

PDWAK296

Preliminary Report

**THE IMPORTANCE OF LAND TENURE IN THE DISTRIBUTION OF BENEFITS
FROM IRRIGATION DEVELOPMENT PROJECTS: FINDINGS FROM
THE CAYES PLAIN, HAITI**

Laura T. Reynolds

**Development Sociology
Cornell University**

WMS-II Activity Title: Haiti: Cayes Plain

Code Number: 1-02-084-85

1

**WATER MANAGEMENT SYNTHESIS II PROJECT
CORNELL UNIVERSITY**

COUNTRY: Haiti

ACTIVITY: Haiti: Cayes Plain

CODE NUMBER: 1-02-084-85

Laura T. Reynolds

**The Importance of Land Tenure in the Distribution of Benefits from
Irrigation Development Projects: Findings from Cayes Plain, Haiti**

**This paper was prepared at Cornell University for the Water Management
Synthesis II Project, USAID Contract DAN-1427-C-00-0086 to the Consortium
for International Development**

21

ACKNOWLEDGEMENTS

I would like to thank E. Walter Coward, Jr. for the interest he has shown in this study and for the confidence with which he recommended that this study be sponsored by the Water Management Synthesis II Project. I am grateful for the financial support provided by the WMS-II Project, and for the assistance extended by Randolph Barker and Barbara Lynch, members of the Cornell Irrigation Studies Group. Fu'a Hazelman kindly typed this manuscript. John Lewis provided critical assistance which helped shape both the focus and the methodology of this research project. Appreciation is extended to the entire Rural Development Office, USAID/Haiti. Ira Lowenthal and Alexis Giardella deserve special thanks for their warm encouragement and substantive inputs into this research. And for sharing his knowledge of small-scale irrigation in the research area, I am grateful to Eric Armand.

The support provided this study by JoAnn Jaffe and Frederick Buttel has been invaluable. JoAnn Jaffe helped lay the initial groundwork for my research, and has assisted me in all stages of this endeavor from learning Creole to understanding the Haitian land and labor systems. The most thorough and insightful feedback on the formulation of my research question and the interpretation of my field data has come from Frederick Buttel.

And last, I would like to acknowledge the help provided by my research assistant, Jean-Robert Edouarzin, and by all the residents of Foscave.

TABLE OF CONTENTS

	<u>Page</u>
I INTRODUCTION	1
II THE PEOPLE AND AGRICULTURAL SYSTEM OF FOSCAVE	
The Research Site	3
Agronomic Characteristics and Irrigation History	6
Cropping Patterns and Techniques	9
Labor Demand and Organization	15
Representatives of the Research Site	19
III THE DISTRIBUTION AND TENURE OF LAND IN FOSCAVE	
Landownership and Distribution	20
Landholdings and Plot Characteristics	25
Land Tenure Arrangements: Ownership	30
Land Tenure Arrangements: Tenancy	35
The Foscave Land Shuffle	37
IV CRITICAL ISSUES	
Land Tenure Insecurity and the Prevalence of Land Conflict	39
Forces of Fragmentation and Land Concentration	44
The Vulnerability of Peasants in a System of High- Cost Agriculture	51
V. RECOMMENDATIONS	56
ENDNOTES	59
BIBLIOGRAPHY	60

LIST OF TABLES

1. **Timing and Origin of Adults Migrating to Foscave**
2. **Distribution of Total, and Irrigated, Landownership in Foscave by Land Size**
3. **Distribution and Number of Plots Worked and Plots Let-Out for Others to Work, Foscave**
4. **Distribution of Irrigated Plots in Foscave by Size of Plots**
5. **Tenure Status of Irrigated Plots Worked by Foscave Residents**

LIST OF FIGURES

1. **Map of Haiti with Insert of Foscave**
2. **Lorenz Curves for the Distribution of Landownership in Foscave and Mirebalais**
3. **Lorenz Curves for the Distribution of Landownership and Landholdings in Foscave, and Total Landholdings in Haiti**
4. **Tenure Modes Governing Haitian Plots**

EXECUTIVE SUMMARY

This report presents the initial findings and conclusions from a study of the dynamic of land tenure and the distributional impacts of irrigation development projects in rural Haiti. A case study was undertaken in Foscave, a community in the Cayes Plain which has experienced significant increases in agricultural productivity as a result of 30 years of irrigation and related development efforts. Data were collected during a total of four months of residence in the region and included interviews, household surveys, plot histories and documents. This report analyzes the mechanisms through which land improvement projects may affect people's access to land and to the potentially increased product of that land.

The distribution of benefits from irrigation projects clearly hinges on the local pattern of land tenure and distribution. In the Haitian context, access to land involves an elaborate web of ownership and tenancy arrangements. Data from Foscave suggest that, while the majority of peasant households own at least some land, sharecropping provides the primary form of access to land, particularly irrigated land. The degree to which households benefit from the irrigation development is directly related to the amount of land owned within the irrigation perimeter. Landownership in the community is found to be far from equal, and, while those who owned land before irrigation investments were made have benefitted from the rising value of their assets, peasant households that wish to buy land are now encountering barriers to entry in the form of higher land prices. Migrants from the rapidly eroding mountain slopes continue to arrive in Foscave, but the majority of these individuals work as agricultural day laborers and cannot buy irrigated land.

Problems related to land tenure insecurity or land conflict do not appear to be major factors affecting agricultural production or the cooperation in irrigation projects. While land fragmentation is often seen as a negative process, in Foscave this process appears to help slow an ongoing process of land concentration. Land is being purchased through the local land market by rich peasants and affluent absentee landlords. Irrigation and related changes in the agricultural production system of Foscave are making peasants more vulnerable to the vagaries of national and international market systems. Peasant households are becoming less able to compete in the high-cost-input rice system as owner-operators at the same time that sharecropping opportunities may be on the decline.

Recommendations from this study include the following: (1) USAID should continue its support for land tenure research focusing attention on landownership patterns and on the collection of background maps and cadastral surveys. (2) The impacts of irrigation development should be followed up in the context of project monitoring unless further large-scale irrigation projects are being considered, in which case an in-depth study should be done in the Artibonite. (3) Efforts should be made to restrict the sale of land to absentee landowners, eliminate bottlenecks and diversions in fertilizer markets, and to improve grain storage and ways to combat grain loss to rats.

4

I. INTRODUCTION

A major agricultural development strategy of the USAID Mission in Haiti has been, and continues to be, focused on increasing the productivity of land through investments in irrigation and erosion control. While the distribution of benefits from these types of projects clearly hinges on the existing pattern of land ownership and the local land tenure system, there is only limited information available on these subjects to guide policymakers and project planners in Haiti. The most direct access to agricultural productivity gains is determined by the initial and continued ownership of improved land. Perhaps equally important in the Haitian context is the access to productivity gains provided by sharecropping or rental arrangements and the possibility that benefits will be further distributed through the hiring of agricultural labor.

Over the past decade numerous authors have discussed the relationship between land distribution in Haiti and the existing tenure system, on the one hand, and the impacts of land improvement projects on the other, but few solid conclusions can be drawn from these discussions¹. Much of the literature is based on highly fragmentary and questionable data from the Haitian censuses of 1950 and 1971 or on outright speculation. USAID has been actively involved in supporting the compilation of information on the Haitian land tenure system through reviews of the literature, analyses of the national statistics, and discussions of the legal system related to land. Yet, given the scarcity of existing data, a number of authors have recommended that focused case studies be undertaken to collect new information. I have carried out one such case study, focusing particularly on the mechanisms through which land improvement projects may affect peoples' access to land and to the potentially increased product of that land.

This report is based on data collected in Foscave, a community in the Cayes Plain which has experienced significant increases in agricultural productivity over

the past thirty years as a result of irrigation and related agricultural development efforts. The primary data presented here were collected during eight weeks of residence in the study area (September-November, 1985). My understanding of this case material was augmented by an additional eight weeks of study in other parts of the Cayes Plain. The methodology for this study included three major components: (1) observation and informal interviews regarding access to land and local experience with irrigation development; (2) a survey of all independent economic household units in Foscave focusing on household characteristics, access to land and other resources, and patterns of agricultural involvement; and (3) plot histories solicited for forty randomly selected irrigated plots in Foscave which addressed changing land use, tenure arrangements, and the occurrence of land conflicts. An analysis of local land records was attempted, but was thwarted by the illegibility and lack of organization of handwritten documents²

The purpose of this report is to provide USAID with some preliminary findings and ideas gathered from my research. This study will also be the basis for a forthcoming MS thesis based on a more thorough analysis of the data; thus, all data contained here should be treated as preliminary in nature. Many of the calculations on plot characteristics utilize a 28 percent random sample instead of the complete census of plots, and computations have all been done by hand. I have tried in this report to satisfy two somewhat conflicting requests which have been expressed in USAID: one for site specific information on land tenure arrangements and the pattern of irrigation development in Foscave, and the other for generalizable conclusions regarding the relationship between land tenure and efforts to improve the productivity of land. This report attempts to satisfy both these requests and is organized in the following manner. Section II provides a description of the research site, its population, irrigation history, cropping patterns, and labor use. This is followed in Section III by a discussion of land distribution and tenure which presents data from Foscave against the backdrop of

national statistics and information gathered from case studies in other parts of Haiti. Section IV examines three major issues which appear to be central in determining the distribution of the benefits from efforts to increase the productivity of land in Haiti: land tenure insecurity and the prevalence of land conflict; the opposing forces of land concentration and fragmentation; and the vulnerability of peasants in an agricultural system with high and variable input costs. The final section provides policy recommendations based on the results of the study.

II. THE PEOPLE AND AGRICULTURAL SYSTEM OF FOSCAVE

Research Site

Foscave is a small agricultural community of 62 houses located 7.5 kilometers southwest of Les Cayes, in the Commune of Torbeck. This community is situated just a short distance off the main road from Les Cayes to Port Salut, and is tightly linked into the regional and national market system. While labor, capital, and, to a lesser extent, information, flow relatively easily into and out of the community, Foscave maintains a degree of isolation due to its virtual inaccessibility by car. Travel by vehicle to the outskirts of the community is possible, except during the rainy season. To get from one section of Foscave to another one must cross a series of one log bridges, which are not navigable except on foot. While one is forced to admire the loads which local residents are able to carry over these bridges on their heads, the difficulty of transportation has clearly hindered the construction of buildings and cement irrigation works.

Houses in Foscave are of very poor quality, indicating both the difficulty of transportation in the community and the overall poverty of the residents. Most of the houses in the area have been built after 1964 when a hurricane demolished the village. The vast majority of houses have only one or two rooms and are constructed with walls of woven sticks, dirt floors, and straw roofs. Roughly half

of these houses have separate kitchens, and 35 have latrines. Only the 12 nicest houses in Foscave have tin roofs. Livestock ownership is one of the best indicators of economic well-being in rural Haiti since their sale is the preferred source of disposable income (Jaffe, forthcoming). Thirty-two percent of households in Foscave own no livestock at all. An additional 23 percent own animals whose combined value is less than \$25.00 (for example, a goat and a turkey, or eight to nine chickens). Households with limited opportunities for purchasing animals can often guard animals for wealthier peasants. Under this arrangement, the caretaker receives half of the off spring, or half the profit from the sale of the animal.

All buildings in Foscave are used primarily as residences. Retail sales occur out of people's houses; available items range from charcoal and foodstuffs to fertilizer and rat poison. The nearest school or dispensary is located roughly 1.5 kilometers away in the town of Torbeck. The only visible representative of the Haitian government in Foscave is a notary assistant, who is also an open member of the Volontaires pour la Securite Nationale (VSN).³ There are undoubtedly other, less open, members of the VSN and secret police. A number of Catholic and Protestant churches are located within one to two kilometers of Foscave, and there is one Mambo, a Voodoo priestess, practicing in the community.

The total population of Foscave is 335. For the purposes of this study, I have identified 94 economic household units in the village. While many of what I will refer to as households do not have separate living quarters due to the serious housing shortage, each of these units operates on an essentially autonomous budget. The degree of separation between these household units which share a roof ranges from almost complete autonomy—in the case of unrelated families which rent "one room apartments" in the same house—to less clear autonomy—in the case of unmarried adult sons who work land independently yet maintain access to the family cook pot in exchange for an indeterminate contribution to the family larder. Eleven of the 94 household units studied did not include able bodied men, with the majority of these being headed by women over sixty.

Average household size in Foscave is pushed down to 3.56 by the large number of single male migrants residing in the area. Almost half of the adult population was born outside of the community. While some of these people are simply individuals marrying in from neighboring communities, as can be seen in Table 1, 69 percent come from outside the Cayes Plain. Perhaps half of these distant migrants can claim some kin relationship to adults born in Foscave. The fact that the majority of these migrants originate in the Platon region lends support to the argument that the irrigated lowlands may be absorbing some of the population pushed off of the eroding Haitian mountainsides. It is also useful to note that migration streams into Foscave appear to have swelled following the major hurricanes of 1964 and 1980. While it is impossible to quantify total migration out of the community, information was gathered from adult Foscave residents regarding their siblings who had migrated. Of the total of 36 migrants identified, 18 currently live in Port-au-Prince; 12 live in other villages in the Cayes Plain, 4 live in Les Cayes, and 2 live in Miami. There is no apparent pattern in the timing of these departures.

Table 1: Timing and Origin of Adults Migrating to Foscave

Place of Origin	Total Migrants	Number by year of arrival				
		1964	1965-9	1970-4	1975-9	1980-5
Commune of Torbeck	11	3	1	1	1	5
Other areas of Cayes Plain	10	2	1	3	3	1
Platon & surrounding mountains	37	8	16	4	4	5
Other	10	3	2	0	1	4
TOTAL	68	16	20	8	9	15

Agronomic Characteristics and Irrigation History

The soils of the Cayes Plain are often considered some of the best in Haiti, and those of Foscave are no exception. Alluvial materials underlie this area with soils being mostly brown/black clay loams and clays. Fertility and moisture retention of the soils are good, and there is no sign of salinization. According to local residents, the soils in the southeast of the community are on the whole better than those of the northwest (this may in part be explained by differential access to water with the southeast receiving more assured supplies from the Belvue system).

Water is abundant in Foscave. Rainfall averages roughly 2100 mm per year, with peak periods in May and October. During these rainy seasons drainage is a problem, and both crops and houses are often flooded. The vast majority of Foscave's 215 carreaux area (1 carreau equals 1.29 hectares) can be characterized as wetland. While most of this water is delivered via various irrigation structures in addition, the banks of the Foscave and Guillaume Rivers are swampy and provide natural areas for wetland crops. These two rivers provide water for most of the irrigation in the community (the Poteau, or Marie Yacinthe, River also irrigates a small section in the southwest of Foscave). The Foscave River is fed by the Macole River and in turn goes on to feed the Desrodieres River. While some sources refer to the headwaters of this river system as Tipalam Spring, local residents call it Belvue Spring. The Guillaume River to the northeast provides the other major source of irrigation water in Foscave. The river also irrigates the neighboring communities of Jauge, Jaket, Formand, and Guillaume.

While the lack of good maps for this region makes it difficult to discern how much land is irrigated by each system or how this has changed over time, I have attempted to reconstruct the irrigation history of the area and to provide a sketch of the systems. Irrigation in Foscave must be understood as a process of increasing control over water, since the area is naturally rich in water. The first efforts to

control this water were undertaken in the 1950s, when a headgate was built on the Foscave River where Foscave and Codio meet, and another on the Guillaume River in Jauge. While it is not clear exactly how much land was irrigated by these systems, older residents of Foscave identify this period as the time of major transition from dryland peanut and sugarcane production to irrigated rice and mazonbelle (taro) production.⁵

In 1982/3 CARITAS, the social action affiliate of the Catholic Church, built a dam, a protective wall, and a few meters of masonry canal at the site of the older headgate on the Foscave River. The masonry canal leads into a series of unlined canals which are locally known as the Belvue system and are estimated to irrigate 78 carreaux. In order to make this system operate more effectively, USAID funded the building of a large distribution basin at the lower end of the system, near where Foscave meets Desrodieres. This basin irrigates a total of 116 carreaux, only a third of which actually falls within the boundaries of Foscave.

USAID is currently funding a project which will line 700 meters of the main canal and build a distribution basin at the top of the Belvue system. These improvements are expected to increase the efficiency of the entire system so that an additional 39 carreaux can be added to the existing irrigated area. Funds for technical assistance and materials such as cement, water gates and tools are being provided under a Special Development Activity Project. This project is being administered by a local Catholic priest and an engineer on his staff. Local residents are providing unskilled labor, while annual user fees assessed at \$2.00 per 1/16 irrigated carreau support the purchase of sand, rocks, gravel, and transportation. (The major unit of land measurement in rural Haiti is 1/16 carreau, known as a "seizième" in French and as a "vingtcinquième" in local Creole.)

Both the current construction and the work done in 1982/3 on the Belvue system have been carried out in the context of the Groupement Communautaire.⁶ This organization has a president, a vice-president, a secretary, and a treasurer all

of whom reside in Foscave and have held their offices since its founding in 1979. The president and vice president of the groupement are very committed men whose work together is strengthened by the fact that they are related by marriage. The other offices are held by affluent men in the community.

While the groupement is generally considered by residents to be an organization devoted to irrigation, apparently it has in the past been involved in a community garden and the maintenance of a community chest. Neither of these projects was very successful, yet the president still hopes to expand the groupement efforts into such areas as pig raising and bridge building. This groupement is nominally a part of the government supported system of "Conseils Communautaires", but does not appear to receive any benefit from this association.

Current members of this groupement number 29 though the size and membership of the groupement appears to be relatively fluid. The majority of members live in Foscave; a few reside in neighboring communities. The overlap between those who work the land to receive water from the improved Belvue irrigation system and members of the groupement is far from complete. According to a list made by the president, only eight of the fifty-two households which have land in the command area have members in the groupement (supposedly all pay the annual user fees). Of the 21 groupement members who live in Foscave, half own no land within the irrigation perimeter; two lack any access to the benefits of the system through tenancy on irrigated lands.

Current work on the Guillerme system is also being carried out under the direction of the Catholic priest and engineer with funding from a USAID Special Development Activity grant. This project was initiated in 1982/3 but to date little improvement in the flow of water can be seen. The plan is to improve the headgate and build lined distribution basins. The current irrigation perimeter of 78 carreaux will not be much expanded by these improvements but the reliability of water access should be increased.

15

The major problem in the rehabilitation of this system appears to be organizational in nature. The project was started by the Guillerme groupement, which at its peak involved up to 75 members. This groupement was founded in 1973 in order to facilitate the building of roads in the community. Though members were at the outset enthusiastic about working on the irrigation system their interest was severely diminished by the shift of control outside the community. Not only did the groupement come to play virtually no role in the planning of the project but members were asked to focus a large part of their labor contribution in Foscave which is downstream of their own agricultural interests. The Guillerme groupement has completely fallen apart, and current work on the system is contributed by users in Guillerme and Foscave on an ad hoc basis.

Cropping Patterns and Techniques

The vast majority of land in Foscave is dedicated to irrigated rice production. Rice plots are typically surrounded by a ring of mazonbelle, and average between 1/16 and 2/16 carreaux in size. The total area devoted to rice production appears to have increased continuously over the past thirty years and new rice plots are still being put into production. Varieties and techniques in local rice production have undergone dramatic changes since the land was first irrigated. Rice yields have gone up significantly, but so have the requisite inputs of water, fertilizer, and labor.

Rice cultivation first appeared in Foscave roughly thirty years ago; now almost all households in the community are directly dependent on its production for their livelihood. In this area, there has been a gradual shift from traditional rice varieties which mature in seven months to high yielding varieties developed in Haiti which mature in four months.⁷ The most common variety planted at present is Mme Gougousse with 72 percent of irrigated rice plots planted in this variety. An additional 25 percent of plots are being planted in Decany. Three major

advantages to planting Mme Gougousse are recognized by cultivators in Foscave, the variety matures faster, yields more, and brings a better price on the local market. At the same time, people have found that the profitability of this type of rice is more directly dependent on adequate inputs of fertilizer and water, and that it appears to suffer more from rats than do other types of rice. In light of the above characteristics, Foscave residents are more likely to plant Mme Gougousse if they feel secure in their ability to purchase fertilizer and receive regular water supplies. Households which have planted this higher yielding variety in the past may switch to a different variety if they foresee difficulties related to access to either input. The increasing importance of Mme Gougousse is clearly related to the rising dependability of water access through improvements in irrigation.

Even more than access to water, the variety of rice chosen depends on access to fertilizer. There is a strong positive relationship between fertilizer application levels and the profitability of Mme Gougousse, such that those who are not able to purchase fertilizer in significant quantities find it more advantageous to grow a different variety. According to local farmers the ideal fertilizer application level is 100 lbs for 1/16 carreau of Mme Gougousse or 50 lbs for 1/16 carreau of Decany. Average applications are actually 53 lbs for the former variety and 30 lbs for the latter variety, with a wide range of actual application levels. Fertilizer is both expensive and difficult to get, and the selection of fertilizer type has more to do with availability than preference. Fertilizer is purchased through the Ministry of Agriculture office in Les Cayes when it is available, at a price of \$13.00 for a 100-lb bag. When fertilizer is unavailable from this source (which it appears to have been for at least four months in 1985) farmers typically purchase supplies from merchants at \$18.00 a bag. Much of the variability in fertilizer application and perhaps even the selection of rice varieties can be linked to the vagaries of the fertilizer market.

Credit programs for the purchase of fertilizer are available through two

Haitian government affiliated organizations, Banque Nationale de Developpement Agricole et Industriel (BNDAI) and Bureau de Credit Agricole (BCA), but only a few of the wealthiest residents of Foscave borrow from these sources. While only two percent of rice plots are cultivated using formal sources of credit, 33 percent benefit from access to informal loans. The average size of informal loans is less than a quarter of the average size of their formal counterpart. The interest rate charged by the credit organizations is roughly one percent per month, while informal sources often charge from 10 to 20 percent interest per month. While the interest charged is higher, informal loans are more common since they are readily available and smaller amounts can be borrowed. Roughly half of Foscave households have taken out an informal loan in the past year.

Rice yields reported by Foscave farmers range from 100 lbs to 420 lbs (paddy weights) for 1/16 carreau of Mme Gougousse. The average yield received using this variety appears to be roughly 250 lbs. One can compare these figures to the 445 lbs per 1/16 carreau yield achieved by Mme Gougousse trials in the Cayes Plain (Projet d'Appui au Developpement Agricole, 1984: 85). While much of the range in yields appears to be explained by differences in fertilizer applications, it must be noted that these figures are based on farmers' estimates of their harvests, and thus include a large margin of error.

Consumption of standing rice crop by rats is a major factor reducing yields in Foscave. Most rice producers identify rats as their second greatest problem, following the problem of fertilizer availability. Poisoning and hunting rats with dogs are common control tactics, but the problem appears to persist. The rainy season is the peak period for rats, and many will not plant Mme Gougousse during this season because it is more susceptible to rats. Another strategy to avoid losing rice to rats is to plant one's field according to the same schedule as one's neighbors, so that it is never the only standing rice in the area (this argument has been given by a number of farmers for why they do not try to get an additional crop in every year).

18

From the planting of the rice pepinaire (nursery) to the harvest takes four months in the case of Mme Gougousse, and closer to four and a half months for Decany. Rice can be planted throughout the year in Foscave, and, though it is technically possible to get a total of three crops annually, what is locally considered a rapid cropping cycle consists of five crops every two years. As one farmer remarked, "only someone who rents would try to push himself and the land so fast as to get three harvests per year." Most people prefer to let the land lie fallow for a month between crops. During this period cattle are often tethered in the field to both provide natural fertilizer and to feed off of the leftover rice stalks.

Rice land preparation is done mostly by hand, although motokilte (large rototillers) are beginning to be used. The most common tool in Foscave, the roe (a broad-headed hoe) is used by men to break up the soil for the next planting. A motokilte is thought to do a better job more quickly, but only two percent of households are able and willing to pay the price of hiring the machine and operator (quoted at \$8.00 per 1/16 carreau). The use of this labor-saving technology is clearly on the rise, and the wealthiest family in the village is currently in the process of buying a machine which they will rent out as well as use for their private holdings.

Rice seeds in Foscave are left to germinate in burlap bags placed in the irrigation ditch and are then planted in the pepinaire. After one month the seedlings are transplanted, usually by women. While the rice is maturing it receives one or two weeding and fertilizer applications. Weeding is generally done by women and fertilizing by men; both are done without tools.

The way in which rice is harvested in Foscave is currently undergoing a transition from a procedure of cutting the tassels off individually with a knife, tayi, and then working the grains loose from the tassels, to cutting the rice stalk off at its base and then beating it against a tire which is placed on a large tarp,

kuyi. It is unclear whether this second technique requires less labor, but it is more efficient since the short stalks that might be missed in the traditional harvesting process are now being harvested. While almost half of the rice plots in Foscave are now harvested using this new technique, a few farmers noted disadvantages to this procedure—including the tendencies to cut the fallow time out of the cropping system since standing rice was not left in the fields for cattle to eat, and to harvest unripe rice rather than return to the field for a second harvest. Harvesting all the rice at once eliminates gleaning a process which appears to have allowed the poorest members of the community access to one third of the yield from second harvest on the fields of the more well-to-do. This change in harvesting technique also appears to involve a shift in the local labor demand, since women have typically been responsible for harvesting, but it is men who are performing the tayi procedure.

has to do with change in variety to the shorter stalks

Apparently mazonbelle was grown on the swampy banks of the two major rivers in Foscave before the rest of the land was irrigated. The cultivation of this crop has increased, particularly on the bund surrounding the individual rice paddies. Mazonbelle is planted using a wooden dibble and takes from five to eight months to mature. In the majority of cases where it is planted in conjunction with rice, the crop is cultivated according to the schedule of the rice planted. Fertilizer leftover from fertilizing the rice is applied to the mazonbelle, and the plants are mulched using the weeds extracted from the rice field. The susceptibility of mazonbelle to drought is greater than that of rice, but it has fewer problems with pests. Unlike the rice harvest, the mazonbelle harvest is often undertaken as needed. Harvesting requires no special tools and since only a small portion is usually harvested at a time it takes little labor.

This tuber is one of the major items in the diets of poorer residents of Foscave and daily harvests for household consumption are common. More well-to-do households prefer not to eat the mazonbelle themselves, but use it to pay for

agricultural labor or sell it. Mazonbelle is sold either in the field or once it is harvested, with the farm gate price ranging from \$7.00 to \$7.50 per 100 lb sack. Paradoxically, plots devoted to mazonbelle are often grown either by those who are too poor to have access to plots large enough for rice or by those who are rich enough to accept the risk of drought in hopes of making profits higher than could be achieved growing rice.

Though sugar cane was the major crop in Foscave when irrigation was introduced, there is currently only one plot of sugar cane remaining in Foscave and this is under one carreau in size. Sugar cane is produced for the largest sugar factory in the Cayes Plain, Centre Dessaline, which sells largely on the international market. Land is privately owned, but it is plowed, and the harvest transported, by Dessaline tractors. Charges for these services (plus interest) are deducted from the final purchase price. Cane cutting is done by hand, taking an estimated 60 person-days to cut the 60 ton yield expected from the plot in Foscave.

The planting, weeding, and cultivation of the young sugar cane is mostly done by sharecroppers who grow sweet potatoes between the cane stalks. Sweet potatoes are planted on mounds and come ripe before they are shaded out by the sugar cane. The owner of the field not only gets the free cultivation of his young sugar cane, but he gets the customary one-half of the sweet potato crop. While the low level of return from sweet potato production makes one wonder why anyone would want to sharecrop these minute parcels of land, it appears to be almost the only unirrigated land in Foscave available to sharecroppers. In contrast to rice, sweet potatoes provide a relatively secure, low capital input crop which can be stored in the ground until needed for household consumption.

The majority of unirrigated land in Foscave lies within the confines of the household lakou or compound.⁸ Many lakou in the community include land devoted to small kitchen gardens which grow some mix of sweet potato, corn, beans, yams,

and manioc. Even if there is insufficient land for a garden, households will often grow tree crops such as plantains or breadfruit. Not surprisingly, a larger portion of available land is often devoted to food production in the case of poorer residents. While the majority of the crops produced on this land go for home consumption, they are also sold when needed.

Livestock is mostly tethered within the owner's or caretaker's lakou. Given the scarcity of dry land, cattle will typically be moved into irrigated plots not currently under production during the day and back onto the dry land at night. Less than one carreau of land within the borders of Foscave is left as pasture, though some residents have access to additional pasture in neighboring communities.

Labor Demand and Organization

Agricultural production in Foscave is very labor intensive and depends on a number of forms of individual and group labor organization. Contributions made by all members of the household are typically utilized in the course of agricultural production, but this labor must often be supplemented by that from outside the household. The traditional reciprocal labor system, the skwad remains the backbone of the local labor system, though the sale of journée, individual day labor, is also important.

The people of Foscave generally work in agriculture from the time they are roughly seven years old to the time they are too sick to walk. In general there is a division of labor by age and sex which suggests that men between the ages of 15 and 59 should do all hoeing and the harvesting of sugar cane, while women, children, and the elderly should do the weeding and hand reaping of rice. This leaves the majority of agricultural tasks open to whomever is available to perform them. It is quite common to see the entire family out transplanting rice or planting or harvesting dry land crops.

While almost nobody in Foscave between the ages of 7 and 59 does not get

270

involved in some part of agricultural production on land worked by the households to which they belong, the amount of labor provided to other households is determined by financial need. Adult men are the most likely to get involved working on the fields of others, but in poorer families women, children and the elderly will also get involved. Only 25 percent of household in Foscave do not have members working in the fields of other members of the community.

The majority of this labor is organized in the form of the traditional skwad, where small groups of men, or small groups of women, work together on a regular basis. These groups are essentially a reciprocal labor column which works one day for one member and then the next for another. The group's labor can either be applied directly to a member's holdings, or the labor of the group can be sold by that member so that work is done on the fields of nonmembers.

There are 16 male skwad in Foscave, which average five members each. Membership in a particular skwad is not based on simply identifiable kinship, generational, residential, or economic lines. Though the majority of men in Foscave have belonged to a skwad during most of their adult lives, more than half of the current groups have changed membership within the past year. The oldest unchanged group is three years old.

The amount of time men spend working together varies greatly by skwad. Half of the groups work Monday through Saturday, while the other half work from two to five days a week. On average, the male skwad work five hours per day with variation depending more on the task at hand than on the particular group involved. No firm data on the percentage of time spent working for wages were collected, but it appears that most groups spend at least half of their time working outside the holdings of the group. Only two groups are said to work strictly on each other's plots.

Women are much less likely than men to work in skwad, and only three female skwad were identified in Foscave. While these groups appear in most ways

to be similar to their male counterparts, they do exhibit a few important differences. Female skwad are slightly larger, averaging six members. They also work longer hours than male skwad, typically seven hours a day, six days a week.

In Foscave the selling of day labor, *vann journée*, is common for both men and women, though again men are more likely to provide this type of agricultural labor than women. Yet while this organization of male labor appears to be secondary to skwad labor, most female agricultural labor is organized along these lines. The system of *vann journée* is based on the contracting of individual labor, though individuals may then end up working with other people. An interesting variation on this form is called *journée l'état* and involves the sale of individual labor on Saturday. Regardless of at what point during the year one works, payment is made right before the holidays in December.

Other traditional forms of labor such as the konku and konbit appear to have all but disappeared in Foscave.⁹ These are both forms of group labor involving a greater number of people than the skwad which are called upon to undertake major tasks. The major difference between the two is that the konku is an invitational gathering, while the konbit has a set membership and leader. During a two month period, residents of Foscave were only involved in one konku and this took place in a neighboring community.

While 67 percent of households in Foscave which have access to land utilize the labor of nonhousehold members, the payment of this labor takes a number of forms. Labor is commonly paid in reciprocal labor, cash, a portion of the harvest, or some combination of these forms. The provision of food or drink may be included, but this is generally thought of as an extra, not as a wage. Though many households utilize reciprocal labor, few are able to completely satisfy their needs with this source, since most only have men involved in skwad and portions of the rice cultivation process are locally seen as women's work. Thus, while many households can depend on their access to reciprocal labor to prepare the soil, they

often hire female labor to plant, weed, and harvest the rice. Male labor is generally paid at a rate of Gourdes 2.50 to 3.00 for a five-hour day (\$.10-.12 per hour), while female labor is paid at Gourdes 2.00 to 2.50 for a five-hour day (\$.08-.10 per hour). A large part of the labor purchased is done on a piece-work rather than per hour basis, so it is difficult to gauge whether wages for different tasks vary. The only wage that appears to stand out as higher than others is cutting cane which is paid at closer to \$.20 per hour.

The demand for agricultural labor in Foscave is fairly constant since the majority of production is in rice. This demand is met by people who live in this and neighboring communities. The movement of workers within the Cayes Plain on a daily basis appears fairly extensive, but no one direction appears to predominate. Residents of Foscave will *vann journée* or work in *skwad* outside of the community, but at the same time people who reside elsewhere will come in to work. The harvesting of sugar cane in this and neighboring communities increases labor demand for a few weeks out of the year, but this demand also appears to be satisfied by workers from the area.

While all households in Foscave are directly involved in agricultural labor, other sources of income are also important. The majority of adult women take some role in agricultural processing and marketing, whether it be utilizing crops produced by the household or crops purchased and then resold. For example, though rice is sometimes sold to people outside of the community directly after harvest, most of the rice produced in Foscave is cleaned and taken to the mill by local women. A few women in the community are involved in the next step of selling the rice in regional markets, but many more sell the milled rice. The marketing of *mazonbelle*, breadfruit, plantains and other crops is not nearly as labor-intensive or profitable as the marketing of rice, but commerce in these items is still important for local households. Female residents of Foscave are also actively involved in the selling of staple goods such as charcoal, sugar, soda, bread,

clairen (poor grade rum), tobacco, and even fertilizer. Foscave is close enough to Les Cayes that commuting to town for more formal employment is possible. Though many residents might like urban employment, only a few actually acquire it. Two men in the community are employed full-time in Les Cayes, one as a company guard, and the other as a policeman. Three others have short-term employment as enumerators and fumigators with the Service National D'Eradication des Endemies Majeurs.

Representativeness of the Research Site

Though it is nearly impossible to determine how representative any case study is, conclusions drawn from this study can probably be generalized to other rice growing communities in the Commune of Torbeck. While the fit may not be perfect, these conclusions may at least be suggestive of processes ongoing in other irrigated parts of Haiti, and perhaps even other non-irrigated lowland areas.

While migrants from the mountain areas are present throughout the plain, Foscave may have a larger migrant population than all but those communities situated directly on the main road to Les Cayes. The size of the migrant stream clearly affects the local labor market, though variation between communities is limited by the high mobility of labor. The presence of a large migrant population appears, at the very least, to bolster the number of individuals who work as landless laborers.

The length of time for which Foscave has received effective irrigation also differentiates it from other communities in the area. Many areas have received only partial irrigation or are only now getting dependable water. To the degree to which other areas are moving toward increased rice cultivation, experiences from Foscave may suggest some of the problems to be faced by other areas.

III. THE DISTRIBUTION AND TENURE OF LAND IN FOSCAVE

Land Ownership and Distribution

While the majority of households in Foscave own at least some land, analysis of these holdings shows important distinctions in the amount and quality of land owned by different categories of households. Since land is the major resource in any agricultural community careful analysis of both qualitative and quantitative data is important. This analysis is made even more important by the scarcity of aggregate data for Haiti which allows for the existence of a dichotomization in the literature between those who argue that the rural economy is dominated by large landholders (e.g. Pierre-Charles, 1967) and those who argue that it is characterized by independent smallholders (e.g. Lundahl, 1983).

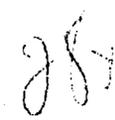
As can be seen in Table 2, 78 percent of households in Foscave own at least some land. This pattern of fairly widespread landownership is in keeping with the fragmentary data on landownership which can be found in other case studies and in the Haitian census. According to Zuvekas' (1983:2) analysis of the 1950 census data, at least two-thirds, and perhaps as many as 80 percent, of Haitian rural households owned land. Though the data is not directly comparable, information gathered from a socioeconomic survey carried out in 1970 lends support to these earlier findings, by suggesting that 60 percent of all parcels were owned. In his review of twelve case studies from different parts of the country, Zuvekas finds that the proportion of households owning at least part of their land ranges from 56 to 100 percent (1983:16). The wide range found between data sources appears to be as much a result of different research methodologies as of possible regional or historical variations.

While the distinction between households which own absolutely no land and those which are landed is important, it is often useful to consider how many households fall into a "marginally landed" category. The guiding principle in

27

creating such a category is to define a group of households which have so little land that their economic security is not greatly increased by their landownership. A definition of "marginally landed" in Foscave might be those households which own less than 1/16 carreau, and would include seven percent of households. To get an idea of how limited resources are for these households, it should be noted that households which have nothing more than a tiny garden on their 1/16 carreau lakou are being defined as having land resources over and above the "marginally-landed." Fully 30 percent of households in Foscave own no land at all or are only "marginally-landed."

An alternative way to analyze the limited economic security provided to residents of Foscave through land ownership is to consider ownership of irrigated land separately from nonirrigated land. As illustrated in Table 2, 52 percent of households in Foscave do not own any irrigated land. This dramatic finding supports the data discussed above which suggest that even many landowning households in Foscave have only very limited land resources. Since irrigated land is much more valuable than nonirrigated land it is only the poorer households which own only dryland. In fact, landowning households in Foscave which own no irrigated plots own either only their lakou, in which they grow a small garden, or own land which is distant from the community. Almost one-quarter of the households which own no irrigated land are composed of migrants whose only land assets are in their place of origin, typically in the surrounding mountains. These plots are not in commuting distance from Foscave, and migrants do not appear to get any economic return from these lands (plots are usually being worked by relatives in the place of origin but it is unclear whether migrants have permanently or only temporarily forfeited access to this land).



**TABLE 2: Distribution of Total, and Irrigated, Landownership
in Foscave by Land Size**

Land Size (in carreaux)	Total Land		Irrigated Land	
	Number of Households	Percentage of Households	Number of Households	Percentage of Households
0	20	22.3	49	52.1
less than 1/16	7	7.4	1	1.1
1/16 - 1.9/16	6	6.4	8	8.5
2/16 - 2.9/16	11	11.7	9	9.6
3/16 - 3.9/16	11	11.7	7	7.4
4/16 - 5.9/16	9	9.6	4	4.3
6/16 - 7.9/16	8	8.5	4	4.3
8/16 - 9.9/16	5	5.3	4	4.3
10/16 - 11.9/16	4	4.3	1	1.1
12/16 - 13.9/16	1	1.1	0	0
14/16 - 15.9/16	0	0	0	0
1 - 1 7.9/16	4	4.3	3	3.2
1½ - 1 15.9/16	3	3.2	1	1.1
2 - 2 7.9/16	2	2.1	2	2.1
2½ - 2 15.9/16	0	0	1	1.1
3 - 3 7.9/16	1	1.1	0	0
3½ - 3 15.9/16	0	0	0	0
4 - 4 15.9/16	0	0	0	0
5-5 15.9/16	1	1.1	0	0
TOTALS	94	100.1¹	94	100.2¹

¹Totals do not sum to 100.0 due to rounding errors.

Though the vast majority of households in Foscave have very limited land resources, the distribution of land amongst Foscave residents is far from equal. The average amount of land owned by local households is under half a carreau (6.8/16). Even the largest landowner living in Foscave owns less than six carreaux. Despite the relatively modest holdings of large landowners in Foscave the data show that 13 percent of households own 60 percent of the total land owned by residents. At the other end of the distribution, almost 60 percent of households own only 11 percent of the land. The Lorenz curve in Figure 2 gives a graphical representation of this concentration in landownership.

There are no national figures on the degree of concentration in landownership with which to compare data from Foscave since the census data are recorded in terms of landholdings, (all land worked irrespective of tenure status) rather than landownership. Unfortunately, most review articles and case studies which deal with access to land in Haiti also focus on total landholdings, thus understating the importance of landownership as an economic resource. One study which does consider the concentration of landownership was recently undertaken in an irrigated region of Mirebalais (Institute Francais D'Haiti, 1984:8). The Lorenz curve derived from these data is plotted in Figure 2 and suggests that there is less concentration in landownership among residents of this community in Mirebalais than among residents of Foscave. Despite the fact that the largest landowners in Mirebalais own significantly more land than the largest landowners residing in Foscave, overall inequality in the distribution of land appears to be higher in Foscave due to the larger number of households which have no land or are only "marginally-landed."

The data suggest that Foscave is characterized neither by a system of small owner-operators nor by a latifundia-minifundia system. The largest holding owned by a Foscave resident is under six carreaux and can hardly be considered a latifundium. This does not mean that larger holdings do not exist in this area, for

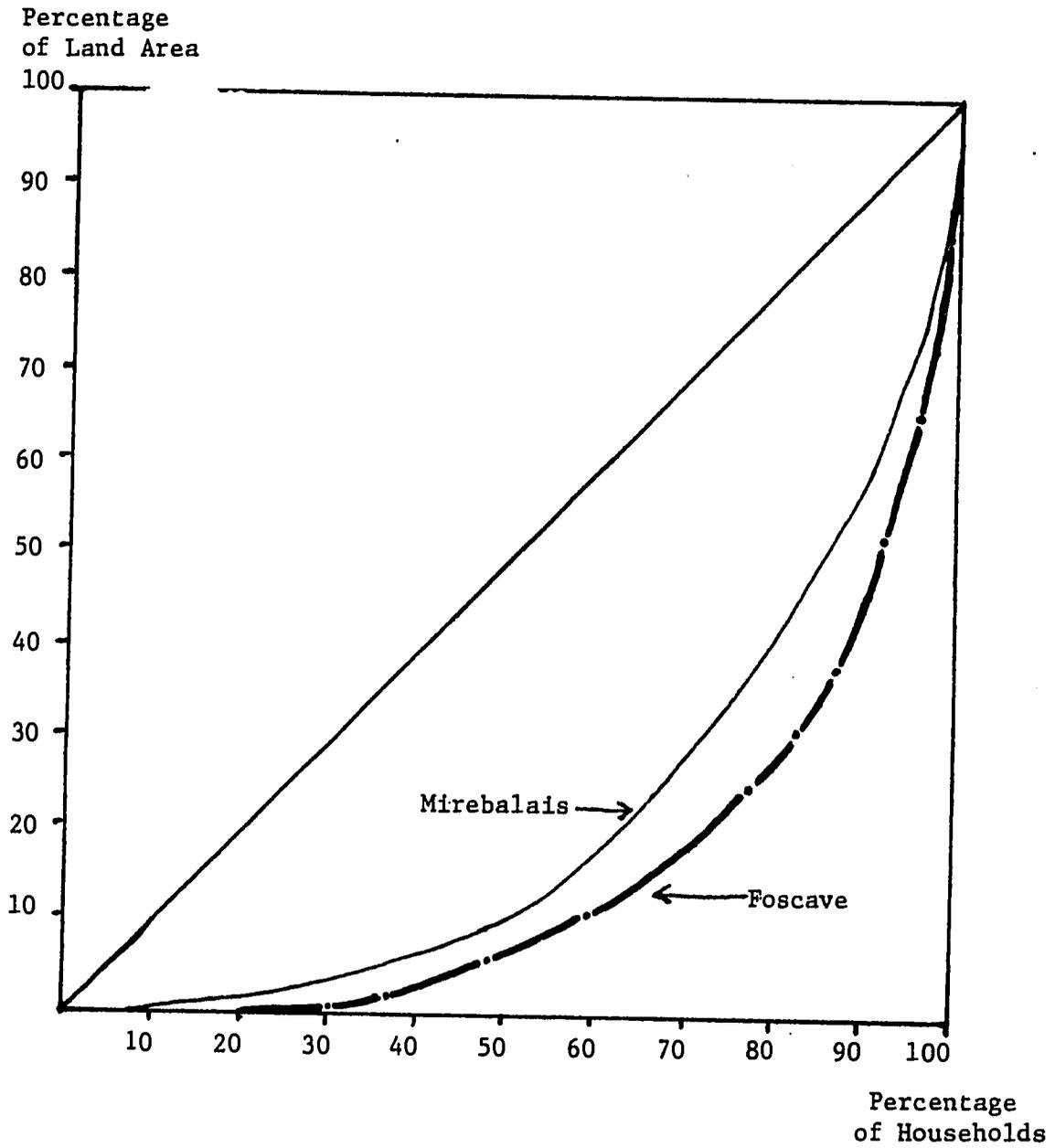


Figure 2: Lorenz Curves for the Distribution of Landownership in Foscave and Mirebalais.

Source for Mirebalais Data: Institute Francais D'Haiti (1984)

in fact there is a landowner in one of the neighboring communities (Codio) who owns a total of 30 carreaux. But these data are only for residents of Foscave, and it is possible that an absentee landowner might own a large block of land in the community. It was not possible to ascertain the exact holdings of all absentee landlords, but information gathered from those residents who work land for nonresidents and from interviews with those considered to be the largest absentee landlords suggests that no absentee landlord owns more than five carreaux in Foscave. While one can identify a large group of smallholders in Foscave, the inapplicability of understanding Foscave as a system dominated by small owner-operators is indicated by the large number of households which own no land or are only "marginally landed". It is clear that landownership in Foscave is particularly limited among first generation migrants.

Landholdings and Plot Characteristics

Agricultural holdings in Foscave, as in other parts of Haiti, are often composed of numerous plots which may be owned directly by the household or acquired through rental or sharecropping arrangements. As can be seen in Figure 3, the distribution of land worked is much less unequal than that of land owned. Households which own no land are often able to work land as tenants, thus bringing the percentage of Foscave households which can claim some access to land up to 90 percent. At the other end of the spectrum, the largest landowners are unable to work all their land and arrange to have some of it worked by tenants. While the mean holding size is only slightly above the mean for landownership, the variance in land worked by household is much smaller. For example, while 11 households in Foscave own 60 percent of total land, roughly this same percentage of land is worked by the 23 largest landowners.

While some households in Foscave which own no land themselves are able to acquire land to work, 10 percent of households in the community work no plots at

324

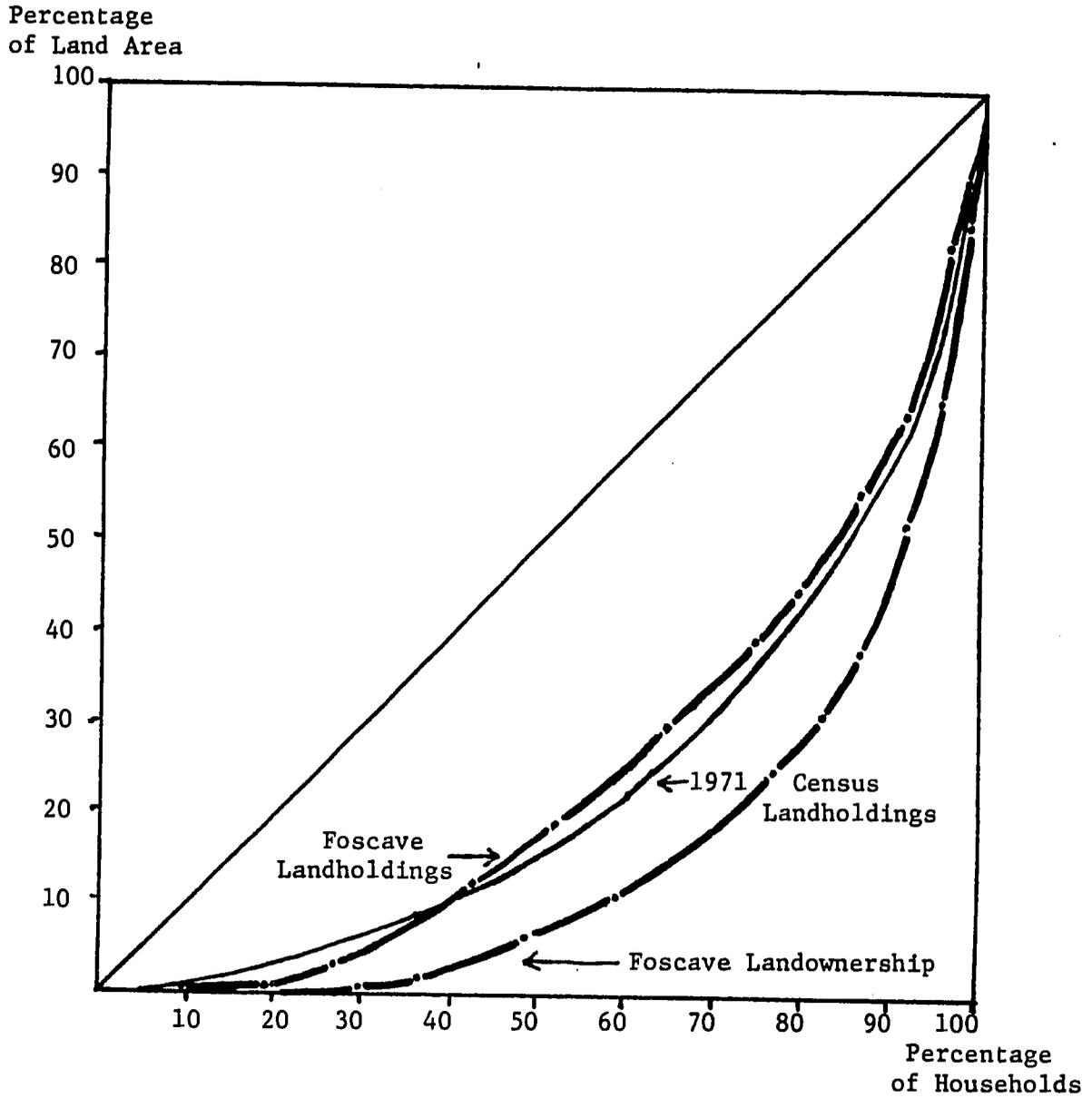


Figure 3: Lorenz Curves for the Distribution of Landownership and Landholdings in Foscave, and Total Landholdings in Haiti

Source for Census Data: Zuvekas (1984)

all. The vast majority of these households are dependent on agricultural wage labor for their existence, though one head of household has become too sick to work in the fields and another has been forced by economic necessity to join the police. The major factors limiting households' access to land are their members' migrant status and their lack of able-bodied male labor. All but one of these households are composed of migrants who have immigrated over the past 20 years. Recent migrant household members must typically wait until they are well established before they can acquire direct access to land. If they arrive with money to buy or rent land (which few of them do), they must wait only until land comes on the market. But if they depend on sharecropping for access to land they must wait until they gain the trust of landowners who might put land under their care. Households lacking able-bodied male labor acquire access to land only through ownership. Almost half of the households which do not have land to crop are headed by men who are either over sixty years of age or are too sick to work. Female headed households also often have no landholdings since women do not get access to sharecropped land. The data from Foscave call into question the widely held assumption that in Haiti there is no significant group of agricultural wage laborers who work no land under ownership or tenant relations. It should be noted, however, that some of these households are not totally landless in the sense that they may have rights to small portions of land held in conjunction with other family members in the mountains from which they originate.

Despite the fact that more than 90 percent of landholdings in Foscave are under one carreau in size, holdings are typically made up of a number of different plots. As can be seen in Table 3 the average number of plots worked by households in Foscave is three, with one household working as many as ten plots. National data from the 1971 census and the 1970 socioeconomic survey reported the average number of plots worked to be 1.8 and 2.2, respectively, while local and regional case studies show the average number of plots to range from 2.2 to 5.4

34

(Zuvekas, 1983:4). The number of plots worked in Foscave appears to be higher than that found in most areas, but the lower figures may well be the result of underreporting of holdings.

Plots in Foscave range in size from less than 1/16 carreau to 1/2 carreau. Irrigated plots are particularly small, averaging somewhere between 1/16 and 1/8 of a carreau (see Table 4). In at least one case a large block of irrigated land is held by one owner, but it is then divided up into a number of plots to be sharecropped by different individuals. The fact that nonirrigated plots in Foscave are also small can be explained by the fact that little such land exists within the boundaries of the community. Thus, there is a high demand for small morsels of land upon which to build houses or pasture a few animals. In the neighboring communities much larger plots of sugar cane are evident.

Individual plots vary in both physical characteristics and in the arrangements under which access to land is acquired. Most households in Foscave work dryland around their house sites in addition to irrigated land. If more than one irrigated plot is worked, plots maybe irrigated by different sources. While Foscave residents state that the major reason for this fragmentation and variation within holdings is the limited access to land, some recognition is given to the effect environmental variability can have in reducing agricultural risk.

Almost half of Foscave households give out land for others to work under rental, sharecropping, or a more informal family-sharing arrangements. As Table 3 shows, 47 percent of households have plots which they do not work themselves. While the majority of those letting out land let out only one plot, other households let out as many as eight plots. The major reasons for letting out plots are: (1) lack of labor to work additional plots, and (2) the need for income. For the most well-to-do members of the community, the first reason provides the strongest explanation for why lands are let out. This lack of available labor can also be seen as the major reason why female headed households and households owning land

TABLE 3: Distribution and Number of Plots Worked and Plots Let-Out for Others to Work, Foscave

Number of Plots Worked	Number of Households	Number of Plots Not Worked	Number of Households
0	9	0	50
1	18	1	24
2	4	2	14
3	21	3	2
4	8	4	1
5	12	5	1
6	6	6	0
7	4	7	1
8	1	8	1
9	0	9	0
10	1	10	0
TOTAL	94	TOTAL	94

TABLE 4: Distribution of Irrigated Plots in Foscave by Size of Plots

Carreaux	Number of Plots
less than 1/16	5
1/16	14
2/16	8
3/16	1
4/16	3
5/16	2
6/16	1
7/16	1
TOTAL	40

which is distant from Foscave let out land. Poorer peasant households which face a need for ready cash will often need to rent out land.

Land Tenure Arrangements: Ownership

In order to understand how Foscave residents gain access to land, one must consider the tenure relationships governing each plot in the household's total holding. As has been noted above, multiple plots are typically held under different tenure arrangements, thus making it impossible to classify households as owners, renters, or sharecroppers. The model used in this study to classify the tenure mode governing access to a particular plot is that developed by Murray (1978). A simplified version of this model is reproduced here and makes explicit the range of tenure arrangements which give Foscave households access to land. It should be noted that the primary data discussed here relate only to irrigated plots located in Foscave. Evidence suggests that tenure relations governing house sites are different from those governing cropland and since the majority of unirrigated land in Foscave falls within household lakou I have simply excluded unirrigated plots from this analysis.

As can be seen in Table 5, only 35 percent of the irrigated plots worked by residents of Foscave are owner-operated. Interestingly enough, this is the same percentage of owner-operated plots Murray found in his case study of a community in the Cul de Sac Plain (1977:373). These findings once again bring into question the popular stereotype of Haitian peasant households as independent smallholders. While the inclusion of house sites in this analysis would undoubtedly raise the percentage of plots under direct household control, the image of limited ownership of cropped land in Foscave appears valid. One may conclude from this data that either there is a great deal of variation in the degree of owner operation in Haiti, or that the national survey which calculated that over 60 percent of plots were owned wildly overestimated the extent of owner operation (see Zuvekas, 1983:3).

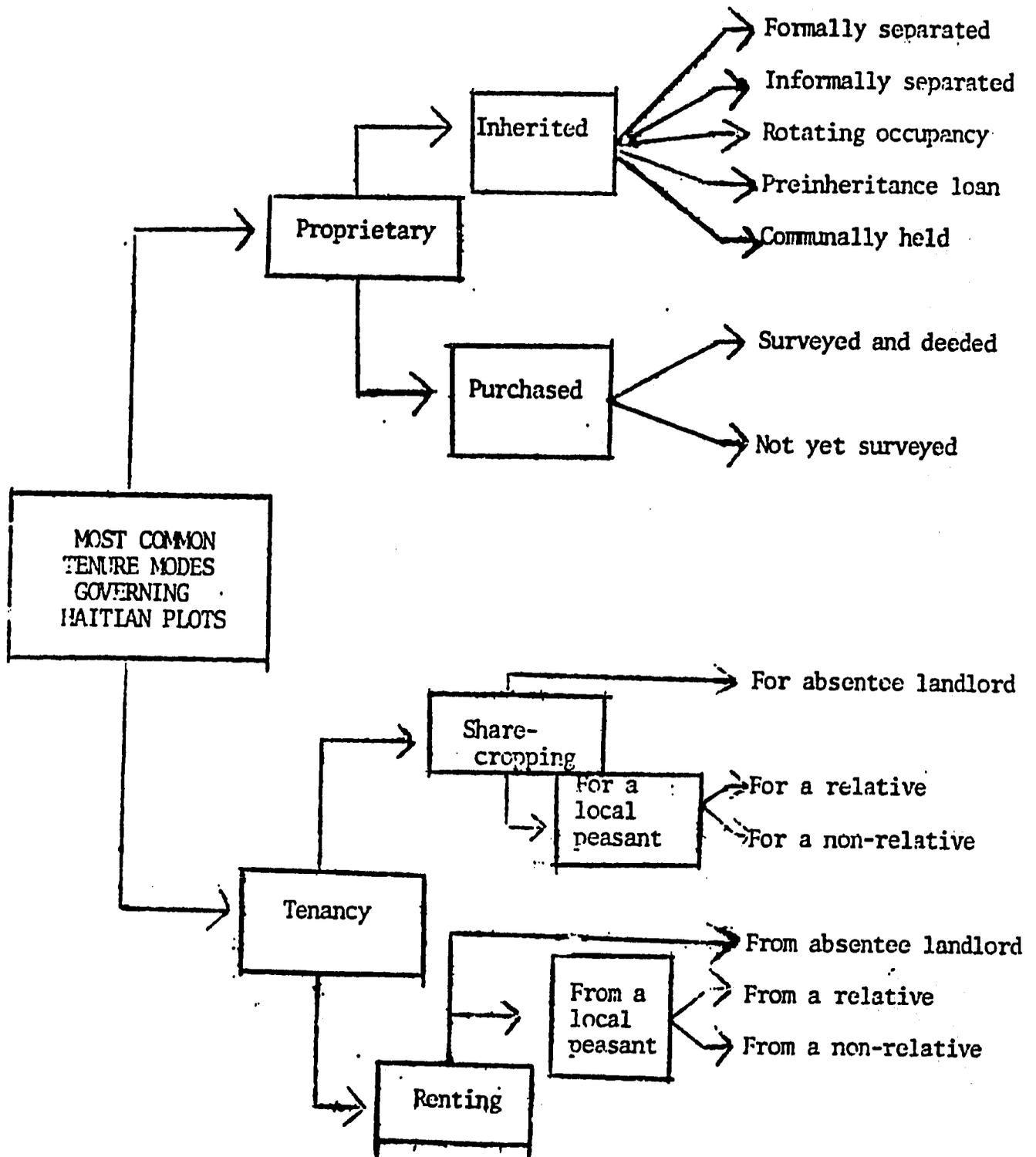


Figure 4: Tenure Modes Governing Haitian Plots

Source: Adapted from Murray 1978a

TABLE 5: Tenure Status of Irrigated Plots Worked by Foscave Residents

	Number	Percentage
Sharecropped:		
Total	19	48
Local owner ²	13	
Absentee owner ³	6	
Rented:		
Total	7	18
Local owner ²	5	
Absentee owner ³	2	
Purchased:		
Total	8	20
Papered	5	
Not yet papered	3	
Inherited:		
Total	6	15
Legally divided	1	
Divided within family	5	
TOTALS	40	101¹

¹Total does not sum to 100 due to rounding error.

²A local owner is defined here as any landowner who resides in Foscave, or any of the surrounding rural villages, who can easily commute to work plots in Foscave.

³An absentee owner is defined here as any landowner who lives in an urban center, or in any area which is not a commutable distance from Foscave.

Breaking with another often-held assumption—that Haitian peasants acquire land largely through inheritance—one sees that in Foscave more plots have been purchased than have been inherited. While Murray and others have noted the active land market which operates in much of the Haitian countryside, it is not surprising to find this route to landownership to be particularly important in a community such as Foscave where almost half of the household heads are migrants. In order to understand how the systems of land purchase and inheritance operate in Foscave, each will be discussed below.

Most land inherited by residents of Foscave is informally separated within the family rather than legally divided. Unless land is disputed or is about to be sold, the cost of surveying and papering inherited land is considered to be unnecessary. This finding and the manner in which land is divided appears to be consistent with what Murray has found in other areas of Haiti (1978a:11). Inherited plots are typically measured and divided among heirs in the presence of witnesses selected from the community. Under this system plots are fragmented with each generation so that each child shares equally in the inheritance from a dead parent. On rare occasions when plots are too small to be divided, the heirs will rotate occupancy on the plot or hold the land communally; this latter case was only found for unirrigated land under low intensity cultivation.

A type of pre-inheritance often takes place in Foscave before the death of the parent. In this situation plots are allotted to the next generation in a process which is even more informal than the process of separation described above. Heirs are given the use of particular plots with allotments being decided by the parents more in accordance with the particular heir's need than with strict equality between heirs. Measurement and the subdivision of each plot are left until the parent's death.

Unlike inherited land, the majority of purchased plots in Foscave are fully surveyed and deeded. Though the cost of this legal process is sufficiently

prohibitive that many purchasers cannot undertake the expense at the time of purchase, most purchased plots are legally papered within three years. This appears to be the case even when the transaction takes place between family members. When asked about this, Foscave residents can relate numerous cases in which land which has been purchased turns out to have been misrepresented at the time of sale. In one case where the purchaser delayed the surveying and deeding of the purchased plot, not only did the plot turn out to have a surface area less than that which he was told, but the sale was then disputed by a relative of the seller. The data from Foscave call into question Murray's (1978a:17) assertion that the use of surveyors is on the decline in rural Haiti.

More than 85 percent of the plots purchased by residents of Foscave were sold by cultivators who live in Foscave or in surrounding communities. As Murray has noted in other areas of Haiti, land sales in Foscave appear to be intraclass in nature. Given their limited access to alternative sources of cash, as a last resort local households are often required to sell land to cover such major expenses as funerals, medical emergencies and emigration. When land must be sold, residents of Foscave say that the right of first refusal must be given to family members and to tenants who may have been working that particular plot before the land can be sold to outsiders. In more than half of the transactions surveyed, the buyers fit into one of these two categories.

Given the high price of land in Foscave, it is not surprising to find that local sellers must often look to nonresidents as potential purchasers of irrigated plots. While the price of irrigated plots in Foscave clearly varies according to both the characteristics of the land and the relationship of the parties involved in the transaction, the going rate appears to be between \$170 and \$300 for 1/16 carreau. Since few current residents in Foscave can afford these prices, the system of first refusal can only partially restrict the sale of local land to noncultivators who live outside the area.

Land Tenure Arrangements: Tenancy

By far the most common way residents of Foscave gain access to irrigated plots is through some sort of tenant arrangement. Sixty-six percent of the plots surveyed were worked on either a sharecropping or rental basis. As can be seen in Table 5, sharecropping is the most common form of tenancy in Foscave. Almost half of the irrigated plots in the area are sharecropped. Research by Murray and others suggests that this preponderance of tenancy, particularly sharecropping, is common throughout much of the Haitian countryside. In his own case study, Murray (1977:373) found slightly more than half of plots were sharecropped, while only six percent were rented.

The owners of plots which are sharecropped or rented by Foscave residents are typically cultivators who reside in this or neighboring communities. Only 31 percent of plot owners surveyed live in the urban centers of Les Cayes or Port-au-Prince. While those residing in the capital city can be characterized as absentee landlords who are only indirectly involved in agriculture, half of the landlords living in Les Cayes spend the majority of their time farming.

In order to understand the sharecropping system in Foscave, one must look at both who lets out land and who takes it in, and at the arrangement under which land is worked. Owners of sharecropped plots tend to be wealthier than their tenants, or, less frequently, very short of able-bodied labor. While these landlords are for the most part directly involved in agriculture, they often have other occupations which demand their attention and make the cultivation of an additional plot of rice quite difficult. Similarly, local households which have limited supplies of labor (such as female headed households or those including only sick men) often give plots out for others to sharecrop. Sharecropping does occur between family members and is particularly striking as an alternative to pre-inheritance. When children are given land by their parents to sharecrop, the terms are often less clearly laid out or are made explicitly more favorable for the younger generation.

AV

In fact, in a number of cases, one party described the arrangement as pre-inheritance while the other referred to it as sharecropping.

In the vast majority of cases the sharecropping of irrigated plots in Foscave is a clear 50/50 split. The owner provides the land, the sharecropper provides the labor, and the yield is divided equally. Though in principle the cost of inputs is supposed to be split evenly, the exact arrangements under which fertilizer and outside labor are purchased vary slightly. Fertilizer is such a major expense that the tenant household is often unable to contribute its share; then the landlord typically makes the purchase and pulls one half the cost from the harvest before it is divided. Though this arrangement is generally considered fair, the majority of disputes between landlords and sharecroppers appear to be over the amount of fertilizer to be applied and how it will be paid for. While most labor is provided by the tenant household, or by the skwad in which members of the household are involved, often additional labor must be purchased. Tenants are expected to pay for this labor, but often for harvesting they are able to pay for part of this cost in rice which is taken from the harvest before it is divided with the landlord.

Sharecropping agreements are made informally and are renegotiated continuously. Sixty-eight percent of the sharecropped plots surveyed had been worked by the current tenant for less than three years. Most sharecropping arrangements do not appear to be terminated because of disagreements but rather because of the forever changing labor and capital resources of the two parties. The most stable sharecropping relations are established with absentee owners or family members. In a few cases cultivators work land which they themselves used to own before they were obliged to sell the plot. Another common situation is where the person with whom the sharecropper deals is not the owner of a plot but rather someone who rents the land. In these cases the owners are urban-based absentee landlords while the renters are only partially involved in agriculture. Clearly sharecroppers would do better if they were able to rent the land

themselves, but people sharecrop because they have no other access to additional land.

Though renting irrigated land in Foscave is quite a profitable venture, few residents can afford to do it. Irrigated land currently goes for between \$20 and \$30 per 1/16 carreau for one year, and rentals are usually made for a number of years with the bulk of the payment due in advance. Plots that are rented in are typically owned by fellow cultivators, in some cases by family members. These plots are worked under contracts which extend for an average of five years, with the range being from one to ten years. More than 85 percent of rental contracts in Foscave are formally documented. It should be noted that, whereas in a number of parts of Haiti state land is available for rent, no such state land exists in Foscave.

This study may well understate the incidence of renting since residents of Foscave are much more likely to be renting out than renting in land (recall that the plots surveyed are those currently worked by residents). In order to cover major expenses local households often need to rent out or sell land. If available, animals will typically be sold before any land is let go, and there is certainly a preference for renting out rather than selling land. When households are forced to rent out land for immediate cash needs, they often must then increase the amount of land they sharecrop in order to meet more long term needs.

The Foscave Land Shuffle

From this discussion of the distribution and tenure of land it is clear that the residents of Foscave typically have only limited access to land and that which they do have is often subject to change. There are clearly a few more affluent households in Foscave which have land resources well beyond those of their neighbors, but even these holdings would be considered modest by most outsiders. The majority of Foscave households are landed, but must depend on sharecropping as their primary form of access to irrigated land. Though most households work a

44.

number of different plots, the plots are small and if they are sharecropped, the returns must be split with the owner of the land. As seen above the majority of tenant arrangements and land transactions are carried out among residents of Foscave and neighboring communities. Yet, because of the economic marginality of most local households, plots must often be sold or rented out to cover cash needs. Fully half of the plots surveyed in this study have been worked by the current cultivator for less than five years; only 20 percent have been worked for more than ten years. The rapid shuffle of plots in Foscave cannot be explained simply as a high turnover in tenants, but also involves a high turnover in owners.

The hyperactivity of the local land market suggests that outside speculators could without too much trouble come to acquire land in Foscave. While absentee landlords, in the sense of urban-based speculators, do not appear at this time to be heavily involved in Foscave, their numbers may well grow as increased capital investments are made in the area. Currently the majority of speculators are government bureaucrats, church people, and businessmen who are based in Les Cayes. At present their holdings appear to be limited by the difficulties of acquiring irrigated land in Foscave and by their limited economic resources.

IV. CRITICAL ISSUES

Land Tenure Insecurity and the Prevalence of Land Conflict

Although the majority of Haitian peasants have access to land through ownership or tenant arrangements, many policy makers and planners have been concerned that the insecurity of that tenure might act as an obstacle to agricultural development efforts based on irrigation or erosion control. If cultivators do not feel secure in their continued access to plots once land improvements have been made, they are unlikely to invest either time or money in such projects. Land tenure insecurity can thus undermine the contributions made to irrigation or erosion control projects, and such projects can in turn raise the level of insecurity and conflict over land.

There are no national-level data which address the issue of land tenure insecurity in Haiti, but a number of authors have suggested that this may be a serious problem (Zuvekas, 1978b; Coffey et al., 1984). The bulk of discussion has focused on the actual legal status of peasants' claims to landownership given the common practice of bypassing the formal system for registering and titling individual plots. Murray's (1978a) extensive exploration of this topic suggests that little squatting is going on in Haiti and that plots are covered at the very least by master deeds which are held by some member of the family. A discussion of the Haitian legal system related to land suggests that it is unlikely that households' claims to land based on such master deeds could be legally disturbed (Thome, 1978:12).

Residents of Foscave show few signs of insecurity about their landownership rights, though they are quite conscientious in following accepted procedures to ward off potential conflicts. Inherited plots in Foscave, as in other areas of Haiti (Murray, 1978:18), are typically informally divided among family members. Community witnesses take part in the division of all plots. These witnesses are not

simply honorary, for they are called back in later years to resolve any disputes regarding the borders of the plots in question. If community members cannot resolve the dispute, they go to the Tribunal de Paix or the Tribunal Civil, the regional courts of the Ministry of Justice. In fact the only inherited plot in the sample of irrigated plots studied which was formally surveyed and deeded was papered as a result of severe conflict between potential heirs. In this case, a man took his half-sister to the police for "stealing" from a plot that had belonged to her father (his stepfather). Once enmeshed in this legal battle, the woman had to go to the Tribunal Civil to formalize her claim to the plot (the half brother had no claim to the land since he was only the stepson of the deceased owner).

While residents of Foscave do not like to admit that major conflicts which warrant the formal deeding of land can arise in the case of inherited land, they are convinced of the need to formally deed land purchases to avoid such conflicts with the seller or other members of the seller's family. Buyers of land in Foscave are willing to bear the costs of deeding and surveying plots, though not all are able to complete the process at the time of sale. Cases in which the sale is disputed or in which the size of the plot has been exaggerated by the seller are fairly common even though most plot sales in Foscave are legally documented within three years. The practice of surveying and deeding purchased land is so well accepted that this procedure is followed even when the parties involved in the transaction are members of the same family.

Since the majority of plots owned by residents of Foscave are purchased and are typically legally documented, and the remaining plots which have been inherited appear to be covered by master deeds of substantial legal merit, local cultivators appear justified in their feelings of tenure security over plots which they own. What insecurity is involved in landownership in Foscave appears to be based on the possibility that unscrupulous speculators will, through dishonest means, come to acquire plots or, much more likely, that the landowning household

will be forced by economic need to sell plots. Given the high level of corruption at all levels and in all branches of the Haitian government, the possibility that land will be illegally appropriated can never be dismissed. But, in the end, the greatest source of insecurity for landowners in Foscave is their limited resource base which makes the likelihood that they will have to sell plots to cover major expenses quite high. The sample of irrigated plots studied showed turnover of plots to be quite rapid, with the average number of years a plot had been owned by the current owner being only 8.4 years.

Insecurity in Foscave residents' access to sharecropped or rented land is, not surprisingly, much greater than that for owned land. While insecurity might well develop in a system in which land is rented out for an average of four to five years with the bulk of the rent being paid in advance, some of this insecurity is avoided by the use of notarized rental agreements. As was noted above 86 percent of renters have purchased such documents at a cost of \$5.00 for 1/16 carreau. The general opinion is that this documentation reduces potential ambiguity for both parties. The need for formalization of rental agreements is reinforced by the likelihood that both parties are not usually residents of Foscave, but often involve individuals from outside the community either as landlords or renters. Since renting is viewed locally as a form of temporary purchase, it is not surprising to see the same concern for legal documentation as is found for land sales. The high incidence of cases where the renter of a plot of land in turn rents or shares out some or all of the plot rented makes this documentation all the more important.

Though there appears to be a fairly strong guarantee that renters will indeed maintain access to the land which they have rented for the duration of the agreement, there is no guarantee of further access. In actuality, there are a group of plots in Foscave which are rented out again and again and others which are taken back by the owner at the end of the rental period. In the first situation the plots are owned by absentee landlords or by more affluent local households. These

landowners are content to maintain the rental arrangement as long as they can get a good rent and avoid management responsibilities. At the other extreme are those households which are pushed by economic need to rent out what may be their only plot. Once the term of rental has run out, these plots are as likely to be taken back under owner-operation, sold, or rented out again, depending on the immediate needs of the owners. This built-in insecurity in the landlord/renter arrangement certainly makes it a less secure form of continued land access than either purchase or inheritance.

Clearly the most insecure tenure arrangement, and the one which governs the majority of plots in Foscave, is that of sharecropping. Sharecropping gives tenants access to plots one cropping season at a time, with the owner being able, without warning, to terminate the tenant arrangement at the end of the harvest. The analysis of sharecropped rice plots in Foscave shows that 68 percent of plots have been worked by the current tenant for less than three years, with 32 percent of plots having been worked for less than one year. The most stable sharecropping arrangements are established between family members or, as with rental arrangements, with absentee landlords.

Sharecropping is inherently more insecure than renting because there is no documentation of the sharecropping agreement, regarding either the length of time the plot is to be worked or the division of responsibilities and benefits between tenant and landlord. Since the entire arrangement is informal there is a great deal of room for conflict in sharecropping relations. At the same time, this conflict does not tend to build up since both parties can easily cut off relations. Low-level conflicts regarding the split of fertilizer and other input costs are very common in Foscave and do sometimes lead to the termination of the tenant arrangement.

The inherent insecurity of sharecropping in Foscave is compounded by the fact that those households which take in land under this arrangement typically have

few alternative sources of land access. These poor peasant households typically do not own sufficient land to support themselves, and they are without the economic means to rent land. Since the vast majority of households in Foscave can be thus described, it is not surprising that there is an unfilled demand for sharecropped rice plots in the community. If either the number of plots being given out to sharecroppers declines—for example, if owners decide to shift to hiring agricultural wage labor to cultivate plots rather than sharing out these plots—or if the number of those seeking to gain access to land through sharecropping increases—for example, if a large number of poor migrants settle in Foscave—this shortage of plots available for sharecropping will grow and sharecropping will become even more insecure.

While the current stream of poor migrants into Foscave suggests that there may be continued growth in the population in search of sharecropping opportunities, it is not clear to what extent this stream of migrants is being balanced out by a stream of emigrants who once sharecropped in the community. Given the accelerating pace of land degradation in the mountains surrounding the Cayes Plain, the stream of incoming migrants is likely to continue into the foreseeable future. The current pattern of emigration to Les Cayes, Port-au-Prince, and occasionally other countries is also likely to continue, although there do not appear to be any signs of growing opportunity which might pull additional migrants.

There are some indications that landlords in Foscave are shifting from a reliance on sharecroppers to a reliance on wage labor to exploit their holdings. Irrigated rice cultivation is a very labor-intensive form of production and requires extensive management time. If landlords are to shift from sharing out land to hiring wage labor, they need either to devote more of their own time to this task or to hire farm managers. Six men in Foscave currently work as farm managers for absentee landowners. Though in neighboring communities managers are responsible

for coordinating sharecroppers as well as wage laborers, farm managers in Foscave hire agricultural labor. One change which may speed up a possible conversion from sharing out land to hiring in labor is the use by more affluent households of rototillers to prepare their rice fields. This change cuts down the labor requirements of rice considerably and may increase the amount of land which landowning households find they are able to manage themselves, or in conjunction with a farm manager.

Despite the particular insecurities which exist in the land tenure system described above, these insecurities do not appear to have had a direct effect on the level of cooperation given the local irrigation projects. Foscave residents who own or work land which is to receive improved irrigation are unanimously pleased that the irrigation projects are underway. Both individuals who own plots which will be served by the improved system and those who sharecrop such plots are actively involved in the Foscave Groupement Communautaire which is providing the labor for the Belvue project. In fact, of the 21 members of the Groupement for whom I have data, 10 do not own land which will be irrigated by the improved system but depend on sharecropping for access to this land. These individuals clearly feel that their continued access to plots in this irrigation perimeter is secure enough to warrant significant labor contributions. Two other members of the Groupement appear to have even less secure access to land which is undergoing improvement. One is only a manager for land in the perimeter (though his participation may be better explained by the fact that he is also the brother-in-law of the president of the Groupement). The other member sharecropped land in the area up until this year and may feel confident that he will find a similar plot to sharecrop in the future.

Forces of Fragmentation and Land Concentration

While irrigation and erosion control projects seek to increase the productivity and thus the value of land, rising land values may in turn lead to the expropriation

of poor peasants and the concentration of land into the hands of large landowners. Even if cultivators feel secure in their landownership rights, there are important legal and illegal ways in which land may be appropriated by powerful local and nonlocal elites. Should land improvement projects fuel these processes of concentration, then instead of helping the poor rural majority, these projects must be seen as undermining the limited economic base of this target population.

There are very little data available with which to study processes of land concentration in Haiti, since landownership data are not available from the census and are rarely even collected in case studies. These sources focus on landholdings, which by definition do not differentiate between access to land through ownership and tenancy arrangements. The ideal data base for analysis of the question of land concentration would include a series of cadastral surveys spanning a period of time in which a particular area was experiencing rising land values. Since this data base does not appear to exist in Haiti (except perhaps in one area of the Artibonite), one must instead approach this issue by identifying the potential avenues for land concentration and studying their occurrence.

A common concern among well-meaning individuals involved in land improvement projects is that unscrupulous and powerful elites will manage to manipulate the legal system in such a way as to gain control of improved land which they did not initially own. Murray suggests that the most likely method for outsiders to illegally acquire land in rural Haiti is through the fabrication of competing deeds (1978a). Numerous examples of litigation based on competing deeds have been found in areas of the Artibonite which have seen rapid rises in land values due to irrigation. Foscave does not appear to be experiencing a proliferation of competing deeds. This may be because the costs of initiating such litigation are too high to be considered profitable when the land is experiencing only marginal increases in value, as is the case of Foscave.

An alternative method by which affluent local individuals could illegally

acquire land is to use land as the collateral for loans they make to peasant households. This practice is strictly illegal under Haitian law and would necessitate the manipulation of the local legal system. A case study which has just been completed in Leogane suggests that this avenue of appropriation has been extensively used (Richmond, phone conversation, 12/85). There is no evidence to suggest that this practice has occurred in Foscave, but nor is there any guarantee that it has not, or will not take place in the future. Three individuals are responsible for providing 26 percent of all loans to local households. While loans are typically given for an indeterminate length of time with interest calculated each month, if these lenders were to call in their loans, local cultivators would probably not be able to borrow money from other sources to pay off their debts. The dependence of Foscave residents on these informal moneylenders, suggests that they may be vulnerable to this form of land appropriation.

Though opportunities for illegal land appropriation are certainly available in Haiti and are undoubtedly made more attractive by increasing land values, by far the most important avenue for land concentration is through legal land sales. The existence of an active land market in the Haitian countryside means that wealthy individuals can typically buy land, and thus do not need to rely on illegal methods for appropriating the benefits of land improvement projects. In Foscave, as in other areas of Haiti, the land market is fueled by the cash needs of peasant households. Given their limited access to alternative sources of income, residents of Foscave must typically turn to the sale of land to cover major expenses. Whether this need to sell land leads to concentration depends on whether these transactions continue to be intra-class in nature, or whether wealthy individuals come to monopolize land purchases.

With rising land values, it becomes more likely that peasant households will have to sell irrigated plots to more affluent households who can afford to pay higher prices. Depending on the particular characteristics of the plots, 1/16

carreau of irrigated land which sold for between \$100 and \$200 in 1980 is currently priced at between \$200 and \$300. It appears that in Foscape the traditional system of giving the right of first refusal to family members and to tenants that have been working a particular plot still operates. Yet, even if given the opportunity to purchase plots, peasants must have access to substantial amounts of money to be able to buy irrigated land. Households in Foscape which are young or are made up of migrants are often found in the 51 percent of households which own no irrigated land and/or the 21 percent which own no land at all. More established households in Foscape appear to be better able to purchase land, but some are required to immediately rent out that land to raise sufficient capital for the purchase.

The more affluent peasant households in Foscape do not appear to be currently making significant land purchases. In the majority of cases this can largely be explained by the demographic characteristics of these households. Household heads are typically elderly and most describe themselves as slowly retiring from agriculture. A large portion of the second-generation of these wealthier households has migrated from the community, and though they may retain inherited lands, they are not actively buying land in Foscape. Those second-generation household members that have remained involved in local agriculture appear to be focusing their attention on increasing rice yields and lowering their managerial time, not on expanding their holdings.

The sale of land in Foscape to affluent absentee landlords is slowed, in part, by the lack of information regarding land availability. Many outsiders who have recently bought land in Foscape have had a local resident act as an informal real estate agent. Since local rich peasants are likely to be notified when land becomes available for purchase, they are in a position to pass this information on to outsiders with whom they have ties. Tenants and farm managers also pass on this type of information to their employers/landlords who are looking to expand their local holdings.

Outsiders often find it easier to rent than buy plots in Foscave, and many move from renting to purchasing land. The rental market is fueled both by local households' preference for renting rather than selling land to fill cash needs and by absentee owners' preference for receiving an income from property in Foscave while relinquishing managerial responsibilities. On the demand side, few residents of Foscave seek to rent land because this not only requires a relatively large sum of money, but it requires a willingness to shoulder the economic risk involved in paying a set yearly price for land when yields are highly variable.¹⁰

In the absence of a well-established system of farm managers, the high managerial cost of rice production in Foscave clearly works as a disincentive to potential outside investors. While many absentee owners rent out their holdings, this implies dividing the profits from agricultural production with the renter. Most absentee owners state a preference for working with farm managers, but at this point there are only six such managers in Foscave who oversee less than four *carreaux* of land. Since farm managers in the community work land with hired laborers, any growth in the amount of land managed will increase the demand for day laborers, and will probably reduce the land which is available to sharecroppers.

Perhaps the most important force which works against the concentration of landownership in Foscave in the hands of either affluent local or nonlocal individuals is the continuous process of land fragmentation. Though plots are periodically put on the market by peasant households in need of cash, these plots are likely to be very small—and thus not well suited for someone looking to invest a large amount of money in land. The average size of irrigated plots worked by residents of Foscave is less than 2/16 *carreau*, and while this may be all that a local peasant household can ever afford to buy it is of little interest to a wealthy investor. The majority of plots owned by residents of Foscave that are larger than this average size have been passed down through inheritance channels and have somehow avoided being divided up. Residents of Foscave who end up being the sole

owners of one of these larger than average plots are not likely to be in the kind of insecure financial position that would require them to sell these plots on anything but the rarest of occasions.

If one analyzes how substantial blocks of irrigated lands in Foscave are put together by affluent landowners, one sees that it is only very rarely that blocks are pieced together from purchases of 1/16 and 2/16 carreau plots. The wealthiest local households have managed to put together a few adjacent plots of land, but they are much more likely to acquire major plots either through inheritance or through a purchase involving another affluent households. Affluent absentee landowners do not have the opportunity either to inherit land or to piece together adjacent plots and so they must buy from other wealthy landowners. To a very large extent, outsiders who own land in Foscave have purchased that land from other absentee landowners.

Some of the recent purchases of land by outsiders in Foscave have clearly been motivated by an interest in taking advantage of slated improvements in the local irrigation systems. Major purchases in the area have for instance been made by: (1) a group headed by the priest directing the irrigation project; (2) a partnership involving a government agricultural credit agent who is responsible for loans to the area; and (3) one of the largest landowners in the Cayes Plain. In land purchases negotiated by the credit agent and the priest advantage was clearly taken of insider information regarding the planned irrigation improvements. Purchases by these individuals in the immediate area have remained relatively small, and thus are not seen as terribly threatening by local residents. The credit agent and his brother have bought roughly four carreaux in Foscave and adjoining communities, as well as eight carreaux in other parts of the Cayes Plain. While it is unknown how much land the priest has accumulated in other areas, he has negotiated the purchase of less than three carreaux in the immediate vicinity of Foscave.

Though it is not possible to ascertain exactly what proportion of land in Foscave is held by absentee owners, I would calculate that somewhere between 30 and 40 percent of the total area is owned by urban-based landowners. A much larger percentage of landowners do not live in Foscave, but the majority of these are cultivators who live in neighboring communities. The sample of irrigated plots surveyed in Foscave found that 20 percent of those worked by local residents were owned by individuals living in the urban centers of Les Cayes and Port-au-Prince. While some of the landowners residing in Les Cayes are considered to be cultivators, this sample still clearly underestimates the degree of absentee ownership. The sample does not include plots run by farm managers, or those rented by nonresidents—both of which are likely to be disproportionately owned by absentee landlords.

Without a full cadastral survey of the area, one can only analyze the major mechanisms of land concentration in Foscave to determine how the forces of land concentration and fragmentation are balancing out. There is no evidence that the benefits of improved irrigation are being illegally appropriated by unscrupulous elites. While there is an active market in irrigated plots in Foscave, there are three factors limiting the degree to which plots are purchased by affluent individuals. (1) There is a tradition of giving rights of first refusal to kin and previous tenants. (2) Information about land sales is not widely known, at least not among nonresidents. (3) Many of the plots which come up for sale are so small that they are not of great interest to investors. Large landowners purchasing land in Foscave typically purchase land either from other absentee landowners or from rich local peasants. Thus they are only slowly making land less available to poorer members of the community.

The countervailing forces of land concentration and fragmentation appear to shape a situation in which over the long run most land will come to be held by large landowners, and the remainder of the land will be held in tiny plots by a large

number of peasant households. Even if little land is ever passed from the hands of poorer peasants to the more affluent, population growth will increase the pressure on available land and more and more of these households will be unable to purchase land. If the children of local more affluent peasants continue to migrate from the area, a growing percentage of large holdings will be in the hands of absentee owners.

The Vulnerability of Peasants in a System of High-Cost Agriculture

While irrigation projects do typically raise the productive potential of land, capturing that increased productivity is often dependent not only on continued access to the land, but to complementary capital and labor inputs. Yield increases from irrigated rice production are usually associated with changes in the use of inputs such as modern seed varieties, fertilizers, and pesticides. Labor requirements often rise both in direct agricultural production and in the maintenance of the irrigation system. Access to the irrigation water can reduce the levels of uncertainty inherent in rainfed agriculture, but unless access to complementary inputs is assured the overall risks of agricultural production will not be reduced.

As the number of rice cropping cycles and the yield from each cycle have increased in Foscave, so too has the demand for labor. Agricultural labor is provided by local men and women working either on their own or in the context of reciprocal labor groups. While poor peasants households fill the majority of their labor demand using household or exchange labor, better-off households purchase labor. A recent study argues that a shortage of labor in the Commune of Torbeck limits the degree to which residents can exploit the cultivation of rice (Projet d'Appui au Developpement Agricole 1984:80). The continuous stream of immigrants appears to have satisfied the increasing labor demand caused by the extensive cultivation of rice in Foscave, though there is some indication that peasants are working longer hours than their upland counterparts.

58

Potential increases in the demand for labor in Fosclave are being countered somewhat by changing agricultural technologies. The introduction of rototillers to cultivate rice plots reduces the demand for male skwad labor. Since only the wealthiest households utilize this mechanized form of land preparation, opportunities for male skwad to hire themselves out for the preparation of nonmembers' fields are declining. It is revealing that the reason given by households which hire rototillers for switching away from skwad labor is not that this labor is getting hard to find or is becoming relatively more expensive, but rather that the rototillers are more effective and reduce managerial costs. This reduction in the demand for male labor may be compensated for by the switch from the female dominated hand harvesting technique to the male dominated threshing technique. It is possible that female labor will in turn become more heavily used in rice planting or some other area of cultivation, but at least in the short run the demand for female labor appears to be going down. This is unfortunate, since it is the poorest households in the community which depend most on women's agricultural labor.

Irrigation development in Fosclave, like in most other parts of the world, has been associated with increased use of modern seed varieties. The vast majority of irrigated plots in Fosclave are planted in Mme Gougousse or Decany rice. These modern varieties have all but replaced the many traditional varieties planted a decade ago. While the newer rice varieties produce higher yields under good conditions, they are also more susceptible to crop loss. Residents of Fosclave recognize that the loss of standing rice to rats is increasing tremendously every year and is directly related to the increased use of modern seeds. Many cultivators purchase rat poison and devote time to chasing rats, yet rat damage is still the most common reason given for major crop loss in recent years. What Fosclave farmers have yet to realize is that the planting of fewer varieties also leaves the entire rice crop more susceptible to infestation by insects or attack by disease. Almost no cultivators in Fosclave use pesticides on their rice fields.

Modern rice varieties are heavily dependent on continuous and ample water supplies in order to achieve yields above traditional varieties. While the current irrigation rehabilitation projects have extended the potential cultivation of these varieties, crop loss due to water stress continues to be a problem. Since modern rice varieties are highly sensitive to variations in water supplies, fluctuations which would have no impact on traditional varieties can wipe out entire plots of modern rice varieties. Rice yields have become less dependent on the vagaries of nature, but at the same time have become more dependent on the vagaries of the irrigation system. Even when the major irrigation rehabilitation efforts are completed, cultivators in Foscave will have to spend a greater porportion of their time maintaining the systems.

The complementarity between modern rice varieties and high levels of fertilizer application is noted by all cultivators in Foscave. In fact the explanation given for why a household planted one variety or another often hinges on their expected access to fertilizer. For instance, Mme Gougousse is known to require more fertilizer than other varieties, and cultivators who are short of money will often switch to an alternative variety rather than grow Mme Gougousse with lower than optimum fertilizer applications.

The dependence of modern varieties on heavy fertilizer applications has made fertilizer purchases a major expense for Foscave households. This dependence is quite problematic, because not only is fertilizer expensive, but it is also hard to get. Fertilizer is supposed to be available from the Haitian Ministry of Agriculture office in Les Cayes at \$13 a sack, but during the period of study, the only fertilizer available in Les Cayes was being sold by private businessmen at \$18 a sack. The importance of fertilizer in intensive rice cultivation makes this uncertainty in the availability and price of this basic input a major problem for cultivators in Foscave.

Access to fertilizer is dependent on access to both cash and market

60

connections. It is rumored that the entire stock of fertilizer sold by the Ministry of Agriculture office goes to a few powerful individuals, many of whom are reputed to resell the fertilizer at a higher price. While this may be an exaggeration, it is clear that individuals who are able to buy fertilizer in bulk when it is available at the reduced rate and store it for later use or sale have a distinct advantage over those who can only hope to purchase fertilizer to satisfy their immediate needs. Since most households in Foscave have little cash, access to credit has become a major factor determining cultivators' ability to purchase fertilizer and thus take advantage of the higher yield potential of modern rice varieties. Credit is not equally available to all, and while better-off households can acquire loans from government subsidized sources in Les Cayes, poorer households must depend on informal sources of credit. If these households can get credit at all, it is usually for very small amounts of money at interest rates ranging from 10 to 20 percent per month. Cultivators who are able to borrow from government sources at close to one percent per month or participate in the special BNDAI fertilizer program which gives them access to cheap fertilizer on credit, are in a position to profit more than rice cultivators who must rely on informal loan sources.

Plots owned and operated by poor peasant households are unable to realize their full potential due to these restrictions on access to fertilizer and credit. This holds true for plots which are sharecropped by residents of Foscave from individuals who are not much better off than they. In cases where affluent households sharecrop out plots, fertilizer purchases are typically undertaken by the landlords and half the cost is then deducted from the returns from the final crop sale. Due to the importance of fertilizer inputs to the realization of increased profits from irrigated rice cultivation, plots owned by households able to purchase fertilizer, whether worked by sharecroppers or by the owner, are bringing in higher returns than are plots owned by less well-off neighbors.

Market connections are important in the sale of rice as well as in the

purchase of inputs. Large-scale producers who are able to store rice can sell when the price is high, and are able to get a better price due to the quantity of grain sold. Small-scale producers are unable to store rice without heavy losses to rats and must sell their crops at the base price soon after it leaves the field. One absentee landowner runs his own mill, thus cutting out the portion of profit going to outside millers. By supplementing the amount of rice grown on his own fields with major rice purchases, this landowner has become a major rice trader and speculator in the region.

In sum, while irrigation in Foscave has clearly increased the productive potential of land, differential access to inputs and markets, as well as differential ability to bear the increased risks of high cost input agriculture, determines the degree to which households can profit from this increased productivity. Affluent households, whether local or nonlocal, are clearly in a position to weather the risks and profit more than households with more limited resources. Sharecroppers working for richer households are able to share somewhat in these increased profits, since they must only bear half the risks and are able to take advantage of their landlord's access to inputs and markets. Poorer households which work their own land or sharecrop for other poor peasant households are at a distinct disadvantage. In the long run, these households may be pushed out of independent production by major crop losses due to water stress or pests or by their inability to remain competitive with producers able to invest more in agricultural inputs. These poorer peasant households might be able to continue to get access to land as sharecroppers for more affluent households, but more likely they will be forced to increase their reliance on the sale of agricultural wage labor.

(2)

V. RECOMMENDATIONS

Agricultural development efforts in Haiti are likely for the foreseeable future to focus on projects which attempt to increase the productivity of land. Given the country's growing population and agriculturally based economy, limited land resources need to be conserved and utilized more productively. Yet, project planners and policy makers must recognize that while the majority of the rural population lives near the margin of subsistence and could greatly benefit from increased agricultural productivity, it is this low productivity in agriculture which has historically limited the degree of social differentiation in rural areas. Projects which increase the productivity of land may distribute benefits in such a way as to actually undermine the limited resource base of the majority of the target population.

This report is based on the in-depth study of one community which is experiencing the impacts of rising land productivity as a result of small-scale irrigation projects and related changes in rice technologies. Changes in land tenure and distribution are sure to be less dramatic in Foscave than in situations where irrigation is being introduced for the first time or where the projects are larger in scale. As one of the major actors in the field of agricultural development in Haiti, USAID has an important responsibility to both research the impact of land improvement projects and consider ways in which potentially negative distributional consequences can be countered. The following recommendations are suggested by research in Foscave.

(1) USAID should begin to collect land tenure data in areas of agricultural development project activity, with the depth of data collected being determined by the degree to which land values are likely to be altered. In these research efforts data must be collected on landownership patterns, not just landholdings.

(2) The preparation of cadastral surveys and maps should be considered

necessary first steps in irrigation and erosion control projects. Copies of all such documents should be housed in the USAID library for use in project monitoring and the development of future projects in the area.

(3) If USAID is considering funding further large-scale irrigation projects, then a thorough analysis of the impacts of irrigation development needs to be undertaken in the Artibonite. This area is reported to have the best background data on land tenure and is also considered to have experienced some of the worst problems with legal and illegal land appropriations.

(4) If further large-scale irrigation efforts are not planned, research into the impacts of irrigation development should be carried out as part of project monitoring. Given the difficulty of getting retrospective data, the adequacy of baseline land tenure data should be determined and any gaps in the data filled as soon as possible. Project monitoring efforts should be attuned to the likelihood that individuals involved in project administration may themselves attempt to appropriate the land under improvement.

(5) USAID should encourage efforts to restrict land sales to absentee owners. One approach to this might be to raise the transaction tax on plots being sold to individuals who reside outside of the area. The mechanism for taxing land sales is already in place, and thus this type of differential tax might not be terribly difficult to institute. Since land sales to absentee owners are usually carried out by more affluent peasant households, the burden of this tax would not typically fall on poorer households.

(6) Any efforts currently underway to reduce the fragmentation of holdings should be reconsidered in light of the evidence which suggests that processes of fragmentation work to counter ongoing processes of concentration. Efforts to halt fragmentation should not be rejected out of hand, but USAID should encourage the reconsideration of these approaches, at least in the irrigated lowlands.

(7) USAID should analyze the fertilizer market in Haiti and consider ways

64

to regularize access to this important agricultural input. Projects supported by the mission should be evaluated to ensure that supplies are in fact widely distributed. Bottlenecks and diversions in the marketplace need to be identified and eliminated.

(8) Possible ways to enhance grain storage for lowland cultivators should be considered. Efforts to combat loss to rats in the lakou might be combined with efforts undertaken in the rice fields. The potential of household and community storage facilities should be evaluated.

ENDNOTES

- ¹ See, for example Murray (1978a) and Zuvekas (1978b).
- ² Land transactions are recorded in chronological order along with numerous other taxable items and are organized by the location of the notary, not of the land under consideration.
- ³ The Volontaires pour la Securite Nationale (VSN), also known as the Tonton Macoutes, is the private security force of the Haitian president which penetrates all urban and rural areas of the country.
- ⁴ While the way in which the household is defined may seem to some like an academic detail, it becomes critical when one tries to compare data from different studies.
- ⁵ Both irrigation systems were supposedly maintained into the 1980s by local associations of farmers, but the Guillerme system apparently received more user attention.
- ⁶ The Foscave Groupement Communautaire is a semi-permanent association of cultivators which is recognized by the government supported Conseils Communautaires system as the local community action council.
- ⁷ It should be noted that in most parts of Haiti improved seed varieties are not being used at all.
- ⁸ The Lakou is a residential compound shared by a number of households belonging to the same extended family. This traditional living pattern is less clear in Foscave than in the uplands due to the high degree of migration, both into and out of the community.
- ⁹ Residents of Foscave state a preference for hiring skwad or journée labor because people are believed to work harder when they are getting paid cash. Individuals who hire labor also say that they prefer not to have to bother with providing the food and drink essential to the use of konku or konbit labor.
- ¹⁰ Data show that on 45 percent of irrigated plots a complete rice harvest has been lost within the past five years.

66

BIBLIOGRAPHY

- Coffey, William, Laurence Lewis, and Ann Hauge
 1984 "Social Institutional Profile of the Cayes Plain Basin: Towards a Coordinated Rural Regional Development Strategy." Port-au-Prince, Haiti: USAID.
- Desplechin, J.
 1973 "Haiti: Situation Economique et Perspectives de Developpement, Enquetes et Demonstrations Agricoles dans la Penisule Sud." Rome, UNFAO.
- Institute Francais D'Haiti
 1984 Etude Socio-Economique du Projet D'irrigation de la Region de Mirebalais. Port-au-Prince, Haiti: Institut Francais D'Haiti, Section de Recherche.
- Jaffe, JoAnn
 Doctoral Dissertation, Cornell University. (Forthcoming)
- Larose, Serge and Frantz Voltaire
 1984 "Structure Agraire et Tenure Fonciere en Haiti." Anthropologie et Sociétés 8 (2): 65-85.
- LeBaron, Allen, Robert Hill, and Anwar Battikhi
 1984 Haiti: Irrigation Sector Assessment. Logan, Utah: Water Management Synthesis II Project, Utah State University, prepared for USAID contract No. DAN 4127 (00-2086-00).
- Lundahl, Mats
 1983 The Haitian Economy: Man, Land, and Markets. New York: St. Martin's Press.
- Murray, Gerald F.
 1977 The Evolution of Haitian Peasant Land Tenure: A Case Study on Agrarian Adaptation to Population Growth. Unpublished Doctoral Dissertation, Columbia University.
- Murray, Gerald F.
 1978a "Land Tenure, Land Insecurity, and Planned Agricultural Development Among Haitian Peasants." Port-au-Prince, Haiti: USAID.

Murray, Gerald F.

1978b "Proposals for Research into Haitian Peasant Land Tenure." Port-au-Prince, Haiti: USAID.

Pierre-Charles, Gérard

1967 L'économie Haïtienne et sa Voie de Développement. Paris: Editions G.P. Maisonneuve et Larose.

Plotkin, Donna

1979 "Land Distribution in a Lowland Haitian Community: The Case of Ca-Ira." Unpublished Paper.

Projet d'Appui au Développement Agricole (ADS-II)

1984 Rapport Annuel. Port-au-Prince, Haiti: USAID.

Stutler, R. Kern, et al.

1983 "Evaluation of the Irrigation Component of the Integrated Agricultural Development Project." Logan, Utah: Water Management Synthesis II Project, Utah State University, prepared for USAID.

Thome, Joseph

1978 "Land Tenure Insecurity in Haiti." Port-au-Prince, Haiti: USAID.

Zuvekas, Clarence Jr.

1978a "Land Tenure, Income, and Employment in Rural Haiti: A Survey." Washington, D.C.: Rural Development Division, Bureau for Latin America, USAID. (March)

Zuvekas, Clarence Jr.

1978b "Agricultural Development in Haiti: An Assessment of Sector Problems, Policies, and Prospects Under Conditions of Severe Soil Erosion." Washington, D.C.: USAID. (May)

Zuvekas, Clarence Jr.

1983 "Land Tenure in Haiti and its Policy Implications: A Survey of the Literature." Social and Economic Studies.

68