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AGRICULTURAL DEVELOPMENT SUPPORT II
HAITI

University of Arkansas,
Fayetteville

STUDY ON THE FARMING SYSTEM OF SELECTED HOUSEHOLDS IN THE IES CAYES REGION OF HAITI

Report #52

STUDY ON THE FARMING SYSTEM OF SELECTED HOUSEHOLDS IN THE LES CAYES REGION OF HAITI

First Season, 1987

AGRICULTURAL DEVELOPMENT SUPPORT PROJECT II

USAID CONTRACT #521-0092
between

The University of Arkansas, Fayetteville/Winrock International
and
The Haitian Ministry of Agriculture (MARNDR)

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ADS II REPORT #52

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STUDY ON THE FARMING SYSTEMS OF SELECTED HOUSEHOLDS IN THE LES CAYES REGION

1ST SEASON, 1987

Introduction

The Agricultural Development Support Project Number II (ADS II) began a Farming Systems Research and Extension (FSR/E) project in the Les Cayes Region of Haiti in early 1984. The project's objective was to work with rural households to better understand the problems and constraints in their farming systems and to develop strategies to overcome them. One important aspect of the work of ADS II was the use of socio-economic studies in determining household constraints. A major component of this research was the following on a weekly basis for a period of one year the daily activities, resource use, and costs and returns of the farming systems of 17 selected rural households. This report presents partial results of this study.

Objectives

The broad objective of the research into the household activities within the farming systems (HAFS) was to provide the project with information that could be used to develop new and to improve existing interventions for addressing problems faced by rural households. Specifically, it was felt important to document the cropping calendar, the labor activities of household members, the labor and inputs used and returns to major agricultural activities, and income from non-agricultural sources.

Methodology

A census of the ADS II four sites of intervention was completed in September 1986. Using this data on size of land-holdings, level of education of head of household, type of land tenure, and location, some 30 households were selected for study in the HAFS. A criterion for selecting households was to ensure there would be at least 10 households from the mountain site of Fond-des-Freres and five each from the predominantely non-irrigated plain at Macieu-Boudet and irrigated plain at La Forre/Charlette. In these broad groupings households were then selected according to the size of land-holdings worked and land tenure. The aim was to include households with small, medium and large sized holdings with land rented or sharecropped and owned by the households.

A larger number than the desired 20 households for the HAFS was chosen since it was expected there would be an attrition rate over the 12 months of the study. In addition, since the survey would require the households time for 1-2 hours every week for one year, it was decided to provide each participating household

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with one piglet. This was considered necessary so as to ensure household cooperation until the study's completion.

The questionnaire used was written in French and divided into the following sections: crop areas by land-holdings; household, non-paid and hired labor utilisation by crop and land-holdings with use of inputs and harvest data; agricultural expenses not related to specific land-holdings; sale of household produce; income earned outside of farming; and a livestock inventory (see Appendix 1.). Prior its implementation in the HAFE in January 1987, the survey instrument was extensively tested and revised in the second season 1986.

Since the questionnaire demanded interviewers with a good level of education and background in agriculture, much of the interviewing was done by Haitian agronomists attached to the project under the close supervision of the socio-economic research team. In addition, two members of the survey team who were not agronomists but had high school diplomas and an agricultural background assisted in the work. The survey procedure required an interviewer to establish a close rapport with the household and to visit at a regular time each week. At this meeting the household's activities over the previous seven days were be noted in the questionnaire. Approximately every month, the questionnaires would be collected for checking and data entry. At the commencement of the survey, regular meetings between the interviwers and the socio-economic team took place to discuss field problems and difficulties encountered with the questionnaire.

The data entry and analysis was performed on a microcomputer at the ADS II Les Cayes office. Information was entered into a spreadsheet program after a formal process of verification of the data. Analysis was performed on the same program by sorting the data into component parts similar to the defined sections in the questionnaire.

Results and Discussion

A very large quantity of data was collected from the HAFE, not all of which can be presented in one report. Nevertheless, the results presented do include the most important aspects of the study including partial budgets on various cropping associations, break-down of household labor utilization, and cropping calendars. The information is presented separately in the results and discussion.

Household Characteristics

A total of 17 households were considered for the first season's analysis, nine in the Cayes plain (five in the irrigated plain and four in the predominantely non-irrigated plain), and eight in the mountain site of Fond-des-Freres. A large number of the selected households dropped out during the early stages of the survey, finding the weekly questioning to be bothersome, or

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interviews. Other households were dropped from the survey because of moving, death, or were removed from the data base because of inadequate data.

Although the size of the two samples is small, household characteristics, in general, do not stray too far from the averages noted in the 1986 census of ADS II sites of intervention. Table 1 compares the census to the sample groups in the plain and mountain sites.

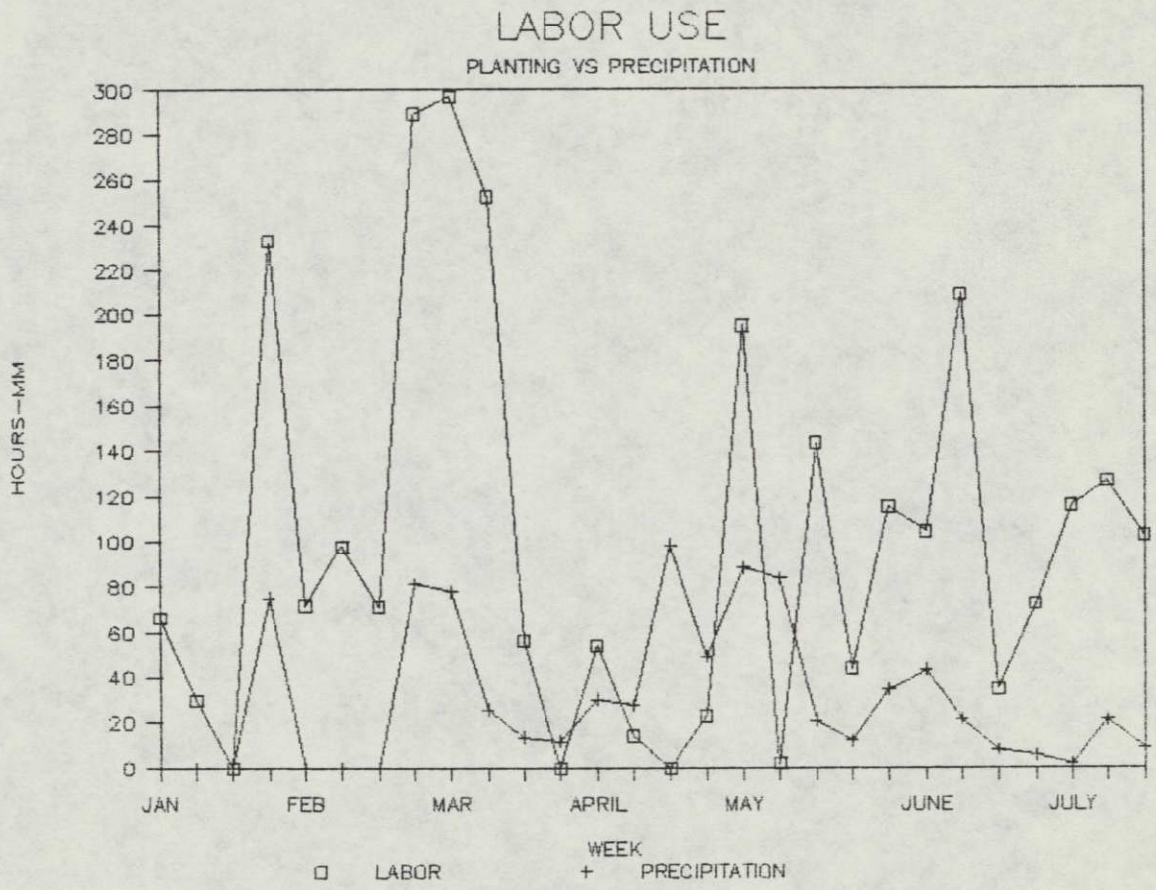
TABLE 1: Household characteristics: Sample Group vs Census

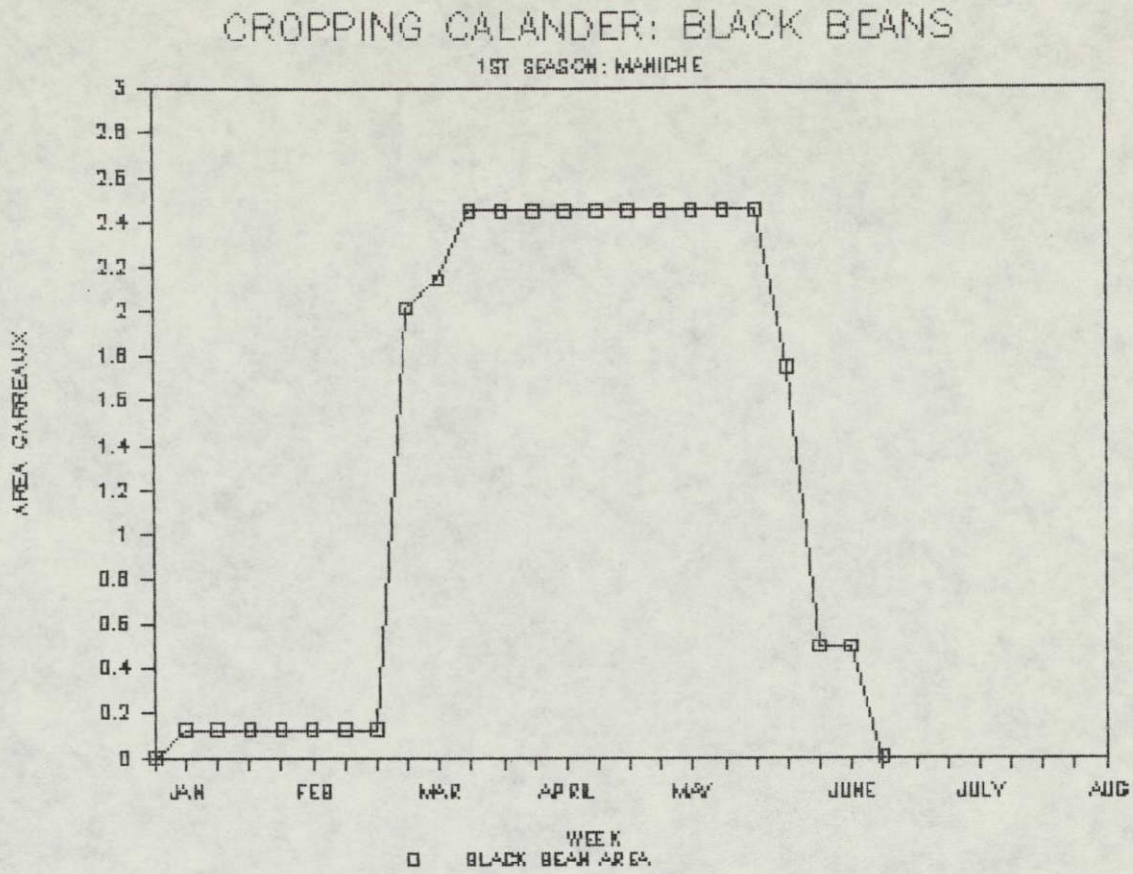
Site	Age		H/H Members		Acreage	
	Survey	Census	Survey	Census	Survey	Census
Plain	55	51.5	5.7	5.06	1.1	.74
Mountain	42	51	5.25	4.49	1.03	1.3

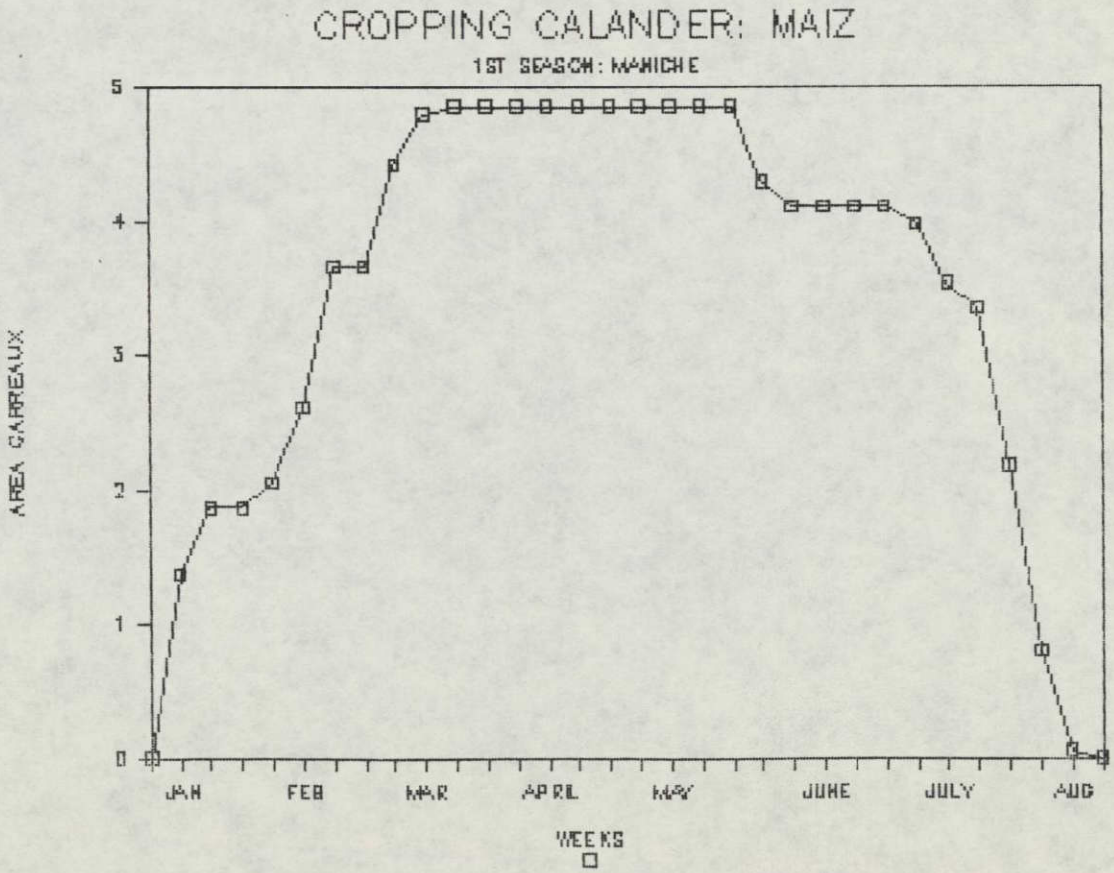
Table 1 shows some variation between the census figures and the survey results. In Fond-des Freres, the survey group head of household tends to be younger than the population average and own less land. A typical phenomenon in both the plain and mountain sites is that the older household heads possess more land. Land holdings, in general, get smaller the more intensive cultivation becomes. Thus, in the mountain areas, land holdings are larger with more extensive cultivation; in the non-irrigated plain the holdings are smaller, with the holdings smaller yet in the irrigated plain. The survey data does not reflect this trend. With such a small sample size, one large landholder on the irrigated plain had a disproportionate impact on the average. However, a survey of this nature, while attempting to encompass "typical" households, cannot, because of the small sample size, yield descriptive statistics that correspond exactly to the population as a whole. The median area of .63 ha for the plain and .97 for the mountain would better describe size of land holdings by survey participants. The survey group in Fond-des-Freres had more household members than the population average, whereas on the plains, the survey group had fewer than average household members.

CROPPING CALENDARS

Cropping calendars presented for the major crops on the plain and mountain sites for the first season 1987. The period comprises mid-January to the end of August, a period of 32 weeks. The cropping covered by the calender commences with land preparation for a specific crop and continues through the harvests. It is sometimes difficult in the survey results to distinguish between land preparation and planting since the two activities are often performed jointly. If no information can

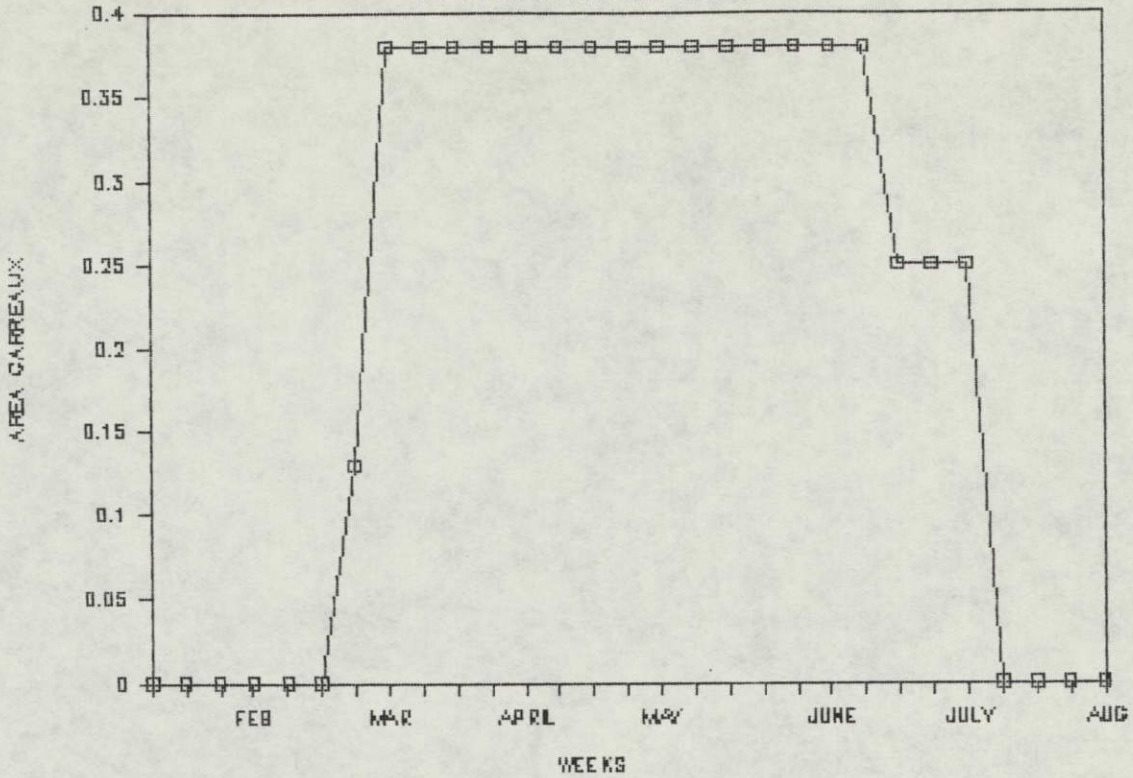

LABOR USE
PLANTING VS PRECIPITATION
HOURS-MM
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEK
LABOR
PRECIPITATION


CROPPING CALANDER: BLACK BEANS
1ST SEASON: MANICHE
AREA CARREAUX
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
AUG
WEEK
BLACK BEAN AREA


CROPPING CALANDER: MAIZ
1ST SEASON: MANICHE
AREA CARREAUX
5
4
3
2
1
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
AUG
WEEKS

CROPPING CALANDER: SWEET POTATO

1ST SEASON: FOND-DES-FRERES



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land preparation was available from the data, the planting date was used as initial date on the calendar. The calendar is presented on a crop and not a crop association basis because of the varied length of the cropping cycles within associations. In general, however, crops are grown in association and not in monoculture.

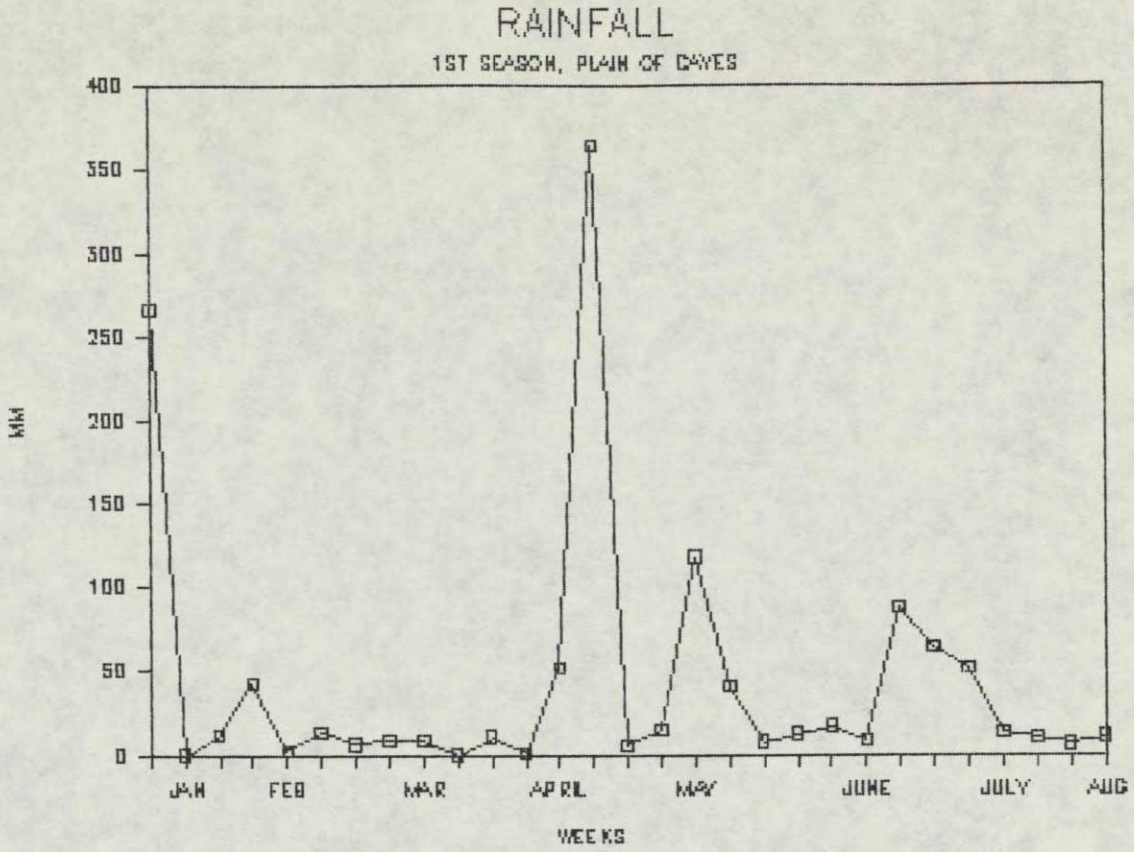
Calanders are presented for the major crops in each area; maize, black bean, and sweet potato in the mountain region and maize, rice, and peanuts in the plains. Complete seasons for secondary crops were difficult to obtain, either because of crop failure due to drought, floods, or uncompleted cropping cycles for long seasoned crops such as manioc. The graphs were created by totalling surface area of all plots containing the particular crop during the week in question. The results yield a curve with a small total acreage under cultivation initially by early planters, sloping up to peak acreages for several weeks as all the plots are being cultivated, and finally sloping down as the crops are harvested.

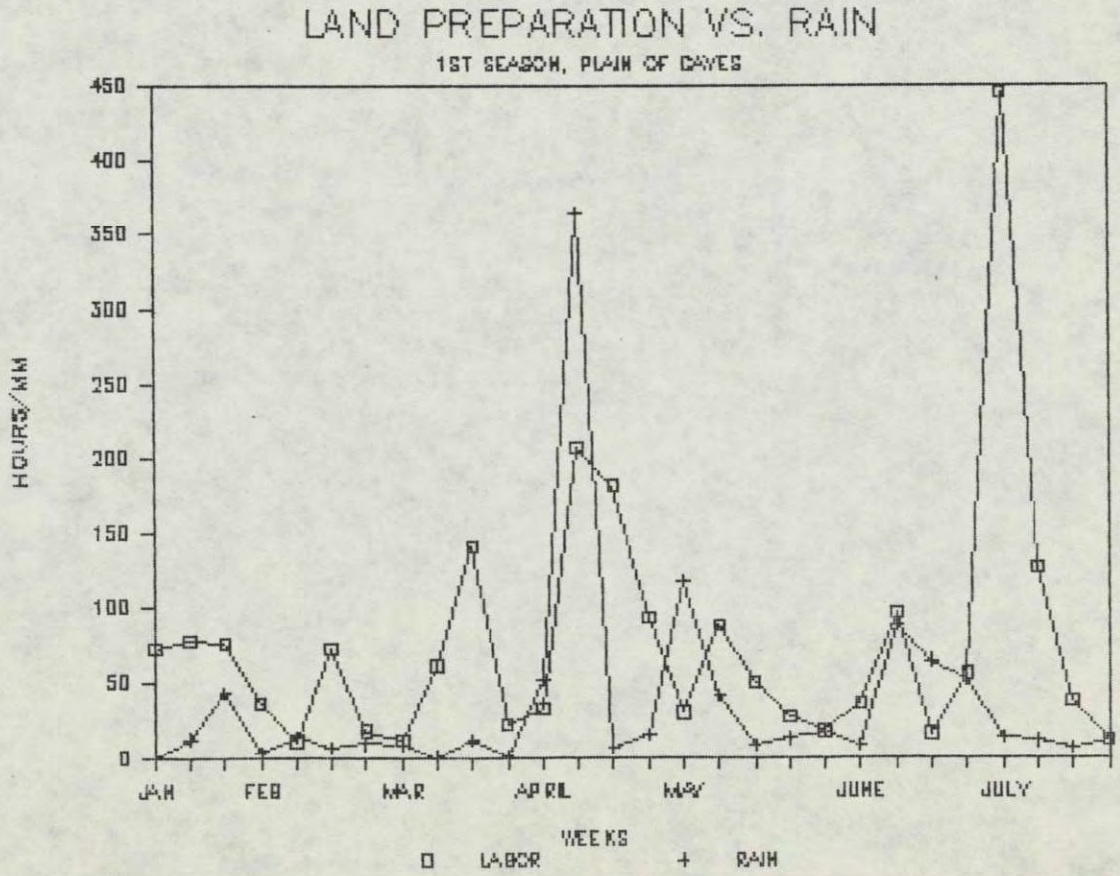
Fond-des-Freres

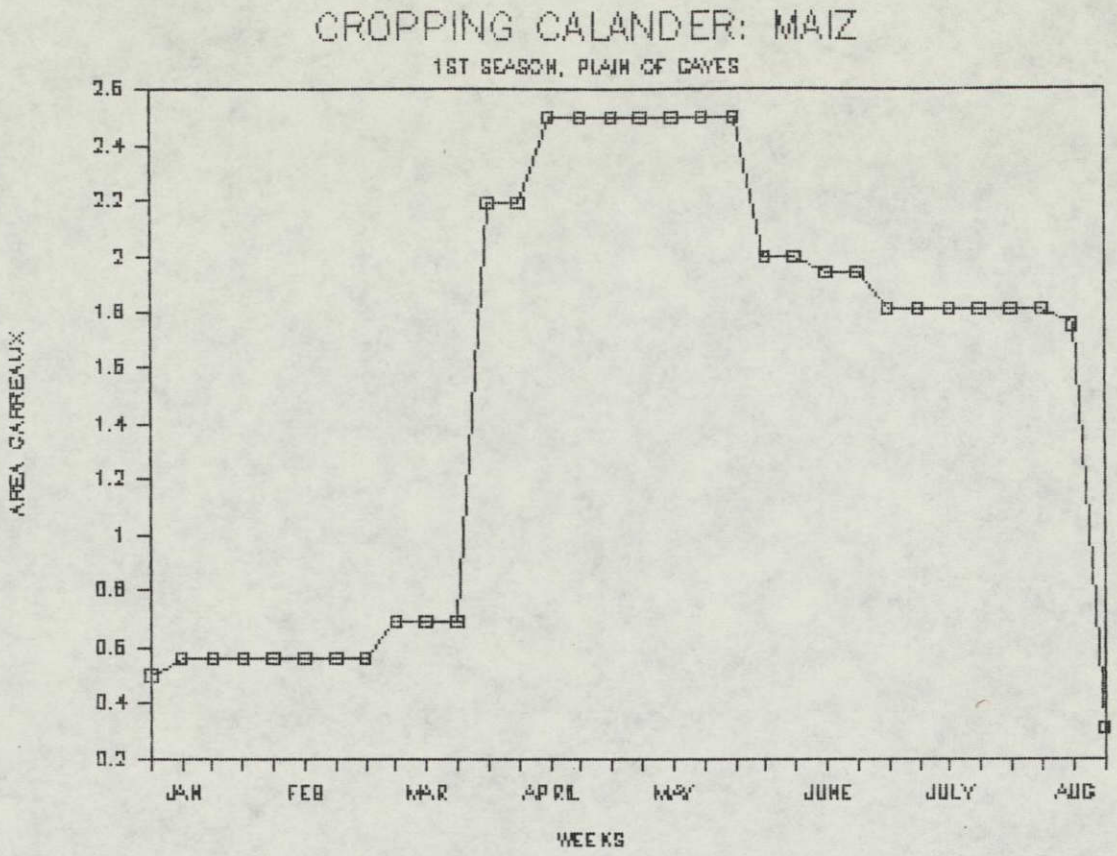
In both mountain and plain sites, the beginning of the rainy season marks the onset of land preparation and planting for the first cropping season. The planting season is more distinct in the mountain site of Fond-des-Freres, as no farmers possess irrigation. Observation of figure 1 shows the season's rainfall in millimeters plotted against labor utilized for planting. The correlation between the two events is evident. The primary crop in the first season, for both the mountain and non-irrigated plain sites, is maize. At the mountain site of Fond-des-Freres, initial plots were planted in the last week of January, while the peak cropping period lasted from mid-March to mid-May. The final harvest was in early August (see figure 2). The graph was based on information from 17 plots totalling 4.86 carreaux (6.27 ha) For black beans, often grown in association with maize, initial land preparation took place at the end of January, with the peak growing period occuring between late March and early June. All plots were harvested by mid June. Data for the graph was gathered from 7 plots totalling 2.45 carreaux (3.16 ha).

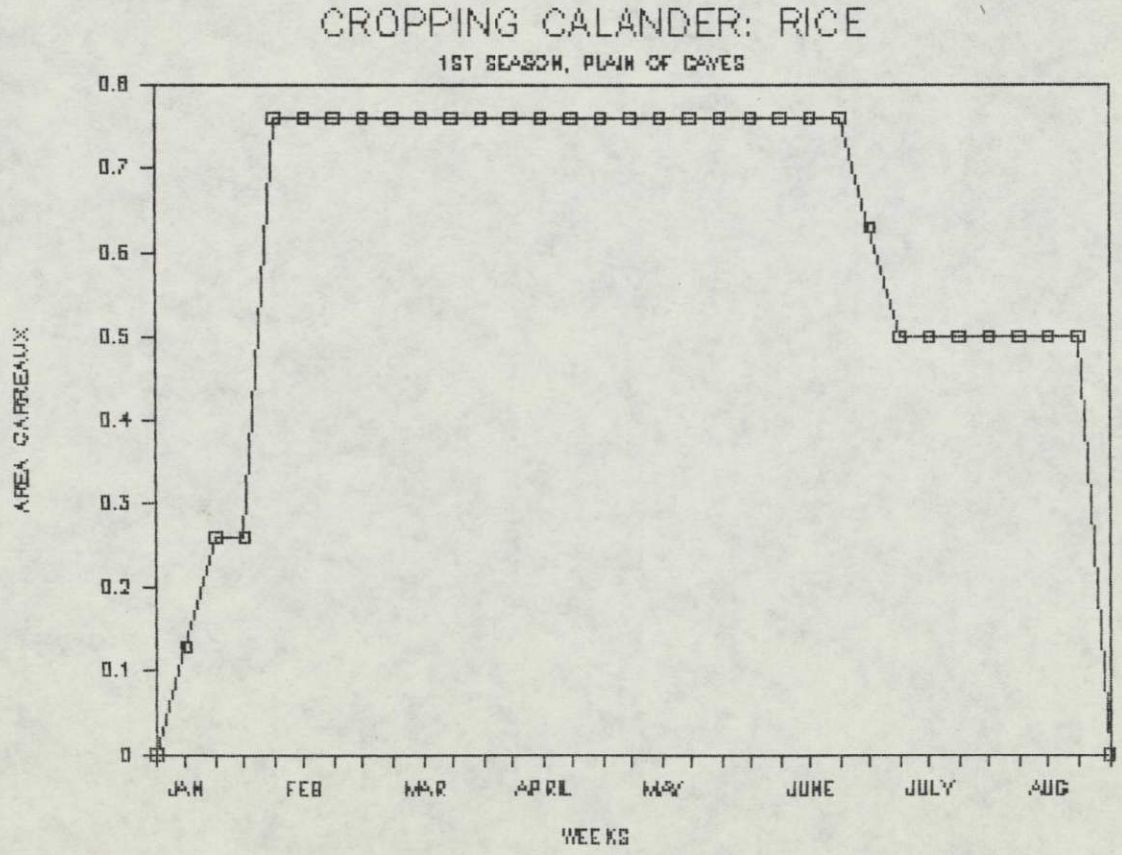
In the survey group, only two plots of sweet potatoes (figure 4) were harvested. Both were planted in mid-March, with the final plot harvested in mid-July. The total area was .38 carreaux (.49 ha).

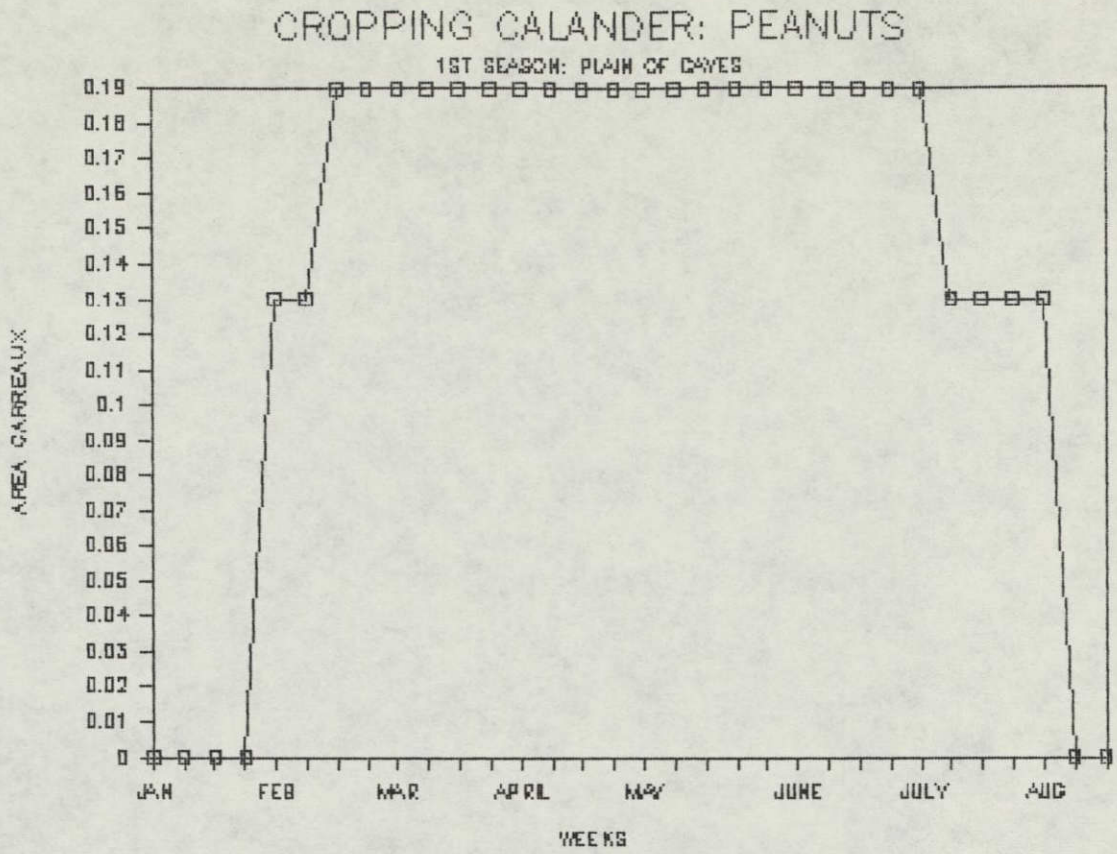
Other crops such as pois congo and pois rouge are commonly planted during the first season. These crops were planted but no harvests were reported. A drought during the months of March and April produced heavy crop failures, especially among secondary crops. Primary crops were often replanted, but beans, because they are susceptable to diseases flourishing in hotter weather, are seldom planted late in the season.


RAINFALL
1ST SEASON, PLAIN OF CAYES
MM
400
350
300
250
200
150
100
50
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
AUG
WEEKS


LAND PREPARATION VS. RAIN
1ST SEASON, PLAIN OF CAYES
HOURS/MM
450
400
350
300
250
200
150
100
50
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEKS
LABOR
RAIN


CROPPING CALANDER: MAIZ
1ST SEASON, PLAIN OF CAYES
AREA CARREAUX
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
AUG
WEEKS


CROPPING CALANDER: RICE
1ST SEASON, PLAIN OF CAYES
AREA CARREAUX
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
AUG
WEEKS


CROPPING CALANDER: PEANUTS
1ST SEASON: PLAIN OF CAYES
AREA CARREAUX
0.19
0.18
0.17
0.16
0.15
0.14
0.13
0.12
0.11
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
AUG
WEEKS

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The Plain of Cayes

As in Fond-des-Freres, the year brought unusually difficult conditions to farmers. Floods in late April significantly damaged many crops and forced the replanting of others. In addition, rains that normally fall in July and August did not come, delaying the planting of second season crops.

In 1987, the onset of the rainy season came later in the plain than in the mountain (see figure 5). In figure 6, one can see the heavy rains, correlated with land preparation commerced in April and lasted until mid-June; July and August were quite dry. The late April floods are also readily apparent in the graphs.

For the two sites in the plain, there are two distinct crops which predominate during the first season. In the irrigated plain, rice predominates, while in the non-irrigated areas, maize is the dominant culture. Maize (figure 7) is planted starting in mid-January, with the peak period for maize cultivation occuring between mid-April to late May. Early plantings can in general, be attributed to the presence of irrigation. Six plots were planted and harvested in the plain, two under irrigation. Total area under maize at the peak period was 2.5 carreaux (3.225 ha).

Three plots of rice totalling .98 ha, were planted and harvested by survey participants during the period of observation (figure 8). The first planting occured in late January with the last harvest in late August. The peak period occured between mid-February and early July.

Peanuts (figure 9) are often planted in association with maize on the plain. Of the two plots observed, the earlier planting took place at the end of February, and the last harvest occured in the middle of August. During the peak period of early March to late July, .19 carreaux (.25 ha) of peanuts were cultivated. Black bean is typically intercropped with maize during the first season, but no black bean crops were reported harvested by participants.

MAJOR ASSOCIATIONS

Tables 2 and 3 show the major associations observed on individual plots for Fond-des-Freres and the plain. In Fond-des-Freres, the major crop, maize, is intercropped with virtually all other crops in the area. Pois Congo is the most prevalent crop associated with maize, followed by black bean and manioc. Manioc is widely grown in association with various crops, but it almost univerally appears in association with sweet potato.

On the plain, maize is again the dominant crop, often appearing in association with manioc, banana, and peanut. Maize is commonly grown in association with black bean on the plain, but the small sample size, and weather problems resulted in no

MAJOR CROP ASSOCIATIONS: PLAIN OF CAYES

1ST SEASON, 1987

PLOT SIZE CARREAUX	MAIZE	RICE	PEANUT	BLACK BN	TARO	MANIOC	BANANA	SWEET POTA
1	0	0	0.104	0	0	0.052	0	0
0.5	0	0	0	0	0	0	0.125	0
0.13	0	0	0	0.039	0.039	0	0	0
0.16	0	0	0	0	0	0	0.09	0
0.06	0	0	0	0	0	0	0.25	0.25
0.13	0	0	0	0	0	0.09	0.5	0
0.13	0	0.117	0	0	0	0	0	0
0.25	0	0.054	0	0	0.006	0	0	0
0.5	0	0.475	0	0	0	0	0	0
0.09	0	0.171	0	0	0.019	0	0	0
0.19	0.095	0	0	0	0	0	0.19	0
0.31	0.375	0	0	0	0	0	0.1875	0
0.19	0.186	0	0	0	0	0	0	0.31
0.09	0.065	0	0	0	0	0.065	0	0
0.13	0.13	0	0	0	0	0	0	0
0.12	0.25	0	0	0	0	0	0	0
0.75	0.06	0	0.06	0	0	0.06	0	0
0.5	0.16	0	0	0	0	0.16	0	0
0.13	0.045	0	0	0	0	0	0.09	0
0.13	0.091	0	0.117	0	0.13	0	0	0
0.13	0.065	0	0	0	0.104	0	0	0
5.62	1.522	0.817 *	0.281 *	0.039 *	0.298 *	0.427 *	1.4325 *	0.56

MAJOR CROP ASSOCIATIONS: FOND-DES-FRERES

1ST SEASON, 1987

PLOT SIZE CARREAUX	MAIZE	BLACK BN	POIS CONG	MANIOC	SWEET POT	BANANA	IGNAME
0.25	0.2	0.2	0.15	0	0	0	0
0.5	0.5	0	0	0	0	0	0
0.5	0.5	0	0	0	0	0	0
0.12	0.084	0	0.084	0	0	0	0
0.06	0.06	0	0.06	0	0	0	0
0.12	0.072	0.024	0	0	0	0	0
0.09	0.072	0	0	0	0	0	0
0.06	0.036	0.012	0.036	0	0	0	0
1	1	0	1	0	0	0	0
0.06	0.06	0	0.06	0	0	0	0
0.13	0.13	0	0.13	0	0	0	0
0.13	0.13	0	0.13	0	0	0	0
0.31	0.062	0	0	0.279	0	0	0
0.09	0.09	0.09	0	0.09	0.09	0	0
0.5	0.3	0.05	0.15	0.2	0.25	0	0
0.25	0.2	0	0.2	0.25	0.25	0	0
0.25	0.25	0.25	0	0.25	0.25	0	0
0.18	0.108	0.108	0.072	0.072	0.072	0	0
0.62	0.496	0	0	0.124	0.124	0	0
0.06	0	0	0	0	0.03	0.03	0.03
0.68	0	0	0	0.544	0.544	0	0
0.56	0	0	0	0.56	0	0	0
0.25	0	0	0	0.25	0.25	0	0
6.77	4.35	0.734 *	2.072 *	2.619 *	1.86 *	0.03 *	0.03

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such associations being reported. An unusual, but reported, combination was maize/taro. Taro is commonly grown in association with rice, planted along the borders of the paddy. Half of the rice plots reported crop associations with taro. Banana was the second largest crop in terms of area planted, and could be found in association with various other crops.

PARTIAL FARM BUDGETS

A handful of representative budgets have been constructed for the major associations in the two areas, maize/black bean, maize/sweet potato, and maize monoculture in the mountian area, and rice, and maize/peanut for the Plain of Cayes. The budgets were selected based on the presence of a complete cropping cycle (planting through harvesting), the reliability of the information collected, and verification of the plot size (involving project agronomes measuring each plot).

Each budget shows one particular plot's labor use, costs, planting dates, and yields during the first season of 1987. However, no pretense is made that the budgets reflect typical conditions at each site for any time period beyond the season in question. Without information for other years, especially for yield data, it is difficult to generalize about particular crop associations or generalize between crop associations. One is least able to generalize from the harvest and revenue data since these vary considerably from season to season. On the other hand, labor use is thought to be fairly stable, with little seasonal change in crop and crop association labor requirements. In order to enhance the interpretation of the budgets, in addition to the yield for that particular plot, average yields, obtained from ADS II estimates of yields over three seasons for each site, are presented. These yields are used to provide revenue information for a "typical year". Even these figures must be interpreted with caution because they represent only three season's worth of data. The average yield information is only available for the major crops. Therefore, for crops such as peanuts and sweet potatoes, yields remained unchanged in the comparisions.

All budget information is presented on a per hectare basis. Necessarily, this requires that the information be extrapolated from (usually) smaller plot sizes. The authors consider this a valid, and in fact, necessary procedure in order to compare budgets across crops. In addition, budgets are presented in a cropping calander format, with activities broken down on a per month basis, and labor separated into family, paid and, in-kind.

Yields were reported by farmers utilizing various measures, e.g., marmite, panier, sac, and diacute. These measurements were converted to kilograms using the unsigned Ministry of Agriculture document "Equivalence des Measures Locales en Livres".

PARTIAL FARM BUDGETS PER HECTARE

LOCATION: LES CAYES
TOPOGRAPHY: MOUNTAIN
DATE: FIRST SEASON, 1987

CROP ASSOCIATION: MAIZE

LABOR: MAN HOURS	MARCH H	MARCH OH	MARCH P	MARCH $	APRIL H	APRIL OH	APRIL P	APRIL $	MAY H	MAY OH	MAY P	MAY $	JUNE H	JUNE OH	JUNE P	JUNE $	JULY H	JULY OH	JULY P	JULY $	AUG H	AUG OH	AUG P	AUG $	TOTAL H	TOTAL OH	TOTAL P	TOTAL $
Soil Prepara	104		151																						104	0	151	
Planting	18.		93.																						18.7	0	93.	
Weeding					127	67.	187		22.4	22.															149	89.	187	
Harvest																					21	183		6.7	21	183	0	
Other																									0	0	0	
Total	93.	0	228	31.	127	67.	187	21.	22.4	22.	0	1.8	0	0	0	0	0	0	0	0	26.	183	0	6.7	292.	273	432	

INPUTS	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	TOTAL QTY	TOTAL UNIT	TOTAL $
Seeds	10.	1	2.0																			10.4	KG	2.0

HARVEST(KG)	QTY	UNIT	$	TOTAL KG	TOTAL $
Maize	472	KG	94.	472	94.
Average/Ha Yield Maize				675	135

CODES
H = HOUSEHOLD LABOR (HRS)
OH = NON-PAID LABOR OUTSIDE HOUSEHOLD (HRS)
P = PAID LABOR (HRS)

ASSUMPTIONS
HOUSEHOLD AND PAID LABOR VALUED AT $ 0.15/HOUR
PRICE OF MAIZE $ 0.20/KG

ASSUMPTIONS
PRICE MAIZE $0.20/KG
HOUSEHOLD & NON-HOUSEHOLD UNPAID LABOR VALUED AT $0.17/HOUR

$ = AMOUNT PAID TO HIRED LABOR AND EXPENSES IN KIND(GOURDES)

			WITH AVERAGE YIELD
GROSS REVENUE =	US $	94	135
LESS			
FAMILY LABOR COSTS =		43.	43.
HIRED LABOR COSTS =		64.	64.
OTHER LABOR COSTS =		41.	41.
OTHER INPUTS =		2.0	2.0
TOTAL VARIABLE COSTS =	US $	151	151
GROSS MARGIN/HA,WITH IMPLICIT LABOR	=	-57	-16
GROSS MARGIN/HA, WITHOUT IMPLICIT LABOR	=	50.	91.

LOCATION: LES CAYES
TOPOGRAPHY: MOUNTAIN
DATE: FIRST SEASON, 1987

CROP ASSOCIATION: MAIZE/SWEET POTATO/BLACK BEAN

LABOR: MAN HOURS	JAN H	JAN OH	JAN P	JAN $	FEB H	FEB OH	FEB P	FEB $	MARCH H	MARCH OH	MARCH P	MARCH $	APRIL H	APRIL OH	APRIL P	APRIL $	MAY H	MAY OH	MAY P	MAY $	JUNE H	JUNE OH	JUNE P	JUNE $	JULY H	JULY OH	JULY P	JULY $	TOTAL H	TOTAL OH	TOTAL P	TOTAL $
Soil Preparation									55.	20.	29																		55.1	20.	29	
Planting									29		258		40.		34.														69.6	0	292	
Weeding															188														0	0	188	
Harvest																	23								29	87			52	87	0	0
Other									52.	29																			52.2	29	0	0
Total									136	49.	287	0	40.	0	223	0	23	0	0	0	0	0	0	0	29	87	0	0	228.	136	510	

INPUTS	JAN QTY	JAN UNIT	JAN $	FEB QTY	FEB UNIT	FEB $	MARCH QTY	MARCH UNIT	MARCH $	APRIL QTY	APRIL UNIT	APRIL $	MAY QTY	MAY UNIT	MAY $	JUNE QTY	JUNE UNIT	JUNE $	JULY QTY	JULY UNIT	JULY $	TOTAL QTY	TOTAL UNIT	TOTAL $
Seeds(maize)							8.1	kg	1.6													8.12	kg	1.6
Seeds(sweet pot)																								
Seeds(Black Bean)							14	kg														14	kg	12.
Fertilizer										2.7	kg											2.78	kg	0.5

HARVEST(KG)	JAN QTY	JAN UNIT	JAN $	FEB QTY	FEB UNIT	FEB $	MARCH QTY	MARCH UNIT	MARCH $	APRIL QTY	APRIL UNIT	APRIL $	MAY QTY	MAY UNIT	MAY $	JUNE QTY	JUNE UNIT	JUNE $	JULY QTY	JULY UNIT	JULY $	QTY	UNIT	$
Maize																			552.	kg		552.	kg	110
Sweet potato																			1049	kg		1049	kg	178
Black Bean													17	kg								17	kg	15
AVERAGE YIELD																								
Maize																						500	kg	100
Black Bean																						225	kg	202

CODES
H = HOUSEHOLD LABOR (HRS)
OH = NON-PAID LABOR OUTSIDE HOUSEHOLD (HRS)
P = PAID LABOR (HRS)
$ = AMOUNT PAID TO HIRED LABOR (GOURDES)

ASSUMPTIONS
HOUSEHOLD LABOR VALUED AT $ 0.17/HOUR
PRICE OF MAIZE $ 0.20/KG

ASSUMPTIONS
MAIZE PRICE US $0.20/KG
SWEET POTATO PRICE US $0.17/KG
FERTILIZER PRICE US $0.20/KG
ALL LABOR VALUED AT US $ 0.15/HR
BLACK BEAN PRICE IS US $ 0.90/KG

		INDIVIDUAL YIELD	AVERAGE YIELD
GROSS REVENUE	=	US$ 303	480
LESS			
FAMILY LABOR COSTS	=	34.	
HIRED LABOR COSTS	=	76.	
OTHER LABOR COSTS	=	20.	
OTHER INPUTS	=	2.1	
TOTAL VARIABLE COSTS	=	US$ 133	
GROSS MARGIN/HA,WITH IMPLICIT LABOR		US$ 170	347
GROSS MARGIN/HA, WITHOUT IMPLICIT LABOR		US$ 225	402

[illegible] PER HECTARE

LOCATION: LES CAYES
TOPOGRAPHY: MOUNTAIN
DATE: FIRST SEASON, 1987

CROP ASSOCIATION: MAIZE /BLACK BEAN

LABOR: MAN HOURS	JAN H	JAN OH	JAN P	JAN $	FEB H	FEB OH	FEB P	FEB $	MARCH H	MARCH OH	MARCH P	MARCH $	APRIL H	APRIL OH	APRIL P	APRIL $	MAY H	MAY OH	MAY P	MAY $	JUNE H	JUNE OH	JUNE P	JUNE $	JULY H	JULY OH	JULY P	JULY $	TOTAL H	TOTAL OH	TOTAL P	TOTAL $
Soil Prepara					46	22.	91.		17		34																		63	22	125	0
Planting									36	9.5	28.																		36	9.5	28.	0
Weeding									65		34		78	59	182		24.		89.		9.5	28.	38		11.4	34.	45.		186	121.	388	0
Harvest																					11.				30.4				41.	0	0	0
Other																													0	0	0	0
Total	0	0	0	0	46	22.	91.	0	118	9.5	96.	0	78	59	182	0	24.	0	89.	0	20.	28.	38	0	41.8	34.	45.	0	326	153.	542	0

INPUTS	JAN QTY	JAN UNIT	JAN $	FEB QTY	FEB UNIT	FEB $	MARCH QTY	MARCH UNIT	MARCH $	APRIL QTY	APRIL UNIT	APRIL $	MAY QTY	MAY UNIT	MAY $	JUNE QTY	JUNE UNIT	JUNE $	JULY QTY	JULY UNIT	JULY $	TOTAL QTY	TOTAL UNIT	TOTAL $
Seeds(maize)							1.9	kg	0.2													1.9	kg	0.2
Seeds(Black							2.66	kg	2.6													2.6	kg	2.6

HARVEST(KG)	TOTAL kg	TOTAL $
Maize		
Black Bean	135	27
AVERAGE YIEL	35	31.
Maize	675	135
Black Bean	225	202

CODES
H = HOUSEHOLD LABOR (HRS)
OH = NON-PAID LABOR OUTSIDE HOUSEHOLD (HRS)
P = PAID LABOR (HRS)
$ = AMOUNT PAID TO HIRED LABOR (GOURDES)

ASSUMPTIONS
ALL LABOR VALUED AT $ 0.15/HOUR
PRICE OF MAIZE $ 0.20/KG
PRICE OF BLACK BEANS $0.90

		INDIVIDUAL YIELD	AVERAGE YIELD
GROSS REVENUE	=	US $ 58.5	$ 337.
LESS			
FAMILY LABOR COSTS	=	49.0	
HIRED LABOR COSTS	=	81.3	
OTHER LABOR COSTS	=	22.9	
OTHER INPUTS	=	2.86	
TOTAL VARIABLE COSTS	=	US $ 156.	

GROSS MARGIN/HECTARE, WITH IMPLICIT LABOR	US $	-97.	181.
GROSS MARGIN/HECTARE, WITHOUT IMPLICIT LABOR	US $	-25.	253.

LOCATION: LES CAYES
TOPOGRAPHY: IRRIGATED PLAIN
DATE: FIRST SEASON, 1987

CROP ASSOCIATION: RICE

LABOR: MAN HOURS	JAN				FEB				MARCH				APRIL				MAY				JUNE				JULY				TO TAL			
	H	OH	P	$	H	OH	P	$	H	OH	P	$	H	OH	P	$	H	OH	P	$	H	OH	P	$	H	OH	P	$	H	OH	P	$
Soil Prepara	29.	29.			213	166			29.4	161																			271	357.	0	0
Seeding	19.	19.																											19.	19.6	0	0
Transplantin									36.7	186			249.	254															286	441	0	0
Weeding																	147	147											147	147	0	0
Harvest																									49	49	39.		49	49	39.	0
Other																																
Total	49	49	0	0	213	166	0	0	66.1	347	0	0	249.	254	0	0	147	147	0	0	0	0	0	0	49	49	39.	0	774	1014	39.	0

INPUTS	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	TOTAL QTY	UNIT	$
Seeds	14.	kg	5.6																			14.	kg	5.6
Fertilizer																								
Other																								

HARVEST(KG)																						TOTAL kg	$
Rice																			1465	kg		1465	586
AVERAGE YIEL RICE																						1400	560

CODES
H = HOUSEHOLD LABOR (HRS)
OH = NON-PAID LABOR OUTSIDE HOUSEHOLD (HRS)
P = PAID LABOR (HRS)
$ = AMOUNT PAID TO HIRED LABOR (GOURDES)

ASSUMPTIONS
H/HOLD & NON H/HOLD UNPAID LABOR VALUED AT $ 0.17/HOUR
PAID LABOR VALUED AT $ 0.25/HR
PRICE OF UNMILLED RICE $ 0.40/KG
N.B: NO ACTIVITIES IN JUNE

		INDIVIDUAL YIELD	AVERAGE YIELD
GROSS REVENUE	US $	586	560
LESS			
FAMILY LABOR COS		131	131
HIRED LABOR COST		9.7	9.7
OTHER LABOR COST		172	172
OTHER INPUTS		5.6	5.6
TOTAL VARIABLE C	US$	318	318
GROSS MARGIN/HECTARE, WITH IMPLICIT LABOR	US $	267.	241
GROSS MARGIN/HECTARE, WITHOUT IMPLICIT LABOR	US $	570.	544

PARTIAL FARM BUDGETS PER HECTARE

LOCATION: LES CAYES
TOPOGRAPHY: PLAIN
DATE: FIRST SEASON, 1987

CROP ASSOCIATION: MAIZE /PEANUT

LABOR: MAN HOURS	JAN H	JAN OH	JAN P	JAN $	FEB H	FEB OH	FEB P	FEB $	MARCH H	MARCH OH	MARCH P	MARCH $	APRIL H	APRIL OH	APRIL P	APRIL $	MAY H	MAY OH	MAY P	MAY $	JUNE H	JUNE OH	JUNE P	JUNE $	JULY H	JULY OH	JULY P	JULY $	TOTAL H	TOTAL OH	TOTAL P	TOTAL $
Soil Prep/																																
Planting		14.	129						33.3																				33	14.8	129	
Weeding					53.		51.																						55.	0	51.	
Harvest																					14.	14.				107			14.	14.8	107	
Other																																
Total	0	14.	129	0	55.	0	51.	0	33.3	0	0	0	0	0	0	0	0	0	0	0	14.	14.	0	0	0	0	107	0	103	29.6	288	

INPUTS	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	QTY	UNIT	$	TOTAL QTY	TOTAL UNIT	TOTAL $
Seeds(maize)	1.9	kg	0.2																								
Seeds(Black	2.6	kg	2.6																								

HARVEST(kg)	TOTAL kg	TOTAL $
Maize		
Peanut	248	49.
AVERAGE YIEL	100.	41.
Maize		
	580	116

CODES
H = HOUSEHOLD LABOR (HRS)
OH = NON-PAID LABOR OUTSIDE HOUSEHOLD (HRS)
P = PAID LABOR (HRS)
$ = AMOUNT PAID TO HIRED LABOR (GOURDES)

ASSUMPTIONS
H/HOLD & NON H/HOLD UNPAID LABOR VALUED AT $ 0.17/HOUR
PAID LABOR VALUED AT $ 0.25/HR
PRICE OF MAIZE $ 0.20/KG
PRICE OF PEANUTS $ .60/KG

		INDIVIDUAL YIELD	AVERAGE YIELD
GROSS REVENUE	=	US $ 90.8	157.
LESS			
FAMILY LABOR COSTS	=	17.5	
HIRED LABOR COSTS	=	72.1	
OTHER LABOR COSTS	=	5.03	
OTHER INPUTS	=	0	
TOTAL VARIABLE COSTS	=	US $ 94.7	
GROSS MARGIN/HECTARE, WITH IMPLICIT LABOR		US $ -3.9	62.4
GROSS MARGIN/HECTARE, WITHOUT IMPLICIT LABOR		US $ 18.6	85.0

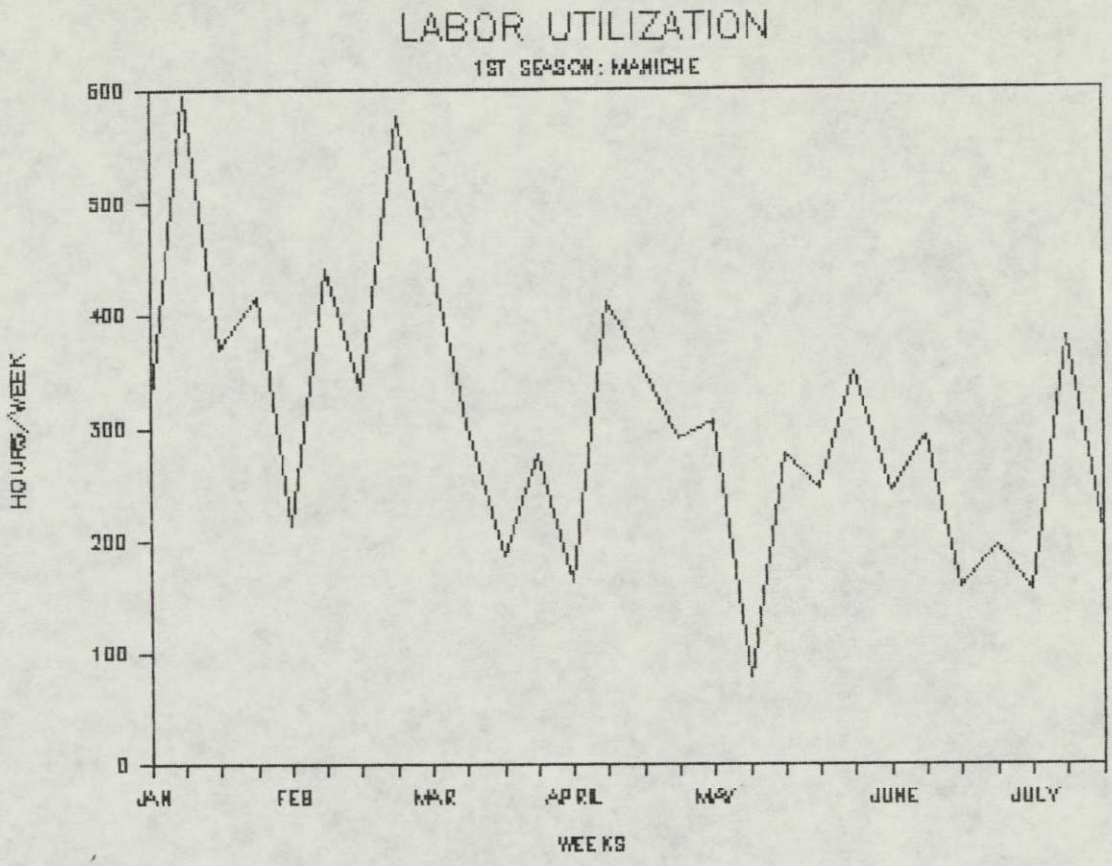
N.B: NO ACTIVITIES IN APRIL/MAY

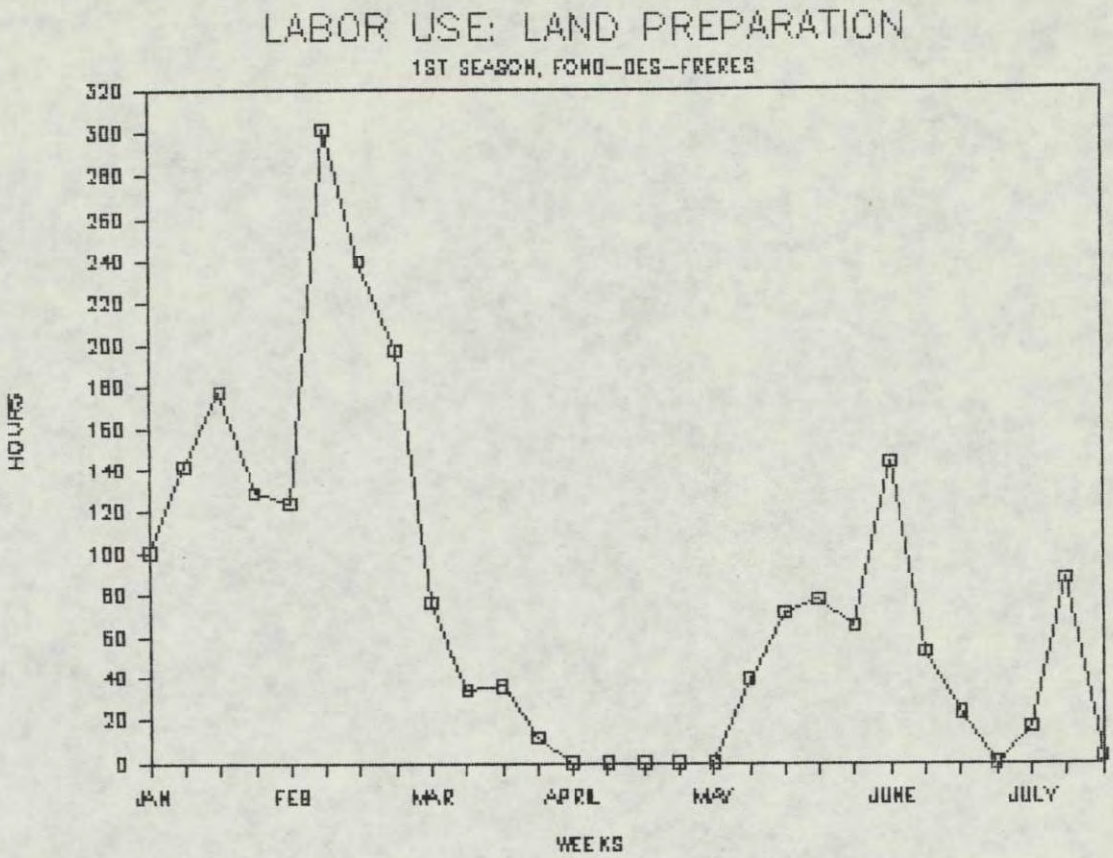
BEST AVAILABLE

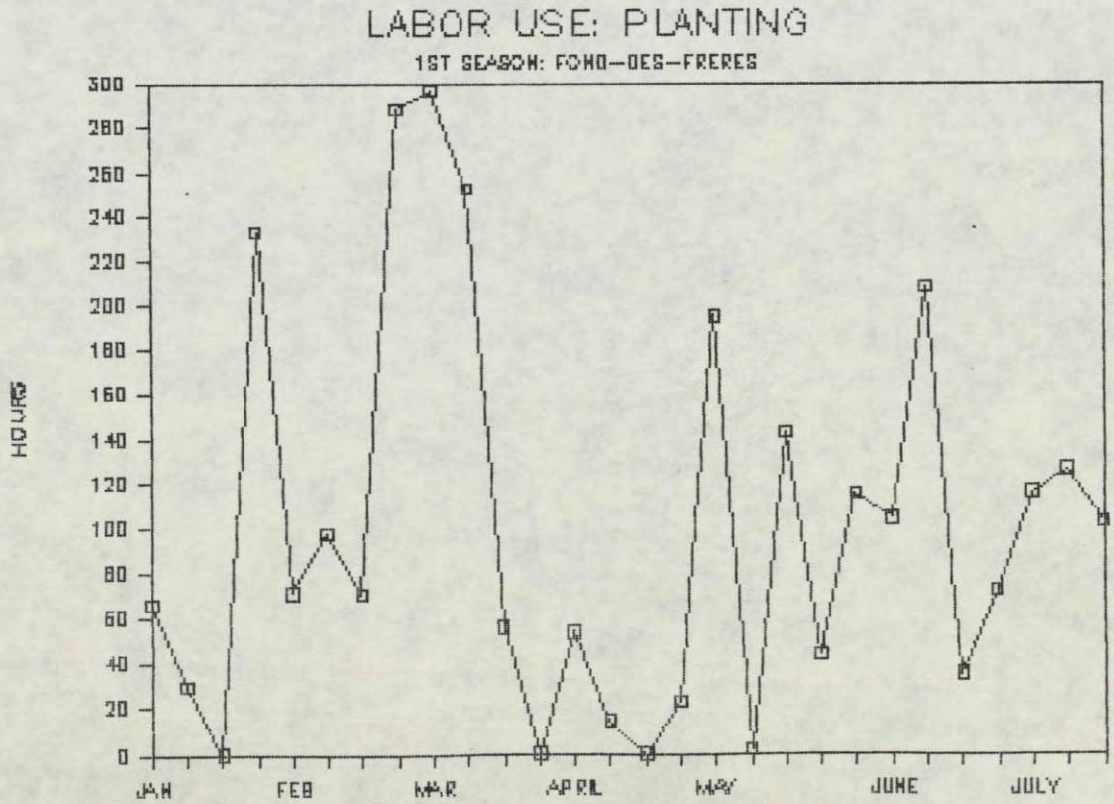
Family labor and in-kind labor wages in the plain were set at $ 0.17/hr, and the hired labor wage rate was valued at $0.25/hr. The figures relect the average wage rates reported for in-kind and hired labor in the sample group. Family labor rates were set equal to in-kind labor because of lack of a better benchmark. Since the head of household's labor dominates household labor contributions in the sample group, this is not expected to affect the results significantly. The wage rate in Fond-des-Freres is set at $ 0.15/hr for both family/in-kind and hired labor. Wages and in-kind renumeration were virtually the same price. The difference in wages between Fond-des-Freres and the plain may reflect greater employment opportunities on the plain, or, because of higher returns for plains crops, a higher marginal product of labor for the plains workers.

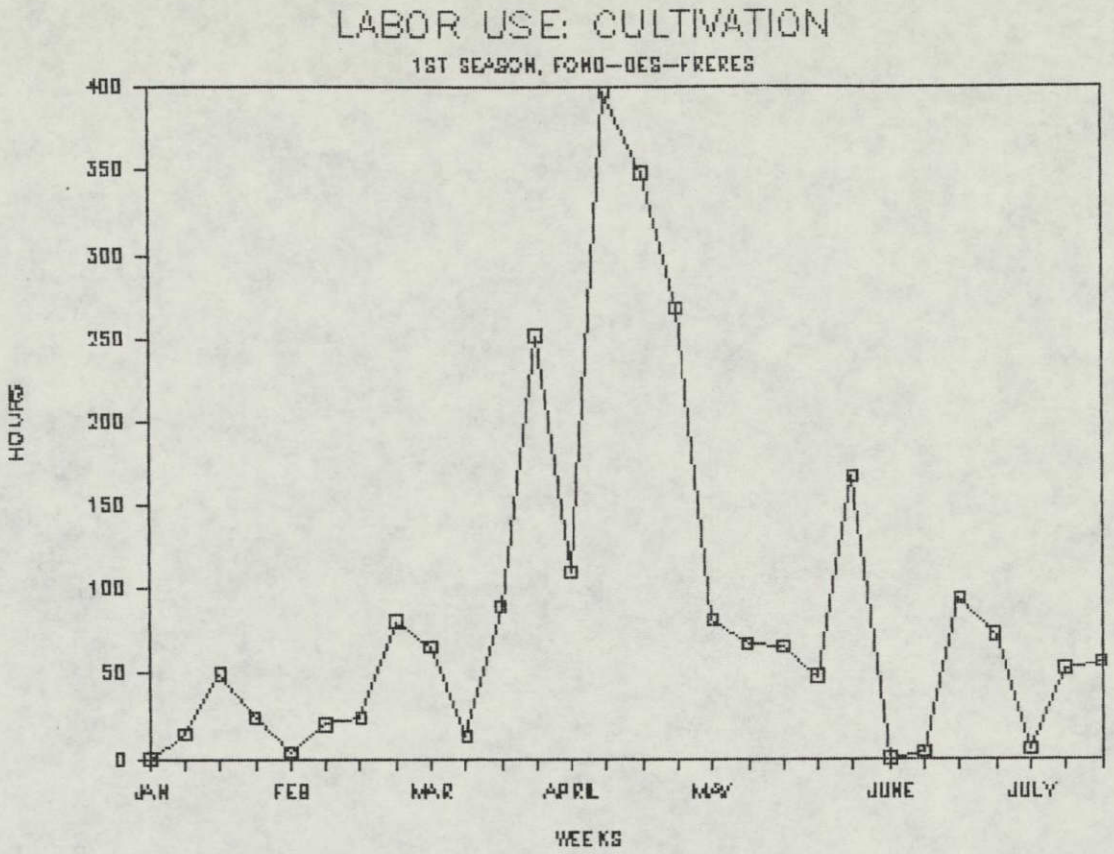
Observation of the maize monoculture and maize association budgets (Tables 4-6) in the Fond-des-Freres area, shows maize planted in all plots in February or March. Black bean is planted in March and April, and sweet potato is planted in April. Total labor use, and total hired labor use is highest in the maize/black bean association. The maize/sweet potato/black bean association provided the most revenue to the farmer and the highest revenue for average yields, attributable to the high price of black beans the high yield of sweet potatoes, and the lowest total labor use. This association also provided the largest quantity of harvested material, which may be an important consideration for farmers more concerned about subsistence rather than marketing their output (although some studies have indicated that Haitian peasant farmers first market their output and then consume the remainder). The maize mononculture and maize/black bean association gave the least return (negative), in part, due to a small harvest. Here, the implicit price given to family and in-kind labor becomes important. Yields were probably unexpectedly low, but nearly all crops show positive returns when the implicit labor cost is removed. Naturally, this labor cannot be valued at zero, and doubtlessly each head of household places an implicit value on his and his family's labor (and in-kind labor, because the household head is binding himself to reciprical labor obligations). A heavy emphasis on family and in-kind labor also maximizes the amount of cash the head of household retains, an important consideration for cash strapped households. The use of family and in-kind labor may help in reducing the risk a farmer faces from uncertain yields, and guarantees that he not incur debts or part with cash.

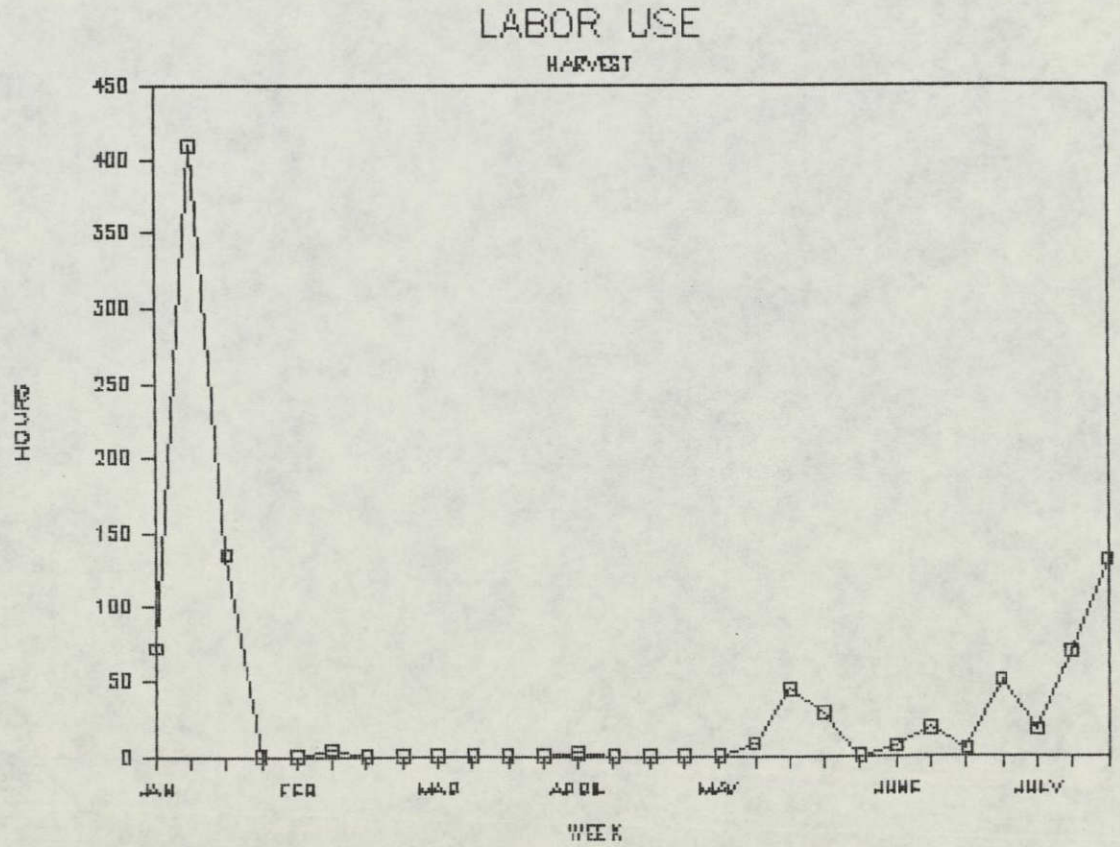
Among all crops, rice (Table 7), on the irrigated plain, provided the largest gross revenue per hectare. Rice farmers are often market oriented, and utilize more purchased inputs than other farmers. However, this farmer utilized no fertilizer, pesticides, or purchased inputs other than seeds. The farmer planted in January, and harvested in July. Little hired labor was used, and in-kind labor was especially evident during transplanting and weeding.

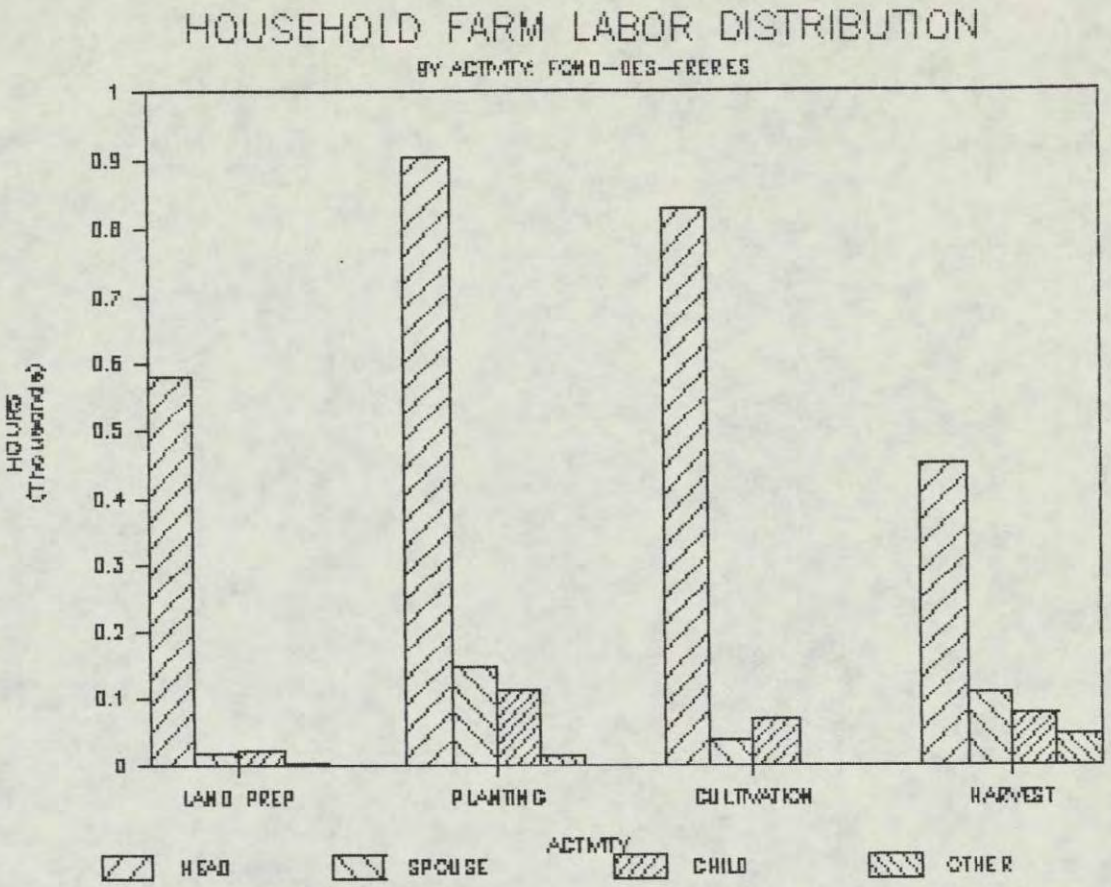

LABOR UTILIZATION
1ST SEASON: MAHICHE
600
500
400
300
200
100
0
HOURS/WEEK
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEKS

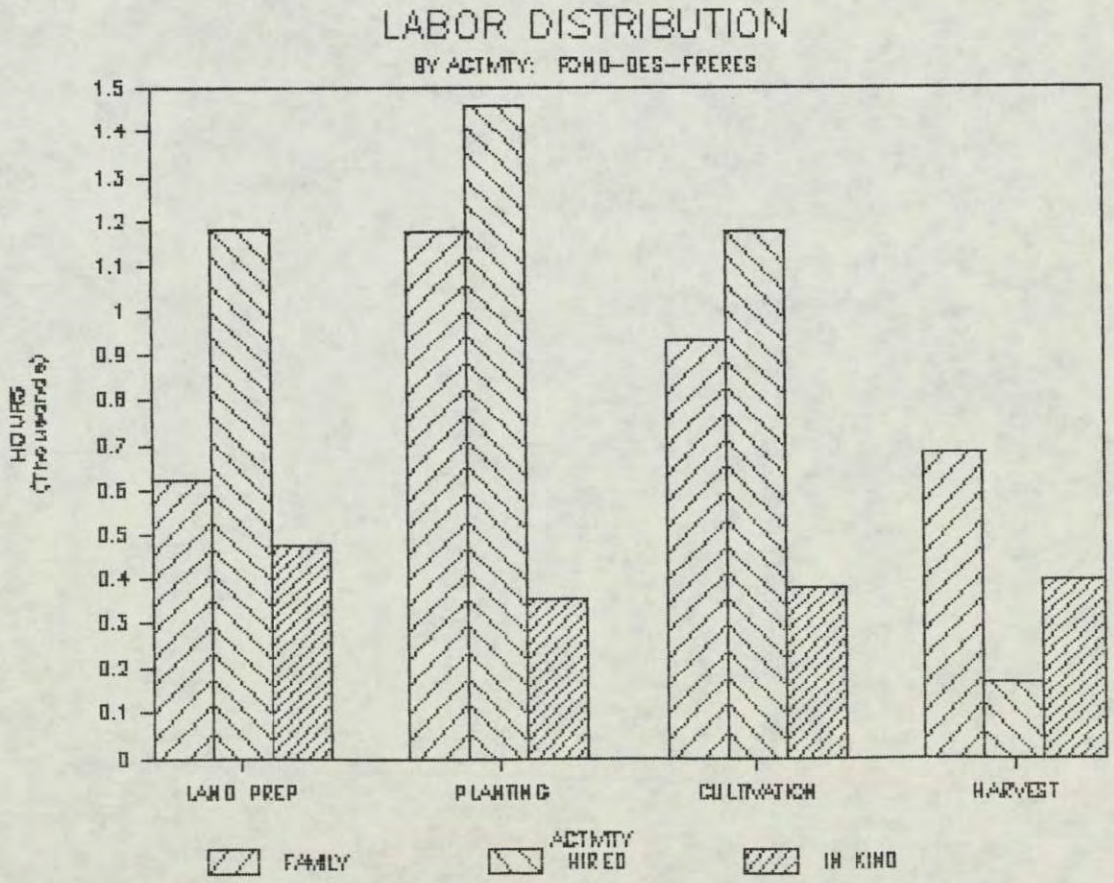

LABOR USE: LAND PREPARATION
1ST SEASON, FONO-DES-FRERES
HOURS
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEKS


LABOR USE: PLANTING
1ST SEASON: FONO-DES-FRERES
HOURS
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY


LABOR USE: CULTIVATION
1ST SEASON, FOMO-DES-FRERES
HOURS
400
350
300
250
200
150
100
50
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEKS


LABOR USE
HARVEST
HOURS
450
400
350
300
250
200
150
100
50
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEK


HOUSEHOLD FARM LABOR DISTRIBUTION
BY ACTIVITY: FOND-DES-FRERES
HOURS (Thousands)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
LAND PREP
PLANTING
CULTIVATION
HARVEST
ACTIVITY
HEAD
SPOUSE
CHILD
OTHER


LABOR DISTRIBUTION
BY ACTIVITY: FOND-DES-FRERES
HOURS (Thousands)
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
LAND PREP
PLANTING
CULTIVATION
HARVEST
ACTIVITY
FAMILY
HIRED
IN KIND

BEST AVAILABLE

BEST AVAILABLE

For the maize/peanut association (Table 8), peanuts were planted in January and maize seeded in March. The maize harvest was in June and peanut were harvested in July. Hired labor was used principally during soil preparation/planting and during the peanut harvest period. Revenues were low because of low yields and the large amount of hired labor used.

LABOR UTILIZATION

Fond-des-Freres

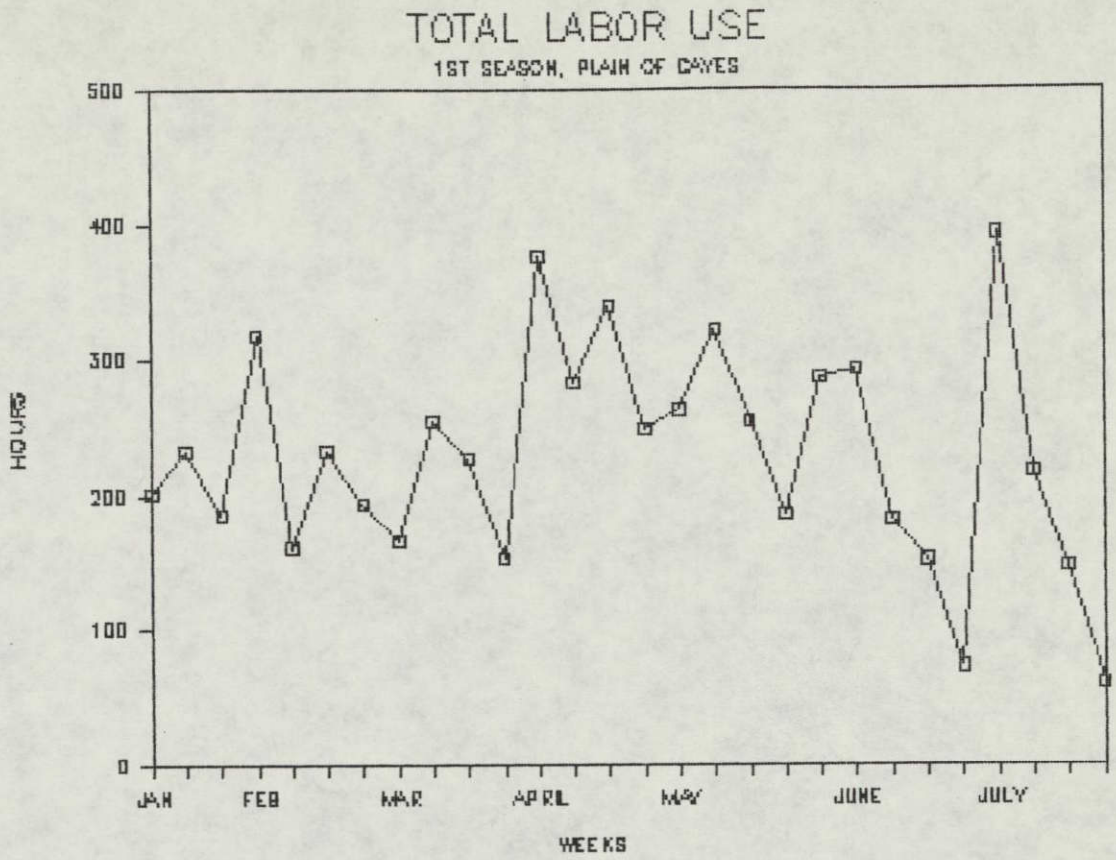
Figure 10 shows total labor use in the surveyed households over the 28 week period of the 1st season. Initial labor use in January is high, corresponding to the 2nd season sorghum harvest. Labor use again jumps in late February and March as land preparation and planting begin for the 2nd season. Labor use drops off but peaks again for periods of cultivation in April and harvest and further land preparation in June and July. Total labor use may be lower in June and July than normal because heavy crop failures reduced the harvest. Total labor use by activity is illustrated in figures 11-14.

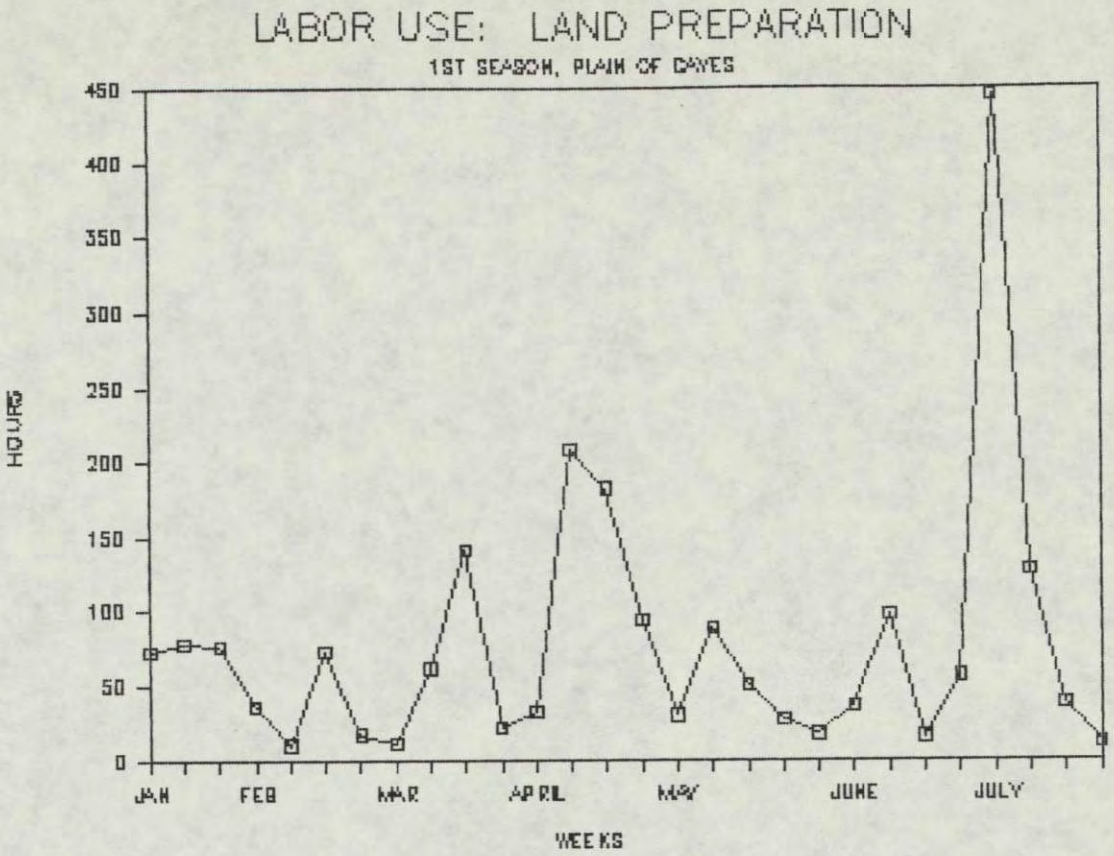
Figure 15 shows the distribution of labor among household, hired, and in-kind labor. Household labor is provided by the head of household, spouse, children, and other individuals living in the house. In-kind labor is usually provided by the combite, a team of farmers providing group labor to fellow members in exchange for work on their land and a meal. The combites also provide most of the hired labor in the area, either contracting out to other farmers or getting paid for supplemental work for other group members. Often hired workers are paid with portions of the harvest or other non-cash remittances. The distinguishing feature between in-kind and paid labor is not the exchange of cash or goods but in the reciprocal nature of in-kind labor. In Fond-des-Freres, hired labor predominates in all activities save harvesting. In-kind labor is relatively constant across activities. Planting requires the most family and hired labor. But family labor and in-kind labor are proportionally most important during the harvest. Family labor is proportionally least important during land preparation.

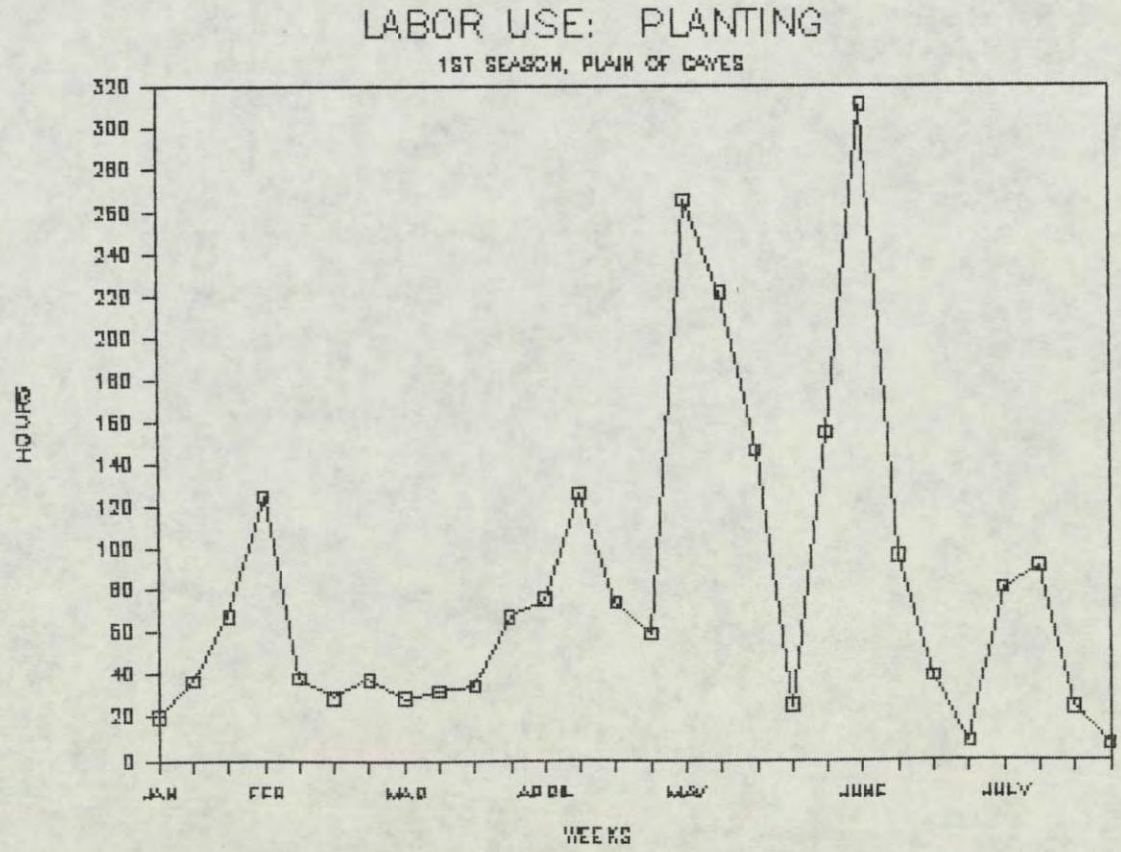
The distribution of farm labor within the household is described in figure 16. The head of household is the major source of labor for all activities, especially land preparation and cultivation. Other household labor (averaging 5.25 members/household) takes a more active role in the less physically demanding tasks of planting and harvesting.

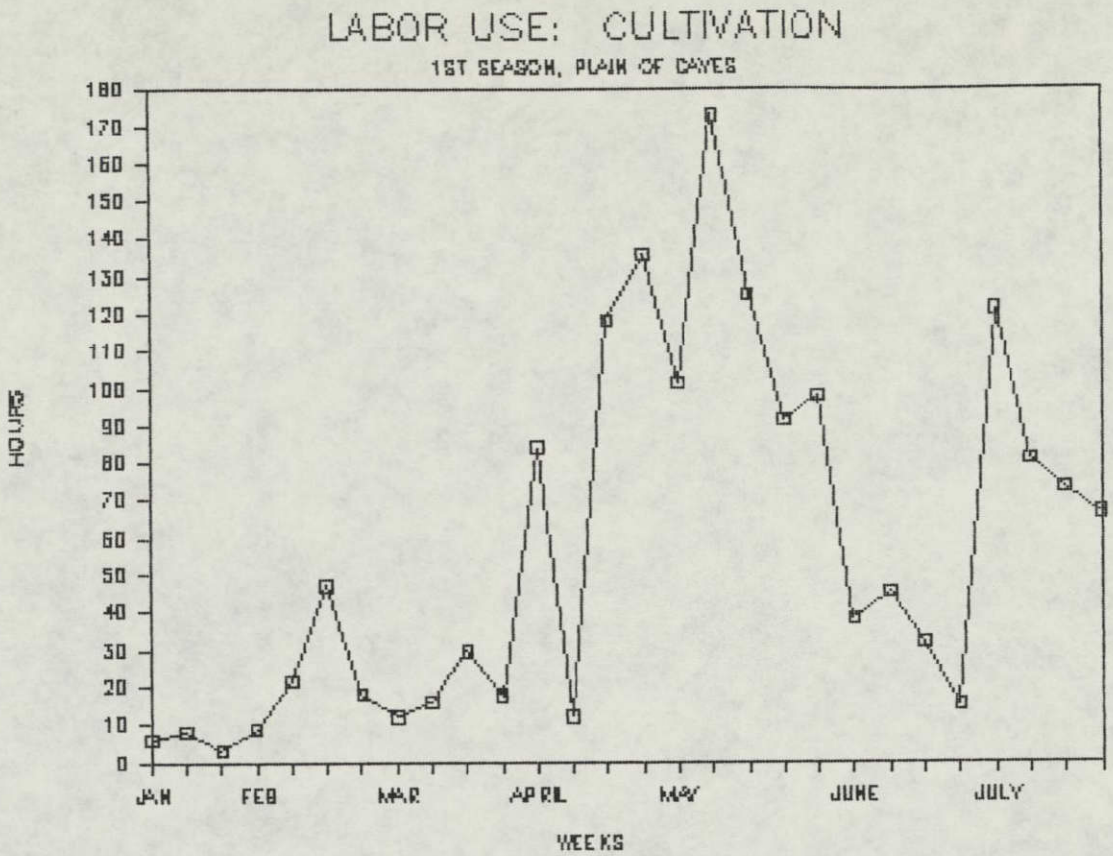
Plain of Cayes

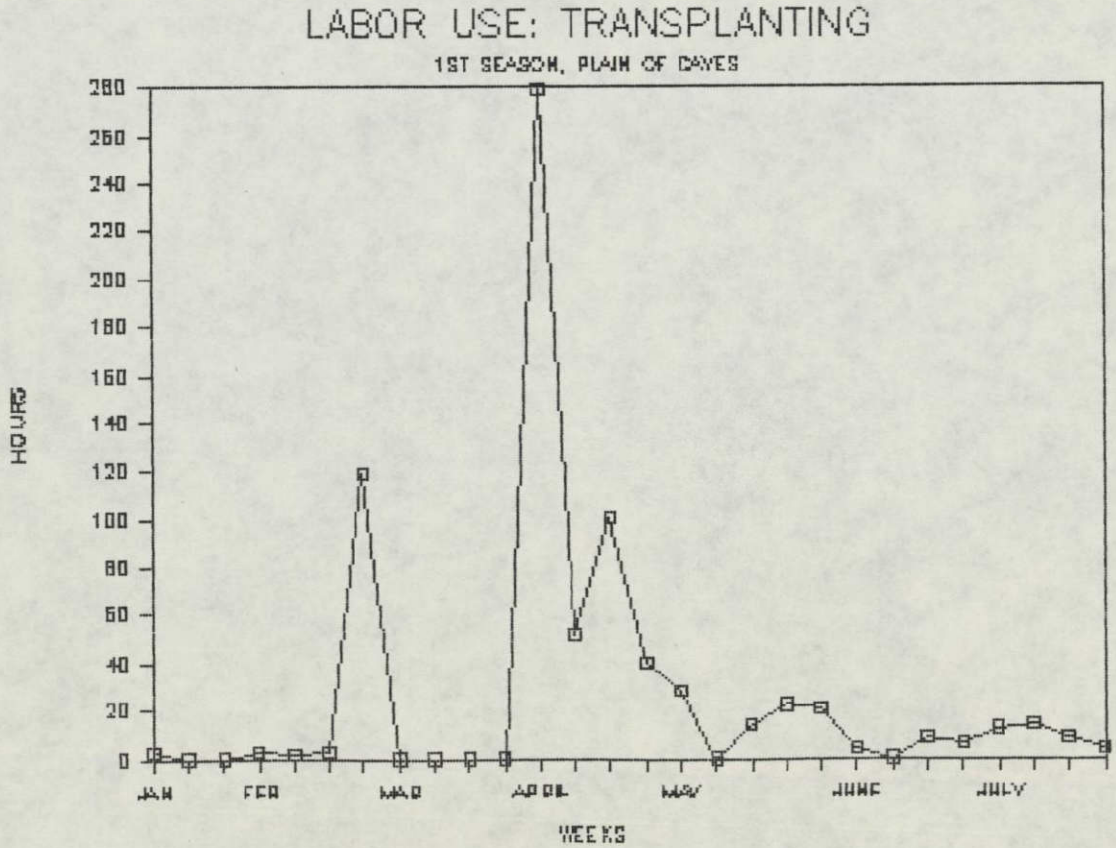
Figure 23 shows that planting is the most labor intensive activity in the plain, closely followed by land preparation. Harvesting and cultivation place virtually equal demands on

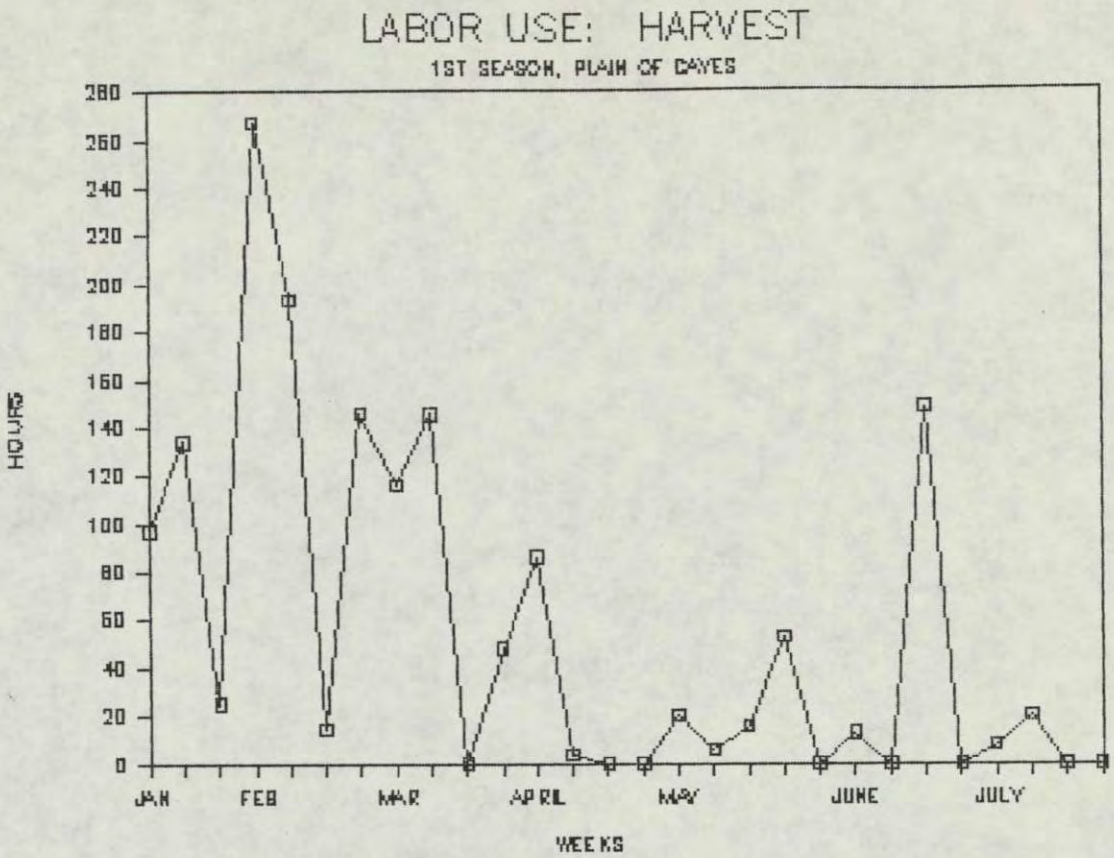

TOTAL LABOR USE
1ST SEASON, PLAIN OF GAYES
500
400
300
200
100
0
HOURS
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEKS

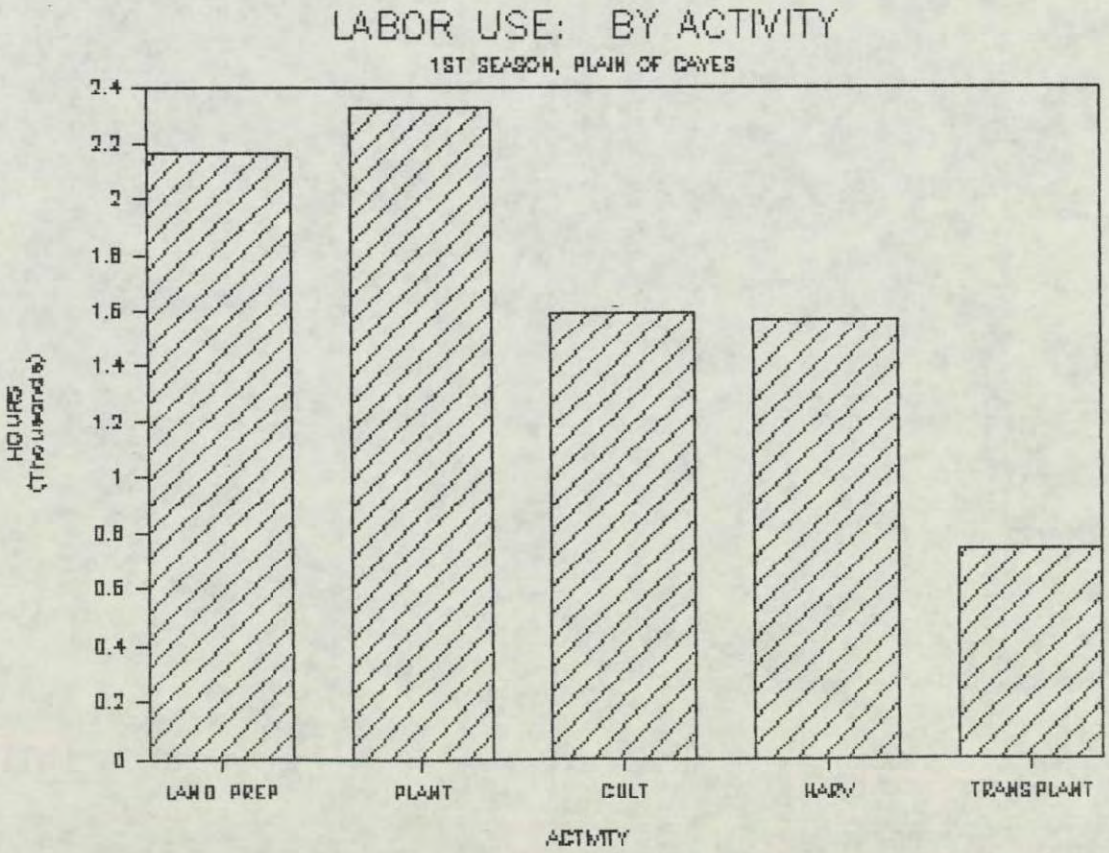

LABOR USE: LAND PREPARATION
1ST SEASON, PLAIN OF CAYES
HOURS
450
400
350
300
250
200
150
100
50
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEKS

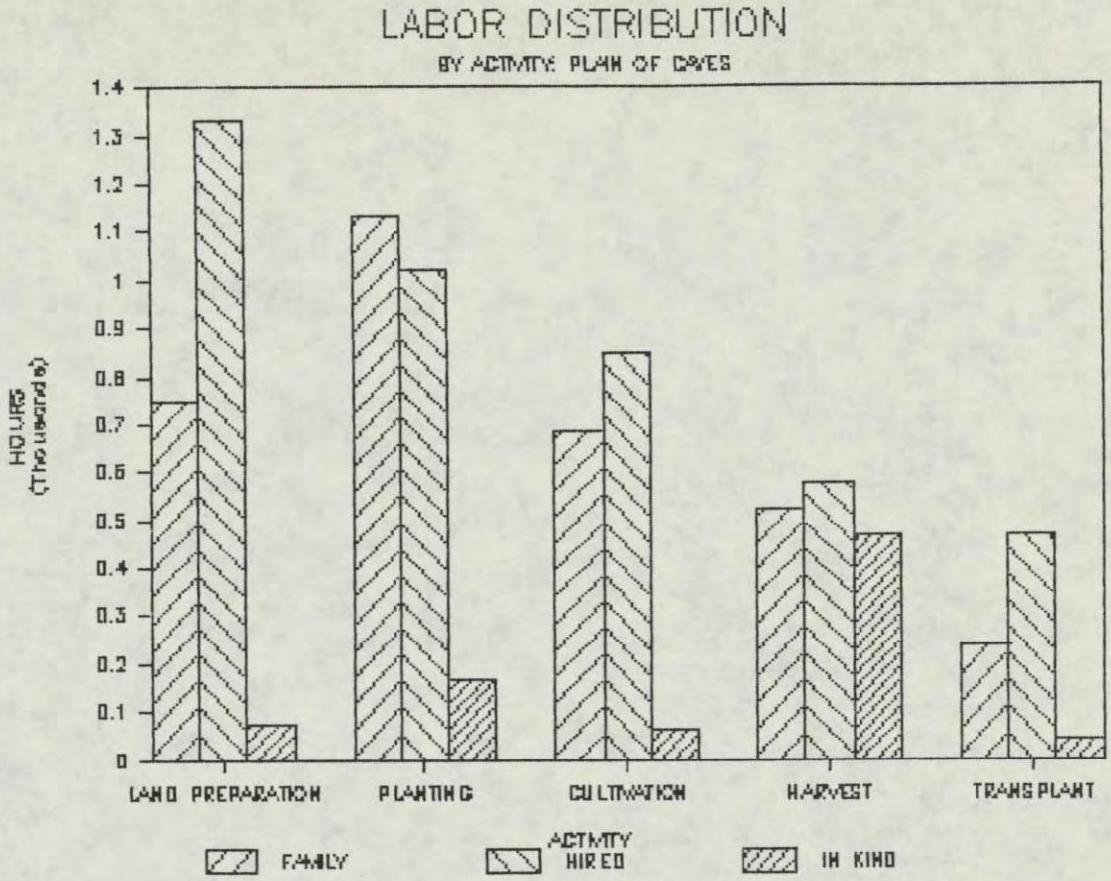

LABOR USE: PLANTING
1ST SEASON, PLAIN OF CAYES
HOURS
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEKS

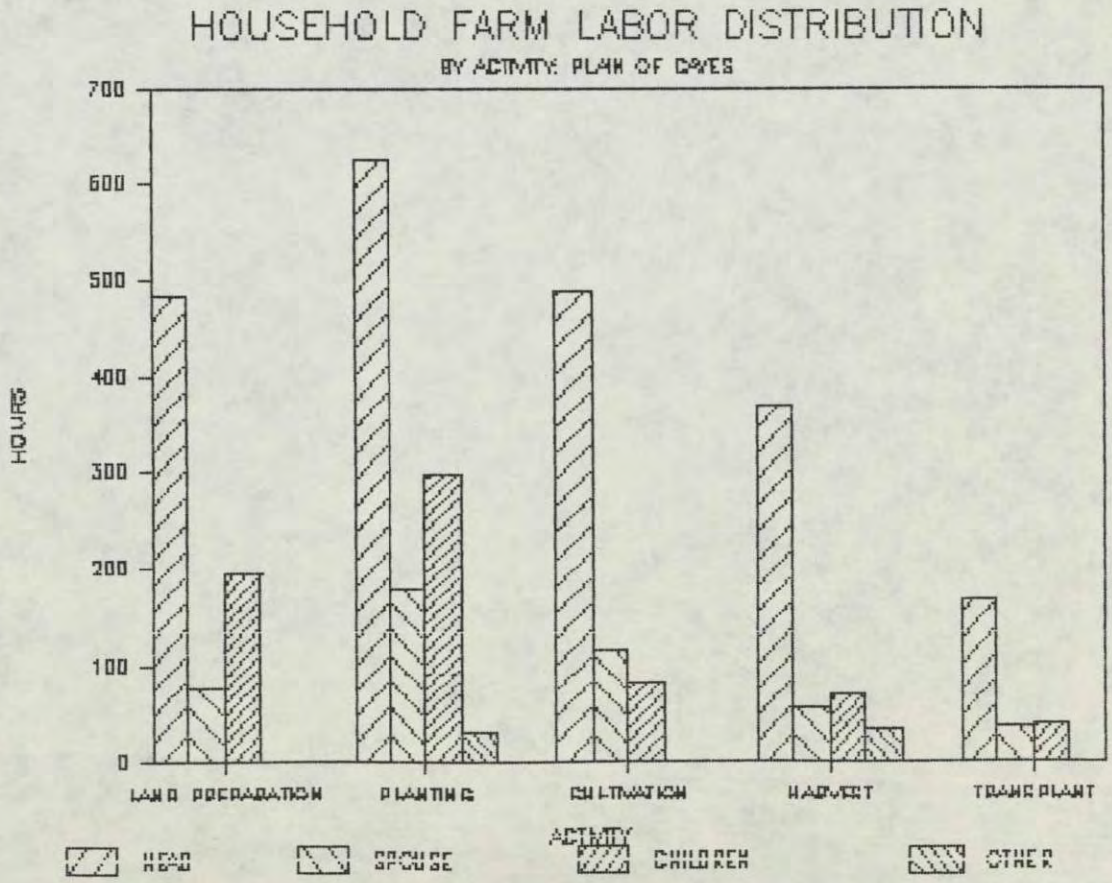

LABOR USE: CULTIVATION
1ST SEASON, PLAIN OF CAYES
HOURS
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEKS


LABOR USE: TRANSPLANTING
1ST SEASON, PLAIN OF CAYES
HOURS
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEKS


LABOR USE: HARVEST
1ST SEASON, PLAIN OF CAVES
HOURS
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
JAN
FEB
MAR
APRIL
MAY
JUNE
JULY
WEEKS


LABOR USE: BY ACTIVITY
1ST SEASON, PLAIN OF CAVES
HOURS
(Thousands)
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
LAND PREP
PLANT
CULT
HARV
TRANSPLANT
ACTIVITY


LABOR DISTRIBUTION
BY ACTIVITY PLAN OF DAYS
HOURS
(Thousands)
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
LAND PREPARATION
PLANTING
CULTIVATION
HARVEST
TRANSPLANT
ACTIVITY
FAMILY
HIRED
IN KIND


HOUSEHOLD FARM LABOR DISTRIBUTION
BY ACTIVITY PLAN OF DAYS
HOURS
700
600
500
400
300
200
100
0
LAND PREPARATION
PLANTING
CULTIVATION
HARVEST
TRANSPLANT
ACTIVITY
HEAD
SPOUSE
CHILDREN
OTHER

BEST AVAILABLE

labor. Transplanting has low labor demands in total, but for rice, transplanting consumes a considerable amount of labor.

In the distribution of labor (figure 24, as in Fond-des-Freres, hired labor predominates in land preparation and cultivation, and also in transplanting and harvesting. Only in planting does family labor predominate. The tendency to use hired rather than in-kind labor in the plain, may be a result of the higher revenues generated by plains crops, particularly rice. In-kind labor is chiefly used in harvesting and seldom in transplanting.

Figure 25 shows the distribution of labor within the household. The number of household members in the survey group averages 5.7, but the household head dominates farm labor. The spouse is active in planting and cultivation, and the children play a large role in land preparation and planting. Unfortunately, ages and sex of household members other than the head are unknown.

In the Cayes plain, as in Fond-des-Freres, the greatest demand for labor is during planting and land preparation. Cultivation and harvest are relatively close in labor requirements, while transplanting requires the least amount of labor (figure 23). However, rice is virtually the sole crop requiring transplanting, and among rice growing activities, transplanting is a very time consuming process.

Hired labor predominates in the land preparation, transplanting and cultivation activities, whereas family labor dominates planting. Harvesting places relatively equal demands on the three labor sources. In kind labor is more prominent in cultivation and harvesting activities.

SUMMARY

A weekly farm household survey was carried out over the period of a year gathering information on labor use, yields, inputs, revenues, and cropping cycles. This study of the first season's results uses data from 17 households in both plain and mountain sites. Average household size for the survey group was 5.25 in the mountain and 5.7 on the plain. The median area farmed by the households was .97 ha in the mountain and .65 in the plain.

Rainfall determines the beginning of the cropping cycle in the first season for both sites. Rains in February and March were followed by plantings of maize, black bean, and sweet potato in Fond-des-Freres. Black beans were harvested by mid-June, while maize and sweet potato were harvested by early August. In the plain, later rains brought later plantings in April and May. All corn plots were planted by mid-April and the final harvest was in mid-August. Peanuts were planted by March and harvested in August. Rice was planted in January/February and harvested

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from June to August.

Maize dominates associations in both sites. In Fond-des-Freres, maize is intercropped in particular with pois congo, black bean, and manioc. Manioc is the second largest crop in terms of area and almost always appears with sweet potato in the first season. In the plain, maize appears with manioc, banana, and peanut. Rice is commonly grown in association with taro.

Of the threee maize associations for which budgets were constructed, high yields and low labor use (transalating into significantly lower costs since labor is by far the most costly input) provided the maize/sweet potato/black bean association with the highest revenue in Fond-des-Freres. The maize/black bean had the lowest revenue, while the maize monoculture did not produce a profit even when average yields were used, demonstrating the advisability of planting crops in association in order to reduce risks from yield losses and price fluctuations. Virtually all crop associations provided positive revenues when the implicit labor cost was removed.

Rice, in the irrigated plain, provided the highest revenue among all crops in both sites. The maize/peanut association had a low return due to low yields and a dependence on hired labor.

Labor use follows the growing season. In Fond-des-Freres, land preparation occurs in February and March for the first season, planting is the most intensive in February, March, and June. Cultivation occurs in April and May with harvest in May, June, and July. On the plain, land preparation occurs in March and April, planting in April through June, transplanting in April, cultivation in May to July, and harvest in June.

Planting requires most labor for both Fond-des-Freres and the plain. Harvest labor demand was low in Fond-des-Freres, probably because of high crop losses. Fond-des-Freres utilized proportionately more in-kind labor than the plain, particularly for land preparation, cultivation, and harvesting. For the plain, in-kind labor was used chiefly in harvesting. Hired labor was the dominant form of labor in both areas. Family labor dominated in only harvesting in Fond-des-Freres and planting in the plain, two tasks requiring the least heavy labor.

Within the household, proportionately more spouse and child labor was utilized in plain. Families tend to be larger in the plain, but it is interesting to note less spouse participation in farm labor in the mountain site. Perhaps here household tasks require more time because of greater distances to cover in order to obtain fuel or water. Spouses and children participated more during planting and harvesting, although children participated heavily in planting in the plain (probably a function of larger families in the plain).

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CONCLUSIONS

The weekly household survey faced many of the same problems encountered by surveys throughout Haiti, initial suspicions on the part of the farmers, logistical problems brought on by weather conditions and equipment breakdowns, and problems with the uniformity and accuracy of the data, e.g. Haitian peasant agriculture lacks consistent and uniform measures for volume. Similarly named measures can vary in volume from region to region and even among farmers. However, because of the uniformity of the sites in question, variations in volume measures probably were not significant. In addition, no information was extracted on soil types on the plots, so soil characteristics cannot be considered as an explanatory factor for yield differences. In Fond-des-Freres, soil characteristics were probably fairly homogenious, but may have varied more in the plain. Although plot sizes were carefully measured, thus avoiding errors in yield per unit of land, plant density was not evaluated. Thus, two seperate plots of the same crop may have had widely differing plant densities. But analysis of the data could not consider this factor in explaining yield differences.

Despite the above weaknesses, the survey can make a significant contribution toward better understanding the peasant household farming system in the Cayes area. The survey was carried out on a weekly basis for an entire year. Surveyors had an opportunity to gain the confidence of farmers through repeated visits, and get and in-depth view of the farming operations. This increased the reliability of the information the farmer provided and increased the surveyors' ability to cross-check the information with his own knowlege of the farm situation. The scope of the survey was much broader and in depth than one time surveys could be, and thus provides a fuller view of the operations of the peasant household.

Data for the second season has yet to be analyzed. Several sections of the survey from the first season have not been dealt with, either because of the desire for an entire year's worth of data or because of lack of time. Analysis of total household income awaits the rest of the year's data, as does labor use outside the household, and the animal inventory. This data provides the opportunity for even more detailed view of the operations of the peasant household.

Enqueteur: _____

ENQUETE DE SUIVI DU SYSTEME DE PRODUCTION

Chef de ménage _____ Zone _____ Site _____ Localité _____ SNEM: _____

Date de visite	Période de référence	Code exploitant	Type d'activités	Cultures	Numéro de terrain	Nbre tot. de personnes participées	MAIN-D'OEUVRE																		INTRANTS					RECOLTE	
							DOMESTIQUE Temps (hrs) de travail fourni par :								RENUMEREE				AUTRES				Montant des dépenses en nature (gdes)								
							10	20	31	32	33	34	40	50	1= oui, 2= non	Nbre de pers.	Temps de travail (hrs)	Coût (Gdes)	1= oui, 2= non	Nbre de pers.	Temps de travail (hrs)			Type (code)	Origine (code)	Quantité utilisée	Unité (code)	Coût total (Gdes)	Quantité	Unité (code)

Enqueteur: _____

ENQUETE DE SUIVI DU SYSTEME DE PRODUCTION

Chef de ménage _____ Zone _____ Site _____ Localité _____ SNEM: _____

Date de visite	Période de référence	Code exploitant	AUTRES DEPENSES AGRICOLES QUE MAIN- D'OEUVRE ET INTRANTS							
			1= oui, 2= non	Si 1, Dépenses (en Gde) pour						
				Crédit agricole	Outils	Taxes d'irrigation	Nourriture animaux	Abris et cordes pour animaux	Achat de terrain	Autres

Date de visite	Période de référence	Code exploitant	PRODUITS RECOLTES (VEGETAUX ET ANIMAUX) DISPONIBLES A LA MAISON												
			Code de produits	STOCK A DATE			PENDANT LA PERIODE DE REFERENCE.								
				Quantité récoltée			consommation		Vente			Autres utilisations			
				dans l'exploitat.	hors d'exploitation	Unité	Quantité	Unité	Quantité	Unité	Valeur locale (Gde)	Quantité	Unité		

Enqueteur: _____

ENQUETE DE SUIVI DU SYSTEME DE PRODUCTION

REVENUS AUTRES QUE LES CULTURES ET L'ELEVAGE.

Chef de ménage _____ ZONE _____ Site _____ Localité _____ SNEM:

Date de visite	Période de référence	Code exploitant	Y A-T-IL EU REMISE DE TRAVAIL DE GROUPE? Si 1, temps de travail fourni par		Y A-T-IL EU VENTE DE TRAVAIL AGRICOLE? Si 1, temps fourni (hrs) par :		Si 1, Salaires touchés par (en Gdes)		Y A-T-IL D'AUTRES SOURCES DE REVENUS OU CAPITAUX? Si 1, Gourdes provenant de :				
			1= Oui 2= Non	Chef de ménage	d'autres personnes du ménage	1= Oui 2= Non	Chef de ménage	d'autres personnes du ménage	Chef de ménage	d'autres personnes du ménage	1= Oui 2= Non	Réception de Crédit agricole	Artisanat Pêche et métier	Cadeau	Au

Enqueteur : _____

ENQUETE DE SUIVI DU SYSTEME DE PRODUCTION

ANIMAUX DE LA FERME

Chef de ménage _____ Zone _____ Site _____ Localité _____ SNEM _____

Date de visite	Période de référence	Code Eleveur	Espèce animale (Code)	INVENTAIRE A DATE: Total dans l'exploitation	en propriété: Total	Adultes	Jeunes	Petits	en gardiennage: Total	Adultes	Jeunes	Petits	VARIATIONS PENDANT LA PERIODE DE REFERENCE: Morts et disparus: Total	Petits	Autoconsommés: Total	Adultes	Jeunes	Vente: Quantité	Valeur (Gdes)	Autres diminutions	Achat: Quantité	Valeur (Gdes)	Naissances: Total	Mâles	Femelles	Autres augmentations

Espèces (Code)

1. Bovins
2. Equins
3. Asins
4. Caprins
5. Ovins
6. Porcins
7. Lapins
8. Dindes et oies.
9. Autres volailles

N-B .-

a) Adultes = qui ont déjà reproduit.

b) Petits = qui ne peuvent pas être consommés encore.

c) Jeunes = qui pouvent être consommés mais ne reproduisent pas encore.

ARNDR/ADS II

ENQUETE DE SUIVI DU SYSTEME DE PRODUCTION

INVENTAIRE DES TERRAINS DU MENAGE

Questionnaire A-1

Enqueteur : _____

Chef de ménage _____ ZONE: _____ SITE: _____ LOCALITE : _____ SNEM: _____

| Date de visite | Prénom et nom de l'exploitant | Code | TERRAIN | | |

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