PN-AAK-028

Occasional
Paper Series

SMALL FARM CREDIT PROFITABILITY AND REPAYMENT PROJECT

Department of Economics
Colorado State University

AN EXPERIMENT WITH FARM RECORD KEEPING IN THE DOMINICAN REPUBLIC

Occasional Paper No. 8

by

Ronald L. Tinnermeier

Thomas M. Dickey

This work was partially funded under a Cooperative Agreement with the United States Agency for International Development, Washington, D. C. All interpretations, errors, or omissions are the sole responsibilities of the authors.

November 1981

PREFACE

This report is one of a series produced by the Small Farm Credit Profitability and Repayment Project, carried out jointly by Colorado State University and Oklahoma State University under cooperative agreements with the Agency for International Development. The objective of this project was to develop data collection methodologies that credit institutions in less developed countries could use in performing analyses that can lead to improved credit policies and programs and improved loan repayment. Implementation of the methodology, a necessary part of the design objective, involved the design of the organizational and administrative systems required for its use and training of the government employees in the use of the methodology and the operation of the system.

Each university performed the activities with an agricultural development bank in a less developed country. Oklahoma State assigned Dr. Loren Parks to the project with the Banco Nacional de Desarrollo Agricola (BANADESA) in Honduras, between July of 1978 and July of 1980. Mr. Kurt Rockeman also participated in the Honduras project as a research associate. Colorado State assigned Dr. Thomas M. Dickey to the project with the Banco Agricola de la Republica Dominicana (BAGRICOLA) in the Dominican Republic between July of 1979 and August of 1981. Mr. John Longwell also participated in the Dominican Republic project as a graduate research assistant (10 months).

The differences in conditions in each country required different approaches to the major task of designing methodologies for the preparation of enterprise budgets. In Honduras, none of the governmental entities has a continuing responsibility for the preparation of budgets. Thus, the project developed a methodology for use by the Bank (BANADESA), in accordance with its particular needs, capabilities and resources. In the Dominican Republic, a Division of the Secretariat of Agriculture, the Bank (BAGRICOLA) and, to a lesser extent, other assorted agencies had each been preparing budgets using different and non-rigorous methodologies. Thus, the project developed a methodology for a joint Agriculture - Bank budgets system.

By designing methodologies with varying degrees of complexity in different aspects, this joint project provides a variety of design characteristics that another country can combine and adapt in order to produce a system that conforms best to its particular set of conditions (purposes, personnel and resources).

Ronald L. Tinnermeier
CSU Project Coordinator

Daniel Badger
OSU Project Coordinator

TABLE OF CONTENTS

Page

Preface

Background 1

Objectives of the Paper 4

Implementing the Record Keeping 4

Problems 10

The Farm Record Book 11

The Results 15

Evaluation and Recommendations 22

Tables and Figures

Figure 1. Data entry form for expenses and income by enterprise. . 13

Figure 2. Form for recording purchases, sales, and other uses by product. 14

Figure 3. Form for recording other family income and expenses not associated with specific enterprises 16

Table 1. Costs and returns for rice production from farm records. 17

Table 2. Comparison of interview and record book data on a rice enterprise. 19

Table 3. Per tarea costs of production from farm records by crop and farmer. 20

Table 4. Returns above variable costs from farm records by crop and farmer. 21

Appendix Tables

Appendix A

A-1 Budget for rice from farm records--Farmer A 27
A-2 Budget for eggplant from farm records--Farmer A . . . 28
A-3 Tomato budget from farm records--Farmer A 29
A-4 Eggplant budget from farm records--Farmer A 31
A-5 Chili budget from farm records--Farmer A 32

TABLE OF CONTENTS (continued)

		Page
A-16	Salad tomato budget from farm records--Farmer A	34
A-17	Tomato budget from farm records--Farmer B	36
A-18	Chili budget from farm records--Farmer B	37
A-19	Salad tomato from farm records--Farmer B	39
A-10	Onion budget from farm records--Farmer B	41
A-11	Chili budget from farm records--Farmer C	43
A-12	Onion budget from farm records--Farmer C	44
A-13	Corn budget from farm records--Farmer C	46
A-14	Chili budget from farm records--Farmer C	47
A-15	Onion budget from farm records--Farmer C	49
A-16	Salad tomato from farm records--Farmer C	51
A-17	Onion budget from farm records--Farmer D	53
A-18	Bean budget from farm records--Farmer D	54
A-19	Eggplant budget from farm records--Farmer D	55
A-20	Eggplant budget from farm records--Farmer D	56
A-21	Salad tomato from farm records--Farmer E	58
A-22	Okra budget from farm records--Farmer F	60
A-23	Onion, cucumber, tomato and eggplant budgets from farm records--Farmer G	62
A-24	Okra budget from farm records--Farmer H	67
A-25	Tomato budget from farm records--Farmer H	68
A-26	Chili, eggplant and okra budgets from farm records--Farmer I	69
A-27	Okra budget from farm records--Farmer J	73
A-28	Eggplant budget from farm records--Farmer J	74
Appendix B	Crop enterprise cost study--Egypt	76

FARM RECORD KEEPING

Farm records are widely used in the developed countries as a source of data for farm and sector analysis and for evaluating loan applications of farmers. A complete farm record is a history of a farmer's operation which provides data on production costs and returns, input use, production output, changes inventories and resources, and levels of efficiency and on his financial position among other things. Income, net worth, and cash flow statements are commonly prepared from such records. Strong reasons for maintaining farm records in the developed countries are to provide data for preparing required income tax returns and to justify loan requests. Most lenders now require financial statements when evaluating loan applications. These incentives for record keeping do not exist in most developing countries, especially for small farmers. Thus, farm record keeping is not commonly found in developing countries.

Background

Farm record keeping has been experimented with in a few developing countries but it is not widespread [3, 5]. Hayami established a very intensive record keeping program for 12 villages for one year in the Philippines in 1975-76 [6]. This activity included a complete recording of the flow of all goods and services among various activities in the 12 households and in the village to help better understand the peasant economy in its entirety. The record books (many different accounts) were checked by a trained technician twice a week for the entire study period. An example of another intensive but one-time record keeping (multi-visit survey) activity can be found in Sierra Leone where 552 detailed household records were kept for a one-year

period (1974-75). Households were visited twice weekly by resident enumerators who used eight types of questionnaires to collect data [10]. Both of these multi-visit, very intensive record keeping activities were designed primarily for research objectives associated with study of alternative agricultural and rural development programs and policies. Enterprise budgets were produced by the studies but the record keeping was not specifically designed for that purpose. For example, 14 different crop enterprise budgets were developed as part of the Sierra Leone research effort [10]. However, these budgets do not have the specificity of those prepared in Honduras and the Dominican Republic under the Credit Project. Also, because these types of intensive record keeping activities require large financial support and well-trained people, they cannot normally be continued on a sustained basis for a very long period by any developing country entity. An apparent exception to this is the commitment to farm record keeping in Botswana. There, farm records have been maintained with selected farmers for the past 11 years (since 1970). The present system includes an "enumerator" in each of nine data collecting stations scattered around the country. Each enumerator works with about 12 sample farms with twice weekly visits to record data or to help the farmers fill out their own record books. A summary about these farmers and their practices is published periodically [4, 9].

Other, more limited, farm record keeping activities can be found in other countries. For example, the Bureau of Agricultural Economics of the Department of Agriculture in the Philippines has established a farm record keeping program using local high school students to help fill out the records at home [2]. Also, farm record activities often are established to help analyze the effects of specific technological packages. For example,

technical recommendations resulting from farm systems research may be tested on farms by having selected farmers keep records on just that aspect of their operations [7]. The CSU-led Egyptian Water Use and Management Project established farm records in three areas to measure the income and other effects of on-farm water management changes [1]. An example of a crop enterprise budget produced by that project is shown in Appendix B. As can be seen, those budgets reflect the concern about water use and timing by the project but do not indicate the timing of other production activities which would be of use to credit institutions for establishing loan disbursements.

In summary, most farm record keeping activities for small farmers in developing countries tend to be associated with specific research projects or activities. Seldom are they established on a continuous basis for the purpose of providing data for credit and policy analysis over longer periods of time.

The experimentation by the Credit Project with farm record keeping in Honduras and the Dominican Republic was for three main purposes: (1) to provide cost-of-production data to compare with enterprise budget data obtained from single-visit farmer interviews described in the previous section, (2) to provide other data (income, net worth, resource use, etc.) about small farm operations which could be used by credit institutions and (3) to gain additional insights on the problems associated with small farm record keeping as a source of data. For details on the Honduran experiment please refer to the respective report [8].

The design of the farm record books in both countries was based on its potential use as a means of collecting information on small farmers'

operations through an interviewer for use by the respective banks to compare with the enterprise budgets produced from farmer interviews and to understand the operations of their borrowers. The books were not designed for use by the farmers themselves or for their own analysis of their operations. Nevertheless, the resulting crop and farm summaries were presented to and discussed with the participating farmers as a means of educating them on the potential value of the records for their own future use. Few farmers are presently capable of using such data directly.

Objectives of the Paper

The primary objective of this paper is to briefly describe and review the farm record keeping activities carried out in the Dominican Republic during the period December 1979 - May 1981. The various stages and problems in implementing the farm record keeping are described first. Then, the record book itself is discussed. The next section is used to review the types of data and information produced. The final section provides a general summary of the farm record keeping.

Implementing the Record Keeping

The farm records activity was carried out in Nizao, a town on the south coast between San Cristobal and Bani. This area was selected because the farmers had relatively diversified farms producing mainly rice, tomatoes, eggplant, okra, peppers and onions. It was felt such diversification would provide a more varied set of activities and transactions to test the record book system. Although Hurrican David passed directly over Nizao causing extensive damage, it was decided that the farming operations were sufficiently restarted that this would not significantly affect the future record keeping activities.

The first step was to identify an interviewer to help record the farm production data on the records. The local extension agent recommended Altagracia Salazar Bello (Morena) to us and we made arrangements to hire her part-time to assist with the farm record keeping. The extension agent also gave us a list of farmers that would be good participants. In the company of Morena the credit team first visited each of the ten farmers to explain the purpose of the record keeping and to obtain their participation. Once each farmer agreed to participate, the team then proceeded to complete an initial inventory.

Total assets of these farmers ranged from $12,110 to $55,315 with an average of $28,784. Assets in land and buildings ranged from $10,000 to $45,580 with an average of $24,853. Very few farmers had any products or inputs in storage, and only one of the ten had more than a few cows. Most of them had two or more crops already planted and the team obtained, for each case, an estimate of the total amount spent on these crops up to the date of the inventory and the beginning of the record keeping.

By February 1980 several of the participants had finished one crop enterprise. The credit team then began to perform some enterprise analysis from those records. In the process of extracting the data from the record books for preparing income and expense summaries by enterprise, it was found that errors in data entry had occurred. In particular, the farmers would occasionally say that they had not applied a particular product to the enterprise being analyzed, but rather to another.

In view of these problems, a new record book system was designed in which data were entered by enterprise rather than by product movements and work activities, as was the case for the first record book. Purchases

of inputs that were immediately used would be entered directly on the appropriate enterprise section, while inputs purchased and held for later use would be entered in the section on inventory storage. It was felt that this new record system would reduce errors of data entry since the farmers would be better able to remember what they did if the interviewer requested the information by enterprise. It was also felt that farmers that were just beginning to keep records would find it easier and less complicated to analyze each enterprise separately rather than concentrating on end-of-year whole farm analysis. More detail on the actual farms used is presented in the next section.

In October 1980, in an attempt to see if some of the farmers could carry out their own record books the team gave an extra record book to each of four participants. Morena continued her normal visits using the record books in which she had begun making the entries, but each farmer also was asked to make his own entries as regularly as possible so they could use their own books as a source of information during Morena's interviews. After a couple of months only two farmers were making use of the books. One of the farmers making regular entries was doing so in spite of his low level of literacy and writing ability.

Morena continued visiting the participating farmers on a weekly or more periodic basis until March 1981. At that time five of the farmers were terminated because the team was beginning to prepare for termination of the project. The remaining five participating farmers were terminated in May 1981. The time at which farmers were terminated depended upon when it was possible to obtain a complete set of records for the production cycle of the crops being produced by those farmers.

The selection of the farmers to participate in the record keeping activities was made from a list of some 40 farmers in the Nizao area suggested by the extension agent. Ten farmers began with the records but one of those decided to join the Merchant Marine service and was replaced by another farmer making a total of eleven farmers participating throughout the life of the project.

Morena, the interviewer, estimated that her weekly visit to each farmer averaged around 15 or 20 minutes. Those that were recording some of the information already in the record book, of course, required less time. She found that in the case of one farmer about 30 minutes was needed for each visit to complete the entry of the information into the record book. She often spent considerable time tracing down each of the farmers so she could interview them on the activities that took place during the previous week. It was common for her to have to look for each farmer two to three times before she actually located him for the interview.

The 11 farmers participating in the record keeping activity varied considerably in age, level of education, size of family and ability and interest in recording the data themselves. A brief summary of each of the participating farmers follows (the identification of each farmer by letter corresponds with the enterprise budgets by farmer shown in Appendix A).

Farmer A was 47 years old and had completed primary schooling. He had four children at home, two of them helped him with the farm work. His wife worked part-time in a small general goods store in the community. Two of the children were attending a local secondary school and one child was beginning studies in a university in Santo Domingo. This meant Farmer A spent a high proportion of his income to help educate his children. It was

felt that he probably could not fill out and maintain a farm record book by himself.

Farmer B was 36 years of age and had also finished primary schooling. His wife, her mother and three daughters made up the family at home. His wife was a local high school teacher and had a small book business on the side. To obtain additional income, Farmer B often worked weekends in a major hotel in Santo Domingo where he helped his brother in the kitchen of the hotel. Even though Farmer B had just finished primary school it was felt that he was capable of maintaining a farm record book, although he did not express any particular interest in doing so by himself.

Farmer C was 47 years old and had completed secondary education. His family was composed of his wife and five daughters. His wife had a small business in selling clothing out of their home. For a while Farmer C lost interest in continuing with the farm record keeping activities, but after one of the project team members discussed it with him, he agreed to continue for the rest of the year. Morena felt that it would be difficult for Farmer C to carry out a farm record book by himself.

Farmer D was 47 years of age and had about completed secondary education. He had a wife and five children in high school that he was supporting. It was felt that Farmer D would be able to carry out the record book by himself if he desired.

Farmer E was 43 years of age and had completed secondary schooling plus an additional two years in a technical school. He had a wife and four children at home. It was felt that he also was capable of carrying out the farm record book by himself. However, before this was really

tested, he decided to join the Merchant Marine service and no longer was a participant in the farmer record keeping program.

Farmer F was 50 years of age and had very few years of formal education. However, he could read and write fairly well. His only child, who had a high school degree, helped maintain the farm record, therefore the interviews with Farmer F went quite easy.

Farmer G was 45 years of age and had completed primary school. His wife was no longer living, but he supported a sister of his and his four children. As an additional source of income, Farmer G participated in local cock fighting activities two times a week. Because of this, he was often difficult to find for interviewing to check over the record book.

Farmer H was 48 years of age and was helping support his wife, her sister and four children. In addition to working on his farm he worked part-time in a nearby coastal port. His wife operated a small store which sold ice cream, beer, soda pop and other small items. Farmer H was perhaps one of the easiest to maintain records with because he usually only had one crop.

Farmer I was about 55 years of age, had very little formal education, but could read and write fairly well. His family was composed of his wife, three daughters and their ten children. In addition to his farm income, members of the family living off the farm were periodically sending money to him to help support the family. Farmer I was very cooperative, but Morena found it very difficult to interview him about activities on the farm.

Farmer J was 45 years of age but did not know how to read or write. He supported his wife and five children. Morena found it very difficult

to obtain information about labor activities on the farm, and, in general, it was difficult to obtain data needed to fill out the record book even though he was cooperative and tried to help in providing such information.

Farmer K was 28 years old and had finished primary schooling. He was not yet married and lived with his father and mother and three brothers and sisters. He worked land jointly with his father. He expressed a lot of interest in the record books and had begun to note data in his own farm record book. However, upon reviewing his notations it often was found that he was having a lot of difficulty in correctly filling out the simple record book forms.

The motives for the farmers participating in the farm record keeping activity also were quite varied. One or two of the farmers participated because they were very interested in the results, especially for selected crops. The other farmers participated because they were curious, because they know Morena and wanted to participate for her or because they were interested in working with an American that was part of the Credit Project team.

Problems

A number of problems were associated with obtaining data and recording the data in the record books as listed below (these same problems are likely to exist with the single-visit survey approach practiced in many developing countries):

- Nonuniform measures like caps from jars, one-half a rum bottle, etc. are used by farmers and are difficult to record.
- Activities affecting more than one crop or enterprise may be overlooked at the time of the interview because the item had already been mentioned once for the first crop. For example, an insecticide might have been applied to both corn and rice, but when discussing costs associated with rice the farmer may not mention the insecticide again, since he had already mentioned it for corn.

- A farmer may give small amounts of insecticides or other kinds of inputs to neighbors, but this is overlooked and does not show up in the data. Thus, this would still be included as part of the farmer's costs.
- An item may not be reported by the farmer because he does not consider it important by itself and may take very little time. For example, a farmer may be doing cultural activities in a field but periodically opens up irrigation gates for directing water onto the fields. The labor required for opening those gates may not show up in the recorded data.
- Labor activities taking place after a crop has been harvested, but before the next crop is planted, may not be reported because the future crop may not have been decided upon yet, and so that work activity is not recorded.
- Time required of the farmer for supervising contract labor is hard to measure.
- When a farmer sells products in the local market he may report sales only as a net figure, that is, some of the money may be spent shortly after the sale, but the farmer may report only the take-home pay.
- Home consumption of farm products like bananas and other crops may not be reported.
- Maintaining records on intercrops is complicated and difficult to do.
- A farmer may contract with a laborer to do three or four things affecting more than one crop. This causes recording problems.
- A gradual decline in interest by the farmers in continuing the record books was noted during the life of the project. Ways need to be found to maintain the interest and motivation of the participating farmers if their record keeping activities are going to continue over a longer period of time.

The Farm Record Book

The record book utilized in Honduras was a simplified version of the looseleaf Enterprise Record Book used in Oklahoma. The new design eliminated all reference to income taxes or tax-motivated items such as depreciation schedules and was based on the assumption that a local paraprofessional would visit farmers on a regular basis to make record book entries. The Honduran book included six basic sections: (1) receipts, (2) farm and home expenses, (3) labor records, (4) crop and livestock production summaries, (5) inventory of crops, livestock, equipment, buildings and land, and (6) financial statements including net worth, cash flow, and profit and

loss. A total of 16 different forms were used to record the above information. A copy of the record book can be found in the appendix of Parks, et al. [8].

In the Dominican Republic, the record keeping activity built on the results of the Honduran experience. The initial design of the Dominican record book included a section in which to record all of the movements or uses of inputs and products and a separate section in which to record all of the work activities, whether manual, animal traction or mechanized. Additional sections were included for non-farm income and expenses and the inventories (annual). This design was used between December of 1979 and June of 1980. However, the interview process was difficult because the interviewer was required to flip back and forth between the two main sections in order to record both the work and the materials used or the production and sales.

The second design simplified this process by providing a relatively open format for the recording of all of the work activities, purchases and uses of inputs, sales of products, etc., on a single page for each crop or enterprise (see Figure 1). The format is similar to that of a cash record in which the expenses are recorded in one column and the income is recorded in a separate column. This organization permitted the interviewer to obtain all of the information on an enterprise before proceeding to the next one. In addition, the interviewer could refresh the memory of the farmer by informing him of the items that were recorded in the previous interview. When the farmers indicated what work would be performed during the next week, she would make a note to herself to make sure that she asked about that work during the next interview. This design also included a perpetual

Figure 1. Data entry form for expenses and income by enterprise.

Fecha de Comienzo:__________________ EXPLOTACION:________________________

Fecha de Conclusión:________________ Número de Tareas:_________ Página:_____

Fecha	Producto o Actividad	Origen Insumo	Ctd.	Unidad	Precio Unit.	GASTO		INGRESO	

Figure 2. Farm for recording purchases, sales and other uses by product.

ALMACEN

PRODUCTO:							Unidades:		
Fecha	Lugar de Compra Explotación de Uso	ENTRADAS			SALIDAS			SALDO	
		Ctd.	Precio	Valor	Ctd.	Precio	Valor	Ctd.	Valor

PRODUCTO:							Unidades:		
Fecha	Lugar de Compra Explotación de Uso	ENTRADAS			SALIDAS			SALDO	
		Ctd.	Precio	Valor	Ctd.	Precio	Valor	Ctd.	Valor

PRODUCTO:							Unidades:		
Fecha	Lugar de Compra Explotación de Uso	ENTRADAS			SALIDAS			SALDO	
		Ctd.	Precio	Valor	Ctd.	Precio	Valor	Ctd.	Valor

inventory section (for each input or product stored temporarily) with which the interviewer could check the source of the inputs used or the products sold. The inclusion of this section resulted from problems in balancing the purchases and uses of inputs. Finally, a form was included in the record book for recording other income and expenses of the family (see Figure 3).

The Results

The farm records in each of the two countries under the Credit Project were organized somewhat differently and, thus, provided somewhat different direct information. The Honduran record book was organized so that whole-farm analysis could be implemented fairly directly from the records. On the other hand, the record data needed to be reorganized to produce enterprise data. In the Dominican Republic, the forms were organized for ease of data entry by the record keeper and to be used directly for producing enterprise budgets. Data for whole-farm analysis were not generated by the Dominican Republic records.

In the DR a total of 48 enterprise budgets were produced from the records of the ten farmers in the Nizao area. The detailed budgets are attached as Appendix A to this report.

One of the budgets for rice based on farm records is shown in Table 1. Variable production costs per tarea for Farmer A were $42.20 in 1980. This falls within the range of per tarea costs for rice estimated from farmer interviews. The range of costs across technologies was from $14.74 to $61.40 per tarea. However, the direct seeding budget (similar to that of the record keeper) based on five farmer interviews shows an average per tarea cost of $25.55, considerably lower than that experienced

Figure 3. Form for recording other family income and expenses not associated with specific enterprises.

INGRESOS Y GASTOS DE LA FAMILIA					
Fecha	Concepto	INGRESOS		GASTOS	

Table 1 . Costs and returns for rice production from farm records--
40 tareas in Nizao, R.D., Farmer A

This crop developed without disease or plague problems. The applied herbicide was very effective and, thus, there were few weeding expenses. The farmer did not record irrigation labor expenses due to calculation difficulty.

The sales were made to a local processor in sacks of about 81 kilograms each. Harvest and sale took place in October 1980.

A. Production and sales	Cycle: April-October 1980			
1. Sales	15,726 kg			
2. Income	$4,403.28			
3. Average price/Kg.	$ 0.28			
4. Seed stored	415 kg			
5. Value produced	$4,519.48			
6. Total production	16,141 kg			
7. Production per tarea	403.525 kg			
B. Expenses				
1. Materials				
.1 Seed	6	qq	22.00	132.00
.2 Fertilizer	7.5	qq	13.73	103.00
.3 12-24-12 fertilizer	20	qq	12.10	242.00
.4 Stam herbicide	5	gal.	14.50	72.50
			Sub-Total....	$ 549.50
2. Labor				
.1 Seedbed				
.1 Plowing	1	Ta	5.00	5.00
.2 Land prep. and planting	9 2/3	Man-days	3.00	29.00
.3 Urea application	1/6	Man-days	3.00	0.50
.2 Chapeo	2	Man-days	3.00	6.00
.3 Plowing	40	Ta	3.50	140.00
.4 Reconstruction of bunds	6	Man-days	3.00	18.00
.5 Leveling and transplanting	40	Ta	14.00	560.00
.6 Herbicide application	6	Man-days	3.00	18.00
.7 Fertilizer application	3 2/3	Man-days	3.00	11.00
.8 Weeding	16	Man-days	3.00	48.00
.9 Harvest	190	Saco	1.50	285.00
.10 Transport	6	Man-days	3.00	18.00
			Sub-Total....	1,138.50
			Total Expenses	1,688.00

Summary

Value of production	$4,519.48
Total expenses	1,688.00
Net returns	2,831.48
Production costs per tarea	$ 42.20

Source: [46]

by Farmer A. On the other hand, Farmer A obtained a much higher yield compared with the average obtained by the five farmers interviewed for the direct seeding method. Additional comparisons can be made for eggplant, chili, salad tomato and onions since cost data for these crops also were obtained from farmer interviews.

A more detailed comparison of rice production data obtained from farm records and from farmer interviews is shown in Table 2. Interview data obtained from a farmer with 46 tareas (7.1 acres) of rice and compared with farm record data for a farmer with 45 tareas. Again, significant differences can be noted. Although per kilo cost of production are similar ($ .11/kg. vs. .13/kg.), the interview case had more total variable costs than the record book case ($48.65/tarea vs. $38.15). However, the interview case shows lower pesticide purchases and higher fertilizer expenses, no doubt contributing to his higher yield. In fact, even though the interview case shows higher per tarea costs, he actually received more net return (income above variable costs) because of more output. The net return per tarea for the interview case works out to be $72.10/tarea, but only $46.22/tarea for the record case. Of course, there is no sure way of knowing which case is more accurate.

These comparisons do show that even when considerable specification is made when preparing "model" enterprise budgets, what takes place on a certain farmer's field may still be different. Thus, credit institutions must have sufficient flexibility in their lending procedures to allow for these differences.

The ranges for variable costs and returns above those costs for selected crops, based on farm records in Nizao, are shown in Tables 3 and 4.

Table 2. COMPARISON OF INTERVIEW AND RECORD BOOK DATA ON A RICE ENTERPRISE

Item	Interview Qty/Unit	Interview $/unit	Interview Cost	Record Book Qty/Unit	Record Book $/Unit	Record Book Cost	Diff.
A. Land Area	46 Ta.			45 Ta.			1 Ta.
B. Production Costs							
Seedbed Preparation:							
Tractor Operations	2.5 Ta.	$ 2.50 =	6.25	2.5 Ta.	$ 2.00 =	5.00	1.25
Contours	2 MD	$ 3.50 =	7.00	2.5 Ta.	$ 2.75 =	6.87	.13
Leveling and Seeding	2 MD	$ 3.50 =	7.00	5 MD	$ 3.00 =	15.00	-8.00
Seed Purchase	6 cwt	$22.00 =	132.00	7 cwt	$22.00 =	154.00	-22.00
Urea Purchase	.25 cwt	$14.00 =	3.50				3.50
Urea Application	.09 MD	$ 3.50 =	.32				.32
Irrigation	2.117 MD	$ 3.50 =	7.41				7.41
Land Preparation:							
Tractor Operations	43.5 Ta.	$ 2.50 =	108.75	42.5 Ta.	$ 2.00 =	85.00	23.75
Irrigation	1 MD	$ 3.50 =	3.50				3.50
Contours	33.786 MD	$ 3.50 =	118.25	42.5 Ta.	$ 2.75 =	116.87	1.38
Oxen Plowing	46 Ta.	$ 1.50 =	69.00				69.00
Leveling	58 MD	$ 3.50 =	203.00	12 MD	$ 3.00 =	36.00	167.00
Transplanting	46 Ta.	$ 7.00 =	322.00	45 Ta.	$ 7.00 =	315.00	7.00
STAM (Herb.) Purchase	5 Gl.	$11.50 =	57.50	6 Gl.	$15.00 =	90.00	-32.50
STAM Application	46 Ta.	$ .41 =	19.00	45 Ta.	$ .44 =	20.00	-1.00
12-24-12 Purchase	32 cwt	$15.75 =	504.00	12 cwt	$15.75 =	189.00	240.00
16-20- 0 Purchase				5 cwt	$15.00 =	75.00	
Fertilizer Application	3.429 MD	$ 3.50 =	12.00	2 MD	$ 3.00 =	6.00	6.00
Hand Weeding	38 MD	$ 3.50 =	133.00	47-1/3 MD	$ 3.00 =	142.00	-9.00
Urea Purchase	5 cwt	$14.00 =	70.00	5 cwt	$13.00 =	65.00	5.00
Urea Application	1.714 MD	$ 3.50 =	6.00	1 MD	$ 3.50 =	3.50	2.50
Monitor (Ins.) Purchase	1 lt	$10.50 =	10.50				10.50
Monitor Application	46 Ta.	$ .41 =	19.00				19.00
Carbitrón (Ins.) Purch.				.8333 lt	$18.00 =	15.00	-15.00
Carbitrón Application				5 MD	$ 3.00 =	15.00	-15.00
Furadan (Ins.) Purchase				1 cwt	$70.00 =	70.00	-70.00
Furadan Application				1 MD	$ 3.00 =	3.00	-3.00
Rogol (Ins.) Purchase				6 Bot	$ 4.00 =	24.00	-24.00
Rogol Application				3.833 MD	$ 3.00 =	11.50	-11.50
Harvesting	218 Sack	$ 1.50 =	327.00	150 Sack	$ 1.50 =	225.00	102.00
OnFarm Transport.	218 Sack	$ .20 =	43.00	150 Sack	$ .20 =	22.00	21.00
Watchman						7.50	-7.50
Irrigations	14.285 MD	$ 3.50 =	50.00				50.00
TOTALS			$ 2,238.98			$ 1,717.24	521.74

C. TOTAL PRODUCTION	19,838 kilos	13,560 kilos
D. COST PER KILO	$ .11289	$ .12664

E. ABBREVIATIONS

Ta. = Tareas (1 Acre = 6.5 Tareas)
MD = Man Days
Gl = Gallons
Sack = Sack of 91 kilos.
cwt = hundredweight
lt = liters
Bot = Bottles

Table 3. Per tarea costs of production from farm records by crop and farmer, R. D.

Crop	Farmer A	B	C	D	E	F	G	H	J	Mean
					(in dollars)					
Rice	42.20									42.20
Eggplant	30.03 43.81			75.84 45.24					70.15	53.01
Tomato	88.84	40.28					71.03	47.91		56.30
Chili	41.38	94.97	46.03 65.06							61.86
Onion		56.70	105.62 135.73				27.29			81.33
Corn			8.81							8.81
Okra										
Salad tomato	99.62	271.10	101.08		33.43	64.77	30.30	34.74	88.78	54.65

Table 4. Returns above variable costs from farm records by crop and farmer, R.D.

Crop	Farmer								
	A	B	C	D	E	F	G	H	J
	(in dollars)								
Rice	70.78								
Eggplant	12.72 14.06			54.83 (26.46)					(37.03)
Tomato	6.43	(17.62)					101.04	(28.53)	
Chili	(18.71)[a]	143.56	(12.08) 159.30						
Onion		156.86	683.31 57.87				45.13		
Corn			24.73						
Salad tomato	38.38	(25.93)	126.67		16.24				
Okra						49.90	(22.98)	(23.98)	(.62)

[a] Denotes a loss

One crop, salad (fresh) tomatoes, had per tarea costs of $30.30 for Farmer G but $271.10 for Farmer B. As one might expect, Farmer B lost money to the tune of $25.93 per tarea (Table 4). The only crop that consistently showed positive returns over variable costs in the farm records during 1980 was onions.

Although whole-farm records were not kept in the Dominican case (inventory records, fixed costs and depreciation records were not maintained), additional analyses are possible using the available data. For example, risk analysis would be possible where a number of records are available for the same crop and/or where records are kept on the same crop over time. The average (mean) returns above variable costs can be misleading since there can be considerable variability around the mean. An enterprise producing a positive average return among farmers, but with one-half of the producers losing money, is more risky than one with the same or a lower average return but where all make some profit. As reflected in Table 4, eggplant appears less risky compared with okra. Calculation of standard deviations and coefficients of variation would be useful statistical tests of risk as more data are generated. Returns per unit of labor used and per dollar invested would be useful methods of comparison, among others.

Evaluation and Recommendations

Farm record keeping is certainly an expensive way of gathering data for use by credit and other institutions. For small, often illiterate, farmers a system of record keeping can only function if there is an outsider to help with organizing and recording the data through weekly visits. This outside interviewer or record keeper may well cost $200-$400 per month on a part-time basis and can handle 10-15 farm records. The

interviewer is probably the key factor in operating a successful farm records program. Because of this, the interviewer should be selected before the farmers.

The competence and training of the interviewer are the most important factors affecting the accuracy of the records. General knowledge of agriculture and of area farmers is a definite asset. In Honduras the most successful interviewer was a school teacher. In the Dominican Republic, a daughter of one of the farmers who was beginning university studies worked well. In another test, a farmer with only primary education worked well. Thus, competence and general knowledge of agriculture is more important than having a lot of formal education.

The individual cooperating farmer also is important for obtaining accurate and reliable data. If the farmer or a son or daughter can record some of the data themselves this greatly reduces the load of the outside interviewer. Furthermore, the participating farmer must be sufficiently interested in helping record the weekly information or the results will be unsatisfactory. Motivating the farmer to continue his participation is a challenge since records are not needed for tax or other purposes as in the developed countries. Tying farm record keeping with provision of credit is probably one of the strongest participation motivators available in developing countries.

Record book data must be judged on their accuracy relative to other sources or methods. Usually, the more detail required, the more accurate are farm records compared with other data collection means, especially one-visit surveys. This is because farmers cannot remember such detail over time.

Farm record keeping activities (when adequately organized and managed) have a number of possible advantages over single-visit surveys.

Accurate data on labor and water use and the timing of such use, for example, are almost impossible to obtain through using one-visit questionnaires. Special or new crops or livestock activities can be studied by using records whereas they may be missed by surveys. Also, farm record data can be used to check the results of data obtained through other means.

The study of farmer decision making and of the production-consumption-investment interrelationships within the farm family can be more clearly traced and understood with detailed records.

Data on rural consumption and savings patterns also can be obtained through detailed and complete farm family records. Obviously, this type of record keeping is more complex and does require more training and supervision. Nonetheless, if one expects to more clearly understand small farmers' perceptions of credit and borrowing then these other questions are important. Farm records could be a valuable source of information but this phase must come after simpler records have been established successfully.

Finally, farm records and the participating farmers can serve as a valuable educational tool. Bank administrators and technicians in both countries were invited to visit the participating farmers with a project professional. This served as an effective means of educating those Bank personnel on the costs and returns and on problems faced by small farmers. The records provide a point of reference for the visit and the ensuing discussion. Also, the farm record data can be used as material for training seminars and workshops. Finally, the records can serve as a focal point for farmer education. The reasons for profits and losses

can be studied with the farmer from the records. Data from actual farm cases will be more readily received by other farmers in farm management training sessions.

REFERENCES

1. Abdel Al, Farouk and Skold, Melvin, "Farm Record Summary and Analysis for Study Cases at Abu Raia and Mansouria Sites," Technical Report, Egyptian Water Use and Management Project, Colorado State University, Fort Collins and Cairo, Egypt, July 1980.

2. Alcachupas, Ramon, "An Economic Analysis of Masagana 99 Farm Record-Keeping Data: Iloili, Philippines," unpublished Master's thesis, Department of Economics, Colorado State University, Fall 1980.

3. Amorin, Cesar and Tinnermeier, Ronald, "Registro de Costos de Produccion Agricola," Manual No. 5, Ministerio de Agricultura, Lima, Peru, Agosto 1969.

4. Fox, Ray, "Farm Management Survey Results--1980 Survey," Division of Planning and Statistics, Ministry of Agriculture, Botswana, February 1981.

5. Hatch, J., "A Record-Keeping System for Rural Households," Ann Arbor: Rural Development Services, 1980. (mimeograph)

6. Hayami, Yumiro, et al., Anatomy of a Peasant Economy: A Rice Village in the Philippines, International Rice Research Institute, Philippines, 1978.

7. Hildebrand, P. E., "The ICTA Farm Record Project with Small Farmers--Four Years of Experience," Guatemala City: Instituto de Ciencia y Technologia Agricolas, 1979. (mimeographed)

8. Parks, Loren L., et al., "Records for Small Farms in Honduras: A Development and Critique," International Development Series No. 80-3, Department of Agricultural Economics, Oklahoma State University, Stillwater, August 1980.

9. Purcell, R. A. and Webster, J. P. G., "A Summary of Farm Management Survey Results 1970-76," Division of Planning and Statistics, Ministry of Agriculture, Botswana, October 1977.

10. Spencer, Dunston, et al., "Annual Costs, Returns and Seasonal Labor Requirements for Selected Farm and Non-farm Enterprises in Rural Sierra Leone," Working Paper No. 27, African Rural Economy Program, Department of Agricultural Economics, Michigan State University, May 1979.

Table A-1. Budget for rice from farm records--Farmer A

Explotación de 40 Tareas de Arroz, Nizao, R.D.

Todos los datos de esta explotación fueron obtenidos del Registro de Finca.

Esta explotación se desarrolló sin problemas de plagas ni enfermedades. El herbicida aplicado surtió muy buen efecto y por tanto hubo poco gastos en deshierbo. Los gastos de riego no están computados por ser difícil calcular el tiempo empleado en abrir y cerrar tomas del canal en medio de otras labores. El agricultor no anotó gastos por ese concepto en el Registro.

Las ventas fueron a la factoría del poblado, en sacos que pesan alrededor de 81 kilos, la unidad de venta fue el kilo. Recolección y venta en Octubre del 1980.

A. Ventas y Producción	Ciclo: Abril-Octubre 1980
1. Ventas	15,726 kg
2. Ingresos	$4,403.28
3. Precio Promedio	$ 0.28
4. Almacenado para Semilla	415 kg
5. Valor Producido	$4,519.48
6. Producción Total	16,141.kg
7. Producción por Tarea	403.525 kg

B. Gastos

1. Productos				
.1 Semilla	6	qq	22.00	132.00
.2 Fert. Urea	7.5	qq	13.73	103.00
.3 Fert. 12-24-12	20	qq	12.10	242.00
.4 Herb. Stam	5	qq	14.50	72.50
			Sub-Total.....	$ 549.50
2. Labores				
.1 Semillero				
.1 Arado	1	Ta	5.00	5.00
.2 Preparación y siembra	9 2/3	HD	3.00	29.00
.3 Aplic. Urea	1/6	HD	3.00	0.50
.2 Chapeo	2	HD	3.00	6.00
.3 Arado	40	Ta	3.50	140.00
.4 Reconstrucción Muros	6	HD	3.00	18.00
.5 Amuro, Nivelación y Tras.	40	Ta	14.00	560.00
.6 Aplic. Herbicida	6	HD	3.00	18.00
.7 Aplic. Fertilizantes	3 2/3	HD	3.00	11.00
.8 Desyerbo	16	HD	3.00	48.00
.9 Recolección	190	Saco	1.50	285.00
.10 Acarreo	6	HD	3.00	18.00
			Sub-Total	1,138.50
			Total Gastos	1,688.00

Resumen Ganancias y Pérdidas

1. Valor Producción	$4,519.48
2. Total Gastos	1,688.00
3. Ganancia Neta	2,831.48

Table A-2. Budget for eggplant from farm records--Farmer A

Los gastos de preparación del terreno fueron estimados al inicio del Registro. Los gastos de semillero no están incluídos por no haberlos, pues las plántulas se consiguieron de regalo. Se estimó su valor en $5.00.

La plantación fue fumigada en varias ocaciones, pero no aparece reflejado el gasto porque los gastos totales le fueron atribuídos a una plantación de tomate simultanea a la berengena. Por tanto los gastos del tomate aparecen inflados y estos disminuídos en una proporción que no pudo ser estimada. En el Registro sólo aparece una aplicación de riego, pero suponemos que debieron ser más y no se registraron.

Las informaciones de producción y ventas están registradas en "saco". Estamos estimando su peso en 100 Lb = 1 qq.

4 tareas

A.	Ventas y Producción	
.1	Ventas al Mercado	28 sacos (de 1qq)
.2	Ingresos	$171.00
.3	Precio Promedio	6.11/Saco
.4	Producción total	28 sacos= 28qq = 2,800 Lbs.
.5	Producción por Tarea	7 Sacos = 7 qq = 700 Lbs.

B.	Gastos				
.1	Estimados				
a)	Corte y Cruce	4	Ta	2.50	10.00
b)	Surcos	4	Ta	1.00	4.00
.2	Del Registro				
a)	Trasplante	1	Hom-Día	3.00	3.00
b)	Aplic. Riego	1	Hom-Día	3.00	3.00
c)	Desyerbos y Aporque	12	Hom-Día	3.00	36.00
d)	Fertilizante 15-15-15	1	qq	10.00	10.00
e)	Fertilizante Urea	0.5	qq	13.00	13.00
f)	Aplic. Abonos	0.0625	Hom-Día	3.00	0.19
g)	Recolección	4.31	Hom-Día	3.00	12.94
h)	Transporte	28	Sacos	1.00	28.00
		TOTAL DE GASTOS			$120.13

C.	Resumen de Ganancias y Pérdidas	
.1	Ingresos	$171.00
.2	Gastos	120.13
.3	Ganancia	50.87

Table A-3. Tomato budget from farm records--Farmer A

Todos los gastos de esta explotación fueron tomados del Registro. El transporte de los frutos fueron realizados en su camioneta, excepto 15 huacales, pero le hemos calculado el costo de transporte al precio común de los transportadores.

Las ventas fueron en el mercado de Santo Domingo. El envase para venta es el huacal de 90 libras.

9 Tareas

Ventas: Marzo y Abril 80 Ciclo: Diciembre 79 - Abril 80

A.	Ventas y Producción	
1.	Ventas	221 huacales = 19890 lb = 198.90 qq
2.	Ingresos	$857.40
3.	Precio Promedio	$3.88
4.	Producción Total	19890 lb = 198.90 qq
5.	Producción por Tarea	2210 lb = 22.10 qq

B.	Gastos				
1.	Insumos				
	Semilla	2	lb	5.00	10.00
	Plantulas				5.00
	Lannate	1/2	Lb	16.00	8.00
	Guzation	1/3	Lt	10.65	3.55
	Fertilizante 15-15-15	1	qq	10.50	10.50
	Fertilizante Urea	1/2	qq	10.95	5.47
				SUB-TOTAL.....	$42.52
2.	Labores				
	Prep. Semillero	1 1/2	Hom-Día	3.00	4.50
	Cuidados Semillero	2	Hom-Día	3.00	6.00
	Corte y Cruce del Terreno	9	Ta	2.50	22.50
	Surcos	9	Ta	1.00	9.00
	Trasplante	4	Hom-Día	3.00	12.00
	Desyerbos (5)	31	Hom-Día	3.00	93.00
	Aporque	3 2/3	Hom-Día	3.00	11.00
	Aplic. Fertilizantes	2/3	Hom-Día	3.00	2.00
	Fumigaciones (2)	4	Hom-Día	3.00	12.00
	Aplic. Riegos (5)	13	Hom-Día	3.00	39.00
	Recolección	34 2/3	Hom-Día	3.00	104.00
	Transporte	221	huacal	2.00	442.00
			SUB-TOTAL.....		757.00
			TOTAL GASTOS.....		799.52

C. Resumen Ganancias y Pérdidas

1.	Ingresos	$857.40
2.	Gastos	799.52
3.	Ganancia	57.88

Table A-4. Eggplant budget from farm records--Farmer A

En los gastos no aparecen los de semillero porque las plántulas le fueron regaladas. Se estimó su valor en $5.00.

El envase para la venta es el Saco. Estimamos su peso en un quintal o sea 100 libras. Para la recolección se empleaban obreros contratados para otras labores, los cuales empleaban una media hora por cada saco, según estimamos.

4 Tareas

A.	Ventas y Producción	
1.	Ventas	36.5 Sacos (de 1 quintal)
2.	Ingresos	$231.50
3.	Precio Promedio	$6.34/Saco
4.	Producción total	36.5 Sacos = 36.5 qq = 36,500 lb
5.	Producción por tarea	9.125 Sacos = 9.125 qq = 91.25 lb

B.	Gastos				
1.	Fungicida Lannate	1	Sobre	4.25	4.25
2.	Fertilizante 12-24-12	1	qq	16.00	16.00
3.	Fertilizante Urea	1	qq	14.50	14.50
4.	Arado y Surco	4	Ta	2.25	9.00
5.	Trasplante	3	Hom-Día	3.00	9.00
6.	Desyerbos (5)	17	Hom-Día	3.00	51.00
7.	Aplic. Riegos (3)	3	Hom-Día	3.00	9.00
8.	Aporque (2)	4	Hom-Día	3.00	12.00
9.	Aplic. Fungicida	1	Hom-Día	3.00	3.00
10.	Aplic. Fertilizantes (5)	2/3	Hom-Día	3.00	2.00
11.	Recolección	3	Hom-Día	3.00	9.00
12.	Transporte	36.5	Sacos	1.00	36.50

TOTAL DE GASTOS.....$ 175.25

C.	Resumen de Ganancias y Pérdidas	
1.	Ingresos	$231.50
2.	Gastos	175.25
3.	Ganancias	56.25

Table A-5. Chili budget from farm records--Farmer A

Todos los gastos de esta explotación fueron tomados del Registro. Las ventas fueron realizadas en la finca. El envase para las ventas al mercado de exportación es la caja de 30 libras, para el mercado de Sto. Dgo. es el saco de 100 libras.

El trasplante de las plántulas fue realizado con intérvalo de varios días, por esto en parte de el terreno las hierbas se desarrollaron y hubo que pasarle rastra.

Luego del trasplante se perdieron 5 tareas del cultivo, debido a exceso de lluevia. Los resultados de Producción están calculado, por lo anterior, en base a 12 tareas.

12 Tareas

Ventas: Abril-Junio 80 Ciclo: Diciembre 79 - Junio 80

A.	Ventas y Producción				
1.	Ventas				
a)	Para exportación		182 cajas = 5,460 lbs= 54.60 qq		
b)	Para mercado local		10 sacos = 1000 lbs = 10.00 qq		
2.	Ingresos				
3.	Precio Promedio:				
a)	Para exportación		$1.30/Caja		
b)	Para Mercado local		$3.50/Saco		
4.	Producción total		6,460 lb= 64.60 qq		
5.	Producción por tarea		538.34 lb = 5.38 qq		
B.	Gastos				
1.	Insumos				
	Semilla	2	lb	24.50	49.00
	Fertilizante 15-15-15	4.5	qq	10.00	45.00
	Capricon	2/5	Lt	5.00	2.00
				SUB-TOTAL	96.00
2.	Labores				
	Prep. Semillero	2	Hom-Día	3.00	6.00
	Cuidados Semillero	2 1/2	Hom-Día	3.00	7.50
	Corte y Cruce del Terreno	17	Ta	2.50	42.50
	Rastra	12	Ta	0.50	6.00
	Surco	17	Ta	1.00	17.00
	Trasplante	24 2/3	Hom-Día	3.00	74.00
	Aporque	4	Hom-Día	3.00	12.00
	Desyerbo (4)	44 1/3	Hom-Día	3.00	133.00
	Fumigación	1	Hom-Día	3.00	3.00
	Riegos (4)	12	Hom-Día	3.00	36.00
	Recolección	21 2/12	Hom-Día	3.00	63.50

SUB-TOTAL	400.50
TOTAL GASTOS.....	496.50

C. Resumen Ganancias Y Pérdidas

1.	Ingresos	$272.00
2.	Gastos	-496.50
3.	Pérdida	-224.50

Table A-6. Salad tomato budget from farm records--Farmer A.

Los gastos hasta un mes de trasplante fueron estimados al comenzar el Registro. En el Registro no aparecen productos como consumido o regalado por tanto esta partida no está computada.

Las ventas al mercado local se realizan en huacales (de 90 lbs) y para exportación en caja (de 30 lbs). En las Ventas al mercado el transporte lo paga el productor y para exportación lo cubre el comprador. El productor transportó 620 huacales en su camioneta y pago el transporte de los 15 restantes.

22 Tareas

A.	VENTAS Y PRODUCCION		
1.	Ventas		
	a) Al Mercado	635 huacales	
	b) para Exportación	160 cajas	
2.	Ingresos	$3,036.00	
3.	Precios Promedio		
	a) Al Mercado	4.56/huacal	= 5.16/qq
	b) Para Exportación	1.95/caja	= 6.50/qq
4.	Producción Total	61,950 lbs	= 619.50qq
5.	Producción por tarea	5352 lbs	= 53.52 qq

B.	GASTOS				
1.	Estimados				
	a) Semilla	3	lb	12.00	36.00
	b) Prep. y Cuidados Semillero	5	Hom-Día	3.00	15.00
	c) Fertilizante Semillero	0.2	qq	12.50	2.50
	d) Prep. Terreno	22	Tarea	2.25	49.50
	e) Aporque, Desyerbo y Riego	15 1/3	Hom-Día	3.00	45.00
			SUB-TOTAL		$148.00
2.	Del Registro				
	a) Fertilizante (12-24-12)	4	qq	12.50	50.00
	b) Fertilizante (15-15-15)	6	qq	10.00	60.00
	c) Fungicida (Lannate)	1.5	lb	16.00	20.00
	d) Insecticida (Capricon)	1.2	Lt	15.00	18.00
	e) Insecticida (Guzation)	0.33	Lt	7.10	3.55
	f) Aplic. Fertilizante	0.5	Hom-Día	3.00	1.50
	g) Aporque	14	Hom-Día	3.00	42.00
	h) Aplic. Riego	22 1/3	Hom-Día	3.00	67.00
	i) Aplic. Pesticidas	8 1/3	Hom-Dpia	3.00	25.00

j) Desyerbos	54	Hom-Día	3.00	162.00
k) Recolección	108.2	Hom-Día	3.00	324.60
l) Transporte y huacales	63.5	huacales	2.00	1,270.00
		SUB-TOTAL		$2,043.65
		TOTAL GENERAL GASTOS		$2,191.65

C. RESUMEN GANANCIAS Y PERDIDAS

1. Ingresos	$3,036.00
2. Gastos	2,191.65
3. Ganancias	844.35

Table A-7. Tomato budget from farm records--Farmer B

Todos los gastos de esta explotación fueron tomados del Registro.

Las ventas fueron al mercado de Sto. Dgo., la medida de venta es el huacal que pesa aproximadamente 90 libras.

El agricultor planeaba hacer una explotación de 5 tareas pero las lluvias dañaron gran parte del semillero y sólo pudo trasplantar 1 tarea. De las 5 tareas que él preparó, 2 las utilizó para una explotación de ají y en 2 no pudo aprovechar la preparación.

El ciclo de producción fue corto debido a las lluvias. Estimo que en condiciones normales la producción sería 30 huacales mayor.

3 Tareas

Ventas: Mayo - Junio 1980 Ciclo: Febrero- Junio 1980

A. Ventas y Producción

1. Ventas	13 huacales
2. Ingresos	$68.00
3. Precio Promedio	$5.23

B. Gastos

1. Insumos				
.1 Fert. Urea	1	qq	12.00	12.00
.2 Fert. 15-15-15	1	qq	12.00	12.00
.3 Fert. Foliar	1	Lt	1.85	1.85
.4 Lannate	1/2	Lb	16.00	8.00
2. Labores				
.1 Prep. Semillero	2	HD	3.00	6.00
.2 Cuidados Semillero	2/3	HD	3.00	2.00
.3 Prep. Terreno	3	Ta	3.00	9.00
.4 Trasplante	3	HD	3.00	9.00
.5 Aplic. Fertilizantes	1/3	HD	3.00	1.00
.6 Desyerbos	6	HD	3.00	18.00
.7 Fumigaciones	5/6	HD	3.00	2.50
.8 Recolección	3 1/2	HD	3.00	10.50
.9 Transporte	13	Huac.	2.00	26.00
.10 Plaza				3.00
			TOTAL GASTOS	$120.85

C. Resumen Ganancia y Pérdidas

1. Gastos	$120.85
2. Ingresos	68.00
3. Pérdida	($ 52.85)

Table A-8. Chili budget from farm records--Farmer B

Los gastos iniciales, desde el semillero hasta un mes de trasplantado fueron estimados al comenzar el resgistro. En el registro sólo aparece una pequeña cantidad como consumo familiar y/o regalo, pero suponiendo que en la realidad la cantidad fue mayor, no estamos incluyendo esta partida en el análisis.

Las ventas fueron al mercado local y para exportación. En el primero se vende por saco de 100 lbs y al segundo en caja de 30 lbs.

En las ventas al mercado el productor paga el Transporte y en las de exportación el comprador lo paga.

7 Tareas

A.	VENTAS Y PRODUCCION.-	
1.	Ventas	
	a) Al Mercado	63 sacos (de 1 quintal)
	b) Para Exportación	226 cajas (de 30 libras)
2.	Ingresos	$1,669.70
3.	Precios Promedio	
	a) En Mercado	$13.63/qq
	b) Para Exportación	$4.80/caja = 16.00/qq
4.	Producción Total	1,410 lbs = 74.10 qq
5.	Producción por Tarea	1,058 lbs = 10.58qq

B.	GASTOS				
1.	Estimados				
	a) Semilla	2	lb	26.00	52.00
	b) Prep. Semillero	1	Hom-Día	3.00	3.00
	c) Fertilizante Semillero	-	-	-	3.00
	d) Insecticida Semillero	-	-	-	2.50
	e) Aplic. Riego Semillero	7.5	Hom-Día	3.00	22.50
	f) Prep. Terreno	7	Ta	4.00	28.00
	g) Trasplante	8	Hom-Día	3.00	24.00
	h) Fertilizante (12-24-12)	8.5	qq	12.00	102.00
	i) Fertilizante (Foliar)	2	Lt	1.85	3.70
	j) Insecticida	-	-	-	28.75
	k) Desyerbo	18 1/3	Hom-Día	3.00	55.00
	l) Aplic. Riego	4	Hom-Día	3.00	12.00
			SUB-TOTAL		$336.45

2. Del Registro

a) Fertilizante (Urea)	4.5	qq	12.00	54.00
b) Fertilizante (Foliar)	1	Lt	1.85	1.85
c) Insecticida (Thiodan)	1	Lt	6.50	6.50
d) Aplic. Riego	18	Hom-Día	3.00	54.00
e) Aplic. Fertilizante	2	Hom-Día	3.00	6.00
f) Aplic. Agroquímicos	4X7	Ta	1.00	28.00
g) Desyerbo	16 2/3	Hom-Día	3.00	50.00
h) Recolección	70	Hom-Día	3.00	70.00
i) Transporte	46.40	qq	1.25	58.00
		TOTAL GENERAL GASTOS		$664.80

C. Resumen de Ganancias y Pérdidas

1. Ingresos	$1,669.70
2. Gastos	664.80
	$1,004.90

Table A-9. Salad tomato from farm records--Farmer B

Los gastos principales, desde el semillero hasta dos meses después del trasplante, fueron estimados al comenzar el registro. En el registro no aparecen productos consumidos por la familia ni regalado, pero suponemos que en la realidad hubo consumo familiar y/o regalos.

El rendimiento obtenido en esta explotación (36qq/tarea) es mayor que el promedio (30qq/tarea) a consecuencia del Sistema de Producción que era amarrado a varas. Las varas utilizadas se usan más de una vez (costo fijo) por tanto su costo no está computado.

El agricultor pensaba que esta explotación tenía una extensión de 6 tareas pero quien le dió el servicio de fumigación, midió el terreno y comprobó que tenía 7 tareas. Por lo antes dicho, algunos servicios fueron pagados en base a 6 tareas y otros en base a 7 tareas.

Esta explotación arrojó pérdida, aún a pesar de haberse logrado una alta producción, debido a que los precios obtenidos fueron bajos. Comparado el promedio de los precios obtenidos con el promedio del rango de precios para este producto, en los años 1978-79 (según fuente de Secretaraía de Agricultura) que fue entre $7.00 a $16.00 por huacal para la misma época de cosecha resulta el obtenido considerablemente bajo.

1 Hombre-Día = 6 horas de Trabajo = 3.00

6 Tareas — Ciclo: Sept. 1979 - Marzo 1980

A.	VENTAS Y PRODUCCION				
1.	Ventas	280 huacales (de 90 lbs)			
2.	Ingresos	$1,471.00			
3.	Precio Promedio	$5.25/huacal			
4.	Producción Total	280 huacales = 25,200 lbs = 250 qq			
5.	Producción por Tarea	40 huacales - 3,600 lbs = 36 qq			
B.	GASTOS VARIABLES				
1.	Estimados (20-12-79)				
	a) Semilla	2	lb	12.00	24.00
	b) Prep. Semillero				6.00
	c) Fertilizante				1.80
	d) Aplic. Riegos Sem.	4	Hom-Día	3.00	12.00
	e) Prep. del Terreno	6	Tarea	4.00	24.00
	f) Trasplante	4	Hom-Día	3.00	12.00
	g) Fertilizante	6.5	qq	12.00	78.00
	h) Insecticidas				55.85
	i) Postura de Varas	24	Hom-Día	3.00	72.00

j)	Postura de alambre	8	Hom-Día	3.00	24.00
k)	Amarre	72	Hom-Día	3.00	216.00
l)	Aplic. Riegos	8	Hom-Día	3.00	24.00
m)	Desyerbo	19 1/3	Hom-Día	3.00	58.00
			SUB-TOTAL.....		$607.65

B. DEL REGISTRO

1.	Fertilizante (Urea)	5.0	qq	12.00	60.00
2.	Fertilizante (Foliar)	3.5	Lt	1.85	6.47
3.	Insecticida (Thiodan)	1.5	Lt	6.50	9.75
4.	Insecticida (Monitor)	1.0	Lt	12.50	12.50
5.	Fungicida (Lannate)	1.0	Lb	18.00	18.00
6.	Soga	26.83	Lb	1.00	26.83
7.	Amarre y Deschuponado	27.0	Hom-Día	3.00	81.00
8.	Desyerbos	10.0	Hom-Día	3.00	30.00
9.	Aplic. Riegos	12.0	Hom-Día	3.00	36.00
10.	Aplic. Pesticidas y F. Foliar	4X7	Tarea	1.00	28.00
11.	Aplic. Fertilizante (Urea)	2.8	Hom-Día	3.00	8.40
12.	Estacada	2.0	Hom-Día	3.00	6.00
13.	Recolección	66 2/3	Hom-Día	3.00	200.00
14.	Transporte y huacales *	236	huacales	2.00	472.00
15.	Sub-alquiler de puesto de Mercado	139	huacales	Variable	24.00
			SUB-TOTAL		$1,018.95
			TOTAL GASTOS		1,626.60

C. RESUMEN GANANCIAS Y PERDIDAS

1.	Ingresos	$1,471.00
2.	Gastos	1.626.60
3.	Pérdida	155.60

*Los cuatro primeros huacales se vendieron en la finca y 40 huacales fueron transportado gratis por el Estado.

Table A-10. Onion budget from farm records--Farmer B

El agricultor preparó un semillero para 10 tareas de cebolla, se perdió 80% del semillero por el exceso de lluvias de los huracanes. El restante 20% se salvó por estar el semillero en una loma (con buen drenaje). La gran mayoría de los agricultores perdieron sus semilleros. Por lo tanto, la cosecha se efectuó antes de la época de mayor producción ya que los demás agricultores tuvieron que realizar nuevos semilleros. Trasplantó las 2 tareas en Septiembre de 1979.

La Unidad de Ventas de cebolla es el saco de 50 libras. Sin embargo, los agricultores normalmente entregan sacos con 52.5 libras (promedio estimado). Recolectó entre Diciembre de 1979 y Febrero de 1980.

Los gastos incluyen solamente los registrados en el Registro Agropecuario. Separamos la parte que corresponde a la pérdida del 80% del semillero y preparación de terreno. Muchos de los gastos fueron efectuados antes de comenzar el registro, pero estos fueron estimados en el momento de realizar el inventario inicial. Por lo tanto, a veces faltan detalles.

		10 Tareas Total
		Ciclo: Agosto 1979 - Febrero 1980
A.	VENTAS Y PRODUCCION	
1.	Ventas	37.7 sacos (de 52.5 libras)
2.	Ingresos	$2,093.00
3.	Precio Promedio	$56.11/saco
4.	Consumo Familiar	.76 sacos
5.	Valor Consumo	$42.64
6.	Valor Total Producido	$2,135.64
7.	Producción Total	38 sacos = 1,995 libras = 19.95 qq
8.	Producción por Tarea	19 sacos = 999 libras - 9.97 qq

B.	GASTOS				
1.	2 Tareas solamente				
a)	Preparación del Semillero	.2	Tareas	33.00	6.60
b)	Semilla	1.40	Tarros	23.00	32.20
c)	Limpieza (3)	1.8	Hom-Día	3.00	5.40
d)	Insecticida Semillero				1.60
e)	Fertilizante 12-12-12- Semillero	0.05	qq	11.00	.55
f)	Fertilizante Urea Semillero	0.05	qq	12.00	.60
g)	Preparación Terreno (Arada, Marcada)	2	Tareas	5.25	10.50
h)	Encabezada	6	Hom-Día	3.00	18.00

i) Fertilizante 12-24-12	3.5	qq	12.00	42.00
j) Aplicación Fertilizante	.10	Hom-Día	3.00	0.30
k) Insecticida				10.30
j) Aplicación Insecticida	3	Hom-Día	3.00	9.00
k) Limpieza (5)	26	Hom-Día	3.00	78.00
l) Riegos (10)	10	Hom-Día	3.00	30.00
m) Fertilizante	.5	qq	12.00	6.00
n) Aplicación Fertilizante	.17	Hom-Día	3.00	0.50
o) Repaso	5	Hom-Día	3.00	15.00
p) Sacos	16	Sacos	0.25	4.00
q) Recolecciones	22	Hom-Día	3.00	66.00
r) Transporte a Mercado	17	Sacos	.50	8.50
s) Transporte a Mercado	8	Sacos	1.00	8.00
SUB-TOTAL 2 TAREAS				$353.05

2. 8 Tareas No Transportadas

a) Preparación Semillero	.8	Tareas	33.00	26.40
b) Semilla	5.6	Tarros	23.00	128.80
c) Limpieza (3)	7.2	Hom-Día	3.00	21.60
d) Insecticida Semillero				6.40
e) Fertilizante 12-12-12 Semillero	.22	qq	11.00	2.40
f) Fertilizante Urea Semillero	.20	qq	12.00	2.40
g) Preparación Terreno (Arada, Marcada)	8	Tareas	5.25	42.00
-Crédito por ahorro de un paso de preparación	8	Tareas	2.00	(16.00)
SUB-TOTAL 8 TAREAS				$214.00
TOTAL GENERAL DE GASTOS				$567.05

C. RESUMEN DE GANANCIAS Y PERDIDAS.

1. Valor Producido	$2,135.64
2. Total Gastos	567.05
3. Ganancia Neta	$1,568.59

Análisis 20/3/80

Table A-11. Chili budget from farm records--Farmer C

Los primeros gastos fueron estimados al inicio del registro. El agricultor eliminó esta explotación antes de finalizar el ciclo vegetativo, debido a que utilizó el terreno para cultivar arroz. Estimó que hubiera podido recolectar 20 sacos de 1 qq en adición a la cosecha realizada.

Los gastos en productos químicos y sus aplicaciones fueron estimados, por el agricultor, al observar que no aparecían en el registro.

Las ventas en caja (para exportación) son puesto-finca. A veces en saco (para el mercado) también son puesto-finca.

		10 Tareas		Ciclo: Marzo 1980 - Abril 1980	
A.	Ventas y Producción				
1.	Ventas				
	a) Sacos		44 = 44qq		
	b) Cajas		170 = 51qq		
2.	Ingresos		$339.50		
3.	Precio Promedio				
	a) Por Saco		$3.84 = 3.84/qq		
	b) Por Caja		$1.00 = 3.33/qq		
4.	Producción Total		99 qq		
5.	Producción/Tarea		9.9 qq		
B.	Gastos				
1.	Del Registro				
	a) Fertilizante (12-24-12)	3	qq	15.00	45.00
	b) Fertilizante (Urea)	1	qq	14.00	14.00
	c) Fertilizante (Foliar)	3	Lb	1.50	4.50
	d) Insecticida (Tamarón)	1	Lt	10.50	10.50
	e) Insecticida (Folidol)	1	Lt	7.50	7.50
	f) Prep. Terreno (Corte, Cruce, y Rastra)	10	Ta	3.00	30.00
	g) Surco	10	Ta	1.00	10.00
	h) Trasplante	4 2/3	HD	3.00	14.00
	i) Desyerbo	3X19 1/3	HD	3.00	174.00
	j) Riego	6X1.833	HD	3.00	33.00
	k) Aplic. Abonos	3	HD	3.00	9.00
	l) Fumigación	3X1.917	HD	3.00	17.25
	m) Recolección	4X2 5/6	HD	3.00	34.00
	n) Transporte	40	Sacos	0.75	30.00
2.	Estimados:				
	a) Semilla	1	Lb	24.00	24.00
	b) Prep. y Cuidados Sem.	1.17	HD	3.00	3.50
				TOTAL GASTOS..	$460.25
C.	Resumen Ganancias y Pérdidas				
1.	Gastos	$460.25			
2.	Ingresos	339.50			
3.	Pérdida	(120.75			

Table A-12. Onion budget from farm records--Farmer C

Los gastos iniciales, desde el semillero hasta unas 5 semanas de trasplantada, fueron estimados al momento de hacerse el inventario inicial. Los gastos posteriores fueron anotados en el Registro Agro pecuario.

La Unidad de Venta es el Saco de 50 libras, pero normalmente los venden con unas 52.5 libras. Recolección entre Febrero y Marzo de 1980.

7 Tareas

Ciclo: Octubre 79 - Marzo 80

A.	PRODUCCION	
1.	Ventas	194.5 sacos de 52.5 lbs = 10,211.25 lbs.
2.	Ingresos	$5,522.50
3.	Precio Promedio	$28.39 por saco
4.	Producción por Tarea	27.78 sacos (de 52.5 lbs) = 1,458.75 lbs.

B.	GASTOS	Cant.	Unidad	Precio	Costo
1.	Estimados al Inventario				
	a) Preparación y Cuidados al Semillero	.14	Tarea		28.50
	b) Semilla	8	Libra	11.50	92.00
	c) Preparación del Terreno	7	Tarea	3.50	24.50
	d) Trasplante	14.67	Hom-Día	3.00	44.00
	e) Aplic. de Riegos	2	Hom-Día	3.00	6.00
	SUB-TOTAL.....				$195.00
2.	Del Registro				
	a) Abono 13-13-13	4	qq	12.125	48.50
	b) Abono Urea	3	qq	13.50	40.00
	c) Insecticida Tamaron	.33	Litro	14.00	4.67
	d) Insecticida Azodrín	.5	Litro	10.50	5.25
	e) Sacos	63	Sacos	0.50	31.50
	f) Aplic. de Riegos	14	Hom-Día	3.00	42.00
	g) Aplic. Abonos	3	Hom-Día	3.00	9.00
	h) Aplic. Pesticidas	2.83	Hom-Día	3.00	8.50
	i) Desyerbos	63.67	Hom-Día	3.00	191.00
	J) Recolección	44.15	Hom-Día	3.00	132.44
	k) Transporte	63	Sacos	0.50	31.50
	SUB-TOTAL.....				$544.36
	TOTAL GASTOS.....				$739.36

C.	RESUMEN GANANCIAS Y PERDIDAS	
1.	Ventas	$5,522.50
2.	Gastos	739.36
3.	Beneficios	4,783.14

MISSING PAGE

NO. 45

Table A-13. Corn budget from farm records--Farmer C,

Todos los gastos de esta explotación fueron tomados del Registro de Finca. El consumo familiar no fue anotado en el Registro.

Recolección y Ventas Julio- Septiembre 1980

20 Tareas

Ciclo: Junio-Agosto 1980

A. Ventas y Producción

1. Ventas	93.57 quintales
2. Ingresos	$670.81
3. Precio Promedio	$ 7.17

B. Gastos

1. Productos				
1. Semilla	40	Lb	0.20	8.00
2. Labores				
1. Corte	20	Ta	2.00	40.00
2. Surco	20	Ta	1.00	20.00
3. Siembra	2	HD	3.00	6.00
4. Riego	2	HD	3.00	6.00
5. Desyerbo	6 2/3	HD	3.00	20.00
6. Recolección	66	Saco	0.70	46.20
7. Desgrane	6 2/3	HD	3.00	20.00
8. Transporte				10.00
		TOTAL GASTOS		176.20

C. Resumen Ganancias y Pérdidas

1. Ingresos	$670.81
2. Gastos	176.20
3. Ganancias	494.61

Table A-14. Chili budget from farm records--Farmer C

Los gastos iniciales desde el semillero hasta unas 5 semanas de trasplantada, fueron estimados al momento de hacerse el inventario inicial. Los gastos posteriores fueron anotados en el Registro Agropecuario.

Hubo una pérdida de 0.25 tareas en la plantación debido a una enfermedad. Por tanto, la producción reflejada no será en 7 tareas sino en 6.75 tareas.

Las unidades de venta del ají son el saco de 1 quintal(100 libras) y la caja de 30 libras. La recolección se realizó entre Enero y Febrero de 1980. El terreno en que se realizó este cultivo es parte de una parcela que el agricultor tiene arrendada a $10.00/tarea anual. Debido a esto se computó ese costo.

6.75 Tareas — Ciclo: Octubre 79 - Febrero 80

A.	Producción y Ventas	
1.	Ventas:	
	a) Cajas	487
	b) Sacos	8
2.	Ingresos	$1,782.00
3.	Precio Promedio:	
	a) Por caja	$3,589 = 11.963/qq
	b) Por Saco	$4.25 = 4.25/qq
4.	Producción Total	154.1 quintales
5.	Producción/Tarea	22.8 quintales en 6.75 tareas
		22.03 quintales en 7 tareas

B. Gastos

1. Estimados al Inventario:

a)	Preparación del Semillero	0.5	Hom-Día 3.00	1.50
b)	Semilla	1	Libra 24.00	24.00
c)	Cuidados al Semillero	0.66	Hom-Día 3.00	2.00
d)	Preparación del Terreno	7	Tarea 2.50	17.50
e)	Trasplante	5	Hom-Día 3.00	15.00
f)	Riegos	3	Hom-Día 3.00	9.00
g)	Abono			33.00
h)	Aplicación Abono	7	Tarea 1.00	7.00
i)	Fumigación	7	Tarea 1.07	7.50
j)	Desyerbo	20	Hom-Día 3.00	60.00
			SUB-TOTAL.....	176.50

2. Del Registro

1. Abono 12-24-12	3	qq	12.00	36.00
Abono 13-13-13	14	qq	12.25	171.50
Abono Urea	1	qq	13.00	13.00
Abono Nutrili	1	Libra	1.50	1.50
2. Aplicación Abono	4.3	Hom-Día	3.00	13.00
3. Insecticida Tamarón	0.33	Litro	14.00	4.67
Insecticida Folidol	0.33	Litro	7.50	2.50
4. Fungicida Dithane	3	Libra	1.50	4.50
5. Aplicación Pesticidas	5X1.917	Hom-Día	3.00	28.75
6. Aplicación Riegos	7	Hom-Día	3.00	21.00
7. Desyerbos	28.3	Hom-Día	3.00	85.00
8. Recolección	24.67	Hom-Día	3.00	74.00

SUB-TOTAL.....455.42
Arrendamiento por Tarea por Semestre..... 35.00

TOTAL GASTOS.....$666.92

C. Resumen Ganancias y Pérdidas

1. Ingresos	$1,782.00
2. Total Gastos	666.92
3. Ganancia	1.115.08

Table A-15. Onion budget from farm records--Farmer C

Los primeros gastos fueron estimados al iniciar el registro y el resto fue anotado en el mismo.

La unidad de venta es el saco de 50 libras, pero normalmente los agricultores le ponen 2.5 libras extras. Recolección entre Marzo y Abril de 1980.

El agricultor tuvo que comprar plántulas, pues no fueron suficientes las obtenidas en el semillero.

5 Tareas — Ciclo: Noviembre 1979 - Abril 19

A.	Ventas y Producción				
1.	Ventas				162 sacos = 85.05 qq
2.	Ingresos				$968.00
3.	Precio Pormedio				$5,975/saco = 11.38/qq
4.	Producción Total				85.05 qq
5.	Producción por Tarea				17.01 qq
B.	Gastos				
1.	Estimados:				
	a) Prep. y Cuidados del Sem.	2 2/3	HD	3.00	8.00
	b) Semilla	1	Lb	20.00	20.00
	c) Prep. del Terreno	5	Ta	4.70	23.50
			SUB-TOTAL.....		$51.50
2.	Del Registro				
	a) Fertilizante (13-13-13)	8	qq	12.87	103.00
	b) Fertilizante (Urea)	2	qq	13.00	26.00
	c) Plántulas (para 1.5 tarea)				45.00
	d) Insecticida (Azodrín)	0.5	Lt	10.50	5.25
	e) Insecticida (Monitor)	0.469	Lt	13.00	6.10
	f) Insecticida (Tamarón)	0.5	Lt	13.00	6.50
	g) Insecticida (?)	.75	Lt	[illegible].50	5.00
	h) Herbicida (Stock)	.75	Gl	11.00	8.25
	i) Envases	18	sacos	0.50	9.00
	j) Trasplante	24 1/3	HD	3.00	73.00
	k) Aplic. Abono	4	HD	3.00	12.00
	l) Aplic. Riego	12	HD	3.00	36.00
	m) Aplic. Pesticidas	6.5	HD	3.00	19.50
	n) Desyerbo	62	HD	3.00	186.00
	o) Recolección	25.85	HD	3.00	77.56
	p) Transporte	18	sacos	0.50	9.00
			TOTAL GASTOS....		$678.66

C. Resumen Ganancias y Pérdidas

1.	Ingresos	$968.00
2.	Gastos	678.66
3.	Beneficios	289.34

Table A-16. Salad tomato from farm records--Farmer C

El Agricultor vendió para el mercado local (en huacales de 90 lbs) y para exportación (en cajas de 30 lbs). Las ventas en cajas se realizan en la finca y a veces en huacal también se vende puesto finca.

Los gastos del semillero fueron estimados al iniciarse el registro. Suponemos que hubo pago por puesto de mercao, pero no está registrado.

13 Tareas

Ventas: Febrero- Abril 1980 Ciclo: Diciembre 79 - Abril 80

A.	Ventas y Producción	
1.	Ventas	
	a) Huacales	503= 472.70 qq
	b) Cajas	144= 43.20
2.	Ingresos	$2,960.80
3.	Precio Promedio	
	a) Por huacal	$5.165= 5.738/qq
	b) por caja	$2,519= 2,637/qq
4.	Producción Total	515.90 qq
5.	Producción por tarea	39.68 qq

B.	Gastos				
1.	Estimados:				
	a) Semilla	2	Lb	12.00	24.00
	b) Prep. y Cuidados Sem.				3.50
	c) Prep. del Terreno	13	Ta	2.50	32.50
	d) Surcos	13	Ta	1.00	13.00
			SUB-TOTAL		60.00
2.	Del Registro				
	a) Fertilizante (12-24-12)	3	qq	13.50	40.50
	b) Fertilizante (Foliar)	1	Lb	1.50	1.50
	c) Insecticida (Folidol)	2/3	Lt	7.50	5.00
	d) Trasplante	4 2/3	HD	3.00	14.00
	e) Riego	1X1.714	HD	3.00	36.00
	f) Aplic. Fertilizante	2	HD	3.00	6.00
	g) 1er. Aporque	13	Ta	1.75	22.75
	h) 2do. Aporque	13	Ta	1.60	20.80
	i) Desyerbo	2X14.167	HD	3.00	85.00
	j) Fumigación	1/3	HD	3.00	1.00
	k) Recolección	12X6.153	HD	3.00	221.50
	l) Transporte	400	Huacales	2.00	800.00
			TOTAL.....		1,314.05

C. Resumen Ganancias y Pérdidas

1.	Ingresos	$2,960.80
2.	Gastos	1,314.05
3.	Ganancias	1,646.75

Table A-17. Onion budget from farm records--Farmer D

El Registro que iniciado con el cultivo en proceso y el agricultor tenía anotado, sin especificar lo que había gastado.

La cosecha fué vendida en la finca. La Unidad de venta es el saco de 50 libras.

Ventas: Marzo y Abril 80

Ciclo: Diciembre 79 - Abril 80 (Estimado)

A. Ventas y Producción

1.	Ventas	221 sacos = 110.5 qq
2.	Ingresos	$23.41.50
3.	Precio Promedio	$10.595/saco

B. Gastos

1.	Al Inventario				227.25
2.	Del Registro				
	Fertilizante 13-13-13	5	qq	12.75	63.75
	Fertilizante Urea	5	qq	13.40	67.00
	Ins. Monitor	3 1/2	Lt	12.85	44.98
	Ins. Parathion	1/4	Lt	12.00	3.00
	Herb. Degol	3 1/2	"bt"	6.00	21.00
	Desyerbo (3)	63 1/3	Hom-Día	3.00	190.00
	Aplic. Abono (3)	4	Hom-Día	3.00	12.00
	Fumigaciones (3)	10 1/3	Hom-Día	3.00	31.00
	Riegos (8)	43 1/3	Hom-Día	3.00	130.00
	Aplic. Herbicida	4	Hom-Día	3,00	12.00
	Recolección	67	Hom-Día	3.00	191.00
	Transporte Interno				5.00
			TOTAL GASTOS.....		997.98

C. Resumen de Ganancias y Pérdidas

1.	Ingresos	$2,341.50
2.	Gastos	997.98
3.	Ganancias	$1,343.52

Table A-18. Bean budget from farm records--Farmer D

Todos los gastos excepto la preparación del terreno fueron tomados del Registro.

Ventas: Abril 80 — 12 Tareas

A. Producción y Ventas

1.	Ventas	13 qq = 1,300 lb.
2.	Ingresos	$520.00
3.	Consumo Familiar	1 qq = 100 lbs.
4.	Valor Consumo	$40.00
5.	Valor Ventas y Consumo	$560.00
6.	Producción Total	14 qq = 1,400 lbs.
7.	Producción por Tarea	1.6667 qq = 116.66 lbs.

B. Gastos

Prep. del Terreno	12	Ta	2.50	30.00
Semilla	1	qq	40.00	40.00
Siembra	24	Hom-día	3.00	72.00
Desyerbos (2)	36	"	3.00	108.00
Reigo (3)	9	"	3.00	27.00
Recolección	23 1/3	"	3.00	70.00
		TOTAL GASTOS.....		$ 347.00

C. Resumen Ganancias y Pérdidas

1.	Valor Producido	$560.00
2.	Gastos	347.00
3.	Ganancias	$213.00

Table A-19. Eggplant budget from farm records--Farmer D

Todos los gastos de esta explotación fueron tomados del Registro de Finca, aún así ostensiblemente faltan los gastos correspondientes a: Semilla, Cuidados del Semillero, de aplicación del Heptacloro y fertilizantes, más su aplicación.

Las ventas se realizaron al mercado de Santo Domingo, en la unidad común de venta que es el "saco", envase de unas 100 libras aproximadamente. Los productos regalados y consumido por la familia no fueron anotados en el Registro.

Recolección y venta en Julio-Octubre. 10 Tareas

A. Ventas y Producción — Ciclo: Abril-Octubre 1980

1. Ventas	195.5 sacos			
2. Ingresos	$1,306.75			
3. Precio Promedio	$ 6.68			
B. Gastos				
1. Productos				
.1 Ins. Hectaclo	4	Lb	0.60	$2.40
.2 Ins. Captan	1.6	Lb	2.58	4.13
.3 Ins. Monitor	1	Lt	12.25	12.25
.4 Ins. Pirimol	1	Sobre	7.50	7.50
.5 Fert. Foliar	5	Lb	1.75	8.75
.6 Fung. Lannate	1.625	Lb	14.98	24.35
2. Labores				
.1 Prep. Semillero	1	HD	3.00	3.00
.2 Corte y Cruce	10	Ta	2.00	20.00
.3 Marque	10	Ta	1.00	10.00
.4 Trasplante	6	HD	3.00	18.00
.5 Riego	8	HD	3.00	24.00
.6 Aporque	4	HD	3.00	12.00
.7 Desyerbo	43	HD	3.00	129.00
.8 Fumigación	8	HD	3.00	24.00
.9 Recolección	59	HD	3.00	177.00
.10 Transporte	195.5	Saco	1.32	258.05
.11 Plaza y Burro				24.00

TOTAL GASTOS...$758.43

C. Resumen de Ganancias y Pérdidas

1. Ingresos	$1,306.75
2. Gastos	758.43
3. Beneficio	548.32

Table A-20. Eggplant budget from farm records--Farmer D

La Mayor parte de los gastos de esta explotación fueron estimado por el agricultor, al momento de comenzar el Registro.

La producción de esta explotación fué extremadamente baja, debido a alguna enfermedad según apreciación del agricultor. Las plantas tuvieron poco desarrollo, los frutos pequeños y su ciclo vegetativo fué corto.

Las ventas se realizaron al mercado de Santo Domingo. La unidad de venta es el saco de 100 libras.

9 Tareas

Ventas: Febrero-Marzo 80

Ciclo: Noviembre 79- Marzo 80 (Estimado)

A.	Ventas y Producción	
1.	Ventas	35 sacos = 350 lbs
2.	Ingresos	$169.00
3.	Precio Promedio	$4.83/Saco
4.	Producción Total	35 sacos = 35 qq = 3,500 lbs.
5.	Producción por Tarea	3.889 sacos = 3,889 qq = 388.9 lb

B. Gastos

1. Estimados.

Semilla	5.00
Prep. y Cuidado Semillero	12.00
Corte y Cruce del Terreno	22.50
Surco	9.00
Trasplante	25.00
Desyerbo	81.00
Abono	10.00
Aplic. Abono	3.00
Insecticida	1.50
Aplic. Ins.	3.00
Fumigación (Servicio)	10.60
Riegos	24.00
SUB-TOTAL	206.60

2. Del Registro

Folidol	3/4	H	7.75	5.80
Lannate	2	"Sobre"	2.00	8.00
Desyerbo	26	Hom-Día	3.00	78.00
Fumigación	3	Hom-Día	3.00	9.00
Riego	9	Hom-Día	3.00	27.00
Recolección	5 1/3	Hom-Día	3.00	16.00
Transporte	14 1/12	Hom-Día	3.00	43.75
Pago en mercado				13.00

SUB-TOTAL.....200.55
TOTAL DE GASTOS..407.15

C. Resumen Ganancias y Pérdidas

1.	Ingresos	$169.00
2.	Gastos	407.15
3.	Pérdidas	- 238.15

Table A-21. Salad tomato from farm records--Farmer E

Los tomates de esta explotación fueron vendidos a exportadores. Son entregados en cajas del exportador pero se calcula el pago según el peso exacto. Después de cosechar los 138.6 quintales, el agricultor dejó el resto de la producción en las matas porque el precio ofrecido no cubría los gastos de recolección. El agricultor estima que dejó sin cosechar una cantidad igual a la cantidad vendida.

21 Tareas

Ciclo: Nov. 1979 - Marzo 1980

A.	PRODUCCION Y VENTAS	
1.	Ventas	138.6 quintales
2.	Ingresos	$1.043.40
3.	Precio Promedio	7.53 por quintal
4.	Producción por Tarea	Cosechado - 66 quintales por tarea No cosechado - 66 quintales por tarea

B.	GASTOS				
1.	Estimado				
	a) Preparación Semillero	3	Hom-Día	3.00	9.00
	b) Semilla	1	Libra	25.00	25.00
	c) Riego y Aplic. Plaguicida	1.5	Hom-Día	3.00	4.50
	d) Prep. Terreno	21	Tareas	3.50	73.50
	e) Marcar	21	Tareas	1.00	21.00
	f) Trasplante y Riego	7	Hom-Día	3.00	21.00
	g) Plaguicidas				1.35
					155.35
2.	Datos del Registro				
	a) Dithane	2	Libras	2.25	4.50
	"	2	Kilos	4.00	8.00
	b) Throdan	1	Botella	5.50	5.50
	"	1	Botella	3.75	3.75
	"	1	Botella	5.00	5.00
	c) Abono Foliar	4	Libras	2.40	9.60
	"	1	Kilo	5.00	5.00
	"	1	Kilo	3.75	3.75
	"	1	Kilo	2.75	2.75
	"	3	Paquetes	2.75	8.25
	d) Fertilizante 12-24-12	10	quintales	11.00	110.00
	e) Lannate	1.5	sobres	3.50	5.25
	"	3	Paquetes	4.00	12.00
	f) Fungicida Pitigran	1	Kilo	3.50	3.50
	" "	2	Paquetes	3.50	7.00
	g) Riegos	10	Hom-Día	3.00	30.00
	"	1	Hom-Día	5.00	5.00
	h) Aporque con Caballo y Limpia	4	Hom-Día	3.00	12.00
	i) Fumigación (Motobomba)	4X21	Tareas	1.00	84.00

j)	Fumigación	1	Hom-Día	5.00	5.00
k)	Aporque Manual	5	Much-Día	2.00	10.00
		5	Hom-Días	3.00	15.00
l)	Limpias	16	Hom-Día	3.00	48.00
		20	Hom-Días	3.00	60.00
m)	Aplic. y Tapada de Fertilizante	3	Hom-Días	3.00	9.00
n)	Recolecciones	25	Hom-Días	3.00	75.00
					$546.85

TOTAL DE GASTOS.....$702.20

C. RESUMEN

Ingresos	$1,043.40
Gastos	702.20
Ingreso Neto	341.20

Table A-22. Okra budget from farm records--Farmer F

El desarrollo de esta explotación ocurrió en su gran parte, antes de que el agricultor llevara el Registro de Finca; por tanto al inicio del Registro se estimaron los gastos incurridos hasta la fecha. Los regalos de productos a trabajadores y vecinos no fueron tomados en cuenta.

Las ventas se realizaron al mercado de Santo Domingo, en la unidad común de venta que es el "Saco" envase de unas 70 libras. Recolecciones y ventas en Septiembre-Noviembre.

18 Tareas

A. Ventas y Producción	Ciclo Aproximado: Junio-Noviembre 1980			
1. Ventas según Estimados y Registro	459.5 sacos			
2. Ingresos " " "	$2,064.00			
3. Precio Promedio " "	$ 4.49			
B. Gastos				
1. Estimados				
.1 Productos				
.1 Pirimol	3	Sobres	6.00	18.00
.2 F. Foliar	3	Lb	3.50	10.50
.3 Kocitex	1	Lt	6.00	6.00
.4 Kaptan	3	Lb	3.00	9.00
.2 Labores				
.1 Chapeo	11 1/3	HD	3.00	34.00
.2 Corte y Cruce	18	Ta	2.00	36.00
.3 Marque	18	Ta	1.00	18.00
.4 Siembra	18	HD	3.00	54.00
.5 Desyerbos	2x 25.5	HD	3.00	153.00
.6 Fumigaciones	2x 1	HD	3.00	6.00
.7 Riegos	3x 21	HD	3.00	63.00
.8 Recolecciones	5x 14.4	HD	3.00	216.00
.9 Transporte	269	Saco	0.60	161.40
.10 Plaza	269	Saco	0.35	94.15
	Sub-Total Gastos Estimados			$ 879.05

2. Del Registro
 1. Productos
 2. Labores

.1 Recolección	44	HD	3.00	132.00
.2 Transporte	190.5	Saco	0.60	114.30
.3 Burro	114	Saco	0.25	28.50
.4 Riego	4	HD	3.00	12.00

Sub-Total Gastos del Registro... $286.80
Total Gastos... $1,165.85

C. Resumen Ganancias y Pérdidas

1. Ingresos	$2,064.00
2. Gastos	1,165.85
3. Ganacias Netas	$ 898.15

Table A-23. Onion, cucumber, tomato and eggplant budgets from farm records--Farmer G

Estos resúmenes presentan los gastos encurridos en los cultivos intercalados en el fomento de una plantación de 35 tareas de plátano, dividida en dos parcelas de 10 y 25 tareas. Presumen que ya existe la plantación de plátanos y obviamente hubo acciones para el plátano que beneficiaron a los otros cultivos y viceversa.

En la parcela de 10 tareas fueron realizados un cultivo de cebolla y seguido uno de pepino.

En la parcela de 25 tareas se realizaron un cultivo de Tomate Industrial y seguido uno de Berengena.

Los gatos realizados para las distintas labores están indicados para el cultivo que lo requería, pero reconociendo que el otro cultivo asociado se beneficiaba de la acción, al analizar los resultados de estas explotaciones debemos hacerlo como un todo ó en conjunto.

Debido a las diferencias en los ciclos vegetativos de los cultivos involucrados, los vegetales de 6 a 8 meses y el plátano de 5-7 años, hemos preparado resúmenes de los cultivos ya realizados; con el criterio de indicarlo para el cultivo que lo requería.

CEBOLLA - 10 Tareas

La fuente para estos datos fue una entrevista con el agricultor, en base a su memoria y algunos apuntes, por tanto deben considerarse como estimados. La entrevista fue realizada al inicio del Registro de Finca.

A.	Ventas y Producción			
1.	Ventas	170 sacos = 53qc		
2.	Ingresos	$699.60		
3.	Precio Promedio	$13.20		
4.	Consumo Familiar	6 sacos = 1.87		
5.	Valor Producción Total	$724.28		
B.	Gastos			
1.	Productos			
1.	Herbicida Degol	0.7	Lt	5.71	4.00
2.	Fert. 16-20-16	4	qq	[illegible]	48.40
2.	Labores				
1.	Trasplante	27	HD	[illegible]	[illegible]
2.	Aplic. Riego	18	HD	[illegible]	[illegible]
3.	Aplic. Herb.	1	HD	[illegible]	4.50
4.	Resiembra	11	HD	[illegible]	33.00
5.	Aplic. Fert.	2	HD	[illegible]	[illegible]
6.	Recolección	14	HD	[illegible]	[illegible]
			TOTAL GASTOS.....		172.90

c. Resumen de Ganancias y Pérdidas

1.	Valor Producción	$724.28
2.	Gastos	272.90
3.	Ganancia	$451.38

Nota: 1) Suponemos que faltan los gastos de compra de saco y de transporte.
2) Los gastos de semilla y preparación del semillero fueron aportados por Agricultura.

PEPINO 10- TAREAS

Al inicio del Registro de Finca sólo se había preparado el terreno, por tanto los datos de esta explotación fueron tomados del Registro.

El siglo productivo fue tan corto debido a que la plantación fue eliminada al penetrar el mar a la parcela durante el huracán Allen.-

Recolección y Venta en Septiembre

A. Ventas y Producción — Ciclo: Julio - Sept. 1980

1.	Ventas	5 Sacos
2.	Ingresos	$18.00
3.	Precio Promedio	$ 3.60

B. Gastos

1.	Productos				
1.	Fert. Foliar	2 1/2	Lb	0.90	$2.25
2.	Ins. Trimitok	3	LB	0.75	4.00
3.	Ins. Escalu	1 1/2	Bt	3.25	4.85
4.	Fert. 12-24-12	2	qq	15.00	30.00
5.	Semilla	2	Lb	11.00	22.00
2.	Labores				
1.	Corte (2)	10	Ta	3.50	35.00
2.	Cruce (2)	10	Ta	2.00	20.00
3.	Siembra	10	HD	3.00	30.00
4.	Desyerbo	61	HD	3.00	183.00
5.	Fumigación	1/2	HD	3.00	1.50
6.	Aplic. Abono	1/2	HD	3.00	1.50
7.	Recolección	1 2/3	HD	3.00	5.00

TOTAL GASTOS.. $ 339.10

C. Resumen de Ganancias y Pérdidas

1.	Gastos	$339.10
2.	Ingresos	18.00
3.	Pérdidas	(321.10)

TOMATE INDUSTRIAL - 25 TAREAS

La fuente para estos datos fué una entrevista con el Agricultor en base a su memoria y algunos apuntes, por tanto deben considerarse como estimados. La entrevista fue realizada al inicio del Registro de Finca.

A. Ventas y Producción

1.	Ventas	956 Huacales
2.	Ingresos	$4,302.00
3.	Precio Promedio	$4.50

B. Gastos

1.	Productos				
1.	Fert. 16-20-0	10	qq	12.10	121.00
2.	Fung. Dithane	4	Lb	1.50	6.00
3.	Fung. Lannate	1	Lb	18.00	18.00
4.	Ins. Dibron	1	Lt	6.50	6.50
5.	Fert. Foliar	1.4	Lt	2.85	4.00
6.	Adherente	1.4	Lt	3.57	5.00
7.	Huacales	956	H	0.80	764.80
2.	Labores				
1.	Trasplante	12	HD	3.00	36.00
2.	Riego	6	HD	3.00	18.00
3.	Desyerbo	70 1/3	HD	3.00	211.00
4.	Aplic. Fert.	2	HD	3.00	6.00
5.	Aplic. Pesticida	2	HD	3.00	6.00
6.	Recolección	79 2/3	HD	3.00	239.00
7.	Plaza	956	HD	0.35	334.60
				TOTAL GASTOS	1,775.90

C. Resumen de Ganancias y Pérdidas

1.	Ingresos	$4,302.00
2.	Gastos	1,775.90
3.	Ganancias	$2,526.10

BERENGENA - 25 TAREAS

Al inicio del Registro de Finca ya el cultivo estaba en proceso, por tanto se estimaron parte de los gastos.

Hubo una baja producción debido a la toxicida que adquirió el suelo por la penetración de agua de mar, por efecto del huracán Allen.

Recolección y Venta Julio- Octubre

Ciclo: Abril-Oct. 1980

A. Ventas y Producción				
1. Ventas	41 Sacos			
2. Ingresos	$183.00			
3. Precio Promedio	$ 4.46			
B. Bastos				
1. Estimados				
.1 Productos				
.1 Semilla	2	Lb	4.00	8.00
.2 Ins. Hectacloro	15	Lb	0.70	10.50
.2. Labores				
.1 Prep. u Cuid. Sem.	3	HD	3.00	9.00
.2 Desyerbos (Chapeo)	13 1/3	HD	3.00	40.00
.3 Arado (Corte y Marque)	25	Ta	3.00	75.00
.4 Trasplante	9	HD	3.00	27.00
.5 Desyerbo (2)	69 2/3	HD	3.00	209.00
.6 Aplic. Hectacloro	2	HD	3.00	6.00
2. Del Registro				
1. Productos				
.1 Gas-oil	3	Gl	1.10	3.30
.2 Aceite	1/4	Gl	6.40	1.60
.3 Fert. Foliar	7	Lb	0.90	6.30
.4 Ins. Parathion	2	Bt	8.00	16.00
.5 Trimitox	2	Fd	3.25	6.50
.6 Escalu	1	LT	8.50	8.50
.7 Fert. 13-13-13	3	qq	17.00	51.00
2. Labores				
.1 Desyerbo	32	HD	3.00	96.00
.2 Fumigación	11 2/3	HD	3.00	35.00
.3 Riego	4	HD	3.00	12.00
.4 Aplic. Fert.	1	HD	3.00	3.00
.5 Aporque	10	HD	3.00	30.00
.6 Recolección	14	HD	3.00	42.00
.7 Transporte y Plaza				26.00
		TOTAL GASTOS...		757.70

C. Resumen de Ganancias y Pérdidas

1.	Gastos	$757.70
2.	Ingresos	183.00
3.	Pérdida	($574.70)

Table A-24. Okra budget from farm records--Farmer H

Todos los gastos de esta explotación fueron tomados del Registro.

Las ventas se realizan por unidad de envase que es el "Saco" sin tomar en cuenta su peso. El Agricultor estimó el peso promedio de los sacos en 70 libras.

La mayor parte de los frutos de esta explotación no fue cosechada debido a bajos precios. El Agricultor estimó la pérdida en 150 sacos.

15 Tareas

Ventas: Marzo-Abril 1980 Ciclo: Enero- Abril 198

A. Ventas y Producción

1. Ventas	61.5 Sacos
2. Ingresos	$161.50
3. Precio Promedio	$2.626/Saco

B. Gastos

1. Insumos				
.1 Semilla	9	Lb	3.00	27.00
.2 Lannate	0.3785	Lt	8.45	3.20
.3 Dimetrate	0.5	Lt	6.50	3.25
.4 Azodrín	1.35	Lt	11.50	15.53
.5 Monitor	1.0	Lt	11.50	11.50
.6 Fert. 12-24-12	4.0	qq	11.50	46.00
2. Labores o Servicios				
1. Prep. Terreno	15	Ta	3.20	48.00
2. Siembra	12	HD	3.00	36.00
3. Desyerbo	56 1/6	HD	3.00	168.50
4. Fumigación	13	HD	3.00	39.00
5. Ruego	12	HD	3.00	36.00
6. Aplic. Abono	2	HD	3.00	6.00
7. Recolección	6 2/15	HD	3.00	18.40
8. Recolección	30	Sacos	0.70	21.00
9. Transporte	83.5	Sacos	0.50	41.75
			TOTAL GASTOS	521.13

C. Resumen Ganancias y Pérdidas

1. Gastos	$521.13
2. Ingresos	161.50
3. Pérdida	($359.63)

Table A-25. Tomato budget from farm records--Farmer H

Todos los gastos de esta explotación fueron tomados del Registro.

Las ventas fueron al Mercado de Sto. Dgo., la medida de venta es el huacal que pesa aproximadamente 90 libras.

Esta explotación tuvo un ciclo de producción corto debido a un exceso de lluvia. El agricultor estimó que en condiciones normales la producción hubiera sido 100 huacales mayor.

4 Tareas

Ventas: Abril 1980 Ciclo: Enero-Abril 1980

A. Ventas y Producción				
1. Ventas		25 huacales		
2. Ingresos		$77.50		
3. Precio Promedio		$3.10		
B. Gastos				
1. Insumos				
.1 Plántulas	4	Ta	3.00	12.00
.2 Fert. 12-24-12	4	qq	11.50	46.00
.3 Lannate	0.7285	Lt	8.45	6.15
2. Labores				
.1 Prep. Terreno	4	Ta	3.00	12.00
.2 Trasplante	2	HD	3.00	6.00
.3 Aplic. Fertilizante	2	HD	3.00	6.00
.4 Fumigación	5	HD	3.00	15.00
.5 Riegos	7	HD	3.00	21.00
.6 Recolección	25	Huac.	0.50	17.50
.7 Transporte	25	Huac.	2.00	50.00
		TOTAL GASTOS.....		$191.65

C. Resumen Ganancias y Pérdidas	
1. Gastos	$191.65
2. Ingresos	77.50
3. Pérdida	($114.15)

Table A-26. Chili, eggplant and okra budgets from farm records--Farmer I

Estas tres explotaciones pertenecen a un mismo agricultor, las mismas fueron desarrolladas en períodos en el cual se llevaba registro de sus actividades. Al momento de hacerles el resumen de ganancias y pérdidas no fue posible hacerlo, pues faltaban muchos datos en el Registro y no fue posible para el agricultor recordar ningún dato adicional. En el detalle de lo anotado en el Registro, para cada cultivo, señalamos los datos que obviamente faltaron.

La falta de datos en el Registro de este agricultor la consideramos debido a "fallas" del agricultor y de la entrevistadora. Entre las de él hemos pensado en falta de comprensión de los motivos de llevar un registro, lo cual no lo induce a hacer esfuerzos por dar las informaciones precisas y completas. De parte de la Entrevistadora hemos pensado que la rutina la induce a anotar sólo lo que le dicen sin "razonar" las informaciones. Reconocemos dos factores negativos para el razonamiento de las informaciones por parte de la Entrevistadora, 1ro. la falta de mayores conocimientos agronómicos, muchas veces no le permite detectar anormalidades y 2do. el tipo de Registro que lleva este agricultor (de los primeros) no permite llevar facilmente la secuencia de actividades de una explotación.

Aji - 10 tareas

Ciclo: Dic. 79 - Mayo 80

A. Ventas				
1-11/14	10	qq	4.00	40.00
11/4- 7/5	6.5	qq	5.00	32.50
7-15/5	5	qq	5.00	25.00
B. Gastos				
1. Productos				
19-27/12 Semilla	1	Lb	24.00	24.00
4-16/2 Fert. 15-15-15	5	qq	12.00	60.00
11/4-7/5 " "	4	qq	11.00	44.00
2. Labores				
19-27/12 Prep. Semillero	2	HD	3.00	6.00
19-27/12 Moja Semillero	1	HD	3.00	3.00
9-16/1 Limpieza "	1	HD	3.00	3.00
9-16/1 Moja Semillero	2	HD	3.00	6.00
16-24/1 Trasplante	4	HD	3.00	12.00
16-24/1 Moja	2	HD	3.00	6.00
4-16/2 Aplic. Fert.	1	HD	3.00	3.00
4-16/2 Moja	2	HD	3.00	6.00
16-26/2 Repaso	16	HD	3.00	48.00
26/2-5/3 Limpieza	6	HD	3.00	18.00
13-26/3 Moja	1	HD	3.00	3.00
26/3-1/4 Moja	1	HD	3.00	3.00
1-11/4 Aplic. Abono	1/3	HD	3.00	1.00
1-11/4 Recolección	12/3	HD	3.00	5.00
1-11/4 Transporte	10	qq	0.70	7.00

11/4-7/5	Recolección	1	HD	3.00	3.00
11/4-7/5	Transporte	6 1/2	qq	0.92	6.00
7-15/5	Recolección	2 2/3	HD	3.00	8.00
7-15/5	Transporte	5	qq	1.50	7.50

C. Gastos Estimados

Semilla	1	Lb	26.00	26.00
Prep. y Cuid. Sem.	9 7/19	HD	3.00	28.10
Rotura	10	Ta	3.00	30.00

D. Datos que Faltan
1. Fumigaciones (sabemos que realizó)
2. Pérdidas o Ventas (Ciclo de producción demasiado corto)

BERENJENA - x TAREAS

A. Ventas

26/2- 5/3	2	saco	5.00	10.00
13-26-3	5	"	5.00	25.00
26-3-1/4	20		7.00	140.00
1-11-4	8	"	4.25	34.00
11/4-7/5	6		5.00	30.00
11/4-7/5	6	"	7.00	42.00
15-26-5	7	"	5.57	39.00
15-26-5	6		5.67	34.00
26/5-10/6	5	"	9.70	48.50
10-18-6	6		17.00	51.00
10-18-6	5	"	?	?
18-24-6	5	"	7.40	37.00
24/6-2/7	4	"	3.75	15.00
	?			

B. Gastos
1. Productos

24/1-4/2 Dithane	1/2	Lb	3.50	1.75
24/1-4/2 Nutrili	1/2	Lb	2.50	1.25
16-26-2 Azodrín	2	Bt	2.00	4.00
16-26-2 Lannate	1/2	Bt	8.00	4.00
16-26-2 F. Foliar	1/2	Bt	2.00	1.00
13-26-3 Aldrín	1/2	Bt	10.00	5.00
13-26-3 Thiodan	1/2	Bt	10.00	5.00
26/3-1/4 Azodrín	1/2	Lt	8.00	4.00
7-15-5 Azodrín	1	?	2.50	2.50

2. Labores:

19-27-12 Moja	2/3	HD	3.00	2.00
27-12-2/1 Siembra	2	HD	3.00	6.00
16-24-2 Fumigación	1	HD	3.00	3.00
4-16-2 Moja	1	HD	3.00	3.00
16-26-2 Fumigación	1	HD	3.00	3.00
16-26-2 Moja	1	HD	3.00	3.00
26/2-5/3 Recolección	1/3	HD	3.00	1.00
26/2-5/3 Moja	2	HD	3.00	6.00
13-26-3 Recolección	2/3	HD	3.00	2.00
13-26-3 Transporte	5	Saco	1.00	5.00
13-26-3 Fumigación	1	HD	3.00	3.00
13-26-3 Moja	1	HD	3.00	3.00
26/3-1/4 Trans. INESPRE	20	Saco	-	-
26/3-1/4 Fumigación	1	HD	3.00	3.00
26/3-1/4 Moja	1	HD	3.00	3.00
1-11-4 Recolección	1/6	HD	3.00	3.50
1-11-4 Transporte INESPRE	8	Saco	-	-
11-4-7/5 Recolección	1	HD	3.00	3.00
11-4-7/5 Transporte	[illegible]	Saco	[illegible]	6.00
7-15-5 Recolección	12/3	HD	3.00	5.00
7-15-5 Transporte	5	Saco	1.25	7.25
7-15-5 Fumigación	1 1/3	HD	3.00	4.00
15-26-5 Recolección	3	HD	3.00	9.00
15-26-5 Transporte	7	Saco	1.25	8.75
15-26-5 Recolección	3	HD	3.00	9.00
15-26-5 Transporte	6	Saco	1.25	7.50
26/5-10/6 Recolección	5/6	HD	3.00	2.50
26/5-10/6 Transporte	5	Saco	1.00	5.00
10-18-6 Recolección	1	HD	3.00	3.00
10-18-6 Transporte	6	Saco		9.50
18-24-6 Recolección	1 1/2	HD	3.00	5.00
18-24-6 Recolección	1 1/2	HD	3.00	4.50
2/6-2/7 Recolección	2 1/2	HD	3.00	7.50

C. Datos que faltan:
1. No semillero.
2. No Semilla.
3. No Prep. Terreno.
4. No peso de Sacos Venta .
5. No tareaje de la explotación.

MOLONDRON - 9 TAREAS

A. Ventas:

Ciclo: Enero. Julio 1980

7-15-5	9	qq	8.00	75.00
15-26-5	19	qq	?	?
26/5-10/6	16	S	?	?
26/5-10/6	14	S	?	?
10-18-6	7	S	?	?
18-24-6	1	S	?	?
24/6-2/7	2	S	?	?
24/6-2/7	6	S	4.00	8.00
2-11-7	21	S	4.00	24.00
11-23-7	3	S	?	115.00
23-30-7		S	5.00	15.00

B. Gastos

1. Productos:

2-9-1 Semilla	7	Lb	6.00	42.00
9-16-1 Fert. 12-24-12	4	qq	11.75	47.00

2. Labores:

2-9-1 Siembra	16	HD	3.00	48.00
9-16-1 Aplic. Abono	1	HD	3.00	3.00
16-24-1 Riego	4	HD	3.00	12.00
16-24-1 Limpieza	6	HD	3.00	18.00
16-24-1 Moja	1	HD	3.00	3.00
15-26-5 Recolección	10	HD	3.00	30.00
15-26-5 Limpieza	8 1/2	HD	3.00	25.00
15-26-5 Riego	1	HD	3.00	3.00
26/5-10/6 Recolección	10	HD	3.00	30.00
10-18-6 Recolección	2 1/3	HD	3.00	7.00
24/6-2/7 Recolección	1	HD	3.00	3.00
24/6-2/7 Recolección	1 2/3	HD	3.00	5.00
24/6-2/7 Transporte	6	Sacos	0.60	3.60
11-23-7 Recolección	5	HD	3.00	15.00
11-23-7 Recolección	2/3	HD	3.00	2.00
11-13-7 Limpieza	10	HD	3.00	30.00
23-30-7 Recolección	1	HD	3.00	3.00

C. Datos que faltan:

1. No hay Prep. Terreno
2. ¿Transporte Cosecha?
3. ¿Desyerbo una semana antes de finalizar?
4. En registro aparece un supuesto molondrón 2.

Table A-27. Okra budget from farm records--Farmer J

Todos los gastos de esta explotación fueron tomados del Registro.-

Las ventas fueron realizadas en el mercado de Santo Domingo, en la unidad de venta común que es el "saco", que pesa alrededor de 70 libras. Recolección y ventas Marzo-Noviembre 1980. El consumo doméstico no fue anotado en el Registro.

8 tareas

A. Ventas y Producción	Ciclo: Enero-Noviembre 1980			
1. Ventas	182.5 Sacos			
2. Ingresos	$705.28			
3. Precio Promedio	$3.8646			
4. Producción por Tarea	22.8125 Sacos			
B. Gastos				
1. Productos				
1. Semilla	4	Lb	2.00	8.00
2. Fert. Urea	2	qq	8.50	17.00
3. Fert. Foliar	1/2	Bt	2.00	1.00
4. Ins. Thiodan	4	Bt	3.25	13.00
5. Fung. Metnate	1/3	Lt	9.00	3.00
6. Des. Creolina	1/2	Bt	2.50	1.25
2. Labores				
.1 Corte	8	Ta	1.50	12.00
.2 Cruce	8	Ta	0.75	6.00
.3 Siembra	9	HD	3.00	27.00
.4 Riego	15	HD	3.00	45.00
.5 Desyerbo	76 2/3	HD	3.00	230.00
.6 Resiembra	6	HD	3.00	18.00
.7 Fumigación	13 1/6	HD	3.00	39.50
.8 Aplic. Fert.	-	-	-	0.00
.9 Recolección	62 5/6	HD	3.00	188.50
.10 Transporte y Plaza				101.05
		Total Gastos		710.30
C. Resumen Ganancias y Pérdidas				
1. Gastos	$710.30			
2. Ingresos	705.28			
3. Pérdida	($ 05.02)			

Table A-28. Eggplant budget from farm records--Farmer J

Todos los gastos de esta explotación exepto los del semillero, fueron tomados del Registro de Finca.

Las ventas se realizaron al mercado de Sto. Dgo., las mismas se realizan en la unidad de venta que es el "saco", con un peso aproximado de 100 libras. El consumo doméstico no fue anotado en el Registro.

El ciclo productivo fue muy corto debido a las brisas y lluvias provocadas por el Huracán Allen.

Recolección y Venta en Marzo- Mayo 1980.-

8 Tareas

A. Ventas y Producción	Ciclo: Noviembre-Junio 1980			
1. Ventas	37 Sacos			
2. Ingresos	$265.00			
3. Precio Promedio	$ 7.16			
B. Gastos				
1. Estimados				
1. Productos				
1. Insecticida				2.00
2. Abono				0.50
3. Semilla				6.00
2. Labores				
.1 Prep. y Cuidados Semillero				21.00
2. Del Registro				
.1 Productos				
.1 Fertilizante 15-15-15	2	qq	14	28.00
.2 Fertilizante Urea	1 3/4	qq	12	21.00
.3 Fertilizante Sulfato	2	qq	8.00	16.00
.4 Ins. Thiodan	2 1/2	Bt	2.40	6.00
.5 Fung. Lannate	3 1/2	Sobre	4.86	17.00
.6 Fert. Foliar	1/2	Bt	2.00	1.00
2. Labores				
1. Corte	8	Ta	1.50	12.00
2. Marque	8	Ta	0.75	6.00
3. Transplante	3	HD	3.00	9.00
4. Desyerbo	86	HD	3.00	258.00

5.	Aplic. Fert.	2	HD	3.00	6.00
6.	Aplic. Riego	7	HD	3.00	21.00
7.	Fumigación	3x8	Ta	1.00	24.00
8.	Recolección	20 1/3	HD	3.00	61.00
9.	Transporte	31	Saco	1.25	38.75
10	Plaza				7.00
			Total Gastos		$561.25

C. Resumen Ganancias y Pérdidas

1.	Gastos	$561.25
2.	Ingresos	265.00
3.	Pérdida	($296.25)

Appendix B

CROP ENTERPRISE COST STUDY
WHEAT AT ABU-RAIA AERA (1)

Prepared by: 4STUDENTS&FARDUK ABDELAL — EGYPT WATER USE & MANAGEMENT PROJECT
Identifier Code: Tn-1,Trk-1,f-7
Date Prepared: AUGUST 20, 1979

Item	Unit	Number of Units	Price or Value per unit L.E.	Total income or Costs L.E.
Income				
Wheat grains	Ardab	8.0	8.000	64.00
Wheat straw	Camel load	6.0	6.000	36.00
Total Income				100.00
Variable Costs				
Org. Fert. transportation	Donkey load	150.0	0.050	7.50
Labor to spread org. fert.	Man hour	6.0	0.200	1.20
Plowing	Tractor hour	2.0	1.250	2.50
Land smoothing	Tractor hour	1.0	1.250	1.25
Seeds	kaila	6.0	1.000	6.00
Labor to spread seeds	Man hour	3.0	0.200	0.60
Weeding	Boy hour	12.0	0.100	1.20
CHEMICAL FERTILIZER		0.0	0.000	0.00
Ammonium nitrate (31.5-0-0)	Kg.	150.0	0.050	7.50
Labor to spread chem.fert.	Man.hour	4.0	0.200	0.80
IRRIGATION (2)		0.0	0.000	0.00
Sakia rent	Sakia hour	15.0	0.080	1.20
Cow or Buffle rent	C.or B. hour	15.0	0.300	4.50
Girl or Boy to observe sakia	B.or G. hour	15.0	0.100	1.50
Labor to spread water	Man hour	15.0	0.200	3.00
HARVESTING		0.0	0.000	0.00
Labor for harvesting	Man hour	36.0	0.200	7.20
Threshing	Machine hour	6.0	1.150	6.90
Winnowing	Machine hour	3.0	1.150	3.45
TRANSPORTATION		0.0	0.000	0.00
Labor for loading	Man hour	3.0	0.200	0.60
Transport grains by camel	Camel load	3.0	1.000	3.00
Total Variable Costs				59.70
Return Above Variable Costs				40.10
Fixed Costs				
Land rent	Month	6.0	5.000	30.00
Management charge	Month	6.0	1.000	6.00
Total Fixed Costs				36.00
Grand Total Costs				95.90
Return Above All Costs				4.10

FOOTNOTES:

* This study for an area of one feddan.
(1) These data was collected from 4 study cases at ABU-RAIA site by IBRAHIM ELSHENNAWY, MOHAMED ELGAZZAR, ABDELHALIM ELSHERBINY and MOHAMED SALAMA Students from FACULTY OF AGRICULTURE AT KAFR ELSHEIKH-ECONOMICS DEPARTMENT
(2) Wheat needs about 5 irrigations , 1F. needs about 1600 cu. meters .

	LABOR DISTRIBUTION			WATER DISTRIBUTION, CU METERS			
	Man Hours	Woman Hours	Boy/Girl Hours	First Irrig.	Second Irrig.	Third Irrig.	Fourth Irrig.
October	0	0	0	0	0	0	0
November	12	0	3	180	0	0	0
December	3	0	3	400	0	0	0
January	0	0	12	0	0	0	0
February	7	0	3	345	0	0	0
March	3	0	3	340	0	0	0
April	3	0	3	377	0	0	0
May	39	0	0	0	0	0	0
June	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0
Total	67	0	27	Total Water Applied=		1600 cu meters	

FOOTNOTES:

Water requirements based on our project research stations' data
- Working day = 6 hours .