent fluctuations. Thus he avoids any radical changes which would inevitably create a disfunction in the system as a whole (Spicer, E.H., 1952). These socio-economic parameters on which are founded attitudes towards innovations can no more be construed as resistance to change than the refusal of the Canadian Prairie farmer to unconditionally convert his wheat farm to barley production.

One other feature of classical peasant society which has received some attention is its ability to survive. It has been argued that the self-contained, coherent and largely self-sufficient character of peasant societies explains their survival, through the centuries, from the ravages of wars and disease. Their self-sufficiency made them less economically dependent on the elite than the elite was on them. This degree of self-sufficiency made them, up to the time of the Industrial Revolution at least, to some extent economically independent of the elite. They

could thus survive with a minimum of contact with neighbouring villages or towns. Their self-sufficiency and the absence of the wage and profit motive in their economic activities, enabled them to survive in times of unrest and in conditions under which commercially-run operations could not survive (Bock, P., 1969; Thorner, op. cit., 1969). Since the Industrial Revolution, however, this relationship has changed. The spread of mechanical technologies, the advent of economies of scale, increasing specialization and the universal use of money as the major medium of exchange - these after-affects of the Industrial Revolution have decreased the dependency of the elite on the peasantry and have, in fact, created a more symbiotic relationship under which the elite depends on the peasantry for its labour supply and for part of its market, while the peasants are dependent on the elite for wage-employment as well as for cultural and political leadership.

The Barbadian Peasant

In Barbados, that sector of the population living in the predominantly rural areas and earning their livelihood primarily as farmers, can justly be classified as peasants in so far as they are essentially rural farmers on small holdings,[1] and form

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[1]Since the term 'small-scale' and 'peasant', in reference to the type of farming under study, are used interchangeably throughout this study, a word of justification seems appropriate. National legislation prior to 1961 identified a farmer as a peasant if his acreage was less than ten acres. The Agricultural

a recognizably separate part of a large society in which they are actively involved. As a specific case study, however, the Barbadian peasantry exhibits certain significant diversions from the norm of classical peasants - diversions which make it distinctive enough to warrant separate treatment, (Marshall, W.K., 1968). These diversions are largely attributable to its colonial background, the influence of 'western' ideas and the universality of education.

These peasants, like others throughout the Caribbean, do not represent the indigenous population of the area. They are rather a transplanted, alien people. Apart from a few Carib and Arawak peoples in some of the territories, the West Indian Islands were rather sparsely inhabited when the Europeans arrived, and Barbados itself was totally unoccupied at this time. The present population of the West Indian territories, therefore, merely represents the descendants of an alien work-force, forcibly brought or enticed to settle on the islands. As such, they differ substantially from the peasants of Europe, Southeast

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Credit Bank Act (1961:15) raised this upper limit to twenty-five acres. As has already been noted, farms of less than ten acres account for a substantial percentage of the total number of holdings. This increase in the upper limit for small farms would include in the peasant sector an additional forty-seven farms, totalling 766 acres, most of which are operated on a commercial basis. This measure, designed to qualify a few more holdings to obtain loans from the Credit Bank, seems therefore to have no major effect on the areal or numerical status of the peasant sector. And since most of the existing data was collected on the basis of the previous classification, the term 'peasant' and 'small-scale' farms will be applied here to holdings of ten acres or less.

Asia and the Pacific Islands, the vast majority of whom, with some exceptions in the latter area (cf Fiji), are truly native to their geographical habitat. Unlike true peasants, too, and because of their colonial background the West Indian peasants were originally - and until very recently - a landless working class. Uprooted from their African homeland, and later lured away from India, these people were first introduced to a commercial economy as landless labourers - a role which they occupied for nearly two centuries. Throughout this period, therefore, the West Indian labouring class was more properly a proletariat than a peasantry.

Only since 1837, and according to some writers, only since 1895 in Barbados (Henshall, J.D., 1964), has an identifiable landed peasantry emerged in the Caribbean area. These 'new peasants' have consequently not yet evolved a unique cultural identity of their own. Their cultural heritage is, in fact, a 'melange' of cultural retentions from their African - and Indian - backgrounds, and superimposed European values which are still in the process of being modified to suit the new ecological milieu. Moreover, there is a substantial probability that the effects of modern mass culture, highly industrialized economies and bureaucratized government will, where these exist-as in most Caribbean territories - prevent the development of a true peasantry (Geertz, 1961).

Education and the spread of western influence has led to closer and more frequent contact between the peasant and his urban counterpart to whom he is classified as socially subordinate and

economically less well off. The Barbadian peasant, however, is highly individualistic and cherishes his right to, and concepts of, personal independence. All major decisions are, nevertheless, made in the often 'distant' metropolitan areas. The peasant, while exercising his enfranchisement to influence the composition of the controlling elite, still remains in a subordinate role to this elite.

The Barbadian peasant, too, no longer subscribes to the alleged benefits of a large family, but rather places emphasis on the well-being of a small family.[1] The cultural attributes of the family unit are however still recognized, though economically, hired wage-labour is as prevalent as purely family labour. The local economy is wholly a monetary economy; and among the peasants as well, money forms the basic medium of exchange.

These characteristics of the peasant sector, together with a traditional involvement in a monetary economy, have given the Barbadian peasant-farmers a generally commercial outlook, without totally destroying their subsistence practices. They thus produce for their own consumption, while also creating a surplus to exchange in the market for other goods and services.

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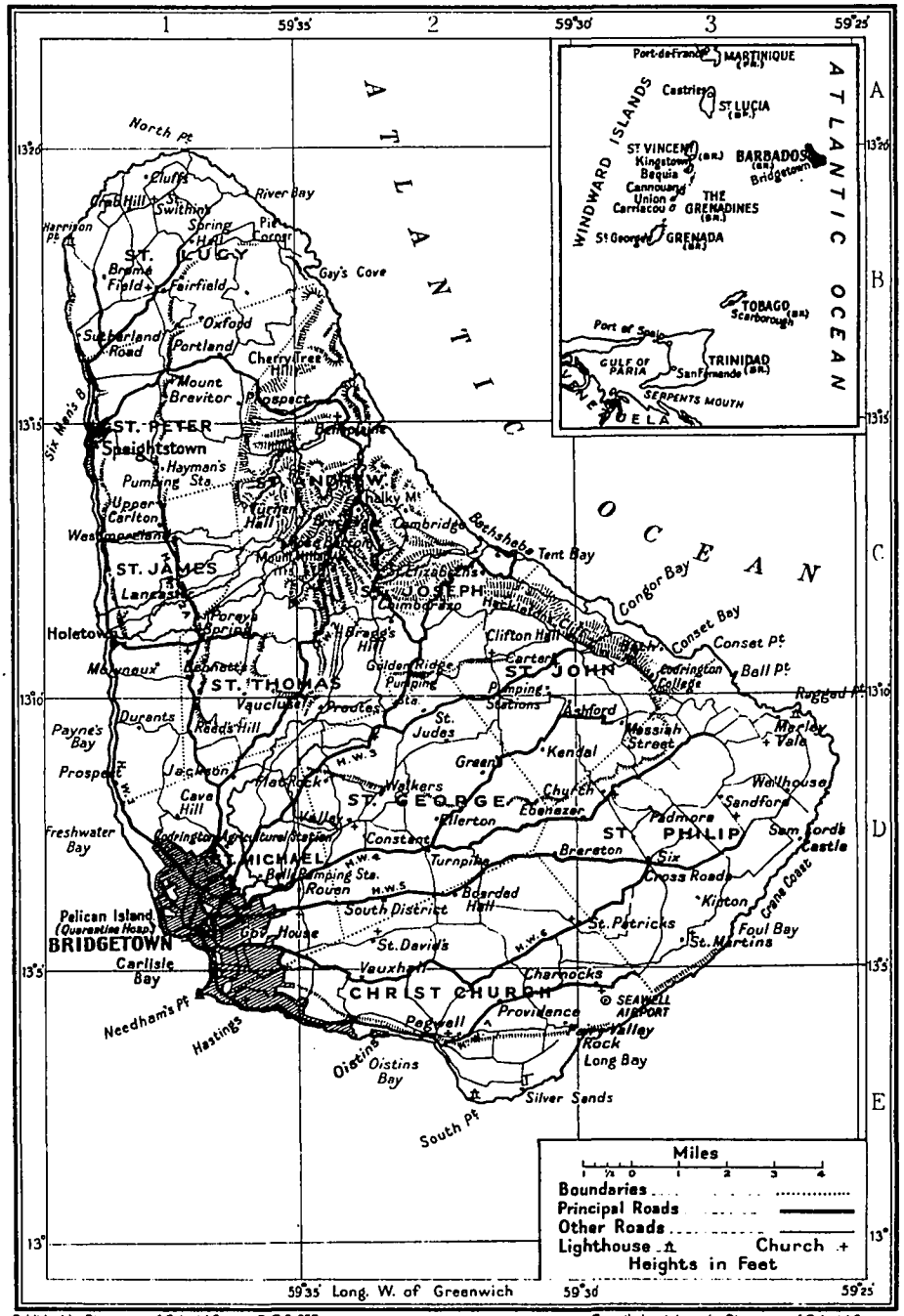
[1] The average size of a Barbadian family, including both parents, was 4.03 according to the 1960 census.

Recently, the emergence of a generally more progressive and commercially-minded corps of smallholders has been noted. These more enterprising farmers tend to be more specialized in their farming activities, emphasizing vegetable production, dairy-farming or poultry-farming. These farmers also tend to be younger than average and generally better educated. Some of them, too, have at some time been involved, as plantation workers or otherwise, in commercial enterprises of the above nature, and have subsequently initiated small projects of their own. These factors: age, education and acquaintance with the general nature of commercialism, together and in different combinations, predispose these farmers to a more ready exploitation of new economic opportunities; and thus differentiate them from their more average and conservative counterparts locally and elsewhere.

Certain factors, however, tend to highlight the weakness of the system. The Barbadian peasant, like his opposite numbers elsewhere, has not greatly benefited from the technological effects of the Industrial Revolution. Partly because of the scale of modern technology and partly due to the capital requirements involved, the smallholders have been unable to exploit and apply this new technology. The small farmers, therefore, have failed to modernize and have suffered a consequent loss of economic viability and competitiveness. This economic liability is further aggravated by recurring price fluctuations in the primary agricultural products which form the mainstay of these small enterprises.

FIG. 1. LOCATION

BARBADOS 5



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The Barbadian peasantry is thus, in certain important respects, distinct from the classical model of peasants. The successful introduction of any changes within the peasant system, therefore, will largely depend on the recognition of these distinctive characteristics. The unique cultural heritage of the Barbadian peasant, their traditional involvement in a money economy, their highly cherished sense of individualism and personal independence, and their ardent search to improve their material welfare - all these are vitally important characteristics of the local peasantry and are specifically pertinent to the problems of agricultural diversification within the local peasant sector.

The island of Barbados has an area of approximately 166 square miles or 106,000 acres. Some 63%, or 67,000 acres, is classified as arable land while the remaining acreage is sour-grass pastures, woods, rocky waste or 'rab land', and built up areas, (W.I. Census of Agriculture, 1961). In any given year, an average of 50,000 arable acres are planted in sugar cane, while most of the remainder is either being prepared for the next planting of sugar-cane - 'preparation land' or is being rested from sugar production for a year or so - 'thrown out land'. It is largely on these latter acres that most of the locally produced food crops and vegetables are planted.

With a population of about 238,000[1] and a density of

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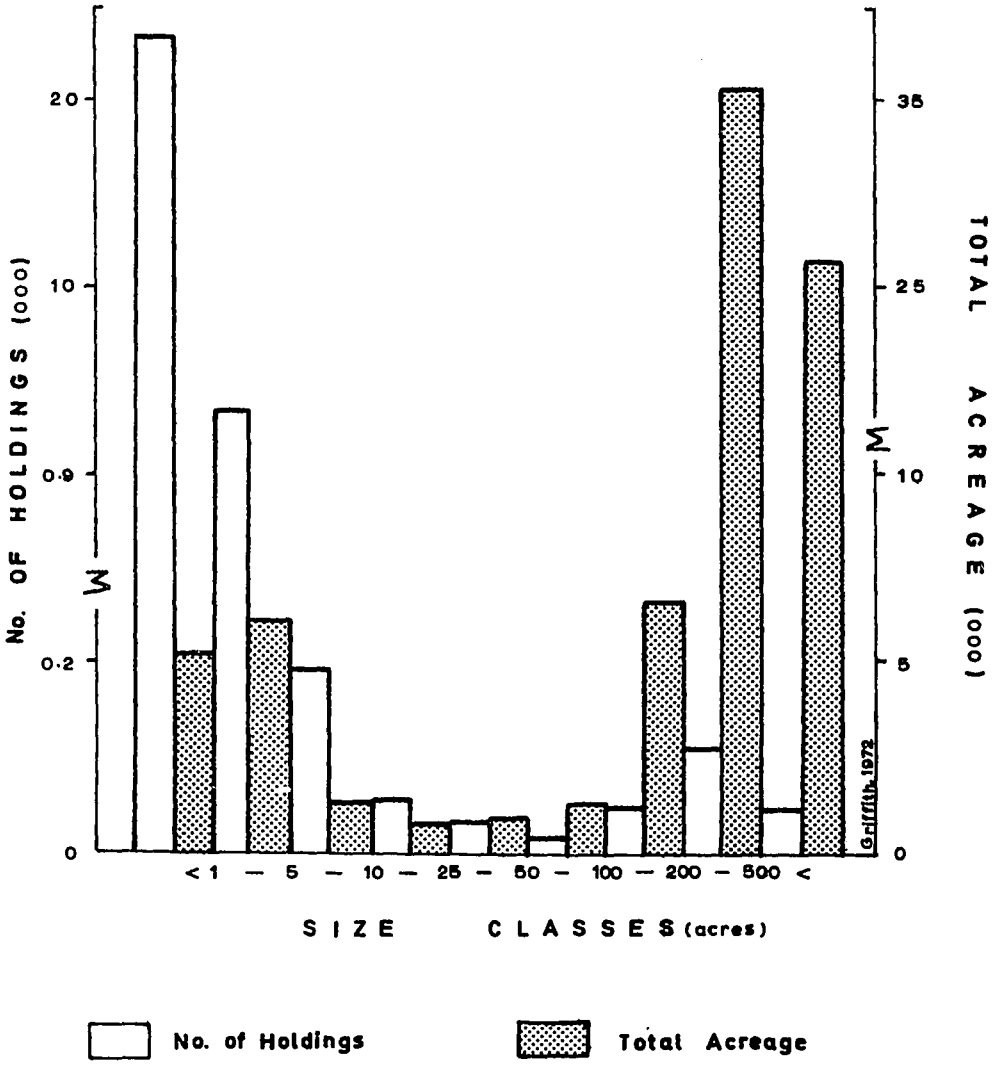
[1]Preliminary estimates of the 1970 census gives a figure of 238,100. This represents an increase of only 6000 over the 1960 total, and shows an annual rate of increase of 0.257 percent.

FIG. 2. TYPES OF AGRICULTURAL HOLDINGS IN BARBADOS.

(By Acreage and Numbers.)



Data: West Indies Census of Agriculture,
East Caribbean Territories, Barbados, 1961.

over 1400 per square mile, there is an obviously great demand for food - a demand not locally met. In 1965, of a total import bill of $116.3 million, $31.9 million were spent on foodstuffs alone. These food imports represent the largest single item of import, accounting for 27.4% of the total, and show an increase, both relatively and absolutely, over the past 30 years. (Table 5 below).

The island is divided into a total of 27,912 agricultural holdings of which some 286 are over ten acres in size and account for 85% of the total farm acreage, (Fig. 2). On the other hand, small farms of less than ten acres number 27,626 and constitute a mere 15% of the total acreage. Some 9,109 of these, however, are 'holdings without land' (Hills, T., in New World, 1966), and as such do not qualify as true peasant farms. This peasant-plantation dichotomy is one of the basic and most notable features of the agricultural sector of Barbados and indeed of the West Indian territories in general.

During the last five year period, the peasant farms have been producing an average 16% of the island's sugar output (Handler, 1966). This percentage has been increasing, however erratically, during the past thirty years, consistent with an increase in the total acreage planted in sugar-cane. No precise figures are available on the value of locally produced foodstuffs, but estimates of local produce marketed in 1968 have been assessed at about $14 million,[1] and it is estimated that the peasant farmers

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[1] Barbados Economic Survey, 1969. In a more recent study by G.V. Doxey et al (1971), the total value of local food production has been quoted at about $20 million.

TABLE 1 ACREAGE IN SELECTED CROPS, BARBADOS - 1961

(By size of Holding)

CROP	UNDER 10 ACRES	OVER 10 ACRES	TOTAL ACREAGE	PEASANT HOLDINGS AS % OF TOTAL
SUGAR	6,950	37,828	44,778	16
FOOD CROPS	2,765	7,134	9,899	28
MAIZE	1,325	1,270	2,595	51
PIGEON PEAS	169	261	430	40
SWEET POTATOES	867	2,914	3,781	23
YAMS	281	2,266	2,547	11
EDDOES	123	423	546	22

SOURCE: Prepared from W.I. Census of Agriculture, East Caribbean Territories, 1961.

TABLE 2 ESTIMATED GROSS OUTPUT OF VEGETABLES FROM ESTATES AND SMALLHOLDERS - BARBADOS 1967/68

	Estimated Acreage (acres)			Estimated Production ('000 lb.)			Estimated Farm Gate Price - (c./lb.)			Estimated Gross Output ($'000)		
	E	S	T	E	S	T	E	S	T	E	S	T
Tomatoes	123	35	158	551	161	712	23	8	22	127	29	156
Cucumbers	33	89	122	148	404	552	16	25	23	24	101	125
Cabbages	30	206	236	134	936	1070	21	25	24	28	234	262
Irish Potatoes	24	-	24	161	-	161	8	-	8	13	-	13
String Beans	22	191	213	99	870	969	21	20	21	21	174	195
Carrots	21	231	252	94	1052	1146	21	25	25	20	263	283
Other Vegetables	47	748	795	211	3394	3605	21	17	17	44	577	621
TOTAL	300	1500	1800	1398	6817	8215	20	20	20	277	1378	1655

E - Estates, S - Smallholders, T - Total producers

SOURCE: From Ingersent, K.A., 1968.

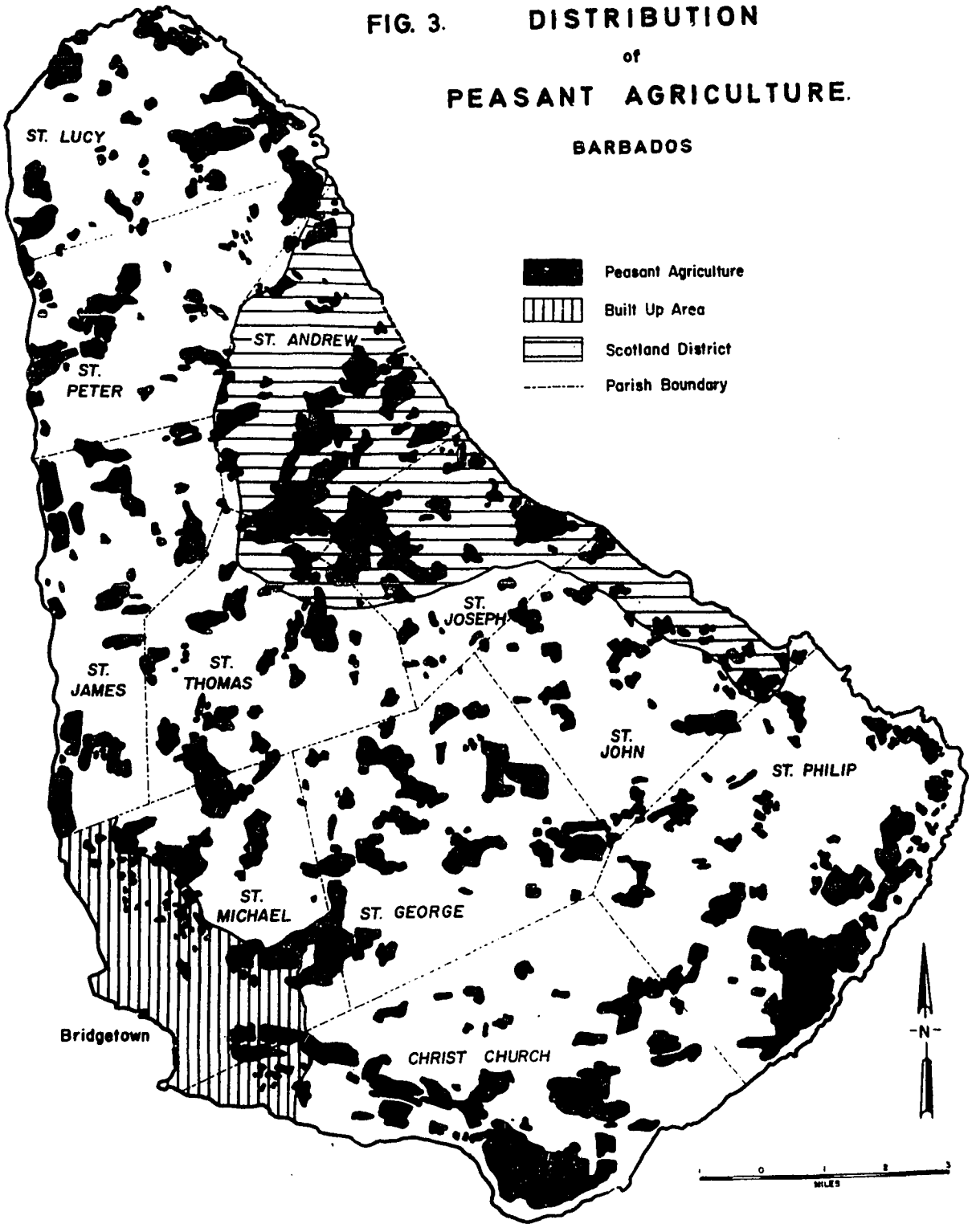
produce at least 30% of this, (Table 1). The results of a recent survey (Ingersent, K.A., 1968), however, indicate that the output of vegetables alone are valued at $1,65 million, and that the peasants account for 83% of this, (Table 2). The small farmers, therefore, represent a significant sector of the agricultural economy of the island in terms of numbers, acreage and production.

The small farmer in Barbados differs from his plantation counterpart in four major respects. The differences have been identified in the context of small farmers in Jamaica and in other West Indian territories (Jolly, A.L., 1954; Edwards, D., 1961).

First, the plantation, on the whole, occupy better land and richer soils than do the peasants who, in fact, only possess lands which have been sold off by the plantations (Handler, 1966; Mbogua, 1961). This is not to say, however, that peasant holdings occupy all the poorest land or that all small farms are on poor soils. On the contrary, recent research has shown that peasant holdings are evenly distributed over all the major soil types in Barbados (Figs, 3,4). But due partly to the historical fact that plantations were the first settlements on the island, and that these had alienated most of the productive land before the labourers had acquired the right to own land (Augelli, 1953), it is easy to understand why the large estates still occupy most of the best agricultural land on the island.

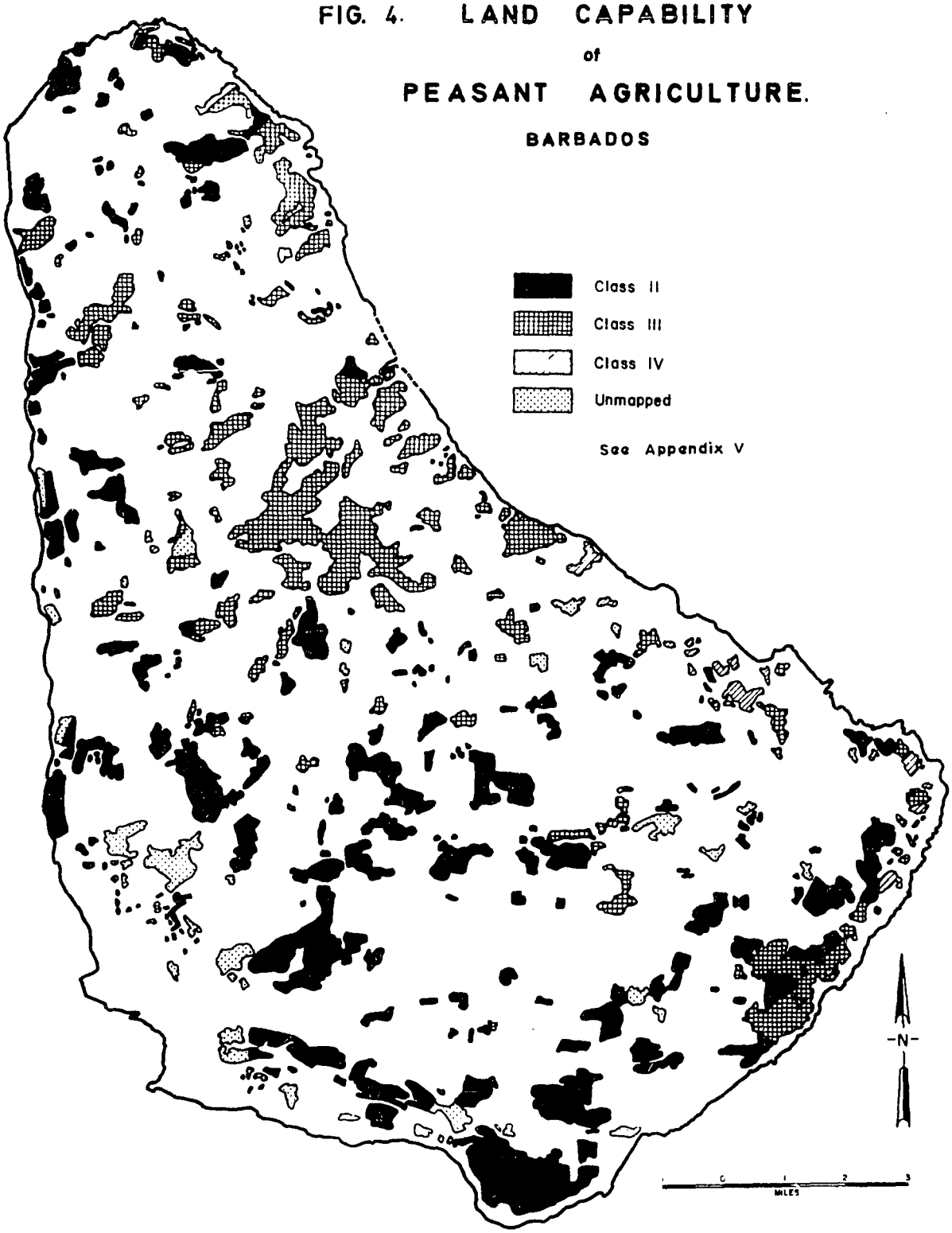
Secondly, the supply of economic resources to the small farmer is very limited. His economic status and the low profit margin within which he operates allows him only a small reserve of funds; and his available collateral restricts the availability

FIG. 3. DISTRIBUTION of PEASANT AGRICULTURE. BARBADOS



The Caribbean Project, Feb 1969

FIG. 4. LAND CAPABILITY
of
PEASANT AGRICULTURE.
BARBADOS



The Caribbean Project, Feb 1969

of credit facilities open to him. No such restraints are operative in the case of the plantations.

The third difference centres on the availability of information to the farmers. Primarily because of his more extensive and formal education, the plantation owner is better equipped to utilize existing literature on farming. His social standing also brings him in contact with those well-placed to provide information and expertise in agricultural matters.

Finally, the large-scale operator runs an entirely commercial enterprise, while the small farmer places great emphasis on the consumption needs of his family. Thus only a limited supply of peasant produce actually enters the commercial sector (see p. 134). The plantation specializes in a few crops mainly for export and employs machinery and improved techniques. The peasant farmer, on the other hand, produces a larger variety of crops mainly for local consumption and works, to a large extent, with hand tools. These basic differences assure the plantation owners financial, educational and social advantages over the small farmer, to the extent that they are informed on, understand and are capable of responding to, existing knowledge and plans in the field of agriculture.

A Small, Open Economy

The island of Barbados supports an essentially agricultural economy dominated by a single crop - sugar-cane. This sector of the economy employs over 28% of the total labour force - a greater percentage than any other sector. And agriculture itself, accor-

ding to the latest estimates, accounts for some 24% of the Gross Domestic Product (Table 3). Sugar-cane contributes about 17% of this total. Though this latter figure represents a substantial decline from the 45% contribution of the sugar industry alone in 1946,[1] agriculture as a whole still contributes sufficiently to keep the Barbadian economy an agrarian economy. Agriculture, for example, employs about 28% of the rural labour force, contributes more than 80% of domestic exports and accounts for about 24% of the Gross Domestic Product.

With the apparent displacement of sugar-cane as the major income-generator, tourism and the government sector are becoming the leading sectors of the economy. In 1967, for example, tourist spending provided some 43% of the national income of Barbados (Ibid.). This contribution, not readily evident in official statistics, is indirectly made through the various sectors of distribution, construction, public utilities, services, house ownership and even government. The activities of the government itself contributes substantially through the public services and utilities and its own capital expenditures. Noticeable increases are also being made by the industrial and manufacturing sector.

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[1] Development Plan 1969-72.

TABLE 3 GROSS DOMESTIC PRODUCTS AT FACTOR COST BY INDUSTRIAL ORIGIN 1960-68

$Million

SECTOR	1960	1961	1962	1963	1964	1965	1966+	1967+	1968+
Sugar	25.5	25.9	25.3	37.0	29.7	31.5	32.0	35.1	28.6
Other Agriculture	8.1	8.1	8.4	9.0	9.4	9.9	11.4	12.7	13.1
Construction	11.8	13.6	14.0	14.4	14.6	14.9	15.3	16.4	20.0
Manufacturing and Mining	10.0	12.2	13.3	14.0	15.1	16.2	17.3	18.6	21.0
Transport and Public Utilities	6.8	7.9	8.3	8.5	8.7	9.0	10.3	14.6	18.2
Distribution	27.6	28.0	29.2	33.6	34.1	35.6	37.3	39.2	50.0
House Ownership	6.2	6.2	6.4	6.4	6.5	6.5	6.8	7.3	8.0
Services	12.1	14.5	14.6	15.0	15.4	17.0	17.9	19.5	27.8
Government	11.7	12.3	13.6	15.0	16.5	17.6	21.3	25.8	30.0
TOTAL	119.8	128.7	133.1	152.9	150.0	158.2	169.6	189.2	216.7

+ Estimates only

SOURCE: Barbados Economic Survey, 1969.

The Barbadian economy in general thus displays recent trends towards diversification as other, newer sectors emerge to reduce the traditional dependence on a single sector. The newer sectors, however, because of their limited spread effects, have had relatively little impact on the population. Thus, the contribution of agriculture to the national income, and the indirect effects of agricultural activities on the rest of the economy remain very important and significant within the Barbadian context.

In terms of domestic exports, the agricultural sector contributes more than 80%, while sugar-cane and its by-products alone account for nearly 70%. Total exports, including re-exports, in 1965 were valued at $64.3 million of which $47.6 million were of domestic origin. Agriculture accounted for over $41 million of this latter figure, or 65% of total exports. Sugar-cane and its by-products contributed over $35 million. In the same year total imports into the island were valued at $116.3 million. Comparable figures for 1969 shows an import bill of $194.6 million as against relatively declining domestic export receipts of $57.4 million.

The above characteristics very closely approximate those identified by Demas (1965) as being typical of what he calls "small, open economies". The dominance of the export trade, and indeed of the entire economy, by a single product, the absence of a diversified resource base, and the narrowness of domestic markets are major aspects in point.

The Barbadian economy also exhibits other equally 'typical' characteristics of small, open economies. Barbados, like its other Caribbean neighbours, relies heavily on foreign capital inflow to sustain its economy and to finance its development. Thus in 1960 foreign capital made up 49% of total capital formation, while domestic sources contributed only 13.8%. Comparable figures for Jamaica and Trinidad were 30% and 23%, and 34% and 30% respectively (Demas, op. cit.). This substantial reliance on foreign capital for the development of manufacturing industries and agriculture, both geared to export, has created an appreciable gap between the gross domestic product and the total national income, since little of this 'foreign' capital forms part of the national income. In an effort to stimulate development, particularly in manufacturing and tourism, liberal tax - holidays and other fiscal concessions are offered as incentives to foreign enterprises. This policy, together with the availability of consumer-credit facilities and the foreign control of banking institutions, provides an available mechanism for the export of domestic savings.

The economy of Barbados, and of the West Indian territories in general, thus displays the basic characteristics of small, open economies. Additionally they exhibit other 'underdeveloped' features peculiar to themselves. These include the peasant-plantation dichotomy mentioned above, and a high-cost export agriculture protected by preferential arrangements in the British and some other Commonwealth markets.

Problems and Propositions

As early as 1938, the government of Barbados initiated measures to diversify local agricultural production and to reduce the previously high cost of food imports. The tone of concern permeating recent pronouncements on the state of the Barbadian agriculture in general, and peasant agriculture in particular,[1] and the fact that food imports are still the largest single item on the import bill (Table 5), suggest the existence of a definite problem in this sector of the economy. For not only is the economy still predominantly mono-crop and export-oriented, but the value of food imports has risen appreciably since 1938. The immediate problem here, therefore, seems to be (i) a lack of response on the part of the farmers to government attempts aimed at increasing local food production, and (ii) an associated failure to achieve any noticeable success in diversification and import substitution. This initial conclusion raises the basic question: Why have these measures failed? And it is the answer to this that will expose the basic problem.

A close examination of what is now locally referred to as the Diversification Programme[2] reveals clearly defined goals

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[1] These statements include official ones appearing in Barbados Economic Survey, (1969), B'dos Devel. Plan 1969-72, in speeches made by government officials, and observations by Persaud, (1968), Ingersent, (1969) and others.

[2] See Chapter 3 below.

and a genuine endeavour to achieve these. These plans all seem to be allied to, if not based upon, the concept of 'balanced growth', according to which growth in the agricultural and industrial sectors are closely related and interdependent. The increase in local food production to offset heavy food imports, the creation, where possible, of an export trade in food items in order to generate local capital and acquire foreign exchange, and the development of industries initially based on agriculture - these are all sound, logical steps in the development of an agriculturally - based economy. Obviously, then, the weakness does not lie in the practicability of the plans; nor can the failure be blamed on the applicability of the objectives to the indigenous economy; nor for that matter, can it be said that the goals are unrealistic. Rather, it is proposed here that the failure of the diversification, and import substitution programme can be traced directly to a conflict of realities due to deficient linkages between the planner and the cultivator.

This conflict of realities exists due to a mutual unawareness of individual objectives rather than as a result of a clash of objectives. It is argued, for example, that the government planners and the local farmers are more insufficiently aware of, than antagonistic to, each others objectives. In order to achieve meaningful change, the planner - or change agent system - must first formulate a programme of clearly defined goals and methods of achieving these. This programme of action must be based not only on the reality of what the planner sees in the landscape and considers best for the community, but also on the

reality of the farmers' - or target system's - perception, experience and aspirations. The most effective and meaningful programme of change can best be formulated on the basis of a valuable and productive exchange of information and ideas between the two systems of planners and peasants, relevant to their respective realities and objectives.

The link to effect this exchange is critical and where it is missing a conflict of realities is inevitable. Thus it is submitted here, that, in the Barbadian context, this critical link is missing and that, consequently, the two actors in the drama are, to a large extent, insufficiently aware of each other's concept of reality. This state of affairs not only precludes a unified approach to the problem of agricultural growth but effectively stifles the development of conditions favourable to an effective response from the cultivators. It is further proposed that this critical link can be effectively provided within the context of available resources.

Objectives and Methods

The objectives of this study are four-fold. An attempt will first be made to analyse the system of agricultural planning in Barbados as it relates to the peasant farmer, and secondly, to determine the degree to which this system has been successful. Thirdly, the writer will attempt to identify the causes for the degree of success achieved, and finally to formulate meaningful

proposals for further change and improvement. The writer, therefore, does not offer or attempt to offer a development programme as such, but rather suggests a mechanism for implementing existing realistic plans, and any subsequent changes to be introduced.

To accomplish these objectives, an historical review of agricultural planning on the island will be undertaken, as well as an examination of existing plans in this area. With the aid of official statistical data, an assessment of changes and developments over the past thirty years will be made; and existing publications and data obtained from field studies will be used to identify the reasons behind these developments. An examination will also be made of the role, duties and responsibilities of the Extension Service, and an assessment of the potentialities of the Extension Officer will be offered. From a personal and original synthesis of this information, some, hopefully workable, proposals will be offered.

The programme to develop agriculture is, of necessity, somewhat comprehensive, and is concerned particularly with root crops, vegetables, poultry and dairying. The length of this paper and the paucity of information on the latter two aspects, has required the writer to limit the scope of his analysis to vegetables and root crops - herein referred to collectively as 'food crops'. The time factor and the scope of the thesis also influenced the choice of study area[1] (See Location Map). The

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[1] For a full discussion of the sampling framework employed and the resultant biases, see page 114.

area, which to some extent ignores political divisions, was chosen because it represents one of the six agricultural sections into which the island is divided on the basis of the Extension Services. The choice was also influenced by the writer's research activities there, sponsored by McGill University's Caribbean Project. (Figs. 9,10).

The decision was made to choose a small, select area for intensive study as opposed to undertaking a more superficial study of a larger region. This choice is significent in that it allows a detailed analysis of local phenomena and of variations in detail, both of which can form the basis for meaningful comparison with other intensively studied areas, and with the larger region in general. The areal extent of Barbados does not allow for the existence of major variations in physical, social or economic details, (p. 111). There is, therefore, nothing particularly distinctive about the area chosen for intensive study, and the absence of any significant related variations over the island permits the details present in this area to be regarded as 'typical' of national conditions. Thus the conclusions reached here can be applied to the Barbadian peasantry and economy as a whole.

During the course of the fieldwork for this study, three general sets of interviews were undertaken to generate information on (i) the nature of peasant farming and the reaction of the farming community to government programmes, (ii) the official attitude to, and assessment of peasant farming current in related govern-

ment circles, and (iii) the preparation and orientation of students as the imminent members of the national labour force.

To these ends, interviews were held with farmers themselves, government officials and educational personnel. The government officials contacted included representatives from the Ministry of Agriculture, Science and Technology and the Ministry of Education. Representatives from the Agricultural Credit Bank and the Marketing Corporation were also interviewed. Teachers and students in primary and secondary schools were also approached for their contribution to an objective understanding of the local situation. Finally, written sources, such as, government reports, pamphlets, plans and statistics were generously consulted.

These sources, individually and collectively, have provided a wealth of information which, it is felt, goes a long way towards providing a realistic appraisal of local conditions and laying the groundwork for an objective analysis.

Antecedents

Most historians, (Burns, 1937; Parry & Sherlock, 1960; Ragatz, 1963; Newton, 1963), in their preoccupation with the plantation system, have given only passing reference to the West Indian peasantry as a separate sector of the population. These writers, too, treated the history of the Caribbean territories more from a regional standpoint than on an individual territorial basis. Schomburgk's The History of Barbados,(1848), Harlow's

A History of Barbados, 1626-1685 (1926), Eisner's Jamaica 1830-1930 (1961), and Wood's Trinidad in Transition (1968), are some notable exceptions to this general trend.

The first studies of the West Indian peasantry were undertaken more through studies of individual societies,[1] though some general studies of 'Caribbean' societies have more recently been published (Mintz, S., 1956 and 1961; Horowitz, M., 1970). Most of these anthropological studies have, until recently, primarily concerned themselves with the socio-cultural aspects of family structure, kinship and class.[2] The first meaningful studies of the Barbadian peasantry was similarly oriented (Greenfield, 1959 and 1966). But much of the subsequent analyses have proceeded in a largely economic vein (Spence, E., 1964; Handler, J., 1965, (a), 1965 (b) and 1966). Persaud (1968), Ingersent et al. (1969), and Nurse, (1970) have recently added to a fledging library of economic studies on local peasant activities. Prior to all these relatively recent works, the studies by Skeete: The Conditions of Peasant Agriculture in Barbados (1930), and Halcrow and Cave: Peasant Agriculture in Barbados (1945), have formed the basic

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[1] See for example Herskovitz, M. & F.: A Trinidad Village, New York, 1947; Clarke, Edith: My Mother Who Fathered Me, London, 1957; Smith, R.T., 1957.

[2] In addition to the above references, see also Smith, M. G.: Plural Society in the British West Indies, University of California Press, 1965; Braithwaite, L.: Social Stratification in Trinidad, Social and Economic Studies, Vol. 2, 1952.

sources of reference on the Barbadian peasant farmers.

It is probably under the label of geography that the Barbadian peasant has been most extensively and intensively studied, though these studies too are of recent vintage. Starkey's Economic Geography of Barbados (1939), though not primarily a study of the peasantry, is a monument to the geographical study of Barbados in many ways. For not only is it the first comprehensive geographical study of the island, but it offers an excellent review of the development of the economy, and has been, for some time, the only such study of the island. This work is essentially descriptive-explanatory in approach as is the more recent, very comprehensive historical-geographical dissertation by Innes: Plantation and Peasant Farming - a Vertical Theme in the Historical Geography of Barbados, (1967).

The analytical-problematic approach to the study of the Barbadian peasantry is of recent origin and is documented mainly in the following papers. Mbogua, J.P., in Peasant Agriculture in Barbados: A Sample Study, (1961), has adopted a socio-historical approach and identified the basic problems as: a shortage of land and capital, a defective land tenure system and poor marketing techniques. He offers a system of large scale production patterned on the Gezira Cotton Scheme in the Sudan as a solution to the problems, in preference to the subdivision of marginal estates or the imposition of co-operatives. Brack, D.M., in Peasant Agriculture in Barbados: A Case Study of a Rural System (1961), has submitted an agricultural-economic analysis of the

peasant system and concluded that, while the system is not as inefficient as is generally supposed, the main problems are underemployment and seasonal unemployment, an excessive dependence on the sugar industry and a lack of rational land use planning. He offers a tri-faceted solution embodying a redistribution of land to enlarge existing small holdings to a 'commercial' size, a relocation of the cultivation of given crops to areas selected on the basis of their optimum suitability for those crops, and a system of part-time tenancy on 'thrown out' estate land.

Oyelese, J.D., in The Cultivation of Food Crops in Barbados (1964), has examined agricultural production on both smallholdings and plantations, and suggested that the main problem relates to the under-utilization of the "... potentialities of different parts of the island for the cultivation of basic food requirements...". His suggestions for a solution include the integration of existing data to develop a pattern of land capability for crops. He also recommends that the acreage in sugar cane be reduced in favour of food crops, that improved methods of cultivation be utilized and that marketing and storage facilities be improved. J. Donoghue in Markets and Marketing in Barbados (1965), has concluded that the dominance of sugar-cane is one of the major constraints to the expansion of foodcrops. This dominance he attributes to a well-developed and efficient marketing system for the disposal of sugar-cane. He consequently proposes, as a priority, the need for an efficient marketing system for food

crops, a need which he felt could be realized in the formation of the Marketing Corporation. Of almost equal importance, he suggests, is an improved pattern of agricultural production based on diversification and a reduction in the acreage under sugar-cane.

These writers have all acknowledged the inadequacy of the local supply of foodstuffs and the existence of a large volume of food-imports; and these they attempted to explain in terms of the existing system and patterns of agricultural activity. Though cognizant of government attempts to develop the agricultural sector, these writers conceivably accepted these measures at face value and were confident of their success. This latter attitude is conveyed by both Brack, in terms of the Peasant Agricultural Instructors (now the Agricultural Extension Officers), and by Donoghue, with reference to the Marketing Corporation. Oyelese in a subsequent article (1966) examined one of these measures more closely and concluded that it has failed.[1]

In the present study, however, it is submitted that a more basic and fundamental explanation must be sought beneath the veneer of these essentially secondary causes. Oyelese concludes, for example that the plans have failed because their provision rendered them unacceptable to the farmers. The question being posed here is: Why were not more acceptable provisions included in the plan? Or stated differently, why were these 'unacceptable' provisions included? Special emphasis will be placed here on the mechanism by which these provisions were formulated, and the basis on which they were included in official planning policy.

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[1] This study is referred to in more detail in Chapter 3.

CHAPTER 2

BACKGROUND TO THE PROBLEM

(i) Introduction

(ii) Development of the Barbadian Peasantry

(iii) A History of Food Production in Barbados

(iv) Agricultural Planning in Barbados Prior to 1935

(v) SUMMARY

(i) Introduction

As sugar-cane has been the dominant crop on the island of Barbados since the early stages of colonization, so also have the plantations always been the dominant unit of production. The small plots occupied by the labourers, both as slaves and later as freemen, have only contributed in a minor way to total agricultural production. For the period prior to 1834, there is a total absence of specific data on the volume of small scale production; and after Emancipation, precise data on the peasantry have only been available since 1930. Thus, the historical development of the peasantry, or of food production and agricultural planning relative to the Barbadian peasant, can only be placed in true perspective against the background of the plantations and the fluctuations in the market and price for sugar. In fact, the existing attitude of plantations, and of the peasants, to the cultivation of food crops is predominantly rooted in the evolution of the agricultural system in Barbados. This historical review will further demonstrate the extent to which the local peasantry deviates from the classical model.

In this chapter, an attempt will be made to review briefly the historical background to the problem of food production on the island. The historical data in this chapter will cover the period up to about 1935. The first act of legislation marking active government involvement in agricultural planning in Barbados was introduced in 1936, and this date is used here as a convenient cut-off point for this historical survey.

(ii) Development of the Barbadian Peasantry

The island of Barbados, known to Europeans as early as 1536, was claimed for the British crown in 1605 by Captain John Powell. Permanent settlement, however, did not take place until 1625 with the arrival of a contingent of British colonists in the employ of Sir William Courteen. The colonization of the island was initiated against the background of heavy demands in Britain for tropical products; and the early settlers established small farms[1] along the fertile lowlands of the west coast on which they grew a variety of food crops for subsistence, and tobacco, cotton, ginger and indigo for export. Severe competition from the American colonies, however, soon depressed the price of Barbadian tobacco and cotton. Sugar-cane, introduced into the island from Brazil sometime during the first half of the 1630's (Starkey, op. cit.), proved considerably more profitable, and by 1640 came to dominate the Barbadian land-scape and economy, (Innes, 1970).

Under this new economic order, the purchase of animals and the erection of sugar-works required a scale of expenditure beyond the resources of the smaller operators or 'yeoman cultivators' (Mintz, 1961); and the wealthier planters seized every opportunity to buy out and incorporate these, (Shephard, 1945). Between 1645 and 1677, the number of landowners in Barbados decreased from about 11,200[2] to 745, most of the displaced farmers settling in other

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[1] MacInnes, C.M., 1935: An Introduction to the Economic History of the British Empire, as quoted in Innes, F.C., 1970.

[2] Innes (1970:9) infers that a figure of 8,300 proprietors would, in terms of colonial land grants policy at that time, be more realistic.

islands or in the American colonies, (MacPherson, J., 1963).

The initial labourers on the plantations were mainly indentured servants from the British Isles; and, later, convicts banished to the plantations as part or all of their sentence. The former, at the end of their contract, either returned home or settled locally on small farms of their own until, in the face of the pressures just mentioned, they were replaced by the larger operators. The latter, upon completion of their sentence, were granted similar though restricted privileges. By the middle of the century, however, these supplies of labour had dwindled considerably; and the triangle of trade centred on Britain, West Africa and the Caribbean was developed to provide a supply of African slave labour for the plantations. These unwilling immigrants were destined to evolve as a distinctive class of peasants in Barbados - and in the West Indies as a whole.

Prior to the Emancipation Act of 1833, the labourers existed in both physical and economic bondage. But though they were paid no wages, the planters in many cases allowed them small plots or 'provision grounds' on which to plant crops for their own use and for sale in the Sunday market (see p.58 below). This practice, according to Shephard (op. cit.:53), was probably initiated in an attempt to maintain the productive utilization of the slave-labour in the face of the seasonal labour requirement of sugar. The plantations, too, carried the responsibility for feeding and housing the slaves; but the planters realized that by allocating them land for the purpose of growing foodcrops and keeping some poultry and small animals, plantation expenditure on rations for the slaves would be signifi-

cantly reduced. These two factors seem to have been dominant in the introduction and growth of the phenomenon of 'provision grounds'.

No data is available on the numbers, area or production of these small plots occupied by the labourers (Ibid:64), but the amount of land seems to have varied with plantation and from island to island.[1] In the flatter and more densely settled islands, like Antigua and Barbados, very limited amounts of land were available; whereas, the more rugged and more sparsely settled territories, like Jamaica, St. Lucia and Dominica, had more extensive areas available. In any event, this practice may be considered as the real beginning of small-scale or peasant farming in Barbados and throughout the Caribbean, though these first operators were all landless labourers. Through these private farming activities, some of the slaves accumulated enough savings to purchase their own freedom. Others, by their work and conduct, and through the benevolence of their masters, 'earned' theirs. These 'freedmen', however, constituted a very small group who, apparently, drifted into the town to become artisans and craftsmen (Innes, 1967), and thus did not constitute a real peasant class.

Under slavery, too, alternative forms of employment were non-existent, as was economic freedom in any form. For the slaves, therefore, physical freedom was the first and only attainable objective. In the larger territories of Jamaica and Guiana, a measure of success was achieved in this respect by the 'Maroons' and the 'Bush Negroes' respectively. These discontented slaves who managed to

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[1] Mathieson (1926:66) mentions a size of half-an-acre but makes no attempt to qualify this in terms of these spatial variations.

escape into the rugged, forested interior, established for themselves independent settlements and an agricultural system producing their own food supplies.[1] These communities constituted what Mintz (1961) calls the 'proto-peasants'. In the smaller territories like Barbados, where little forested or wooded areas remained, such escape was not possible; and it was only after 1837 that an identifiable landed peasantry began to develop in Barbados.

During the apprenticeship period (1833-37), the labourers continued to work for their former masters under the terms of a system which kept them financially enslaved (Paget, 1951; Parry & Sherbock, 1960). As 'apprentices' they were required to give forty hours of free labour on the plantation of their former owners, (Mathieson, op. cit., Augier et al., 1960). For the remaining twelve or fourteen hours of the normal work-week, they received wages in cash[2] generally. With the change of status from slaves to wage-labourers, the workers forfeited any claims to the cottage or provision grounds they had previously occupied (Shephard, op. cit.). These they could now occupy only at the discretion of their employer who was no longer directly responsible for the welfare of the workers.

However, in an attempt to secure for themselves an adequate and available supply of labour, many planters allowed the workers to retain occupancy of these plots and cottages, or of similar ones

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[1] The Bush Negroes, however, frequently raided neighbouring plantations to supplement their supplies.

[2] For a discussion of the problems of labour and wages immediately following Emancipation, the reader is referred to Eisner, op. cit.:189ff; Mathieson, op. cit.:306ff.

elsewhere on the plantation as a part of their wages.[1] On other plantations, the workers were paid full wages and assessed a rental fee for the retention of the provision grounds and cottage. The threat of eviction from these holdings and the spectre of increased rents were wielded by the planters to intimidate and control the workers (Mathieson, op. cit.; Eisner, op. cit.). On many plantations, too, the rents charged were higher than the wages received (Mathieson, op. cit.), a practice which kept the workers perpetually in debt to the planters.

The attitude of the planters was conditioned by the fear that, upon termination of the apprenticeship period, a mass exodus from the plantations would materialize, (Wood, 1968). This fear was not at all justified for, as noted above, no alternative forms of employment were available and few of the freed labourers had shown any desire to go into independent farming. Moreover, in Barbados, where unoccupied or public lands were in short supply, the workers would have nowhere to establish truly independent settlements. As it was, however, the planter-class did not wait to observe the natural evolution of the change-over, and the anticipatory steps noted above were taken to retain some control over the work patterns of the emancipated labour force.

With the advent of Emancipation, a limited mobility developed as workers drifted to other plantations to avoid harsh management or, more particularly, in response to higher wages - especially at harvest

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[1] Truman, G., 1844: Narrative of a visit to the West Indies in 1840 and 1841, as quoted in Innes, 1967.

time. This they did while retaining access to the house and the plot on the former plantation. This mobility temporarily robbed the original plantation of its labour supply when it was most needed. And it was to rectify such a situation in Barbados that a series of laws were passed which became the basis for what came to be locally known as the 'located labour' system.[1] Under these laws, the labourers were compelled to work for five days of the week and for an agreed wage on the plantations on which they occupied a house and/or a plot of land, (Innes, 1967). The Barbadian peasantry in the mid-nineteenth century thus consisted almost entirely of these 'located' peasant villages.

From 1850 onwards, the growth of the peasantry and of peasant villages was a function of external circumstances, occurring in inverse relationship to the prosperity of sugar-cane on the world market, and in direct relation to the volume of migrant labour abroad. The extensive acreages of the plantations, it was noted, created a shortage of unoccupied or public lands available for settlement. When the price of sugar fell on the world market, however, tracts of land became available for sale and thus for peasant settlement. The economic repercussions of these price fluctuations forced the less viable plantations to subdivide and sell off their less productive acreage. Three such 'crashes' in the sugar market occurred in the 1870's, the 1890's and the 1920's, and it was during these periods generally that some expansion occurred in the size of the peasantry (Starkey, op. cit.; Innes, 1967). Consequent on the first

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[1] Due to its increasing unpopularity the system was finally abolished in 1937.

two of these price fluctuations, the increase noted in the number of peasant holdings was not as substantial as that recorded after the last date. This was apparently due to the inability of the labourers to pay the high prices at which the plots were offered at that time.

By the end of the century, however, a heavy volume of emigration occurred in response to the opportunities offered abroad by the Panama Canal and other projects. Substantial remittances from work on these projects, together with somewhat lower land prices as a result of lower sugar prices, enabled residents to purchase plots on more satisfactory terms. In 1897, too, a Royal Commission had encouraged the establishment of small-holdings on the grounds that:-

> "... no reform affords so good a prospect for the permanent welfare in the future of the West Indies as the settlement of the labouring population on the land as small peasant proprietors; and in many places this is the only means by which the population can in future be supported..."[1]

Statistics on the peasantry for this period, as noted above, are scarce and where they do exist are largely estimates. The Department of Agriculture in 1915, however, recorded a peasant farmer population of some 14,000 (Table 4), a fourfold increase over the previous sixty years. In 1921, a major crisis occurred in the sugar industry when the price of sugar fell from 146 shillings per hundred-weight to a mere twenty-five shillings (Starkey op. cit.: 133). This crash, coupled with local epidemics of typhoid, dysentry

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[1] Report of the Royal Commission on the West Indies, London, 1898, p. 116.

TABLE 4 GROWTH OF THE BARBADIAN PEASANTRY, 1840-1961

YEAR	NO. OF HOLDINGS	ACREAGE	REMARKS
1840	1,307		Legally owned peasant holdings
1851	3,537		Peasant holdings in free-hold ownership.
1915	14,000		Holdings under 5 acres
1929	18,002	13,943	Holdings under 10 acres, of which 13,899 were less than one acre.
1935	18,039	13,849	Holdings under 10 acres.
1942	18,805	19,228	Holdings under 10 acres, of which 14,000 were less than one acre.
1946	30,752	17,283	Holdings under 10 acres, of which 26,360 were less than one acre.
1961	27,626	12,548	Holdings under 10 acres, of which 23,752 were less than one acre.

SOURCE: Prescott, C.: "The Barbadian Peasant Sector - A Problem." B.A. Thesis, McGill University, 1967.

and malaria, precipitated the break-up of many estates which were sold off as small holdings (Innes, 1967). Thus Skeete, writing in 1930, reported a significant increase in the small-farmer population since 1915. That over two-thirds of the total number of holdings were less than one acre indicates at this early stage the universality of undersized holdings.

A phenomenal increase in peasant holdings occurred between 1941 and 1946, and this is explained largely in terms of an unusual volume of migratory labour to the United States. To meet the demands imposed by the war, substantial yearly quotas of workers were recruited on contract to work on farms and in war-related industries. Remittances from these residents, and their subsequent return, helped to swell the ranks of the landed peasantry, (Prescott, 1967). Migration to the oilfields of Curaçao and Aruba, to a lesser extent, also contributed to the increased purchases of peasant plots. Since 1946, no noticeable increase in the smallholder population has been recorded; and, in fact, the 1961 census shows some decrease, (Hills, op. cit.).

The establishment of peasant villages was an attempt to achieve a measure of freedom from physical and economic slavery. Effective physical separation from the plantation required that the slave earn his own living. In the absence of alternative forms of employment, he had no choice but to plant his own food crops and raise his own animals, and such an undertaking required a piece of land. Similarly, in order to escape the economic tyranny of the planters, the labourer had to be free to offer his services at his own discretion without fear of reprisal. To achieve this bargaining position, he had to produce his own food and build his own house

on land not belonging to the plantation. The acquisition of land and the establishment of peasant villages, therefore, were the means by which the ultimate end was sought; for to own a plot of land guaranteed the workers freedom from eviction, an independent supply of food, and the liberty to work at the time and place of their own choosing (Paget, op. cit.: Wood, op. cit.).

This freedom, however, was to a large extent only nominal. The labourers, idealizing the habits and customs of the planter-class, had developed a taste in clothing and in imported foods and drinks which could only be satisfied through cash purchases from the plantation stores (Farley, R., 1953; Hall, D., 1959: Eisner, G., 1961). Paid labour on the plantation gave these labourers the only employment opportunity offering ready cash, and this situation effectively bound them to the plantations. Gradually, however, the villages evolved into compact socio-cultural and economic sub-systems with certain specific functions. They became, for example, centres of religious activity and miniature trade centres replacing the business of the plantation stores (Hall, op. cit.; Smith, R.T., in Lewis & Mathews, 1967). These communities were never, however, bounded economic units, for most of their produce and labour were sold outside the village and most of the capital and consumable goods were externally derived.

The Barbadian peasantry, therefore, has evolved from an entirely non-indigenous population, forcibly transplanted from its original habitat. For two centuries this population existed as enslaved landless labourers, and only within the last hundred years has an

identifiable landed peasantry emerged. To a large extent, this peasant community has been characterized by a continuing dependence on the higher culture of the landed aristocracy. This dependency has perpetuated their condition of economic subservience to the controlling elite. Recently, however, the depth and extent of formal education has improved the frequency and level of contact between these social groups.

(iii) A History of Food Production in Barbados

The first colonists relied partly on local supplies of wild plants and fruits, and partly on supplies of food imported from metropolitan Britain (Starkey, op. cit.; Oyelese, 1966). Soon after their arrival, however, Captain John Powell, through personal acquaintance with the governor of the Dutch Colony of Guiana, visited that colony to obtain additional supplies. On this voyage, arrangements were made to have about forty Arawak Indians come to Barbados, in exchange for free land, to instruct the colonists in tropical agriculture, (Harlow, 1926), and the plantations were soon producing supplies of cassava, sweet potatoes, maize and yams, as well as non-food crops. The early colonists thus established a measure of self-sufficiency to off-set the potential dangers of uncertain 'home' supplies, (Starkey, op. cit.).

Local food production, however, was not totally adequate, as cotton and tobacco enjoyed pride of place and of space. Thus even

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[1] The Arawaks were subsequently betrayed and enslaved, (Ibid.:6).

at this early stage the population was:-

> "... dependent on the Dutch and other strangers for their provisions."
> (Harlow, op. cit.:23)

In response to an order in Council in 1631, the acreage in tobacco was drastically restricted and more emphasis was placed on the production of food crops. During the period of the English Civil War, however, these guidelines fall into abeyance; and, temporarily free from strict British control, the island resumed a flourishing trade with the Dutch.

With the aid of the Dutch, too, Barbados shifted almost exclusively to the cultivation of sugar-cane, and became one of the major sugar-producing colonies in the New World, (Ibid.). Thus in 1650, on a plantation of 510 acres, two-thirds of the arable land were in sugar-cane and only one-quarter was planted in food crops, (Starkey, op. cit.:61). Food crops of cassava and peas were still produced and some fruits such as oranges, lemons, figs and plantains were still grown, but the island remained dependent on imported foodstuffs (Ibid.).

A busy and lucrative trade with the New England colonies provided most of the imported food. The staple diet of the indentured servants and the slaves consisted of cassava, peas, potatoes and fish, and much of this was locally produced by the workers themselves. Thus, a significant portion of the imports consisted of exotic foods and drinks preferred by the planter aristocracy (Harlow, op. cit.:268ff). The demand for food multiplied with the expansion of sugar-cane and the growth of the white and slave population - a situation which further exaggerated an already precarious dependence

on imported provisions. This general situation remained unaltered for the next hundred years, for in 1750, local supplies of potatoes, yams, plantains and maize were still cultivated predominantly on the provision grounds worked by slaves.[1]

As stated previously, these latter activities by the slaves were very much in the interest of the planters themselves since it reduced their direct responsibility for the welfare of the workers. Some surplus produce was evidently realized from these plots, (Mathieson, op. cit.:72), and the slaves were allowed to dispose of this on Sundays, (Hall, op. cit.:19). A local marketing system was soon developed on the basis of these activities. Despite the absence of specific data it seems safe to assume that some of the produce was exchanged with slaves from other plantations on the island. But the fact that cash featured in the transactions (Mathieson, op. cit.), suggests that wage-workers were also involved. It seems safe to assume too that some of these 'salaried' workers were freedmen or ex-slaves who had drifted into the cities (p.47).

The White urban population probably also featured in this market, for the early colonists had cultivated typical tropical food crops,[2] and had, in all probability, developed a taste for these. Furthermore, in the days of sailing ships and the absence of refrigeration, supplies of fresh vegetables had to be locally

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[1] Hughes, Rev. C., 1750: "The Natural History of Barbados in Ten Books" as quoted by Innes, 1967.

[2] See pp. 46,56.

obtained. A contemporary account of Barbados noted that the slaves:-

> "... are at liberty to take the whole of their own private stock to market and to procure whatever additional comforts they prefer with the money it produces; and ... the markets of the island depend almost wholly upon this mode of supply..."
> (Pinckard, 1806:369)

And Mathieson, describing conditions typical of the islands at that time, has noted that:-

> "... Still more significant is the fact that the town population ... was supplied almost exclusively by the negroes with vegetables, fruits, and poultry..."
> (op. cit.:72)

Both these statements suggest that the entire urban population, including the Whites, was part of this market for local peasant produce.

The generally heavy dependence on foreign food supplies, however, rendered the island vulnerable to any trading restrictions occasioned by hostilities between the colonial powers. Thus the pressures and uncertainties of the wars between 1756 and 1814 were constant and unpleasant reminders of the critical problem of inadequate local food production. During these crises, additional acres were planted in food crops (Starkey, op. cit.), but the emphasis declined as soon as the hostilities were ended.

Throughout these periods, the slaves maintained their plots of ground provisions and vegetables and were thus, to some extent, self-sufficient. During times of crisis, therefore, the plantations to a large extent accounted for the additional acreage in food crops. Prior to Emancipation, the plantations devoted part of their land to food-crops mainly to supplement the produce of the workers and to feed the live-

stock. Emancipation, however, freed the planters from the former responsibility (Oyelese:1966), and though they did not totally abandon the production of food crops, they now had less incentive to produce them. The cultivation of food crops was thus from an early stage, more closely identified with the small farmers. The workers also maintained a small 'garden' near to their cottages in which they planted a wide variety of vegetables (Innes, 1967). However, these methods and scale of cultivation could, in any case, generate only a limited volume of production.

The trade disturbances of the late nineteenth century, occasioned by the rise of European beet-sugar and the expansion of Cuban and Puerto Rican sugar output, precipitated a general search for alternative sources of income. The work opportunities offered by projects in Panama, Brazil, Venezuela and Cuba greatly assisted the workers in this search. Increased local exports of molasses and cotton were beneficial mainly to the large planters. At this time, too, the farming community in general expressed renewed interest in food production with the prospect of an export trade in bananas and green vegetables to Canada and the United Kingdom (Starkey, op. cit.:139). This venture, however, does not appear to have been very successful.

The war of 1914-18 again disrupted the flow of imported food-stuffs, and legislation was passed to enforce the production of food crops on the plantations in particular. The war, however, had its beneficial after-effects - on the plantations at least. For the destruction of the sugar-beet fields in Europe led to a period of

of outstanding prosperity for local sugar producers. This boom in the sugar trade, however, encouraged the extension of that crop at the expense of local food crops - a situation which persisted until the great crash in the sugar market in 1921 (see p. 52 above). Consequent on this crisis, many estates were broken up and sold off in small acreages to residents who had accumulated sufficient savings, and to workers returning from overseas. These new peasants, too, planted an adequate amount of food crops for their personal use, but engaged in the production of sugar-cane as a major farming activity, (Oyelese, 1966:60).

The local production of food crops has thus always been a major private activity of the plantation workers; and the indications (pp. 47,59) are that the output from the plantation merely supplemented that of the workers. This is particularly apparent during the post-emancipation era when, in an attempt to achieve a measure of economic mobility, the peasants had to produce a maximum of their own food requirements - an objective they achieved without any great difficulty. This undertaking probably explains the large variety of vegetables and food crops, interplanted in the 'gardens' near peasant houses and between the growing sugar-cane.

The small acreage devoted to food crops, however, and the simple technology employed by the peasant farmers, effectively limited the size of their potential output. The local food-supply situation has consequently deteriorated rapidly against the background of population increase in general, (Fig. 6), and of an expanding urban proletariat, in particular. The more recent growth of the tourist industry, unmatched by any significant development

in the local food-producing sector, has further aggravated an excessive dependence on imported food supplies.

(iv) Agricultural Planning in Barbados Prior to 1935

The colonization of Barbados was initiated in response to heavy demands in Britain for certain tropical products. Of these, cotton, tobacco and indigo, in particular, proved to be ideal under local conditions; and the financial returns made it justifiable to devote near total acreage to these crops and to import most of the necessary foodstuffs. The British government, however, was of the opinion that:-

> "... the young colony must be made strong and self-sufficient for its own sake in order that it might best contribute to the strength and self sufficiency of the Empire as a whole."
>
> (Harlow, op. cit.:24)

The Order in Council of 1631, with its immediate aftermath, was a direct consequence of this opinion (p. 57).

During recurrent periods of crisis, official exhortations were issued in an effort to increase the production of food crops; but apparently no specific plans or legislation were formulated. The sustained pressures and uncertainties during the wars of the latter half of the eighteenth century, however, exposed the precariousness of an excessive dependence on the importation of food supplies. During the Napoleonic Wars, the gravity of the situation evoked a personal plea from the Governor for an increased supply of locally produced foodstuffs. The shortage of supplies became so

acute that bounties were offered to those captains willing to run the virtual blockade of the island by the French navy in order to land foodstuffs on the island.[1] About this time, too, the first Agricultural Society was formed, devoting much of its attention to crop rotation and land utilization. This Society was probably founded by and operated in the interest of the plantation owners. In any event, the emphasis on food crops again declined after hostilities ceased.

Official interest in and concern for the production of food crops was next registered in response to the trade disturbances of the late nineteenth century. The strength of the European beet-sugar industry and the entry of Cuban and Puerto Rican sugar onto the world market, seriously affected the price of sugar from the British Colonies. And, true to form, renewed interest was expressed in the local production of foodstuffs. The activities of the Department of Agriculture were begun about 1884; and by 1897, a programme had been formulated, under Sir Daniel Morris, to encourage crop diversification in the face of keen competition from European beet-sugar.[2] No indication is given of the degree of success attained by this venture, but the trading restrictions imposed by the First World War again seriously affected the availability of foodstuffs to the extent that legislative

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[1] Schomburgk, R.H., 1848: "The History of Barbados", as quoted in Starkey, op. cit.

[2] From an article: "More Food from Barbadian Land and Sea" in The Bajan and South Caribbean, Volume 10, July 1963.

action was forthcoming to deal with the situation, suggesting that the previous venture was less than a total success.

In an attempt to redress this imbalance between locally-produced and imported food supplies, the Vegetable Produce Act was passed in 1916 (Starkey, op. cit.:133). Under the terms of this Act, an appointed committee stipulated the acreage to be planted in food crops, and specified the procedures for the planting, reaping and marketing of produce. For a while, conditions improved as local food production increased. But rapid deterioration again set in as soon as the emergency was lifted; and, as a result of the opportunities offered by the post-war shortage of sugar on the European market, the acreage in food crops again declined considerably. When next official action was taken in the field of agricultural production, in response to other external factors, it marked the beginning of a sustained attempt to improve local agriculture.

(v) Summary

The Barbadian and West Indian peasantry has evolved from an alien, enslaved and landless workforce - and is only recognizable as a real landed peasantry since Emancipation. This segment of the population has always existed in a close symbiotic relationship with the plantations - a status which has not significantly changed over time. The peasants still provide the core of the plantation labour-force; they still obtain supplies from the estates for direct consumption and for private farming; and they

still rely to some extent on the plantations for employment and for transporting their harvested sugar-cane to factories which are themselves owned by the plantations.

Recently, however, recognizable changes have appeared in this previously closely knit socio-economic relationship (see also p. 18). The transactions just mentioned, for example, have progressively been placed on a strictly business level involving more flow of cash and less hidden obligations. Alternative forms of employment in tourism, construction and industry have tended to make the workers less dependent on the estates for employment, and have consequently loosened the extent of direct control exerted by the plantations over the peasant sector. Remittances from relatives abroad have also contributed to the attainment of this element of freedom. These recent changes, however, have on the whole merely loosened, but not totally removed, the strength of plantation control.

Culturally, too, the Barbadian peasantry regards the cultural and social values of the planter-class as the accepted norms to be imitated. The sequel to plantation slave-society after emancipation was what R.T. Smith labels a creole society, differing only in degree rather than in structure from plantation society. This new society:-

> "... was rooted in the political and economic dominance of the metropolitan power ... and was integrated around the conception of the moral and cultural superiority of things English."
>
> (Smith, R.T., in Lewis & Mathews, 1967:234)

In this respect, the peasants are more directly influenced by the plantations and represent a subcultural group existing in a subordinate role to the dominant planter class.

The cultural dominance of the plantation profoundly affected the consumption habits of the workers both before and after emancipation. For, aware that what limited social mobility they could achieve depended in large measure on the extent to which they could assimilate the culture of the whites (Beckford, 1972:64), the workers indulged in extravagant displays and conspicious consumption. Such displays, however, seem to have been limited mainly to exotic clothing (Eisner, op. cit.:192; Mathieson, op. cit.:69ff), with only occasional indulgence in the 'luxury' of imported food and drink. Generally, the worker-population constituted a large stable market for locally produced foodstuffs.

In the early days of colonization, the trend towards imported provisions was initiated to make up a deficit in local production. Local production, in turn, was expanded to offset too heavy a dependency on imported supplies. This mutual interrelationship has persisted throughout the history of the area with changes only in the degree of interdependence. After the successful introduction of sugar-cane, for example, the planters found it economically advantageous to rely heavily on imported provisions and to devote their arable acreage to the production of this staple export. Under slavery and a thriving sugar industry, the economic circumstances had justified the exploitation of foreign food resources.

However, the abolition of slavery, and an expanding non-farm-

ing population, greatly expanded the local demand for foodstuffs, while the decreasing profitability of sugar removed the economic justification for heavy food imports. At the same time, however, the historical legacy of local food production had denied the small-farmer the acquisition of good, fertile land; and the system of 'provision grounds' had militated against the accumulation of knowledge and experience in the commercial production of food crops, and against the structural development of a local marketing system. After 1837, therefore, the small producers were faced with a growing demand for foodstuffs without having the wherewithal to satisfy this demand. Furthermore, acquisition of the intangible resources - knowledge and experience - is largely influenced by the other material factors: land and markets. And since little improvements have been noted in these areas in the hundred years since Emancipation, the overall situation in terms of local food production has been relatively static.

Historically, the working class itself has always produced a supply of food-crops, though for largely personal consumption. Some surplus was realized, however, thus generating a market exchange between the slaves themselves and with the urban population - the latter constituting a market which substantially expanded after Emancipation, as many ex-slaves migrated to the cities in search of semi-skilled and unskilled jobs (Wood, op. cit.). The general subsistence orientation of these farmers effectively limited the size of the potential market they could adequately supply. The part-time nature of these farming activities, too, and an unorganized weekly

market were inadequate to provide regular supplies of fresh vegetables. These inadequacies severely limited the ability of the small farmers to satisfy the growing demands of an expanding urban and non-farming population. Imported supplies have thus continued to feature prominently in local consumption, and have in fact increased in order to offset a growing deficit of local supplies.

The above factors - late entry to the landed class, a generally subsistence orientation, and the part-time nature of peasant farming - have not generated the mechanism for a local, organized marketing system. This in turn has contributed to the inability of the small farmers to satisfy local food demands. Like the plantations, these farmers devoted most of their lands to the cultivation of sugar-cane, partly because of favourable marketing facilities in this area, and partly because of the correspondingly limited facilities for foodstuffs. This situation has persisted unchanged well up to the present. Herein lies the roots of the current problem of food supplies in Barbados as exhibited in the heavy volume of imported foodstuffs.

In spite of the competition from other sugar producers in the tropics and in Europe, West Indian sugar continued for many decades to enjoy special favours under the umbrella of British protection and preferences. During the second half of the nineteenth century, however, under the terms of British mercantile policy, most of the protection was withdrawn, and the peasant farmers were seriously affected. Their farming operations were

largely geared to a subsistence level of production, and the absence of any considerable surplus restricted the internal flow of cash. Sugar-cane, as their major cash crop, provided most of this cash-flow. With the removal of protective tariffs, the small farmers found it difficult to meet financial obligations incurred through mortgages, buildings, fertilizer and other undertakings. These difficulties were compounded by the fact that many of the small farmers were only tenants, and others, though having purchased their plots, possessed no legal title to it. It was primarily to lend assistance to the smallholders on these two aspects of the problem that what may be considered the first step towards a diversification programme was launched.

Prior to 1935, no sustained effort had ever been undertaken to promote any major changes in the local cropping patterns. Sporadic interest, in response to the recurrent inconveniences of colonial wars and political disturbances, seems to have been the extent of official concern and involvement. Rapid population increase, however, and the partial removal of British protection for West Indian sugar, brought into sharp focus the inadequacy of locally-produced food supplies. The agricultural changes initiated in Barbados and examined in the next chapter are a local endeavour to introduce meaningful changes in a peasant economy and to mitigate the effects of an excessive dependency on imported food-supplies.

CHAPTER 3

PLANS FOR CHANGE

(i) Introduction

(ii) A General Assessment

(iii) The Agricultural Credit Bank

(iv) The Food Production Order

(v) The Barbados Marketing Corporation

(vi) Summary

(i) Introduction

Severe competition from other world producers, and the removal of British protective tariffs during the latter part of the 19th century, adversely affected the Barbadian sugar industry. The peasant farmers, operating on a very narrow margin of profit, were particularly hard hit by these external developments, and a high degree of indebtedness to plantation and other commercial stores was a major result. The local situation was further aggravated by the rising cost and volume of food imports. In 1935, for example, over 14% of the total imports consisted of foodstuffs, at a value of more than one million dollars.[1] At this time and in response to this situation, the first official step was taken to improve the lot of the small farmer and of small-scale farming. This date thus marks the beginning of sustained and increasing government intervention in the agricultural sector and its involvement in agricultural planning.

Three distinct measures have subsequently been adopted by the government to improve and diversify local agriculture in general. Only two of these, however, were specifically designed to benefit the small farmers. The first of these, the Peasants' Loan Act of 1936, was enacted, in response to the external circumstances of fluctuating sugar prices on the world market, in an attempt to develop an economically viable and legally secure body of peasant farmers. The second of these 'peasant-oriented'

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[1] Derived from West Indies and Caribbean Year Book, 1936.

measures was the creation of a marketing agency in 1961 to ensure the disposal of expected increases in local food production. The third step taken by the government in an effort to improve local agriculture was the formulation of the Food Production Order in 1938, designed to facilitate an increase in food crops.

This last, but chronologically second step was, like the first, initiated in response to external circumstances - in this instance, the potential trade disturbances associated with political tension in Europe. Unlike the first provision, however, this latter was aimed exclusively at the plantation sector. This measure is included here in the absence of any similar legislation for the peasant sector, and because it forms part of the general attempt to increase national food production. Since no part of those measures intended for the peasant sector has set specific goals for the quantity or type of foodcrops to be planted, this provision will be used here as an indication of official attitude to food production in general. And the reasons offered here for the response to this measure would be equally valid for any similarly formulated plan designed specifically for the peasant farmers.

These separate pieces of legislation were not, at the time of their enactment, conceived as part of a specific, integrated programme to diversify local agriculture. The first two of these measures, for example, were simply responses to external circumstances. The final provision was enacted at a time when national attention was being increasingly focused on the concepts of agricultural diversification and import substitution. These measures, with some modifications

and additions, have now been included in what is locally known as the Diversification Programme. The basic changes envisioned in the diversification programme are theoretically feasible on the basis of both the general characteristics of the peasantry (p. 18), and recent developments within the peasant sector (p. 65). As noted above, alternative forms of employment and additional sources of income have given the peasant a degree of economic freedom from plantation dominance not previously enjoyed. This new freedom offers the peasant farmer both the opportunity and the initial capital resources to take advantage of new economic opportunities. The rising costs of sugar production, too, have adversely affected the limited financial resources of the small farmers; and involvement in the food-producing activities appears to them to be a more rewarding form of investment (See page 129).

The economic orientation of the Barbadian farmer, too, and his traditional involvement in a money economy, enable him to exploit the new economic opportunities. This, generally speaking, growing economic awareness among the smallholders, however, requires for full expression available sources of adequate capital for investment and a ready market for their produce. These inputs the government has itself offered to provide. Before detailing the specifics of these offers, the writer will undertake a general assessment of the measures in their entirety.

TABLE 5. BARBADOS OVERSEAS TRADE - IMPORTS

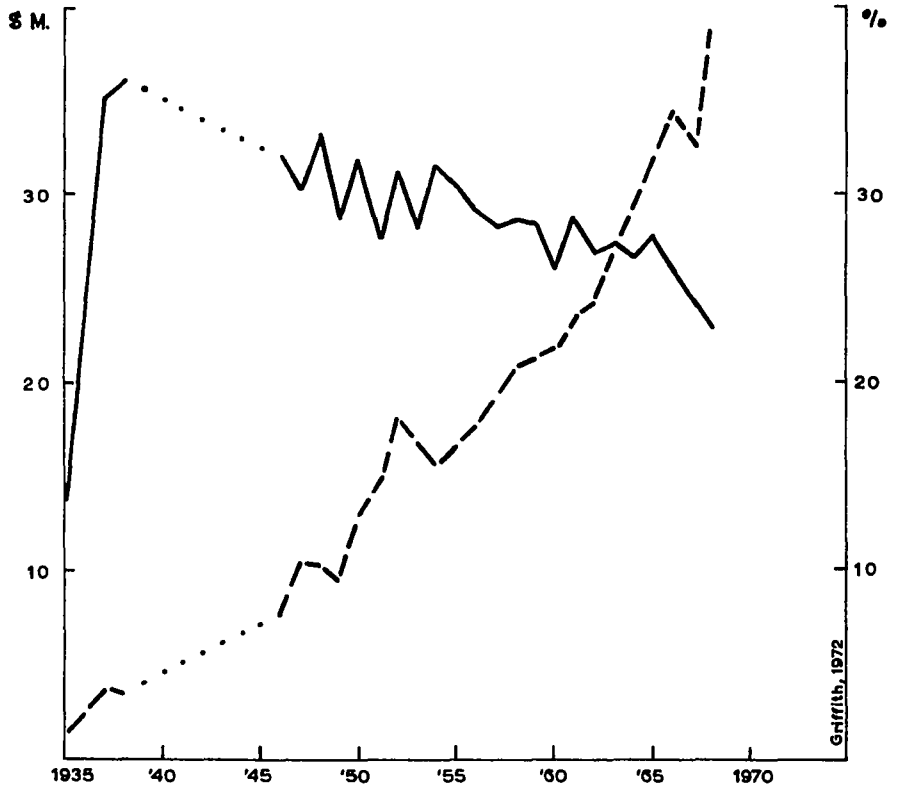
$M

YEAR	FOOD & DRINK	RAW MATERIALS	MANUFACTURED ARTICLES	OTHER[1]	TOTAL	FOOD AS % OF TOTAL
1935	1.2	-	-		8.6	14.0
1938	3.6	0.8	5.3	0.3	10.0	36.0
1946	7.7	3.0	12.6	0.7	24.0	32.1
1950	12.3	4.0	20.9	1.5	38.7	31.7

	FOOD	BEVERAGE & TOBACCO	MANUFACTURED GOODS	MACHINERY			
1955	16.8	1.4	13.0	6.5	17.6	55.3	30.5
1960	21.9	2.2	18.4	15.2	25.6	83.3	26.3
1965	31.9	2.1	23.2	18.9	40.2	116.3	27.4
1968	38.6	3.3	31.5	35.1	59.6	168.1	23.0
1969[2]	(9.5)	(1.1)	(7.7)	(8.1)	(14.8)	(41.2)	(23.1)

(1) "other" includes mineral oils, chemicals and miscellaneous items.
(2) Figures are for the first quarter of the year only.
SOURCES: West Indies and Caribbean Year Book, 1936; Abstract of Statistics No. 5, 1965; Annual Overseas Trade Report 1968; Quarterly Overseas Trade Report, June, 1969.

FIG. 5. TRENDS IN BARBADIAN FOOD-IMPORTS, 1935-1970.



— — — Value of Food-imports

——— Percentage of total imports

· · · · No figures available

Data: Abstract of Statistics, No. 5, 1965.
Economic Survey, 1970.

(ii) A General Assessment

In 1935, the total imports into Barbados were valued at $8.6 million. Of this total, about $1.2 million - or 14% - were spent on foodstuffs. According to the trade report for 1965, total imports were $116.3 million, and the value of the foodstuffs was $31.9 million or 27.4% (Table 5). Thus during the thirty-year period since 1935, the value of food imports has increased from $1.2 million to nearly $32 million, and their relative share of total imports has doubled.

A careful examination of the data presented in the table and plotted on Figure 5 reveals an accelerated rate of increase in the value of foodstuffs imported into the island. In the ten years following 1935, food imports increased by less than seven million dollars; and between 1946 and 1955, about nine million dollars more were being spent on imported foods. By 1965, however, food imports were costing an additional fifteen million dollars, and had risen by ten million over the previous five years. In the three years since 1965, an increase of over six million dollars had been recorded. In 1935, the estimated Barbadian population of 184,000 was, on a per capita basis, consuming less than seven dollars' worth of imported foodstuffs. With an estimated population of 245,000 in 1965, per capita food imports have soared to $130. Comparable figures for Trinidad and Tobago and for Jamaica are $107. and $68. respectively.[1]

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[1] These values are derived from the West Indies and Caribbean Yearbook, 1936,1966. The latter value for Barbados is actually

TABLE 6. RELATIVE VALUE OF IMPORTS (%) 1954-1968

YEAR	FOOD	Beverages & Tobacco	Raw Materials	Mineral Oils	Other Oils and Fats	Chemicals	Manu-factures	Machinery & Vehicles	Misc. Manu-factures	Misc. Trans-actions	TOTAL %	TOTAL VALUE ($000)
1954	31.4	2.6	7.0	5.0	2.3	8.0	20.5	11.5	6.9	4.8	100	48,763
1956	29.1	2.7	7.7	5.0	1.4	8.2	21.1	12.8	7.9	4.1	100	61,315
1960	26.3	2.6	5.3	5.1	0.6	7.2	22.1	18.3	9.3	3.2	100	83,299
1965	27.4	1.8	3.3	10.2	0.7	7.2	20.0	16.3	9.7	3.4	100	116,265
1968	23.0	2.0	3.5	9.9	0.9	7.3	18.8	20.9	10.4	3.3	100	168,057
% Change	-26%	-23%	-50%	+90%	-60%	-8%	-8%	+82%	+51%	-31%		

SOURCES: 1. Abstract of Statistics No. 5, 1965
2. Economic Survey, 1969

N.B. 1954 is used here as a starting date because a new Trade Classification, with different breakdowns came into effect in that year. (See Table 5)

The above figures make it painfully obvious that the food-import situation has not only failed to show any significant improvement over time, but has in fact deteriorated noticeably. Since the implementation of the first step towards agricultural diversification in 1936, the value of imported foodstuffs has increased both absolutely and relatively (See Table 6). The figures since 1955 do indicate some decline in the relative value, but this in no way detracts from the magnitude of the problem, particularly since the latest percentage value is still nearly double the 1935 equivalent. To attach too much significance to the relative decline alone, however, is to ignore the main thrust of this inquiry. The decline, since 1954 at least, simply suggests that some other import item - or items - is increasing more rapidly than foodstuffs. (Table 6) In this case, the major increases seem to have occurred in mineral oils, machinery and vehicles, and manufactured goods. Primary attention, however, is here focused on the absolute status of food imports, for it is the total value of these imports that the diversification programme seeks to reduce.

While the population of the island has increased substantially since 1935, the rising value of per capita food-imports themselves precludes the success of any attempt to interpret the

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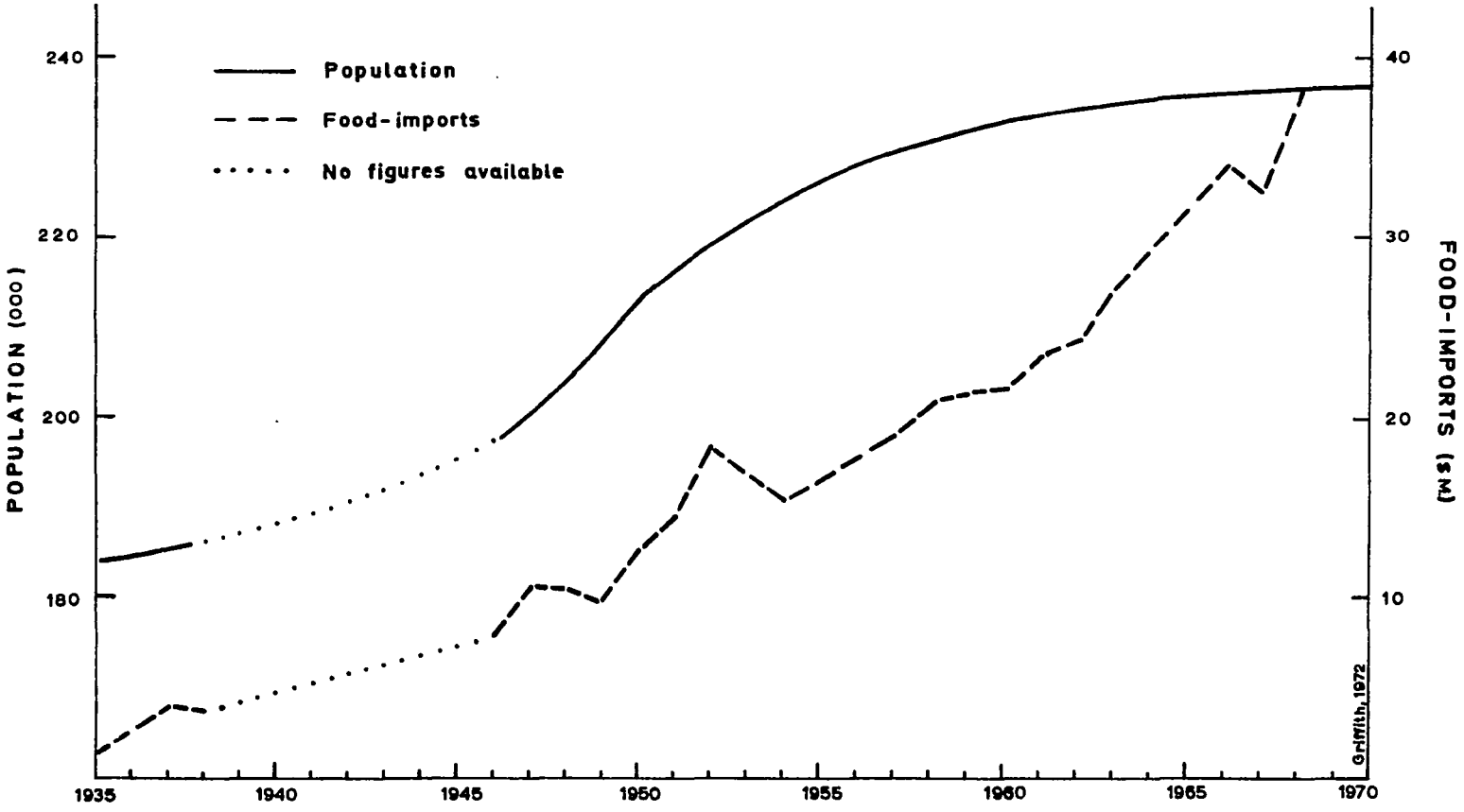
higher in the light of the latest census (1970), which places the population at 238,000. The estimated figure for 1965 was thus somewhat inflated and per capita food imports of $136 would theoretically be a more realistic value. However, the transient tourist population consumes a higher proportion of imported foodstuffs than do the locals (Doxey, C. et al., 1971), and thus tend to inflate this per capita figure. In any event, these values are significantly high in comparison with those for Jamaica and Trinidad, even after similar allowances are made.

FIG. 6. FOOD-IMPORT/POPULATION RATIO.

BARBADOS, 1935-1970.



Data: Abstract of Statistics, No. 5, 1965.
Economic Survey, 1970.

expanding volume of these imports as simply a proportionate increase, (Fig. 6). It may also be argued that these accelerating imports reflect a rising standard of living among the Barbadian populace as a whole. To follow this line of thought is to admit either that the programme has simply failed so far to quantitively satisfy the improved wants of the population, or that it can never, qualitively or quantitively, satisfy these wants and thus represents a serious misallocation of resources. This writer accepts the former premise and submits (1) that Barbadian peasant farming can be successfully diversified and can contribute significantly to reducing the high cost of food imports; and (2) that diversification has simply failed so far because the provisions of current legislation are based on inadequate research into, and limited knowledge of, the peasant sector.

The former proposition will be examined in more detail below (p.185ff). The remainder of this chapter will review the three major aspects of agricultural legislation in Barbados since 1935, and will attempt to evaluate the immediate factors which have affected the success of these in the light of the second proposition.

(iii) The Agricultural Credit Bank

To meet the immediate problem of heavy debts incurred by the peasant farmers, consequent on the changing fortunes of sugar, the Agricultural Credit Bank - then known as the Peasants'

Loan Bank - was founded in 1936.[1]

> "The bank was established for the purpose of making loans to farmers[2] to improve their standard of Agriculture and to bring back into cultivation such holdings as were abandoned because of the lack of sufficient capital to operate them."
>
> (Ibid: Para.1)

The Bank operates on the premise that:-

> "... Barbados is an agricultural community and is likely to remain predominantly so for quite some time. It is virtually [vitally?] important to the general well-being of the community that every reasonable financial assistance be given to strengthen the economy and welfare of small farmers who contribute in no small measure to the Agricultural productivity of this country."
>
> (Ibid: Para.39)

In pursuit of a goal of improved agricultural standards, loans are issued for a variety of purposes to three broadly defined categories of borrowers: owners, tenants, and co-operatives. The category 'owner' refers to any person who owns agricultural lands not exceeding twenty-five acres in extent.[2] This group also includes legally authorized representives such as attorneys, executors, administrators and trustees. The classification 'tenant' includes:-

> "... any person other than an owner holding, or deemed to hold, agricultural lands not exceeding 25 acres under a contract of tenancy ..."
>
> (Ibid: Para.3b)

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[1] For the contents of this section, the writer has drawn heavily on the booklet, "A Manual on the Agricultural Credit Bank", prepared by the Management, June 1969. All quotations used here are from the Manual, unless otherwise acknowledged.

[2] See p. 15n.

Credit to owners and tenants, however, is granted on similar terms. The third category of borrowers is the 'Co-operative society'.

The immediate problems facing the peasant farmers were related to the purchase, legal ownership and indebtedness of their holdings. Funds were therefore first made available to pay off the balance of any debt owing towards the purchase of the holdings. The limiting value of these loans extends to sixty per cent of the fair market value of the holding at the time the loan is obtained, and are repayable over a period of ten years. To assist the small farmer in acquiring a satisfactory legal title to his holding, loans were made available to cover all legal expenses involved; and repayment of these can be spread over five years.

Credit is also granted for the general cultivation of holdings, including grasslands, and are advanced on the basis of one hundred dollars per acre of arable land. Such loans cover the expenses involved in tilling and ploughing, the purchase of artificial fertilizer and the payment of taxes. These 'short-term' loans must be repayed in the year following the first crop-harvest after receipt of the loan. The Bank also approves credit for the installation of irrigation facilities, for the purchase and housing of livestock and :-

> "... for such other purposes as are considered reasonable and necessary for increasing the productivity of holdings..."
>
> (Ibid: Para.49)

TABLE 7. VOLUME OF LOANS ISSUED BY THE AGRICULTURAL CREDIT BANK

1937-1968

YEAR	NO. OF LOANS	TOTAL VALUE $000	SHORT TERM $000	LONG TERM $000			AVERAGE VALUE of LOANS $
				Stock	Mortgage	Irrigation	
1937-38	161	4	4	-	-	-	25
1938-39	203	5	5	-	-	-	24
1946-47[a]	446	21	15	6	(Total Long Term)		47
1947-48	435	26	17	9	(" " ")		59
1948-49	430	25	18	7	(" " ")		58
1949-50	515	36	22	14	(" " ")		70
1950-51	582	41	26	15	(" " ")		70
1951-52	672	57	37	20	(" " ")		85
1952-53	719	69	43	26	(" " ")		96
1953-54	839	106	55	51	(" " ")		127
1954-55	1,534	145	91	54	(" " ")		94
1955-56	1,728	158	100	58	(" " ")		91
1956-57	2,123	178	118	60	(" " ")		84
1957-58	2,352	209	137	62	(" " ")		89
1958-59	2,411	267	183	55	28	1	110
1959-60	2,095	231	162	40	29	-	110
1960-61	1,614	203	139	27	33	3	126
1961-62	1,605	254	123	30	98[b]	3	158
1962-63	1,451	426	110	28	287[c]	1	287
1963-64	1,112	168	122	18	28	-	151
1964-65	811	176	104	1	71	-	217
1965-66	768	107	101	4	-	2	139
1966-67	731	101	97	1	3	1	138
1967-68	571	85	80	3	2	-	149

a No figures are available for this period 1939-46.

b,c These unusually high values reflect, according to the Manager, a flurry of land purchases, mainly for house lots, in the respective years.

SOURCES: (1) Abstract of Statistics, No. 5, 1965

(2) Financial Statistics, No. 1, 1959-68.

The holding itself, including the livestock and the crops to be reaped, are accepted as collateral for the loan. The borrower is thus required to submit the name of the agency or agencies through which he intends to dispose of his produce, and to authorize this agency to deduct the value of the loan or of the installment due. He is then legally bound to patronize this agency unless the Bank sanctions an approved alternative.[1]

The Act establishing the Credit Bank also created the Agricultural Extension Service to be manned by a staff of extension officers - then known as Peasant Agricultural Instructors. The initial duty of these agricultural officers centred mainly on inspection of the holdings of loan-recipients to ensure that the funds were being used for the designated purpose. The instructors also transmitted information and advice to the small farmers on the application of improved farming techniques.[2]

In the first year of operation, the Bank granted 161 loans with a total value of about $4,000. (Table 7). The volume of business increased steadily both in terms of the number of loans and the total value of the advances. For the year 1958-59, the Bank approved a total of 2,412 loans

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[1] Loans are also available to co-operative societies additionally for the purchase and distribution of artificial fertilizers, the purchase of mechanical and irrigation equipment, and for the erection or improvement of farm buildings 'other than dwelling houses'.

[2] The Extension Service is discussed in more detail below pp. 141,169.

with a value of $267,000. Since then, however, the Bank has experienced a rapid decline in business. According to the latest available figures, for 1968-69, the values have further declined to 390 loans worth $60,000. (Nurse, 1970).

These figures offer conclusive evidence that the Agricultural Credit Bank has failed, in terms of the size of the local peasantry, to generate any significant volume of interest. The peasant farmer population of Barbados has varied between 18,000 in 1929 and 27,000 in 1961. However, the maximum number of loans granted so far in any year (2,412 in 1958), is equivalent to less than ten per cent of the total number of smallholders. Theoretically, therefore, as much as ninety per cent of the farmer population are beyond the influence and financial benefits of the Bank in a given year.

A substantial majority of the loans granted, however, are of the 'short-term' variety, which are repeated on an annual basis by the same customers. The clientele of the Bank, therefore, has not been increasing cumulatively over the years. Rather, the vast majority of the customers served in a given year, since 1958 in particular, are farmers repeating previous short-term loans. Thus the total number of farmers who have enjoyed the benefits of the Bank since its establishment probably represents not significantly more than twenty-five percent of the total farmer population.[1] This

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[1] Assuming that half of the loans in a given year are issued to totally new customers - an inflated estimate according to the management - the Bank has still served less than fifty per cent of the farmer population in its thirty years of operation.

deficiency of new customers has been identified by the management as a major contributory factor to the under-utilization of the Bank.

The Bank has also failed to stimulate the production of food crops in the peasant sector for two major reasons. First, no specific proposals were made to promote or encourage the cultivation of food crops, as such. General references only are made to the 'productivity of the holding', and the 'crop or crops to be reaped'. The general provisions, in fact, tend to discriminate against the expansion of food production. The prospective borrower, for example, is required to identify the agency through which he proposes to dispose of his produce. This binding agreement, however, was irrelevant in terms of the marketing of food crops prior to the advent of the Marketing Corporation in 1961.

Prior to this date, no organized, identifiable marketing system existed for the disposal of foodstuffs. (p. 67). The marketing functions were performed primarily through the hawkers[1] whose operations are based more on interpersonal relationships and verbal, conditional promises rather than on written, contractual agreements. Thus, although the farmer might be able to identify the type of marketing agency, very rarely could he submit the name of his ultimate buyer. This requirement, however, was a sine qua non, since the agent had to be authorized to deduct the value of the loan, or the agreed installment, from the marketed

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[1] See also p. 134ff.

value of the produce. In any event, this marketing agency, because of its inherent structure, has never been legally accepted to perform such financial transactions.[1] Thus, the practical difficulties of ensuring the repayment of loans advanced for the production of foodstuffs, effectively eliminated the approval of such loans (Nurse, op. cit.).

Secondly, and for the same reasons, the terms of the loans have tended to perpetuate the emphasis on sugar cane. An efficient, organized system for the marketing of sugar cane makes it the only crop on which a loan can be readily secured. The sugar factories represent an identifiable marketing agent with which arrangements can be made to deduct the value of the loan when the canes are delivered for processing. The advent of the Marketing Corporation has provided a recognized agency for the disposal of vegetables and root crops. But, as will be noted below, certain deficiencies in the operational procedures of the Corporation have restricted the effectiveness of its appeal to the peasant producers. And while the Bank has noted recent interest in loans for food production, this is due more to increasing dissatisfaction with sugar cane and a search for alternative sources of income than to any initiatives from the Bank itself or to any major changes in policy.

These conditions, to some extent, explain the high frequency of short-term loans sought to cover only recurrent expenditure on

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[1] For a fairly thorough treatment of the structure, operations and role of the hawker or higgler, attention is drawn to: Mintz, 1956, Spence, 1964; and Katzin, W.F. 1960.

the cultivation, fertilizing and harvesting of sugar cane. In the absence of opportunities for alternative forms of investment, these loans are applied to maintain what Skeete (op. cit.) calls the 'predominating system' of sugar cane cultivation. These loans too have been declining for three major reasons. First, the aging of the regular customers has progressively made them less physically able to maintain the cultivation of their holdings, (p. 117). The older of these have consequently terminated their association with the Bank. Secondly, the rising costs of labour have rendered the less productive holdings uneconomical to operate. Such holdings have gone out of production and now constitute patches of 'abandoned land' throughout the island. The third reason relates to the absence of youthful newcomers to the peasant-farmer population - an absence which has contributed significantly to the lack of new customers for the Bank.[1]

There is also evidence to suggest that the Barbadian peasant is culturally reluctant to seek financial credit except under special circumstances.[2] Thus, major loans are sought for the purchase of land or livestock or to pay off mortgages. Similarly, short-term loans of limited monetary value are only repeated by the farmer until he can establish and maintain an economic balance between his operating and household expenditures and his total income.

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[1] These conclusions are based partly on personal research by the writer and partly on discussion with officials of the Bank. (See also 116ff.).

[2] See p. 132.

When this measure of security has been achieved, the peasant farmer no longer relies on credit to finance his farming operations. This evidence helps to explain the low volume of business handled by the Agricultural Credit Bank.[1]

(iv) The Food Production Order[2]

In times of colonial military involvement and other trade disturbances, as noted previously, the Barbadian farmers found it necessary to increase their production of foodstuffs. In 1938, in the face of such an impending trade disruption, the Food Production (Defence) Control Order was enacted. In 1942, this was re-enacted as the Local Food Production (Defence) Control Order, 1942, No. 2, and is now re-issued each year. The major objectives of the Order are to increase the supply of local food crops, and thus to decrease the dependency on imported foods in order to ensure an adequate supply of foodstuffs during periods of crisis, (Oyelese, 1966, op. cit.). The Order embodies instructions on the crops to be planted, the acreage to be cultivated, the method and system of planting and the time of planting and harvesting.

The Order differentiates between:-

> "... the two distinct areas of the Island known respectively as the Coralline Limestone Area and the Scotland District..."[3]

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[1] These observations, however, do not apply *in toto* to the emergent corps of more progressive, commercially active smallholders (See page 19 above)

[2] See page 73 above.

[3] Local Food Production (Defence) Control Order, 1942, No. 2 Para. 1.

and the instructions are issued on the basis of this differentiation. Plantations in the Limestone Area are required to plant at least twelve percent of their arable acreage in vegetable crops, including yams, sweet potatoes, corn, peas, beans, eddoes and green vegetables. A distinction is made between crops to be grown on 'preparation land' and those to be planted on 'thrown - out land'. (See page 21). The farmers are also required to keep one unit of livestock for every twenty acres of arable land. With the exception of animals for breeding purposes, and of poultry, the age of the livestock must not exceed two years.

In the Scotland District, not less than seven percent of the arable acreage is to be planted in vegetable crops, and in 'preparation land' only. These farms are also required to keep one unit of livestock for every twenty acres of land, with an additional unit for every acre up to six percent of the total arable acreage. A provision is included for acreage in excess of that required in a given year, to be credited to the farmer as part of his percentum for the following year. These guidelines, it is clearly specified, are binding on all farmers. Changes or alternative procedures:-

> "... may only be undertaken with the written permission of the competent Authority in reply to a written request for such replacement..."
> (Ibid. Para. 4n.).

The slope of the food-import graph (Fig. 5), and the data available on the volume of local production, suggest that the Order has failed to achieve the anticipated increase in the production of local foodstuffs. Data on the plantation sector only are available

TABLE 8 ACREAGES PLANTED WITH FOOD CROPS ON INSPECTED ESTATES (a)

YEARS	Number of Estates Inspected	Area Planted all Crops (acres)	Yams (acres)	Potatoes (acres)	Corn (acres)	Eddoes (acres)	Pulses (acres)	Cassava (acres)	Other Crops (b) (acres)
1946-47	...	11,649	3,082	4,644	1,852	977	224	150	120
1947-48	...	12,922	3,664	4,697	2,688	967	530	177	199
1948-49	265	14,221	4,173	6,007	2,105	914	663	232	127
1949-50	258	11,568	3,557	4,611	1,711	921	438	187	143
1950-51	236	10,951	3,302	4,542	1,653	822	269	173	190
1951-52	234	10,180	2,880	4,123	1,931	683	289	158	116
1952-53	238	10,877	2,940	4,714	1,754	718	581	124	46
1953-54	236	8,727	2,549	3,407	1,566	663	469	61	12
1954-55	236	8,241	2,295	3,189	1,667	565	458	43	24
1955-56	242	8,037	2,240	3,322	1,347	626	450	32	20
1956-57	252	7,810	2,182	3,343	1,302	564	339	56	23
1957-58	252	7,060	2,090	3,038	1,019	450	364	51	47
1958-59	252	6,354	1,955	2,893	878	344	232	33	19
1959-60	252	6,972	2,237	2,852	1,017	405	260	30	171
1960-61	252	7,510	2,346	3,172	936	477	325	50	204
1961-62	250	7,399	2,494	2,957	940	497	263	74	178
1962-63	248	7,099	2,363	2,882	885	487	233	66	184
1963-64	242	6.759	2,488	2,642	723	409	223	66	208
1964-65	244	6,817	2,786	2,239	701	458	334	58	239
1965-66	244	6,936	3,055	1,829	821	508	351	59	314
1966-67	n/a	6,136	2,521	1,847	812	334	337	65	229
1967-68	n/a	6,495	2,668	1,730	1,067	394	312	38	286

(a) Estates are holdings of over ten acres. (b) Includes green vegetables and bananas.

SOURCES: Reports of Food Crop Inspectors. - Abstract of Statistics. No. 5, 1965

prior to 1961. These show a decrease in the acreage under food crop from 14,221 acres in 1948-49 to only 7,500 acres in 1960-61 (Table 8). The fact that only 252 estates were inspected in 1960-61 as compared to 265 at the previous date, does not adequately explain the decrease in acreage.[1] An equal number of plantations were inspected in 1950-51 and in 1954-55; and during that period some 2,710 acres were withdrawn from food production. Between 1955 and 1963, too, on an equal number of estates, a further withdrawal of over one thousand acres was recorded.

Thus, in terms of the plantations at which it was specifically aimed, the Order has failed to achieve its objectives. Data on the total production of food crops by both plantations and peasants show a similar decline in acreage (Table 9). From these figures, too, it is evident that some increase in total output, and hence in productivity, has occurred. This increase, however, is far less significant than the decrease in acreage, the losses due to which the increased productivity has not, to any extent, counter-balanced.

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[1] Amalgamation of estates might have accounted, partially or totally, for the decline in the number of individual estates. If this can be adequately demonstrated, the decline in acreage under foodcrops would be all the more dramatic.

TABLE 9. PRODUCTION CHANGES IN SELECTED CROPS - 1961-1965

CROPS	1961 ACREAGE	1961 PRODUCTION	1965 ACREAGE	1965 PRODUCTION
Sugar Cane	43.259	1,282 (000 tons)	50,430	1,563 (000 tons)
Food Crops	8,502		7,371	
Maize	1,835	(a) 736.5 (ears) (b) 3,108.5 (lbs.)	1,508	(a) 1.786.5 (ears) (b) 1,825.5 (lbs)
Sweet Potatoes	3,152	14.08 (mi. Lbs.)	2,257	15.71 (mi. lbs.)
Beans	333	.40 (" ")	420	.51 (" ")
Pigeon Peas	294	.40 (" ")	46	.46 (" ")
Eddoes	508	1.56 (" ")	393	1.70 (" ")
Yams	2,380	14.35 (" ")	2,747	19.15 (" ")

SOURCE: 1. W.I. Census of Agriculture - Eastern Caribbean Territories, Barbados, 1961.

2. Agricultural Statistics, Barbados, 1966.

There are, perhaps, four major reasons for the limited success achieved by this genuine endeavour to increase the production of local foodstuffs. These reasons have been identified by Oyelese (1966:63-65) and have been substantiated by subsequent personal research. Firstly, the Order itself offered no real, tangible incentives to the planters to increase the production of foodcrops. No benefits or guarantees, comparable to the prices received for sugar under the Commonwealth Sugar Agreement, were offered. In short, the Order was simply and only an order. On the grounds that sugar cultivation demands less time and labour than food crops and is less conducive to promoting erosion, the planters argued that no compensations were offered and no benefits apparent to justify the increased inputs of time, labour and capital. There has been, therefore, little genuine interest in going beyond the bare minimum stipulations of the Order. It is worthy of note, therefore, that in 1946-47 the acreage actually under foodcrops was over 21% of total arable acreage, greatly exceeding that required by the Order. In 1960, however, this percentage had fallen to 15% and had reached 12% by 1965.[1]

Secondly, the limitations imposed by the Order were not only unnecessary and unjustified but were, to some extent, self-defeating. The acreage to be planted in food crops was restricted to 'preparation' and 'thrown-out' land, which, in a given year accounts for as much as twenty-five percent of the total arable land. (See page 21). The requirement of 12% in limestone areas and 7% in the

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[1] Derived from Table 8.

Scotland District, leaves a surplus of uncultivated arable land ranging from thirteen to eighteen percent of the total.

The provision which allows the excess acreage planted in one year to be credited by the farmer to his percentum for the following year, further encourages the tendency to minimize production. Limitations were also imposed on the density and spacing of plant units per acre, the weight of the seedlings and cuttings, and the time of planting and harvesting. And the stipulation that any changes could only be undertaken with written permission left little room for personal experience and initiative.

The third, and perhaps the major weakness of the Order stems from the failure to investigate the capabilities and physical potentialities of the land before the plan was introduced. The island was divided into two broadly defined areas; but no differentiation is made in terms of the crops most suitable to either these major regions or to other sub-regions. Oyelese (1966), for example, shows that yams can only be economically produced in areas receiving more than sixty inches of rainfall. Such information, relevant to this and other crops, was not available to the planters; nor was the significance of such data recognized as the basis for a meaningful pattern of crop regionalization. The farmers were therefore at a distinct disadvantage in terms of achieving full and efficient utilization of their physical resources - simply because they were unaware of the existing potentials.

The fourth factor which contributed to the failure of the Order was the absence of essential marketing facilities. In

spite of an expected increase in the supplies of local foodstuffs, no marketing facilities were provided. Nor was the mechanism for the establishment of a marketing agency apparently considered at the time the Order was legislated. The establishment of an effective, organized marketing system, in fact, was not considered until about 1955,[1] nearly two decades later.

(v) The Barbados Marketing Corporation

In the persistent and continuous effort to successfully expand local food production, it became evident that an efficient marketing system was a critical factor. Such a system was approved, in principle, in the Development Plan for 1955-60; and in 1961, the Barbados Marketing Corporation Act 1961:40 was passed with an objective to:-

> "... re-organize the system of marketing of local produce in a manner which will give the farmer an incentive to produce more..."[2]

This act also created the Barbados Marketing Corporation which is:-

> "... the Government's chief instrument for stimulating the local production of food crops, fish and meat by providing facilities for their marketing and processing..."[3]

The Corporation is designed to assure the producer a price for his produce sufficient to provide an incentive for further production, while it ensures that the cost of the consumer:-

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[1] Development Plan, 1955-60:14

[2] Development Programme, 1963-65:18

[3] Development Plan, 1965-68:50

TABLE 10. B.M.C. PURCHASES OF SELECTED PRODUCE

ITEM	Quantity Purchased (000 lbs.)	
	1967	1968
Beans	64.9	65.2
Beets	12.4	10.2
Cabbage	112.5	121.4
Carrots	92.1	38.0
Cucumbers	115.2	103.7
Okra	115.2	103.7
Pumpkins	70.2	75.5
Sweet Potatoes	70.6	57.2
Yams	320.5	142.1
Tomatoes	95.1	75.5
Onions	---	20.0
	1,068.7	812.5
Fish	649.3	460.2
Meat (Animals Slaughtered)	2,027.6	2,150.3
TOTAL	3,745.6	3,423.0

SOURCE: Economic Survey, Barbados, 1969, pp. 33-35.

> "... is reasonable in relation to the cost of production and to the cost of imports..." [1]

The activities of the Corporation include the importation and export of produce, as well as internal marketing procedures. It is therefore empowered to control the exports of agricultural and fishery enterprises, and to regulate the inflow of foodstuffs. It was thus hoped that the Corporation would, on the one hand, stimulate local production by the effective exercise of its regulatory powers, and, on the other, develop an export trade in agricultural products. The wide powers conferred on the Corporation include the right to fix and determine a system of grading, to operate depots and agencies throughout the island, and to establish itinerant systems for the purchase and sale of produce. Its control also extends to the inspection and grading of any produce intended for local sale or export; and the Corporation can prohibit the sale or export of any produce not duly inspected or graded.[2]

To achieve its objectives, it was essential that the Corporation be equipped to exercise adequate control over the marketable supply of produce. Potential suppliers are therefore required to sign a contract specifying the type and quantity of produce and the expected time of harvesting. This contract is legally binding, and can only be altered or terminated by mutual consent.

There is little published data on the volume of trade which has passed through the Corporation since its establishment. The figures in Table 10, however, display an overall pattern of declining purchases, with significant decreases in yams, carrots and fish

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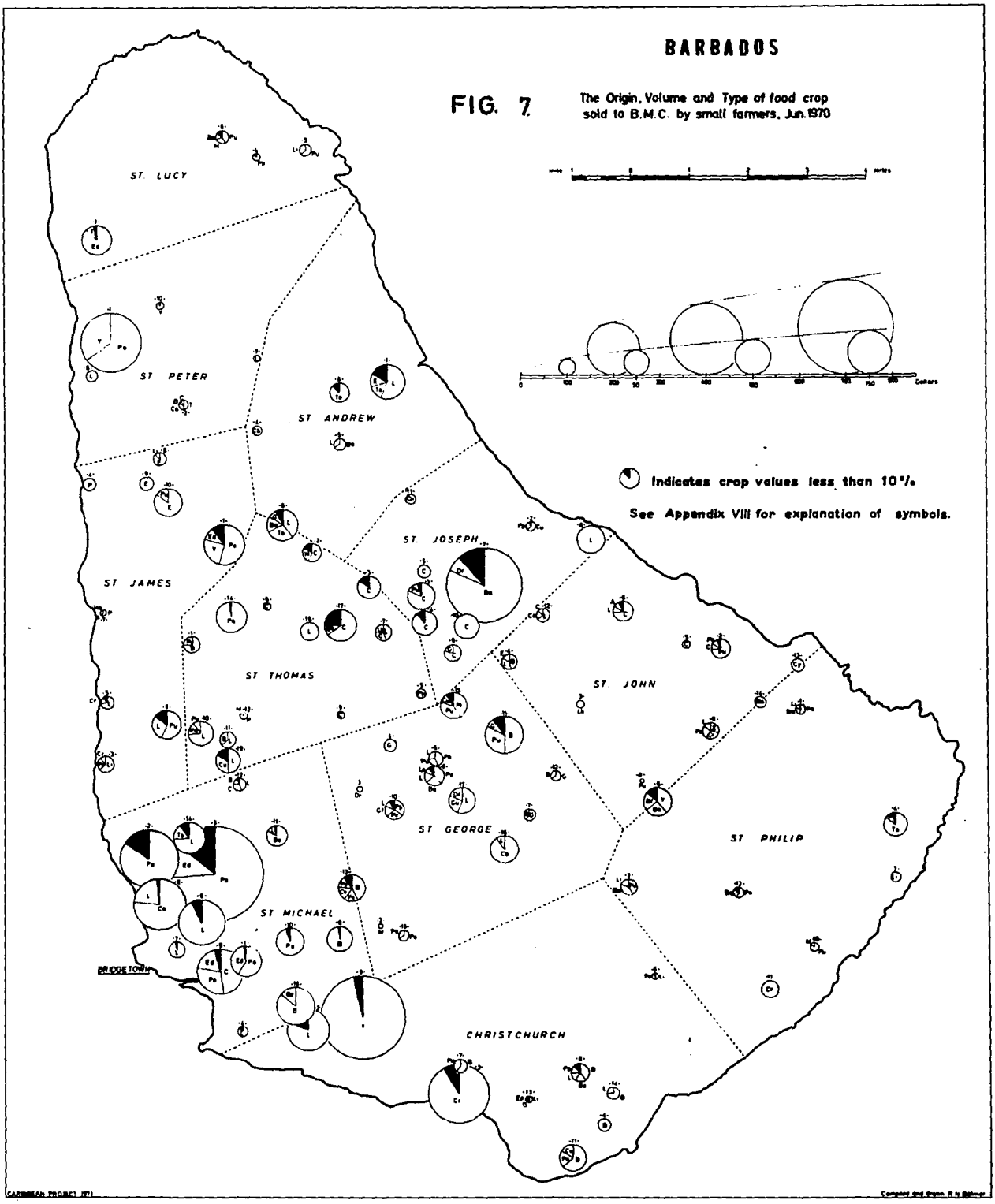
[1] Ibid

[2] B.M.C. Act, 1961:40: Para. 11.


BARBADOS
FIG. 7
The Origin, Volume and Type of food crop sold to B.M.C. by small farmers, Jun. 1970
Indicates crop values less than 10%
See Appendix VIII for explanation of symbols.
ST LUCY
ST PETER
ST ANDREW
ST JOSEPH
ST JAMES
ST THOMAS
ST JOHN
ST GEORGE
ST PHILIP
ST MICHAEL
BRIDGETOWN
CHRISTCHURCH

unmatched by noticeable increases in any area. The consistently heavy volume of food imports also suggests that the Corporation has failed to stimulate or attract the volume of local produce expected. Though no adequate figures exist on which to formulate a definitive conclusion, available evidence suggests that the Corporation has failed, too, to stimulate production among the peasant farmers. On the basis of the data in Table 17 below, less than four percent of the marketable surplus of the small farmers in the area surveyed is sold through the Corporation.[1] During the month of January 1970, for example, the Corporation purchased supplies of local food crops valued at about $17,500.[2] The peasant sector itself contributed only 32% of these supplies, (Figs. 7 & 8), though the peasant farmers are estimated to produce about 80% of the local vegetable output (Table 2).

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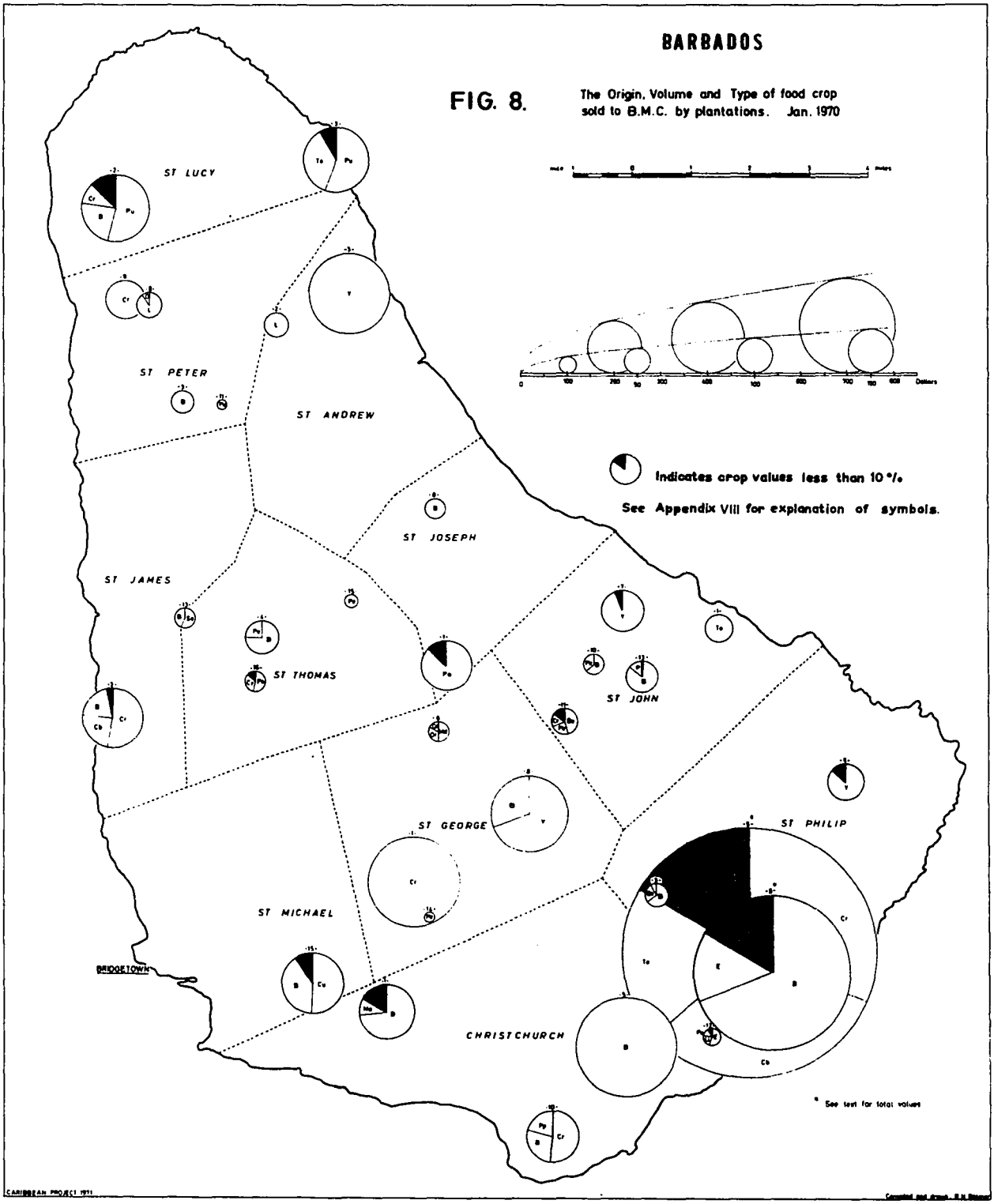
[1] Compiled from data obtained during the course of the writer's fieldwork. These are estimates only, based on answers given by the farmers and on personal observation. Though their absolute value is not precise, as proportional values they do have some merit. The overall percentage of trade with the BMC would be somewhat higher for the peasant farmer population as a whole, since the volume of trade increases with proximity to the Corporation headquarters (Fig. 7).

[2] Compiled from B.M.C. records. The seasonal harvest lasts from November to March (Ingersent et al., op. cit.:17,68). January thus represents a typical harvest month in which 12.3% of the total produce is harvested. On the basis of these figures and the total annual peasant production according to Ingersent (1968, Table 2), the peasant sector sells approximately nine percent of its surplus to the B.M.C., (see footnote above).


BARBADOS
FIG. 8.
The Origin, Volume and Type of food crop sold to B.M.C. by plantations. Jan. 1970
ST LUCY
ST PETER
ST ANDREW
ST JOSEPH
ST JAMES
ST THOMAS
ST JOHN
ST GEORGE
ST PHILIP
ST MICHAEL
CHRISTCHURCH
BRIDGETOWN
Indicates crop values less than 10 %
See Appendix VIII for explanation of symbols.
* See text for total values
CARIBBEAN PROJECT 1971

Several factors have affected the operation of the Marketing Corporation but three major reasons seem to largely explain its limited degree of success. First, the Corporation was established with little advance publicity. The population in general, and the farmers in particular had no adequate knowledge of, or information on the Corporation prior to the commencement of business operations. Little negotiation or co-operative discussion was initiated with the farmers in terms of the methods, nature and scope of the proposed operations (Donoghue,1965). In the initial stages, therefore, there was a general lack of information on the prices being offered or of the system of grading being employed.

This general deficiency of information also left the authorities quite unaware of what the response of the farmers was likely to be. The general appeal for an increase in food production, however, received a particularly favourable response from the peasant producers. These, during the first year of operation, flooded the Corporation with a variety of produce of wide-ranging standards of quality (Prescott, op. cit.). Much of this was rejected on the grounds of either inferiority, according to an undisclosed standard, or of excess, in terms of a limited storage capacity.

The transportation policy of the Corporation is its second major weakness. Although it is authorized to arrange for the transportation of the farm produce, the Corporation has, up to the present, required the farmer to provide his own transportation.

TABLE 11. AN EXAMPLE OF THE VEGETABLE PRICING STRUCTURE IN BARBADOS

VEGETABLE	B.M.C. Guaranteed Prices. (per lb.) Feb.-April 1970[1]	Consumer Price (per lb.)[2]	
		Urban Locality	Rural Locality
Carrots	20	60	60
Cucumbers	8	60	60
Cabbage	20	75	80
Yams	6	12	12
Tomatoes	30	80	80
Onions	8	35	35
Pumpkins	6	40	25
Beans	15	75	80
Sweet Potatoes	6	12	12

1 The Barbados Farmer, Feb. 1970.

2 Based on data collected by the writer.

This policy no doubt acts as a deterrent to the peasant farmers, who have neither the facilities nor the financial capacity to provide this transportation. They insist that it is not economical for them to provide this transport, since the costs of harvesting and transporting their produce is not offset by the final price received. It is for this reason, too, that both the peasants and the plantations utilize the services of the hawkers, who buy the produce 'in the ground' and themselves arrange for the transportation. (Ingersent, et al., op. cit.; also p. 134ff.)

The third, and closely related factor, is the relatively low prices offered by the Marketing Corporation. This criticism of the Corporation was that most frequently encountered by this writer during the course of his fieldwork. This is also clearly brought out by Ingersent and others (Ibid.:100) who note that fourteen of twenty-one price complaints registered during their survey were made against the Corporation. The figures below (Table 11), depict the wide discrepancy between the minimum prices offered by the Corporation and the final price to the consumer in an urban and a rural locality. The fact that the Market's prices are minimum prices does not adequately explain the differences, for it is admitted that the high perishability of vegetables necessitate a substantial mark-up in prices to enable the Corporation to minimize its losses. The actual prices offered by the Corporation, therefore, are not substantially higher than the minimum. The peasant farmer consequently sells most of his surplus in his immediate neighbourhood or to hawkers, from which

sources he can obtain generally more favourable prices (See p. 137ff).

It is evident that the peasant farmers were deeply affected by the failure of the Corporation to justify their interest and efforts in the new financial venture. These have subsequently, in most cases, returned to the comparative security of sugar-cane production, and the Marketing Corporation is thus now predominantly supplied by the plantations (p.100 above). But since the facilities in general are inadequately developed, even these farmers have little incentive to maximize their food output.

(vi) Summary

The foregoing 'institutions' are the major components of government machinery designed to stimulate agricultural growth in the food sector. The result of Skeete's study (op. cit) apprised the government of the role and significance of the peasant sector; and ever since, there has been a constant and conscious effort to improve the lot of the peasant farmer.

These first efforts have, however, been sporadic and, to some extent, unrelated. The Food Production Order, for example, was exclusively aimed at the plantations, and thus requires no further discussion here.[1] The Agricultural Credit Bank, though specifically created for the peasant sector, was simply a response to external influences, and was not part of any conceptualized programme for the development of peasant farming in Barbados. The Marketing Corporation represents the first conscious effort to

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[1] It is apparent, however, that the Order is currently not being enforced. (See Enochian, R.V., 1969).

plan for the development of local agriculture and to relate official planning to local situations. Subsequent proposals and modifications, to be discussed elsewhere (Chapter 6), have been designed to improve on and expand what is now officially labelled as the Agricultural Diversification Programme.

Recent research has convinced the government that sugar cane can be more economically produced on the larger units, and that, on peasant holdings, food crops are far more profitable than sugar cane.[1] On the basis of these conclusions, the government now envisages:-

> "... The development of small farms geared towards the production of food crops as part of the policy for changing the pattern of agriculture..."[2]

The general aims of the programme for change have been consistently repeated in the Development Plans of recent years. These involve increasing the output of food crops, reducing the importation of foodstuffs and the dependency on a single export crop, and developing industries based on agriculture.[3]

In this chapter, an attempt has been made to identify the immediately apparent reasons for the lack of success achieved by the efforts to implement these changes. The evidence presented reveals a series of impracticable, ineffective and often contradictory measures which have been adopted to achieve the prescribed

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[1] For further discussion on this, see page 129 below.

[2] Development Programme, 1962-65:19.

[3] Development Programme, 1962-65:17; and Development Plan 1965-68:42.

goals. Collectively, the individual provisions of the legislation contributed significantly to the failure to achieve the desired objectives. Thus the qualifications required by the Credit Bank tended to discriminate against the expansion of food crops which was hoped for. Similarly, the operating procedures of the Marketing Corporation have stifled the growth and expansion of that sector of the economy they were designed to promote. How and why, one may ask, did this apparently paradoxical situation materialize? This is certainly not the consequence of deliberate policy, for the diversification of peasant agriculture - and of local agriculture in general - has progressively attracted considerable attention. It is suggested here that the above measures have failed largely because they were founded on inadequate knowledge of, and failure to consider, the social and economic realities of the local peasant sector.

Having reviewed the basic provisions of local agricultural legislation, it now remains to examine, in some detail, that sector of the economy for which they were specially designed. On the basis of such an analysis, as treated in the chapter following, the relevance of the above provisions will be assessed and an explanation of the current paradox will be offered.

CHAPTER 4

DYNAMICS OF THE PEASANT-FARMING SYSTEM

(i) Introduction

(ii) Population Characteristics

(iii) Land Use and Production

(iv) Sources of Capital

(v) Marketing

(vi) Advisory Sources

(vii) Conclusion

Introduction

During the course of the fieldwork undertaken in connection with this study, the writer placed major emphasis on ascertaining how and to what extent the Barbadian small farmers relate to the substance and instruments of national agricultural policy (see p. 38). The official policies and attitudes themselves are reasonably well documented in official reports and parliamentary acts relevant to agricultural planning and production. (This official position has been detailed in Chapter 3 and more closely examined in a later chapter). In the present chapter, the writer reviews the data collected on peasant farming, and attempts to show to what extent the peasants' view of reality diverges from that of the official planners, and thus to reveal the deficiencies in the current programme.

To facilitate the collection of data for this thesis, the Agricultural District chosen for study (Figs. 9,10), was divided into quadrats of one square mile each. Forty-five such quadrats were required to cover the area completely - though twenty-one of these projected onto neighbouring areas and onto the sea, and did not cover a full square mile of land within the study area. Several of the squares contained no evidence of peasant settlements,[1] largely because they cover

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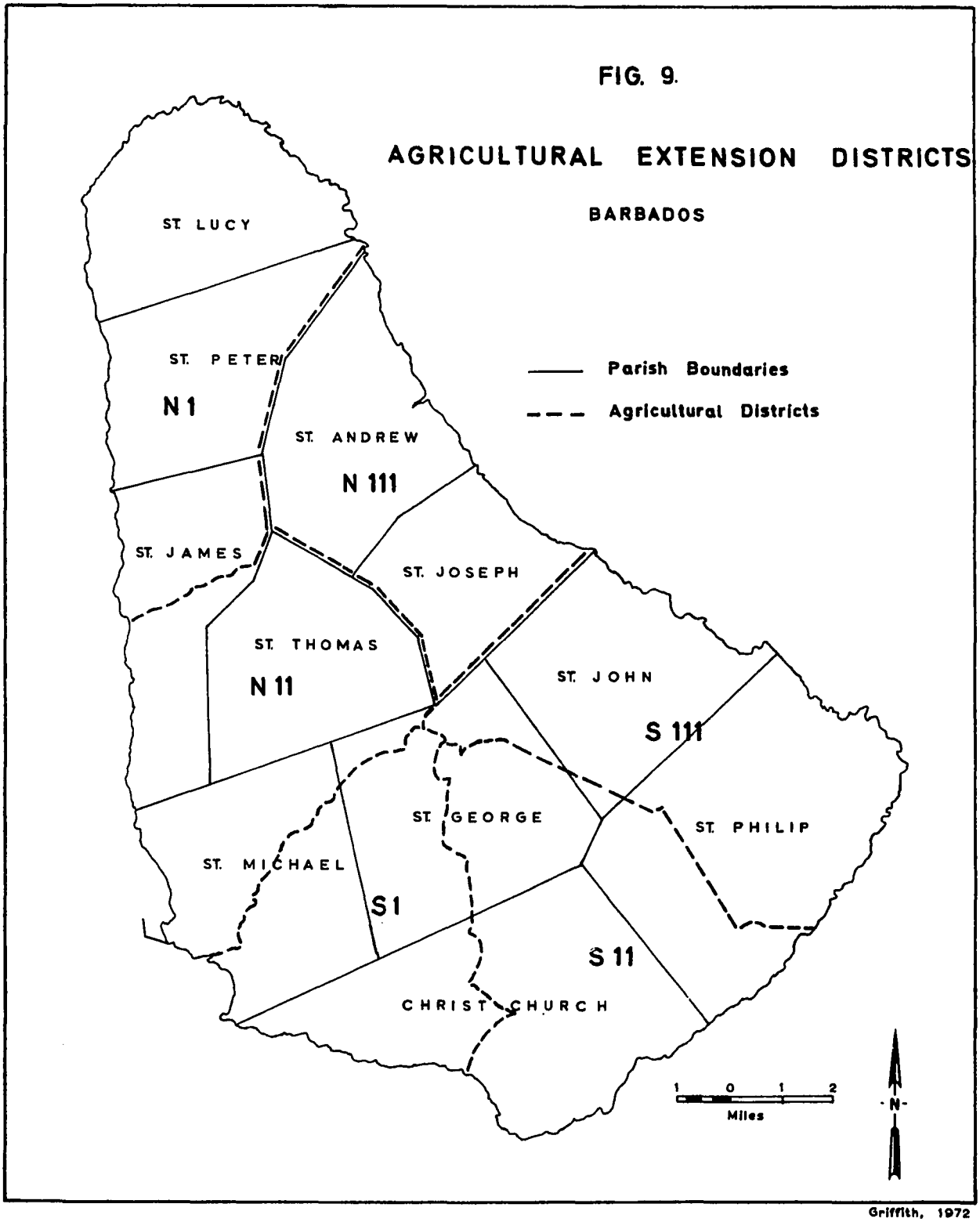
[1] 'Peasant settlements' rather than 'peasant lands' is used here because it was subsequently discovered that some farmers own land at some distance from their homes and in areas where there are no settlements within a radius of half-a-mile or more. Thus some quadrats contained peasant holdings but no settlements. And since no mechanism existed to identify such areas beforehand, these quadrats were disregarded.

FIG. 9.


AGRICULTURAL EXTENSION DISTRICTS
BARBADOS
Parish Boundaries
Agricultural Districts
ST. LUCY
ST. PETER
N 1
ST. ANDREW
N 111
ST. JAMES
ST. JOSEPH
ST. THOMAS
N 11
ST. JOHN
S 111
ST. GEORGE
ST. PHILIP
ST. MICHAEL
S 1
S 11
CHRIST CHURCH
1 0 1 2
Miles
N
Griffith, 1972

exclusively plantation lands, and also because, in a few cases, they include only sandy, coastal stretches. Some other squares contained evidence of only a few, scattered holdings and were considered insufficiently significant to warrant individual treatment. Altogether, there were seventeen quadrats which were thus disregarded.

A systematic random sample was employed with an objective to interview at least one peasant farmer in each of the remaining twenty-eight 'qualifying' quadrats. It was not always possible, however, to locate a farmer in each quadrat; and holdings in some sections were owned by farmers with their living quarters elsewhere. These two factors, in particular, introduced certain biases into the sample and thus into the data collected (see p.114 below). Of the twenty-eight squares offering potential samples, however, 'qualifying' farmers were located in nineteen of them - more than two-thirds.[1]

The farmers located were interviewed informally but systematically, and on four farms precise measurements of crop-acreages were taken with the assistance of Dr. Frank Innes of McGill University's Caribbean Project.

The study region occupies an area of thirty-three square miles or about 20% of the total area of the island (Fig. 9). Its population of about 27,000 persons, as of the 1960 census, represents some 11.5% of the national total. The population

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[1] A total of about thirty-five farmers were visited, but some were disqualified as samples mainly because they were either farming on plantation land or were working land for a relative or other land-owner who made the important decisions.

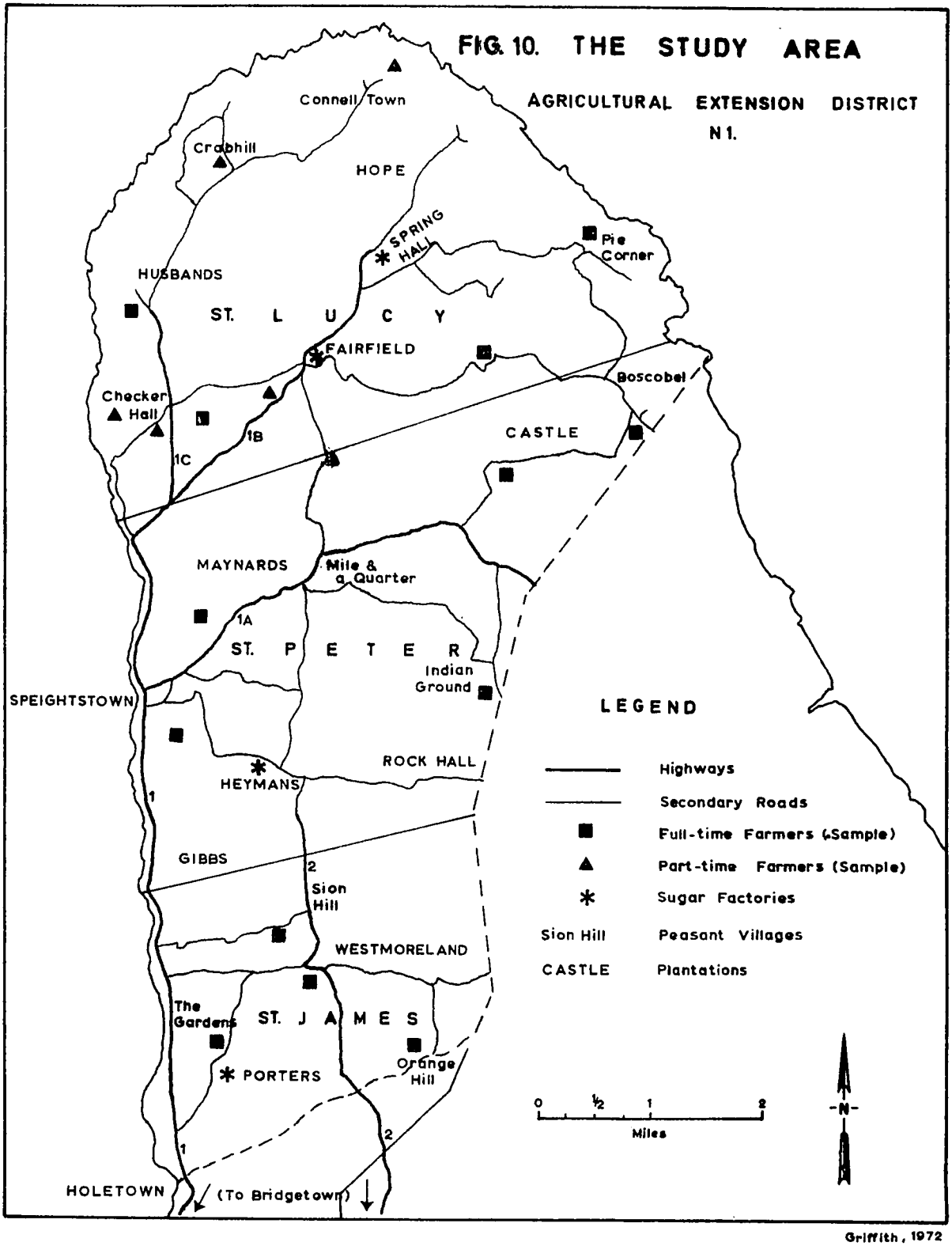
FIG. 10. THE STUDY AREA
AGRICULTURAL EXTENSION DISTRICT N1.
Connell Town
Crabhill
HOPE
SPRING HALL
Pie Corner
HUSBANDS
ST. L U C Y
FAIRFIELD
Boscobel
Checker Hall
1B
1C
CASTLE
MAYNARDS
Mile & a Quarter
1A
ST. P E T E R
Indian Ground
SPEIGHTSTOWN
ROCK HALL
HEYMANS
1
GIBBS
2
Sion Hill
WESTMORELAND
The Gardens
ST. J A M E S
PORTERS
Orange Hill
2
1
HOLETOWN
(To Bridgetown)
LEGEND
Highways
Secondary Roads
Full-time Farmers (Sample)
Part-time Farmers (Sample)
Sugar Factories
Sion Hill Peasant Villages
CASTLE Plantations
0 ½ 1 2
Miles
-N-
Griffith, 1972

density of about 800 per square mile consequently differs appreciably from the national figure of 1398 per square mile. This national average, however, like all other averages, tend to obscure significant details in the true picture. Thus the regional or 'parish' densities vary from over 6000 per square mile in St. Michael to less than 600 in St. Andrew. And in fact, only three parishes - St. Michael, St. James and Christchurch, the most highly 'urbanized' parishes - have densities higher than 1000 per square mile; and, excluding St. Michael, the average density for the island is about 900 per square mile.[1] The population density for the study area, therefore, compares favourably with the situation over most of the island.

The research area is also typical of the island as a whole in that, in both spatial and socio-economic terms, it exhibits a peasant-plantation dichotomy. Some 22% of all the plantations on the island are located in this area, and co-exist with about 20% of all the peasant holdings. These plantations, numbering fifty-one out of a total 4621 holdings in the research area, cover 77% of the land. Thus some 4570 peasant holdings cover a mere 23% of the area, (see p. 23).

Speightstown, which can be considered the second urban centre of Barbados, is strategically located within the study area, (Fig. 10). The consequent benefits of this presence include an adequate road network and a generally satisfactory public transportation system. This system consists of a direct link to Bridgetown and seven subsidiary bus-routes serving the

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[1] These figures were derived from the data given in the 1960 census.

area. These latter routes are operative mainly during the daily 'rush-hour' periods - although some of them operate at various intervals throughout the day; and at least three of them go directly into the main city at least twice a day. The Speightstown to Bridgetown line is operative throughout the day at half-hour intervals. Many private entrepreneurs also operate local mini-bus or 'pick-up' services which run throughout the day and serve the 'mid-day' travellers. In terms of other utilities, the area enjoys the benefits of a piped, purified water supply; and electrification has recently been made available to all major settlement areas.

Physically, the area is also typical of Barbadian conditions in general. The relief varies from the sheltered coastal lowlands on the west and the more exposed shores to the north and east, to areas rising to 500 feet and over in St. Peter, adjacent to the Scotland District. The higher areas of St. Peter experience up to 70 inches of rain annually. This figure decreases with lower elevation to the intermediate rainfall area of the coastal regions and most of St. Lucy. The northern extremity of the island is a low rainfall area receiving less than 40 inches annually.

The general problem of locating farmers produced a significant bias in favour of the category of full-time farmers. The nature of their duties tended to keep these farmers more often at home and thus more accessible than the part-time operators whose ancillary employment kept them off the farm and away from home for a significant part of the day. Thus 68% of the sample

population were full-time farmers as opposed to only 32% part-time. There is, however, every reason to believe that the percentage of full-time farmers in Barbados is significantly smaller than this figure (p.117below). In terms of the two major categories of farmers, therefore, the sample population is not totally representative of the Barbadian situation.

The location of the study area at the northern end of the island has also created a bias in terms of the volume of marketing transacted through the Marketing Corporation. The empirical evidence suggests that the volume of trade with the Corporation is inversely related to the distance from it. The farmers nearer to the main city consistently sell more to the Corporation than do their distant counterparts (see Fig. 7). The study area therefore is essentially one which, in general, conducts a small volume of trade with the Corporation, and exhibits few examples of the high or medium volume of trade noticeable in other areas.

These biases must be borne in mind when assessing the 'representativeness' of the area chosen and the data collected, and when establishing the validity of any subsequent conclusions. However, under many other parameters, as noted above, the study area is truly representative of the general situation prevailing in Barbados; and it is considered that the final conclusions arrived at in this thesis can justifiably be applied to peasant farming in Barbados as a whole.

Population Characteristics

Thirteen of the nineteen farmers interviewed were full-time operators, while the remaining six farmed on a part-time basis. These relative values differ substantially from the figures of 14% and 86% suggested by Henshall in 1964. The present survey does not claim to present a representative sample of the categories of local farmers; nor does the writer, on the basis of his sample, dispute the figures submitted by Henshall. It is felt, however, that full-time peasant farmers now constitute more than 14% of the total small farmer population, specifically because of an apparent relationship between the age of the farmer and his farming category.

The average age of the sample was 64 years, somewhat higher than the figure of 58 years recently suggested (Ingersent et al., 1969). Though no data is available on the age of the peasant population prior to this date, it is felt that these figures represent a progressively increasing age limit for the Barbadian peasant farmer. The historical evidence (see Chapter 2) suggests that the majority of the landed peasant population added between 1900 and 1946 were young or middle-aged workers who had accumulated some savings from migrant labour abroad. The average age of these small holders, therefore, was probably between 40 and 50 years. Since the latter data, however, no noticeable increase has occurred in the small farmer population - in fact a decrease from just

under 31,000 to just over 27,000[1] has been recorded (Table 4). Given the insignificant, if not non-existent addition of young farmers over the years, and the inevitable aging of the original farmers, it is logical to assume that the average age of the peasant farmers has been progressively increasing.

Advancing age has inevitably limited the capacity of the peasants to engage in both on-farm and non-farm work and to continue as paid labourers. In each event, the workers tend to devote more time and effort to their individual holdings. The emergent pattern, therefore, is one of a landed peasantry becoming more involved in full-time farming with increasing age. For these reasons, therefore, it is postulated that the average age of the full-time farmers will be consistently higher than that of part-time cultivators. The results of this survey seem to confirm this, for the average age of full-time and part-time farmers was 66 and 58 respectfully.

This trend towards a higher average age for the farming population as a whole will tend, numerically, to increase the population of full-time farmers.[2] It should also be noted that, in 1945, Halcrow and Cave concluded that 3% of the

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[1]These are 'raw' figures, including holdings without land. See also p. 23.

[2]On the basis of their recent survey, Ingersent et al., (1969) obtained a relative farmer population of 40% part-time and 60% full-time. Like the present survey, that of Ingersent was not drawn from the entire population and does not therefore claim to be representative. The two sets of figures, however, do suggest a trend which cannot be simply dismissed or easily ignored.

peasant farmers were full-time operators. Thus the full-time farmer population increased from 3% in 1945 (Halcrow & Cave) to 14% in 1964 (Henshall). There is little evidence to suggest a reversal of this trend. The available data rather tend to confirm it, and it seems logical to assume that this percentage has further increased since the latter date.

Land Use and Production

The size of the holdings in the sample ranged from a quarter of an acre to fourteen acres. The average size of holdings cultivated on a full-time basis was 3.17 acres, compared with an average 2.75 acres for part-time farmers. About 44% of the farmers had a single holding, while 40% had two parcels of land, and only 16% of them had three or more parcels. The impression gained here, and supported elsewhere (Ingersent, et al., op. cit.:49) is that fragmentation, in classical terms, occurs as a problem in only a small number of cases.

Nurse (op. cit.:12) has mentioned fragmentation as one of the major constraints on the development of small-scale agriculture in Barbados. The figures he quotes, however, showing an average of 1.21 parcels per holding, do not support this conclusion, for this contrasts with a figure of 1.82 in 1945 (Halcrow & Cave, op. cit.).[1] On the whole, these figures do not at all support the existence of fragmentation as a serious problem, since they indicate a reduction in the number of parcels per holding since 1945. It seems more appropriate to

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[1] A figure of 1.68 was arrived at according to this sample.

identify the local problem as a 'proliferation of undersized holdings' rather than as fragmentation of holdings.

In the conventional sense, fragmentation connotes a progressive diminution in the size of individual farm-holdings and a parallel increase in the number of parcels comprising an individual holding. These conditions usually exist due to the prevailing laws of inheritance and/or tenancy. The results of these are seen not only in the smallness of individual holdings but also in the several minute, scattered plots, inherited from different sources, which go to make up the total acreage of these small farms. Fragmentation in classical terms is therefore an ongoing, self-perpetuating process in which individual farms become progressively smaller in total acreage, while the number of plots comprising them vary inversely.

Historical factors alluded to above (Chapter 2) adequately explain the prevalence of small farms in Barbados. The historical dominance of the larger estates has always severely limited the acreage of land available for small farmers. And when, as occasionally happened, adverse economic conditions forced a plantation up for sale, the high prices demanded from the peasants determined that they could purchase only in very limited quantities. Thus, in many cases, the present total acreage of a given smallholding has been accumulated over a period of time from different purchases in different geographical locations.

Under the British legal system, which forms the basis

of Barbadian society, inheritance laws do not require mandatory subdivision of land holdings between prospective heirs on the death of the proprietor. Such subdivision does occur, however, but more as an individual, pragmatic decision of the landowner rather than as a legal requirement. Between 1945 and 1961, the average size of all peasant holdings, cultivable and non-cultivable, declined from 0.56 acres to 0.46 acres,[1] indicating much less than a massive break-up of peasant farms. These figures also deny the existence of any trends towards amalgamation of small holdings; and Hills (op. cit.) has, in fact, identified a general decrease in the number of peasant holdings in all 'size-categories' except that of the 'holdings without land'.

To a large extent, therefore, the existing degree of fragmentation has been occasioned more by the break-up of the economically troubled plantations over time than by the internal subdivision of small holdings. This is not to suggest, however, that fragmentation, in the classical sense, is totally non-existent. The percentage quoted above for holdings of two or more parcels indicates that some fragmentation does exist. The opinions offered here, however, are (i) that the incidence of fragmentation within the peasant sector is not a serious problem, neither is it all internally derived; and (ii) that 'proliferation of small holdings' rather than 'fragmentation' would seem to be more apt a characterization of

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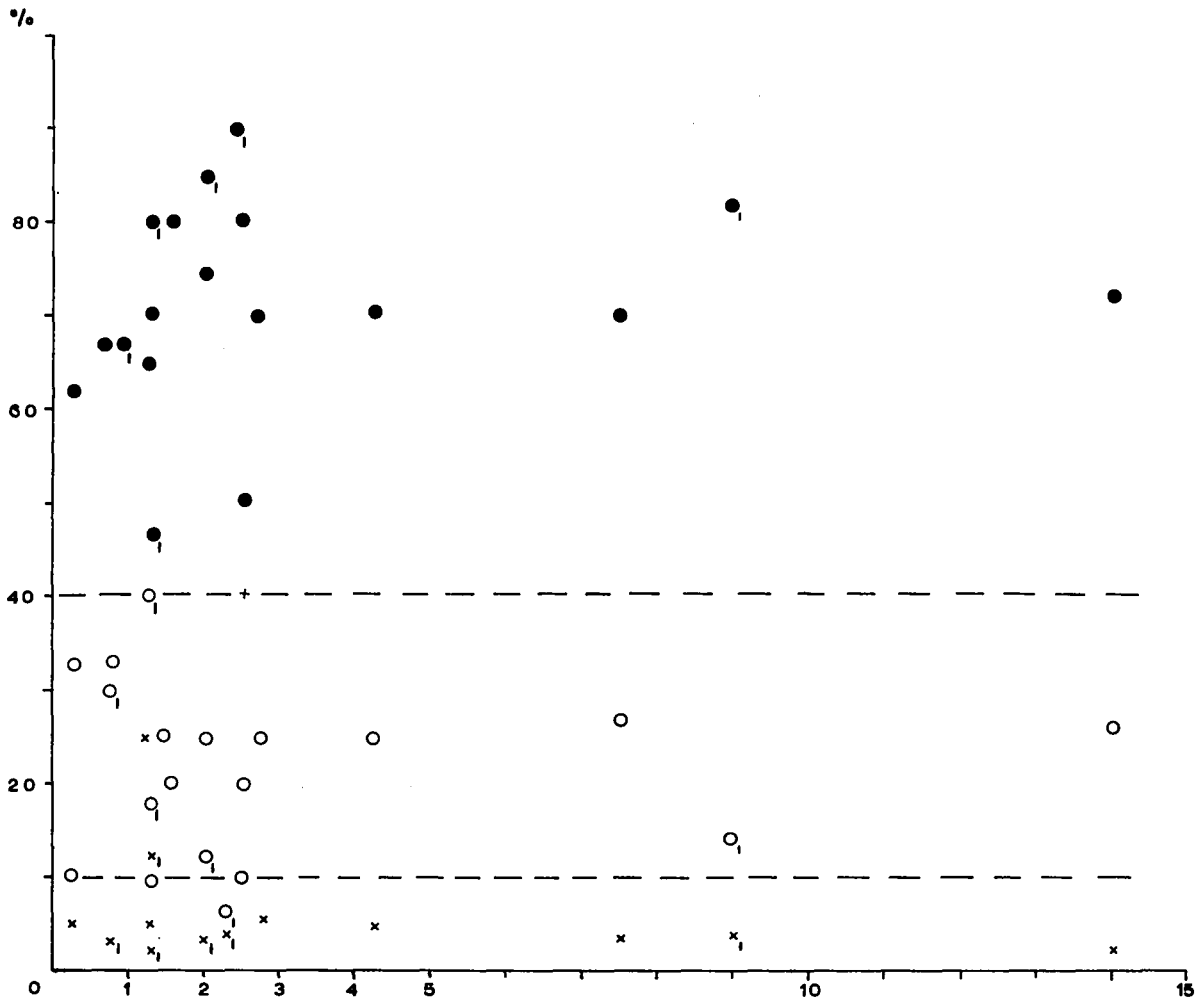
[1] Derived from Halcrow & Cave, 1945: and W.I. Census of Agriculture, 1961.

FIG. 11. MAJOR LAND-USE PATTERNS

on

PEASANT HOLDINGS SURVEYED



● % in Sugar-cane

○ % in Root crops

× % in Vegetables

$○_1$ denotes Part-time farmers

A. Griffith
Source: Caribbean Project, 1970.

small-scale farming in Barbados.

In terms of agricultural production, sugar-cane and food crops, including vegetables, are the major components in the normal cropping pattern. Sugar-cane enjoys pride of place in this limited hierarchy of crops, occupying an average of 73% of the total arable acreage, (Fig. 11) - a figure comparable to that derived from the 1961 census, (Table 12). The actual percentage range from 60% to 90%, in only two cases being less than 50%. Food crops and vegetables, on the other hand, average 25-30% of the arable acreage, though in some cases, these figures could be slightly lower due to the presence of livestock. Actual percentages varied between ten and thirty, the highest values in at least three cases, reflect special attention to vegetable production. Among the food crops, yams, potatoes and cassava are the most frequently planted. While cucumbers, okras, tomatoes and lettuce occupy similar attention among the vegetable growers. (Table 13).

The prevailing cropping pattern features sugar-cane as the main crop interplanted and alternated with a wide variety of food crops and vegetables. The 'predominating system' as described by Skeete in 1930 and still very much evident today, is explained in terms of several factors. Firstly, the income accruing from the cultivation of sugar cane is received in a lump sum at the end of harvesting. Income from food-crops, on the other hand, because of consumer demand, is generally spread

TABLE 12 UTILIZATION OF ARABLE LAND ON PEASANT HOLDINGS

BARBADOS 1961

	Acres in pure stands	Acres in mixed stands	total acres	%
Sugar Cane	3,915	3,040	6,955	65.3
Ground Provisions	408	1,753	2,161	20.3
Total non-vegetables	4,323	4,793	9,116	85.6
Vegetables and fallow (by difference)	n.a.	n.a.	1,535	14.4
Total arable land	n.a.	n.a.	10,651	100.0

SOURCE: West Indies Census of Agriculture, 1961

TABLE 13 CROP PREFERENCE OF BARBADIAN PEASANT FARMERS

A. FOOD CROPS	FARMERS FULL-TIME	PLANTING PART-TIME	TOTAL
Yams	11	6	17
Potatoes	10	6	16
Cassava	8	6	14
Eddoes	5	4	9
Pumpkins	4	3	7
Groundnuts	1	2	3
B. VEGETABLES			
Cucumbers	8	4	12
Okras	7	5	12
Tomatoes	5	4	9
Lettuce	5	1	6
Cabbages	4	-	4
Carrots	4	2	6
Beets	4	2	6
Beans & Peas	3	2	5
Eschalot	3	2	5
Parsley	3	-	3
Turnips	1	-	1

SOURCE: From data collected during fieldwork, May-July, 1970.

over an extended period of time.

Secondly, in terms of the cost of labour and intensive care, the cultivation of sugar-cane represents a very economical use of resources. Food crops, and vegetables in particular, require a high degree of intensive and constant care - to a degree not required by the sugar-cane. Periodic weedings during the early stages of growth, at most two applications of fertilizer, and, to those financially able to afford it, one application of pesticide and/or weedicide - these activities account for most of the time and labour inputs that go into the cultivation of sugar-cane. The intensive care required by food crops and vegetables, on the other hand, could, according to Ingersent and others (op. cit.), demand an increase of between twenty and a hundred percent in time and labour inputs per unit area over that demanded by sugar cane. Thirdly, sugar-cane enjoys relatively easy access to an established and highly organized marketing system; and agricultural loans are currently most readily advanced on the value of the standing sugar-cane. Vegetable products enjoy no such benefits nor are they regarded as adequate collateral on approved loans, (see p. 87).

Other minor factors further entrench the dominant position of sugar-cane in the Barbadian economy. These include the effects of pests on food crops, the relative losses due to roaming animals, the problem of theft and the relative low level of capital investment required for sugar cane (see

TABLE 14. RATIONALIZATION OF MULTI-CROPPING BY BARBADIAN PEASANTS

SUGGESTED REASONS	RESPONSES FULL-TIME FARMERS	RESPONSES PART-TIME FARMERS
A. Planting for home consumption	9	5
B. Planting variety for market	3	1
C. An insurance against failure of any one crop	1	1
D. Problem with pests (monkeys)	1	-
E. According to soil types	1	-
F. Praedial larceny	1	1
G. No substantial yield from any one crop	1	-

NOTE: There is reason to believe that B, C and D are more significant than indicated here, for these were often mentioned in a different context during the course of the interviews.

SOURCE: Interviews with farmers during the course of fieldwork, May-July, 1970.

p.129 below). Given the present situation, therefore, the cultivation of sugar-cane represents a very efficient utilization of the resources available to the local peasants.

In general, food crops are planted on a mainly subsistence basis. Of the major reasons offered by the farmers for planting food crops and vegetables, the need to satisfy personal consumption was mentioned more often than all other reasons combined (Table 14). For a basically similar reason, the small farmers plant a wide variety of crops in preference to a select few. There is evidence of an historical basis for this element in the local agricultural system, for, as noted above, the plantation workers, both before and after Emancipation, were always allowed - even required - to contribute significantly to their own food supplies. Food cropping therefore was never a genuine or specialized commercial activity; and the generally small acreage devoted to food crops further tends to support this general conclusion.

Only a limited surplus production can be expected under these conditions; and in fact only about one-third of the food produced constitutes a marketable surplus, (Table 17). Under the foregoing circumstances, too, the system of planting a variety of crops assumes added significance as evidence of the economic mentality of the Barbadian smallholder. For the farmers maintain that the small section of the domestic market currently accessible to them can more readily absorb a limited quantity of a variety of crops than it could a vast supply of a

TABLE 15. SUPPLY AND FACTORY-PRICE OF SUGAR-CANES.

BARBADOS 1957-61

YEAR	SHAREHOLDERS IN FACTORIES		OTHER ESTATES		SMALLHOLDERS	
	% of cane	$ per ton	% of cane	$ per ton	% of cane	$ per ton
1957	58	17.65	25	17.73	17	17.55
1958	56	15.07	26	14.97	18	14.87
1959	59	16.10	25	16.09	16	15.80
1960	62	16.02	23	16.20	15	15.99
1961	61	17.72	24	17.74	15	17.66

SOURCE: Farley, R. et al.: Report of the Commission of Enquiry into the Barbados Sugar Industry, 1962-63.

few specialized crops. Other reasons advanced by the farmers for planting a variety of crops include: as an insurance against the failure of another crop; to mitigate the losses due to monkeys and other pests; and because no one crop offered any substantially higher yields than the other.

An overwhelming percentage of the farmers maintain that the gross financial returns from food crops and vegetables are appreciably higher than those obtained from sugar-cane. This is particularly so under a situation in which the rising costs of the labor associated with the cultivation of sugar-cane are not compensated by any real increase in the market price. For example, the current price of sugar-cane delivered to factories is about seventeen dollars per ton, a figure which has not significantly increased over the last decade or so, (Table 15).

This local observation relative to the profitability of sugar-cane farming is also supported by the recent findings of Ingersent and others (op. cit.:101-111). Their study has shown that sugar-cane yields an average net income of $100 per acre per year, a figure which is slightly higher than that given in the Farley Report.[1] Equivalent income from specialized vegetable production ranges from $1,000 for beans to nearly $2,400 for tomatoes, (Table 16). Donoghue (op. cit.) arrived at similar conclusions and demonstrated that a vegetable producer could obtain an average annual income of $2,000 per acre.

It has also been shown (Ingersent et al., op. cit.) that, in general, a modified cropping pattern and more intensive culti-

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[1] Farley, R. et al.: Report of the Commission of Enquiry into the Barbados Sugar Industry 1962-1963.

TABLE 16. GROSS MARGINS OF INCOME FOR SELECTED CROPS ON SMALLHOLDINGS IN BARBADOS

VARIABLE COSTS ($ per acre)	SUGAR	BEANS	CABBAGE	CARROTS	TOMATOES	BEETS
Seed	-	117.00	2.50	12.00	8.64	11.25
Fertilizers	18.00	36.00	42.00	18.00	36.00	30.00
Pest/Weed Control	12.60	7.00	5.60	5.60	2.00	5.60
Labour costs	53.75	285.00	232.50	324.00	249.00	270.00
Harvesting (15 tons at $3.70)[1]	55.50	250.00	18.00	75.00	90.00	50.00
Cultivation (mechanical)	15.00	16.00	20.00	20.00	26.67	20.00
(no. of crops)	(4)	(5)	(4)	(4)	(3)	(4)
Freighting (15 tons at $3.00)[1]	45.00	-	-	-	-	-
TOTAL VARIABLE COSTS	199.85	711.00	320.00	454.60	412.3.	386.85
GROSS REVENUE						
Yield/ac	15 tons	7000 lbs.	9000 lbs.	9000 lbs.	9000 lbs.	13,440 lbs.
Price[2]	20.00/ton	26¢/ lb.	30¢ /lb.	26¢ /lb.	30¢ /lb.	20¢ /lb.
GROSS REVENUE	300.00	1,820.00	2,700.00	2,340.00	2,700.00	2,688.00
GROSS MARGIN	100.15	1,109.00	2,379.10	1,885.40	2,387.69	2,301.15

[1] For sugar-cane only
[2] Farm-gate price, except for sugar cane

SOURCE: Derived from Ingersent et al.: "Vegetable Production in Barbados." Bridgetown, 1969.

vation could substantially increase the farmer's net income. On holdings of about a quarter of an acre, for example, such modifications could double the farm income from $500 to more than $1,000. The success of such a programme would depend on careful planning, a reliable and adequate water supply and an additional four hours of labour inputs per week. The extra income will, it is concluded, adequately justify the additional inputs of time and labour. The total income from such a holding, however, could hardly support an average family. Ancillary, non-farm employment would be required to supplement the family income. A farm of this scale, therefore, would not justify a full-time operation.

It was further observed, however, that on holdings of one acre and over, the elimination of sugar cane and consequent reorganization and intensive cultivation of food-crops could also more than double the farmer's income from the present $1,000 to as much as $3,000. Such an increase would require an additional investment of between two hours and one day of labour per week, on the assumption that the farmer himself provides about half the total labour requirements. Assuming, however, that all the additional labour has to be hired, the farm income could still be substantially increased (Ibid.).

The cultivation of sugar-cane requires significantly less time than that demanded by food crops. Cane-farmers are consequent freed for ancillary employment off the farm for extended periods of time. The time and labour involved in other non-farm

occupations open to peasant farmers, however, are not as remunerative as equal labour devoted to intensive vegetable farming. At an average salary of about $20. per week,[1] the average worker can earn an income of $1,040 per year. On a one-acre farm devoted to intensive vegetable production, however, his income can be as high as $3,000 per year. If ancillary employment is sought, moreover, his farming activities must, of necessity, be centred on a non-intensive crop such as sugar-cane, returns from which are noticeably lower.

In spite of these possibilities, sugar-cane has retained its dominant position because of the reasons stated above. And although many farmers are themselves willing to increase their acreage in food crops, marketing uncertainties and limited supplies of capital, as well as inadequate techniques and unfamiliarity with some of the alternative crops, have tended to perpetuate the emphasis on sugar-cane.

Sources of Capital

The majority of the smallholders interviewed rely on their personal assets and capital savings to finance their farming operations. Only one-third of the farmers had ever applied for a loan from the Agricultural Credit Bank or other sources - and these applications were all successful. These findings tend to confirm the observation made elsewhere (p. 88) that the Barbadian peasant is reluctant to incur financial

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[1] Labour Force Survey, April, 1966.

indebtedness on any significant scale. When such debt is incurred, it has been observed, the money is invariably invested in capital goods or, more often in real estate with a long term view to providing a measure of security. Capital for commercial investments, however, is largely obtained from personal savings, and any such 'short term' loans are sought to supplement recurrent expenditures only until such time as the farmer can provide these funds from his own supply of capital.

This attitude of the small farmers contrasts sharply with that of the plantation-owners who, according to Ingersent and others (op. cit.:38), make frequent use of bank credit. These writers, however, noted a nascent interest among small farmers in obtaining credit if it can be profitably and productively employed. There is thus little desire among the small farmers to seek loans for the expansion or improvement of sugar cultivation - a fact which helps to explain the declining volume of business handled by the Agricultural Credit Bank, which mainly provides such loans. The economic potentials of vegetable production, however, seem to have stimulated some interest in utilizing credit facilities. Thus it is noted, (Ibid.:98), that any credit sought by the peasant farmers would be applied to:-

> "... growing more vegetables, especially onions, carrots, tomatoes, cucumbers, beans, beets and English potatoes, ranked in that order."

Marketing

As observed above, most of the food crops produced are planted on a largely subsistence basis; and only a limited surplus would therefore be available for sale. The available data indicate that only about one-third of the total food produce of the small farmers represents a saleable surplus (Table 17). This volume of trade is distributed between the major marketing outlets as shown. Only four of the farmers recalled ever having marketed produce through the Marketing Corporation, and an equal number had sold produce directly in the public market. On the other hand, only six farmers had never dealt with a hawker, and only two had not sold produce in their neighbourhood. These last two 'agencies' are thus by far the most important marketing outlets patronized by the small farmers, (Fig. 12).

The Barbados Marketing Corporation handles less than four percent of the produce of the peasant farmers interviewed. On a national average, this figure is probably closer to ten percent (see p. 100). The major constraints against fuller utilization of the Marketing Corporation are identified as low prices, uncertain volume and lack of organized transport facilities.

Other equally important factors, from the farmer's viewpoint, have contributed to the low volume of trade between the peasant farmers and the Corporation. Many farmers stated that

TABLE 17 PEASANTS' CHOICE OF MARKETING OUTLET

STATUS	% SOLD	B.M.C.	HAWKER	PUBLIC MARKET	NEIGHBOUR-HOOD
Full-time Farmers	50.7	2.5	16.8	12.4	19.0
Part-time Farmers	24.5	-	12.0	-	12.5
AVERAGE	37.7	1.3	14.4	6.2	15.8
%	100	3.5	38.2	16.4	41.9

SOURCE: Compiled from data collected during fieldwork May-July, 1970.

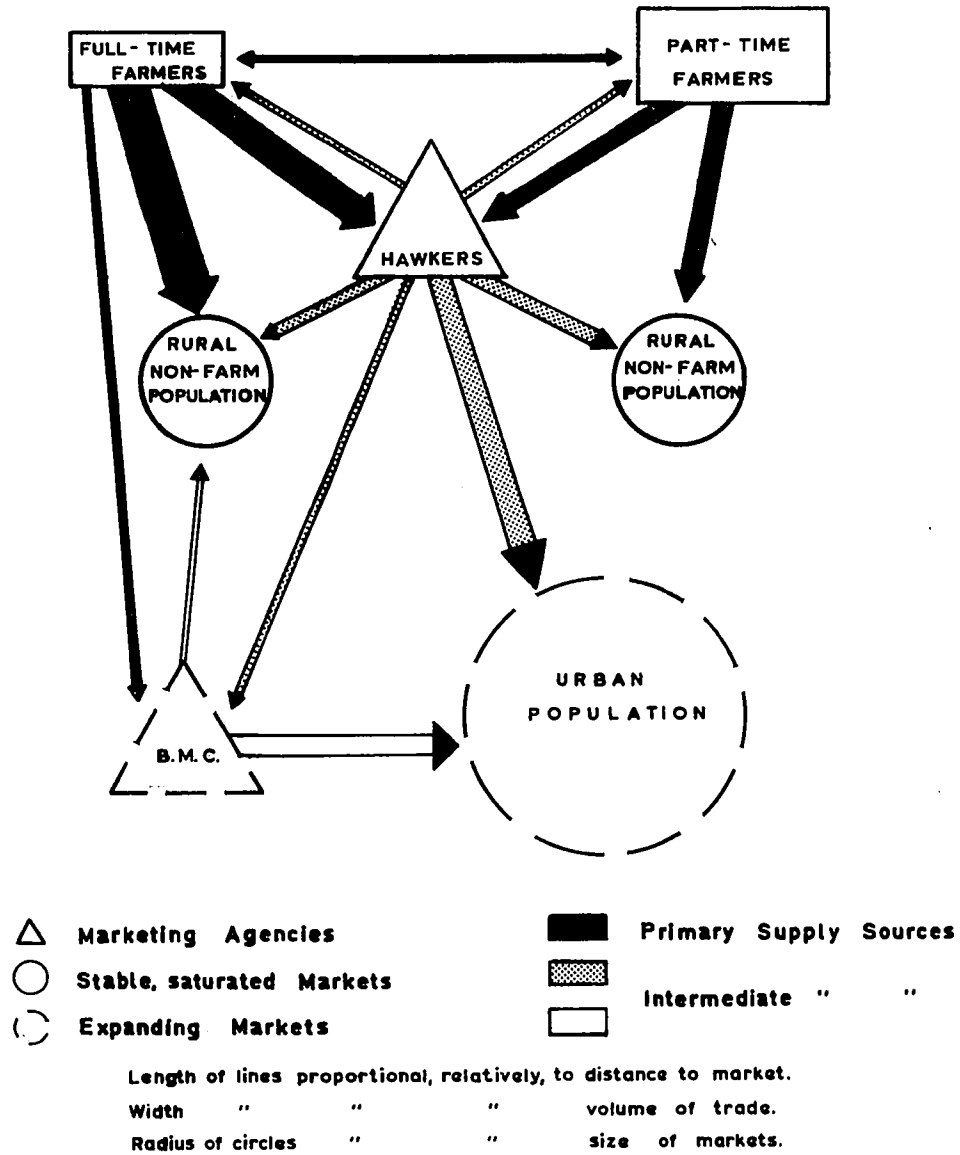
they did not, in general, have a large surplus for sale, and what surplus did occur did not justify the cost involved in harvesting, packing and transporting it to the marketing depot. Many of the smallholders also explained that they already operate within the framework of certain traditional marketing outlets and with an established clientele. In many cases, the farmers have an old, established relationship with a hawker - or hawkers - who buys their produce on a fairly regular basis. In other cases, the smallholders have an established clientele in the immediate neighbourhood or in one of the public markets.

In each event, the farmers see no adequate incentive to justify a change in their traditional marketing outlets. This is particularly so since the prices offered by the Corporation are significantly lower than those to be obtained from the hawker or directly from the consumer. Thus only 'absolute' surpluses, which remain after the traditional markets have been satisfied, are disposed of through the Marketing Corporation. The purchasing or 'intake' records of the Corporation contain numerous entries for less than five dollars' worth of produce received from the more distant parts of the island. The 'traders' involved have taken substantially more produce into the city to be disposed of through their traditional outlets. The small sales to the Corporation merely represent what remains after these markets have been satisfied.

No precise reasons were offered or are readily apparent, nor are any studies available to explain the low level of utilization associated with the public markets which dispose of an average sixteen percent of the marketed food produce. This is probably explained by the fact that most of the alloted spaces in the marketplace, for which a fee has to be paid, have already been occupied by the regular or full-time hawkers who also sell imported produce. Those farmers who do sell in the market place cannot, because of the nature of their farming duties, do so on a regular basis or for extended periods of time to justify the rental of a booth.

The hawkers, for reasons stated elsewhere (p.104), and because of their established, traditional role are, under present conditions, considered a more generally reliable and economically rewarding outlet than the Marketing Corporation. That the hawkers handle some thirty-eight percent of the marketed food surplus is a confirmation of this general observation. Figure 12 forcefully depicts the dominance of the hawker as the major marketing agency utilized within the peasant sector. The hawker is, in fact, the only instrument in the redistribution of local surpluses within the rural community, serving not only the non-farming population, but also, to a lesser extent, supplying the farming population with items they do not produce themselves or are periodically short of. The hawker is also currently the dominant agency through which peasant produce enters the large and expanding urban market directly, or indirectly

FIG. 12. STRUCTURE OF THE PEASANT MARKETING SYSTEM in Barbados.



A. Griffith
Caribbean Project, 1970.

through the Marketing Corporation. The entire system of marketing within the peasant sector is thus centred almost exclusively on the hawker.

The final major marketing outlet is provided by the farmer's immediate neighbourhood. The surplus produce of a farmer in a given village is a primary source for satisfying the needs of the non-farming population in the immediate neighbourhood. Less than twenty percent of the total population of the area - 4570 small farmers of a population of 27,000-are engaged in private farming (p.111) and of these, the large majority are only part-time farmers (p. 116). The existence of a substantial rural population engaged in non-farming occupations, and a significant number of part-time farmers unable to satify their subsistence requirements, create a potentially large market for fresh foodstuffs. These must consequently rely on the surplus supplies generated by the full-time farmers to make up their deficiencies. This market absorbs nearly forty-two percent of surplus food production and is obviously one of the major marketing outlets utilized by the peasant farmers. The established presence of a sizeable non-farming population, the generally better prices obtained directly from the consumer, and the absence of any costs for harvesting and transportation - these have tended to generate a heavy volume of trade in the farmer's neighbourhood.

In general, the smallholders consider marketing as a major constraint to the successful implementation of a diversified agricultural programme and an increase in food production.

This complaint centres specifically on the marketing of the absolute surplus mentioned above, and the existence of such a surplus indicates that the traditional markets are already fairly well saturated. Within the existing framework, the Marketing Corporation provides the only outlet for this absolute surplus, but the uncertainties of the prices offered and the volume of produce accepted by the Corporation remain the major elements in the complaint.

The present scale and intensity of peasant agriculture, too, does not allow for any substantial and predictable surpluses. This situation, in fact, effectively limits the volume of trade that the peasants can potentially conduct with the Marketing Corporation. The existing trading patterns of the Corporation are consequently dominated by the larger, plantation operators. According to the figures for January, 1970, for example, the plantations contributed over two-thirds of the local produce purchased by the Corporation. (See also p. 100)

Many smallholders, however, are willing to expand their trade with the Corporation, though not at the expense of their traditional markets unless such an undertaking would be economically beneficial. Such an expansion would itself demand an increase in their total food output, which, in itself, is contingent upon the assurance of obtaining 'reasonable' prices and of disposing of a predictable volume. In the face of an already saturated rural market, access to the larger and ex-

panding urban market becomes vitally important to the expansion of peasant production (see p. 67). From the farmers' viewpoint, therefore, the initiative must be forthcoming from the official planning agents and their agencies.

Advisory Sources

The only major source of information and advice mentioned by the farmers was the Agricultural Extension Officer. Only six of the nineteen farmers interviewed - or thirty percent - recalled ever being visited by an Agricultural Extension Officer. These all expressed satisfaction with the assistance offered and indicated that they had established a friendly and informative relationship with the officer. Visits from the Extension Officers are infrequent and irregular but this limited contact is highly valued. Thus the major target of complaint was the infrequency of the visits themselves rather than the nature or the substance of the visits. All the farmers voiced a general and urgent preference for an increase in the number and frequency of the visits.

The preferred purpose of the visits, according to the farmers' view, would be to offer advice on general problems relative to agriculture and agricultural activities. Particular advice would be sought on the selection and care of specific crops, the control of pests and diseases and the marketing of their produce. What advice is received is considered very valuable and relevant. The farmers are also quite satisfied with

the extent of the officers' knowledge of local conditions and the general rapport which they were able to establish with the officers.[1]

According to the official reports of the Extension Service, an officer visits between five and eight farmers per day. During a 'normal' week, therefore, up to 160 visits can theoretically be made, which, assuming that no farmer receives more than one visit, would account for visits to some 8,000 peasant farmers during the course of a year. On the basis of such a schedule, therefore, only one-third of the farmer population could hope to enjoy the services of an Extension Officer during the course of a given year.

In actuality, however, the universality of this service is far more restricted and less accessible. In general, the Extension Officers tend to confine their visits to the more progressive and interested farmers. For obvious reasons, too, these visits tend to favour the smaller percentage of generally older, full-time farmers who, because of their general work pattern, are more readily accessible than the younger part-time operators. In practice, therefore, the approximately 160 weekly calls are made on much fewer than this number of farmers.

If, as seems likely, the thirty percent mentioned above

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[1] A fuller assessment of the farmers' response to the Extension Officers is given elsewhere. (p. 172 below)

is representative of the proportion of small farmers who enjoy the benefits of the local Extension Service, it is clearly evident that, numerically and operationally, the Extension Service is not providing adequate service to the peasant-farmer population. This is particularly evident when it is apparent that, in confining their activities, through force of circumstances, to the older full-time farmers, the Extension Service is interacting with the more conservative element in the farming community which is less likely and able to adopt innovations or implement changes. When one recalls that these farmers represent only a small percentage of the total peasant farmer population, it readily becomes evident that the Extension Service is currently exercising a very limited impact on the Barbadian farming community.

Summary and Conclusion

On the basis of the foregoing personal observations, four major conclusions can be tentatively arrived at. Firstly, the peasant farmers have developed a rational farming system based on an economical utilization of their existing resources. They are aware of the overall diseconomy of sugar-cane in the face of disproportionately rising costs; and they have expressed an interest in expanding their production of food crops. Two of the major constraints to any such expansion are the extent of their knowledge and technology, and the availability of capital to affect the necessary changes.

It is also concluded, secondly, that there is an established indigenous marketing system which fairly adequately serves the needs of a largely subsistence-oriented peasant community. This system, however, serves only a small segment of the total market, and is not, due to its inherent characteristics, designed to stimulate rapid economic progress. The official attempt to involve the farmers in the larger, national market, has not been noticeably successful. This latter attempt moreover, was conceived without adequate consideration of the role of the traditional, indigenous system. In terms of internal distribution, the two marketing systems, therefore, operate more as rival than as complementary systems in competing for generally the same markets. Neither of these two systems, featuring respectively access to a restricted market and a high degree of uncertainty in terms of both volume and prices, offer effective incentives for the expansion of food production among the Barbadian peasant farmers.

Thirdly, the lack of specific planning for the peasant sector, places on the farmer the onus and initiative of identifying, from the more generally plantation-oriented plans, what may be relevant and applicable to his smaller operation. The small farmer is also, by implication, required to exercise his own initiative in adopting any improvements or innovations thus identified. To expect such a course of action is contrary to current sociological and diffusion theory.[1]

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[1]See for example - Rogers, G., op. cit.; and Gould P., 1969.

Finally, the Extension Officers seem to be one of the major sources of information available to the peasant farmers. The role of the Officers is highly valued in spite of - or because of - the infrequency of their visits. The Extension Service thus has the potentials to be an effective linkage between the peasant farmers and the Ministry of Agriculture and other related agencies.

These conclusions highlight what, in the view of the writer, are the major constraints and disadvantages facing peasant agriculture in Barbados. Financial resources and human resources of skills and knowledge are vitally important to the diversification programme. For, without an adequate resource base, a diversified economy is both difficult to achieve and impossible to support. A significant degree of economic thinking and involvement in a national cash economy predispose the local farmers to accepting innovations or improvements which offer significant material benefits. The Barbadian farmer, too, is willing, given the opportunity and the material resources, to undertake changes in his farming system in order to increase his productivity and improve his material welfare. Lack of adequate incentives and opportunities rather than unwillingness to change or inability to act seem to lie at the root of the problem.

In the light of the socio-economic and marketing realities of the peasant sector as just noted, the limited applicability of the proposals embodied in the functioning

of the Agricultural Credit Bank and the Marketing Corporation readily becomes apparent. The peasant farmers, for example, have been noted to be generally reluctant to use credit in financing their farming operations. But more importantly, whereas the cultivation of vegetables is a far more economical activity than that of sugar-cane, loans from the Bank are only readily available for the cultivation of sugar-cane. Similarly, the local peasantry has evolved an indigenous marketing system of their own, centred around the hawker, which adequately serves the needs of a largely subsistence-oriented farming system. The traditional markets not only absorb the current surplus of the small farmers, but also offer much better prices than those guaranteed by the Marketing Corporation - which is, in effect, a rival system.

For the planners, therefore, to have assumed that the peasant farmers would readily exploit the new facilities offered by either the Agricultural Credit Bank or the Marketing Corporation, demonstrates a notable unfamiliarity with, or total disregard for, the above realities of the peasant sector, and gives further substance to the theory of divergence between these two views of reality.

On the basis of the foregoing observations and conclusions, some recommendations will be offered below. These recommendations, it is felt, can conceivably contribute to easing the restrictive effects of the above constraints on the development of peasant agriculture and the expansion of local food production.

CHAPTER 5

CHANGES AND THE CHANGE AGENTS

(i) Introduction

(ii) The Basic Problem

(iii) An Attempted Solution

(iv) A Proposed Solution

(v) The Agricultural Extension Service

- (a) In Retrospect
- (b) Present Status
- (c) A Farmers' Response

(vi) Basis for a Future Role

(vii) Summary

(i) Introduction

The basic objectives of the diversification programme have been assessed above as practicable and realistic. That these goals have not been realized is also clearly evident. This failure cannot be attributed to any irrelevancy or discrepancies in the objectives themselves, nor can it be explained in terms of lack of interest or change of emphasis. For, in each succeeding Development Plan, these objectives have been repeated and re-emphasized. The traditional myth of the changeless peasant in a static society cannot be invoked here to rationalize the absence of a peasant response. In so far as the Barbadian peasant is concerned, it has been concluded after careful study that:-

> "... the impression one gets on acquaintance with the peasants is that many would be only too willing to improve their methods of farming if more successful systems can be proved and demonstrated."
>
> (Halcrow & Cave, op. cit.:21)

Recent research has substantiated this conclusion, (p. 18) and has also shown that the small farmer considers economic factors to be a major constraint to increasing his output. (Ingersent et al., op. cit.). On the assumption, therefore, that the objectives of diversification are realistic and that the peasants are not, by definition, resistant to change, the major problem may be assumed to lie along the line of contact between these two factors in the planning equation.

The persistently ambivalent attitude of the government vis-à-vis the peasant sector, which has been indicated so far, is a major case to point. For they acknowledge the existence of the smallholders and their contribution to the national economy, and proclaim that the role of the peasant farmers must be recognized and safeguarded, (p.81) yet measures to effect this have been somewhat contradictory. Official opinion is thus noticeably at variance with official action.

This ambivalence is related to the fact that many government policies are based less on facts and more on assumptions about the peasant sector. It is stated, for example, that the Barbadian population exhibits an anti-agricultural bias.[1] This generalization is indiscriminately applied to the population in general, and no attempt is made to isolate that part of the workforce actually engaged in private farming. This generalization, it is felt, tends to cloud the facts, and should be restated to indicate a dislike for paid agricultural labour rather than an anti-agricultural bias. A distinction must also be made between the younger, more academically-educated sector of the population and that sector currently involved in private farming.

It has also been stated that Barbadians who normally constitute the agricultural labour-force prefer employment in tourism, industry and construction.[1] What seems to go undetected here is the fact that the workers simply prefer those occupations with the highest income levels. The choice between agriculture and the

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[1] These opinions were expressed, in private conversations, by various officials of the Ministry of Agriculture.

other occupations, therefore, is determined not by the nature of the occupation itself, but by its income potential. The exercise of such a choice does not necessarily indicate a personal dislike for agricultural employment per se, or any status discrimination. Rather, it demonstrates commendable economic awareness.

One further assumption relative to the local peasantry is that co-operatives are the only hope for the survival and viability of the small farmers.[1] On the basis of this assumption, the Ministry of Agriculture is actively promoting co-operatives (p.189 below), without the benefit of local opinion from the peasant sector itself. As will be noted below, however, the peasants are currently warily disposed to co-operatives and not yet prepared to readily adopt this change in farming methods.

The failures of the Diversification Programme, it is suggested, are related to policy measures based on the above and similar assumptions rather than on empirical data. The historical factors alluded to earlier have all contributed to the existence of the national food-supply problem (p.66ff) The current Diversification Programme is an official attempt to rectify this situation: to increase the availability of locally-produced foodstuffs and to reduce the heavy dependency on imported food supplies. This writer, while acknowledging the weight of historical factors in the creation of the problem itself, suggests that the immediate difficulties relative to the current Diversification Programme are of a somewhat different origin and cannot be attributed to these factors solely.

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[1] This opinion was expressed in a private conversation by an official of the Ministry of Agriculture.

The existence of a recognizably progressive element within the peasant sector (p. 19) indicates that the historical constraints can be overcome. It is argued here that within the framework of local peasant farming, marketing and capital supplies are the major constraints to the expansion of food-crops and the viability of the local food-producing sector.[1] This situation, it is posited, exists because the government planners lack adequate knowledge of the peasant sector and are consequently formulating programmes on the basis of false, or no longer relevant, assumptions.

Having already established the existence of a local food problem and having examined the official attempt to overcome this problem, this chapter will attempt to identify the underlying factors in the failure of the Diversification Programme.

(ii) The Basic Problem

It is submitted here that the major contributory factor to the limited success of the Diversification Programme is a lack of understanding of the peasant sector due to a lack of effective communication between the planners and the peasants. The ineffective and often contradictory measures which were adopted to implement the programme were incorporated in default of meaning-

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[1] The historical legacy of social relationships and values will significantly affect the future of the peasantry and peasant farming (see p. 218) but here the Diversification Programme is examined in its present context.

ful communication. Thus the planners, as the peasants themselves maintain, formulated operational procedures on the basis of an inadequate knowledge of the peasant sector. And the peasants, for their part largely unaware of the planners' aims and methods, and somewhat confused by what they actually knew, chose to forego their desire for greater income rather than to undertake what, to them, were risky and uncertain ventures.

There are two dimensions to this problem of 'communications deficiency': lack of co-operation during the planning phase, and absence of information on the continuing operation of the plan. The enactment of the pieces of legislation was, on the whole, undertaken without the benefit of adequate discussion and co-operation with the farming community in general, and the peasant sector in particular.[1]

Thus Donoghue (op. cit.) notes that the Marketing Corporation quietly began its operations with little prior negotiation or co-operation with farmers. And the frustration and resentment expressed by the farmers (Oyelese, op. cit.) stemmed from dissatisfaction with their exclusion from the consultative process and with the absence of adequate information. Many small farmers have voiced the opinion that many of the defects in the programme could have been anticipated had such consultation been

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[1] In some cases, such as the Barbados Development Bank (1969) and the Sugar Industry Agricultural Bank (1904) discussion was initiated. But these enterprises are aimed almost exclusively at large commercial operations and their establishment involved expenditures of significant sums of money.

initiated. As it was, however, much of the current knowledge of official plans was only acquired after the operational procedures had been legalized. The Agricultural Credit Bank, though tacitly encouraging the expansion of foodcrops, has not only failed to offer specific incentives, but has unwittingly succeeded in discriminating against such expansion. The evidence suggests that, here too, a lack of preliminary research has contributed to this apparent contradiction.

It is suggested, therefore, that meaningful research and communication could have revealed many of the causes for subsequent complaint. Thus, some discussion with the farming community could have apprised the management of the Credit Bank of the inapplicability of its repayment plan to the indigenous food marketing system (p. 134ff) While it can be argued that the Barbados Marketing Corporation is a direct result of this awareness, the Corporation itself was established nearly a quarter of a century later. Also within the context of planned increases, the planners were evidently ill-informed on the priority of marketing facilities for foodcrops. These facilities were eventually provided by the Marketing Corporation but, again, lack of preliminary discussion has permitted the inclusion of certain unrealistic specifications. Through effective discussion, too, the restrictive bias of the transportation policy of the Corporation could have become evident and a more equitable pricing system could also have been considered.

In each case, the farmer in particular, and the population in general, would have been more aware of the plans and objectives of the planners, and the operating procedures of the institutions. However, it is certainly not the aim of this writer to suggest that preliminary discussions could have guaranteed instant or certain acceptance of the proposed changes. Nor is it his intention to argue or imply that such discussion would have produced a perfect set of provisions and guidelines. Nor, for that matter, is it suggested here that any discussion whatever would have provided a ready solution to all problems relative to local peasant agriculture. However, with some prior discussion and research, the planners would assuredly have become better acquainted with the local peasantry; and would consequently be better placed to evolve more practicable and consistent methods of procedure, or, alternatively, to recognize the impossibility of diversifying local peasant agriculture.

Only limited information is available in terms of the current daily operation of the institutions. This deficiency is particularly evident with reference to the Marketing Corporation. Once in each three-month period, the Corporation publishes, in the local media and in their official pamphlet[1], (p. 160)

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[1] In spite of the limited circulation of the pamphlet, the other media outlets provide reasonable sources of information to the population in general. A local 'wire' service, Rediffusion, had over 25,000 subscribers as of 1965, a total not including households with wireless sets and, more recently, television. The average week-day circulation of local newspapers in the same year was also over 25,000. This last figure does not include week-end circulation which the writer knows from personal observation to be considerably greater than the week-day average.

a list of the minimum prices currently being offered for selected food items. This, until recently, seems to have been the extent of its public relations programme (see p. 160) The actual prices being offered, however, are not made public; and there seems to be no sustained effort to inform the farmer, or the public, of the status of its available supplies of food produce. Only in cases of acute deficiencies or surpluses is such information released.

The major deficiency here relates to the infrequency of price-notification and the fact that the farming population, in particular, is not kept up to date on prices and price changes. In a recent survey, complaints relating to uncertainty of prices and volume of sale were recorded. Of all such complaints, two-thirds were registered against the Marketing Corporation (Ingersent, et al., op. cit.). A paucity of up-to-date information is also evident relative to the current operations of the Agricultural Credit Bank. And until recently, too, no programme has existed to keep the farmers aware of the existence and purpose of the Bank.

(iii) An Attempted Solution

In an effort to rectify this state of general 'information deficiency', the relevant agencies have recently initiated a programme to keep the farmers informed. The Agricultural Credit Bank, for example, has recently moved to dispel the cloud of obscurity surrounding its operations. In 1969, the Management prepared, for publication, a booklet outlining the aims and operating procedures of the Bank, (see p. 81n). Unfortunately, however, the method of distribution, or rather the lack of one, tends to restrict

the circulation of the Manual to the normal Bank customers.

The Barbados Farmer is a monthly bulletin published by the Marketing Corporation to disseminate information and advice to both the farmer and the fisherman.[1] The bulletin carries general information on certain techniques of crop management and animal husbandry, and includes information on such topics as marketing, tropical botany, preservation of animal and plant foods and on local recipes.

Since 1970, the Agricultural Newsletter has been published by the Ministry of Agriculture for the specific benefit of farmers.[2] The information carried in the newsletter is based, to a large extent, on the results of scientific research conducted by the Ministry of Agriculture. While it is of considerable value, therefore, the nature of the contents and the scientific treatment it receives, exalts it beyond the comprehension of the average smallholder. In any event, the circulation of these publications, like that of the manual of the Credit Bank, tends to be restricted among the already established clientele.[3]

Occasional information on the diversification programme

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[1] The first issue was published in August, 1969.

[2] The Newsletter was first published in January, 1970.

[3] Of the nineteen small farmers visited during the course of the writer's fieldwork, only one had ever seen a copy of The Barbados Farmer; and none were aware of the existence of the Agricultural Newsletter.

in general appears in the mass media. These releases, however, do not represent any conscious or sustained effort to keep the public informed of the objectives, the operational procedures or the progress of the agricultural development plan. Neither do these offer guidelines to the farmers in terms of the type and quantity of the produce to be emphasized or the prices to be expected.[1]

A government - sponsored farm broadcast is also carried on both radio and television. This information, however, usually covers methods and techniques of agricultural production rather than the promotion of government plans and objectives. The effectiveness of the broadcast, in any event, seems to be partly restricted by a residual feeling of mistrust of government plans, in general, on the part of the smallholders. Moreover, the information given usually requires demonstration follow-ups which, given the present scope of extension activity (p. 142), are not readily available to the vast majority of peasant farmers.

The element of conservatism and economic caution evident in all agricultural communities, requires that the farmer, before he adopts a given innovation, be satisfied that the ultimate returns will justify the additional inputs. Novel and unfamiliar factors of production invariably raise questions and necessitate detailed explanations, particularly to those whose

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[1] A typical article appearing in the Barbados Advocate, November 3, 1967, merely listed the produce purchased by the BMC during the previous month of May.

formal education has not been extensive. Where radical changes in cultivation and management techniques are involved, the mass media is considered ineffectual as an instrument of change.

In the process of adoption of a new practice or technique, five major stages have been identified (Rogers, E.M., 1960:407). At the first, or 'awareness stage', the adopter first becomes acquainted with the new idea or technique. Additional, substantive information is gathered during the 'interest stage', and on the basis of this, the decision is made, at the 'evaluation stage', to try out the new idea. The'trial stage' in the adoption process involves a small-scale experiment with the innovation, the outcome of which will determine the final or 'adoption stage'.

The major influence at each of these stages, excluding the final one, is the source and quality of the information received. These preliminary stages also become progressively important and crucial to the outcome of the adoption process. The sources of information in the later stages are, therefore, the critical components in the process. Recent research in the adoption of innovations in rural societies suggests that the mass media is generally of significance only in creating an awareness of the new idea (Ibid.:408). The importance of the media, as a source of information, progressively decreases at the other stages in the adoption process.

Radio and television programmes are organized to follow a given pattern at a set pace. The audience itself exercises no control over this programming structure (Loomis & Beagle, 1957).

The contents of these programmes are also limited in the length and frequency of their exposure. The audience, therefore, is unlikely to hear or see the same programme the second time or to have the opportunity for subsequent review or re-examination. The short duration of these programmes, moreover, inhibits the thorough treatment of intricate and complex subject matter. And the standardization of these broadcasts, precludes the inclusion of minority opinions or the allowance for exceptions and local variations. Printed matter, on the other hand, is both more accessible and less standardized. But while radio audiences do not require a high level of education, readers of the printed word must, of necessity, be well-schooled (Ibid.).

The success of any programme of directed change depends on an effective link between the agency of change and the target system at which the changes are directed. The mass media, as a whole, is too impersonal a means of communication to provide such a link, though it can reach a wide audience simultaneously. This impersonal or 'Gessellshaft-like' relationship lacks:-

> "... The personal element of face-to-face interaction and discussion, (and) ... it is unlikely ... that any mass medium can become more effective in communication than the direct face-to-face interaction between intimates."
>
> (Ibid.:426)

Thus while acknowledging the value of the mass media in Barbados as a means of propagating such information as can most readily be absorbed and accepted by the farming population, it is argued that the treatment of more complex and novel information can

better be performed by personal sources. Once the farmers have become aware of, and involved in, the process of agricultural development, the mass media can be effectively utilized in disseminating information to a wide audience instantly. In the initial stage of the process, however, the impersonal character of the media restricts its immediate effectiveness.

(iv) A Proposed Solution

It is evident therefore, that, in a farming community, the mass media is only of limited significance in generating change. It is equally evident that a network of more personal, intimate communication is essential to the diffusion of knowledge and the exchange of information on the agricultural sector. It is suggested here that, in the context of Barbadian peasant farming, this personal, 'Gemeinschaft-like' relationship between the change agency and the target system can be effectively provided by the Agricultural Extension Service.

In an agricultural community, as elsewhere, changes involve a degree of 'unlearning' and 'relearning'. In such situations, channels of communication and co-operation constitute the essential starting point for the introduction of change of new ideas (Spicer, op. cit.). Communication has been defined as:-

> "... the process by which information, decisions and directives pass through a social system and the ways in which knowledge, opinions and attitudes are formed."
>
> (Loomis & Beegle, op. cit.:17).

The mass media may be instrumental in such a process; but, as noted previously, this method provides for only a one-way flow of information. Communication, however, can also be effected through formal or informal channels which provide opportunities for two-way interaction in which individuals exchange information.

The spread of knowledge in an agricultural community is essentially a 'two-step' process. The results of intensive research must first be communicated to the change agent, who then disseminates this knowledge among the farming community. The Extension Officer, as the change agent, therefore plays:-

> "... an important role in (this) two-step flow of communication by which new agricultural technology is diffused from scientist to farm people."
> (Rogers, op. cit.:321).

In many developed countries, the Agricultural Extension Service was conceived as a means for effecting meaningful communication between government agricultural agencies and the farm sector. In the United States, for example, one of the major functions of the Extension Service is to furnish a channel of communication between the rural population and the agricultural agencies (Loomis & Beegle, op. cit.).

The Extension agent, therefore, is a recognized instrument for introducing technological changes and new ideas into a farming community. Rogers (op. cit.) has shown that the personalized services of Government agencies, such as the Extension Service, are highly significant in the later and crucial stages of the adoption process. The data presented by Rogers is based on research in Iowa only and give considerable weight to the influence of neigh-

bours and friends in general, and of salesmen and dealers in the trial stage in particular. In the context of the Barbadian situation, however, the educational and social status of the peasant (p. 26) tends to eliminate him as a major source of information to fellow farmers (Ingersent, et al., op. cit.:95). And the level of the prevailing technology and the nature of the proposed changes, effectively restrict the influence of dealers. (There are no agricultural salesmen as such.) In the Barbadian context, therefore, considerably more weight must be given to the influence of Government agencies at all stages of the adoption process.

The extension agent is, in effect, one of the major channels through which the farmer is informed of official plans and objectives and of new ideas. He not only informs, but advises and assists the farmer in the adoption of new ideas and technologies. The agent is also one of the farmers' major informants on the state of the market for farm produce. The Extension Service is, in fact, a:-

> "system of rural education ... by which adjustment of country life can be effected and placed upon a higher plane of profit, comfort, culture, influence and power."[1]

While the Extension Officer can merely dispense directives to the farmers, his relationship to his constituents also offers the opportunity for a two-way flow of information. If the former, 'Gessellschaft-like' role is emphasized or encouraged, the officer becomes little more than a personified version of the mass media and equally ineffective. As a channel of two-way communication, however, the officer becomes much more than a mere dispenser of

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[1] Knapp, S. "The Farmers' Co-operative Demonstration Work", in USDA Yearbook, 1909, quoted in Loomis and Beegle, (op. cit.:371).

scientific agricultural prescriptions. He becomes the medium through which the change agency and the target system are made mutually aware of the other's objectives and pragmatic goals. As a change agent, the officer is therefore a critical link between these two systems, and becomes both an educator and an organizer in a specific sense. Thus, although he may be interested in a particular branch of agriculture, he cannot function as a specialist, but must expand his interests to include the social, cultural, economic and geographical attributes and problems of his constituency.

> "He becomes the personification of scientific agricultural practices on the one hand, and an integrative rural organizer on the other."
> (Loomis & Beegle, op. cit.:374)

The following proposition is therefore submitted: within the above functional framework, the Extension Service is potentially the most efficient mechanism for effecting the desired changes in the Barbadian peasant sector. As a source of information, the Extension Officer can adequately inform the smallholders of the government's plans, objectives and expectations. He can also effectively explain and demonstrate the benefits of new technologies and new factors of production. But it is as a two-way channel of communication that the agent can be most effective in the total programme of agricultural planning. For in this role he can contribute most to dissolving the existing misconceptions about the local peasantry and to enlightening official opinion.

The significance of the officer in this role has been recognized in many developed countries (Lewis, W.A., 1955). In the United States, for example:-

> "... it is one of the explicitly emphasized features of the ... Extension Service that it furnishes a channel of communication from the rural people to the ... Department of Agriculture ... enabling them (the planners) to organize research, teaching and extension activities to meet needs."
> (Loomis & Beegle, op. cit.:378)[1]

This dimension of the duties of the agent is vitally important and needs to be emphasized in the context of Barbadian peasant agriculture. The activities of the Ministry of Agriculture must be organized to supplement the resources of the farmer. And any plans, to be efficient and effective, must be based on a realistic compromise between the pragmatic needs of the farmer and the prescriptive goals of the planners. To facilitate this, feed-back from the farmers must be accepted and encouraged. For, to change a people's customs and traditional technology is a delicate responsibility, the success of which depends upon their participation and co-operation. And real participation in changes is defined as:-

> "... taking part in the planning and discussion of advantages to be gained, in the devising of methods for introduction, and in the execution of the innovation. Participation ... not only gives people a chance to develop a feeling of need for the change, but also enables them to work out, in their own way, adjustments of the new to the pattern of the existing customs."
> (Spicer, op. cit.:293).

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[1] Emphasis supplied.

The lack of such participation may generate resistance to a given innovation, not because of any inherent deficiencies, but because of the method in which the programme is administered. The Extension Officer in Barbados can be instrumental in stimulating and maintaining such participation. He can consequently provide the planners with substantive evidence of the needs of the peasants to which an effective operating mechanism can be adjusted. In the following paragraphs, the background and the current status of the Extension Service will be reviewed, and an analysis of the farmer's response to these services will be attempted. On the basis of this assessment, the validity of the above proposition will be established.

(v) The Agricultural Extension Service

(a) In Retrospect

The Agricultural Extension Service was created in 1936 as an adjunct to the Agricultural Credit Bank (see p. 84). In the first year of operation, only one Officer was appointed; but it soon became evident that there was much work to be done in the area of peasant farming. In the following year, three officers were employed; and by 1944, the staff of the Extension Service had been increased to twelve. (Halcrow & Cave, op. cit.)

In the same year, however, a series of Agricultural Stations were established throughout the island. These stations were intended to be research centres partly, but more specifically, centres of operation for the Extension Officers and as demonstration units for the small farmers. These stations also provided

animal-breeding facilities, improved plant varieties and certain types of fertilizers for the small farms. Six of the Officers were removed from active extension work in order to take charge of these stations, thus reducing the extension staff by half. The size of the staff has not been increased since then; and in 1970, in fact, there were only five extension officers.[1] In 1964, the Agricultural Stations were officially designated as Research Stations and are no longer the base of operations for the Extension Staff.

(b) Present Status[2]

Presently, the extension field-staff effectively consists of only four officers[3] who operate from their headquarters in Bridgetown. These are the sole personal instrument in disseminating knowledge, information and new ideas to the farmer population. Their services are concentrated within six districts into which the island has been divided (Fig. 9) each to be served by an Extension Officer.[4] These agricultural agents are to provide extension services to the 27,000 peasant farmers on the island. It is obvious therefore, that, under such circumstances,

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[1]The total Extension Service, including research staff, has a personnel of sixteen. The present analysis, however, restricts itself to that segment of the staff engaged in working directly with the peasant farmers.

[2]Based on official reports of the Extension Service and on questionnaires returned by the Extension Field Officers.

[3]The chief Extension Officer is more of an administrative position, and is thus not an active field worker.

[4]At the time of writing, two districts are without the services of an Extension Officer.

adequate service can only be provided for a small minority of the smallholder population (see p. 142).

The duties of the Officers are both instructional and consultative in character, with major emphasis on technical and scientific advice. These activities have not significantly changed over time, and include giving advice on such things as methods of planting and tending crops, types of seeds and strains of cuttings to be planted, types and quantity of fertilizer to be applied, and times and methods of harvesting. Recently, however, with increasing emphasis on crop diversification, particular attention has been paid to assistance designed to improve the standard of food and vegetable production. Some pruning and grafting is also performed and advice is given on most aspects of animal husbandry.

Though the officers are themselves fairly well equipped to offer adequate advice on either of the three planning agencies, few farmers seek information on these. Advice is most readily and most often sought on better seeds and better breeds of animals, on weed and pest control, and specific problems relating to the growth, health and productivity of certain crops. The Officers are also required to submit regular reports on their activities and on the problems encountered by the farmers they have visited. The nature of these reports, however, tend to be more technical and scientific than social or economic. In addition to their advisory duties, the officers also assist in government-sponsored surveys.

(c) A Farmers' Assessment[1]

The major and only significant source of advice used by the peasant farmers in Barbados is the Agricultural Extension Officer (also Ingersent et al., op. cit.); and the majority of those smallholders who have been visited by an officer have expressed a definite satisfaction with the service received. The information from the Extension Officers is a major factor in influencing the peasants' choice of crops and the acreage devoted to each. (Ibid.:90, 92). The farmers make frequent reference to the time when, due to a larger staff of Extension Officers, visits were more frequent, when they were in closer personal contact with the Officers and when they knew fairly precisely when to expect a visit. Some farmers also point out, with pride, a fruit-tree which had been engrafted by an officer, or a strain of poultry or breed of animal which he had recommended and helped to develop. These activities greatly improved the quality of peasant produce, but the generally stable market situation within which they operated, prevented any real increase in the volume of production.

The farmers value the visits and the advice of the Officers as an essential prerequisite to their expansion of food production. They particularly stress the need for advice on the choice of crops and relevant management techniques. Information is also sought on pest control, market potentials, and the economic possibilities associated with these crops. The evidence suggests that most

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[1]The observations and conclusions which follow are largely based on data collected during fieldwork, May to July, 1970, and corroborated by the references cited.

farmers readily accept the advice of the Officers and are making satisfactory progress in adopting new or improved factors of production. Thus, mainly on those farms regularly visited by them, the Officers have noted some increase in the production of food-crops.

The major complaint against the Extension Service was voiced in terms of number and frequency of the visits. Thus it is noted that:-

> "... the most frequent complaint given by the ... producers, who were not satisfied ..., was that the adviser was not readily accessible when his advice was needed. These producers considered that they should be able to obtain the services of the Extension Officer more readily and that his visits should be more frequent."
>
> (Ibid.:94)

This generally - almost overwhelmingly - favourable response to the Extension Officers can perhaps be attributed to two major factors. First, the Officers have all received their training in a 'native' environment.[1] They are therefore able to readily identify with the local problems and indigenous methods of farming. They do not, that is, introduce totally foreign or radically different techniques, which may either create a disfunction in the technological and socio-economic system or precipitate a protective reaction, on the part of the farmers, against the innovation.

The second factor which contributes to the high evaluation of the Extension Officer is the economic orientation of the Barbadian smallholder, (p. 18). Throughout the recent survey by

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[1] At the Eastern Caribbean Farm Institute, formerly the Imperial College of Tropical Agriculture, in Trinidad.

Ingersent and others, it has been noted that economic factors have a significant effect on all major farming decisions. Thus the peasant farmers are:-

> "... prepared to work longer hours on (their) holding if, by so doing, they could be certain of increasing their income."
>
> (op. cit.:120).

Similar economic considerations were mentioned as major factors in decisions to introduce, eliminate or expand certain crops and in the choice of a marketing outlet.

The approach and training of the Extension Officer makes his advice more acceptable to the local farmers, while the economic orientation of the farmer predisposes him to readily accept the advice offered. The Extension Officer is, therefore, by far the most effective link between the Ministry of Agriculture and the peasant farmers. Whether this arrangement represents an efficient utilization of resources, will be examined in the following section.

(vi) Basis for a Future Role

Within the general definitional framework of a change agent, the Barbadian Extension Officer can effectively be the major channel of communication between the governmental change agency on the one hand, and the peasant-farmer target system on the other. In more advanced societies generally, and among the large estate operators locally, a higher level of formal education enables the farmers to more readily understand, absorb and adopt the results of scientific research. Since they are also more

aware of the research activities of the geneticists, entomologists, plant pathologists and others, they subscribe to farm journals, tune in to radio and television programmes and attend meetings of farmers' associations. (Lewis, op. cit.). This degree of social interaction facilitates the spread of new ideas.

In developing countries, and among peasant farmers locally, these capabilities and attitudes do not normally exist. In the adoption process, the more progressive farmers fall into the category of either 'innovators' or, more often, the 'early adopters' and the 'early majority'. (Rogers, op. cit.; Gould, P., 1969[1]). Peasant farmers, on the other hand, because of a lower level of education and lower social status, are more generally among the 'late majority' or the 'laggards'.[2] These farmers cannot be expected to collect and isolate that information or knowledge which is available for, and applicable to, his farm especially. (Weitz, R., (ed.), 1966). These latter categories are influenced more by direct personal contacts than by the impersonal relationship of the mass media. It is thus interesting to note the following statement relative to the Barbadian peasant:-

> "There is evidence, however, that personal visits by the instructors (Extension Officers) are indispensable for steady progress in the improvement of peasant agriculture."
> (Halcrow & Cave, op. cit.:34)

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[1] A.A.A.G. Resource Paper No. 4 - Spatial Diffusion.

[2] The Barbadian peasants fall into these latter categories, although their degree of economic orientation would exclude a majority from the 'laggards' in the true sense.

Bauer and Yamey, commenting on Agricultural Extension work, have observed that:-

> "... In many underdeveloped countries, output could be increased with little or no additional capital expenditure, by the use of new techniques which may be quite simple and would be adopted by many farmers or peasants if they knew about them."
>
> (op. cit.:217).

And Schultz (op. cit.) argues that the efficient application of the basic simple techniques of agriculture could substantially increase the productivity of agriculture in developing countries. Agricultural Extension work is thus recognized as an investment, and:-

> "... expenditure on bringing new knowledge to peasant farmers is ... probably the most productive investment which can be made in any of the poorer agricultural economies."
>
> (Lewis, op. cit.:187).

To effect this diffusion of knowledge, Lewis has recommended a staff of one extension officer for every one thousand persons gainfully employed in peasant agriculture. He further suggests that about one per cent of the national income should be allocated to agricultural research and extension work. He notes that Japan and Israel spend at this level on agricultural services and draws attention to their spectacular increases in peasant productivity. In the context of Barbadian agriculture, these standards would require an extension staff of twenty-seven officers compared to the present five, and an annual expenditure of some $1.5 million.[1]

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[1] Based on the Barbados Estimates for 1965, which give a national income of $158 million. In that year, however, only $734,000 were spent on both agriculture and fisheries.

In addition to the investment pre-requisite mentioned above, the Extension Officer, as an 'integrative rural organizer', must be assigned more responsibilities. In the absence of specific information on a given problem, the agent should be invested with the authority and discretionary powers to relax or liberally interpret government regulations. Thus, if local experience has shown that a crop cannot be economically produced in certain areas of the country, the Officer should be able to permit and even encourage the cultivation of a suitable alternative crop.[1]

Summary

A generally inadequate knowledge of the peasantry has considerably affected the applicability and relevance of the planning provisions in terms of the peasant farming sector. A similar unfamilarity with government programmes has also influenced the response of the peasants to these measures for change. These two factors are integral aspects of the problem of agricultural diversification in Barbados.

The latter aspect of the problem has evidently been recognized by the planners, and attempts have been made to rectify it. These measures, designed to acquaint the peasants with official policy, are essentially based on the exploitation of mass media resources. As such, because of the inherent characteristics of the mass media, these attempts have had only limited success. Moreover, the former, equally vital aspect of

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[1] In Barbados, legally, a formal application has to be made, and written permission received to undertake any such crop substitution. (See p. 90)

the problem has remained largely unaffected, and few discernible measures have so far been taken to rectify this. The government-sponsored surveys by Halcrow and Cave, and more recently by Ingersent and others are the only attempts so far. These, however, tend to concentrate more on the economics and productivity of peasant farming, and only superficially treat the more strictly socio-cultural and traditional characteristics.

The resultant and existing situation of mutual unfamiliarity, it is postulated here, is a major factor in the lack of diversification in the peasant sector. To dispel this lack of knowledge would be a major step towards an ultimate solution to these problems. This writer submits that the Agricultural Extension Officers can play a significant role in this process. This is not to suggest however, that mere awareness, by both planners and peasants, of the other's aims and values is the solution of the problem. Such knowledge would not in itself guarantee any major changes in the agricultural or socio-economic outlook of either group. The proposition offered here, however, is that well-informed planners are theoretically the most reliable basis for well-formulated plans. Conversely, an ill-informed planning agency is incapable of formulating relevant and effective plans. For adequate, factual data, at the disposal of those concerned, can generate a planning programme based more on facts and less on mere assumptions, and consequently more applicable to the realities of the given situation.

To ensure the successful adoption of any plan for change, however, the proposals must be both relevant and practicable. In

the context of Barbados, major changes are required in the terms of agricultural legislation in order to ensure such success. These changes are examined in the following chapter.

CHAPTER 6

A NATIONAL APPROACH TO THE PROBLEM

(i) Introduction - Towards a Balanced Growth

(ii) Individual Contributions

- (a) The Ministry of Agriculture
- (b) The Agricultural Credit Bank
- (c) The Barbados Marketing Corporation
- (d) The Ministry of Education

(iii) An Agricultural Planning Committee

(iv) Investing in Farm People

Introduction

Towards A Balanced Growth

One of the current major concerns of social scientists in general, is the problem of development in the 'underdeveloped' or 'developing' areas of the world. Concerned scholars are progressively inclined to adopt an interdisciplinary approach to this problem and to view it as involving the totality of a people's existence (Clarkson, J.D., 1968). The process of development, therefore, is being viewed more as a socio-economic phenomenon then as an exclusively economic pursuit independent of the given cultural context.

The term 'development' is generally more closely associated with the qualification 'economic', and this is regarded as the domain of the economists. There are, however, other equally significant attributes of a people's existence which affect and are affected by their economic well-being. And it is not the prerogative of the economist:-

> "... to say to what extent biological, environmental, or historical factors account for differences in people and in societies in respect of their ability, desire and willingness to increase their production of goods and services and to promote economic growth."
> (Bauer & Yamey, op. cit.,:58).

Although considerable post-war progress has been achieved in the development of economic theory and the refinement of analytical methods, most of the major developments in economics are of limited value in the study of underdeveloped economies. The paucity of meaningful and definitive generalizations in this

area is explained partly by an only very recent interest in developing economies, and partly by the significant diversity among the developing countries themselves (Ibid.:12).

The purely economic approach to the problem of development is based on the assumption that 'underdevelopedness' is occasioned by low per capita productivity. This situation is explained in terms of a thin spread of population resources, variously recognized as 'underemployment' or 'disguised unemployment', which is itself generated by a lack of capital accumulation and of adequate investment (Lewis, op. cit.; Gill, R., 1964). Inherent in this explanation is the idea that indigenous peoples are incapable of building up savings on their own initiative. There thus exists a 'vicious circle of poverty' (Gill, op. cit.:30) revolving round the notion that a country's poverty may itself be one of the major obstacles to its growth and development. Thus, it is argued, because a country is poor, it cannot develop; and because it does not develop, it remains poor. The implied remedy, to break the circle, must be externally derived, generally in the form of a heavy volume of foreign capital.

The adequacy of this approach, however, has been examined and questioned (Myrdal, C., 1968), for it views a problem in a basically stable economy within an essentially western, growth-oriented framework, and places measurements on values which cannot easily be measured (Bauer & Yamey, op. cit.). The opinion is often voiced that the indigenous institutions must first be changed before meaningful progress can be achieved (Lewis, op. cit.); and land reform, population control and savings insti-

tutions are postulated as the areas of major concern (Gill, op. cit.). This attitude reflects an imposition of 'western' values, in that it assumes that if 'capitalist' institutions and habits do not exist, meaningful development and progress cannot be generated. Implied in all this, is the idea that an underdeveloped country cannot generate its own development process, and that any progressive changes must be externally derived through foreign capital and/or institutional changes. These measures of reform, would merely alter the existing institutional framework without in any way influencing the availability of resources. In this respect, it is argued, they do not get to the root of the problem.

An alternative view of the problem of underdevelopment regards an existing economic situation as a system in itself. It is further postulated that the system has developed through experience in response to effective environmental conditions, and has been shaped by cultural attributes (Boserup, E., 1965; Geertz, C., 1963; Steward, 1955), the most significant of which are the level of technology and the state of the existing skills. This view rejects the idea of lazy, indolent natives, incapable of, or unwilling to, make the most of economic opportunities (Myrdal, op. cit.). The population is postulated to be in a state of dynamic change, in terms of both numbers and ideas. Producers in developing countries everywhere are generally aware of, and take advantage of existing economic possibilities within the limits of their technology and capabilities. Their economic institutions have therefore developed in response to the changing needs and conditions of the population.

Underdevelopment therefore exists where changes and progress in techniques have ceased to occur, and co-exists with a state of technological deficiency at which 'economic equilibrium' has been achieved (Schultz, op. cit.).[1] Underdevelopment is also occasioned when radical changes, from external intervention, in one or more elements of the system, create a disfunction in the system as a whole (Spicer, op. cit.). Thus major innovations or radical changes, introduced at a faster rate than they can be absorbed, may adversely affect the system. The resulting disruption may precipitate resistance to the changes and an attitude of conservatism leading eventually to stagnation.

Meaningful and effective changes, therefore, must be initiated within the framework of the existing institutions and value systems, and in response to effective environmental conditions (Clayton, E., 1964). The major emphasis should thus be placed on the improvement of the system and the existing institutions rather than on radical changes or major reforms within the system. This approach, while endorsing the need for substantial investments, places major emphasis on the kind and quality of this investment rather than on the quantity of it. Basic human resources of skill, knowledge and capabilities are thus the critical factors in the process of development.

In a peasant society, genuine development in agriculture involves more than technological and economic problems. Agri-

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[1] This situation occurs when a population with a given level of technology is utilizing it with a maximum efficiency. This is, in effect, a static situation, and in contrast to that within a society with changing technology which is consequently more dynamic and progressive.

cultural development is rather a social process in which cultural values, entrepreneurial talents, differential predisposition to change and perception of problems all play a prominent part (Weitz, op. cit.). The planners, therefore, cannot afford to ignore or exclude the relationships and connections between purely economic factors and social and cultural conditions. For the society's attitude to work can be a far more decisive determinant in raising agricultural productivity than the material factors of technology, agricultural science and economics.

Planning for agricultural development, then, necessitates a comprehensive, national approach to the problems, with due recognition given to the social, economic, technological and educational realities of the peasant population at large - both as farmer - producers and as consumers. For to change the agricultural system of a peasant involves changing his cultural, social, spiritual and economic values - in short, his entire way of life. Real agricultural progress in Barbados, and in the peasant sector specifically, can only be achieved within a similar conceptual framework.

It has already been established that the Barbadian peasant diverges, in several respects, from the classical model of peasants in terms of both cultural and economic parameters (Chapter 1). The local peasant, for example, has always aspired to the standard of living enjoyed by the dominant ruling class; and has, perhaps directly, paid much attention to their own economic advancement. It has also been noted that the local peasantry has, for at least two centuries, been actively involved in an essentially monetary economy, and in the production of agricultural staples other than

sugar-cane (Chapter 2). There have been official attempts, born more of necessity than of inclination, to reinforce and expand this latter phase of agricultural activity (Chapter 3). These measures have failed largely because of general inadequacies and frequent contradictions; and the emphasis on sugar-cane has thus been perpetuated. The available evidence now suggests, however, that the Barbadian peasant farmer is currently dissatified with the economic returns from sugar-cane, and is willing to adopt other lines of agricultural activity (Chapter 4). Though the majority of small farmers also engage in ancillary, off-farm employment, it has been demonstrated that full-time vegetable-growing is potentially more remunerative than the above combination. On the basis of the foregoing sets of information, it is concluded here that Barbadian peasant farming can be successfully diversified.[1]

Few writers refute this assessment of the Barbadian peasantry, though they are quick to sound a note of caution.[2] E.G.B. Gooding, for example, (in Doxey et al.: op. cit.:87) emphasized the fact that many staple items in the Barbadian diet cannot be locally produced. These include such things as rice and several other cereals, coffee, cocoa, etc. Some other items, because of the limited areal extent of the island, cannot be produced in sufficient quantity. Thus even the most thoroughly diversified agricultural system can never fully satisfy local food requirements. In spite of these limitations, Gooding nevertheless estimates that a diversified agricultural system can cut the food-import bill by

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[1] See p. 80.

[2] See for example, Ingersent et al., (op. cit.); Doxey et al., (op. cit.).

at least one-third. In terms of the most recently available trade statistics (1968), this represents export-savings of over 13 million dollars or nearly ten percent of the total import bill. Potential savings of this magnitude, in an island whose national income, in the same year, was about $200 million, are undoubtedly of great significance, and merit serious attention.

To achieve even these modest goals, however, major changes will be required in the structural and operational framework of local agricultural planning. These changes will be examined below in the context of the various agencies involved in, or relevant to, agricultural development.

(ii) Individual Contributions

In Barbados, each of the related government agencies has a distinctive contribution to make to the balanced growth of agriculture in particular, and of the national economy in general. This contribution can be measured in terms of research and investment in the scientific, technical and technological inputs and the availability of loans and grants to the farmers. Of greater significance, each can contribute to a better understanding and appreciation of the relationships between these factors and the socio-cultural attributes of the local population. Detailed discussion of these potentials, however, is beyond the scope of this study, and reference will be restricted here to those individual contributions relevant to the efficiency of the mechanism for directing changes.

(a) The Ministry of Agriculture

With a well qualified staff of agricultural scientists and researchers, the Ministry of Agriculture produces a wealth of information and improved factors of productions for sugar-cane, food crops and animal husbandry. The results of this research are, in terms of scientific requirements, generally adequate to the needs of the local farmers. However, this information, as indicated above, is not readily accessible to the peasant farmer. The Extension Officer has been designated, in this study, as the major channel of communication between the two systems. But it is also felt that a type of Peasant Farmers' Association would facilitate and improve the contacts between the systems. Such associations, long evident in the U.S.A. and the United Kingdom, are also highly developed in Japan (Brunner, et al., 1945), and have contributed significantly to the rapid progress achieved in Japanese agriculture (Lewis, op. cit.; Ogura, T., 1963). The size of the local extension staff vis-à-vis the peasant-farmer population also suggests this as a viable proposition.

The Association, organized into local chapters, would have as its basic function to assist in the dissemination of agricultural knowledge and information among the peasant farmers. In addition to sharing technical and scientific knowledge on crop management and animal husbandry, the local groups will form a forum for discussion on all problems - economic, marketing and otherwise-relevant to an agricultural economy. One further advantage of the chapters is that feed-back on existing plans, through the discussion of local problems and the expression of

local opinions, will provide an empirical basis on which to modify plans and to structure future changes.

Such associations, rather than co-operatives, are suggested here mainly because of the current attitude of the Barbadian peasant to economic co-operation, (p. 150). The promotion of co-operation among the working-class was never, for obvious reasons, a major objective of the plantation owners before or after Emancipation. Rather it seems to have been the policy and it was certainly in the interest of the planters to maintain an economically fragmented peasant population. On a larger scale, this tendency to stifle co-operation is evident in the policy of the British government in discouraging inter-territorial trade. For, as one writer states:-

> "Slavery destroyed the very essence of a corporate existence, and the islands have never really felt the need for each other as is perhaps natural among peoples of a common social, cultural and ethnic origin. Added to which, the absence of any worthwhile inter-island transport and communications system reduced contact to a minumum. It is difficult, therefore, to see how the islands could have developed other than along the lines of intense insularity and parochialism, and without being fiercely independent of each other."
>
> (Abbott, G.C., 1971:36)

The entire West Indian economy is thus structured more on competitive than on co-operative lines; and the local population has no access to an acquired body of experiential knowledge relative to economic co-operation and co-operative efforts. Thus the historical bias against co-operative ventures, and the peasants' consequent unfamiliarity with the potential advantages

of co-operatives, reinforced by an excessive[1] zeal for 'independence', and a deep distrust of large operators, have impelled the peasants to adopt a cautious and suspicious attitude to co-operatives in general. Thus the opinion is often expressed by the peasant farmers that "each farmer thinks mainly for himself and that's the way it should be." The smallholder is also concerned lest his interests be neglected by the larger operators in any co-operative venture. For these reasons, none of the farmers interviewed expressed support for the idea of co-operatives.

This general suspicion of co-operative farming was also noted by Halcrow and Cave (op. cit.:33), who suggested that only co-operative marketing and, to some extent, co-operative purchasing offer any real advantages to the Barbadian peasant. It has also been officially recognized that:-

> "... in Barbados the development of the co-operative movement, ... as a means to the more efficient utilization of the scarce financial, managerial and capital resources of the nation, has not proceeded at the desired rate."[2]

And of a total fifty-four active co-operative societies on the island, only nine are classified as agricultural, and two as transport co-operatives (Ibid.). The remainder are mainly co-operative savings societies.

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[1] 'Excessive' is employed here in the sense that the peasants assume that participation in Co-operative ventures will entail the surrender of their freedom, security and control of personal affairs. While co-operatives will inevitably involve some concessions on all sides, they would in fact, in the long run, reinforce these zealously guarded 'possessions'.

[2] Development Plan, 1969-72:151.

While the economic advantages of co-operatives are obvious to the well-informed, the socio-psychological resistance of the Barbadian peasant farmer cannot be ignored, or overcome by compulsion. The success of any co-operative venture depends largely on the confidence and support of its participatory members. Until such times as the Barbadian peasant is convinced of the ultimate advantages and benefits of the co-operative, it is unlikely that his confidence and support will be forthcoming.

It has been noted above (p. 95) that serious attention should be given to research aimed at the compilation of a land-capability map for the island. This map would be useful in identifying areas with the greatest potentialities for given crops; and on the basis of this, the farmers could be encouraged to specialize in, or emphasize those crops most economically productive in the respective areas. A policy of emphasis, rather than specialization, it is felt, would be more practicable and acceptable. For such a programme would allow the peasant to satisfy his subsistence needs through planting a variety of crops for personal use, while also enabling him to emphasize one or more crops for strictly commercial purposes.

The offices of the Ministry of Agriculture are physically separate from the offices of the other related agricultural agencies. The various offices are, in fact, inconveniently located in separate areas of the main city. In terms of operational procedures too, there is, in general, an evident lack of close co-operation and communication between these agencies. Though satisfactory relations

now exist between the Ministry of Agriculture and the Agricultural Credit Bank,[1] closer co-operation is nevertheless in the interest of small farmers. And the Extension Officer could provide invaluable service in this area. This linkage would also provide a channel for apprising the Bank's management with the 'observed' and immediate financial needs of the farmers, and the areas in which loans and grants could most effectively be applied.

The Barbados Marketing Corporation was initially part of the Ministry of Agriculture, both having a common field staff. Procedural and jurisdictional conflicts, however, led to an eventual separation. Some contact, however, is still maintained.[2] The pamphlet, The Barbadian Farmer, published monthly by the Corporation, also occasionally carries articles by staff members of the Ministry, or other information relative to the Ministry. It is felt, however, that the interests of the smallholders can only be better served by closer co-operation between these agencies.

The patterns and volume of trade recorded by the Corporation currently offer the only reliable indication of the supply and demand situation which obtains in the island at a given time. The Extension Service, through the daily visits of the officers and through the Farmers' Associations, can provide appropriate advice and information to the farmers on the prevailing market

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[1] Applications for loans from the Bank must be made through, and recommended by the Ministry's Farm Board, before they are granted.

[2] The Chief Agricultural Officer is a member of the Corporation's Board of Directors, but the Board is not a decision-making body and thus has little real influence on the activities of the Corporation.

situation. Similarly, the Service can provide an important and effective linkage between the Corporation and the local farming community. More significantly, however, reasonably reliable forecasts on the fluctuations of the market could be hazarded on the basis of the Corporation's records. A substantive base could thus be established for effecting meaningful, long range planning for food production, coincident with the changing pattern of demand.

(b) The Agricultural Credit Bank

The Agricultural Credit Bank was established exclusively to serve the interests of the peasant farmers. As indicated above, however, the operating procedures of the Bank have tended to perpetuate, among the smallholders, an excessive dependency on the cultivation of sugar-cane. While its qualification requirements are realistic and acceptable, the Bank, it is suggested, must restructure its terms of repayment to accommodate particularly, the small producers of foodcrops and livestock.

The Marketing Corporation now represents a recognized marketing agency through which the Bank can arrange for the repayment of loans to peasant producers. However, only a small percentage of peasant farmers are currently part of the clientele of the Corporation, to which, in general, they sell only their 'absolute' surplus (see p. 134). The predominant system of marketing through the hawker or selling in the local neighbourhood precludes the effective application of the existing method of guaranteed repayments. An alternative procedure, however, would allow the

Extension Officer to supervise the repayment of the loan in agreed weekly, monthly or, less desireably, yearly instalments.[1] Such a system would necessitate an expanded extension staff, whose duties, in this respect too, would be facilitated through the Peasant Farmers' Association.

The Credit Bank is currently promoting an incentive scheme which offers grants and special loans for the development and expansion of cultivated grassland, livestock, irrigation and mechanical cultivation. These incentive benefits, however:-

> "... will be made only after the work has been completed to the satisfaction of the Inspecting Officer and certified for payment by him."[2]

This policy seems quite impracticable, since it forces the small farmer into taking the initiative in a risky undertaking, the success of which he may be experientially and financially ill-equipped to guarantee. These projects all involve a significant outlay of capital which the average peasant farmer cannot personally provide and the loss of which he could not conceivably support. The incentive would be far more meaningful if it were made available to assist in the actual development of the project.

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[1] Yearly instalments are considered less desirable since, under the dominant marketing system, the harvest is spread over an extended period and the income is not received in a lump sum (cf., sugar-cane). The instalment periods should therefore be spread out to coincide with the pattern of harvesting. Furthermore, it would be less burdensome for the peasant farmer to repay a $100-loan over one year, than to produce it in a lump sum at the end of the year.

[2] Quoted from a circular, "Scheme for Incentive Payments for Agricultural Production", Ministry of Agriculture, Lands and Fisheries, July, 1964.

A greater measure of success could thus be assured from any of the above projects if they are administered, with the aid of a loan or grant, on the basis of adequate preliminary research and expert supervision from government sources.[1]

As noted previously, the Agricultural Credit Bank is not only physically separate from the other agencies, but maintains meaningful relations only with the Ministry of Agriculture. There is little evidence of official contact and co-operation between the Bank and the Marketing Corporation. There is, however, an existing need for close co-operation between these two agencies in at least two vital areas. The Corporation, as noted, now represents an organized marketing agency for the disposal of food produce. This agency can be utilized, under the terms of the Credit Bank, to receive repayments on loans from those farmers currently using this marketing outlet. Secondly, on the basis of the supply and demand situation recorded through the Corporation, the foodstuffs considered vitally important or capable of being economically produced locally, can be identified. The Credit Bank could then, upon recommendation, issue special loans and/or grants to stimulate production in these areas.

(c) The Barbados Marketing Corporation

The Marketing Corporation was established in 1961 as an

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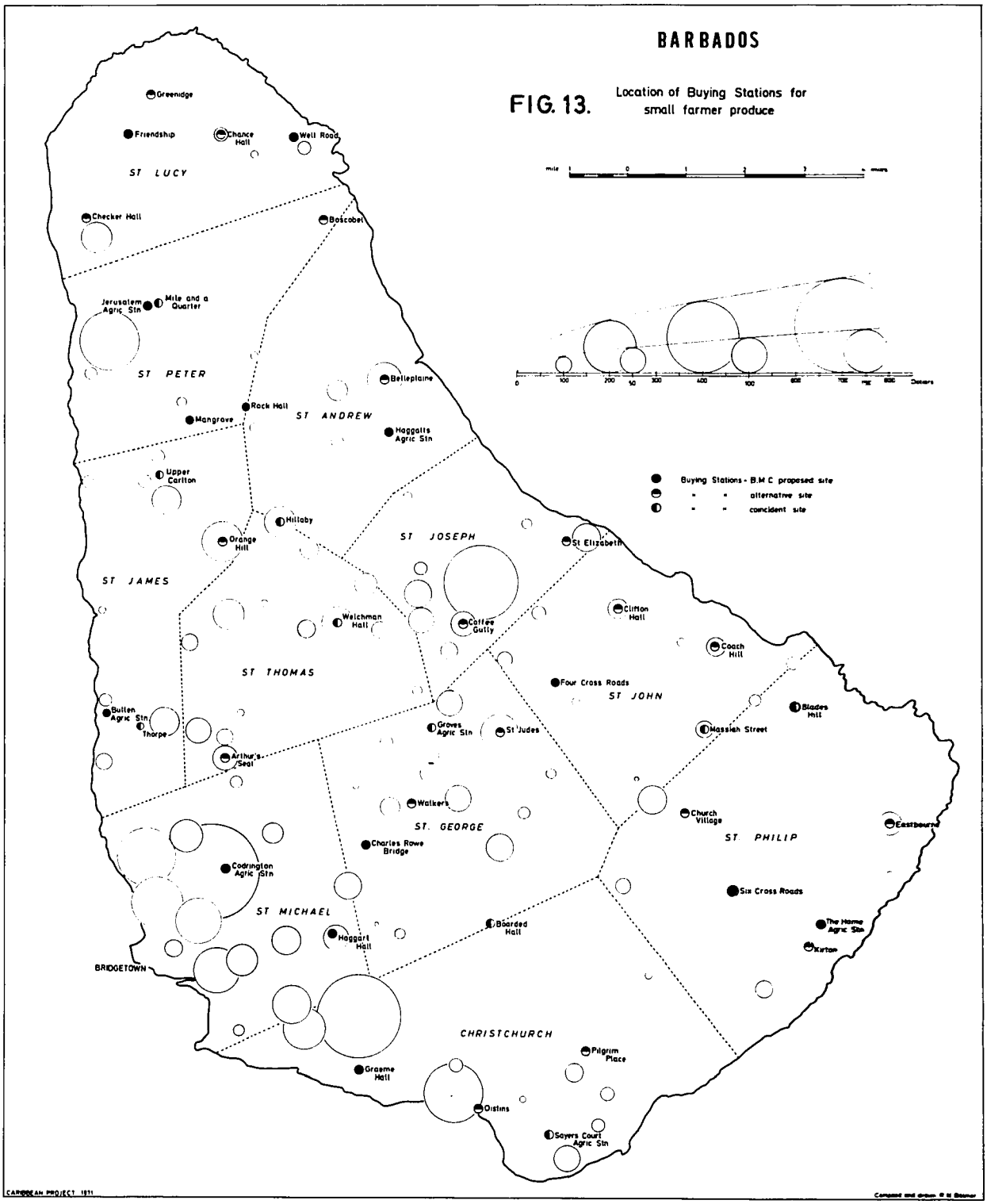
[1] This approach deserves serious consideration in terms of irrigation facilities in particular. The highly seasonal character of vegetable production can only be ameliorated by the availability of such facilities during the local dry season.

essential service to the food-producing farmers of the island. One of the major sources of complaint against the Corporation, as indicated, relates to the pricing system it has adopted. A list of the minimum prices only, offered for purchased produce and published quarterly by the Corporation, denies the farmer essential knowledge on actual and current market prices. The resultant uncertainty also denies him the opportunity to make a rational choice of marketing outlets on the basis of comparative prices.

Of great significance, and as a basis for an adequate pricing policy, a feasibility study should be undertaken to provide adequate and precise data on the production costs of foodcrops in Barbados. The major objective of such a study would be to furnish a factual basis for determining the prices to be offered by the Corporation - and other outlets in general. Currently, there appears to be little rationale for controlling these prices. It is widely assumed that imported foodstuffs are more economically produced than their local counterparts. The local pricing structure, therefore, is determined more by the prices of imported produce than by local costs - particularly since, for the consumer, no distinction is made between local and imported fresh foods. Thus the wholesale price quoted for a local product is based not on the actual production costs, but on the imported price of the same product. The variable costs involved in transportation and storage then combine to make local produce more expensive to the consumer than the imported substitute.


BARBADOS
FIG. 13.
Location of Buying Stations for small farmer produce
Buying Stations - B.M.C proposed site
" " alternative site
" " coincident site
Greenidge
Friendship
Chance Hall
Well Road
ST LUCY
Checker Hall
Boscobel
Jerusalem Agric Stn
Mile and a Quarter
ST PETER
Belleplaine
Rock Hall
Mangrove
ST ANDREW
Haggatts Agric Stn
Upper Carlton
Hillaby
Orange Hill
ST JOSEPH
St Elizabeth
ST JAMES
Clifton Hall
Welchman Hall
Coffee Gully
Coach Hill
ST THOMAS
Four Cross Roads
ST JOHN
Bulkeley Agric Stn
Thorpe
Bladens Hill
Graves Agric Stn
St Judes
Massiah Street
Arthur's Seat
Walkers
Church Village
Eastbourne
ST GEORGE
Charles Rowe Bridge
ST PHILIP
Codrington Agric Stn
Six Cross Roads
ST MICHAEL
The Haynes Agric Stn
Haggart Hall
Bearded Hall
Kirton
BRIDGETOWN
CHRISTCHURCH
Pilgrim Place
Graeme Hall
Oistins
Sayers Court Agric Stn

In a recent survey, (Ingersent, et al., op. cit.:21-26 and 73-79) some tentative data was offered on the yields and production costs of certain vegetables. On the basis of these figures, the cost of producing a pound of carrots ranged from twenty-four cents (E.C.) in a very bad year to less than one cent in a very good year.[1] At the time of this research, however, the normal price for a pound of carrots was sixty cents. An obvious discrepancy exists here, and much research is needed to provide a factual basis for an adequate and equitable pricing system. Should such research demonstrate that certain locally-produced foodstuffs can be sold at a lower price than imported substitutes, two concurrent courses of action could be adopted. The Corporation could develop a system to enable the consumer to identify between local and imported produce. Secondly, as suggested by Skeete (op. cit.:22), additional assistance could be given to the peasant farmers by placing duties on these imported foodstuffs and on other local products which are demonstrably suffering from unfair foreign competition.

It has been recognized that the small farmer is at a distinct disadvantage when required to transport his produce to the Corporation's depot. Plans are therefore under consideration to set up a number of collection centres at suitable locations throughout the island to take delivery of peasant produce.[2] The tenta-

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[1] Data is given on the 'normal', 'low' and 'high' yields and on the range of these yields. Figures are also given on the range of costs per acre. These figures allow us to compute a total of twenty-seven cost-variations for producing a pound of a given crop. The costs range from that associated with the highest recorded yields at the lowest production costs to that for the lowest yields at the highest recorded costs.

[2] Development Plan. 1969-72:78

tive locations for these buying stations - twenty-five in number - are based primarily on the distribution of major road intersections and the location of the Agricultural Research Stations.[1] (Fig. 13). These criteria, however, do not appear to the writer to be satisfactory parameters on which to determine the location of these centres, and it is suggested that several of them be relocated.

The island possesses a dense road network which provides easy access to any significant village settlement (See Fig. 1). Moreover, the main road intersections themselves are not always strategically located in terms of these settlements. In addition, the smallholders do not frequent the Research Stations as often as was anticipated, current visits being primarily made by those having animals to be inseminated or otherwise treated. There is also no evidence to suggest any strategic advantages enjoyed by the location of the Stations themselves.

An alternative set of thirty-one sites is here proposed on the basis of (i) the volume of trade between individual villages and the Corporation, and (ii) the frequency of sales originating from respective villages (Fig. 10 & 13). It seems only logical that a collecting centre should be located in, or near to villages currently having a substantial volume of trade with the Corporation. For only these villages presently offer a known surplus for sale.

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[1] According to a representative of the B.M.C., a report by a Major Briggs in 1958 also influenced the choice of sites. But since the present writer is unacquainted with this report, no reference to it is made in the text.

The frequency of sales is used as a complementary variable to determine the reliability of a village as a supply centre.[1] The suggested alternatives are therefore located in, or near to villages which currently offer a substantial and reliable volume of trade. Some of these coincide with original sites proposed by the Marketing Corporation.

Some additional sites have been proposed for trial operations in currently 'non-trading' villages in an effort to stimulate production. Ultimately it is suggested that these stations could be reduced to twelve or fifteen permanent structures, established to serve not only as collecting centres but as outlets for redistributing 'regionally' produced goods.

The relationship of the Marketing Corporation to the other Agricultural agencies has already been reviewed, and the need for closer co-operation has been established. The research on the production costs of local foodstuffs would, it is presumed, be carried out by the Ministry's Agricultural Economics Units. The initial response of the peasant farmer to any proposed pricing system, and to the location of buying stations, could be relayed through the Extension Officer. On the strength of these responses, practical and pragmatic changes could be made to facilitate the adoption of this and related proposals.

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[1] Thus in a situation where village A sells $100-worth of produce in one transaction over a four-week period, and village B sells $75-worth in four transactions over the same period, village B is considered a more reliable customer. This, of course, taking into account the nature of the produce.

Under each of the foregoing agencies, some alternative, yet complementary proposals for change have been made. These represent a compromise between the prescriptive objectives of the planners and the socio-economic framework of the peasants. It has been suggested, for example, that, under the terms of a land capability survey, the farmers should be encouraged to 'emphasize' rather than, 'specialize in' a given crop. This policy of emphasis, it is argued, will allow the farmer to fully utilize the agronomic potentials of his holding, while permitting him - if he so desires - to plant other crops for his personal consumption. This approach, it is felt, avoids the detrimental and unwelcome element of compulsion, and demonstrates to the farmer an improved system without compelling him to discard his own.

Similar choices, offered in terms of repayment of loans through the Marketing Corporation or the Extension Officer, or of Farmers' Association versus co-operatives, could also be explicitly acknowledged and upheld. This element of choice will allow the farmers to work out in their own way adjustments of the old system to the new. And the economic orientation of the Barbadian peasant will ensure a realistic and progressive adjustment. Like the Japanese peasant farmers, the Barbadian smallholder can:-

> "... demonstrate (s) the compatibility of rapid economic change and growth with the preservation of traditional attitudes and social relationships, recast or re-emphasized as these may be to suit the needs of the new economic order."
>
> (Bauer & Yamey, op. cit.:68

(d) The Ministry of Education

Education also has a significant role to play in the development of agriculture. Schultz (op. cit.:175) observes that:-

> "... the acquired capabilities of farm people are of primary importance in modernizing agriculture."

And these capabilities are acquired, formally or informally, through the medium of education. The Extension Service itself represents a system of informal education which provides practical, 'on-the-job' training. This method of instruction ensures the adoption of improved factors of production such as fertilizers, better breeds of animals, better seeds and improved irrigation techniques. Formal education, however, is essential both to the efficient utilization of these inputs and to the effective adoption of new and complex factors of production (Ibid). Formal education also influences the ideas and social values which form an integral part of the cultural heritage of a people or society (Loomis & Beegle, op. cit.). Education, therefore, can significantly affect a people's attitude to change and their ability to effect changes in any, including the agricultural, sphere.

The present status of the agricultural instruction offered in Barbadian schools is not conducive to rapid development in the agricultural sector.[1] Most of the primary schools on the island maintain a 'garden' or vegetable plot through which practical

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[1] The observations in the paragraphs following are based, for the most part, on interviews, sometimes in the company of Dr. Frank Innes, with students and teachers involved in agricultural instruction in primary and secondary schools.

instruction in agricultural practices and techniques is given. Two factors, however, seem to militate against the ultimate success of this programme as an investment in agricultural development.

Firstly, in most of the schools, the cultivation of the 'garden' is delegated to the less academically progressive students. The more progressive students are prepared for academic and other 'white-collar' occupations, and are, as it were, spared the fate of working in the school-garden. Secondly, in many of the schools, time spent in the 'garden' is often a form of discipline or punishment. These practices not only place a negative 'anti-intellectual' value on agriculture as a vocation, but also contributes to a prevailing disdain for agricultural employment. Another factor which affects the efficacy of local agricultural instruction is the lack of an organized academic programme, and the absence of an educational officer specifically assigned to this area of instruction. Agriculture, as such, therefore lacks a symbol of respectability through which to overcome the stigma it currently carries vis-à-vis the younger stratum of the work force.

There are a total of thirty-two post-primary schools on the island, but only three of these offer instruction in agriculture. As an academic subject, agriculture is offered as an optional course; and a significant majority of the students who do take the course, do so primarily because it offers a relatively easy pass in the final examination.[1] Only two of more than

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[1] For example, in one school it was offered as an alternative to Chemistry.

thirty students taking the course at one school indicated any interest in agriculture as a possible source of employment. As in the primary schools, the major emphasis in agricultural instruction is placed on the scientific aspects of farming, to the general exclusion of the economic requirements and potentials. The students expressed no noticeable prejudice against agricultural occupations per se, though there was an explicit distaste for paid manual agricultural labour. The absence of specific commitments to agriculture as a vocational choice can thus probably be traced to a limited knowledge of the economic status and potentials of agriculture, and a converse awareness of more remunerative forms of employment.

At the secondary school level, too, 'text-book' instruction, geared to overseas examinations[1], takes precedence over the study of local agriculture. This is an abvious disadvantage to the student since it not only denies him valuable and vital experience under local conditions, but also leaves him more informed on agriculture in areas climatically, economically and culturally different from his local milieu. In an effort to rectify these apparent deficiencies in the agricultural instruction programme, steps should be taken to focus academic attention and interest on agriculture in general, in order to enhance its prestige in the value system of the community, and that of the students in

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[1] Until recently, the General Certificate Examinations (G.C.E.), set in the U.K. by the Oxford and Cambridge Examining Board were the official school leaving examinations in Barbados. These have now been replaced by the Cambridge School Certificate.

particular.

The average age of the Barbadian peasant farmer (58 years) makes it imperative that efforts be made to interest and attract young men into private and independent farming. It is felt that these efforts should be initiated at an early age and be directed equally - if not specifically - at the progressive, intelligent students. Extensive research in the U.S.A., the Netherlands and India has shown that the most progressive farmers tend to be young, well-educated and active in farmers' organizations and other relevant, active groups, (Weitz, op. cit.). There is thus a positive relationship between the level and extent of education and the rate of adoption of improved agricultural practices. And it is not merely by historical accident that the most progressive farmers in Barbados are the plantation owners.

A recent proposal to attract young men into agriculture suggests that the government purchase all estates up for sale, and lease these, and those it already owns, in economically sized lots (Persaud & Persaud, op. cit.; Nurse, op. cit.). These lots are to be offered, with special incentives, to young and able men. It seems to this writer, however, much more problematic to attract into agriculture young people whose educational background has stifled, rather than encouraged, any interest in this type of occupational endeavour. Rather, it is suggested that the student should become meaningfully and constructively involved in agriculture at an early age, and be progressively exposed to the acquisition of the basic farming capabilities. Given these acquired capabilities and

interest, and a favourable economic environment, personal initiative will significantly decrease the need for the above enticements.

(iii) An Agricultural Planning Committee

The above agencies each have an individual contribution to make to progress in the agricultural sector of the Barbadian economy. Collectively, they can also stimulate and effectively direct change in the peasant community with a maximum of co-operation, and at a minimum cost to the change agent. It has been demonstrated that the Extension Officer can play an active and meaningful role in a two-way flow of information between the planners and the farmers, and between the planning agencies themselves. The development of agriculture in general, and of peasant farming in particular, must therefore, within a balanced framework, be a national undertaking. Coherent and integrated planning, then, is a critical factor in the success of the programme for diversification. Physically and operationally, the relevant agencies exhibit a deficiency in this essential coherence and integration. This tendency to functional divergency precludes the achievement of that degree of integrated planning necessary for the successful implementation and efficient operation of any programme for change.

It is suggested here that serious thought be given to the creation of an Agricultural Planning committee. This body would be composed of planning officers from each of the agricultural agencies and from the Ministry of Education and would have five specific functions. First, the Committee would co-ordinate all plans and proposals relevant to the agricultural sector, and could, where dupli-

cation or conflict is evident, be authorized to submit appropriate modifications. Secondly, the Committee would isolate plans specifically relevant to the peasant sector from those more applicable to large-scale operations. Thirdly, this body would initiate integrated research into small-scale agriculture to cover the non-scientific aspects of the social, educational and economic status and requirements. The fourth function of the Committee would involve the organization of an adult education programme aimed specifically at the farming population. Such a programme will be based partly on the results of the above research, and will be geared to promoting the efficient utilization of agricultural and human resources. Finally, the Planning Committee, which would occupy one central office, could make available to the public a pool of up-to-date and factual information on all aspects of local agriculture in Barbados.

To facilitate the diffusion of knowledge from this central office, the Extension Officers could operate within the framework of the Planning Committee. Through the central office of the Committee, the Extension Officers would have ready access to a large body of relevant information for dissemination among the peasant farmers. Conversely, the needs of the farmers and their reaction to specific proposals could be relayed to the appropriate agency through the Planning Committee. Through the medium of the Committee, too, the Extension Officers could more easily and satisfactorily perform many of the tasks mentioned above.

(iv) Investing in Farm People

The successful implementation of these changes, or of any other efforts to develop the agricultural sector, will require adequate capital investments. Progressive countries with a significant agricultural base invest substantially in this sector of the economy. Uganda and Malaysia, for example, in their latest five-year plans, allocated 23% and 21%, respectively, of their development expenditure to agriculture (Hodder, B.W., 1968). Jamaica and Trinidad, in their five-year plans to 1968, earmarked 16.6% and 13.5%, respectively, of their capital expenditures for the agricultural sector.[1] In Barbados, however, agricultural allocations since 1952 have never reached 10%, and have, in fact, fallen as low as 2%. (Appendix I-IV).

These figures forcibly indicate that, in terms of investment allocations, Barbadian agriculture receives rather minor consideration. (See p. 172) Investment in classical economic infra-structure consistently seems to occupy pride of place. The bulk of the investment is, therefore, allocated to transport and communications - and, to a lesser degree, to social services and education. While investment in these sectors is of vital importance in the development process, balanced and effective growth, within the context of the Barbadian economy, cannot be achieved at the expense of agricultural development.

These figures also indicate that much emphasis is placed on

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[1] Trinidad and Tobago Second Five-Year Plan, 1964-68; Jamaica Five-Year Independence Plan, 1963-68. The percentage was actually higher in Jamaica since an additional 8.8% was earmarked for Land Reform.

the development of industries. While such investment merits serious attention and plays an important role in the economic development of any given country or region, prevailing academic thought subscribes to the theory of balanced growth founded on both industrial and agricultural development (Lewis, op. cit.: Nurske, R., 1959). Proponents of this idea see the two activities as having no inherent advantages one over the other. Agrarian poverty will restrict the market for industrial goods, while, conversely, improved agriculture would expand such a market. Industrial enterprises, too, can stimulate agricultural development through fertilizers, tools and machinery and by providing a market for agricultural goods and raw materials. Industry can also absorb the surplus rural population, as agriculture, aided by industrial inputs, increases in efficiency and becomes capable of supporting a growing urban-industrial population. It is also argued that an enlarged and diversified agricultural sector can produce exports with which to obtain foreign exchange for investment in local industrial development. There is therefore the dimensions of a symbiotic relationship between the factory and the field. And, as Rostow (1960:22) notes:-

"it takes more than industry to industrialize."

It is within this framework of balanced growth that significant and meaningful development in Barbadian agriculture can best be achieved. The initial phases of industrial expansion, therefore, should be designed to improve and stimulate agricultural production and productivity. In Barbados, however, of ten

TABLE 18. INDUSTRIES ESTABLISHED IN BARBADOS SINCE 1957

INDUSTRIAL HEADING	NO. OF ENTERPRISES
Alcoholic Beverages	4
Building Materials	13
Food Products:	4
Macaroni etc. Baking Powder Confectionary Fried crisps from potatoes, fruits and vegetables.	
Furniture	2
Garments	3
Leather Products	3
Lumber Products	2
Metal Products	1
Motor Vehicles & Accessories	1
Paints	9
Miscellaneous	5
TOTAL	47

SOURCE: Barbados Development Board: Report and Accounts, 1962 and 1964-65.

industries granted 'pioneer' status in 1965, only one was allied to agriculture.[1] But, based as this was on the manufacture of macaroni and spaghetti, this industry, nevertheless, bore no relation whatever to local agricultural production. Similarly, of forty-seven (47) classified industrial enterprises which have been established since 1957, only four are listed under 'foods'. And of these four enterprises, only one is based on local agricultural raw-materials. (Table 18).

There are thus adequate grounds for a re-examination of priorities and investment allocations in the individual sectors of the economy. Given the relative contributions of these sectors to the national economy, it is only logical to expect an equitable distribution of investment funds. To provide adequate incentives for the farm people, to improve their technology, to school them in the efficient utilization of new technology, to satisfactorily acquaint them with new ideas and additional information, to provide adequate services for the efficient operation of their farms and for the production and marketing of their produce - surely these are meaninful, and far-sighted investments which can reap substantial rewards to a socially, technologically and economically progressive peasantry in terms of improved agricultural productivity and a diversified local agriculture.

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[1] Barbados Development Board: Report and Accounts, 1964-65.

CHAPTER 7

CONCLUSION

(i) Summary and Conclusions

(ii) Other Constraining Factors

Summary and Conclusions

In this study, an attempt has been made to analyse the proposals made, since 1936, to diversify peasant-farming in Barbados. The primary objectives of these government-sponsored proposals are (1) to increase the supply of local foodstuffs, (2) to reduce the heavy dependency on imported foods, and (3) to generate local industries based on agriculture. These proposals, individually and together, have failed to achieve real success in any of these areas.

The programme for diversification, in its entirety, embraces all the facets of local small-scale agriculture from vegetable-gardening through sugar-cane to livestock-rearing. The nature and limitations of this thesis, however, have restricted major attention to the relationship of official planning policy to the cultivation of vegetables and foodcrops within the peasant sector. Only limited reference is made here to the larger and dominant plantation sector, and only in so far as it relates to, and provides a better understanding of, the local peasantry.

This local peasantry bears many similarities to the general concepts of classical peasants. Peasant societies in general are described as 'part-societies', predominantly occupying the rural areas of a larger society, having farming as their major activity, and land as their major resource. Culturally and economically, the family unit is the dominant social group; and the major economic activities are designed mainly to satisfy the basic needs of the group. Finally, peasant society is politically subservient

to the wishes and policies of an urban-based élite. The Barbadian peasant sector conforms to this classical model in terms of its 'part-society' status, its agricultural base, the relative dominance of its subsistence - as opposed to commercial-activities, and its dependence on a dominant élite.

In many respects, however, the local peasantry diverges from the classical norm, and displays certain distinctive characteristics of its own. The Barbadian peasantry, for example, has originated and evolved quite differently from its purely classical counterparts in so far as (1) its members, forcibly transplanted from an alien habitat, are not at all indigenous to the area, and (2) prior to the late nineteenth century, this segment of the population was more truly a landless proletariat than a true peasantry. These characteristics, together with its relatively recent origin, have given the peasant sector a greater degree of 'openess' and dynamism in terms of its social, cultural and economic attributes, which are still in the process of being transformed. These distinctive characteristics of the local peasantry have generated an equally distinctive view of reality and manner of perception.

Through an analysis of the historical evolution of the local peasantry and the dynamics of peasant activities, the major finding of this thesis is that the Barbadian peasant farmers have, within the limits of their technology and economic opportunities, developed a farming system which represents a highly efficient use of their available resources. Their available labour supply is, within the local context, applied partly to their small agricultural

holdings and partly to other forms of agricultural and non-agricultural employment, in such a way as to generate the greatest returns per unit of labour. Partly to satisfy their personal consumption needs which absorb most of their own produce, and partly to serve the small market available to them in their immediate neighbourhood, the small farmers have found it more efficient and practicable to plant a wide variety of foodcrops than to undertake any degree of specialization. This latter practice, as well as the proportion of time and labour devoted to off-farm employment, are themselves influenced by the limited size of the available market.

When, at Emancipation, a rapidly expanding urban and non-farming population created a potentially large market for foodstuffs, the peasant producers commanded neither the physical nor financial resources, nor the marketing structures to exploit the new situation. In the face of organized foreign competition and, to a much lesser extent, culturally prescribed tastes, the local producers did not then, and still have not yet been able to, gain access to this larger national market. Thus, their marketing system has developed along lines designed to satisfy only local, 'neighbourhood' demands.

This latter market, however, represents a fairly stable situation; and any expansion of peasant production is thus contingent upon access to the larger national market through the medium of the Marketing Corporation or otherwise. The peasants have meanwhile evolved their own marketing system which, within the limits of their resources, adequately effects the transfer of local sur-

pluses within the community, and adequately supplies the local market.

There is, therefore, a rather close interrelationship between the peasant's allocation of labour to his holding, the size of the market available to him, and, by implication, the volume and'mix' of his produce. The farmer thus devotes more or less time to his holding in relation to the income to be derived from it; and the income itself is dependent on the volume and type of produce he can readily dispose of. These aspects of Barbadian peasant farming are integrated into a distinctive agricultural and economic system welded together by experience. The components of this system, such as cropping patterns, sources of capital, marketing, etc., do not in themselves represent major constraints on the development of small-scale farming. Indeed, the evidence suggests that the peasant farmer efficiently utilizes his available resources, and is willing, given the opportunity and the incentive, to increase his output and improve his productivity. The socio-economic framework within which he farms, therefore, exercises no major restraint on the development of his resources. The critical factor rather seems to be the availability of these resources.

Thus access to a larger market on the basis of adequate and competitive prices, and the availability of capital adequate for the new enterprises - these are two of the major constraints on the diversification of peasant agriculture in Barbados. These represent the sort of incentive which, according to Schultz (op. cit.), are a

critical component in the modernization of agriculture. And the provision of these factors is among the most profitable forms of investment which can be made in a developing agricultural economy. For:-

> "... once there are investment opportunities and efficient incentives, farmers will turn sand into gold."
>
> (Ibid:5)

The Barbadian peasant farmer is well aware of the economic potentials of the agricultural options open to him. He is aware that, under a system of part-time farming and off-farm forms of employment, small-scale sugar production is an efficient use of available time and labour resources. However, the rising cost of labour and other inputs, unmatched by an increase in the price of sugar, has made this former activity no longer economical. On the other hand, increasing demands for foodstuffs as exhibited in the volume of food imports, and an income to be had from this food-producing activity double that now earned from his other multiple activities - these have demonstrated the economic potentials of this latter sector of the agricultural economy. And the small farmers, by their stated interest and economic orientation, are favourably disposed towards accepting the requisite changes in the system, and increasing their labour and capital inputs in order to improve their material welfare.

On the basis of the above findings, and in view of the high volume of food imports, the major conclusion of this study is that Barbadian peasant farming possesses considerable scope and potential for diversification. Peasant farming is, in fact, already a highly

diversified system. The peasant farmers grow a wide variety of crops, in different combinations and with different degrees of emphasis, as well as produce other agricultural items such as poultry and meat products. They also engage in different forms of paid agricultural labour, and are involved, either fully or partially, in such diverse occupations as construction, clothing, tourism and public works.

This agricultural and occupational diversity certainly does not suggest a hopelessly mono-cultural or narrow-based peasant economy. It is in terms of the volume of surplus produce and the total income generated from these activities, that the degree of diversification appears insignificant; for only sugar-cane currently features significantly in the national economy, since most of the food-produce, though significant in volume, is consumed on the farm itself and disposed of in the local neighbourhood, and thus does not appear in the total national picture or in the national statistics.

In the final analysis, therefore, the aim of official policy is more correctly to expand the scale of existing diversification within the peasant sector, rather than to introduce it. The attainment of this state of affairs, however, is conditional upon satisfactory demonstration that a greater income <u>will</u> be forthcoming. This, in turn, is dependent on the existence of a favourable economic structure, the major components of which are: (1) sources of adequate capital to finance the farming operations, and (2) a market large enough and offering satisfactory prices to

justify the operations.

The government has attempted, by means of the Agricultural Credit Bank and the Marketing Corporation, to provide these structures. However, a limited familiarity with the dynamics of the agricultural and marketing systems of the peasants and with their traditional economic attitudes, and certain unsubstantiated assumptions vis-à-vis the occupational motivations and preferences of the population at large - these have generated a set of proposals largely irrelevant to the peasant sector. And these measures, conceived in generalities and in unfamiliarity with the system to be changed, have not only been of limited applicability to local peasant farming, but have failed to achieve any of the stated objectives.

To rectify these deficiencies in the current programme and to make it more applicable to the agricultural and economic realities of the peasant sector, the major recommendation submitted here proposes, as a first step, a re-evaluation of the role of the Extension Officers in terms of their potential as an effective, two-way communication linkage between the planners and the peasants. As such a two-way channel of communication, the Extension Service can, by working <u>with</u> rather than <u>for</u> the farm people, greatly assist in overcoming the major obstacle to effective change within the peasant sector: a general unfamiliarity with the realities of local peasant-farming and with the perceptions of the local peasantry. Furthermore, a meaningful two-way flow of information will not only adequately inform the farmers of official policies and proposals, but will ensure, through feed-back, that these proposals are tailored to the needs and capabilities of the farming population.

Such a medium, however potentially efficient, can only be truly effective if the content of the message is both substantive, practicable and consistent. Thus not only must the individual agencies involved re-examine, in the light of more adequate and comprehensive data on the peasant sector, the proposals hitherto adopted to achieve their goals, but they must also function in much closer co-operation than is currently evident. To this end, it is specified that official thinking on credit and marketing facilities, and on public investment in agriculture be re-examined; and that some sort of agricultural planning agency be established through which the various agencies can co-operate more closely.

One can therefore hardly overemphasize the necessity for adequate and co-ordinated research into the dynamics of the local farming system. And indeed, it is against the background of a general absence of such research that the problems of agricultural diversification in Barbados must currently be viewed. For the critical factor in this equation lies in unfamiliarity with the dynamics of the peasant-farming system, with the characteristics of the indigenous marketing system and with the economic and occupational attitudes of the peasants.

The planners must become aware of these basic characteristics, for diversification, as envisioned within the local context, connotes changing an established and entire system, not merely a practice. Any plans for change must, therefore, be conceived within the context of the system as a whole and in full recognition of its constituent parts. The planners must become thoroughly aware of

the realities of the peasant sector, for the successful introduction of any changes is heavily dependent on an adequate knowledge and understanding of the characteristics of the system of peasant agriculture itself.

Other Constraining Factors to be Considered

Barbadian society, under the 'open' and 'diversified' conditions noted above, is far from being static in terms of either its human or technological resources. There are consequently certain factors which may, now and/or in the future, independently affect the rate, scope and nature of application of the above proposals. A few of these which merit further investigation will be noted here.

Mention has been made elsewhere of the somewhat high age-limit of the local peasant farmers. The inability of this sector to attract young people into its ranks ensure a progressive rise in the average age of the peasant-farmer population. Unchecked, this process will inevitably lead to the decline and ultimate disappearance of the Barbadian peasant farmer. If this is considered an irreversible trend in terms of current national socio-economic policies, anticipatory steps can be taken to effect a smooth adjustment. The government, for example, could initiate a policy to purchase and amalgamate any peasant holdings which are below a given size, or operating below a given level of efficiency or are currently out of production. These amalgamated holdings can then be cultivated as capital-intensive operations. Such a policy would allow the continuous and full utilization of land which would otherwise be pro-

ducing well below average potential or not at all. The major drawbacks to such an undertaking are: the rate at which the displaced population can be absorbed into other sectors of the economy, and the social implications of displacing a peasantry which has only recently acquired a measure of freedom of which their landholdings are the paramount symbol.

A second factor which could affect the above proposals involves the future role of the Caribbean Free Trade Association, (CARIFTA). This association was formed in 1968, first by the territories of Barbados, Guyana, Antigua and Trinidad and Tobago; and was later joined by Dominica, Grenada, St. Lucia, St. Vincent, St. Kitts-Nevis-Anguilla, and finally by Jamaica and Montserrat. Among its major aims is the promotion of greater inter-regional trade and economic co-operation. As noted elsewhere, the economies of the Caribbean territories are less than complementary. The true value of CARIFTA will hinge on its ability to re-orient these economies and to fashion a measure of complementarity between the current divergent interests. Individual problems will thus take on a regional complexion and demand a regional solution. Individual economies, too, will merge into a regional economy based on regional planning. Within such a framework, the Barbadian economy may well assume a more specialized character, geared towards textiles and light industries, for example, while some of the agriculturally better endowed territories assume a greater share of food production. Within such an economic structure, small-scale agriculture in Barbados, beyond being a hobby, will obviously be redundant, and a pea-

sant farming class a liability.

Looking well into the future, a change in current attitudes to co-operatives may also affect the future significance of the present proposals. As an operation of scale, the co-operative is potentially more efficient in the overall use of resources than is small-scale agriculture. Within the Barbadian context as mentioned before, however, there are currently recognizable, if not potent, socio-economic factors which do not favour the growth of agricultural co-operatives. Moreover, whether current principles of co-operative farming are applicable to a Barbadian - or for that matter, a tropical - environment, must first be determined. How and to what extent, for example, would the total environment be affected by the change-over from mixed cropping to pure stands of maize, yams or cassava? How would such practices relate to soil erosion, the incidence of pests and disease and the maintenance of soil fertility? In terms of the social and cultural factors, will the peasant population accept a role as labourers within the new economic order? Perhaps a co-operative system along somewhat different lines will have to be evolved to accommodate the social and economic values of the people, and to maintain the ecological balance of the area. If such a unique system is evolved, efficient co-operative farming under this system will remove any justification for, and indeed will render obsolete, current peasant agricultural practices.

The ramifications of any of these independent factors, however, will have to be first established on the basis of adequate research

into, and factual data on, the Barbadian peasantry. Any such research, however, must be an on-going process, for the openness of local economy and the dynamic nature of the local peasantry both anticipate changes in values, attitudes and goals. And it is vitally important that the planners be currently up-to-date on any such developments, and be prepared to change accordingly, if their plans and proposals are to be at all relevant to the realities of the local situation. In this context, the full significance of the quotation from C.R. Wharton, cited at the beginning of this thesis, readily becomes apparent.

APPENDIX I FIVE-YEAR DEVELOPMENT PLAN 1955-60

	$ M	% of Total
Deep Water Harbour	19.56	39.2
Housing	7.81	15.6
Development Board	1.00	2.0
Water Supplies	1.73	3.5
Medical	3.94* (4.00)	7.9
Education	3.01	6.0
Communications (Roads, Airport, etc.)	3.35* (3.40)	6.7
Rural Amenities	0.43* (0.40)	0.9
Miscellaneous	1.96	3.9
Gas Acquisition	1.00	2.0
Road Transport	1.26	2.6
Capitalization - Harbour Loan	1.89	3.8
Agriculture & Fisheries	2.94* (3.00)	5.9
	49.88* (50.02)	100.0
Peasant Tractor-hire Scheme	.050	
Smallholders' Irrigation Scheme	.075	
Soil Conservation	.600	
Agricultural Extension Service	.025	
Milk Depot and other Schemes	.150	
Others	.080	
TOTAL AGRICULTURE	0.980	2.0
Fisheries	1.960	3.9
Total Agriculture & Fisheries	2.94	5.9

* There is some discrepancy between the total figures given under the main headings (in brackets) and the totals according to the departmental break-downs. The latter figures have been used here.

APPENDIX II THREE YEAR DEVELOPMENT PLAN 1962-65

	$ M	% of Total
Education	9.43	18.8
Development Industry and Tourism	8.30	16.5
Communications, Works and Housing	20.36	40.6
Health and Social Services	7.28	14.5
Primier and General	1.23	2.5
AGRICULTURE and Fisheries	3.57	7.1
	50.17	100.0
Soil Conservation	1.50	
Milk Scheme	.10	
Small Farms Development	.25	
Marketing Corporation	1.25	
Others	.37	
Total Agriculture	2.47	4.9
Markets	0.10	0.2
Fisheries	1.00	2.0
Total Agriculture and Fisheries	3.57	7.1

APPENDIX III THREE YEAR DEVELOPMENT PLAN 1965-1968

	$ M	% of Total
Trade and Labour	0.60	1.4
Education	4.64	11.2
Health and Social Services	5.85	14.2
Communication and Works	12.55	30.3
Premier and Minister of Finance(1)	13.40	32.4
AGRICULTURE and Fisheries	4.32	10.5
	41.37	100.0
Soil Conservation	1.97	
Livestock Development	.34	
Farm Incentive Scheme	.23	
Agricultural Development Corporation	.75	
Marketing Corporation	.30	
Others	.32	
Total Agriculture	3.92	9.5
Markets	.25	0.6
Fisheries	.15	0.4
Total Agriculture and Fisheries	4.32	10.5

(1) Includes Industrial Development.

APPENDIX IV THREE YEAR DEVELOPMENT PLAN 1969-1972
(by Ministries)

	$ M	% of Total
Communication and Works	10.22	22.2
Education	4.53	9.9
Finance	5.16	11.2
Health and Community Development	3.90	8.5
Home Affairs	3.85	8.4
Labour, National Insurance and Housing	4.25	9.3
Office of Prime Minister [1]	9.45	20.6
AGRICULTURE, Science and Technology	4.59	9.9
	45.95	100.0
Soil Conservation	2.79	
Markets	.18	
Farm Incentive Scheme	.25	
Horticultural Research	.10	
Research Stations	.30	
Marketing Corporation	.44	
Others	.44	
Total Agriculture	4.50	9.7
Fisheries Development	.09	0.2
Total Agriculture and Fisheries	4.59	9.9

[1] Includes Industrial Development.

APPENDIX V

BARBADOS: LAND CAPABILITY CLASSES

Class I. Good soils with gentle and moderately steep slopes, suitable for cultivation (involving tillage) with no, or moderate limitations.

II. Moderately steep and gentler slopes of less favourable soils, cultivable but with strong limitations.

III. Steep slopes which are suitable for some restricted cultivation, but where the best land-use is the production of tree and grass crops.

IV. Steep, rocky or arid areas which have a very low productive value and should not be cleared of their natural vegetation cover.

SOURCE: Caribbean Project - Working Paper No. 4, Feb., 1969. (Condensed from: Regional Research Centre - Soil and Land-use Surveys, No. 18, Trinidad, 1966).

APPENDIX VI NUMBER AND AREA OF LAND HOLDINGS - 1961 IN BARBADOS

SIZE (acres	NUMBER	%	ACREAGE	%
Less than 1	23,752	85.10	5,160	6.11
1 - 5	3,675	13.16	6,126	7.25
5 - 10	199	0.71	1,262	1.50
Total Peasants[x]	27,626	98.97	12,548	14.86
10 - 25	47	0.17	766	0.91
25 - 50	29	0.10	954	1.13
50 - 100	17	0.06	1,187	1.41
100 - 200	42	0.15	6,650	7.87
200 - 500	110	0.40	35,950	42.56
More than 500	41	0.15	26,403	31.26
Total Plantations	286	1.03	71,910	85.14
TOTAL ALL HOLDINGS	27,912	100.00	84,458	100.00

x As defined on page 16.

SOURCE: W.I. Census of Agriculture, East Caribbean Territories Barbados, 1961.

APPENDIX IV THREE YEAR DEVELOPMENT PLAN 1969-1972
(by Ministries)

	$ M	% of Total
Communication and Works	10.22	22.2
Education	4.53	9.9
Finance	5.16	11.2
Health and Community Development	3.90	8.5
Home Affairs	3.85	8.4
Labour, National Insurance and Housing	4.25	9.3
Office of Prime Minister [1]	9.45	20.6
AGRICULTURE, Science and Technology	4.59	9.9
	45.95	100.0

Soil Conservation	2.79	
Markets	.18	
Farm Incentive Scheme	.25	
Horticultural Research	.10	
Research Stations	.30	
Marketing Corporation	.44	
Others	.44	
Total Agriculture	4.50	9.7
Fisheries Development	.09	0.2
Total Agriculture and Fisheries	4.59	9.9

[1] Includes Industrial Development.

APPENDIX VIII LOCAL TRADE WITH B.M.C. JANUARY 1970

(a) Villages and Plantations[x]

	Value of sale $	% per Main Crop	Frequency of Sales
ST. LUCY			
1 Allmans - Checker Hall	68	Ed 87, T 9, L 4	5
2 Bourbon[x]	347	Pu 54, B 23, Cr 10 Me 8	12
3 Cove[x]	327	Pu 55, To 37, Cr 8	6
4 Josey Hill	3	Pp 84, O 8	5
5 Pie Corner	11	Pu 64, Li 36	2
6 Spring Hall - Chance Hall	12	Pu 43, M 24, Ba 18, Li 9	6
7 Greenidge	-		-
ST. PETER			
1 Ashton Hall	264	Po 65, Y 35	4
2 Black Bess	8	T 49, Ca 31, B 10, C 10	2
3 Black Bess[x]	36	B 100	2
4 Boscobel	-		-
5 Farm[x]	112	B 100	4
6 Farm Road	9	L 100	1
7 Indian Ground	2	L 100	1
8 Jerusalem Agri. Stn.[x]	48	L 90, O 10	7
9 Maynard[x]	119	Cr 100	3
10 Mile-and-a-Quarter	4	Y 94, Pr 6	2
11 Rock Hall[x]	7	Pe 100	1
ST. ANDREW			
1 Belleplaine - Lakes	89	L 57, To 14, E 12, Ep 6, Ba 5.	19

APPENDIX VIII CONTINUED

		Value of Sale $	% per Main Crop	Frequency of Sales
2	Cleland[X]	46	L 100	19
3	Morgan Lewis[X]	495	Y 100	3
4	Rock Hall	7	Cb 100	2
5	St. Simons - Chelten-Ham	9	Ba 67, L 33.	2
6	Walkers	28	To 88, Cr 7.	4
	ST. JAMES			
1	Baywoods-Orange Hill	120	Po 55, Y 23, Ed 11	9
2	Bullens Agricultural Station[X]	268	Cr 53, Cb 23, B 21	7
3	Fitts	21	Li 64, Pp 23, Cn 13	7
4	Lower Carlton	10	P 100	1
5	Paynes Bay	10	L 75, Cn 14, Th 7	3
6	Thorpes-Hoyte	62	Pu 56, L 29, Th 6	10
7	Trents-Holetown	2	P 58, Me 42	2
8	Sion Hill	11	E 87, Li 13	3
9	Upper Carlton	13	E 100	1
10	Westmoreland	59	E 85, Pu 15	4
	ST. THOMAS			
1	Arch Hall	19	B 75, Pu 25	2
2	Blunts	24	C 56, M 27, G 9	8
3	Chapmans-Carrington	35	C 85, M 7	16
4	Dukes[X]	83	B 75, Pe 25	6
5	Fisher Pond	5	Pp 100	1
6	Hillaby - Farmers	71	L 40, To 26, Ba 17, G 10.	9
7	Pleasant Vale-Clifton	18	L 45, C 32, Lk 23	4

APPENDIX VIII CONTINUED

	Value of Sale $	% per Main Crop	Frequency of Sales
8 Porey Springs	3	C 100	1
9 Proutes	4	C 100	1
10 Redmans-Reeds Hill	44	L 73, Pa 17, Pu 10	4
11 Melrose	17	L 64, B 36.	5
12 Shop Hill	4	P 89, M 11.	2
13 Ridgeway[x]	32	So 55, B 45.	1
14 Rock Hall	68	Pa 98	4
15 Sturges[x]	14	Pa 100	1
16 Vaucluse[x]	31	Po 54, Cv 33, L 7.	5
17 Welchman Hall	71	C 66, B 10, Ba 8, Co 7.	27
18 Lion Castle	25	L 100	3
19 Arthurs Seat	45	L 50, Cu 33, M 7	12
ST. JOSEPH			
1 Andrews[x]	192	Po 87, L 7, E 6.	4
2 Bathsheba	5	Cu 63, Pp 29	2
3 Braggs Hill-Sugar Hill	51	C 82, Pu 13	18
4 Clement Rock- Airy Hill	44	C 90, Or 4	10
5 Chimborazo	10	C 100	5
6 Foster Hall	54	L 100	5
7 Horse Hill-Orange Grove	424	Ba 82, Or 6.	27
8 Parks[x]	29	B 100	1
9 Parris Hill	19	C 79, G 21	7
10 Coffee Gully - Blackmans	41	C 100	6

APPENDIX VIII CONTINUED

	Value of Sale $	% Per Main Crop	Frequency of Sales
11 Sylvans	8	Cn 100	2
ST. JOHN			
1 Bath[X]	57	To 100	1
2 Coach Hill	24	Pu 73, Cll, Pe 11	5
3 Cherry Grove	3	Lk 100	1
4 Claybury, Redland	15	B 47, L 36, E 17	3
5 Cliff Cottage	3	C 100	1
6 Clifton Hall	28	C 73, L 11, A 9	6
7 Clifton Hall[X]	128	Y 94, Lk 6	2
8 Kendal	1	Pu 100	1
9 Massiah Street	21	E 29, Cr 29, Pe 27, L 15.	4
10 Pools[X]	30	B 63, Pe 37.	3
11 Todds[X]	51	Be 46, Pe 22, Cr 16.	3
12 Venture	14	L 65, Co 21, C 14.	4
13 Victoria[X]	76	B 86, P 13.	3
ST. PHILIP			
1 Blades Hill	8	Pe 54, Ba 28, Li 13.	3
2 Brereton	17	Pu 41, Ba 39, Li 20.	3
3 Carrington[X]	40	B 65, Be 28.	4
4 Eastbourne-Well House	39	To 86, Pp 9.	7
5 Farmer Bim[X]	4714	Cr 32, Cb 31, To 20 Be 8, L 7.	23
6 Hill View	59	Y 38, Ba 27, Bf 21	5
7 Long Bay	7	Li 100	2
8 Mangrove[X]	1816	B 68, E 16, Pu 9.	6

APPENDIX VIII CONTINUED

	Value of Sale $	% per Main Crop	Frequency of Sales
9 Mapps[x]	98	Y 86, E 8.	6
10 Rices, Kirton	5	Pu 84, M 16	2
11 St. Martins	19	Cv 100	2
12 Six Cross Roads	8	Pe 59, Ba 37	4
13 St. Marks	11	Cy 100	1
14 Palmers	9	Ba 100	1
ST. GEORGE			
1 Constant Estates[x]	626	Cr 100	1
2 Dash Valley	2	M 100	4
3 Flat Rock	3	Or 100	1
4 Roach, Belair	13	G 100	2
5 Cottage	16	Po 46, Pu 27, L 27	3
6 Groves Agricultural Station[x]	32	Md 50, Or 32, Gf 18.	3
7 Mount	10	G 60, B 40	2
8 Mount[x]	447	Y 69, B 31	7
9 Newbury, Walkers	31	Pe 38, Ba 25, L 14, Le 14.	5
10 Thorpe	32	Pp 35, Pe 28, Gf 18, L 11.	6
11 Superlative-St. Judes	103	B 50, Pu 33, G 7, Pe 5.	8
12 Greens	7	G 64, B 36	2
13 South District - Boarded Hall	9	Po 66, Pa 34.	2
14 Stepney[x]	8	Pe 100	1
15 Sweet Bottom	53	Pl 42, Pu 38, Cu 11	6

APPENDIX VIII CONTINUED

	Value of Sale $	% per Main Crop	Frequency of Sales
16 Waverly Cot	58	Cb 91, L 9.	2
17 Workmans	52	L 56, Gu 25, Or 19.	3
ST. MICHAEL			
1 Belmont Tweedside	78	Po 59, Ed 39	2
2 Black Rock	258	Po 84, L 4, Cb 4, Le 3.	15
3 Bush Hall-Grazettes	706	Po 74, Ed 12, Ca 3, G 3, Pu 3.	28
4 Dayrells Road	7	L 89, Pp 9.	4
5 Eagle Hall-Bank Hall	161	L 94, B 6.	7
6 Goodland	196	Ca 76, L 23, Ep 1.	17
7 Lakes Folly	20	L 96, M 4.	3
8 Mapp Hill-Haggart Hall	47	B 99, P 1.	3
9 Halls Road	164	C 49, Po 28, Ed 19	4
10 Howells-Belle Gully	58	Po 95, B 5	5
11 Jackmans Hothersal	34	Be 84, L 13, C 3.	4
12 Jackson	11	L 44, C 34, B 14.	3
13 Salters	59	B 43, Po 17, Cv 16 Pe 13	8
14 White Hall-Cave Hill	77	L 74, To 17, M 4	14
15 Wildey A.D.C.[x]	289	Cu 51, B 40, Pu 9	10
16 Clapham	107	B 87, Be 13	4
CHRISTCHURCH			
1 Adams Castle[x]	229	B 73, Me 10, Cu 9, M 5.	8
2 Brittons Hill	130	L 80, M 6, Cr 4, Pa 4	9
3 Cane Vale	270	Cr 92, Be 7	5

APPENDIX VIII CONTINUED

	Value of Sale $	% per Main Crop	Frequency of Sales
4 Ealing Grove	10	B 100	2
5 Fairy Valley Agricultural Station[X]	761	B 100	8
6 Fair View	3	Li 46, Pe 43.	2
7 Montrose-Silver Hill	12	B 58, Pu 42.	2
8 Parish Lands	25	B 37, Be 22, L 16, Pp 13.	7
9 Sargeants	539	Y 97, L 3.	6
10 Sayers Court Agricultural Station[X]	199	Cr 52, B 27, Pp 21.	9
11 Silver Sands - St. Christopher	55	B 69, Pu 15, Cv 9, M 5	5
12 Spencer[X]	22	E 55, Li 22, Pe 15, Gf 8	1
13 Thornbury Hill	3	Li 52, O 18, Ep 14.	4
14 Wilcox	9	B 74, L 26	2

TOTAL VALUE: $17,456.00

Peasants : $ 5,655.00
Plantations 11,801.00

APPENDIX VIII

(b) Crops Featured in Trade

			Frequency of Sale				Frequency of Sale
A	-	Antichokes	1	Le	-	Lemons	3
B	-	Beans	43	Li	-	Limes	14
Ba	-	Bananas	17	Lk	-	Leeks	3
Be	-	Beats	9	M	-	Marrow	26
Bf	-	Breadfruit	1	Md	-	Mandarins	1
C	-	Christophene	26	Me	-	Melons	8
Ca	-	Cauliflower	8	O	-	Okras	10
Cb	-	Cabbage	6	Or	-	Oranges	5
Cn	-	Colonuts	6	P	-	Peppers	18
Co	-	Coconuts	6	Pa	-	Parsley	8
Cr	-	Carrots	14	Pe	-	Peas (Pigeon)	18
Cu	-	Cucumbers	6	Pl	-	Plantain	3
Cv	-	Cassava	4	Po	-	Potatoes	13
Cy	-	Celery	2	Pp	-	Pawpaw	19
E	-	Eschalot	18	Pu	-	Pumpkin	28
Ed	-	Eddoes	5	S	-	Spinach	3
Ep	-	Egg Plant	5	So	-	Sorrell	2
G	-	Ginger	9	Ss	-	Soursop	1
Gf	-	Grapefruit	4	T	-	Turnips	2
Gu	-	Guava	1	Th	-	Thyme	4
L	-	Lettuce	48	To	-	Tomatoes	8
Lb	-	Lima Beans	1	Y	-	Yams	9

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