

CHAPTER III  
SMALL-SCALE SUGAR CANE FARMING

INTRODUCTION

Sugar cane production is a major form of ecological adaptation in Chalky Mount, and production of this crop on small-holdings is a primary land-based complex. This chapter, then, will focus upon the activities surrounding sugar cane production, and the relationships that villagers form in their pursuance of these and related activities. I will also deal with the nature of the small holdings and some of the geographical factors which affect land use and production activities. These latter topics will only be superficially raised in Chapters IV and V.

Before proceeding I would like to clarify some of the key terms to be used in the following pages. One of these terms, peasant, is commonly used in Barbados to refer to a small operator who works ten or less acres of land. For our purposes this definition is employed and is used interchangeably with the term small farmer. The terms, plantation and estate, are used interchangeably as well since there is no set usage of them in Barbados. It is quite common for both terms to be used in every day parlance and Barbadians, when queried, are often vague

as to the distinctions between plantation and estate. Making a distinction between them is of little use here for by using the term plantation (or estate) I am contrasting it to peasant (or small farmer). The differences between the production activities of these two types of sugar cane producers will become apparent in the pages and chapters to follow.

### OCCUPATIONAL AND DEMOGRAPHIC CHARACTERISTICS OF THE SMALL CANE FARMERS

Some of the difficulties involved in presenting an occupational classification for Chalky Mount's population have already been discussed in Chapter II. No adult assessed his primary occupation as that of a small farmer, and slightly over half of the 111 whom I have designated small farmers are plantation laborers. The remaining small farmers claim a variety of other primary occupations (see Table 11). In all, the fact that Chalky Mount small farmers are primarily part-time cultivators on their holdings is consistent with information available for the island as a whole (Halcrow and Cave 1947:78; Barbados Annual Report, various years).

Most (58.7 per cent) of the peasants are males in the middle-age brackets--only two are under twenty-one years of age, and both of these persons are custodians for the lands of kinsmen who had just recently emigrated to England. The total population of the village is 544,

out of which 206 are twenty-one years or older. Of these 206 persons, 109 (or 53.2 per cent) operate lands upon which sugar cane is grown. These 109 persons, plus the two males under 21 years of age, are members of 96, or 82 per cent, of the village's total households.

Although there are absolutely and proportionately more male than female peasants, women constitute 41.3 per cent of the peasantry. This reflects the fact that there are few strictures placed upon sex as to land holding and operating whether it be in renting, buying, and inheriting lands, even though in the division of labor women do not engage in certain kinds of agricultural tasks. This forces them to be relatively more dependent upon the hiring of laborers than most of the men. The implications of this situation will be traced further in the final section of this chapter.

### SOME GEOGRAPHICAL CONSIDERATIONS

#### Location and Diversity of Working Lands

Only 9.2 per cent of the total working land, i.e., land upon which cane is grown, is more than 1000 yards from the approximate center of the village. Most of the remainder falls within a 500 yard radius, so that the peasant is no more than ten or fifteen minutes away from his holding. Working lands, then, are readily accessible to their operators; yet the numerous parcels into which they are divided display an almost remarkable diversity

in terms of such factors as sloping of the terrain, accessibility to roads, soil, drainage, erosion, etc.--all of which are factors affecting the final yield of crops and the expense incurred in their production.

Whether or not land that a peasant considers potentially cultivable will be planted in sugar cane is dictated by a number of factors, the most important of which, from the peasant's point of view, is the accessibility of that holding to a road. Other lands, which otherwise might be considered arable, but which are located at uneconomical distances from roads are normally used as pasturage. Some arable lands are not used at all, either because the ownership is in dispute, e.g., a man has died intestate and his children have not yet made a decision as to how his land should be divided up, or because the owner feels he has neither the time nor capital to develop his ground--these latter cases, however, are in a definite minority.

When cane is grown it is grown under differing soil and drainage conditions, and under widely varying topographic conditions. That is, it is grown on fairly steep slopes and on slopes which are comparatively level, though there are relatively few parcels of ground which can be said to be truly level. Even if a peasant has acreage on relatively level ground, it is rare that he can transport his cane to a road without having to climb over rather steep inclines. In general, as we shall see below,

the area's topography plays a prominent role in land use, exploitative activities, and the ultimate expenses involved in cane production.

### Soils, Soil Erosion, and Water

Within the relatively small area which Chalky Mount encompasses there are differences in soil conditions. Certain parcels located at the valley bottoms are in a better position to collect alluvium and are generally considered better soils by the peasants while most other lands are lightly to heavily eroded often containing but a sparse layer of top soil. Poor soil conditions alone, however, will rarely prevent a peasant from growing cane because of the value attached to cane production as a source of cash.

Although the coral limestone from which most Barbadian soils are derived does not extend to the Scotland District, the heterogeneity of Scotland soils, even when they are distinguished from soil types in other areas of the island, has been attested by a number of workers--and this heterogeneity can occur within fairly small areas, thus affecting the nature of the cane grown in them (Buie 1954:1-5; McConnel 1959: passim). Likewise, within small areas one can find distinct variations in soil depth, though Barbados soils, in general, are rather thin (Starkey 1961:4). These variations are of significance especially when the limited acreage of individual parcels is kept in mind.

A constant threat to productivity and a condition which seriously limits the potential agricultural use of lands is soil erosion which is particularly serious in the Scotland District and Chalky Mount. The general problem has been summed up in the Barbados Annual Report as follows:

The steepness of the gully sides, the bareness of the mountain slopes, the Joe's river clays, and the torrential short sharp showers make this region peculiarly susceptible to soil erosion. This is the only major region on the island where soil erosion is a serious problem (1958-1959:108).

In some cases sugar cane affords a protective cover and helps to prevent erosion in otherwise potentially erodable areas. Nevertheless, sheet erosion, slippage, and gullying are major problems in the Scotland District (Buie 1954). Livestock grazing on the existing, yet limited, grass cover further decreases soil protection and makes the area more susceptible to various forms of erosion as does the denuding of the hillsides of wood for cooking purposes and the collecting of clays by the potters. As far as I know the only measures that Chalky Mount peasants take to inhibit erosion are the drainage ditches which they occasionally construct on their land parcels. These are designed to carry away the excess water which falls during the frequent and torrential downpours of the rainy season.

Rainfall is of utmost importance to the growth and quality of sugar cane. Although it is beyond the scope of this paper to deal with the precise manner in which rainfall

effects sugar it should be noted that is not only the amount of rainfall per annum that is important but also the way in which this rainfall is distributed during the planting and growing season. The higher rainfall in the Scotland District (Chapter II) puts this area in an advantageous position with respect to other areas in Barbados during years when the island's rainfall is low or precarious; yet water is still a major problem, and although there is limited irrigation on the island there is none in Chalky Mount.

"Mulching" is a method frequently employed by peasants and plantations to help retain moisture on the fields. It involves the spreading of cane trash, left on the fields after the crop has been reaped, around the ratoons or newly planted canes. The protective cover thus formed over the soil not only serves to inhibit the erosion potential of certain kinds of lands but also helps to retain moisture. And this is one of the reasons why cane fires can so badly hurt a crop.<sup>1</sup> A fire destroys the cane trash leaving little or nothing with which to mulch a field. The young canes growing on a field devoid of such protective cover are apt to suffer, and as a result

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<sup>1</sup>Although cane fires play a significant role in the island's overall cane production, they are of minor importance in the Chalky Mount area; hence, they are not treated in this paper.

the following year's cane yield from that field will be considerably less than it might have been had the field been mulched.

In spite of limitations of topography, soil, and even water, most people attempt to grow cane on their holdings wherever minimal geographical circumstances will permit its cultivation. In many cases, these circumstances are not the most favorable for effective and profitable cane production; and the small land units which most peasants operate also serve to limit income derived from cane production. Before I discuss small-scale sugar cane farming as a business, let us first look at the emergence of a small farmer class in Chalky Mount, and the nature of the land holdings themselves.

#### LAND HOLDINGS

##### The Emergence of a Small Farmer Group in Chalky Mount

Small-scale sugar cane production by Negro farmers is a relatively recent phenomenon in the 330 year history of Barbados. The major development of this type of farming occurred about 60 years ago when plantations, rather than being transferred intact, were subdivided into small parcels (Greenfield 1960, Halcrow and Cave 1947:IV-V). These parcels were then sold to individual purchasers many of whom had acquired the purchase price or down payment as a result of work in Panama and other places abroad.



Although it is difficult to trace exactly the situation on Chalky Mount, it seems that the bulk of small land holdings were available to Negroes by 50 or 60 years ago; however, contrary to the island-wide rule, it appears as if the Negro peasantry emerged under somewhat different conditions than in other areas. The acreages of the various plantations surrounding the village have been retained, virtually intact, since the turn of the century (although plantation ownership has changed a number of times), and it was not until the early 1950's that plantation lands were subdivided and sold off to small proprietors. By this time, however, a class of Negro small-scale farmers had already emerged.

How did these Negroes acquire their small holdings? In order to answer this question some aspects of Chalky Mount's history must be considered. In the nineteenth and early twentieth centuries, a relatively heavy population of "poor whites" lived in the village and its general vicinity. Known today by various names, e.g., "redlegs", "poor baccra", these persons were the descendants of plantation tenants in the area prior to emancipation. After emancipation was completed in 1838, they formed the major part of the Chalky Mount land-holding population during the nineteenth and early twentieth centuries.

On their small holdings they grew arrowroot, subsistence crops such as cassava, yams, sweet potatoes, some cane, and raised livestock. The majority of the Negro population worked as plantation wage laborers renting, when they could, estate lands upon which they grew their own crops. The actual processes by which white holdings were gradually alienated to Negroes can only be sketchily traced through an occasional deed and statement by older informants.

All of the older informants queried on this subject agreed that up to 60 years or so ago most of the non-plantation land worked and owned by people in the Chalky Mount area was worked and owned by whites who rarely, if ever, did plantation work. Further, it is claimed that it was not until relatively recent times that these lands were gradually alienated to Negroes. There are only a few whites in Chalky Mount today, and it seems as if the extreme poverty of the area, and its relative lack of possible economic development were among the main factors causing their "exodus" from the village. White emigration mainly occurred over a space of some 40 or 50 years and

was directed not only towards the island's capital city, but to such places as Trinidad, British Guiana, and the United States.<sup>2</sup>

As whites, regardless of their limited education and lower class position, they had a much greater mobility potential than the Negroes of the area. Over the years they left Chalky Mount and were often helped to do so by relatives who had preceded them. Sometimes before they left, and sometimes while still abroad--through agents--they would sell the small parcels of land which they had bought and/or inherited years before. The lands were sold to anyone who would buy, and, as a result, Negroes were able to acquire small parcels of land. Today, the amount of land owned by poor whites is negligible in relation to the holdings of the Negroes.

Another and related way in which acreage was acquired by Chalky Mount Negroes was also ultimately the result of land alienation by poor whites. Small enclaves of white-held lands in the middle of plantations in the Chalky Mount area date from early in the 19th century and probably before. These small enclaves, of sometimes

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<sup>2</sup>Since the latter part of the seventeenth century there has normally been a relatively heavy white emigration from Barbados. Here, however, I am primarily concerned with the whites who formed a fairly stable part of the Chalky Mount population during the period under consideration.

eight, nine, or more acres were gradually fractioned and sold off to the owners of local plantations. The sellers were then able to acquire ready cash with which to pay off debts, to leave the district, or to emigrate. Sometimes these lands were attached to and operated as part of the plantation, but usually because of their marginal nature the lands were rented out to Negro peasants who were later able to buy them.

#### Size and Distribution of Land Holdings

Today, in Chalky Mount, 129 persons claim some 178 acres of land subdivided into about 252 parcels. These 178 acres include, in addition to agricultural lands, houseplots, scrub, and pasture lands. However, there are only 21 households out of a total of 117 in the village, no members of which plant cane. As was indicated above, 111 different persons hold the 133 acres of the village's working land, and this acreage comprises 72 per cent of all lands held by Chalky Mount people.

A common characteristic of Barbados peasant holdings is their small size. As was pointed out in Chapter II, there are approximately 27,912 farms on the island, 98 per cent of which are under 5 acres and 85 per cent are under 1 acre (West Indies Census of Agriculture

1961). On Chalky Mount 36 per cent of the holdings are a half acre or less, 69 per cent are one acre or less while 98 per cent are under 5 acres.

Table 12 shows the size distribution of all Chalky Mount working lands irrespective of types of tenure. It is from these small units that Chalky Mount peasants produce their share of Barbados' total cane. The minimal size of these units clearly suggests why no one can depend solely upon the cash derived from his own cane production, but this will become clearer when cane yields and expenses and profits are discussed below.

#### Rented Lands

Of the  $133\text{-}\frac{3}{8}$  acres worked by Chalky Mount small farmers,  $55\text{-}\frac{1}{8}$  acres, or about 41 per cent of the total working acreage, are rented. The greater portion of this rented acreage, 83.9 per cent, is rented from plantations which border the village while the remainder is rented from other small holders who either reside in the village or who are former residents of the village now living in Bridgetown. Halcrow and Cave, in their comprehensive report on peasant agriculture in Barbados, stated that "Apart from the holdings that are rented from estates there is a good deal of renting between peasants" (1947:29). However, the Chalky Mount data suggest limited renting between peasants, and it would seem

reasonable to suppose that with the recent guaranteed and higher prices on sugar cane, persons who have arable holdings would be more prone to work them themselves than to rent them out. At any rate, only 8-7/8 acres of the total rented working acreage is rented from other small holders. Table 13 shows the distribution of rented working lands by size of the holdings and by the nature of the renter. Here it can be seen that 84 per cent of the acreage and 68 per cent of the holdings are an acre or less.

Lands which plantations rent to small farmers are among the least desirable in terms of soil conditions, terrain, and accessibility to roads. In past years these rented lands might have been used for pasturage or arrow-root, but since the Second World War more and more tenants have converted their rented holdings into sugar cane. In fact, the higher prices on cane have offered an inducement to the plantations to increase their working acreage, and with the help of mechanized equipment new roads are being constructed. As a result, lands which were formerly rented out to peasants, but because of their inaccessibility to roads were considered unprofitable to operate by the plantations, are now being reclaimed for plantation use.

The rents charged by estates vary somewhat, usually according to the quality of the land being rented and the accessibility of that land to a road. As I have indicated above, accessibility of the land to a road is a primary factor in determining the labor costs involved in reaping the cane. A parcel of land unfavorably situated with relation to roads demands higher labor costs, and, in some cases, peasants with land so situated, regardless of how good their canes might be, show very little, if any, profit at the end of a year.

There is not much difference between the rents charged by estate and non-estate renters. Calculated on the basis of one acre units, rents average about \$23 per annum although smaller units are generally rented out at proportionately higher rates than larger ones. For instance, the average annual rent on working land parcels of 1/8 to 1/4 acre was \$38.49 in 1961-1962, and \$24.33 on land parcels from 2-2/8 to 2-1/2 acres. It is thus apparent that a renter can make proportionately greater profit by sub-dividing his rented holdings into smaller units than by renting them out as larger units. Estate renters, in particular, seem to be perfectly aware of this.

#### Non-rented Lands

The majority of lands worked by Chalky Mount small farmer are non-rented. These lands include a

variety of purchased and non-purchased, e.g., inherited, holdings and comprise 79 acres, or about 59 per cent of the total lands worked by small farmers. The size and distribution of these holdings is given in Table 14 where they are classed as to the manner in which they were acquired. It can be seen that about 67 per cent of the non-rented working acreage has been purchased. Of this purchased acreage almost 50 per cent was purchased by ten different persons from plantation owners who, since 1958, have been sub-dividing and selling their plantations.

#### Land Prices

Land prices throughout Barbados have increased considerably over the past decade or so, and land holdings in the Chalky Mount area have not been exempt from these price rises. It would appear that land on the island has always been high-priced especially in relation to the income of the lower classes. Yet people buy land--or attempt to buy it.

The great demand for land in Barbados has clearly been capitalized upon by those doing the selling. This point is especially noteworthy in view of the limited agricultural potential of many of the lands sold in the Scotland District and Chalky Mount in particular. In the Chalky Mount area this phenomenon is especially pronounced in the case of recently subdivided plantation



lands. Owners have been able to make substantial profits on lands that were formerly marginal to plantation operations, i.e., lands which were considered unprofitable to work either because of their soil conditions or topographic features and the like, and were either left as scrub, in pasture or rented out to peasants to do with what they liked. Today plantation owners in the district find that they can sell off these lands for considerable sums of money. At the time of field work, recently subdivided plantation lands were selling at a minimum of \$1000 per acre, but it was not unusual to find lands going for as much as \$1800 per acre, even though the productive potential of many of these lands would not seem to warrant the high prices demanded. The comments that Halcrow and Cave made in 1947 are relevant to Chalky Mount small farmers today.

The truth is that in Barbados the agricultural value of land is not given first consideration by peasants who have made up their minds to buy. The desire to own land, the convenience of the locality as regards roads and water, and then possibly the quality of the soil is the usual order of consideration (1947:29).

The "desire to own land" is not as simple as it may sound, and it would seem that Halcrow and Cave's statements should be modified. For regardless of the marginality of many of the lands in the Chalky Mount area, and in spite of historical explanations (e.g., Greenfield 1960) one is left to explain why the poorer classes continue to demand

lands which, even by their own admission, often do not have a decent economic potential. The fact that sugar cane prices are higher and better guaranteed than ever before is certainly something that should be taken into consideration. For, as we shall see, people will generally derive some cash from their land regardless of how little that cash might be; and within the villagers' desire to maximize their economic adaptations, the possibility of acquiring cash from one's own land--with the security of tenure that obtains--is of paramount importance.

With respect to land prices, I have data on 49 of the 53-1/8 acres of purchased working lands. This acreage includes 35 parcels, not all of which were working when first purchased. Prices averaged about \$150 per acre between 1931 and 1940, about \$180 per acre between 1941 and 1950, and slightly over \$800 per acre between 1951 and 1961. The high-low range of prices between 1931-1940 was \$60-\$300. Between 1941-1950 it was \$64-550, and between 1951-1961 the range was \$120-\$1800. It is to be noted that the sharp increase in prices over the past decade largely reflects the relatively high prices charged by plantation owners on their sub-divided plantation lands. Most lands bought between 1931 and 1951 were bought from other small holders. On the whole, lands that small holders bought from other small holders were usually

cheaper than the lands bought from plantations. However, it appears that the working lands bought from small holders are usually more marginal relative to the lands bought from plantations even if these latter lands, from the plantations' perspective, are marginal in themselves. Quite often lands bought earlier were not planted in cane, but were subsequently turned over to cane by their owners as prices on cane increased and marketing facilities improved.

Although purchase terms from other small holders were relatively easy in former years, and the land units were often less than an acre, it seems somewhat surprising that the villagers today have apparently been able to meet not only the 50 per cent cash downpayment that is normally required in the case of plantation land purchases, but also the 6 per cent per annum interest on the principal. Even though the number of land owners who recently purchased sub-divided plantation lands form a minority of Chalky Mount's land purchasing population, the sums involved are considerable in relation to the normal earning capacity of the small farmers and the cash profits these lands ultimately yield. Although few of these lands have been completely paid for, in some cases people have received government loans to help in the down payment, and in other cases money acquired from contract

agricultural labor in the United States or even remittances have aided to meet both the initial and subsequent payments.

### Tenure and Mode of Acquisition of Non-Rented Holdings

Introduction.-In order to bring the nature of land holdings into clearer perspective, it seems desirable to indicate the prevalent patterns of tenure and modes of acquisition of working lands. These patterns are reflected in data presented in Table 15. In all, there are 70 cases of non-rented holdings. I have information on 66 of these which include  $72\text{-}\frac{3}{4}$  acres out of the total of 79 acres. In a few instances a person operating non-rented land will have acquired this land through different means and hold it in more than one form of tenure. This accounts for the discrepancy between the cases given in Table 15 and the 64 cases given in Table 14.

The villagers make a distinction between "buy ground" and "rent ground." "Buy ground" is a generic term for all types of non-rented lands--yet there are sufficient and significant differences between various types of "buy ground" to warrant the distinctions I am making here. These categorical distinctions of "buy ground" are now discussed in terms of two major types: purchased lands and non-purchased lands.

Purchased lands.-These lands include 53-3/8 of the 72-3/4 non-rented acres indicated in Table 14. However, the lands comprise but 52 per cent of the total cases. In all, most of the contemporary non-rented acreage in Chalky Mount has been acquired by purchase even though the actual number of cases are about equally divided between purchase and non-purchase. In terms of mode of acquisition, purchased lands include three subtypes: (1) Lands paid for--bill of sale comprise 24 per cent of the working "buy ground." The operators in such cases have legal title to their lands with the sale's receipt, but the transactions have not been recorded in the Registry and the lands usually have not been surveyed. Most of the cases in this category result from peasants purchasing from other small holders; (2) lands paid for--deed have been registered and normally surveyed. They comprise 25 per cent of working "buy ground" and include 74 per cent of the cases. More often than not, these lands have been purchased from relatively recently sub-divided plantations; (3) payments outstanding (24 per cent of the acreage and 17 per cent of the cases), is similar to the previous type except that the purchaser has no legal title, and a deed will not be received until the money owed, along with interest, is paid--usually within a specified

time limit. Legal title is retained by the mortgager who, in most cases, is the former owner of the subdivided plantation.

Non-purchased lands.-Of the 72-3/4 acres of "buy ground" included in Table 15, 19-3/8 acres, or 27 per cent are non-purchased. This acreage, however, includes 48 per cent of the total cases. That is, there have not only been fewer cases of land acquisition through non-purchase means, but these have also involved proportionately much less acreage than those acquired through purchase. These non-purchased lands are also considered in terms of three sub-types according to their mode of acquisition: (1) Lands inherited by will include 7 per cent of all "buy ground" but 17 per cent of the cases. This category is self-explanatory and the lands included within it have been registered though usually not surveyed because of the additional, and often prohibitive, costs involved. However, the heir is both legally and morally free to alienate the land as he or she wishes; (2) family lands comprise 12 per cent of non-rented lands, but involve 21 per cent of the total cases. These lands are usually non-registered and have not been surveyed. Family lands have been acquired without a will but through "seed to seed" transmission which has been described by Greenfield as follows:

The second type of 'buy ground' is referred to as 'family land.' It differs from individually owned land in that it is believed to be inalienable and to belong to all members of the family. [The villagers] see the proprietor as the trustee for the kinship group....The phrase 'seed to seed inheritance' is used to describe the form of transmission that is the basis of this type of tenure (1960:168).

Under the system of customary rules governing tenure in these cases the operators do not have the right to alienate these lands. In some cases only one of the family heirs will work the total acreage, in other cases the acreage will be informally divided among them, each one working a part of it--the peasants having reached some agreement among themselves as to how the land should be divided for working operations. In none of these cases, unless some formal agreement is made, will an operator be able to sell the share that he or she works; (3) Eight per cent of the non-rented acreage has been inherited by gift, though this mode of acquisition was found in 11 per cent of the cases. Inheritance by gift means that the granter is still alive but has relinquished effective control of the land to the grantee during the former's lifetime. The granter might have acquired the land he is granting by any number of means, but the point here is that he or she is still alive and gives up control of the land. Most of these cases involve elder persons who usually form an effective part of the grantee's household whether or not they sleep in the grantee's house. That is, the grantee

is usually a close kinsman, e.g., grandchild, son or daughter, upon whom the granter is dependent for such things as food, cooking, and clothes washing and ironing. The "deed of gift" in most cases is verbal, and in some cases involves the registration of a formal "deed of gift." However, in all of the cases in this category the grantee is responsible for the working of the land, and is entitled to the profits which derive from the selling of the cane.

Custodianship.-Cross-cutting both purchased and non-purchased lands is what I prefer to call custodianship. There are nine such cases on Chalky Mount and these comprise 16 per cent of the total non-rented acreage and include 14 per cent of the total non-rented cases. All but one of these custodianship cases have been produced by the recent emigrations to England. In all of these cases the custodian is responsible for the operation of the land, but makes no claims upon it. Of the 11-3/8 acres for which there are custodians, 9 were acquired by purchase. In a few cases the land in question was purchased while the "owner" was resident abroad--the money having been sent back to a close kinsman, usually a mother or father, who then became the custodian of that piece of land. In one case the custodian is using the proceeds of the land to help make the payments upon it, but usually the custodian will keep the money in trust for the person abroad or keep



the money for him or herself depending upon the type of tenure the person abroad has. In most of the cases, however, where the custodian keeps the cane proceeds this money will be used to help support the children of the "owner" who are residing with the custodian.

To sum up this brief discussion on land tenure and mode of acquisition of the village's working acreage, 41 per cent of these lands are rented--mostly from neighboring plantations. The majority, however, are one form or another of "buy ground," 73 per cent having been acquired by purchase. The remainder were inherited in one of the three ways mentioned above. The characteristic or modal working holding in Chalky Mount, then, is owned and was purchased.

With this examination of the nature of the working land holdings we can now proceed to a more intensive discussion of the activities and relationships involved in the exploitation of these lands for the production of sugar.

## THE PRODUCTION OF SUGAR CANE

### Introduction

The agricultural year is divided into two periods of unequal duration. "Crop time" or "crop," when the sugar cane is reaped, lasts for about 14 to 15 weeks from February to May or into early June. The remainder of the

year, the out-of-crop or "hard times," the small farmer devotes to a variety of activities such as soil preparation, planting, weeding and fertilizing the fields. Most of the small farmers work on their holdings as they can get time off from other occupational commitments so that, within the limits set by the cane and season, there is apt to be a time lag in the performance of certain jobs from individual to individual farmer. Before proceeding to the discussion of sugar cane producing activities a few other general remarks should be made.

Halcrow and Cave, in their publication based upon data gathered in the early 1940's, state that

...the great majority of peasant holdings are devoted to an extensive system of farming based on sugar cane. This system has been...called...the 'Predominating System.' In essence it implies that a large proportion of the holding is devoted to the cultivation of sugar cane; the balance of the land, while resting from cane, being used for growing mixed stands of food and fodder... This predominating system...is common from the largest peasant holdings down to the very<sup>3</sup> small places of under one rood of land (1947:21).<sup>3</sup>

The Chalky Mount data strongly suggest that the "Predominating System" described above and by Skeete (1930:2-5), is becoming a thing of the past. Research done elsewhere in Barbados reinforces the view that fundamental changes in agricultural practices have not occurred in Chalky Mount alone. Greenfield, in talking about the village

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<sup>3</sup>One rood equals  $\frac{1}{4}$  acre.

that he studied, says that "In recent years, ...with new varieties of cane that produce excellent ratoons for several years, little land is ever 'thrown out' before it is prepared again for planting new cane" (1960:171). One reason for this change seems to lie in the better ratoons which new varieties of cane produce,<sup>4</sup> but what seems to be equally significant is the higher and guaranteed prices on cane over the past few years. As a result, the peasants, rather than allowing acreage to remain fallow, try to maximize the sugar exploitation of their holdings in order to derive maximum cash benefits each year. One of the consequences of this has been the development of the cultivation practice of "forcing back".

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<sup>4</sup>In ratooning, cane stumps are left in the ground and are permitted to grow for successive years before they are replaced by new plants. Some plantation fields are allowed to be in fourth and fifth ratoons, but it is highly unusual to ratoon any more than this. On peasant holdings, however, one can encounter sixth or seventh ratoons, but even these are in a minority. The ability of ratoons to produce reasonable yields is a result of the improved cane varieties developed over the past few decades, but in the mid-1930's, at the time of Starkey's writing, ratooning seems to have been a highly unusual practice (Starkey 1939:39).

### Cultivation in "Crop Time"

"Forcing back" involves the removal of poor ratoons soon after the canes have been reaped, the digging of new cane holes<sup>5</sup> in those parts of the field where these ratoons were located, and the planting of new plants in these holes as the first rains appear sometime in July. Since the normal growing period of newly planted cane is about fifteen months (for ratoons about twelve months), the farmers would miss a crop from at least part of their acreage were they to wait until November and December when the plantations do their planting. Hence, by "forcing back" one is literally forcing the cane into a shorter growing season with the expectation of reaping it in the following year. As a result, and from the small farmer's point of view, a year is not wasted, and though the canes thus planted might not be fully matured at the time of their reaping, the farmer feels that he can still get a decent yield; and, most importantly, he is now able to derive cash from a maximum unit.

It is unusual, however, for a small farmer to "force back" all of his acreage since only those holes

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<sup>5</sup>The system of planting in holes dates from the latter part of the 17th century (Starkey 1939:160,204) and is employed by the plantations as well (see Chapter IV). Cane holes are approximately two feet by two feet and four to six inches deep--there being roughly between 1500 and 1750 cane holes to the acre.

which contain badly yielding ratoons are the ones into which new cane plants are put. Also not everyone who wishes to "force back" can do so, for unless a peasant can do all of the necessary labor himself it is difficult to find help. A primary reason for this is that most able-bodied persons are engaged, at this time, in the more profitable work of reaping plantation sugar cane. At any rate, those persons who have "forced back" their land before the onset of the rains put off their planting until the rains commence. Those who "force back" as the rains have already started put in their plants soon after the holes have been dug.

#### Cultivation in the Out-of-Crop

By July or August, with the rainy season already under way, cultivation is oriented towards the year-after-next crop. That is, the land is not prepared with the forthcoming reaping season in mind, but with the one following this which is more consistent with estate practices--though "forcing back" can sometimes be found, to a minor extent, on some of the estates. Hence, though cultivation starts as early as July it can extend into January of the following year, the canes being planted normally, as on the plantations, in October and November. Some peasants, however, plant their canes up until the time of the new reaping season. These canes will be cut, not

at this reaping, but will be ready by the following year. Before focusing upon cane reaping, I would like to sketch in some of the procedures involved in out-of-crop land preparation.

Forms of Hand Cultivation.-The most common method of land cultivation is known as "till burying." This is accomplished by thrusting the "fork" into the ground, turning over the soil and constructing the cane hole--all in one process. A method more rarely employed by the peasants is known as "trenching." Since "trenching" takes longer to accomplish than "till burying," and since hired help is often relied upon (paid by the day), peasants are often reluctant to "trench", even though they feel it to be a superior method of cultivation. "Trenching," which is a variation of row planting involves the construction of long mounds, separated by furrows, which run the length of the field. Cane holes are then shaped out of these mounds as in "till burying."

If the ground has been previously plowed, a relatively fast and experienced worker, by some estimates, can produce as many as 400-500 cane holes in a day, though other estimates place the figure closer to 300 with the normal rate being something like 200-250. But if the laborer is forced to "till bury" and then put in the holes his daily output will be something like 60-70. If a

laborer is cultivating land which was previously worked, as in "forcing back"--but still "till burying"--he can dig something like 100-200 holes a day. These estimates, however, must be taken as approximate.

Mechanization.--Plantations are highly mechanized with respect to the cultivation of their fields. The greater depth of tillage and other advantages which mechanized equipment affords enormously increase crop yields (Barbados Advocate April 8, 1962), and these results are so well recognized that the government rents tractors to peasants at relatively nominal rates. In spite of this, mechanized equipment is rarely used by the peasants of Chalky Mount, although in theory it could be available to them. A near-by government agricultural station has a tractor which is available on a rental basis, but, aside from other considerations, the peasants claim that this tractor does not have the capacity and power to work the kinds of inclines on which a large part of the Chalky Mount fields are located. An alternative would be a bulldozer which is commonly employed on Scotland District plantations, and is preferable for the hilly terrain in the area. But, there are not that many bulldozers available. Plantations in the area, from which the "dozers" might be rented, are sometimes reluctant to rent their equipment, claiming that plantation work demands are of such a nature that the machinery can-

not be spared for non-plantation purposes. A bulldozer might be available, nevertheless, from plantations in other districts, but few peasants take the time and effort to seek these out. Even if their bulldozers are not being used, plantations are often unwilling to rent them because peasant holdings are so small that managers feel it is not profitable--considering the driver's wages, gas, oil, etc.--to work on such a slight acreage. If peasant acreage could be increased, the equipment renter might look at the situation differently. But, this would require a number of peasants with contiguous holdings to operate as a collectivity. Even if this could be done, in practice it would be difficult to find a number of peasants with contiguous holdings all of whom need all, or significant portions, of their lands plowed at one time.

The use of mechanized equipment is also inhibited by the rental cost involved, and this relates particularly to those who do their own cultivating. That is, in terms of financial outlay, mechanized equipment would benefit those small farmers who must hire labor to do their cultivating; but those who do their own cultivating are unwilling to spend the rental money, for this would clearly be an additional expense. It is difficult to say whether the increased cane yields--which would presumably



result from the deeper tillage mechanized plowing affords-- would compensate for the rental outlay in the case of persons who do not rely on hired help for cultivation.

Other reasons for not renting mechanized equipment are that some persons are either unwilling or extremely reluctant to make requests of this kind from plantation managers, and there are probably those as well who are unwilling or hesitant to accept innovations preferring to work along customary lines. In 1962 there were only two small farmers in Chalky Mount who had their fields cultivated with mechanized equipment.

#### Planting, Fertilizers, and Weeding

After the non-ratooned sections of a land parcel are cultivated they are ready for planting and fertilizing.

Planting.--Cane plants are cut from a person's own acreage or, quite often, purchased from plantations. Although it is common practice for the plantations to place two plants per cane hole, the peasants normally place only one. They claim that they cannot afford the additional expense of so many cane plants, even though

they admit to the advisability of following plantation practice in this respect.<sup>6</sup> With the planting of the cane the fields, including the ratoons, are now ready for fertilizing.

Fertilizers.-Fertilizers play an important role in peasant farming. Chemical fertilizers ("manure") are more frequently used than pen manure ("dung") because of the relative paucity of livestock and the insufficient quantities of whatever dung these stocks produce. The Chalky Mount peasants, as with others on the island (Halcrow and Cave 1947:13), are well aware of the benefits that can be derived from the use of fertilizers. They use them extensively and hence the purchase of fertilizers is one of the expenses every peasant has in working his land. Many lament their inadequate financial resources which they claim prevents them from obtaining more fertilizer.

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<sup>6</sup>In fact, in this, as in other agricultural practices, the plantation is the key agent for the diffusion of new agricultural techniques. The estates, even if they are not members of the Barbados Sugar Producers' Union, benefit from the research conducted in the highly sophisticated sugar industry and by the Barbados government's Department of Agriculture. Whether new information is disseminated to them formally or informally they are still in a better position to learn of new ideas than are the peasants--in spite of the existence of peasant agricultural advisors whose effect in the Chalky Mount area, at least, has been limited as far as I can tell. Peasants, in the Chalky Mount area, have primarily learned of new advances and new methods after having seen them put into practice on the estates. This comment applies not only to a host of planting techniques, but also to such things as cultivation, fertilizing, and the introduction of new and better ratooning cane varieties.

Peasants generally feel that their productivity could be as high as that of the plantations (see Section on Cane Yields) if they could only manure their fields to a greater extent. These financial considerations are manifest in the kinds of fertilizers employed.

Estates use both potash and sulfate of ammonia and these are dropped at different periods of plant growth. The peasants, however, largely employ sulfate of ammonia, dropping it on newly growing ratoons and plant canes at the onset of and during the rainy season. A common reason which is given for the use of only one type of fertilizer is that sulfate of ammonia is slightly cheaper than the potash.

Most of the fertilizers are now acquired from merchants in town on a credit basis. The peasants individually arrange with these merchants not only for the manure, but for its transportation to the village as well. Transport costs to the Mount increase the price per bag so that at the time this research was conducted a 200 pound bag of fertilizer cost between ten and eleven dollars. A handful of fertilizer is dropped in each cane hole, and, on a randomly selected sample of 24 peasant holdings it was found that the fertilizer is distributed at a ratio of about 400 pounds or two bags per acre which is comparable to plantation practice.

Weeding.-Field weeding is done with the use of a long handled hoe, but the efficiency of this work varies considerably from farmer to farmer, i.e., not all peasants weed with equal care. More time is spent weeding the young cane and growing ratoons in the early phases of growth, although, on the estates, weeding is carried out continuously until late in December. By this month there is relatively little activity on small holdings, and people are looking forward to the "crop."

### Crop Time

Introduction.-As might be expected, "crop time" or "crop," when the cane is reaped, is a period of relatively intense activity on both plantation and peasant holdings. More people are employed more consistently and the tempo of work is heightened as well.

The opening and closing of crop is beyond the peasants' control. They cannot cut their cane before sugar factories have started operations, and they must have their cane cut before the factories cease work for the year. Factories start closing as their primary plantation cane suppliers deplete their acreage, so that those peasants who wait too long to cut their cane, for whatever reason, can conceivably find themselves out of luck with no factory to which to send their cane. During 1961-1962 this happened to only one peasant in Chalky Mount.

However, small farmers usually make every effort to cut their cane as early in the reaping season as possible, and normally only a minority will still be reaping their cane towards the closing days of crop. This pattern--an island-wide phenomenon--often vexes factory managers who have no way of accurately predicting what their factories can expect daily in peasant cane. At any rate, the amount of peasant cane sent to factories decreases after Easter which causes a proportionate increase in plantation quotas. A reason commonly given in Barbados for the "bunching up" of reaping activities during the early weeks of the crop is that peasants desire to get their cane money as soon as possible. McKenzie offers a more likely explanation when he says

...small holders like to deliver cane early in the season as the cane is heavier at that period and hence the small holder benefits on the higher tonnage. Late delivered cane tends to dry out, and although sucrose content may be higher, the loss in weight is appreciable (1958:33-34).

There is little question that late canes "tend to dry out," and recognition of this might, as McKenzie suggests, direct the reaping activities of small farmers. However, another possible reason relates to the growth cycle of the cane itself. That is, cutting the cane early allows the ratoons, on the limited acreage which the average small farmer works, more time to mature for the following crop season.

And this emphasis is directly related to the practice of "forcing back" which was discussed above.

Cutting.- Only males cut cane. The tool used is the cane bill which is frequently honed during a day's work to keep it as sharp as possible. Using the hook part of the bill the cutter quickly strips the trash from the cane stalk, chops off the top and then cuts the stalk fairly close to the ground. As he moves through the rows of cane the cutter throws the cut and stripped stalks behind him, and these are picked up by the "headers."

Heading.- "Headers" are normally adult females, though boys and girls are frequently found operating in this capacity on peasant holdings. "Headers" tie the cane stalks into bundles--usually weighing between 50 and 80 pounds--and carry these bundles out of the fields--on their heads--to the nearest point on a road. Here the bundles are dropped onto a pile. When this pile is large enough to make a full truck load it is hauled away to a factory.

The cane should be taken to a factory shortly after cutting, for the more it dries the less will be its weight, but since the truck haulers are reluctant to take anything less than a full load--the maximum load prescribed by law is five tons--the producer tries to get a full load of canes out to the road as soon as possible. However, many of the fields are not only located inconveniently in relation to roads, but are also located on fairly steep slopes. Even the fairly level fields, located on the valley floors, can

usually only be reached by climbing up relatively steep inclines. Hence, the distance from a road, and other arduous features of the topography, make it necessary for a peasant to have a number of headers in order to get his cane out within a reasonable time period. The need for "headers" is a problem which exists on the estates in the area as well, for very few estate fields in this area, in contrast to other parts of Barbados, are level enough to permit trucks to come on to them to be loaded.

On many Scotland District plantations (see Chapter IV) the normal work unit in reaping consists of two headers per cutter. On peasant holdings, however, one finds as many as five or six, sometimes more, headers working behind each cutter.

Hence, headers are an extremely important part of the work force, and the expenses incurred in hiring them can considerably increase the small farmer's production costs. Rarely can one rely entirely upon non-paid household labor. One of the reasons for this is that there are usually not enough persons in any given household who are capable, willing and available to do this extremely demanding work. Further details on this problem will be discussed in the final section of this chapter.

As I mentioned above, after a truckload of canes has been deposited on a point of the road closest to his field the peasant contracts with a truck--though this might have been arranged before--to haul his canes to the factory.

With this arrangement the peasant enters upon the final phase of the annual cycle--that of selling his cane. Before this topic is considered I would like to discuss briefly the production yields of the small cane farmer.

### Cane Yields

It is apparent that yields will vary from year to year for the same peasant, and within the same year for different peasants. Yet, to get some idea of the effectiveness of small cane farming it is essential to measure the peasants' productivity. An adequate measure of this productivity is the yield, or tonnage of cane, per reaped acre.

Yield figures were compiled by approaching individual peasants on their holdings as their cane was being reaped. The reaped acreage was determined on the basis of the peasant's own estimates. Since all of the people are well accustomed to working on land units sub-divided in terms of the acreage system I saw no reason to assume any great error in their estimates. By checking with each factory to which the peasants sent their cane I was able to acquire precise tonnage figures. The total tonnage was then divided by the total reaped acreage to give the yield figures summarized in Table 16.

For a variety of reasons, complete information on all working land from all holders was impossible to obtain. Hence, the sample for Table 16 comprises  $57\frac{1}{8}$  acres of the holdings of 65 peasants, or 43 per cent of the total working



acreage and 59 per cent of all holders. It is even more difficult to gather data on the yields per acre according to the type of crop reaped, i.e., plant and various ratoons (see Table 17). These problems do not exist with respect to plantation yields. Plantations keep entire fields in one kind of crop and managers can easily consult their account books to see precisely how many acres are planted in each kind of cane and the tonnages reaped from these acres. Peasants do not have such production books, and for the most part their land parcels are a conglomerate of different ratoons interspersed with each other. Hence, it is difficult to get an accurate idea of the percentage of certain types of ratoons to others within a peasant's working acreage, and the information presented in Table 17 is based upon such rough statements as "my parcel is mostly 1st and 2nd crop," "mostly 3rd crop," "mostly 1st and 3rd crop." Since the figures presented in Table 17 are based upon information of this sort, it is to be noted that the figures for plantation and peasant are not strictly comparable; yet, to attempt to bring the peasant data any more in line with the precise materials of plantation production would be doing injustice to the peasant materials. Nevertheless, a fair comparative idea of plantation-peasant yields can be gained from Table 17. To control, as much as possible, for ecological factors only data are given for plantations which fall, entirely or partially, within a 2000 yard radius of the center of the village.

The data on yields by crop (Table 17) is based on a restricted sample of 29 persons (or 26 per cent of the total holders) but relates only to parts of these peasants' total working acreage. These data were gathered immediately after the cane was reaped on a particular piece of ground. Though the sample of peasants is limited and the amount of land involved even more so (17 acres or only 12.7 per cent of the total working acreage) Table 17 is of interest and the peasant data suggestive, especially when compared with that of the plantations.

Tables 16 and 17 show that the average yield per reaped acre on peasant holdings ranges from 18.249 to 18.509 tons. This yield is considerably lower than the plantations' 31.596 tons. On new plant cane the plantations reaped almost twenty tons more than peasants, and for various reasons plantations reaped roughly ten tons more per acre. It is common knowledge in Barbados that plantations have higher yields so that the differences in the Chalky Mount averages were expected. As far as I know, there have been no studies done of the precise factors which cause these differential yields, but the most common reasons offered for higher plantations yields involve a combination of such factors as superior lands, mechanization in plowing, better varieties of cane, use of herbicides, more effective weeding, better fertilization, etc.

### Transport to the Factory

Although there are a handful of peasant cane marketing "cooperatives" on the island none are operative in Chalky Mount.<sup>7</sup> The village's small farmers sell their cane directly to the factory, but no personal arrangements are made between the peasant producer and the factory manager--a situation which apparently prevailed at the time of Halcrow and Cave's writing (1947:30). Plantations are the only producers with which factories make formal arrangements for the selling of cane. Competition between factories is sufficiently intense (McKenzie 1958:30-31) so that a small producer encounters little difficulty in selling his cane and all he need do is deliver it to a factory. In order to do this he must arrange for the cane's transport, thus his relationship with a truck hauler is a key one in the selling cycle.

Except for an occasional donkey cart in the more level areas, all transport in Barbados today is by means of heavy duty trucks. The most usual haulers of peasant cane are privately owned non-plantation trucks known as "poor man's lorries." These trucks normally operate in a certain district, hauling peasant cane from that district to various factories. The actual procedures involved in delivering

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<sup>7</sup>Members of these send their cane to one factory as a collectivity. They are thereby treated as a single unit for payment--much in the same way as plantations. There are some financial advantages to this since most factories pay a bonus per ton to those producers who send in 500 tons or more of cane.

cane will be discussed in Chapter IV when the roles of plantation truck crews are considered, but here I simply want to point to some elements of the peasant-hauler relationship.

Since the peasant producer and the cane hauler are independent agencies, the coordination of their activities is fundamental to their relationship. The peasant has to coordinate his cutting and heading activities with the truck and assure the truck driver that a full, or nearly full, cane load is waiting for him since drivers are reluctant to take "light" loads, and do not like to wait as the cane is being headed out of the fields. The only waiting the truck drivers begrudgingly accept--and over this they have little or no control--is at the factory where they line up with other trucks, plantation and "poor man's" alike, waiting to get onto the scales; or in the case of a factory breakdown when they are in the middle of the waiting line and cannot get out. So the producer must not only find a hauler for his cane as his cane is being cut, but the cane, once cut, should be taken to the factory as quickly as possible.

The peasant can theoretically send his cane to any of the factories on the island. He claims that he tries to send his cane to the best-paying factory (producers are paid by the ton they deliver, but factory prices vary), calculating at the same time transport costs which vary with distance. However, truck workers are paid according to the tonnage they haul regardless of the distance. The

difference between the crew's wage and the increased rate peasants pay to distant factories goes to the owner of the truck. In general, it is to the truck crews' advantage to haul cane to the factory closest to where the cane has been picked up so that they can make more round trips and save on truck wear and tear, and gas and oil. But it happens, in the Chalky Mount area, that the factory closest to the village (i.e., with the lowest transport costs) pays the least amount of money, and a peasant might prefer to send his cane elsewhere. Often, however, a peasant may not be able to exercise his choice and be forced to accept the factory choice of the truck he has been lucky to find. In some cases peasants state no preference, and the truck invariably delivers to the closest factory. In order to clarify the issues involved in cane marketing it is necessary to go further into the factors affecting a peasant's choice of factory. Before this is done, however, a few points should be made concerning the factory payment system.

The peasant has absolutely no control over the price fixing, and the payments he receives on his cane are based upon a system which he does not understand--a system which can be exceedingly complex and need not overly concern us here. Briefly

...the price for cane now is determined by each factory on the basis of its average recovery factor, and the calculated price of sugar as derived from price agreements. In consequence prices vary from factory to factory (McKenzie 1958:31).

The recovery rate is the amount of cane it takes to produce one ton of sugar, and this rate will vary from factory to factory and from year to year. The recovery rate is a key index of factory efficiency, but it cannot be determined in advance of the crop. It may be estimated, but there is no precise way of telling what the recovery rate will be until the factory has stopped processing cane for the season. Prior to the start of the crop, factory managements agree on an initial downpayment which is made soon after the cane is delivered. In 1961, for instance, all factories paid \$14.50 per ton "on account." Another small "interim" payment of \$1.50 was made soon after the crop season terminated. The final payment, which is made sometime in November after the factories' productive rates have been analyzed, is termed the "preference" payment, and it is with the "preference" that one can clearly see the price variations between factories. From the peasant's point of view it is the "preference" which is important, and it is on the basis of the preference" that he judges a factory's potential worth to himself. With these brief comments in mind we can now ask what factors are taken into consideration when choosing a factory.

#### Choice of Factory

During the 1961 crop Chalky Mount peasants sent their cane to five of the twenty factories operating on the island. These five factories, ranging in road distances from about

1½ to 9 miles, are the closest and/or most conveniently located to the village. The closest factory, Haggatts, received 50 per cent of the total cane tonnage sent by the 66 farmers for which I have information, and also received this cane in 47 per cent of the cases (see Table 18).<sup>8</sup>

Judging by their behavior (Table 18), it is apparent that peasants feel there is an advantage in sending to factories to which transportation costs are the lowest (i.e., the closest factories). But the price a factory pays on cane has absolutely nothing to do with its distance from a village, and it happens that the larger and more efficient factories further away from Chalky Mount usually pay higher prices on cane than does the closest factory (Table 18, column 7). In most cases it would be more advantageous to send to higher paying factories which happen to be further away since the higher payment would offset the higher transportation costs involved (Table 18, column 9). Peasants claim they want to send their cane to the best paying factories but seem to be oriented towards those to which transportation costs are lowest.

Now, peasants cannot know in advance what each factory will ultimately pay, and they are unaware, for the most part, of the complexities by which ultimate payments

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<sup>8</sup>By case I mean the total amount of cane sent by a producer to one factory. The total cases in Table 18 are 103, while the total producers upon which this Table is based are 66. The reason for these different figures is that in some instances farmers distribute their cane between a number of different factories.

are determined. However, they are all perfectly aware that payment differences between factories can be expected. Not being able to predict for any given year, some of the peasants, especially those who send in more than one truck load of cane, solve their problem by not "throwing all their eggs into one basket." They distribute their tonnage over a number of factories hoping that by so doing they will come out ahead. Other peasants feel that the differences in factory payments are "slight", and few that I know of bother or are able to figure out arithmetically the full implications of these ostensibly "slight" differences.

However, what every one does know in advance is that it costs more per ton to transport cane to factories further away. Because differences in transport costs are relatively apparent while differences in factory payments are not as easily perceived--or not evident until the crop season is over--the closer factories, or so it would seem, are chosen over the more distant ones. However, there are some other possible reasons which account for the distribution of cane tonnage as seen in Table 18.

One of these relates to the receipt of cane money. Factories pay by check, and these are distributed at specified times and must be picked up at the factory's office. Aside from the closest factory, none of the other factories are within convenient walking distance from Chalky Mount and only two can be reached quickly by bus. The problem is further aggravated by the fact that it is sometimes difficult



to get time off from other labor commitments on the days when the checks are being given out. Personal inconvenience, which may be an ideological concomitant of "occupational plurality", as a factor in choice of factory is more pronounced in those cases where the producer has one or part of a truck load. In such case, he does not figure that the financial compensation--even if he is aware of it--is worth the trouble involved in sending to a distant factory. Finally, it should be emphasized that, in practice, the peasant may prefer one factory but be forced by circumstance to send his cane to another.

As I pointed out previously the pay rate for the truck crews is determined by standards which differ from those which determine the payments to the producer. Other things being equal, e.g., the factories are in operation, there are no mechanical breakdowns, and there are no long waits at the scales, the trucks will prefer to go to the factory closest to the point from which they pick up the cane. Thus, the amount of money truck crews will make in a given day is normally contingent upon the number of trips they can make to the factories with the fullest possible loads. Although the peasant might prefer a more distant factory, the truck driver often complains about the excessive amounts of gas and oil he would have to utilize, and the peasant is often in no position to argue. For example, his cane is cut and there are no other trucks available; or he might not be disposed to argue--especially if his load is

minimal, and he feels that there will be no, or a "slight," monetary difference. In general, the truck driver and crew may determine the factory to which the cane goes in a number of cases, but the extent of these cases and the exact conditions under which they occur merits further investigation.

After a peasant has reaped and sold his cane the production cycle starts anew. How much money, however, and what kinds of profits derive from the year long activity on his small holding? Although precise answers to these questions are important in assessing the small farmer's productive enterprise these answers are not easy to come by.

#### EXPENSES AND PROFITS

Figures were obtained on some of the major expenses incurred in cane production, e.g., transport costs to factories, fertilizer costs, rents, repayment of agricultural loans<sup>9</sup> etc., but information on all expenses for the same peasants was available in only 20 cases. In addition it was impossible to acquire reasonable figures on labor costs, and these costs, in some cases, can exceed all others. This is

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<sup>9</sup>A minority of the peasants avail themselves of loans which can be obtained from the government's Agricultural Credit Bank (see Agricultural Credit Bank Act 1961). As far as I know, however, few are unaware of the Bank as a source of working capital. For the years 1960 and 1961, for example, about 17 per cent had taken out an agricultural loan--the average sum involved being about \$80. In all cases the money was used to help pay laborers in the various phases of soil preparation during "hard times." The money with which "crop" workers are paid normally comes out of the check which is received after canes have been sold to a factory (see section on Labor in this chapter).

especially so when hired help was used during the out-of-crop season. Since records are not kept and laborers are intermittently employed, peasant employees find it extremely difficult to recall their total labor expenditures even if they are willing to attempt such recall. In general, then, a complete assessment of capital expenditure on working holdings cannot be made, but the materials presented in Table 19 nonetheless indicate the great range in both expenses and profits that occur within the small farmer population of Chalky Mount.

In Table 19 I exclude rented holdings and use 1962 figures because these were gathered under the most auspicious conditions; that is, gathered at varying times during the crop season by interviewing peasants in their fields immediately after they had reaped their cane. Later, I returned to these persons after they had received their factory receipts in order to get precise information on the tonnages they sent to the factories, the names of the factories, and the transport costs involved. The final 1962 payments, i.e., the "preference," were made after I left the field, but in February of 1962 the Barbados Sugar Producers' Association provided the figures on those factories under consideration. With these figures at hand I was then able to compute the gross receipts. By subtracting expenditures, (i.e., reaping, fertilizer and transport costs and payments on agricultural loans) from the gross receipts the estimated net profits were arrived at. Figures for the entire sample are presented in Table 19. It must be emphasized that the net estimates given

in Table 19 represent the maximum net, for in all cases of non-rented holdings land taxes would have to be considered. Also in a number of cases, as I mentioned before, other labor costs for such things as cultivating, digging of cane holes, weeding, etc., which are omitted from Table 19, would also have to be deducted from the gross receipts. With the addition of these kinds of data a more accurate picture of the profits derived from small cane farming could be given. In the absence of these other labor costs, the last column in Table 19 gives some indication of the extent to which the peasants of the sample rely on hired labor. Ten of them claim that they did most or all of their out-of-crop work, i.e., they relied minimally or not at all upon hired help. These ten peasants constitute such a small percentage of the total peasantry that it would be incorrect to generalize from them. At any rate, for the 20 peasants listed in Table 19 there is a range of profits extending from \$8.76 per person, at the lowest, to \$301.49 at the highest, with the average net being about \$96--though only eight of the sample exceed this figure. Yet, the percentage of profit seems to be surprisingly high, ranging from an exceptional low of 9% per person to a high of an equally exceptional 321 per cent, with the average being about 97 per cent. Fourteen of the sample received an 80 per cent or better return on their "investments"--keeping in mind that out-of-crop labor costs and land taxes are not included in the Table.

In general, then, and despite the sparse sample upon which these comments are based, the quantitative materials confirm the peasants' observations that some profit is to be derived from their efforts. And though one can frequently hear them lament that the cash returns are not as great as they would like or expect, few villagers are willing to forego the possibility of acquiring cash by not working their holdings. The poor conditions and inconvenient locations of many of the lands upon which peasant cane is grown also serve to confirm that an overriding emphasis is placed upon the possibility of cash acquisition regardless of the kinds of obstacles that occur. This issue is so fundamental to the community's economic life that it will be treated more fully in the final chapter of this paper, but it is also reflected in working relationships and the dependency upon hired labor.

### WORKING RELATIONSHIPS AND LABOR

#### Hired Labor

Most of the labor on peasant holdings which is not performed by the peasants themselves or by non-paid household members is performed for cash. Although there were some cases in the 1962 crop where household members received pay for heading, instances of this kind are infrequent as far as I know. The degree of dependency upon hired labor varies from peasant to peasant and is often determined by the nature of the task being performed. For example, most persons do all of their weeding, some depend entirely upon their own

labor for cultivating, but most depend, to varying degrees, upon hired labor in the reaping season. Also, aside from reaping season work, i.e., cutting and heading, most work on peasant holdings is performed by persons working alone rather than as members of groups.

One reason for the dependency upon labor resources outside of the household is that the household might not have the personnel to perform certain kinds of tasks. For example, a household in which one or two elderly people are the only adults will have to seek outside help for such physically demanding tasks as "till burying" and "forcing back." Another reason is that the household might not have sufficient personnel to complete tasks which should be completed within a given time limit. The case of cane reaping is self-evident, as are cases wherein a peasant's acreage is so large that he cannot cultivate it himself, put in cane holes and plant in time to take full advantage of the rains. There is also a relatively clear sexual division of labor in certain kinds of tasks, e.g., only males cut cane, till bury etc., and if the household cannot provide members to perform these tasks the peasant will have to hire help. In still other cases a peasant might hold a full-time job from which he can get little or no time off; consequently, in order to work his land--if no one is available from his household--he is forced to hire someone.

During the out-of-crop season hired labor is also sought for a number of tasks because these tasks are

considered to be not only physically arduous but technically demanding as well. Aside from the allocation of tasks in terms of the sexual division of labor, male peasants often rationalize their hiring of labor in terms of occupational specialization. A potter, for instance, stated that "there are a lot of techniques in building a cane hole" in justifying his hiring a "professional agriculturalist," i.e., a full time plantation worker, to do this work. Another peasant explained his hiring of someone in terms of this person's being a "first-class man," implying that the hired help was a member of a plantation's first gang (see Chapter IV) and therefore a capable and efficient agricultural laborer. Other non-plantation working peasants might justify their seeking paid laborers by saying full time plantation workers are the only ones who can spend long hours in the sun and do physically demanding work at the same time. In any of the above cases a peasant can be found working side by side with the person he or she hires--in order to "save on expense." The extent to which this is done often depends upon the sex of the employer and the type of job being performed.

Since paid laborers expect their cash as they complete their work, farmers do not normally hire help unless there is cash on hand. The exception to this occurs in reaping where, as I said, workers are paid out of the money received after the employer's cane has been sold.

Normally, however--since people are paid by the day for all tasks except reaping ones--a farmer waits until he has the cash that will pay for the amount of work days he wants from his hired help. The usual procedure is that an employer estimates the number of days he thinks it will take to do the job he wants done; he puts the money aside and then hires labor for as many days as his money will cover. Sometimes, for lack of cash, only a fraction of a holding is cultivated--the remainder being done at a future date when the peasant again has money with which to pay his or her help.

The hired hand is usually paid on the evening of the final day of work, if more than one day is involved, or at the end of the day if only one day is involved. Sometimes he is paid at the end of the week if his employer receives his money at this time. This usually happens in the case of employers who are plantation workers, town workers, or housewives dependent upon a spouse's weekly salary. In some cases wages may be owed, but this is entirely dependent upon the personal relationship between the employer and the employee. There is some evidence that owing wages over a relatively long time occurs more than the norm would indicate. Informants claim that it is unusual for a person to be hired and then find his employer claiming no money with which to pay him; yet it does occur that an employer erroneously estimates the amount of time necessary



to complete a given job and neglects to check upon the daily output of his hired hand. Or a laborer might take more time on the job than actually need have been taken. In cases of this kind, the employer might find himself short of cash and owing, of necessity, occurs. Yet, a person will not normally agree to work for someone else if compensation is to be unduly delayed. Friends might do this, however, and for this reason employers try to have friends work for them; but even so the primary consideration in choosing a laborer is that he be a person from whom the employer can expect a "good day's work." This ideal, as we shall see below in discussing labor shortages, does not always work out in practice, for employers often find themselves in no position to question either the quality or quantity of work produced by their hired help. This is especially so during the reaping season when the supply of cutters and headers for small farmers is often far less than the demand.

### Exchange Labor

Cases of exchange labor, or "swapping change" as it is locally called, are rare. Relationships of this kind are based upon the trading of a day's work for a day's work--usually on the same task. Informants queried on this subject usually agree that exchange labor has its advantages, the most important one being that it fills the labor

demands on jobs requiring more than one person while obviating cash payment. Few informants, however, expressed any real interest in engaging in relationships of this sort. All agreed that money is a major orienting factor in labor so that persons are unwilling to help each other in situations from which they could not immediately or eventually expect to derive cash. Where "swapping change" does occur it is more apt to take place during the crop, among close friends and/or kinsmen. It rarely involves females.

The key feature in establishing the relationship is the participants' evaluations of each other's work capacity. That is, two men exchanging labor do so because they think they can get an equal amount of work out of each other, and each feels the other is equally competent in a given chore. But the relationship is often rationalized by the participants in terms of sentiments based upon kinship and/or friendship, so that if either participant is asked why he is exchanging labor with the other, the reply will invariably be "He's my brother," or "We gets along well." The sentiments of obligation which are part of close kinship and/or friendship bonds also function to guarantee that labor performed for an exchange partner will be reciprocated. That is, a frequent rationalization that informants give for not exchanging labor is that they have no assurance that a person will live up to

his end of the bargain and not take advantage of an opportunity for cash employment elsewhere--or only offer his services when they are no longer needed. Some assurance that situations of this kind will not occur would be implicit in the relationship between close friends and/or kinsmen.

Although older informants claim that exchange labor was more common in former days, there is no way of verifying this. Today, as I said, observations confirm informants' statements that these relationships are by far the exception rather than the rule, and this is an additional reflection of the overriding cash emphasis that exists in working relationships in Chalky Mount. That is, in those work situations which are ultimately devoted to the acquisition of cash, whether they be in agriculture or pottery (see Chapter V) cooperative work relationships between members of different households are normally formed along pecuniary lines.

There is another type of reciprocal work arrangement which has some of the elements of exchange labor and occurs with greater frequency especially during the crop. This type--it has no special name--involves the reduction of normal day wages by persons who work for each other. Labor arrangements of this kind involve work on the same or dissimilar tasks and need not be restricted to persons of one sex as in pure exchange situations. For instance,

a female could exchange with a male, and rather than heading his cane for \$2.50 per day--the normal rate in 1962--she would head it for \$2.00 while he, on some other day, will cut her cane for \$3.50 rather than at the more usual rate of \$4.00.

This kind of labor exchange and wage lowering, when it does occur, is more apt to occur between peasants who are plantation workers as well and who are members of the same cane cutting groups on the plantations. Although the nature of these cutting groups will be elaborated upon in the following chapter, it is to be pointed out that the groups are often formed by the workers themselves who associate with one another on the basis of personal compatibility and an assessment of comparable work capacity in their respective tasks. Towards the end of the week when there are no plantation demands upon their labor they might be found working on each other's holdings. Although these work relationships rest upon pecuniary foundations, people pay each other less than they would pay others doing comparable tasks and rationalize their reciprocity--as in the pure labor exchange situation--in terms of sentiments of friendship. But there is another element, discussed below, in relationships of this sort.

### Work Output

Plantation workers feel--and in some cases there is empirical justification for this feeling--that they are

more skilled and faster workers than non-plantation workers. Hence, their proclivity to engage in labor exchange and wage lowering among themselves on their own holdings. These sentiments are also manifest in the wages they demand when working for small farmers. That is, plantation workers often charge more for their labor than non-plantation workers who work for the same farmers, and they do this because they feel that persons hiring them receive more and better work in a day than they receive when non-plantation workers are used. Higher rates for plantation workers are especially pronounced in the reaping season, not only because of a labor shortage (see below) but also because of the apparent preference that non-plantation working peasants have for the "professional agricultural laborers." I mentioned above that a primary factor in choice of employee is the expectation of a "good day's work." And this preference stems primarily from the nature of the payment system which rests upon a day work rather than a piece or task work foundation; this is largely contrary to plantation practices where most of the jobs which are fundamental to the production of cane are performed on a task work basis.

In tasks such as "till burying" and cane hole digging some plantation laborers feel that they can do a better job for a peasant working by the day. Workers sometimes feel that they work faster but do a more slovenly

job on the plantations because of the pressure placed upon them by task work. Under the careful surveillance of a demanding plantation manager, however, quality standards are high, so a plantation worker doing paid work for a peasant often rationalizes his slower rates for the peasant without actually giving a higher quality of work. What the evidence suggests is that a worker, guaranteed his day wage, produces less for a peasant than for a plantation even though he might work the same amount of hours on the same task for each type of employer--and the differences in the quality of work are negligible, if they exist at all. In general, the caliber of work performed by hired help, and the speed at which this work is done, can vary quite a bit. But if an employer is not satisfied with the work of his employee--he might feel that a full day's work was not received for a full day's pay--he has no recourse but to avoid hiring that person, if possible, another time; yet, with the labor supply generally being less than the demand, especially during the reaping season, peasant employers often find themselves in no position to question either the quantity or quality of work produced.

### Labor Shortages

I often heard complaints that over the years it has become increasingly difficult to get labor for various economic activities. In agricultural work these diffi-

culties are most acute during the reaping season when work demands are the greatest. Emigrations to England have certainly affected the village's supply of manpower (non-paid household help included), and to a minor degree contract labor work on farms in the United States has functioned in this regard as well. Yet, it appears that the labor shortages, if they can be called this, cannot be attributed solely to the lack of personnel. Quite often young people, especially those in their late teens and early twenties, are more reluctant than they would have been in former years, or so older informants say, to participate in physically demanding work. And this applies not only to the comparatively unskilled jobs in peasant and plantation agriculture, but to pottery as well. It might well be that "skilled" labor, e.g., cutters, is in short supply (see Chapter IV), for people speak of labor shortages most often during the reaping season. Yet older people are quick to lament the changing work values in younger people and their general unwillingness to engage in arduous and low paying jobs during the year. And this applies not only to younger people who are seeking a secondary school education but to a class of workers-- which has yielded many emigrees--who have neither the education nor class position for better jobs and mobility

within the social structure of Barbados. This issue will be dealt with later (Chapter IV) in the discussion of plantation labor shortages.

In 1962 there were a few elderly males available for full time work with peasants. These men did not work for the plantations because their cutting speeds were so slow that at task rates they would have made relatively little money. Since they were paid day rates by peasants they made at least as much in this employment as they may have earned on the plantations--and with less physical effort. Despite the reluctance of peasant proprietors to employ them, cutter shortages enabled them to find sufficient work cutting small farmer cane. Even so, older men (and even teenage girl headers) are not available in sufficient numbers to meet the weekly labor demands of most of the peasants during the reaping season. Consequently, reaping activities are usually concentrated at the end of the week when plantation workers became available for work on peasant lands.

Since plantations can meet their factory quotas by cutting on a four-and-a-half or five day week (Chapter IV) the village's internal labor supply is generally inflated on Fridays and Saturdays, and sometimes on Thursdays--according to the relationship between the plantations' cane quotas and factory demands. The compression of most reaping activities into a few days during the



week poses certain problems for some peasants. Not only must they often postpone their reaping because they cannot get laborers to help, but also they must try to prearrange their reaping schedule with workers during the week so as to be able to have their cane cut and headed by the end of the week. Sometimes a peasant might have cutters but insufficient headers, and at other times the situation might be reversed. Sometimes the competition for workers is so great that heated arguments can develop over this point. Also, a small farmer cannot always be sure that his scheduled workers will not decide to go and work for someone else. Indeed, the reaping schedule of the person who has few friends and is generally not well liked will be more apt to suffer--especially during the early weeks of crop when the greatest demand is placed upon the village labor supply.

In general, then, the shortage of laborers, particularly at certain times during the reaping season, can be so acute that small farmers who want their cane harvested at a given time will consider themselves lucky if they can get help. This problem is also present--albeit to a lesser extent--on the plantations, and manifests itself at other times of the agricultural year (although not as seriously as during crop time). It also occurs at certain times in the pottery industry.

## CONCLUSIONS

In this chapter I have discussed small-scale sugar cane farming as one of the major land-based economic complexes of Chalky Mount. I briefly considered the occupational status of the small farmer group and the nature of the land holdings worked by this group. The techniques and organization of activities surrounding sugar production were reviewed and the kinds of relationships formed in the pursuance of these and related activities, e.g., marketing, were discussed. There was also an attempt to place these activities specifically within the context of the Scotland District's physical environment.

Small-scale sugar cane farming is a major focus of Chalky Mount's economic life, not only because of the labor demands it makes upon the community's adult population but also because of the cash income it provides.

Nevertheless, the cash that can be acquired from cane cultivation is limited; and though small-scale sugar cane farming plays a prominent role in the community's ecological system, it does not suffice as a source of livelihood when the total cash needs of households are considered.

Even so, a peasant can usually expect that some cash will be derived from his cane-producing activities. And with the Commonwealth Sugar Agreement virtually

guaranteeing higher cane prices and a ready and easily accessible market for the next few years, the peasant producer is encouraged to a continuing involvement in cane production. Thus, land upon which cane can be planted--regardless of how marginal it might appear to outsiders, e.g., government agricultural experts, plantation owners and managers--is highly valued, primarily because it is a potential source of cash. Although other values may be involved (e.g. prestige and security) in the case of land owners, (see also Greenfield 1960), plantation and non-plantation tenants seek to rent arable land for the cash that the land may ultimately bring. Few, if any, potentially cultivable lands are left unrented for lack of tenants, and the fact that 41 per cent of Chalky Mount's working lands are rented attests to the importance of land as a source of cash regardless of any other values that may be involved.

The social and economic structure of Barbados provides only a limited number of economic opportunities to the lower class population of Chalky Mount. Small-scale sugar cane farming is one of these, and an economic tradition based upon sugar has further served to channel the village's population, where conditions permit, into sugar cane farming rather than into other agricultural enter-

prises. The need for other sources of cash, combined with limited opportunities elsewhere, also causes people to seek employment on sugar plantations.

Sugar plantations have always dominated Chalky Mount's landscape in both physiographic and socio-economic terms. The community's birth and development is inextricably involved with sugar plantations, and these plantations have traditionally been the main employers of Chalky Mount labor. Were it possible to quantify with certainty the sources of the village's total income, undoubtedly the plantations, to which we now turn, would loom as the single greatest source.