FARM-HOUSEHOLD CREDIT BEHAVIOR: A CASE STUDY

OF THE JAMAICAN EXPERIENCE

(Interim Report to the Data Bank and Evaluation Unit-DBEU-of
the Ministry of Agriculture - Jamaica)

Participating Research Groups[1]

Department of Agricultural Economics & Rural Sociology The Ohio State University	Institute of Social and Economic Research-ISER-of the University of the West Indies	Data Bank and Evaluation Unit- Ministry of Agriculture
Douglas H. Graham Peter Heffernan Stephen Pollard	Compton Bourne Michael Salmon	Roy Russell Lester Boyne

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I. INTRODUCTION

In October, 1978, a research team made up of two Ohio
State University consultants and a consultant from the Univer-
sity of the West Indies-Mona Campus, completed their first re-
port on the state of rural financial markets in Jamaica.
This report was sponsored by the Rural Development Office of
the USAID Mission in Jamaica as part of their overall sec-
toral study of the agricultural sector and by the Rural De-
velopment and Development Administration Office of the Devel-
opment Support Bureau in AID Washington. The 176 page report
"Rural Financial Markets in Jamaica: Analysis of Performance,
Problems and Recommendations," reviewed the size, structure
and performance of rural financial markets in Jamaica. The
relative contributions and operational performance of the
various credit institutions and programs were evaluated within
the macroeconomic setting of the Jamaican economy. Through-
out, the performance of the system as a whole was contrasted
to the results of specific programs and institutions within
the system. Both large and small farmer
credit programs and short and long term credit facilities
were analyzed in terms of their changing clientele, term
structure, loan size, delinquency record and repayment problems
by loan characteristics. Internal loan evaluation and loan
management procedures were also investigated in these insti-
tutions and programs.

Following this study, it was felt that additional work was needed. While many features of the supply side of rural finance had been reasonably documented and analyzed at the lenders level, there had been no comparable analysis on the demand side at the farm household level. Thus plans were laid to conduct a field survey in order to document the farm household experience with formal credit. At the same time such a survey would allow one an opportunity to record the role and extent of informal credit and off-farm employment for farm households in rural Jamaica. The USAID Mission in Jamaica was successful in having counterpart funds allocated to the Ministry of Agriculture to undertake such a survey. This current interim report records the progress made in the field effort during the summer and fall of 1979 and reports on the preliminary findings generated through the data analysis from the late fall to the present. A final and more comprehensive report will be completed by early summer 1980.

II. SURVEY DESIGN AND FIELDWORK

1. Objectives

The objective of this interim report is to present the
preliminary findings of a field survey analyzing farm level
credit, savings and off-farm employment in rural Jamaica.
Specifically two regions were surveyed, Southern St. Elizabeth
and Northern St. Catherine. These two regions will be further
described below. The following agencies collaborated in carrying
out the survey and analysis: The Data Bank and Evaluation Unit
of the Ministry of Agriculture, Jamaica (DBEU), The Department of
Agricultural Economics of The Ohio State University (OSU) and the
Institute of Social and Economic Research (ISER) of the University
of the West Indes (UWI).

The objectives of the survey were:

1) to document, quantify and evaluate the scope, coverage
   and experience of Jamaican farm households with both
   formal and informal credit sources;

2) to determine the savings behavior of these same households;

3) to investigate and assess the role of off-farm incomes
   and employment for those living on the farm as a contri-
   bution to the resource base and total family income of
   the farm household;

4) to examine and analyze the impact of agricultural credit
   on the investment, output and productivity of these same
   households.

This particular report will report only the preliminary findings

on these objectives. Ongoing research will report more exten-
sively on these objectives, especially the fourth objective,
by early summer 1980. The relative scope and spread of formal
credit institutions into the farm sector has been inadequately
investigated in the Jamaican setting, in large part due to the
absence of farm-household surveys documenting this experience.
This survey evaluates the performance of these institutions in
servicing the needs of farm households. In addition, the study
documents and assesses the extent of 'informal' credit utilized
by these farms and the sources and roles of this informal credit
in servicing different farm sizes in these regions.

The savings behavior of farm households is also inadequately
understood. The National Savings Committee has recently concluded
that there is a savings potential of some importance in the rural
setting that has been inadequately tapped and utilized. This
survey investigated the savings behavior of these farm households
both in terms of formal and informal savings (i.e. partners
groups).

Off-farm employment and off-farm earnings by members of the
farm family who live on the farm have become an increasingly
important form of total family income for many farm families whose
farm holdings are insufficient to generate an adequate livelihood.
Also, these off-farm earnings can become a substitute for the
lack of credit in financing some essential farm expenses. This
survey investigated the extent of off-farm employment and earnings
by farm type and size, the nature of this employment, the family
members typically involved in this activity and the role of these

earnings in servicing the farming needs of the farm household.
This interim report will be primarily concerned with the results
documenting the extent of off-farm employment and its associa-
tion with credit behavior.

2. Initial Development of the Questionnaire

The questionnaire was initially developed at OSU and then
reviewed and revised in conjunction with personnel of both DBEU
and UWI to ensure appropriateness of the instrument to the Jamaican
setting. Following this review, training of the field survey
team for a pre-test of the questionnaire was undertaken in July.
The field survey team, hired by the DBEU, consisted of nine enu-
merators and one supervisor for each region. Facilities for
training sessions and lodging for the field survey team members
were provided by UWI.

3. Training for Pre-Tests

The Pre-Test training took place from July 12th to the 14th.
During this time the major aims and objectives of the survey were
explained and specific instructions given as to how the survey
would be conducted. A conversational method of interviewing was
stressed to ensure the farmers would fully understand the spirit
of the questions asked and feel more comfortable during the inter-
view. Using a lecture format, each question of the survey instru-
ment was explained to the enumerators as well as how to deal with
various problems that would likely be encountered in the farmers'
responses. In addition, an extensive manual of instructions
was supplied to the interviewers and supervisors to reinforce the

lecture presentation and for reference in the field.

4. The Pre-Test

The pre-test was conducted the following Monday July 16th.
The farmers interviewed during the pre-test were selected by
the local extension officers in each region. The local extension
offices provided further assistance by assigning an extension
agent to aid in locating the farmers selected for interview and
to explain the farming practices and characteristics of the
regions. The farmers actually selected for the pre-test did not
reside within the area but rather adjacent to the actual survey
regions. This was done to prevent the possibility of re-inter-
viewing the same farmers during the actual survey. Twenty seven
farmers were interviewed in the two regions.

The pre-test experience was reviewed with the interviewers
and supervisors the following day to gain their impressions of
the effectiveness of the survey instrument. Particular problems
encountered and effective means to deal with them were discussed
to provide additional information with which to design the final
version of the questionnaire.

5. Listing Training and Exercise

Since no census data was available on all the farms in the
two areas, it was necessary to create our own universe of total
farm population from which a sample could be drawn. Training
for this "listing" exercise conducted by DBEU took place the
following day July 18. Forms for this exercise were distributed
and explanations given as to how they were to be completed.

The listing exercise which took place from July 19th to August
1st involved interviewing all heads of household in the two
regions to determine if they were involved in any farming acti-
vity. In cases of more than one household residing in a dwelling,
the head of each household was questioned. Only those heads of
households who stated they had some farming activity were included
in the listing. This farming activity could take place within
or outside of the geographic boundaries of the regions. Lands
within the regions which were worked by farmers residing outside
the regions were not included in the listing. This approach was
taken since we were interested in examining the characteristics
of those farmers residing within the two regions. At the same
time we anticipated difficulty in locating farmers who worked
within but lived outside of the regions. The listing forms were
collected and reviewed by the area supervisors for use in con-
struction of the sample frame.

6. Sample Selection

For purposes of sample frame construction farmers were
defined as those heads of households who had available to them
at least ½ acre of land and assumed the risks of farming that
land. This definition did not exclude farmers from also being
hired managers on other farms besides their own. However, those
who were exclusively hired managers were not included in the
sample frame. Therefore, those excluded were the heads of house-
holds farming less than ½ acre and hired managers who were
general y supervising estate farms. 967 farms were included in
Southern St. Elizabeth's sample frame and 2500 farmers were

included in Northern St. Catherine's samr e.

The farmers in each region meeting the a, -_ definition were then stratified according to farm size in acres. The following seven farm size categories were employed: ½< 1, 1 < 2.5, 2.5 < 5, 5 < 10, 10 < 25, 25 < 50 and 50 or more. For St. Elizabeth a random sample of 15% from each of the first 4 farm sizes was drawn. In addition, we tried to interview all farmers 8 acres or more and included them in estimation of the population parameters. This was done because after a week of field experience it was found that farmers between 8   10 acres were truly a part of the large farmer scene. Furthermore all farmers 10 acres and above were included in the original sample because it was felt they had different socioeconomic character- istics than small farmers and in addition we wished to ensure fair representation of large farmers in the sample. The total sample for St. Elizabeth then, consisted of 184 farmers, out of the original listing of 967 farmers in the region.

The sample selected for study in St. Catherine consisted of a 10% random sample of the first 5 farm size categories and all farmers from the sample frame over 25 acres for a total sample of 283 farmers. All farmers over 25 acres were included in the sample because it was felt a 10% random sample of only 34 farmers would not be representative (and the total number was small enough to be included in the sample without difficulty.) A 10% random sample was selected in the smaller farm size categories rather than 15%, as drawn in St. Elizabeth, because of time and manpower constraints faced with the larger population in St. Catherine.

7. Final Training Session for Survey

During the time that the listing exercises were being conducted in the two regions, a revised questionnaire and instruction manual based on the results of the pre-test were developed at OSU. The training sessions for the actual survey were held from August 15th to 17th. At this time the new questionnaires and manuals were distributed to the field survey team. The entire questionnaire was reviewed with special emphasis placed on the changes that had been made and the conversational method of interviewing was again stressed.

The major revisions to the questionnaire consisted of the addition of a section dealing with marketing activity and changes in the format rather than content of the credit section. The changes in the credit section of the questionnaire were designed to make it easier to get the information from the farmers in a conversational manner as well as easier for the enumerators to record the information.

At this time some changes in the survey team were made. First, the supervisor for the St. Catherine region, due to prior commitments could not remain with the survey team and was replaced. Additionally, one enumerator from each region was dropped and one other was hired. Because of the difference in the size of the samples in the two regions, it was decided that one enumerator from the St. Elizabeth team as well as the newly hired enumerator would be assigned to the St. Catherine region. The net effect of these changes were a survey team of 10 enumerators in St. Catherine and 7 in St. Elizabeth.

8. The Survey

The survey was launched the following Monday, August 20th. For the duration of the survey, the field survey team resided in their respective regions. The extension service aided in locating lodging facilities for the enumerators as well as providing space for the research supervisors from OSU in the field.

Farmers, for the most part, were cooperative. In those incidents where enumerators had trouble gaining a farmer's confidence, the field supervisor accompanied the enumerator on a second visit to explain the purpose of the survey. This was generally sufficient to gain the farmers cooperation. Should the farmer refuse to cooperate during this second visit he was dropped from the survey.

The questionnaires were checked daily for consistency and completeness of answers by the research supervisors. When any discrepancies were discovered, the research supervisor brought it to the attention of the enumerator. In some cases, it was simply misrecorded responses, but in others the enumerator had to revisit the farmer to clarify an answer to a question. After determining the nature of any problems and rectifying them the questionnaire was then coded for computer processing.

Difficulties encountered in the execution of the survey were the loss of one enumerator from each region during the first week of the survey and the rainy season which inhibited transportation by washing out roads in each region during the last week of field work. The rains were most severely felt in St.

Catherine where the completion of the survey was delayed until
September 24th while the St. Elizabeth survey was completed on
September 14th.

9. Regional Sites: Description and Location

St. Catherine

The region surveyed in St. Catherine was selected because
it offered a striking contrast to the St. Elizabeth region.
Hilly and mountainous terrain predominates and presents a formi-
dable obstacle to the many farmers who must work this area.
The flatter, more easily cultivated lands of the Liganea plain
in the southern-most section of St. Catherine were deliberately
excluded from the survey region so as to concentrate on those
farmers coping with the rougher topography to the north. The
soil in the region is relatively rich in phosphorus and potassium.
With the exception of those farmers working the steeper hillsides
affected by erosion, only a nitrogen supplement is generally
needed for production, In a typical year rainfall is fairly
regular and sufficient to sustain the crops.

The survey region is bordered in the south by the road from
Bog Walk through Harkers Hall to Zion Hill. From Zion Hill the
survey area runs north to Glengoffe and then follows the St.
Catherine parish line through Troja up to Windsor Castle and then
around to Guys Hill. From Guys Hill the border follows the road
south through Devils Racecourse to Dover Castle before turning
north again toward Redwood and Rio Mango. The final boundary
line then runs south through Riversdale, back to Bog Walk.

The study area is located in close proximity to Kingston, a major consumption and export center. In addition, the urban network within the boundaries of the region is fairly well developed and is characterized by clusters of shops in many small to medium sized towns. These factors have facilitated the development of export oriented farming activities. The principal cash crops produced include bananas, citrus, coconuts, coffee, cocoa and sugar cane.

Despite the production of these export crops it would be inaccurate to describe the typical farmers in the region as being commercially oriented. The majority of the farmers in the region, particularly those in the smaller farm size categories, are more subsistence oriented. Food crops, such as tubers, fruits and some vegetables, are produced for home consumption first and marketed second. Even the export crops are generally produced and marketed in small amounts and by many farmers. Additionally, the limited livestock activity is generally on a small scale and for local consumption purposes. There are very few farmers whose principal production consists of livestock or livestock products.

St. Elizabeth

The area of St. Elizabeth that was chosen for the survey is a triangular shaped region in the southeast corner of the parish. The towns forming the three points of the triangle are Lititz, Southfield and Bull Savannah. The land holdings of the Alpart Alumina Co. border the area on the north, while the coast line forms the southern border from roughly Southfield to the

Manchester-St. Elizabeth Parish boundary line which forms the
eastern border.

The terrain in this region is a flat plain which lies between
two mountain ranges. The soil content is high in bauxite (evi-
dent from the Alpart holdings) and in a few parts of the region,
limestone. Rainfall is minimal and it is considered a dry region
though many crops were damaged or lost in the unusual and unex-
pectedly heavy rains of June 1979.

The towns mentioned above and others in the region are not
towns in the traditional sense. These towns are generally a
collection of one or two shops and a gas station. Only two
towns are larger than this traditional crossroad scene, Junction
and Southfield. Junction, located on the main road between
Lititz and Southfield, has a branch of the Nova Scotia Bank, the
only commercial bank in the region, a post office, high school,
vocational school, a health/medical center under construction
and several shops and residences in town. Southfield contains
the main agricultural extension service's offices in this southern
region. It also contains the main P.C. Farmers Bank for the
area, an input supply store, and a block and brick factory
(closed temporarily) along with several bars and grocery stores.
The setting for the rest of the region is very rural, though there
is some evidence of government promoted development such as paved
and kept-up roads connecting the region with the rest of the is-
land, electricity and elementary schools.

Th's region was chosen since it is primarily a "small farmer"
region and, as such, was an appropriate sample for our survey

which is concerned largely with the issues of small farmer

credit and related off-farm employment activity. Furthermore

within the small to medium sized farmer setting in Jamaica,

this particular group of vegetable farmers in Southern St.

Elizabeth has acquired a reputation as an unusually successful

and hardy group of farmers with an independent, entrepreneurial

spirit in the face of less than ideal weather and soil conditions.

Furthermore this regional group offers a convenient crop mix and

topographical contrast to the other small farmer group chosen in

our survey, the farmers in Northern St. Catherine where export

crop activity predominates in a hilly terrain.

The majority of the farms in this region are small, commer-

cial vegetable farms with little livestock activity. Principal

crops grown are scallions, carrots, tomatoes, onions, peas,

beans and peanuts. Most of the land holdings of these farmers

are small and the land is intensively farmed. Also a small piece

of land (approximately 1 square acre) is set aside to grow food

for subsistence purposes. The wife is usually responsible for

tending this plot and raises such crops as cho-cho yams, cassava,

and melons. The crops when planted are usually in a pure stand

which, when the region is viewed from a hilltop, creates a patch-

work effect. No export crops are grown. All are local foodstuffs

for the internal market. Moreover these farms are a great dis-

tance from main consumer center on the island. The farmers rely

on traditional marketing connections (i.e. higglers) to get their

crops to these distant consumer markets in Kingston and elsewhere.

On a spectrum ranging from a small traditional subsistence

farmer at one end to a relatively large, highly capitalized
farmer using expensive modern inputs at the other end, these
farmers fall in the middle. On the one hand, most of the farms
in the region (by numbers and by total acreage) are less than
5 cultivated acres (though a larger number may have a larger
uncultivated holding). As a result the small farm size constrains
the degree of capitalization (in tractors and farm equipment)
that is feasible. On the other hand practically all farmers
market a good part of their harvest and find it necessary to
use such modern inputs as fertilizer and, to a lesser extent
chemical sprays, in order to make up for poor soil quality.

A third important input is mulch which is guinea grass that
is cut and laid on top of the fields to retain moisture in the
ground and acts as additional fertilizer. In addition to using
mulch to overcome lack of water resources, some of the better-off
farmers have invested in catchment tanks to catch and store rain-
fall. Their crops are then watered by a system of pipes running
from the tanks to the fields. Most of the smaller farmers, how-
ever, are limited to setting up metal barrels in their fields to
catch rainfall. The crops are then watered by the farmers (or
hired laborers), who dip a small can into these barrels and water
each plant individually in a very labor intensive procedure of
plant care.

In concluding this description of the St. Elizabeth survey
area non-farm enterprises should be mentioned. The two largest
non-farm firms are the Alpart Alumina Co. plant in Nain and a
vegetable canning factory in Bull Savannah. While the Alpart

plant is just outside the region, many workers live in the
region. Some of these workers are farmers who do farming in the
afternoon and work the night shift at the Alpart plant. The
vegetable canning factory is located in the region and also
employs part-time farmers. Other non-farm activities such as
schools, the medical center and banks do not offer many off-farm
employment opportunities for farmers. Few of the current employees
in these establishments are originally from the region. However,
bars and shops throughout the area are generally family run busi-
nesses from families with a longer history in the region.

III. WEIGHTING PROCEDURE USED TO EXPAND SAMPLE INTO TOTAL
POPULATION VALUES: JUSTIFICATION AND EXPLANATION

Most of the tables included in the Appendix of this interim
report record the population rather than the sample values de-
rived from the survey. Since this is unusual in social science
research, some comment is in order as to why we do this.

Social science research usually deals with sample data
alone for the purposes of analysis and rarely expands sample
survey data into its comparable population values which forms
the universe from which the sample was drawn. There is
usually no reason to do this as long as the sample adequately
represents the population or universe. Thus, in the behavioral
analysis that is characteristic of social science research
average rather than total values are used to test behavioral
assumptions.

Economic planners, however, sometimes find total values
equally useful for their purposes. For example, if the
planners in the Ministry of Agriculture are interested in de-
termining the total budgetary cost for the Ministry to service
a target group or an entire region with fertilizer, or credit,
etc.--one needs an estimate of the use of fertilizer or credit
by the entire population in order to budget the necessary costs
in the Ministerial Program. It is for this reason that the
Data Bank and Evaluation Unit (DBEU) of the Ministry of Agri-
culture in Jamaica preferred and specifically requested that
the report include the population rather than sample data in

the tables derived from their surveys. At the same time, however, we have included some selected sets of tables with only sample data since, for purposes of analysis, it was felt either inappropriate or statistically impossible to expand these particular sample data into population values. Therefore, the number of farms and other variables in the following cross-tabulated tables (except where noted otherwise) are expressed in terms of the population parameters for both regions. A weighting scheme to get from the sample to the population was devised by the DBEU and the OSU research team transformed the sample data accordingly. This weighting procedure is described below.

Under normal circumstances, the sampling weight is simply the number in the population divided by the number selected in the sample. However, for this survey, sampling weights were not easily calculated for two reasons. First, there were non-farms that were inadvertently listed as farms during the original listing exercise (i.e., our census of the region). These "non-farms" were included as farms when the sample was drawn from the universe. It was only later during the actual survey that they were found to be non-farms. Second, there were genuine non-responses due to a variety of reasons, i.e., not at home, or non-cooperation. To handle these problems, non-farms were weighted by the normal sampling weight for the stratum in question and subtracted from the population containing farms only. This was done on the assumption that what is

true for the sample is also true for the population, namely, that the proportion of non-farms in the sample is the same as the proportion of non-farms in the population. Non-responses were subtracted from the sample size of the stratum they were initially placed in. An adjusted sampling weight was then calculated:

$$\text{(Equation 1)} \qquad f_i = \frac{N_i}{n_i}$$

where

N_i = adjusted number of farmers in the ith stratum in the total population

n_i = adjusted number of farmers in the ith stratum in the sample

f_i = sampling weight in the ith stratum

Table 1 (St. Catherine) and 2 (St. Elizabeth) show how sampling weights for both samples were determined. Using Table 2 as an example, Farm Size one (FS1) in column (1) had one non-farm and four non-respondents (rows 3 and 4). First the non-farm (row 3) was weighted by the normal sample weight, 138/20 (i.e. row 1/row 2), then subtracted from the population determined by the listing (row 1), to obtain the adjusted population for that farm size (row 5). Then the sample size for FS1 was reduced from its original value of 20 (row 2) to a value of 15 by subtracting the one non-farm and four non-respondents. Equation 1 was then used to obtain a sampling

Table

Explanatory Table Illustrating Procedure Used to Expand Sample Data to
Appropriately Weighted Population Sizes in St. Catherine

Farm Size Categories (in acres)

Expansion Procedure	(1) 1/2<1	(2) 1<2.5	(3) 2.5<5	(4) 5<10	(5) 10<25	(6) 25<50	(7) 50 or more	(8) Total
1) No. of farmers in population from listing exercise	339	988	569	461	133	22	12	2524
2) No. of farmers selected in sample	34	99	57	46	13	22	12	283
3) No. of non-farmers found in sample during interview	3	2	4	1	0	3	4	17
4) No. of non-respondents in sample (never at home or uncooperative)	0	15	0	10	0	2	4	31
5) Adjusted population (row 1 $-\frac{row\ 1}{row\ 2}$ x row 3)	309	968	529	450	133	19	8	2416
6) No. of farmers interviewed from original sample row 2-(row 3+row 4)	31	82	53	35	13	17	4	235
7) Sample weight $\frac{(row\ 5)}{(row\ 6)}$	9.96	11.8	9.98	12.85	10.23	1.12	2	--
8) Adjusted population after transfers among farm size categories	269	709	653	520	199	55	11	2416

Table 2

Explanatory Table Illustrating Procedure Used to Expand Sample Data to
Appropriately Weighted Population Sizes in St. Elizabeth

Farm Size Categories (in acres)

Expansion Procedure	(1) 1/2<1	(2) 1<2.5	(3) 2.5<5	(4) 5<10	(5) 10<25	(6) 25<50	(7) 50+	(8) Total
1) No. of farmers in population from listing exercise	138	436	243	118	28	3	2	967
2) No. of farmers selected in sample	20	65	35	32	28	3	2	185
3) No. of non-farmers found in sample during interview	1	1	--	--	--	--	--	2
4) No. of non-respondents never at home or un-cooperative	4	7	4	7	6	--	--	28
5) Adjusted population (row $1 - \frac{\text{row 1}}{\text{row 2}} \times$ row 3)	131	429	243	118	28	3	2	954
6) No. interviewed from original sample row 2-(row 3+row 4)	15	57	31	25	22	3	2	155
7) Sampling weight $\frac{(\text{row 5})}{(\text{row 6})}$	8.73	7.52	7.84	4.72	1.27	1.0	1.0	--
8) Adjusted population after transfers among farm size categories	101	277	280	187	98	7	4	954

weight of 8.73 (row 7). This procedure was used to calculate
the sample weights for the remaining farm sizes.

It was further discovered that some farmers had not stated
their farm sizes accurately to the listing enumerators. This
became apparent only on their return visit when, after further
questioning, some farmers admitted to a different sized land
holding from that stated in the original listing. Therefore,
this shifting of farmers between size categories had to be
taken into consideration when constructing the true population
values in the following tables. To correct for this, the
farmers who were shifted were weighted by the sample weight
in the stratum in which they were originally listed, and then
transferred to the stratum in which they placed themselves
during the survey. Again the assumption here is that what is
true in the sample is also true in the population. What this
means is that the proportion of farmers in the sample size
group who were discovered in the wrong size group has a com-
parable or like proportion in the population size group who
are also in the wrong size group. Therefore, these farmers
should be shifted to the new size group. After such shifts
were made the new or adjusted population total for the seven
farm size categories can be seen in row 8 in Tables 1 and 2.

Other variables used in the cross-tabulations with farm
size categories (such as credit, off-farm employment, etc.)
were also weighted by the same sampling weights to derive the

population parameters for these variables when they were cross-tabulated with farm size categories.

For example, suppose a farmer is in FS1 and has a $10 loan. Then we would expect (under the previous assumptions discussed above) that 8.73 farmers in the population for FS1 had $10 loans apiece. The $10 loan weighted by 8.73 equals $87.30. This $87.30 represents the population value for this one farmer. This population value would then be added to the comparable expanded values of all the other individuals with loans in FS1 to obtain the total aggregate value of loans for this farm size group.

Now suppose a farmer is initially listed in FS1 but after the survey questionnaire is applied, it is found that he is really in FS3. Then his loan value of $10 should be weighted by the FS1 sampling weight at 8.73 to obtain the population value of $87.30. However, this population value would then be transferred to FS3 and included in the total population value of loans for FS3. This is based on the above reasoning justifying our transferring of misclassified farmers; that is, there are 8.73 farmers in FS3 each of whom has borrowed $10 which were originally misclassified into FS1. These farmers should be correctly identified in FS3 rather than FS1. All the following tables reflecting the total population values for the variables in question include these adjustments.

As mentioned earlier, some sets of tables do present the sample data only. Cross-tabulation of such variables as credit activity, farm revenue or input expenses with "acres cultivated" instead of with acres owned or rented is presented for the sample only. This was necessary since the random sampling procedure utilized that justifies expanding the sample data into population values was structured around farm size defined as acres owned or rented, not acres actually cultivated or in production. Secondly, cross-tabulations that do not include a farm size measure such as loan size by source or credit activity with off-farm employment, etc.--cannot be expanded into population values since the farm size measure (i.e. owned and rented acres) used in our random sampling procedure was not used here. Analysis of these cross-tabulations is necessarily carried out in terms of the sample data alone.

IV. THE ACRES OWNED VS. ACRES CULTIVATED ISSUE

Table 3 offers an insight into the contrast between acres
owned (and/or rented) and acres cultivated or in production for
the two regions. Several findings stand out here. First, for
St. Elizabeth, there is a substantial difference between the
two measures. Whereas there were 38 farmers (or almost 25
percent of the total sample) recorded as owning (and/or renting)
ten acres or more, under the definition of acres actually cul-
tivated this number falls to 6 farmers (or less than 4 percent
of the sample). Second, the shift among farm sizes for these
two definitions in St. Catherine, while less dramatic than for
St. Elizabeth, is still visible and important, particularly
the rise in the number of farms in the smallest farm size
category when one uses the acres in production criterion. In
short, there is a substantial shift in farms and farmers from
larger farm sizes down into substantially smaller farm sizes
when one shifts from the total acres owned (or rented) criterion
to actual acres in cultivation or production (pasture land was
included as acres in production for farms with livestock).

Several implications can be drawn from these findings:

1. There is a substantial amount of apparently idle or
    unutilized land area even within small farmer areas
    in Jamaica;

2. It would appear to be in many farmers' interests to
    own and hold land for wealth purposes rather than
    for productive purposes;

Table 3

Distribution of Farm Sample by Acreage Available
(Owned and Rented) and Acreage Cultivated by Farm Size
Categories for St. Elizabeth and St. Catherine

Number of Farms

	St. Elizabeth		St. Catherine	
	Acres Available	Acres Cultivated	Acres Available	Acres in Production
½ < 1	12	23	26	47
1 < 2.5	37	56	62	74
2.5 < 5	36	51	61	52
5 < 10	32	19	45	31
10 < 25	31	6[1]	21	18
25 < 50	3	-	14	9
50 or more	4	-	6	4
TOTAL	155	155	235	235

(1) Largest farmer has only 20 acres in production.

3. In the St. Elizabeth area it may be difficult to
    effectively farm more area due to the lack of suf-
    ficient access to water and water catchment devices
    or due to the limitation of labor supply and other
    resources. Yet it clearly is of interest to many
    of these farmers to own and hold more acreage than
    they can effectively farm at present;

4. In St. Catherine it is clearly difficult to farm
    much of the hilly terrain on some properties but,
    at the same time, apparently of interest to own it;

5. In some cases, the unutilized land may be in fallow
    in a crop rotation pattern. However, the large dif-
    ferences in many cases (i.e. where farmers only cul-
    tivate 5 to 8 acres but own 20 to 30 acres) would
    suggest that the "fallow" argument is not that impor-
    tant for many of these cases.

Whatever the reasons, and there are no doubt many, there
is in many instances a significant difference between acres
owned and rented and acres in production. Investigation of the
various reasons for this were not included among the objectives
of this survey and thus were not investigated in-depth. Never-
theless it was felt to be a sufficiently important finding in
its own .ight to be brought to the attention of interested
parties and to be kept in mind as an issue meriting study in
projects designed for the future.

Another issue of some importance associated with this acres
owned vs. acres cultivated question concerns the appropriate
strategy to use to design a field survey. Economic analysis
of farm production and practices, whether measuring the efficient
use of inputs per unit of output or analyzing efficiency of
input or credit use by effective land area on which these inputs
or credit are used, invariably use acres cultivated or in pro-
duction as the relevant land area for analysis. Using acres
owned or available is not a particularly useful economic
measure of farm size when it includes a large element of idle
land that is not used in production.

Therefore, in designing a survey strategy for farm house-
holds, one may find it more relevant, for purposes of later
analysis, to insure a random sample of acres cultivated or in
production rather than using the criterion of acres owned or
available. This means that the original listing of farm size
should be based on a different criterion, namely, acres ef-
fectively cultivated rather than acres owned so that one can
expand the results into the appropriate adjusted and represen-
tative population values with this more restricted and produc-
tion oriented measure of farm size for the region in question.

This is not to deny that there are valid reasons to know
and record unutilized land area. However, for many purposes
of economic analysis and planning concerned with establishing
representative generalizations by farm size of farm practices,
efficiency of resource use, production function analysis,

etc.---, a survey designed to insure a random sample by acres
cultivated or in production would be more useful.

    In the light of the above we have chosen to present some
tables using sample data since we are interested in presenting
some of these economic relationships for discussion. Even
though the data cannot be expanded into population values the
results from the sample data alone are useful and revealing
in their own right.

V. DATA ANALYSIS AND DISCUSSION

1. Introduction

This section summarizes the survey results on the basis of the data contained in the Appendix tables to this report. Following a brief analysis of three sample data tables included in this section itself, the bulk of the analysis will merely refer to the major trends, relationships and characteristics evident in the twenty nine (29) tables for both regions included in the Appendix. Topical sections are organized in terms of: 1) Farm Production Characteristics; 2) Marketing Activities; 3) Credit Overview and Related Distributional Profile of Farm Activity; 4) Formal Credit Activity; 5) Informal Credit Activity; and 6) Off-Farm Employment Activity.

Tables 4, 5 and 6 included in this section present a quick snapshot of the relationship among credit status, input and revenue data and farm size. Tables 4 and 5 present this information in the form of the average input expenses, average revenue and average levels of credit by farm size for different types of borrowers (and non-borrowers). In general, the greater the farm size the larger are these measures. Farmers with formal loans register higher levels of average credit than those with informal loans in all farm sizes in St. Catherine (Table 4) and in two out of three farm sizes in St. Elizabeth (Table 5). The average level of formal credit is relatively constant across all farm sizes in both regions until one reaches the largest farm size where it rises rapidly.

Table 4

Average Input Expense, Revenue and Credit by Farm Size
(Acres in Production Criterion) and Credit Status[1]
in St. Catherine (Sample Only)

	Farm Sizes Categories (acres in production)[3]					
	.1 < 1	1 < 2.5	2.5 < 5	5 < 10	10 < 25	25 or more
1. Average Input Expense						
a) Farmers with formal loans[2]	$161.00	$ 597.86	$587.75	$1,023.33	$ 535.00	$ 6,488.00
b) Farmers with informal loans only	77.19	217.74	260.56	579.47	264.14	1,961.50
c) Farmers with no loan activity	34.82	163.18	228.62	430.42	2,144.00	10,594.00
2. Average Revenue						
a) Farmers with formal loans[2]	79.80	292.71	214.00	489.67	480.00	10,959.33
b) Farmers with informal loans only	92.63	255.10	258.37	407.53	394.28	1,650.50
c) Farmers with no loan activity	78.89	169.79	252.50	762.64	896.70	1,463.57
3. Average Credit						
a) Farmers with formal loans[2]	770.00	1,007.43	795.00	727.67	770.00	1,533.33
b) Farmers with informal loans only	$146.33	$ 109.81	$ 99.06	$ 127.47	$ 344.28	$ 420.00

Notes: (1) Farmers with formal loans and farmers with informal loans in 1978 and 1979.

(2) This category includes farmers with only formal loans and farmers with both formal and informal loans together.

(3) Number of farmers by credit use and acres in production:

	Acres in Production						
	.1<1	1<2.5	2.5<5	5<10	10<25	25 or more	Total
With formal loans	5	7	5	3	1	2	23
With informal loans only	16	31	16	15	7	2	87
No n activity	28	34	32	14	10	7	]
	49	72	53	32	18	11	

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Table 5

Average Input Expenses, Revenue and Credit by
Farm Size (Acres in Production Criterion) and Credit Status[1]
in St. Elizabeth
(Sample Only)

Farm Size Categories (Acres Cultivated)			
	0 < 2.5	2.5 < 5	5+
1. Average Input Expenses			
a) With Formal Loans[2]	$739.4	$1540.3	$5920.7
b) With Informal Loans Only	354.4	1224.2	1480.8
c) No Loan Activity	547.8	1640.7	5017.9
2. Average Revenue			
a) With Formal Loans[2]	345.4	899.0	3826.7
b) With Informal Loans Only	531.3	393.1	439.6
c) No Loan Activity	300.9	733.6	2368.2
3. Average Credit			
a) With Formal Loans[2]	484.4	333.3	4633.3
b) With Informal Loans Only	168.6	547.1	332.0
c) No Loan Activity	–	–	–

(1) Farmers with formal loans during 1978 and 1979 and farmers with informal loans 1978-1979.

(2) This category includes those farmers with formal loans only and with formal and informal loans together.

(3) Number of Farmers by Credit Use and Farm Size:

	Farm Size			
	0 < 2.5	2.5 < 5	5+	TOTAL
With Formal Loans	8	3	3	14
With Informal Loans Only	22	8	5	35
No Loan Activity	49	40	17	106
TOTAL	79	51	25	155

Table 6

Input Expense and Revenue Per Acre Cultivated
by Farm Size and Credit Status[1] in St. Elizabeth
(Sample Only)

Farm Size Categories (Acres in Production)			
	0 < 2.5 (1)	2.5 < 5 (2)	5+ (3)
1. Ave. Input Expense per Acre Cultivated			
a) With Formal Loans[2]	$ 426.7	$ 416.9	$ 797.8
b) With Informal Loans Only	320.6	345.4	245.4
c) With No Loan Activity	478.5	553.2	582.7
2. Ave. Revenue per Acre Cultivated			
a) With Formal Loans[2]	208.4	258.1	430.6
b) With Informal Only	401.5	119.7	58.8
c) With No Loan Activity	280.4	231.3	261.7
3. Ave. Credit per Acre Cultivated			
a) With Formal Loans[2]	273.6	104.1	533.3
b) With Informal Only	252.1	150.1	41.7
c) With No Loan Activity	–	–	–

(1) Farmers with formal loans during 1978 and 1979 and farmers with informal
    loans 1978 and 1979.

(2) This category includes those farmers with formal loans only and with
    formal and informal loans together.

(3) Number of Farmers by Credit Use and Farm Size:

	Farm Size			
	0 < 2.5	2.5 < 5	5+	TOTAL
With Formal Loans	8	3	3	14
With Inf rmal Loans Only	22	8	5	35
No Loan Activity	49	40	17	106
TOTAL	79	51	25	155

Farm revenue data in this survey is very likely substantially underestimated for four reasons. First, in both regions some crops were harvested throughout the year creating a memory recall problem; in the case of St. Catherine we are talking about many different sales of small amounts of cocoa, coffee, bananas, citrus products, coconuts and scattered vegetables as they become ripe and are harvested or picked through the year; and, in St. Elizabeth, with a series of vegetable crops, planted and harvested sequentially in a multiple crop year, we have a similar pattern of scattered sales. Interviewers reported difficulty in estimating amounts sold in the early part of the year due to the farmers hazy memory of these transactions.

Second, there is probably a natural tendency for farmers to scale down or underestimate their earnings in a survey and, third, in the case of St. Elizabeth, the largest harvest in the year was scheduled for late October and November, after the survey was completed. And, finally, again for St. Elizabeth, a good number of farmers reported losing crops in the June flood rains of 1979. These difficulties in recording annual revenue data in a single cross-sectional survey argues for the selective use of "longitudinal" surveys where interviewers visit the farm once every week (or at least once a month) in order to record these activities more accurately over time.

Expenses, on the other hand, were more easily remembered. Interviewers reported little difficulty recording these items which farmers seemed to remember more clearly. In part, this may be due to the fact that expenses were incurred in a more bunched or discontinuous fashion (for such items as fertilizer and chemical sprays) and, even for hired labor throughout the year, it usually wasn't that difficult to record the actual number of laborers hired. The difficulty arose only is estimating the labor time (i.e. man-days). Finally, it should be noted that frequently inputs such as fertilizers, etc.---had already been bought and stocked for future harvests for the remainder of the year. In the end the recorded expenses are likely a much more reliable estimate of annual costs than the income data is of normal annual revenue.

Taken as a whole, these factors explain why average (or per acre) revenue for the various farm sizes in Tables 4 through 6   are less than average expenses. In general, the larger the farm size the larger the average expenses or revenue as one would expect. Also, taking expenses as our frame of reference, given their greater reliability, it is interesting to note that in St. Catherine (panel 1 in Table 4) farmers with formal loans register higher average input expenses than those with only informal loans or no loan activity within each farm size (up to 10 acres where the bulk of the sample lies). The fact that this changes for the largest two farm sizes is probably a function of the much smaller numbers involved (where one or two farmers' activity

can make a difference in the averages), and, even more importantly, reflecting the fact that new lines of formal credit for larger farmers in this region was very limited or insignificant in 1978-79 (the years covered in the table) as compared to earlier years when the JDB and the SSFDP loan sources were more active. The Crop Lien and P.C. Bank lines of credit, on the other hand, were relatively more active in the last year and a half and their activity in St. Catherine fell into the smaller farm sizes (when using an acres in production criterion).

For St. Elizabeth (Table 5) the average input expenses are larger for farmers with formal loans than those for informal loans tending to make one think that access to formal credit may induce farmers to engage in a more intensive use of inputs. However, when one compares the results of farmers with formal loans to those with no loan activity with each farm size, this distinction is not so sharp (in Table 5) and disappears altogether (in Table 6) when we measure input expense per acre cultivated.

The statistical significance of these differences in the intensity of input use between farmers who use credit vs. those who do not (and the policy implications of these findings) will be tested more thoroughly with econometric techniques such as discriminant analysis and production function studies by farm size in the final report which will be ready in the summer of

1980. For the moment, preliminary descriptive results would suggest that these differences appear stronger in St. Catherine than in St. Elizabeth and, in the latter, may not turn out to be significant at all.

2. Farm Production Characteristics

Appendix tables (I-1 through I-3) record the crops grown by farm size and present input and investment expenses in some detail for the farms in the two regions. As explained earlier, St. Catherine presents a heterogeneous crop mix but with export (and perennial) crops predominantly with vegetable crops standing out in St. Elizabeth. The rank order of farmers growing crops in St. Catherine has bananas first, followed by cocoa, plantain, renta yams, coffee and their 15 other crops in descending order. In St. Elizabeth, tomatoes were grown by the most farmers, followed by scallions, carrots, cassava and nine other crops.

Production practices were very labor intensive in both regions. Labor expenses stand out in St. Catherine only exceeded by farm tool expenses. These two items were followed by non-permanent crop seed expenses, livestock feed (poultry), rental costs and fertilizer. In St. Elizabeth, fertilizer expenses stand out, having been incurred by 90 percent of the farms in the sample. This is followed by chemical sprays (80 percent), labor expenses and seeds. It is interesting to note the widespread use of two "modern" inputs in the

St. Elizabeth setting regardless of farm size. These inputs combined with water catchment devices are clearly important, almost essential elements for farming in the dry area.

Investment costs in both areas (I-3) were heavily weighted towards such items as land clearing, planting materials, home repair and water supply items (in St. Elizabeth). In neither case do we see any significant investment in high technology such as farm machinery, equipment, tractors, etc.---(i.e. mechanized inputs). The farms, with a few exceptions, are too small for these kinds of investment (St. Elizabeth) or the terrain too hilly (St. Catherine). In short, these farming areas are largely small farmer oriented in size and technology. Investment activity in the last year was limited and only rarely would one discover an investment that would reflect any advantage to scale economies.

3. Marketing Activities

Appendix Tables II-1 through II-5 document the marketing activities in these two farming areas. In brief, both areas rely heavily on higglers to market their crops. The AMC plays a minor role. In St. Catherine, commodity board pick-ups also can be important given the export crop focus. Small farmers in both regions rarely engage in such activities as transporting their own crops, grading and sorting or storing their own crops. Larger sized farms do tend to engage slightly more in these activities, particularly grading and sorting. As a rule,

however, on-farm storage and own-transportation to market are
not that common regardless of farm size. In light of this, it
is surprising that farmers did not register a greater degree
of spoilage. While the problem exists, it was not as widespread
a problem as one might have anticipated.

Table II-5 summarizes the relevant marketing-credit connec-
tions. First, few farmers in either area were engaged in for-
ward contracting of their crops to marketing agents (only 15
percent in both areas). Second, even fewer record receiving
any credit from their marketing agent, either higglers or other
agents. Third, to the extent that credit is involved it is
"reverse credit" from the farmer to the marketing agent. Over
80 percent of the farmers in both regions mentioned they gave
their crops to higglers and only received payment later. The
average time before payment was received ranged from 2 to 3
weeks. This practice gave rise to complaints from some farmers,
especially in St. Elizabeth, since the farmer is vulnerable
to accepting the higglers word concerning the prices ruling
in distant markets. A more developed market information net-
work in the countryside that could quickly up-date and announce
the change in urban food prices for farmers could relax this
constraint somewhat.

Finally, it is apparent that higglering was not common
among farm family members (11 percent in St. Catherine and only
5 percent in St. Elizabeth). This strongly suggests that
higglers are a separate economic class operating in a full-time

intermediation role rather than being a part-time activity in
which farm family members play an important role. This degree
of specialization suggests that higglers are probably in a
better position to play this role more efficiently (at less
cost) than part-time family members. The wholesale reliance
on higglers (and concommitant lack of "own-marketing" activity)
would suggest that farmers perceive an unacceptable risk in at-
tempting to market their crops themselves (or in joining to-
gether in small groups to do this).

4. Credit Overview and Related Distributional
        Profile of Farm Activity

Appendix Tables III-1 through III-3 present various con-
trasting profiles between the distribution of formal and in-
formal credit by farm size and comparable distribution of
land ownership, input expenses, and farm income. Table III-1
shows that in St. Catherine, formal credit is more unequally
distributed by farm size than is land (owned and available)
though more equally distributed or less concentrated by farm
size than land when the latter is defined as acres in produc-
tion. In St. Elizabeth this credit concentration into larger
farm sizes is more marked. Here credit is much more unequally
distributed than land ownership, farm revenue, expenses or
acres cultivated by farm size. For example, the top 11 percent
of the farmers (i.e. those 10 acres and above) have 25 percent
of the farm income recorded in the region; 35 percent of the
farm expenses; 38 percent of owned land, but 60 percent of the

amount of credit issued in the last five years (whereas they only account for 17 percent of the number of loans).

Formal credit is much more concentrated than informal credit in both regions underscoring the fact informal credit is much more important and accessible to smaller sized farmers than is formal credit. The important role of personal loans and partners activity in the smaller farm sizes is implicit in Appendix Table III-2-A and III-2-B where it can be seen how they fall into much smaller average loan sizes than do formal credit transactions. These features are reinforced in Table III-3 for the two regions where farm size (in terms of acres owned) is cross-tabulated with credit status, average expenses and average revenues.

5. Formal Loan Activity

Tables IV-1 through IV-8 in the Appendix present all the relevant information on formal credit use in the two regions. Given the interim nature of this report, we will not spend time analyzing these tables in detail but rather summarize the main features, trends and relationships.

First, formal credit is not widespread in either region. In St. Catherine only 22 percent of the farmers had any formal credit in the last five years. Seventy-one percent had never had any formal credit (Table IV-1-B). In St. Elizabeth only 18 percent had access to formal credit in the last five years with 75 percent stating they had never had any formal credit ever (Table IV-1-D). In both regions the concentration of

loan amounts into larger farm sizes (in terms of acres owned)
stands out while the number of loans predominates in the smaller
farm sizes.

Tables IV-3-B and IV-4-B show that in St. Catherine the
P.C. Banks stand out as the most important source of formal
credit, both in terms of number of loans (47 percent of total
loans) and amounts (29 percent of total amount). It is the
dominant source of formal loans in each farm size category ex-
cept for the largest. In terms of amounts it predominates
over all other sources for farm sizes up to 10 acres.

Crop lien loans, though concentrated more in the smaller
farm size categories than the P.C. Bank loan distribution, still
have a sizeable number and amount allocated to farmers between
5 to 10 acres in size. The SSFDP, JDB and commercial bank
loans, as one would expect, have serviced the largest farm
size categories. The SSFDP loan distribution is skewed towards
the larger size category in their 5 to 25 acre mandate and
records loans in the 25 to 50 and 50+ size categories. Credit
unions, in St. Catherine, though a small source of credit,
still account for more credit activity than had been anticipated.

In terms of the change in the overall distribution of credit
in the last 5 years in St. Catherine, there has been a shift
from larger farm sizes to smaller farm sizes (Tables IV-5-B and
IV-6-B). This is clearly reflecting the change in the relative
strength of various institutional sources of formal credit in
the agricultural credit network in the country. In the mid-

seventies (1974-6) the medium to large farmer credit programs of the SSFDP and JDB, in conjunction with commercial bank lending for agriculture, gave a large impetus to loan activity in the larger farm sizes. From 1977 onwards, however, the contraction in these programs has affected the flow of credit to larger farmers while the launching of the Crop Lien Program opened up lines of credit to smaller farm sizes.

Finally, it is not surprising to note the relatively poor repayment performance evident in the small farmer programs in St. Catherine (especially the Crop Lien Program) as compared to other loan sources (Table IV-8). Among larger farm sources the JDB also exhibits a poor repayment profile.

In St. Elizabeth the most important sources of loans in terms of numbers of loans are the Crop Lien Program (40 percent of all loans), the P.C. Banks (35 percent) followed by the SSFDP (10 percent). In terms of amounts the SSFDP accounted for 60 percent of all the formal loan amounts recorded in the last 5 years while the Crop Lien Program recorded 21 percent and the P.C. Banks 10 percent of the total loan portfolio over the last five years (Table II-4-D).

The SSFDP loan sources predominate in the largest farm sizes, indeed, it is the principle larger farmer loan source in the area. Almost sixty percent of the value of SSFDP loans go to farm sizes 25 acres or more (in terms of acres owned). Thus, we see this loan source concentrating in farm sizes well above its more conventional farm size mandate of 5 to 25 acres.

This issue also stands out in the Crop Lien portfolio where over 70 percent of the value of loans made from this loan source were located in farm sizes 5 acres and above. Only 27 percent of the Crop Lien portfolio by value was located in farm sizes within its conventional small farmer mandate (i.e. below 5 acres).

Another feature to this loan concentration in St. Elizabeth is that the P.C. Banks' loan portfolio by value is much less concentrated into the larger farm sizes above 5 acres (only 50 percent as compred to 70 percent for the Crop Lien Program) and, relatively speaking, more equitably distributed into the smaller farm sizes (below 5 acres). Thus, in contrast to St. Catherine, the P.C. Bank loan activity in St. Elizabeth is a more small farmer-oriented operation while the Crop Lien Program is servicing more medium sized farms 5 acres and above.

At the same time the repayment record for the P.C. Banks in St. Elizabeth is substantially better than for the Crop Lien Program. The farmers may look upon the P.C. Bank line of credit as a more regular and permanent source of funds than those coming from the more temporary Crop Lien source. As a result, they may regard the P.C. Bank funds as a more likely and, therefore, more reliable source of funds in the future and thus, repay more regularly to guarantee their access to future funding.

Finally, it should be noted that funding from all loan sources has declined in 1979 but this stands out even more

strongly in the Crop Lien Program. Thus, the present level of
new loan issues is relatively low for the region when compared
to earlier years (especially 1977).

An issue of some importance in documenting loan activity
at the farm-household level is the degree to which farmers may
hide the fact, to an interviewer in a survey, that they have
loans outstanding, particularly if they are delinquent or in
default on their repayments. There is no way to check this
unless the survey team checks with local branches of the var-
ious loan sources to see if the farmers in their sample are
in the books of these institutions as borrowers.

Attempts were made to do this in St. Elizabeth and it was
discovered that some farmers who said they had no loans were
recorded as borrowers in the P.C. Bank and Crop Lien loan
files. Unfortunately, there was not sufficient time to inves-
tigate this in detail for our entire sample, given the reluc-
tance of the bank manager and staff to sort out their rather
poorly kept loan files in such a manner to accomplish this
task. Such an effort would have taken more time than the
bank staff felt they had available. Still, this is an issue of
some importance that deserves to be kept in mind for the future,
if only to accurately assess the true level of credit activity
in a specified region. For the purposes of our present report
it is felt that the estimates of loan activity recorded here
are probably "lower-bound" estimates in which there is an un-
specified element of underreporting.

6. Informal Credit Activity

Informal credit activity has rarely been studied at the farm-household level in Jamaica and consequently is little understood in the professional literature on the island. Tables V-1 through V-6 in the APpendix highlight the widespread use of informal credit in both regions. Sixty-five percent of the farmers in the St. Catherine sample and 64 percent in the St. Elizabeth sample had informal loans (Tables V-1-B and V-1-D). If one looks at the number of farmers who had informal loans only, these percentages are 53 percent in each area. This compares to only 9 percent and 7 percent with formal loans only in both regions.

The most common forms of informal credit activity are personal loans, partners group activity (rotating credit groups) and, to a lesser extent, consumer loans (Table V-3). Farm input supply and marketing credit are relatively minor sources of informal credit. Most farmers participating in the informal credit market have more than one loan. This multiple loan activity contrasts to the single loan pattern characteristic of the formal credit activity. This suggests that informal credit is a more regular and frequently used source of liquidity than formal credit. As one would expect, the average size of informal loans is much less than that for formal loans and informal loans are more widespread among the smaller farm sizes, particularly 5 acres or less (Table V-3). No doubt this reflects the fact that smaller farmers have less access to formal

credit and find it necessary to use informal sources to supplement their personal savings for liquidity needs.

The relative importance of informal credit is evident for these smaller farm sizes. There are far more informal loan transactions recorded for these size groups than are recorded for the allegedly small farmer formal credit programs (i.e. Crop Lien and P.C. Bank loans) for these same farm sizes. Moreover, in St. Elizabeth, preliminary data suggest that even in terms of value or dollar amount of credit, these informal sources register higher levels of total credit for all farms than the amounts recorded from the formal small farmer sources (i.e. Crop Lien and P.C. Banks). Farmers themselves are important sources of informal loans. In St. Elizabeth, for example, over 40 percent of the farmers in the sample made personal loans (Table V-6-B). Thus, by any measure, informal credit is of major importance to these small farmers, a finding that is generally unappreciated in professional circles in Jamaica. At the same time the extent of this activity among small farmers, combined with the fact that farmers themselves are an important source of these loans, strongly suggest that there is more liquidity and savings among small farmers than is generally believed.

This savings capacity is also underscored in Table V-6 where it can be seen that in 1979, 35 percent of the farmers in St. Catherine and 40 percent in St. Elizabeth held some form of formal savings instrument. This confirms the suspicions

of the National Savings Committee that there is an important
source of savings in the rural areas which, for the most part,
is drained off into the urban areas through the branch net-
works of the commercial banking network.

A final issue of interest in the area of informal credit
is whether interest is charged on these more personal forms
of credit, especially for personal loans. Survey results
generally show that no "formal" interest was charged on these
loans. However, it is naive not to expect some form of re-
ciprocity operating here between a small farmer lender and a
small farmer borrower. No doubt various forms of reciprocal
labor arrangements characterize these relationships along
with such other forms of mutual help or sharing of produce,
farm tools, inputs, etc.---. Farmer cooperation and reciprocity
in a small farmer setting no doubt replaces the unnecessary
formal form of interest charges for informal loans.

7. Off-Farm Employment Activity

Tables VI-1 through VI-4 in the Appendix document various
features of off-farm employment for members of the farm
family household in these two regions and draws our discussion
to a close. The first finding that emerges from these data
confirms our closing statement in the informal credit section,
namely, the importance of reciprocal labor arrangements in the
small farmer setting in Jamaica. Table VI-1-A and VI-1-C indi-
cate that 47 percent of the farmers in St. Catherine and 42 per-
cent in St. Elizabeth worked off their farms on other farms for

free. At the same time, 56 percent of the farmers in St. Cath-
erine and 49 percent in St. Elizabeth benefited from free labor
on their farms. Nothing could more clearly illustrate the
wide degree of farmer cooperation and reciprocity of labor
services in Jamaica than these results. Moreover, this pat-
tern of cooperative behavior was particularly widespread in
the smaller farm size categories.

Turning to the question of paid work for off-farm employ-
ment, Table VI-2 points out that off-farm earnings can be an
important source of farm family income. Approximately 30
percent of all the farm-households in both regions report that
off-farm earnings are either equal to or more important than
farm earnings. If we restrict our attention to only those
who engage in off-farm work, we can conclude that for the vast
majority of those farm families who have a farm member working
off the farm, off-farm earnings are of equal or greater impor-
tance than farm income.

Again, as with the reciprocal labor exchanges and informal
credit, off-farm employment for pay is more heavily represented
in small farm sizes than in larger farm sizes. Perhaps for
some of these small farmers, farming is truly a secondary oc-
cupation. This should not be surprising given the difficulty
of maintaining a typical family at a decent level of subsistence
or income with only a half or one acre of farm land.

Another interesting association here is the relationship between off-farm employment and credit activity. Eighty four (84) percent of the heads of household engaged in off-farm work in St. Catherine also are involved in some kind of credit activity (formal and informal). The comparable percentage in St. Elizabeth is 80 percent (Tables VI-3-B and VI-3-D). Although the tables do not directly test this hypothesis, there is also a strong likelihood that there is very little credit activity (either formal or informal) among those farm households in which the head of household is not engaged in some form of off-farm employment for pay.

This connection between credit activity and off-farm activity (for pay) can be explained by the fact that off-farm employment brings heads of household in contact with many other farmers and other potential sources of personal loans. This widening circle of contacts, information and opportunities opens up the possibility for contracting personal loans and working out reciprocal arrangements for repayment. In the end, it would appear that among farm families working the same small acreage (say 5 acres or less), those with off-farm employment and earnings are able to leverage their position in such a way as to increase their liquidity and opportunities for increased income more than those farm families not engaged in off-farm activities.

VI. POST-SCRIPT AND AGENDA FOR FUTURE WORK

This final section is not intended to be a broad summary.
We feel that the analysis of the data in the preceding sections
of part V is sufficiently succinct and condensed to serve that
purpose. Instead this section is concerned with the issue of
what continuing work would be helpful at this stage.

First, as mentioned earlier, more formal methods of anal-
ysis with econometric techniques are currently underway to test
the statistical significance of the farm and farm-household diff-
erentials between credit users and non-credit users. At the
same time production function analysis should also be able to
imply in what way access to and use of credit appears to make a
difference in farm production techniques. These results will be
reported in early summer.

Nevertheless, the above analysis and discussion does point
to the need to engage in more work this summer on the twin issues
of borrowing or transactions costs for those farmers with formal
and informal credit and lending costs for those institutions ser-
vicing these farmers. It is important to document in more detail
the full range of obstacles that borrowers or farmers with diff-
erent characteristics encounter in trying to secure a loan from
various formal (and also informal) sources. These costs, of
course, include much more than just the interest charge associated
with the loan they may secure. Time lost from work, trips,
various visits to the lender, fees, additional obligations (for
informal sources), timeliness of loan, restrictions on loan use,

arrangements for repayment, etc. -- all enter into this issue.
Moreover this spectrum of transactions costs differs substan-
tially depending on the various characteristics of the borrower
(farm size, crop activity, new vs. old borrower, etc.) as well
as on the nature of the lending source. A more informed under-
standing of these costs could aid in redesigning current credit
programs to better service various types of rural clientele.

At the same time the lending institutions or programs them-
selves face obstacles in trying to service their clientele.
Important here are the costs they incur in trying to secure
information on borrowers, designing rules or formulas for ration-
ing out their loan funds, undertaking efforts to secure repayments
and dealing with default and, in general, managing the record-
keeping and paperwork needed for monitoring loan activity and
for reporting purposes to higher authorities. These are impor-
tant and challenging tasks and it is not surprising that some
loan programs servicing the farm clientele in Jamaica are finding
it difficult to surmount these obstacles within the resource
constraints they face in their operating budgets.

It is felt that several in depth or case studies of some
branch banks managing Crop Lien and P.C. bank loans, as well as
the SSFDP operations, could throw some light on the nature of
their lending costs, the degree to which they can be expected to
serve their mandate effectively within the limited financial
resources they have to work with. Hopefully some insights could
be gained on various ways in which internal management,

bookkeeping and reporting tasks could be improved and, in a broader context, suggestions made on the "limits of the possible" in requiring these institutions to manage their loan portfolio more effectively than in the past.

Important here is support from the Ministry of Agriculture and the SSFDP to give the entree allowing us to work in confidence with their respective loan agencies or branches selected for study. The costs of this would be minimal since it does not involve expensive and involved field work (at the lenders level) and only a few experienced professionals would be involved. The field work needed for the study of borrowers costs would be much less than that incurred last year since we would be dealing with a subset of the sample already in our files. In the end both studies would add considerably to our knowledge of the nature and functioning of rural financial markets in Jamaica.

APPENDIX TABLES

(All numbers and values in these tables refer to the
adjusted population estimates, as explained in the
text, unless explicitly noted as referring
to sample data only)

I. FARM PRODUCTION CHARACTERISTICS (Sample Only)

    (Appendix Tables I-1 through I-3)

Table I-1

Number of Farmers by Farm Size and Crops Grown (Sample Only)

I-1-A   Number in St. Catherine Area

	Banana	Breadfruit	Cocoa	Cocoe	Coconuts	Coffee	Corn	Dasheen	Kola Nut	Gungo Peas	Plantain	Sweet Potatoes	Pumpkin	Red Beans	Sugar Cane	Eating Cane	Tomatoes	Negro Yams	Renta Yams	Yellow Yams
½ < 1	14	8	5	2	1	3	3	2	1	2	7	1	5	1	3	2	4	1	5	4
1 < 2.5	43	7	22	9	6	14	9	7	4	6	18	13	8	12	5	12	7	4	16	12
2.5 < 5	55	8	32	4	5	12	6	7	5	6	20	7	5	3	9	7	8	7	16	7
5 < 10	39	10	27	8	3	14	4	5	7	3	14	5	6	6	7	7	8	5	8	12
10 < 25	19	9	15	1	3	8	1	1	3	2	10	2	3	1	3	3	1	4	9	2
25 < 50	13	3	9	–	4	4	3	–	4	–	2	–	1	2	1	–	2	2	4	2
50 or more	5	–	4	1	–	1	–	–	1	2	2	–	1	–	2	–	–	2	3	1
TOTAL	188	45	114	25	22	56	26	22	25	21	73	28	29	25	30	31	30	25	61	40

Table I-1 (Continued)

I-1-B   Number in St. Elizabeth Area

	Cabbage	Carrots	Cassava	Cucumber	Melon	Onions	Peas	Pepper	Red Beans	Scallions	Sweet Potatoes	Thyme	Tomatoes	Yams
½ < 1	–	–	3	2	–	–	4	–	–	11	4	–	3	7
1 < 2.5	–	10	12	2	4	2	7	1	3	20	2	4	25	5
2.5 < 5	–	20	9	10	5	12	6	5	6	18	6	5	26	9
5 < 10	1	13	7	9	3	3	6	7	8	16	2	1	22	11
10 < 25	3	8	9	4	5	6	5	6	8	8	1	2	21	5
25 < 50	3	3	–	2	3	–	–	–	1	–	–	–	2	–
50 or more	–	3	–	1	2	1	–	1	2	2	–	–	3	1
TOTAL	7	57	40	30	22	24	28	20	28	75	15	12	102	38

(1) Only crops grown by at least 3 farmers included.

(2) Growing more than 1 crop possible.

Table I-2

Number of Farmers with Input Expenses by Type of Expense
and Selected Measures of Distribution
(Sample Only)

I-2-A   St. Catherine Area

Type of Expense	# Farmers	Mean	Median	Mode	STD. DEV.	Coef. of Var.
Hired Labor	129	$661.91	$100.31	$100.00	$3,684.39	5.57
Farm Machinery	4	620.00	37.50	30.00	1,146.84	1.85
Hired Transport	38	107.97	40.50	50.00	152.06	1.41
Farm Tools	136	33.65	20.17	6.00	42.87	1.27
Fertilizer	59	276.05	64.00	17.00	1,263.25	4.58
Chemicals	44	127.16	50.17	20.00	360.36	1.30
Livestock Feed	70	326.80	76.50	10.00	1,110.52	3.40
Seeds, etc. (Non-perm. Crops)	98	34.12	10.39	2.00	53.34	1.56
Power	23	437.61	50.00	30.00	1,224.16	2.80
Vet. Services	8	76.75	14.50	1.00	171.66	2.24
Rent (on land)	68	43.21	20.25	10.00	101.93	2.36
Insurance	1	6.00	6.00	6.00	–	–
Other	4	$359.00	$ 93.00	$ 50.00	$ 561.04	1.56

Table I-2 (Continued)

I-2-B   St. Elizabeth Area

Input Expense	No. of Farmers Undertaking Expense	($) Mean	($) Median	($) Mode	Std. Dev.	Coefficient of Variation
Labor	107	1173	315	200	2537	2.16
Machinery	35	138	70	80	222	1.60
Transport	72	110	55	50	182	1.65
Fertilizer	139	369	180	120	657	1.78
Chemicals	124	195	74	200	466	2.39
Seeds	106	70	30	20	139	1.98
Power	30	47	25	30	65	1.38

Table I-3

Number of Farmers with Investment Expenses by
Type and Selected Measures of Distribution
(Sample Only)

I-3-A   St. Catherine Area

Type of Investment	# of Farmers	Mean	Median	Mode	STD. DEV.	Coef. of Var.
Planting Materials (Perm. crops)	42	$ 50.79	$ 25.50	$ 10.00	$ 86.95	1.71
Farm Buildings	13	1,907.54	150.00	300.00	5,469.57	2.87
Added Construction or repair to home	42	1,002.83	200.00	300.00	3,151.50	3.14
Farm Machinery	2	373.50	373.50	5.00	521.14	1.39
Roads & Fencing	20	178.30	81.00	100.00	456.80	2.56
Water Supply Items	12	217.17	40.00	24.00	446.98	2.06
Drainage	15	82.20	20.12	20.00	203.30	2.47
Pasture Improvement	9	110.89	98.00	30.00	87.82	.79
Land Clearing (for crops)	78	184.49	70.50	100.00	383.26	2.08
Land Purchase	3	466.67	250.00	30.00	576.40	1.23
Other	6	$ 402.33	$274.00	$ 36.00	$ 421.54	1.05

Table I-3 (Continued)

I-3-B St. Elizabeth Area

Type of On-farm Investment	No. of Farmers	Mean	Std. Dev.	Coefficient of Variation
Planting Materials	37	118.9	242.9	2.04
Farm Buildings	7	201.4	355.3	1.76
Home Repair or Construction	28	1229.6	1870.2	1.52
Purchased Farm Machinery	2	38.5	23.2	.60
Purchased Truck	2	9930.0	12,826.9	1.29
Purchased Car or Van	4	2985.0	3447.9	1.15
Roads and Fencing	8	207.2	224.7	1.08
Water Supply Items	22	695.9	886.7	1.27
Drainage	1	80.0	-	-
Terracing	-	-	-	-
Pasture Improvements	3	92.0	32.74	.355
Land Clearing	75	186.2	223.7	1.20
Land Purchase	3	2916.6	2742.4	.94

II. <u>MARKETING ACTIVITIES</u>

(Appendix Tables II-1 through II-5)

Table II-1

Frequency of Farmers Transporting
Own Crops to Market by Farm Size

II-1-A   Number of Farmers in St. Catherine Area

Farm Size (in acres)	Almost Always (1)	Usually (2)	Sometimes (3)	Rarely (4)	TOTAL (5)
½ < 1	54	12	10	193	269
1 < 2.5	93	115	92	409	709
2.5 < 5	89	128	106	330	653
5 < 10	69	96	107	248	520
10 < 25	—	63	54	82	199
25 < 50	11	5	20	19	55
50 or more	4	—	2	5	11
TOTAL	320	419	391	1286	2416

II-1-B   Percentage Distribution for St. Catherine Area

Farm Size	Almost Always	Usually	Sometimes	Rarely	TOTAL
½ < 1	20.07	4.46	3.72	71.75	100.00%
1 < 2.5	13.12	16.22	12.98	57.69	100.00%
2.5 < 5	13.63	19.60	16.23	50.54	100.00%
5 < 10	13.27	18.46	20.58	47.69	100.00%
10 < 25	—	31.66	27.13	41.21	100.00%
25 < 50	20.00	9.09	36.36	34.54	100.00%
50 or more	36.36	—	18.18	45.45	100.00%
TOTAL	13.25	17.34	16.18	53.23	100.00%

Table II-1 (Continued)

A-11

II-1-C Number of Farmers in St. Elizabeth Area

Farm size (in acres	Almost Always (1)	Usually (2)	Sometimes (3)	Rarely (4)	TOTAL (5)
½ <1	9	-	17	75	101
1 <2.5	39	45	68	125	277
2.5 <5	16	23	68	173	280
5 <10	32	17	54	84	187
10 < 25	7	17	25	49	98
25 < 50	-	-	-	7	7
50 or more	1	-	1	2	4
TOTAL	104	102	233	515	954

II-1-D   Percentage Distribution for St. Elizabeth Area

½ <1	8.91	-	16.83	74.26	100.00%
1 <2.5	14.08	16.24	24.55	45.13	100.00%
2.5 < 5	5.71	8.21	24.29	61.79	100.00%
5 <10	17.11	9.09	28.88	44.92	100.00%
10 < 25	7.14	17.35	25.51	50.00	100.00%
25 < 50	-	-	-	100.00	100.00%
50 or more	25.00	-	25.00	50.00	100.00%
TOTAL	10.90	10.69	24.42	53.98	100.00%

A-12

Table II-2

Frequency of Grading and Sorting Activity
of Farmers by Farm Size

II-2-A Number of Farmers in St. Catherine Area

Farm size (in acres)	Almost Always (1)	Usually (2)	Sometimes (3)	Rarely (4)	TOTAL (5)
½ <1	60	44	30	135	269
1 < 2.5	209	171	105	224	709
2.5 < 5	189	171	155	138	653
5 <10	199	129	106	86	520
10< 25	26	72	56	45	199
25 < 50	3	25	23	4	55
50 or more	7	2	2	–	11
TOTAL	693	614	477	632	2416

II-2-B Percentage Distribution in St. Catherine Area

Farm size	Almost Always	Usually	Sometimes	Rarely	TOTAL
½ <1	22.30	16.36	11.15	50.19	100.00%
1 < 2.5	29.48	24.12	14.81	31.59	100.00%
2.5 < 5	28.49	26.19	23.74	21.13	100.00%
5 <10	38.27	24.81	20.38	16.54	100.00%
10 < 25	13.07	36.18	28.14	22.61	100.00%
25 < 50	5.45	45.45	41.82	7.27	100.00%
50 or more	63.64	18.18	18.18	–	100.00%
TOTAL	28.68	25.41	19.74	26.16	100.00%

Table II-2 (Continued)

II-2-C Number of Farmers in St. Elizabeth Area

Farm size (in acres)	Almost Always (1)	Usually (2)	Sometimes (3)	Rarely (4)	TOTAL (5)
½ 1	17	9	9	66	101
1 2.5	39	31	83	124	277
2.5 5	54	31	123	72	280
5 10	39	16	53	79	187
10 25	17	8	30	43	98
25 50	1	5	-	1	7
50 or more	2	-	-	2	4
TOTAL	169	100	298	387	954

II-2-D Percentage Distribution for St. Elizabeth Area

	(1)	(2)	(3)	(4)	(5)
½ 1	16.83	8.91	8.91	65.35	100.00%
1 2.5	14.08	11.19	29.97	44.76	100.00%
2.5 5	19.29	11.07	43.93	25.71	100.00%
5 10	20.86	8.56	28.34	42.24	100.00%
10 25	17.35	8.16	30.61	43.88	100.00%
25 50	14.29	71.42	-	14.29	100.00%
50 or more	50.00	-	-	50.00	100.00%
TOTAL	17.71	10.48	31.24	40.57	100.00%

Table II-3

Frequency of Storage Activity
Of Farmers by Farm Size

II-3-A Number of Farmers in St. Catherine Area

Farm Size (in acres)	Almost Always (1)	Usually (2)	Sometimes (3)	Rarely (4)	TOTAL (5)
½ < 1	10	0	94	165	269
1 < 2.5	22	93	251	343	709
2.5 < 5	22	157	211	263	653
5 < 10	35	90	219	176	520
10 < 25	0	23	117	59	199
25 < 50	1	4	30	20	55
50 or more	2	2	5	1	11
TOTAL	92	369	927	1027	2416

II-3-B Percentage Distribution in St. Catherine Area

	(1)	(2)	(3)	(4)	(5)
½ < 1	3.72	—	34.94	61.34	100.00%
1 < 2.5	3.10	13.12	35.40	48.38	100.00%
2.5 < 5	3.37	24.04	32.31	40.28	100.00%
5 < 10	6.73	17.31	42.11	33.85	100.00%
10 < 25	—	11.56	58.79	29.65	100.00%
25 < 50	1.82	7.27	54.55	36.36	100.00%
50 or more	18.18	18.18	45.45	9.09	100.00%
TOTAL	3.81	15.27	38.37	42.51	100.00%

Table II-3 (Continued)

II-3-C   Number of Farmers in St. Elizabeth Area

Farm Size (in acres)	Almost Always (1)	Usually (2)	Sometimes (3)	Rarely (4)	TOTAL (5)
½ < 1	9	41	16	35	101
1 < 2.5	16	68	139	54	277
2.5 < 5	8	55	154	63	280
5 < 10	5	28	69	85	187
10 < 25	–	24	32	42	98
25 < 50	–	1	–	6	7
50 or more	–	–	1	3	4
TOTAL	38	217	411	288	954

II-3-D   Percentage Distribution for St. Elizabeth Area

	(1)	(2)	(3)	(4)	(5)
½ < 1	8.91	40.59	15.84	34.66	100.00%
1 < 2.5	5.78	24.55	50.18	19.49	100.00%
2.5 < 5	2.86	19.64	55.00	22.50	100.00%
5 < 10	2.67	14.98	36.90	45.45	100.00%
10 < 25	–	24.49	32.65	42.85	100.00%
25 < 50	–	14.29	–	85.71	100.00%
50 or more	–	–	25.00	75.00	100.00%
TOTAL	3.98	22.75	43.08	30.19	100.00%

Table II-4

Frequency of Farmers Experiencing
Spoilage of Crops by Farm Size

II-4-A Number of Farmers in St. Catherine Area

Farm Size (in acres)	Almost Always (1)	Usually (2)	Sometimes (3)	Rarely (4)	TOTAL (5)
½ < 1	0	10	74	185	269
1 < 2.5	22	105	171	411	709
2.5 < 5	12	117	189	335	653
5 < 10	46	73	151	250	520
10 < 25	22	43	99	35	199
25 < 50	1	5	30	19	55
50 or more	2	2	5	2	11
TOTAL	105	355	719	1237	2416

II-4-B Percentage Distribution for St. Catherine Area

	(1)	(2)	(3)	(4)	(5)
½ < 1	-	3.72	27.51	68.77	100.00%
1 < 2.5	3.10	14.81	24.12	57.97	100.00%
2.5 < 5	1.84	17.92	28.94	51.30	100.00%
5 < 10	8.85	14.04	29.04	48.07	100.00%
10 < 25	11.05	21.61	49.75	17.59	100.00%
25 < 50	1.82	9.09	54.55	34.54	100.00%
50 or more	18.18	18.18	45.45	18.18	100.00%
TOTAL	4.35	14.69	29.76	51.20	100.00%

Table II-4 (Continued)

Table II-4-C Number of Farmers in St. Elizabeth Area

Farm Size (in acres)	Almost Always (1)	Usually (2)	Sometimes (3)	Rarely (4)	TOTAL (5)
½ < 1	0	17	50	34	101
1 < 2.5	15	61	173	28	277
2.5 < 5	46	54	124	56	280
5 < 10	-	76	66	45	187
10 < 25	8	27	39	24	98
25 < 50	-	1	1	5	7
50 or more	-	3	-	1	4
TOTAL	69	239	453	193	954

II-4-D Percentage Distribution for St. Elizabeth Area

Farm Size (in acres)	(1)	(2)	(3)	(4)	(5)
½ < 1	-	16.83	49.50	33.67	100.00%
1 < 2.5	5.42	22.02	62.45	10.11	100.00%
2.5 < 5	16.43	19.28	44.29	20.00	100.00%
5 < 10	-	40.64	35.29	24.07	100.00%
10 < 25	8.16	27.55	39.80	24.49	100.00%
25 < 50	-	14.29	14.29	71.42	100.00%
50 or more	-	75.00	-	25.00	100.00%
TOTAL	7.24	25.05	47.48	20.23	100.00%

Table II-5

Forward Contracting, Higglering and Marketing Credit Activity
by Farmers in St. Catherine and St. Elizabeth (Sample Only)

		St. Catherine	St. Elizabeth
1)	Percentage of farms engaging in forward contracting	14.47%	14.83%
2)	Percentage of farm families with at least one member higglering	11.06%	5.16%
3)	Percentage farms that use higglers	64.47%	89.62%
4)	Percentage of all farmers in sample who give crops to higglers and receive payment later	53.62%	73.55%
5)	Percentage of farmers dealing with higglers who give crops to higglers and receive payment later	82.89%	82.01%
6)	Percentage receiving credit from higglers	4.26%	12.95%
7)	Percentage of farmers selling to any marketing agent and receiving payment later	68.09%	76.77%
8)	Percentage of farm receiving credit from any marketing agent	4.26%	11.61%

III. CREDIT OVERVIEW AND RELATED DISTRIBUTIONAL
          PROFILE OF FARM ACTIVITY

(Appendix Tables III-1 through III-3)

Table III-1

Distribution of Land, Credit, Farm
Income and Input Expense by Farm Size

III-1-A Distributional Profile for St. Catherine Area

Farm Size (in acres)	% of Total Farms	% of Total Acres Available	% of Total Acres Owned	% of Total Acres Cultivated	% of Total No. of Formal Loans	% of Dollar Amt. of Formal Loans in last 5 Years	% of Total No. of Informal Credit Transactions	% of Dollar Amt. of Informal Credit	% of Total No. of Credit Transactions	% of Total Dollar Amt. of Credit	% of Total Farm Revenue	% of Total Farm Input Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
½ < 1	11.13	1.23	.98	1.69	6.08	3.77	10.41	17.58	9.70	7.48	1.91	2.21
1 < 2.5	29.35	8.60	5.84	12.25	23.95	11.98	31.95	35.36	30.08	18.26	10.92	18 12
2.5 < 5	27.03	17.79	15.52	21.66	35.36	18.20	27.48	15.45	28.04	17.46	12.49	17.83
5 < 10	21.52	26.35	26.81	27.57	20.34	13.34	22.35	18.56	23.01	14.74	22.37	24.08
10 < 25	8.24	19.74	25.10	18.78	11.79	25.27	5.34	8.06	6.72	20.65	8.16	7.66
25 < 50	2.28	14.05	10.07	9.63	.95	5.40	1.93	4.25	1.87	5.09	7.71	4 64
50 or more	.45	12.34	15.65	8.42	1 52	22.03	.53	.74	.58	16.32	36.94	25.46
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table III-1 (Continueu)

III-1-B Distributional Profile for St. Elizabeth Area

Farm Size (in acres)	% of Total Farms	% of Total Acres Available	% of Total Acres Owned	% of Total Acres Cultivated	% of Total No. of Formal Loans	% of Dollar Amt. of Formal Loans in Last 5 Years	% of Total No. of Informal Credit Transactions	% of Dollar Amt. of Informal Credit	% of Total No of Credit Transactions	% of Total Dollar Amt. of Credit	% of Total Farm Revenue	% of Total Farm Input Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
½ < 1	10.59	1.33	1.30	2.51	–	–	24.08	20.46	17.68	6 63	2 76	2 13
1 < 2.5	29.04	9.46	10.32	16.40	30.32	8.04	40.66	31.55	37.91	15.66	14.42	15 37
2.5 < 5	29.35	20.69	19.21	30.20	17.55	5.89	20.81	18.84	19.94	10.09	32.24	20 65
5 < 10	19.60	27.60	31.05	26.70	34.57	25.36	8.29	8.48	15.27	19.88	25 59	26.71
10 < 25	10.27	31.09	30.12	20.95	15.96	29.02	5.97	20.10	8.64	26.13	19.37	30 17
25 < 50	0.73	5.04	1.87	1.82	0.54	20.37	0.19	0.57	0.28	13.96	2.24	1.91
50 or more	0.42	4.79	6.13	1.42	1.06	11.32	–	–	0.28	7.65	3.38	3.06
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table III-3

Average Input Expense, Revenue and Credit for Farmers
by Selected Farm Size Categories
(Sample Only)

III-3-A St. Catherine Area

Farm Size (in acres)	No. of Farms	Credit Use	Ave Expense	Ave Revenue	Ave Credit
	(10)	Formal Only	$ 238	$ 132	$ 701
½ < 5	(75)	Informal Only	$ 165	$ 172	$ 108
	(21)	Both	$ 580	$ 309	$1,229
	(43)	None	$ 132	$ 120	$
	(9)	Formal Only	$ 272	$ 148	$ 550
5 < 25	(29)	Informal Only	$ 528	$ 464	$ 150
	(9)	Both	$1,060	$ 555	$ 601
	(19)	None	$ 441	$ 400	$ –
	(5)	Formal Only	$7,520	$16,629	$1,900
25 or more	(6)	Informal Only	$ 280	$ 481	$ 440
	(5)	Both	$ –	$ –	$ –
	(4)	None	$7,524	$12,573	$ –
	(24)	Formal Only	$1,568	$ 3,134	$ 892
Total	(110)	Informal Only	$ 264	$ 262	$ 135
	(35)	Both	$ 724	$ 383	$1,041
	(66)	None	$1,010	$ 1,526	$ –

Table III-2 (Continued)

III-2-B   Distribution for St. Elizabeth

Loan Size (in dollars)	Percentage of Total Credit		Percentage of Formal Credit 1978-79		Percentage of Formal Credit in the Last 5 Years		Percentage of Informal Credit in the Last 5 Years		Percentage of Total Partners Group Activity in the Last 5 Years		Percentage of Personal Credit in the Last 5 Years	
	No. (1)	Dollar (2)	No. (3)	Dollar (4)	No. (5)	Dollar (6)	No. (7)	Dollar (8)	No. (9)	Dollar (10)	No. (11)	Dollar (12)
1 < 50	19.30	0.39	–	–	–	–	28.57	3.13	6.67	1.09	33.88	3.75
50 < 101	27.19	1.72	13.33	0.81	10.80	0.31	35.07	11.61	40.00	13.09	33.87	11.16
101 < 251	15.79	2.54	20.0	3.47	16.22	1.10	15.58	12.60	26.67	14.30	12.90	12.09
251 < 501	13.16	4.58	20.0	5.65	18.92	2.44	10.39	19.58	20.00	37.78	8.06	14.15
501 < 1001	10.53	7.41	13.33	7.26	18.92	5.10	6.50	23.59	–	–	8.06	30.64
1001 < 3500	7.89	9.58	20.0	23.66	16.22	6.74	3.89	29.48	6.66	33.74	3.23	28.21
3500 or more	6.14	73.78	13.34	59.15	18.92	84.31	–	–	–	–	–	–
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table III-3

Average Input Expense, Revenue and Credit for Farmers
by Selected Farm Size Categories
(Sample Only)

III-3-A St. Catherine Area

Farm Size (in acres)	No. of Farms	Credit Use	Ave Expense	Ave Revenue	Ave Credit
½ < 5	(10)	Formal Only	$ 238	$ 132	$ 701
	(75)	Informal Only	$ 165	$ 172	$ 108
	(21)	Both	$ 580	$ 309	$1,229
	(43)	None	$ 132	$ 120	$
5 < 25	(9)	Formal Only	$ 272	$ 148	$ 550
	(29)	Informal Only	$ 528	$ 464	$ 150
	(9)	Both	$1,060	$ 555	$ 601
	(19)	None	$ 441	$ 400	$ –
25 or more	(5)	Formal Only	$7,520	$16,629	$1,900
	(6)	Informal Only	$ 280	$ 481	$ 440
	(5)	Both	$ –	$ –	$ –
	(4)	None	$7,524	$12,573	$ –
Total	(24)	Formal Only	$1,568	$ 3,134	$ 892
	(110)	Informal Only	$ 264	$ 262	$ 135
	(35)	Both	$ 724	$ 383	$1,041
	(66)	None	$1,010	$ 1,526	$ –

Table III-3 (Continued)

III-3-B St. Elizabeth Area

Farm Size (in acres)	Credit Use	No. of Farms	Ave. Expense ($)	Ave. Revenue ($)	Ave. Credit ($)
1/2 < 5	Formal Only	2	$ 994	$ 325	$ 222
	Informal Only	28	482	551	222
	Both	3	455	340	336
	None	52	658	471	--
5 < 10	Formal Only	5	2299	1305	540
	Informal Only	5	710	161	118
	Both	1	1209	1038	600
	None	21	1424	674	--
10 or more	Formal Only	3	6887	3972	4667
	Informal Only	9	5406	1800	552
	Both	--	--	--	--
	None	26	3417	2066	--
Total	Formal Only	10	3414	1909	1714
	Informal Only	42	1564	772	280
	Both	4	643	514	402
	None	99	1545	933	--

IV. FORMAL CREDIT ACTIVITY

(Appendix Tables IV-1 through IV-8)

Table IV-1   A-27

Number of Farmers With and Without Formal Credit
For Selected Time Periods by Farm Size

IV-1-A   Number of Farmers in St. Catherine Area

Farm Size (in acres)	Had Formal credit in the last 5 years	Had formal credit more than 5 years ago	Total No. who have had formal credit (Cols. 1 + 2)	Never had formal credit	Total No. of farmers in size category (Cols 3+ 4)
	(1)	(2)	(3)	(4)	(5)
¼ < 1	32	–	32	237	269
1 < 2.5	126	–	126	583	709
2.5 < 5	186	66	252	401	653
5. < 10	107	88	195	325	520
10 < 25	62	20	82	117	199
25. < 50	5	–	5	50	55
50 or more	8	–	8	3	11
TOTAL	526	174	700	1716	2416

IV-1-B   Percentage Distribution for St. Catherine Area

Farm size (in acres)	(1)	(2)	(3)	(4)	(5)
½ < 1	11.90	–	11.90	88.10	100.00%
1 < 2.5	17.77	–	17.77	82.23	100.00%
2.5 < 5	28.48	10.11	38.59	61.41	100.00%
5 < 10	20.58	16.92	37.50	62.50	100.00%
10 < 25	31.16	10.05	41.21	58.79	100.00%
25 < 50	9.09	–	9.09	90.91	100.00%
50 or more	72.73	–	72.73	27.27	100.00%
Total	21.77	7.20	28.97	71.03	100.00%

Table IV-1 (Continued)

IV-1-C Number in St. Elizabeth Area

Farm size (in acres)	Had formal credit in the last 5 years (1)	Had formal credit more than 5 years ago (2)	Total No. who have had formal credit (Cols. 1 + 2) (3)	Never had formal credit (4)	Total No. of farmers in size category (Cols 3 +4 (5)
½ < 1	–	9	9	92	101
1 < 2.5	53	23	76	201	277
2.5 ⌐ 5	32	31	63	217	280
5 < 10	62	1	63	124	187
10 < 25	21	6	27	71	98
25 < 50	1	–	1	6	7
50 or more	2	2	4	–	4
TOTAL	171	72	243	711	954

IV-1-D. Percentage Distribution in St. Elizabeth Area

Farm size (in acres)	(1)	(2)	(3)	(4)	(5)
½ < 1	–	8.91	8.91	91.09	100.00%
1 < 2.5	19.13	8.31	27.44	72.56	100.00%
2.5 < 5	11.43	11.07	22.50	77.50	100.00%
5 < 10	33.16	0.53	33.69	66.31	100.00%
10 < 25	21.43	6.12	27.55	72.45	100.00%
25 < 50	14.29	–	14.29	85.71	100.00%
50 or more	50.00	50.00	100.00	–	100.00%
TOTAL	17.92	7.55	25.47	74.53	100.00%

Table IV-2

Dollar Amount of Formal Credit for
Selected Time Periods by Farm Size

IV-2-A Absolute Amounts for St. Catherine Area

Farm Size (in acres)	Dollar Amount of formal credit in the last 5 years (1)	Dollar Amount of formal credit more than 5 years ago (2)	Total Dollar amount of formal credit (3)
½ < 1	$22,900	−	$22,900
1 < 2.5	$72,760	−	$72,760
2.5 < 5	$110,500	$14,140	$124,640
5 < 10	$81,030	$62,750	$143,780
10 < 25	$153,460	$26,000	$179,460
25 < 50	$32,800	−	$32,800
50 or more	$133,800	−	$133,800
TOTAL	$607,250	$102,890	$710,140

IV-2-3 Percentage Distributions for St. Catherine Area

	(1)	(2)	(3)
½ < 1	3.77	−	3.22
1 < 2.5	11.98	−	10.25
2.5 < 5	18.20	13.74	17.55
5 < 10	13.34	60.99	20.25
10 < 25	25.27	25.27	25.27
25 < 50	5.40	−	4.62
50 or more	22.03	−	18.84
TOTAL	100.00%	100.00%	100.00%

Table IV-2 (Continued)

IV-2-C   Absolute Amounts for St. Elizabeth Area

Farm Size (in acres)	Dollar Amount of Formal Credit in the Last 5 Years (1)	Dollar Amount of Formal Credit More Than 5 Years Ago (2)	Total Dollar Amount of Formal Credit (3)
½ < 1	-	$ 1,800	$ 1,800
1 < 2.5	$ 17,760	2,240	20,000
2.5 < 5	13,000	10,000	23,000
5 < 10	56,000	200	56,200
10 < 25	64,100	8,750	72,850
25 < 50	45,000	-	45,000
50 or more	$ 25,000	$ 800	$ 25,800
TOTAL	$220,860	$23,790	$244,650

IV-2-D   Percentage Distribution for St. Elizabeth Area

Farm Size (in acres)	(1)	(2)	(3)
½ < 1	-	7.57%	0.36%
1 < 2.5	8.04%	9.42	8.17
2.5 < 5	5.88	42.03	9.40
5 < 10	25.35	0.84	22.97
10 < 25	29.02	36.78	29.77
25 < 50	20.37	-	18.39
50 or more	11.32	3.36	10.55
TOTAL	100.00%	100.00%	100.00%

Table IV-3

Number of Loans to Farmers in the last 5 Years
from Specific Loan Sources by Farm Size

IV-3-A   Number of Loans for St. Catherine Area

Farm Size (in acres)	Crop Lien (1)	P.C. Farmers Bank (2)	ACB Direct Borrower (3)	SSFDP (4)	JDB (5)	Commercial Bank (6)	Commodity Board (7)	Credit Union (8)	Cooperative Society (9)	Other (10)	Total No of loans (11)
½ < 1	10	0	–	–	–	–	–	44	–	–	54
1 < 2.5	32	96	–	–	–	22	–	–	–	–	150
2.5 < 5	56	124	–	10	–	–	10	10	12	20	242
5 < 10	35	50	10	–	–	–	12	–	–	13	120
10 < 25	–	41	–	11	10	–	–	–	–	13	75
25 < 50	–	2	–	1	2	1	–	–	–	–	6
50 or more	–	–	2	1	–	7	–	2	–	–	12
TOTAL	133	313	12	23	12	30	22	56	12	46	659

IV-3-B   Percentage Distribution for St. Catherine Area

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
½ < 1	18.52	–	–	–	–	–	–	81.48	–	–	100.00%
1 < 2.5	21.33	64.00	–	–	–	14.67	–	–	–	–	100.00%
2.5 < 5	23.14	51.24	–	4.13	–	–	4.13	4.13	4.96	8.26	100.00%
5 < 10	29.17	41.67	8.33	–	–	–	10.00	–	–	10.83	100.00%
10 < 25	–	54.67	–	14.67	13.33	–	–	–	–	17.33	100.00%
25 < 50	–	33.33	–	16.67	33.33	16.67	–	–	–	–	100.00%
50 or more	–	–	16.67	8.55	–	58.33	–	16.67	–	–	100.00%
TOTAL	20.18	47.50	1.82	3.49	1.82	4.55	3.34	8.50	1.82	6.98	100.00%

Table IV-3 (Continued)

IV-3-C Number of Loans for St. Elizabeth Area

Farm Size (in acres)	Crop Lien (1)	P.C. Farmers Bank (2)	SSFDP (3)	Commercial Bank (4)	Credit Union (5)	Cooperative Society (6)	Other (7)	Total Number of Loans (8)
½ <1	–	–	–	–	–	–	–	–
1< 2.5	17	24	–	8	–	–	8	57
2.5< 5	16	17	–	–	–	–	–	33
5< 10	26	24	5	–	5	–	5	65
10< 25	16	1	10	1	–	1	1	30
25< 50	–	–	1	–	–	–	–	1
50 or more	–	–	2	–	–	–	–	2
TOTAL	75	66	18	9	5	1	14	188

IV-3-D Percentage Distribution for St. Elizabeth

Farm Size (in acres)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
½ < 1	–	–	–	–	–	–	–	–
1 < 2.5	29.82	42.10	–	14.04	–	–	14.04	100.00%
2.5 < 5	48.48	51.52	–	–	–	–	–	100.00%
5 < 10	40.00	36.92	7.70	–	7.69	–	7.69	100.00%
10 < 25	53.34	3.33	33.34	3.33	0	3.33	3.33	100.00%
25 < 50	–	–	100.00	–	–	–	–	100.00%
50 or more	–	–	100.00	–	–	–	–	100.00%
TOTAL	39.89	35.11	9.57	4.79	2.66	0.53	7.45	100.00%

Table IV-4
Dollar Amount of Loans in the Last 5 Years
Specific Loan Sources by Farm Size

IV-4-A Dollar Amounts for St. Catherine Area

Farm Size (in acres)	Crop Lien (1)	P.C. Farmers Bank (2)	ACB Direct Borrower (3)	SSFDP (4)	JDB (5)	Commercial Bank (6)	Commodity Board (7)	Credit Union (8)	Cooperative Society (9)	Other (10)	Total dollar amt. of dollars (11)
½ < 1	$1,500	$ –	$ –	$ –	$ –	$ –	$ –	$21,400	$ –	$ –	$22,900
1 < 2.5	$8,160	$33,600	$ –	$ –	$ –	$31,000	$ –	$ –	$ –	$ –	$72,760
2.5 < 5	$21,500	$45,800	$ –	$5,000	$ –	$ –	$10,000	$10,000	$12,000	$6,200	$110,500
5 < 10	$9,600	$60,130	$5,000	$ –	$ –	$ –	$2,400	$ –	$ –	$3,900	$81,030
10 < 25	$ –	$35,260	$ –	$23,000	$90,000	$ –	$ –	$ –	$ –	$5,200	$153,460
25 < 50	$ –	$ 900	$ –	$ 1,900	$10,000	$20,000	$ –	$ –	$ –	$ –	$32,800
50 or more	$ –	$ –	$15,600	$ 2,200	$ 0	$113,000	$ –	$ 3,000	$ –	$ –	$133,800
TOTAL	$40,760	$175,690	$20,100	$32,100	$100,000	$164,000	$12,400	$34,400	$12,000	$15,300	$607,250

IV-4-B Percentage Distribution for St. Catherine Area

Farm Size	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
½ < 1	6.55	–	–	–	–	–	–	93.45	–	–	100.00%
1 < 2.5	11.21	46.18	–	–	–	42.61	–	–	–	–	100.00%
2.5 < 5	19.46	41.45	–	4.52	–	–	9.05	9.05	10.86	5.61	100.00%
5 < 10	11.85	74.21	6.17	–	–	–	2.96	–	–	4.81	100.00%
10 < 25	–	22.98	–	14.99	58.65	–	–	–	–	3.39	100.00%
25 < 50	–	2.74	–	5.79	30.49	60.98	–	–	–	–	100.00%
50 or more	–	–	11.66	1.64	–	84.45	–	2.24	–	–	100.00%
TOTAL	6.71	28.93	3.39	5.29	16.47	27.01	2.04	5.66	1.98	2.52	100.00%

Table IV-4 (Continued)

IV-4-C Dollar Amounts for St. Elizabeth Area

Farm Size (in acres)	Crop Lien (1)	P.C. Farmers Bank (2)	SSFDP (3)	Commercial Bank (4)	Credit Union (5)	Cooperative Society (6)	Other (7)	Total (8)
½ < 1	-	-	-	-	-	-	-	-
1 < 2.5	$5,400	$7,200	-	$3,200	-	-	1,960	$17,760
2.5 < 5	$8,000	$5,000	-	-	-	-	-	$13,000
5 < 10	$16,600	$9,650	$23,000	-	$3,000	-	$3,750	$56,000
10 < 25	$17,800	$1,000	$39,000	$6,000	-	$100	$ 200	$64,100
25 < 50	-	-	$45,000	-	-	-	-	$45,000
50 or more	-	-	$25,000	-	-	-	-	$25,000
TOTAL	$47,800	$22,850	$132,000	$9,200	$3,000	$100	$5,910	$220,860

IV-4-D Percentage Distribution for St. Elizabeth Area

Farm Size	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
½ < 1	-	-	-	-	-	-	-	-
1 < 2.5	30.40	40.54	-	18.02	-	-	11.04	100.00%
2.5 < 5	61.54	38.46	-	-	-	-	-	100.00%
5 < 10	29.64	17.23	41.07	-	5.36	-	6.70	100.00%
10 < 25	27.77	1.56	60.84	9.36	-	0.16	0.31	100.00%
25 < 50	-	-	100.00	-	-	-	-	100.00%
50 or more	-	-	100.00	-	-	-	-	100.00%
TOTAL	21.64	10.34	59.77	4.17	1.35	.04	2.68	100.00%

Table IV-5

Number of Formal Loans in the Last 5 Years by Farm Size and
by Year of Loans

IV-5-A Number of Loans for St. Catherine Area

Farm size (in acres)	1979 (1)	1978 (2)	1977 (3)	1976 (4)	1975 (5)	1974 (6)	Pre 1974 (7)	Total (8)
½ < 1	22	22	10	–	–	–	–	54
1 < 2.5	56	12	22	24	24	–	12	150
2.5 < 5	22	54	58	32	34	22	20	242
5 < 10	22	13	26	12	–	36	11	120
10 < 25	–	27	–	1	10	13	24	75
25 < 50	–	1	1	–	1	–	3	6
50 or more	–	2	2	4	2	2	–	12
TOTAL	122	131	119	73	71	73	70	659

IV-5-B Percentage Distribution for St. Catherine Area

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
½ <1	40.74	40.74	18.52	–	–	–	–	–
1 <2.5	37.33	8.00	14.67	16.00	16.00	–	8.00	100.00%
2.5 < 5	9.09	22.31	23.97	13.22	14.05	9.09	9.17	100.00%
5 < 10	18.33	10.83	21.67	10.00	–	30.00	9.17	100.00%
10 < 25	–	36.00	–	1.33	13.33	17.33	32.00	100.00%
25 <50	–	16.67	16.67	33.33	16.67	16.67	–	100.00%
50 or more	–	16.67	16.67	33.33	16.67	16.67	–	100.00%
TOTAL	18.50	19.89	18.06	11.08	10.77	11.08	10.62	100.00%

Table IV-5 (Continued)

IV-5-C   Number of Loans for St. Elizabeth Area

Farm size (in acres)	1979 (1)	1978 (2)	1977 (3)	1976 (4)	1975 (5)	1974 (6)	Pre 1974 (7)	Total (8)
½ <1	–	–	–	–	–	–	–	–
1< 2.5	8	24	9	–	8	–	8	57
2.5 < 5	8	–	16	–	–	9	–	33
5 < 10	10	23	19	5	8	–	–	65
10 < 25	1	3	14	–	3	9	–	30
25 < 50	–	–	1	–	–	–	–	1
50 or more	–	–	1	–	–	–	–	2
TOTAL	27	50	60	5	19	18	9	188

IV-5-D   Percentage Distribution for St. Elizabeth Area

Farm size	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
½ <1	–	–	–	–	–	–	–	–
1. <2.5	14.03	42.10	15.79	–	14.04	–	14.04	100.00%
2.5< 5	27.27	–	48.48	–	–	24.25	–	100.00%
5 <10	15.39	35.38	29.23	7.69	12.31	–	–	100.00%
10< 25	3.33	10.00	46.67	–	10.00	30.00	–	100.00%
25 < 50	–	–	100.00	–	–	–	–	100.00%
50 or more	–	–	50.00	–	–	–	50.00	100.00%
TOTAL	14.36	26.60	31.91	2.66	10.11	9.57	4.79	100.00%

Table IV-6

Dollar Amount of Formal Loans by
Farm Size and Year in Which Loans Secured

IV-6-A Dollar Amounts for St. Catherine Area

Farm Size (in acres)	1979 (1)	1978 (2)	1977 (3)	1976 (4)	1975 (5)	1974 (6)	Pre 1974 (7)	Total Dollar Amount of Loans
½ < 1	$11,200	$10,200	$ 1,500	$ -	$ -	$ -	$ -	$ 22,900
1 < 2.5	40,860	7,200	6,700	10,800	4,800	-	2,400	72,760
2.5 < 5	8,000	41,400	22,100	9,600	7,400	16,000	6,000	110,500
5 < 10	4,400	3,900	18,200	2,400	-	27,100	25,030	81,030
10 < 25	-	24,460	-	400	90,000	5,200	33,400	153,460
25 < 50	-	800	20,000	-	7,000	-	5,000	32,800
50 or more	-	6,000	15,600	9,000	100,000	3,200	-	133,800
TOTAL	$64,460	$93,960	$84,100	$32,200	$209,200	$51,500	$71,830	$607,250

IV-6-B Percentage Distribution for St. Catherine Area

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
½ < 1	48.91	44.54	6.55	-	-	-	-	100.00%
1 < 2.5	56.16	9.89	9.21	14.84	6.60	-	3.30	100.00%
2.5 < 5	7.24	37.47	20.00	8.69	6.70	14.48	5.43	100.00%
5 < 10	5.43	4.81	22.46	2.96	-	33.44	30.89	100.00%
10 < 25	-	15.94	-	0.26	58.65	3.39	21.76	100.00%
25 < 50	-	2.44	60.97	-	21.34	-	-	100.00%
50 or more	-	4.48	11.66	6.73	74.74	2.39	-	100.00%
TOTAL	10.62	15.47	13.85	5.30	34.45	8.48	11.83	100.00%

Table IV-6 (Continued)

IV-6-C Dollar Amounts for St. Elizabeth Area

Farm Size (in acres)	1979 (1)	1978 (2)	1977 (3)	1976 (4)	1975 (5)	1974 (6)	Pre 1974 (7)	Total Dollar Amount of Loans (8)
½ < 1	$ −	$ −	$ −	$ −	$ −	$ −	$ −	$ −
1 < 2.5	1,960	6,800	1,800	−	4,000	−	3,200	17,760
2.5 < 5	1,600	−	9,600	−	−	1,800	−	13,000
5 < 10	3,250	13,850	7,900	23,000	8,000	−	−	56,000
10 < 25	1,500	12,500	14,800	−	6,300	29,000	−	64,100
25 < 50	−	−	45,000	−	−	−	−	45,000
50 or more	−	−	12,000	−	−	−	13,000	25,000
TOTAL	$8,310	$33,150	$91,100	$23,000	$18,300	$30,800	$16,200	$220,860

IV-6-D Percentage Distribution for St. Elizabeth Area

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
½ < 1	−	−	−	−	−	−	−	−
1 < 2.5	11.04	38.29	10.13	−	22.52	−	18.02	100.00%
2.5 < 5	12.31	−	73.85	−	−	13.84	−	100.00%
5 < 10	5.80	24.73	14.11	41.07	14.29	−	−	100.00%
10 < 25	2.34	19.5	23.09	−	9.83	45.24	−	100.00%
25 < 50	−	−	100.00	−	−	−	−	100.00%
50 or more	−	−	48.00	−	−	−	52.00	100.00%
TOTAL	3.76	15.01	41.25	10.41	8.29	13.95	7.33	100.0%

Table IV-7

Distribution of Credit by Loan Source and Size of Loan (Sample Only)

IV-7-A Percentage Distribution in St. Catherine

Loan Size $	Total Formal Loans		Crop Lien Loans		PC Bank Loans		ACB Direct Borrowers		SSFDP Loans		IDB Loans		Commercial Bank Loans		Credit Union Loans		Other Loans	
	No. %	Amt. %	No. %	Amt. %	No. %	Amt. %	No. %	Amt. %	No. %	Amt. %	No. %	Amt. %	No. %	Amt. %	No. %	Amt. %	No. %	Amt. %
1 - 100	14.48	1.26	24.43	4.83	10.70	1.43	–	–	–	–	–	–	–	–	42.86	6.98	10.87	2.14
101 - 200	16.54	3.55	30.53	18.47	20.07	7.16	–	–	–	–	–	–	–	–	–	–	13.04	5.14
201 - 400	14.18	5.83	9.92	12.81	15.72	10.49	29.41	13.07	–	–	–	–	–	–	–	–	28.26	19.49
401 - 600	24.08	13.16	18.32	26.60	24.41	21.50	64.71	35.95	43.48	15.58	–	–	40.00	3.66	–	–	23.91	26.12
601 - 1,000	20.68	20.22	16.79	37.29	21.40	33.65	–	–	4.35	3.11	–	–	3.33	.61	53.57	84.30	23.91	47.11
1,001 or more	10.04	55.98	–	–	7.69	25.76	5.88	50.98	52.17	81.31	100	100	56.67	95.73	3.57	8.72	–	–
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table IV-7 (Continued)

IV-7-B   Distribution for St. Elizabeth

Loan Size (in dollars)	Percentage of Formal Credit		Percentage of Total PC Farmers Bank Loans		Percentage of Total Crop Lien Loans		Percentage of Total SSFDP Loans		Percentage of Other Formal Loans	
	No. (1)	Dollar (2)	No. (3)	Dollar (4)	No. (5)	Dollar (6)	No. (7)	Dollar (8)	No. (9)	Dollar (10)
1 < 50	–	–	–	–	–	–	–	–	–	–
50 < 101	10.80	0.31	27.27	4.67	–	–	–	–	16.67	1.21
101 < 251	16.22	3.47	9.09	3.74	25.0	5.97	–	–	33.33	5.36
251 < 501	18.92	5.65	36.37	28.04	16.67	8.46	–	–	16.67	4.82
501 < 1001	18.92	7.26	18.18	37.38	25.0	23.88	–	–	33.33	16.27
1001 < 3500	16.22	23.66	9.09	26.17	33.33	61.69	–	–	–	–
3500 or more	18.92	59.15	–	–	–	–	100.0	100.0	16.67	72.34
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table IV-8

Loan Repayment Profile for Various loan Sources by Farm Size

IV-8-A   St. Catherine Profile

Farm Size	Crop Lien Repay-ment (1)	Crop Lien No Repay-ment (2)	PCB Repay-ment (3)	PCB No Repay-ment (4)	ACB Repay-ment (5)	ACB No Repay-ment (6)	SSFDP Repay-ment (7)	SSFDP No Repay-ment (8)	JDB Repay-ment (9)	JDB No Repay-ment (10)	Comm. Banks Repay-ment (11)	Comm. Banks No Repay-ment (12)	Comm. Board Repay-ment (13)	Comm. Board No Repay-ment (14)	Credit Union Repay-ment (15)	Credit Union No Repay-ment (16)	Other Repay-ment (17)	Other No Repay-ment (18)
½ < 1	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1 < 2 5	–	10	36 *	12	–	–	–	–	–	–	12	–	–	–	–	–	–	–
2.5 < 5	12	24	10	34	–	–	10	–	–	–	–	–	–	10	10	–	1?	20
5 < 10	–	13	23	1	–	10	–	–	–	–	–	–	12	–	–	–	–	1?
10 < 25	–	–	15	26	–	–	11	–	–	10	–	–	–	–	–	–	–	13
25 < 50	–	–	2	–	–	–	–	1	–	2	1	–	–	–	–	–	–	–
50 or more	–	–	–	–	–	2	1	–	–	–	4	–	–	–	–	–	–	–
TOTAL	22	47	86	73		12	22	1		12	17		12	10	10		12	46

IV-8-B   St. Elizabeth Profile

Farm Size	Crop Lien Repayment	Crop Lien No Repayment	PC Farmers Bank Repayment	PC Farmers Bank No Repayment	SSFDP Repayment	SSFDP No Repayment	Comm. Bank Repayment	Comm. Bank No Repayment	Other Repayment	Other No Repayment
½ < 1	–	–	–	–	–	–	–	–	–	–
1 < 2.5	8	9	15	8	–	–	8	–	–	–
2.5 < 5	–	8	8	–	–	–	–	–	–	–
5 < 10	–	17	13	5	–	5	–	–	5	–
10 < 25	–	12	–	1	10	–	1	–	1	–
25 < 50	–	–	–	–	1	–	–	–	–	–
50 or more	–	–	–	–	2	–	–	–	–	–
TOTAL	8	46	36	14	13	5	9	–	6	–

V. INFORMAL CREDIT ACTIVITY

(Appendix Tables V-1 through V-6)

Table V-1   A-43

Number of Farmers by Farm Size and
Selected Category of Credit Activity in the Last 5 Years

V-1-A   Number in St. Catherine Area

Farm Size (in acres)	Farmers with both formal and informal credit	Farmers with formal credit only	Farmers with informal credit only	Farmers with formal credit (Cols. 1 + 2)	Farmers with informal credit (Cols. 1 + 3)	Total No. of farmers with credit activity (Cols. 1+ 2 +3)	Total No. of farmer in size category
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
½ < 1	22	10	153	32	175	185	269
1 < 2.5	96	30	415	126	512	542	709
2.5 < 5	108	78	294	186	402	480	653
5 < 10	48	59	322	107	370	429	520
10 < 25	28	34	64	62	92	126	199
25 < 50	2	3	28	5	30	33	55
0 or more	6	2	3	8	9	11	11
TOTAL	310	216	1280	526	1590	1806	2416

V-1-B   Percentage Distribution in St. Catherine Area

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
½ < 1	8.18	3.72	56.88	11.89	65.05	68.77	100.00%
1 < 2.5	13.54	4.23	58.53	17.77	72.21	76.44	100.00%
2.5 < 5	16.54	11.94	45.02	28.48	61.56	73.71	100.00%
5 < 10	9.23	11.35	61.92	20.58	71.15	82.50	100.00%
10 < 25	14.07	17.09	32.16	31.16	46.23	63.32	100.00%
25 < 50	3.64	5.45	50.91	9.09	54.55	60.00	100.00%
50 or more	54.55	18.18	27.27	72.73	81.82	100.00	100.00%
TOTAL	12.83	8.94	52.98	21.77	65.81	74.75	100.00%

Table V-1 (Continued)

A-44

V-1-C   Number in St. Elizabeth Area

Farm Size (in acres)	Farmers with both formal and informal credit (1)	Farmers with formal credit only (2)	Farmers with informal credit only (3)	Farmers with formal credit (Cols. 1 + 2) (4)	Farmers with informal credit (Cols. 1 + 3) (5)	Total No. of farmers with credit activity (Cols. 1 + 2 + 3) (6)	Total No. of farmers in size category (5)
½ <1	–	–	80	–	80	80	101
1< 2.5	46	7	149	53	195	202	277
2.5< 5	24	8	161	32	185	193	280
5 < 10	13	49	91	62	104	153	187
10 < 25	18	3	20	21	38	41	98
25< 50	–	1	6	1	6	7	7
50 or more	–	2	1	2	1	3	4
TOTAL	101	70	508	171	609	679	954

V-1-D   Percentage Distribution for St. Elizabeth Area

Farm Size	(1)	(2)	(3)	(4)	(5)	(6)	(7)
½ <1	–	–	79.21	–	79.21	79.21	100.00%
1< 2.5	16.61	2.53	53.79	19.13	70.40	72.93	100.00%
2.5< 5	8.57	2.86	57.50	11.43	66.07	68.93	100.00%
5 < 10	6.95	26.20	48.67	33.15	55.62	81.82	100.00%
10 <25	18.37	3.06	20.41	21.43	38.78	41.84	100.00%
25< 50	–	14.29	85.71	14.29	85.71	100.00	100.00%
50 or more	–	50.00	25.00	50.00	25.00	75.00	100.00%
TOTAL	10.59	7.33	53.25	17.92	63.84	71.17	100.00%

Table V-2

A-45

Number of Farmers Who Had Informal Credit in the
Last 5 Years by Farm Size and Informal Loan Activity

V-2-A   Number in St. Catherine Area

Farm Size (in acres)	Farmers with 1 informal credit activity (1)	Farmers with more than 1 informal credit (2)	Farmers with informal credit activity (Cols 1 + 2) (3)	Farmers with no informal credit activity (4)	Total No. of farmers (Cols 3 + (5)
½ <1	135	40	175	94	269
1< 2.5	161	351	512	197	709
2.5< 5	134	268	402	251	653
5 < 10	168	202	370	150	520
10< 25	10	82	92	107	199
25 < 50	4	26	30	25	55
50 or more	7	2	9	2	11
TOTAL	619	971	1590	826	2416

V-2-B   Percentage Distribution in St. Catherine Area

	(1)	(2)	(3)	(4)	(5)
½< 1	50.19	14.87	65.06	34.94	100.00%
1< 2.5	22.71	49.51	72.71	27.79	100.00%
2.5< 5	20.52	41.04	61.56	38.44	100.00%
5 < 10	32.31	38.85	71.15	28.85	100.00%
10< 25	5.03	41.21	46.23	53.77	100.00%
25 < 50	7.27	47.27	54.55	45.45	100.00%
50 or more	63.64	18.18	81.82	18.18	100.00%
TOTAL	25.62	40.19	65.81	34.19	100.00%

Table V-2 (Continued) A-46

V-2-C Number in St. Elizabeth Area

Farm Size (in acres)	Farmers with 1 informal credit activity (1)	Farmers with more than 1 informal credit activity (2)	Farmers with informal credit activity (Cols. 1 + 2) (3)	Farmers with no informal credit activity (4)	Total No. of farmers (Cols. 3 + 4) (5)
½ <1	44	36	80	21	101
1< 2.5	83	112	195	82	277
2.5 < 5	87	98	185	95	280
5 < 10	39	65	104	83	187
10 < 25	18	20	38	60	98
25 < 50	5	1	6	1	7
50 or more	–	1	1	3	4
TOTAL	276	333	609	345	954

V-2-D Percentage Distribution in St. Elizabeth Area

	(1)	(2)	(3)	(4)	(5)
½ <1	43.56	35.64	79.20	20.80	100.00%
1 <2.5	29.96	40.43	70.39	29.61	100.00%
2.5 < 5	31.07	35.00	66.07	33.93	100.00%
5 < 10	20.86	34.76	55.62	44.38	100.00%
10< 25	18.37	20.41	38.78	61.22	100.00%
25 < 50	71.43	14.28	85.71	14.29	100.00%
50 or more	–	25.00	25.00	75.00	100.00%
TOTAL	28.93	34.91	63.84	36.16	100.00%

Table V-3

Number of Informal Credit Activities by Farm Size
and Type of Informal Credit Activity in the Last 5 Years

V-3-A   Number in St. Catherine Area

Farm Size (in acres)	Partners Group	Farm Supply Credit	Consumer Credit	Personal Credit	Marketing Credit	Total N of farm with in formal credit activit
	(1)	(2)	(3)	(4)	(5)	(6)
½ <1	82	10	42	62	10	175
1< 2.5	345	20	273	331	10	512
2.5 < 5	206	53	270	213	80	402
5 <10	151	45	159	205	–	370
10 <25	60	26	66	48	26	92
25< 50	25	1	27	24	–	30
50 or more	1	2	6	1	–	9
TOTAL	870	157	843	884	126	1590

V-3-B   Percentage Distribution in St. Catherine Area

	(1)	(2)	(3)	(4)	(5)	(6)
½ < 1	46.86	5.71	24.00	35.43	5.71	100.0
1< 2.5	67.38	3.91	53.32	64.65	1.95	100.0
2.5 < 5	51.24	13.18	67.16	52.99	19.90	100.0
5 <10	40.81	12.16	42.97	55.41	–	100.0
10 < 25	65.22	28.26	71.74	52.17	28.26	100.0
25 < 50	83.33	3.33	90.00	80.00	–	100.0
50 or more	11.11	22.22	66.66	11.11	–	100.0
TOTAL	54.72	9.87	53.02	55.60	7.92	100.0

Table V-3 (Continued)

V-3-C   Number in St. Elizabeth Area

Farm Size	Partners Group (1)	Farm Supply Credit (2)	Consumer Credit (3)	Personal Credit (4)	Marketing Credit (5)	Total No. of farmers with informal credit activity (6)
½ < 1	17	9	42	44	25	80
1 < 2.5	30	23	101	125	39	195
2.5 < 5	31	8	108	77	48	185
5 < 10	5	5	66	38	13	104
10 < 25	12	1	22	18	5	38
25 < 50	–	–	5	1	5	6
50 or more	–	–	1	–	–	1
TOTAL	95	46	345	303	135	609

V-3-D   Percentage Distribution in St. Elizabeth Area

	(1)	(2)	(3)	(4)	(5)	(6)
½ < 1	21.25	11.25	52.50	55.00	31.25	100.00%
1 < 2.5	15.38	11.79	51.79	64.10	20.00	100.00%
2.5 < 5	16.75	4.32	58.38	41.62	25.94	100.00%
5 < 10	4.81	4.81	63.46	36.54	12.50	100.00%
10 < 25	31.57	2.63	57.89	47.37	13.16	100.00%
25 < 50	–	–	83.33	16.67	83.33	100.00%
50 or more	–	–	25.00	–	–	100.00%
TOTAL	15.59	7.55	56.65	49.75	22.16	100.00%

Table V-4

Number of Farmers by Farm Size and
Selected Partners Group Activity

V-4-A Number in St. Catherine Area

Farm size (in acres)	No. of farmers in size category (1)	No. of farmers in partners group this year only (2)	No. of farmers in partners this year and last 5 years (3)	No. of farmers with no partners activity (Cols. 1-: (4)
½ < 1	269	42	82	187
1. < 2.5	709	134	345	364
2.5 < 5	653	102	206	447
5. < 10	520	88	151	369
10 < 25	199	37	60	139
25 < 50	55	1	25	30
50 or more	11	-	1	10
TOTAL	2416	404	870	1546

V-4-B Percentage Distribution for St. Catherine Area

	(1)	(2)	(3)	(4)
½ < 1	100.00%	15.61	30.48	69.52
1. < 2.5	100.00%	18.90	48.66	51.34
2.5 < 5	100.00%	15.62	31.55	68.45
5. < 10	100.00%	16.92	29.04	70.96
10 < 25	100.00%	18.59	30.15	69.85
25 < 50	100.00%	1.82	45.45	54.55
or more	100.00%	-	9.09	90.91
TOTAL	100.00%	16.72	36.01	69.99

Table V-4 (Continued)

V-4-C   Number in St. Elizabeth Area

Farm Size (in acres)	No. of farmers in size category (1)	No. of farmers in partners group this year only (2)	No. of farmers in partners this year and last 5 years (3)	No. of farmers with no partners activity (Cols. 1-3) (4)
½ < 1	101	8	17	84
1 < 2.5	277	15	30	247
2.5 < 5	280	15	31	249
5 < 10	187	5	5	182
10 < 25	98	12	12	86
25 < 50	7	-	-	7
50 or more	4	-	-	4
TOTAL	954	55	95	859

V-4-D   Percentage Distribution for St. Elizabeth

	(1)	(2)	(3)	(4)
½ < 1	100.00%	7.92	16.83	83.17
1 < 2.5	100.00%	5.41	10.83	89.17
2.5 < 5	100.00%	5.36	11.07	88.93
5 < 10	100.00%	2.67	2.67	97.33
10 < 25	100.00%	12.24	12.24	87.76
25 < 50	100.00%	-	-	100.00
50 or more	100.00%	-	-	100.00
TOTAL	100.00%	5.76	9.96	90.04

Table V-5

Selected Combinations of Credit Use and Partners
Group Participation by Farm Size

V-5-A   Number in St. Catherine Area

Farm Size (in acres)	No. of farmers in partners with only formal credit	No. of farmers in partners with formal and other types of informal credit	No. of farmers in partners with only other informal credit	No. of farmers in partners and no other credit activity	Total No. of farmers in partners
	(1)	(2)	(3)	(4)	(5)
½ < 1	12	–	30	40	82
1 < 2.5	24	54	245	22	345
2.5 < 5	20	34	122	30	206
5. <10	13	10	108	20	151
0 < 25	–	27	33	–	60
25 < 50	–	–	24	1	25
50 or more	–	1	–	–	1
TOTAL	69	126	562	113	870

V-5-B   Percentage Distribution for St. Catherine Area

	(1)	(2)	(3)	(4)	(5)
½ <1	14.63	–	36.59	48.78	100.00%
1 < 2.5	6.96	15.65	71.01	6.38	100.00%
2.5 < 5	9.71	16.50	59.22	14.56	100.00%
5 < 10	8.61	6.62	71.52	13.25	100.00%
10 < 25	–	45.00	55.00	–	100.00%
25 < 50	–	–	96.00	4.00	100.00%
0 or more	–	100.00	–	–	100.00%
TOTAL	7.93	14.48	64.60	12.99	100.00%

V-5-C Number in St. Elizabeth Area

Farm Size (in acres)	No. of farmers in partners with only formal credit (1)	No. of farmers in partners with formal and other types of informal credit (2)	No. of farmers in partners with only other informal credit (3)	No. of farmers in partners and no other credit activity (4)	Total No. of farmers in partners group (5)
½ < 1	–	–	8	9	17
1 < 2.5	–	8	22	–	30
2.5 < 5	–	–	23	8	31
5 < 10	–	–	5	–	5
10 < 25	–	1	11	–	12
25 < 50	–	–	–	–	–
50 or more	–	–	–	–	–
TOTAL	–	9	69	17	95

V-5-D Percentage Distribution for St. Elizabeth Area

	(1)	(2)	(3)	(4)	(5)
½ < 1	–	–	47.06	52.94	100.00%
1 < 2.5	–	26.67	73.33	–	100.00%
2.5 < 5	–	–	74.19	25.81	100.00%
5 < 10	–	–	100.00	–	100.00%
10 < 25	–	8.33	91.67	–	100.00%
25 < 50	–	–	–	–	–
50 or more	–	–	–	–	–
TOTAL	–	9.48	72.63	17.89	100.00%

Table V-6

Informal Credit Given and Received by Farmers Compared to Formal Savings and Formal Credit Activity --
by Farm Size for 1978-79 (Sample Only)

V-6-A   Number in St. Catherine Area

Farm Size (in acres)	# of Farmers who have formal savings this year	# of Farmers with formal credit 1979 or 1978	# of Farmers with personal loans 1979 or 1978	# of Farmers in partners groups this year	# of Farmers in partners groups this year and/or with personal credit 1978 or 1979	Total # of Farmers in size category
	(1)	(2)	(3)	(4)	(5)	(6)
½ < 1	8	2	5	4	8	26
1 < 2.5	22	5	25	13	31	62
2.5 < 5	18	8	19	11	26	61
5 < 10	15	3	15	8	21	45
10 < 25	7	3	6	4	7	21
25 < 50	9	1	2	2	4	14
50 or more	5	1	-	-	-	6
TOTAL	84	23	72	42	97	235

Table V-6 (Continued)

V-6-B   Number in St. Elizabeth Area

Farm Size (in acres)	Farmers with formal savings (1)	Farmers with formal credit 1979 or 1978 (2)	Farmers with personal loans 1979 or 1978 (3)	Farmers with partners group activity this year (4)	Total No. of farmers with personal and/ or partners group activity (5)	# of Farmers making personal loans to others (6)	Total No. of farmers in size category (7)
½ < 1	–	–	5	1	6	5	12
1 < 2.5	9	4	16	2	17	14	37
2.5 < 5	12	1	6	2	8	15	36
5 < 10	19	6	5	1	6	12	32
10 < 25	18	2	5	4	8	11	31
25 < 50	2	–	1	–	1	2	3
50 or more	3	–	–	–	–	3	4
TOTAL	63	13	38	10	46	62	155

VI. OFF-FARM EMPLOYMENT ACTIVITY

(Appendix Tables VI-1 through VI-4)

Table VI-1

Measures of Farmer Cooperation by Farm Size

VI-1-A   Number in St. Catherine Area

Farm size (in acres)	No. of farmers who worked on other farms and received no pay (1)	No. of farmers who did not work on other farms for no pay (2)	No. of farmers benefiting from free labor (3)	No. of farmers not utilizing free labor from others (4)
½ < 1	104	165	135	134
1 < 2.5	286	423	369	340
2.5 < 5	321	332	389	264
5 < 10	319	201	338	182
10 < 25	81	118	95	104
25 < 50	18	37	20	35
50 and over	5	6	3	8
TOTAL	1,134	1,282	1,349	1,067

VI-1-B   Percentage Distribution in St. Catherine Area

	(1)	(2)	(3)	(4)
½ < 1	38.66	61.34	50.19	49.81
1 < 2.5	40.34	59.66	52.05	47.95
2.5 < 5	49.16	50.84	59.57	40.43
5 < 10	61.35	38.65	65.00	35.00
10 < 25	40.70	59.30	47.74	52.26
25 < 50	32.73	67.27	36.36	63.64
50 or more	45.45	54.55	27.27	72.73
TOTAL	46.94	53.06	55.84	44.16

Table VI-1 (Continued)

VI-1-C   Number in St. Elizabeth Area

Farm Size (in acres)	No. of Farmers who worked on other farms and received no pay (1)	No. of Farmers who did no work on other farms for no pay (2)	No. of Farmers benefitting from free labor (3)	No. of Farmers not utilizing free labor from others (4)
½ <1	66	35	66	35
1 < 2.5	120	157	135	142
2.5 < 5	139	141	162	118
5 < 10	53	134	84	103
10 < 25	23	75	23	75
25 < 50	1	6	1	6
50 and over	1	3	1	3
TOTAL	403	551	472	482

VI-1-D   Percentage Distribution for St. Elizabeth Area (1)

	(1)	(2)	(3)	(4)
½ <1	65.35	34.65	65.35	34.65
1< 2.5	43.32	56.68	48.74	51.26
2.5 <5	49.64	50.36	57.86	42.14
5< 10	28.34	71.66	44.92	55.08
10 < 25	23.47	76.53	23.47	76.53
25 < 50	14.29	85.71	14.29	85.71
50 or more	25.00	75.00	25.00	75.00
TOTAL	42.24	57.76	49.48	50.52

NOTE: (1)   Columns 1 and 2 add up to 100% .   Columns 3 and 4 add up to 100%

Table VI-2

Comparison of Farm Earnings with Off-Farm
Earnings by Farm Size

VI-2-A Number of Farmers in St. Catherine Area

Farm size (in acres)	Off-farm earnings more important than farm earnings (1)	Off-farm earnings are important as farm earnings (2)	Off-farm earnings less important than farm earnings (3)	Farms with no off-farm earnings (4)	Total No. of farmers in size category (5)
½ < 1	134	10	74	51	269
1 < 2.5	170	92	139	308	709
2.5 < 5	128	68	162	295	653
5 < 10	61	30	109	320	520
10 < 25	14	10	37	138	199
25 < 50	23	2	1	29	55
50 or more	2	1	2	6	11
TOTAL	532	213	524	1147	2416

VI-2-B Percentage Distribution for St. Catherine Area

½ < 1	49.81	3.72	27.51	18.96	100.00%
1 < 2.5	23.98	12.98	19.61	43.44	100.00%
2.5 < 5	19.60	10.41	24.81	45.18	100.00%
5 < 10	11.73	5.77	20.96	61.54	100.00%
10 < 25	7.04	5.02	18.59	69.35	100.00%
25 < 50	41.82	3.64	1.82	52.73	100.00%
50 or more	18.18	9.09	18.18	54.55	100.00%
TOTAL	22.02	8.82	21.69	47.47	100.00%

Table VI-2 (Continued)

A-59

VI-2-C Number of Farmers in St. Elizabeth Area

Farm size (in acres)	Off-farm earnings more important than farm earnings (1)	Off-farm earnings are important as farm earnings (2)	Off-farm earnings less important than farm earnings (3)	Farms with no off-farm earnings (4)	Total No. of farms in size category (5)
½ < 1	44	17	16	24	101
1 < 2.5	38	38	89	112	277
2.5 < 5	54	8	93	125	280
5 < 10	17	20	50	100	187
10 < 25	15	2	22	59	98
25 < 50	–	–	–	7	7
50 or more	1	–	–	3	4
TOTAL	169	85	270	430	954

VI-2-D Percentage Distribution in St. Elizabeth Area

Farm size	(1)	(2)	(3)	(4)	(5)
½ < 1	43.57	16.83	15.84	23.76	100.00%
1 < 2.5	13.72	13.72	32.13	40.43	100.00%
2.5 < 5	19.28	2.81	33.21	44.64	100.00%
5 < 10	9.09	10.69	26.74	53.48	100.00%
10 < 25	15.31	2.04	22.45	60.20	100.00%
25 < 50	–	–	–	100.00	100.00%
50 or more	25.00			75.00	100.00%
TOTAL	13.25	17.34	16.18	53.23	100.00%

Table VI-3

Number of Heads of Household with Selected Combinations of
Off-Farm Employment and Credit Activity by Farm Size

VI-3-A Number in St. Catherine Area

Farm Size (in acres)	No. of heads of house with off-farm employment (1)	No. of heads of house with off-farm employment and formal credit only (2)	No. of heads of house with off-farm employment and informal credit only (3)	No. of heads of house with off-farm employment and both informal and formal credit (4)	No. of heads of house with off-farm employment and no credit activity (5)
½ < 1	168	10	104	22	32
1 < 2.5	345	-	231	66	48
2.5 < 5	225	12	119	52	42
5 < 10	122	-	122	-	-
10 < 25	46	-	20	13	13
25 < 50	22	-	10	-	12
50 or more	3	-	-	3	-
TOTAL	931	22	606	156	147

VI-3-B Percentage Distribution for St. Catherine Area

Farm Size	(1)	(2)	(3)	(4)	(5)
½ < 1	100%	5.95	61.90	13.10	19.05
1 < 2.5	100%	-	66.96	19.13	13.91
2.5 < 5	100%	5.33	52.89	23.11	18.67
5 < 10	100%	-	100.00	-	-
10 < 25	100%	-	43.48	28.26	28.26
25 < 50	100%	-	45.45	-	54.55
50 or more	100%	-	-	100.00	-
TOTAL	100%	2.36	65.09	16.76	15.79

Table VI-3 (continued)

VI-3-C   Number in St. Elizabeth Area

Farm Size (in acres)	No. of heads of house with off-farm employment (1)	No. of heads of house with off-farm employment and formal credit only (2)	No. of heads of house with off-farm employment and informal credit only (3)	No. of heads of house with off-farm employment and both informal and formal credit only (4)	No. of heads of house with off-farm employment and no credit activity (5)
½ < 1	52	–	43	–	9
1 < 2.5	91	–	42	25	24
2.5 < 5	123	8	83	8	24
5 < 10	44	10	21	13	–
10 < 25	22	1	11	1	9
25 < 50	–	–	–	–	–
50 or more	1	1	–	–	–
TOTAL	333	20	200	47	66

VI-3-D   Percentage Distribution for St. Elizabeth Area

	(1)	(2)	(3)	(4)	(5)
½ < 1	100.00%	–	82.69	–	17.31
1 < 2.5	100.00%	–	46.15	27.47	26.38
2.5 < 5	100.00%	6.50	67.48	6.51	19.51
5 < 10	100.00%	22.73	47.73	29.54	–
10 < 25	100.00%	4.54	50.00	4.55	40.91
25 < 50	–	–	–	–	–
50 or more	100.00%	100.00	–	–	–

Table VI-4   A-62

Number of Farm Families with at Least One Member
Living on the Farm Engaged in Off-Farm Employment by Farm Revenue (Sample Only)

VI-4-A   Number in St. Catherine Area

Farm Revenue (in dollars)	Total No. of Farm Families in Income Size Category (1)	No. of Farm Families with at Least One Member Working Off the Farm (2)	No. of Farm Families with No Members Working Off Farm (3)
No Farm Revenue	33	20	13
1 < 40	36	19	17
40 < 80	30	14	16
80 < 140	34	19	15
140 < 250	33	18	15
250 < 500	30	17	13
500 < 1000	19	9	10
1000 or more	20	9	11
TOTAL	235	125	110

VI-4-B   Percentage Distribution for St. Catherine Area

Farm Revenue	(1)	(2)	(3)
No Farm Revenue	100%	60.61%	39.39%
1 < 40	100%	52.78%	47.22%
40 < 80	100%	46.67%	53.33%
80 < 140	100%	55.88%	44.12%
140 < 250	100%	54.55%	45.45%
250 < 500	100%	56.67%	43.33%
500 < 1000	100%	47.37%	52.63%
1000 or more	100%	45.00%	55.00%
TOTAL	100%	53.19%	46.81%

Table VI-4 (Continued)

VI-4-C Number in St. Elizabeth Area

Farm Revenue (in dollars)	Total No. of Farm Families in Income Size Category (1)	No. of Farm Families with at least one member working off the farm (2)	No. of Farm Families with no members working off farm (3)
No Farm Revenue	24	8	16
1 < 101	23	12	11
101 < 251	18	10	8
251 < 501	23	13	10
501 < 1001	29	l8	11
1001 < 2001	23	8	15
2001 or more	15	8	7
TOTAL	155	77	78

VI-4-D Percentage Distribution in St. Elizabeth Area

	(1)	(2)	(3)
No Farm Revenue	100.00%	33.33	66.67
1 < 101	100.00%	52.17	47.83
101 < 251	100.00%	55.55	44.45
251 < 501	100.00%	56.52	43.48
501 < 1001	100.00%	62.07	37.93
1001 < 2001	100.00%	34.78	65.22
2001 or more	100.00%	53.33	46.67
TOTAL	100.00%	49.68	50.32