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ANNUAL ADMINISTRATIVE REPORT NO. 1  
for the  
SMALL FARM CREDIT PROFITABILITY AND REPAYMENT PROJECT  
September 26, 1977 - September 30, 1978

Cooperative Agreement No. AID/ta-CA-3 under  
Basic Memorandum of Agreement No. AID/ta-BMA-6

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Annual Administrative Report No. 1 for the  
Small Farm Credit Profitability and Repayment Project  
September 26, 1977 - September 30, 1978

Introduction

The purpose of this report, per the conditions of Cooperative Agreement No. AID/ta-CA-3 under the Basic Memorandum of Agreement No. AID/ta-BMA-6 between the Agency for International Development and Colorado State University, is to summarize expenditures and personnel employed by Colorado State University and to report on progress made on the project from September 26, 1977 through September 30, 1978. The Small Farm Credit Profitability and Repayment Project (hereafter referred to as Credit Project) is a joint effort of Colorado State University and Oklahoma State University (funded under a separate Cooperative Agreement) so this report should be considered in association with the companion OSU report to obtain a complete picture of combined activities carried out under the Credit Project.

Background

The Credit Project is designed to develop methodologies which credit institutions in the developing countries can use to carry out analyses to improve small farm credit policies, programs, and loan repayment. The project will include three major activities: (1) farm level data collection and analysis, (2) application and utilization of such methodologies in credit institutions in two selected developing countries, and (3) dissemination of results to other credit institutions and developing countries. The project is to be implemented jointly by Colorado State University (CSU) and Oklahoma State University (OSU) but the overall project coordination rests with CSU. A secondary objective of the CSU part of the Credit Project is to establish a long-term institutional relationship between the selected developing country credit institutions and CSU, particularly with the Department of Economics.

Budget Allocations and Expenditures

The estimated budget allocated for the period September 26, 1977 through September 30, 1978, as well as the estimated expenditures during this period, are shown in Table 1. For this period, a total of \$123,632 was originally allocated to Colorado State University for project implementation; expenditures during this same period were estimated at \$57,201.94 (Note: There may be some variation between the actual expenditures and the estimated figure cited because of unknown delays in posting expenditure items during the last month of the fiscal year.)

TABLE 1

Colorado State University  
CREDIT PROJECT  
Fund 33-1771-1526  
Sept. 26, 1977 - Sept. 30, 1978

	<u>Expenditures</u>	<u>Budget</u>	<u>Balance Remaining</u>
	\$	\$	\$
<u>Salaries</u>			
<u>On-campus</u>			
Project Management	6,941.84	7,500.00	558.16
Professional Staff	15,721.14	11,000.00	(4,721.14)
Short-Term & TDY	--	5,000.00	5,000.00
Secretary	--	2,400.00	2,400.00
Graduate Research Asst.	3,030.00	2,280.00	(750.00)
Other	251.74	--	(251.74)
Sub-Total	<u>25,944.72</u>	<u>28,180.00</u>	<u>2,235.28</u>
<u>Off-campus</u>			
Professional Staff	--	16,500.00	16,500.00
Sub-Total	--	<u>16,500.00</u>	<u>16,500.00</u>
Total Salaries	<u>25,944.72</u>	<u>44,680.00</u>	<u>18,735.28</u>
<u>Fringe Benefits (10.64%)</u>			
On-campus	2,061.58	2,756.00	694.42
Off-campus	--	<u>1,756.00</u>	<u>1,756.00</u>
Total Fringe Benefits	<u>2,061.58</u>	<u>4,512.00</u>	<u>2,450.42</u>
<u>Overhead (Indirect Costs)</u>			
On-campus (65%)	18,203.97	20,453.00	2,249.03
Off-campus (16%)	--	<u>2,932.00</u>	<u>2,932.00</u>
Total Overhead	<u>18,203.97</u>	<u>23,385.00</u>	<u>5,181.03</u>
<u>Travel and Transportation</u>			
U.S.	2,014.90	1,050.00	(964.90)
International	6,915.34	8,400.00	1,484.66
Household Shipment & Stor.	--	8,500.00	8,500.00
Shipment of Auto	--	<u>2,375.00</u>	<u>2,375.00</u>
Total Travel & Trans	<u>8,930.24</u>	<u>20,325.00</u>	<u>11,394.76</u>
<u>Allowances</u>			
Total	--	11,055.00	11,055.00
<u>Equipment &amp; Supplies</u>	1,124.70	2,700.00	1,575.30
<u>Other Direct Costs</u>			
Workman's Compensation	--	2,475.00	2,475.00
Data Collection Analysis	--	11,000.00	11,000.00
Other Expenses	936.73	3,500.00	2,563.27
Sub-total	<u>936.73</u>	<u>16,975.00</u>	<u>16,038.27</u>
TOTALS	57,201.94	123,632.00	66,430.06
CSU Contribution	<u>3,824.00</u>	<u>3,824.00</u>	<u>--</u>
PROJECT TOTALS	61,025.94	127,456.00	66,430.06

As shown in Table 1, while the total expenditures were \$66,430.06 less than that budgeted, some expenditures exceeded the allocated amounts while other expenditures were less than that budgeted. A major share of the remaining balance for the first fiscal year (about \$48,000) was associated with the budget for the long-term resident technician who has not yet been placed in-country. The differences in the salary classification are attributed to all short-term persons being listed as part of the professional staff category. International travel was somewhat less than budgeted because of the lower travel costs associated with the shift from the Philippines to Nicaragua.

Per conditions of the contract, "the Cooperator may not exceed AID's share . . . (of funding) . . . but may make adjustments among line items without restrictions." Hence, variations between expenditure and allocated amounts for various line items were made in the interest of achieving the highest possible level of program efficiency within the overall budget constraint. For example, the delay in finalizing the second country selection has shifted expenditures for locating the long-term technician in-country from the first to the second year. Anticipated expenditures for the second and third years are attached to the minutes for the Project Management Committee meeting of September 1978 (see Appendix F).

### Professional and Staff Personnel

A total of eight CSU professional and staff personnel actively participated in the Credit Project during the first year. Of these, three professional staff members travelled overseas to the Philippines, Honduras, and Nicaragua to help develop the Memoranda of Understanding and Scopes of Work for the participating developing country institutions. The others supported the on-campus administrative, literature review and graduate credit seminar activities.

A listing of the professional staff positions to be provided by the Cooperator, as specified in the Cooperative Agreement, along with a listing of personnel that were actually provided by CSU during the first year is shown in Table 2. With minor exceptions, the specialties of the personnel provided fit closely or exceeded those specialties requested in the Cooperative Agreement.

Additional information on project personnel is shown in Table 3. This information includes title, specialty, duration and level of funding, and responsibilities. Some staff participated in the project but were not funded directly by the Credit Project since they already were covered for the period from other sources. The specific outputs or accomplishments resulting from this effort are discussed in the next section of this report.

TABLE 2

Listing of Professional Staff Requested in Cooperative Agreement and Personnel Actually Provided by CSU

Field and Name Requested	Grade (Rank)	Names of Personnel Provided	Rank
CSU Project Manager K.C. Nobe	None Specified	K.C. Nobe	Professor
Project Coordinator R.L. Tinnermeier	None Specified	R.L. Tinnermeier	Professor
Professional Staff R. Rehnberg	None Specified	S. Williams W. Spencer	Faculty Affiliate Assoc. Professor
CSU Field Technician TBA	None Specified	Not yet identified	

TABLE 3

Credit Project Professional and Staff Personnel  
(September 26, 1977 - September 30, 1978)

Activity Areas and Project Staff	Title or Rank	Specialties	Funding (months)	(salary)	Responsibilities
<u>Project Administration</u>					
Nobe, K.C. (Manager)	Department Chairman	Nat. Res. Econ. and Econ. Dev.	-	\$ -	Project supervision, logistics and liaison with AID
Tinnermeier, R.L. (Coordinator)	Professor	Ag. Finance and Ag. Dev.	3.31	7,660	Project coordination, liaison with OSU and developing country insti- tutions
Huwa, Mary	Secretary		-	-	Travel, general correspon- dence
<u>CSU Professional Staff</u>					
Tinnermeier, R.L.	Professor	Ag. Finance and Ag. Dev.	5.0	11,716	Literature review, program- ming of activities, credit seminar
Spencer, Wm.	Assoc. Professor	Marketing, Ext. Ag. Econ.	.55	1,143	Philippines Memorandum of Understanding and Scope of Work
Williams, Simon	Faculty Affiliate	Ag. Credit and Rural Dev.	.88	2,395	Philippines Memorandum of Understanding and Scope of Work, Credit Seminar
Sparling, Ed	Assistant Professor	Ag. Dev. and Farm Systems	-	-	Credit Seminar
Madsen, Al	Professor	Farm Systems, Market. & Ag. Prod	-	-	Credit Seminar
<u>Support Staff</u>					
Longwell, J.D.	Research Assistant	Ag. Credit and Rural Dev.	4.5	3,030	Literature review, research methodologies
Total Months and Salaries			14.24	\$25,944	

## Accomplishments

The Cooperative Agreement specified three project implementation stages. The first stage was expected to be completed within 6-12 months. Activities suggested for the first stage can be broadly identified as consisting of two major categories. These are to: (1) Initiate the project, including country selection, agreements on responsibilities, and development of a tentative country work plan; and (2) Conduct a literature review and develop a knowledge base. Project activities under these two major headings will be summarized in this first annual administrative report. The forthcoming second and third stages will involve initiation of activities in the countries selected and dissemination of results, respectively, and the results will be covered in future reports.

### 1. Project Initiation

As would be expected, the major efforts of the Credit Project staff during this first year were devoted to initiating the Project. These implementation activities were especially important since the Project involves a joint programming effort of Colorado State University and Oklahoma State University in two separate developing countries. Not only was it necessary to establish contacts and working agreements with credit institutions in the two developing countries but also to establish a feasible working relationship between the two participating U.S. universities.

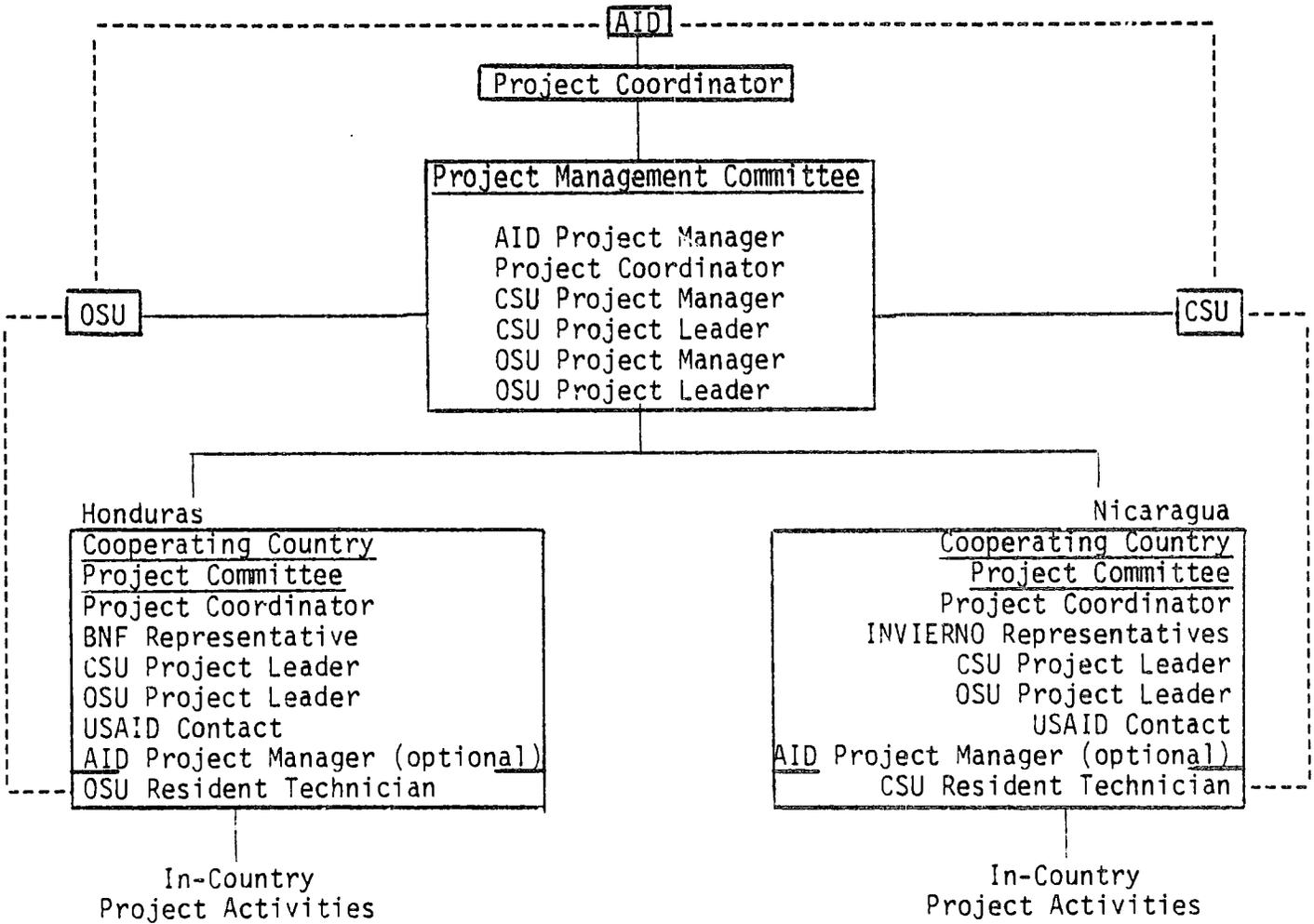
Project Management: To coordinate CSU-OSU activities, a Memorandum of Understanding was signed by both parties to clarify understandings and responsibilities (see Appendix A). Ronald Tinnermeier, CSU, was named as the overall Project Coordinator. Daniel Badger was named as the OSU Project Leader and R. Tinnermeier also served as the CSU Project Leader. The departmental chairman of the agricultural economics programs for the two respective universities (Dr. K.C. Nobe, CSU, and Dr. James Osborn, OSU) were designated as Project Managers.

A general flow of administrative programming linkages and responsibilities are shown in Figure 1. Each of the two cooperating universities signed a Cooperative Agreement with AID/Washington which provides a general scope of work for the Credit Project and allocates funding to accomplish the project objectives. Administratively, each university directly reports to the AID Project Manager, currently Karen Wiese, AID/TA/AGE/ESP in Washington, D.C. In turn, each university is responsible for maintaining its own accounting records, staffing patterns, and for administratively supporting its long-term resident technician (OSU in Honduras and CSU in Nicaragua).

The overall policy and programming functions are established by the Project Management Committee which includes the Project Coordinator and all of the Project Managers and Leaders mentioned previously. (The CSU Project Leader also serves as the Project Coordinator.) This committee meets at least once a year for project review and planning. The most recent meeting was held at OSU on September 21-23, 1978. Minutes of that meeting are attached as Appendix F.

FIGURE 1

ADMINISTRATIVE AND PROGRAMMING LINKAGES FOR CSU-OSU CREDIT PROJECT IN HONDURAS AND NICARAGUA



\_\_\_\_\_ Programming links  
 - - - - - Administrative links

The coordination and planning of in-country activities is handled by a Cooperating Country Project Committee composed of the Project Coordinator, the host credit institution representative(s) (BNF and INVIERNO), the two university Project Leaders, the resident technician, the USAID project contact, and, when she so desires, the AID/Washington Project Manager.

This particular project management arrangement has been established to ensure the active programming participation and professional back-stopping of both universities in both countries as specified in the original Cooperative Agreements. If there were only an administrative link of each university to its own long-term resident staff member, it would be easy for others to identify each university with a specific country. It is the desire of both universities that this not happen; therefore, we have implemented the previously described inter-linked management system.

Country Contacts and Agreements: In May 1977, before the AID Cooperative Agreements were finalized, Dr. Tinnermeier travelled to Honduras with Anne Ferguson (AID/W) to explore the feasibility of locating the proposed Credit Project in that country. Contact with the National Development Bank (BNF) continued by correspondence through the summer.

In August 1977, Drs. Odell Walker (OSU) and Ronald Tinnermeier travelled to the Philippines for the purpose of discussing the possible location of the Credit Project in that country with the Farm Systems Development Corporation (FSDC). A draft Memorandum of Understanding was prepared during that trip and was discussed with USAID/Manila, FSDC, and the Technical Board for Agricultural Credit (TBAC). The AID Cooperative Agreements with CSU and OSU were signed in late September 1977.

Negotiations continued during early FY 1978 with the BNF in Honduras and the FSDC in the Philippines. Dr. Daniel Badger (OSU) and Dr. Tinnermeier travelled to Honduras in November to draft a Memorandum of Understanding with the BNF. Also in November, Amy Galoso (FSDC), Jac Jacolbe (FSDC) and Meli Agabin (TBAC), from the Philippines, visited the CSU and OSU campuses. Meetings were held at CSU and in AID/W to finalize the Memorandum of Understanding and to prepare a plan of work for the Philippines. In January 1978 Simon Williams and William Spencer from CSU joined Erhardt Rupprecht (AID/W) and Anne Ferguson (USAID/Manila) in the Philippines to discuss the Project and to obtain signatures on the Memorandum of Understanding with FSDC. This was not accomplished for reasons not yet entirely understood. No action by FSDC took place over the following six months which in turn led us to the eventual decision to locate the Credit Project in another country, as will be discussed below.

In February 1978, Badger, Walker, Loren Parks, and Harry Mapp from OSU and Tinnermeier (CSU) returned to Honduras to finalize agreements there. By March the Memorandum of Understanding had been signed by BNF, CSU, and OSU and a Project Agreement had been signed by USAID and BNF. Shortly thereafter, a tentative Plan of Work was discussed and finalized with BNF in anticipation of the arrival of the long-term technician, Loren Parks, in Honduras in July (see Appendix B).

As time went on, it became clearer that it was going to be difficult to develop a satisfactory, collaborative working relationship with FSDC within the timeframe specified for the Credit Project. Therefore, in consultation with AID/W, other countries were considered and Nicaragua was determined to be a feasible alternative. Criteria considered included USAID and country interest, time required to finalize agreements, and appropriateness of in-country institutions for achieving project objectives. Initial contacts were made by phone and correspondence, with a follow-up visit to Nicaragua by Badger and Tinnermeier the end of July 1978. A Memorandum of Understanding was prepared and signed by the General Manager of INVIERNO (Carpesino Development Institute) during that visit. The Memo was later signed by the two cooperating U.S. universities. A draft Project Agreement also was left with the USAID office and a tentative Plan of Work was prepared with INVIERNO (see Appendix C). At the present time, the political situation has deteriorated in Nicaragua and the future of the project in that country is uncertain.

As is apparent, the major problem associated with project implementation during this first stage has been in identifying and finalizing agreements with the second developing country. The activities related to this effort are summarized in a chronological notebook with documentation which has been prepared and for which major items are listed in Appendix D.

Even though some difficulty has been encountered in initiating project activities in the second country selected--Nicaragua-- a vacancy announcement was released in August 1978 for the overseas, long-term faculty position in Nicaragua. Filling that position within a reasonable timeframe will make it possible to move ahead, with AID's approval, to reach some of the project objectives, even with the existing country uncertainties.

## 2. Review of Literature and Development of Knowledge Base

As mentioned previously, the gearing up or initial project implementation activities took precedence over other matters during the first stage of the Credit Project. Nevertheless, significant progress was made in reviewing existing literature on small farm data collection and analysis and in developing a general knowledge base for the subject. This effort included four separate but related components: (1) literature review and the development of an annotated bibliography, (2) farm record keeping experiences in developing countries, (3) a graduate seminar on agricultural credit, and (4) graduate student training.

### a. Literature Review

The literature search on small farm credit data collection and analysis methodologies was carried out during the initial stage of this project. It was found that very little specific research has been implemented on credit data per se. Although a number of references have been identified which cover various approaches to collecting farm level data in developing countries for policy analysis or descriptive studies, very few of them focus on operational data needs for a credit institution. The available literature on small farm

data collection in developing countries is limited primarily to Africa and the Middle Eastern countries. A few studies are now being released in Southeast Asia. Relatively little credit research is available in Latin America, which is surprising, considering the number of credit programs and services which exist (or have existed) in that area. Even so, the other studies identified are useful as a guide for possible credit data collection methodological approaches which might be introduced and tested within the operational conditions of the BNF in Honduras and INVIERNO in Nicaragua. Materials reviewed during the literature search are included in an annotated Small Farm Credit Data Collection and Analysis Bibliography which was released in draft form in August 1978.

This literature review immediately suggested possible hypotheses and methodological approaches for upcoming research which are described in two papers, "Improving Data Collection and Analysis for Small Farm Credit Programs in Nicaragua" and "Methodological Basis of Data Collection and Analysis for a Small Farm Credit Program in Nicaragua," included as Appendix E. These two papers will serve as the basis for proposed research by the Project's graduate research assistant, J.D. Longwell. This research effort is programmed to begin about mid-year, 1979.

In addition to the bibliography and methodological papers noted above, the following publications that relate to the Credit Project were prepared by Dr. Tinnermeier:

- \*"Rural Financial Markets--A Critical Problem Area," Savings and Development, Milan: Italy, No. 3--1977-I.
- \*"Credit Policies and Rural Financial Markets in Bolivia," American Journal of Agricultural Economics, Vol. 59, No. 5, December 1977. With Jerry Ladman.
- \*"Credit Policies and Rural Financial Markets in Bolivia," Nobiyuku Nogyo, Tokyo (forthcoming).
- \*"Small Farmer Credit as Administered by an Innovative Rural Development Program in Nicaragua," report to USAID/Managua, March 1978. With Claudio Gonzalez-Vega.
- \*"The Political Economy of Agricultural Credit in Less-Developed Countries: The Case of Bolivia," paper presented at the Rocky Mountain Council for Latin American Studies, Missoula, Montana, May 3-6, 1978.

#### b. Farm Record Keeping Experiences

As part of the literature review process, a specific effort was made to obtain information on farm record keeping systems and record books/forms used in various developing countries. This effort builds on some of the earlier experimentation with multi-visit farm record keeping carried out by Dr. Tinnermeier in Peru (Registro de Costos de Produccion Agricola, Manual No. 5, Ministerio de Agricultura y Pesqueria, Lima, 1969).

Discussions of the FSDC record keeping proposal in the Philippines were held in Manila during the visit of Walker and Tinnermeier in August 1977 and again when the Filipinos visited the U.S. in November 1978. Copies of their proposed system and forms are on file for reference. Information also was obtained on an integrated household record-keeping project in the Philippines implemented by Dr. Hayami and others in connection with the International Rice Research Institute. This project included a very intensive study of 12 families in one village using a daily record keeping procedure. Another Filipino record system about which information was obtained is the Farm Business Analysis Project of the Bureau of Agricultural Economics, Department of Agriculture. That project has been going for two years and some 800 farm records have been processed. The manager of that project, Ramon Alcachupas, is presently studying for an M.S. degree at CSU and is therefore being used as a unpaid resource person for the farm record keeping component of the Credit Project.

Finally, with the shift in emphasis toward Nicaragua, the farm record system of INVIERNCO has been reviewed and discussed with their staff. Some 200 case studies, using the multi-visit farm record keeping approach, have been completed and are in the process of being analyzed. All of these previous experiences with farm record keeping will provide guidelines for improving the existing system in Nicaragua and for developing new systems in Honduras and other developing countries.

### c. Agricultural Credit Seminar (EC 792CV)

During Spring Semester 1978, a graduate level seminar on agricultural credit, with special reference to data collection and analysis problems, was used as a coordinating device for staff and students associated with the Credit Project and as a means of exposing other foreign students to the problems of extending agricultural credit to small farmers in developing countries. The seminar operated under the leadership of Dr. Tinnermeier. In addition to the required readings for the seminar, students who wished to obtain 3 hours of credit were required to prepare a term paper on some aspect of small farm credit. Participants in the seminar included (with paper title where appropriate):

- J.D. Longwell (USA), "Some Aspects of Data Collection for Credit Programs in LDCs."
- Hernan Pineda (Honduras), "Role of the Institutions of Agricultural Credit for Small Farmers."
- Ramon Alcachupas (Philippines), "Role of Agricultural Credit in the Context of Government Agricultural Development Policy, Goals, Including Role in Assisting the Food Self-Sufficiency Program in the Philippines."
- David Riungu (Kenya), "Crop Insurance in Developing Countries with Special Reference to Kenya."
- Tom Tuoane (Lesotho), "The Role of Technology in Small-Farmer Credit--The Case of Developing Countries."
- Feliciano Cruz (Philippines), "Credit Program Monitoring and Evaluation."

## Other Seminar Participants:

Jose Barrios (Panama)  
 Celimo Cordoba (Colombia)  
 Patricia Graham (USA)  
 Eugene Rauch (USA)  
 Jose Verdin (Mexico)

d. Graduate Training

In addition to the participation of eleven graduate students in the Credit Seminar during Spring Semester 1978, the project is directly supporting a master's degree candidate, John D. Longwell with a graduate research assistantship. Mr. Longwell is fluent in Spanish and has spent two years as a Peace Corps volunteer working with agricultural production cooperatives and credit unions in Belize. He expects to complete formal course work for his degree by the summer of 1979 at which time he is programmed to travel to one of the project countries to complete his thesis research. A research proposal on data collection problems already has been prepared (Appendix E) and further clarification of research hypotheses will be accomplished in collaboration with the country selected (probably Nicaragua) over the next few months.

Other graduate students not directly funded by the Credit Project but who have come to CSU because of the project and/or who will likely carry out related research in the future include:

Ramon Alcachupas: Master's degree candidate from the Bureau of Agricultural Economics, Ministry of Agriculture, Philippines. He arrived on campus January 1978 and expects to analyze small farm production and credit data from the Philippines for his thesis. He is funded by AID through the Kansas State University project in the Philippines.

Feliciano Cruz: Ph.D. candidate, National Irrigation Authority, Philippines. He arrived on campus in January 1978 and is funded by the Ford Foundation. He is interested in research on credit data collection and credit monitoring information of use to management.

Hernan Pineda: Master of Agriculture candidate, from Ministry of Natural Resources, Honduras. He arrived on campus in September 1977. No specific topic has been selected yet for his technical paper. His funding is from the Government of Honduras.

Other graduate students will likely be identified as the project implements activities in the two selected developing countries and as further contacts are established. Although no funds are available in the Credit Project budget for long-term graduate training from the case study countries, preliminary discussions with the local USAID missions suggests that direct mission funding may be available if suitable degree candidates can be identified.

### Summary and Conclusions

The CSU/AID-funded Small Farm Credit Profitability and Repayment Project has now been in operation for about 12 months. It is a joint project of Colorado State University and Oklahoma State University, each funded under separate Cooperative Agreements, with in-country work programmed for Honduras and Nicaragua. CSU has the overall project coordination responsibility. Since both universities are jointly involved in the two countries, a review of both the CSU and OSU Annual Reports is necessary to obtain a complete picture of the project activities and accomplishments during this period.

Preliminary budget allocations for CSU through September 30, 1978 totaled \$123,632. It is estimated that total expenditures for this first year were \$57,201.94. The major part of the remaining balance was attributable to not being able to locate the long-term CSU professional overseas during this first year. (But the OSU supported professional now is on-board in Honduras.) It is projected that the CSU long-term professional will be in Nicaragua by early 1979.

The Cooperator generally met the Cooperative Agreement requirements in regard to the number and kind of professional personnel to be provided for the Credit Project activities. Dr. Ronald Tinnermeier was named as the Project Coordinator and actively participated in the negotiations in Honduras, the Philippines, and Nicaragua, along with the OSU Project Leader, Dan Badger. Dr. K.C. Nobe, Chairman of the Department of Economics, is the CSU Project Manager as requested by the Cooperative Agreement. Dr. Rex Rehnberg accepted an IPA position with AID/Washington so William Spencer and Simon Williams served as replacements for the time budgeted for his participation. A total of 14.24 man/months of CSU professional time was committed during the year to meet the requirements of the Cooperative Agreement.

Two major activities within the Credit Project were called for during the reporting period: (1) project initiation and implementation, and (2) literature review and development of a knowledge base.

A Memorandum of Understanding was signed between CSU and OSU during the fall of 1977. This agreement specifies the responsibilities of each party and alludes to the means by which policy and programs will be jointly developed by the two universities.

Difficulty was encountered in establishing a cooperative, working arrangement with a specific Filipino agency, as originally proposed by AID. As a result, and in consultation with AID/Washington, a decision was made to shift from the Philippines to Nicaragua in order to accomplish the objectives of the project. Agreements have been completed in Nicaragua and we now are in the process of identifying and hiring the long-term CSU professional to be placed in Nicaragua by the first part of 1979.

The second major project activity included the review of literature of small farm data collection and analysis methodologies which resulted in a first draft of an annotated bibliography on the subject. This review draft

has served as a background for specific research proposed for Honduras and Nicaragua. A number of articles on small farm credit were produced during the year and a graduate level seminar on small farm credit was held during spring semester 1978.

It is our considered opinion that a review of the activities reported on herein leads to the overall conclusion that almost all the expectations of AID and CSU were met during the first 12 months of project operations. The exception is the difficulty in finalizing a Memorandum of Understanding with a second LDC credit institution, the reasons for which have been largely outside our control. Project activities are proceeding on schedule in Honduras and it is expected that the activities in Nicaragua will soon be progressing satisfactorily. We are pleased with the cooperative relationship and mutual respect that has developed among the personnel of CSU and OSU and the development of close ties in programming and implementation of activities in Honduras and Nicaragua. We look forward to future project activities and feel all parties are seeing mutual benefits from the venture; we are pleased to be a part of this effort.

APPENDIX A

## BASIC MEMORANDUM OF UNDERSTANDING

between

COLORADO STATE UNIVERSITY  
(hereinafter called CSU)

and

OKLAHOMA STATE UNIVERSITY  
(hereinafter called OSU)

OBJECTIVES: This Basic Memorandum of Understanding (BMU) is developed for the general purpose of continuing and strengthening cooperative relationships for research and training in small farm agriculture and development. The parties recognize that through cooperation they can render more effective service to Less Developed Countries (LDC's), the Agency for International Development (AID), and other interested parties through joint study of various problems affecting agriculture and rural people. More specifically, the objectives of the BMU are to:

1. Outline general arrangements for the cooperative undertaking of specific research studies that may be developed under the Small Farm Credit Profitability and Repayment Project (hereafter called Project). Cooperate in specific lines of agricultural economics and small farm research and related social sciences approved by the two cooperating parties within their fields of responsibility under the terms of the Project.
2. Promote and facilitate Colorado State University-Oklahoma State University cooperation, especially on international problems of interest to those concerned about agriculture and rural people in the LDC's.

SCOPE: This is a BMU under which cooperative research will be conducted to develop methodologies which credit institutions in LDC's can use to carry out analyses which can improve credit policies and programs and impact upon loan repayment problems.

Major tasks under this BMU include: (1) the development of budget analysis and cost-effective data collection methodologies which can be utilized by LDC credit institutions; (2) the application and utilization of the methodologies in the Republic of the Philippines and Honduras; and (3) the dissemination of the methodologies developed and of the utilization process to other LDC's.

#### RESPONSIBILITIES ASSUMED:

Each Institution agrees to assign such persons from its staff as may be needed for each of the cooperative projects; pay their salaries, benefits, and travel expenses; and furnish office space, equipment, supplies, materials, and facilities, as may be required and mutually agreed upon by Project Leaders and Managers.

#### PROJECT MANAGEMENT:

1. It is generally understood that the departmental chairmen of agricultural economics programs for the two respective universities will be the designated Project Managers of the Project.

The Project Coordinator will be Ronald Tinnermeier (CSU), or his replacement as designated by CSU with OSU concurrence; he or his replacement also will serve as Project Leader at CSU. Daniel Badger will be the OSU Project Leader, or his replacement as designated by OSU with CSU concurrence. Erhardt Rupprecht, or his replacement, is the designated AID Project Manager.

All of the individuals mentioned previously, or their replacements, will make up the Project Management Committee which will meet at least once a year for Project review and planning.

2. Each party to this Understanding will contribute to the planning, conduct, and interpretation of the cooperative research as a whole, and furnish such facilities and funds for particular research projects as is practicable.

3. The Project Management Committee will meet for an annual review at least 30 days before the end of each fiscal year (September 30) to review the previous year's progress and to plan for the next fiscal year. It is further agreed that other matters of interest can be discussed and resolved throughout the year by telephone, written communication, and/or other meetings where AID, CSU, and OSU are represented. Any member of the Committee may request other meetings as deemed desirable.

4. The Project Management Committee, in consultation with host country institutions and USAID, also will identify personnel training needs for each in-country host institution, decide on the type of training needed, and indicate where the training should take place. If training outside the country is needed, it is understood that outside funding sources (AID, host countries and/or others) will be utilized for this training since funds are not available in the original Project Budget. Each university is encouraged to seek outside funding for the long-term (outside the country) training component, consistent with overall Project objectives. In-country training of counterparts and others will be accomplished as part of the in-country Project activities.

5. The details of work in each selected LDC shall be planned and executed by the cooperating parties, each working through properly accredited employees. Each country plan shall specify objectives, and plans and methods of procedure for the specific country and shall be prepared jointly, subject to revision by joint action as the progress of the work may justify.

Since the two universities will be involved in both Honduras and the Philippines, and perhaps other countries, at least once each year the two Project Leaders, or their designated University representatives, the Project Coordinator, and the AID Project Manager, if he so desires, will meet in each country with local AID mission personnel and in-country host institution representatives to review progress and to plan and develop future objectives and activities, including needed coordination. This group will be called the Cooperating Country Project Committee.

TRAVEL:

6. All travel by U.S. Project personnel will be coordinated through the Project Coordinator. A copy of requests for travel and clearances of U.S. TDY personnel to the LDC's and/or the field staff personnel returning to the U.S. for consultation will be sent to the Project Coordinator and to the Project Leader at each university for information purposes when the proposed trip has been included in the year's work schedule as approved by the Project Management Committee. No authorization action of the Project Coordinator will be required for these trips.

Travel requests by TDY and/or field staff personnel for work not planned and approved by the Project Management Committee must be cleared through the Project Coordinator.

Each Project Leader will be responsible for requesting country and travel clearances through the AID Project Manager at least four (4) weeks before the time of

departure of personnel from his University. All travel arrangements, passports, shots, etc., will be the responsibility of the respective universities.

7. U.S. visits for short- and long-term training by host country personnel related to the Project will be coordinated with the Project Coordinator, the AID Project Manager, and the local AID missions, even though not directly funded by the Project. The costs for these visits and/or training will need to be paid by USAID, other AID projects, or other sources since the original Project Budget does not provide for such U.S. training or visits.

8. Trip reports will be filed by U.S. TDY personnel within 30 days after visiting any country associated with the Project. A copy of each trip report will be provided by the TDY personnel to the local USAID, the AID Project Manager, the Project Leader of each university, and to the Project Coordinator.

#### REPORTS AND PUBLISHING:

9. Data obtained by cooperative research shall be available for further analysis by either party to this Understanding.

10. It is understood that plans to publish any results of research conducted under this Memorandum of Understanding will be reviewed by both Universities. Publication may be joint or by either party as may be agreed upon, always giving due credit to the cooperation and recognizing within proper limits the rights of the individuals doing the work. In case of failure to agree as to manner of publication or interpretation of results, either party may publish data after due notice and submission of the proposed manuscripts to the other. In such instances, the party publishing the data will give due credit to AID cooperation and the other University involved, if appropriate, but will assume full responsibility for any statements on which there is a difference of opinion.

11. Trip reports by TDY personnel will be filed as noted in Item 8.

12. A copy of all correspondence relating to project activities and personnel will be provided to the Project Coordinator for information purposes.

13. Semi-annual and annual reports of Project activities will be prepared by each Project Leader and submitted to the Project Coordinator for final submittal to the AID Project Manager. A similar procedure will be followed for other reports or summaries requested by AID.

## BUDGETS:

14. Each University will be responsible for its own accounting records and reports as specified in their respective Cooperative Agreements with AID.

15. The two cooperating Universities agree that some budget amendments may be necessary as the Project is implemented, consistent with responsibilities assumed and resources provided by each University. Any relocation of funds will be handled through amendments to the respective Cooperative Agreements by AID. The decision on such budget amendments will be made by the Project Coordinator and the two Project Managers, with the concurrence of AID.

16. The responsibilities assumed by each of the cooperating parties are contingent upon AID funds being available from which the expenditures legally may be met.

17. The AID Project Manager will be the final arbitrator to resolve any differences concerning management decisions and responsibility for the Project. The Project Leaders or Project Managers of either University can, at any time, request the Project Coordinator to call a formal meeting to resolve such differences.

18. This Agreement shall become effective upon date of final signature by all University administrators specified and shall continue indefinitely; but may be modified by agreement of the parties in writing, or discontinued at the request of either party. Requests for termination or any major change shall be submitted to the other party for consideration not less than 60 days in advance of the effective date desired.

10/24/77  
Date

Kenneth C. Nobe  
(Signature)

Kenneth C. Nobe  
Department Chairman,  
Economics, Colorado State University

10/26/77  
Date

Frank J. Vattano  
(Signature)

Frank J. Vattano  
Dean, College of Arts,  
Humanities and Social Sciences,  
Colorado State University

11/1/77  
Date

A. R. Chamberlain  
(Signature)

A. R. Chamberlain  
President, Colorado State University

11-22-77  
Date

James E. Osborn  
(Signature)

James E. Osborn  
Department Head,  
Agricultural Economics,  
Oklahoma State University

NOV 23 1977  
Date

Frank H. Baker  
(Signature)

Frank H. Baker  
Dean, College of Agriculture,  
Oklahoma State University

DEC 8 1977  
Date

L. L. Boger  
(Signature)

Lawrence L. Boger  
President, Oklahoma State University

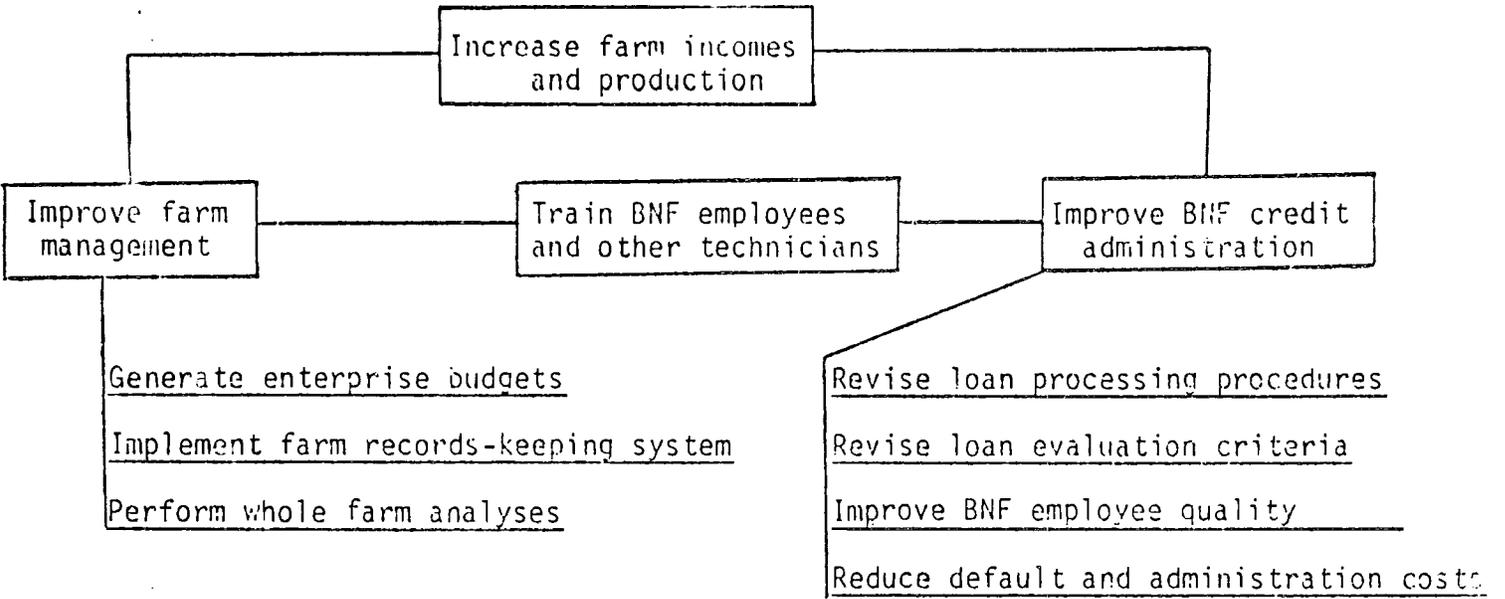
APPENDIX B

HONDURAS PROJECT

Tentative Work Plan

April 12, 1978

HONDURAS PROJECT OBJECTIVES  
(what we intend to do)



## HONDURAS PROJECT WORK PLAN

## I. PLANNING

The planning phase is the time prior to arrival of the principal investigator (PI) in Honduras. OSU personnel involved in the project will pursue the following objectives:

- A. Prepare a tentative work plan for the project;
- B. Discuss project objectives and methods to achieve them;
- C. Develop a draft of a farmer questionnaire form;
- D. Prepare a basic farm record-keeping system which can be adapted to the Honduran situation;
- E. Review material about the Banco Nacional de Fomento (BNF) to familiarize ourselves with operations and problems;
- F. Handle administration associated with contracts and moving the PI to Honduras.

## II. INITIATION OF IN-COUNTRY WORK

The objectives of this phase are to establish the PI in Honduras, review and revise project objectives, and initiate studies leading to farm analysis. Specific objectives of the OSU group include the following:

- A. Set up administrative procedures in Honduras with the BNF such as office space, secretary, etc.
- B. Become familiar with BNF operations including responsibilities, policies, performance and problems.
- C. Work with BNF personnel to review and adopt project goals, priorities and methods.
- D. Contact other foreign and domestic project leaders involved in agricultural development to learn what they are doing, how we might assist each other, and how duplication of effort can be avoided.

- E. Visit different areas of the country with personnel from BNF, AID, or others to learn about Honduran agriculture with the intention of selecting several areas for concentrated study.
- F. Gather macro-statistics, maps, and other secondary data about Honduran agriculture, including prior studies.
- G. Begin a review of the literature pertaining to small farm credit.
- H. Work with BNF personnel to prepare a comprehensive work plan for submittal to AID three months after arrival of the PI.

### III. FARM ANALYSIS

The farm analysis phase is intended to obtain and analyze basic data about resource availability and management on small farms. Data obtained will be used to generate enterprise budgets, cash flow analyses, and programming models of farms. The results of farm analyses will be used to help improve BNF loan policies and procedures, and to help agricultural extension agents increase farm production and profitability.

#### A. Selection of Study Areas and Farms

Selection of areas for concentrated study will be based on the following criteria:

1. BNF credit problems in the area;
2. Crops grown;
3. accessibility and convenience;
4. variety of farm organizations (cooperative, private, plantation, etc.);
5. potential for improvement in farm productivity and financial management;
6. cooperation of local BNF offices, agricultural extension agents, etc.;
7. availability of data.

BNF records can be examined to help select farms on which to (1) initiate a record-keeping system, (2) obtain detailed resource inventory,

and (3) obtain farm operation information for preparation of enterprise budgets. Selection of farms will be made according with respect to

1. size;
2. non-land resource base;
3. crop and livestock enterprises;
4. level of technology employed;
5. cooperativeness and ability of the farmer;
6. land tenure form.

Farms should be selected which represent the spectrum of profitability, resource endowment and managerial ability.

#### B. Farm Data Collection

The following information will be obtained from selected farms by personal interview:

1. Complete inventory of resources available—land soils, labor, water, machinery, etc.—with monthly variation where appropriate.
2. Valuation of all assets—buildings machinery, livestock, etc.
3. Determination of all fixed and variable costs associated with the farm which were not covered in (1) or (2);
4. Adaptation of production function data gathered in the regional analysis to the farm level, including enterprises and technologies not used on the farms under study;
5. Information on cultural and institutional factors that influence the decision about which products are grown, how products are marketed, and how resources are allocated.
6. All aspects of credit use, financial management and cash flow at the farm level. This includes real or perceived obstacles to obtaining credit from BNF, risk of default due to crop failure or unfavorable market prices.

#### C. Farm Records System

A record-keeping system will be started on small farms. The purpose of keeping records is to improve understanding of how the farms are operated, what are their credit needs, and how management can be improved.

The BNF can use these records to help evaluate credit needs and repayment ability.

The records system will be initiated on a small scale and expanded as experience is attained and as supervisory personnel are available. Someone from the local BNF office should take a leading role in assisting farmers and integrating farm records with loan evaluation.

#### D. Farm Analysis Using Programming Models

Information obtained from the "intensive farm analysis" will be used to construct programming models of representative farms. This appears to be the most flexible, powerful, and economic method of analyzing farm incomes, returns, and resource use. Some of the issues that can be analyzed are differences in:

- |                             |  |
|-----------------------------|--|
| 1. farm size                | 6. credit supply                               |
| 2. resource availability    | 7. credit cost                                 |
| 3. technology               | 8. family consumption/production relationships |
| 4. product and input prices | 9. risk and uncertainty                        |
| 5. land tenure              |  |

The results of these computer experiments can be used to help establish criteria and priorities for use in granting loans. For example, investment in an irrigation project that relieves a water constraint in two months of the crop season could permit a change in a farm's crop mix or yield, resulting in greater profitability and loan repayment capacity.

#### IV. ANALYSIS OF BANK OPERATIONS

Analysis of BNF operations begins in the planning phase, but as the farm analysis proceeds more attention will be devoted to the local offices and their direct relationships with borrowers. The OSU team and BNF counterparts will work closely with local BNF managers to accomplish four principal

## objectives:

## A. Improve Loan Processing Procedures

The process of filling out forms, interviewing prospective borrowers, evaluating the request, obtaining approval, issuing a check, and securing repayment will be investigated and criticized from both points of view—lender and borrower.

## B. Improve Loan Evaluation Procedures

Criteria for loan evaluation will be established based on enterprise budgets, cash flow analysis, and other information generated from farm analyses.

## C. Improve BNF Employee Quality

Salaries, promotion potential, and incentives will be examined to determine how employee quality can be improved. Performance indicators for local offices will be developed which would serve as the basis for an incentive program.

## D. Reduce Loan Default and Maintain Service to Small Farms

The critical problem of reducing the cost of small loans without disenfranchising small farmers will be examined.

Items A, B, and C are institutional problems to be analyzed by means of extensive interviews with BNF personnel and borrowers. Item D—perhaps the single most important problem as far as the BNF is concerned—will require more thought as to methodology.

## V. IMPLEMENTATION OF BNF REFORMS AND FORMAL PERSONNEL TRAINING

Once BNF operations have been analyzed, and once a set of feasible reforms has been determined by BNF management and the OSU team, implementation of reforms should commence in a few local BNF offices. Formalized

training should also begin. Examples of reforms and training might include:

A. Reforms

1. Simplification of paperwork and legal steps required to process a loan;
2. Change in the nature of the client—Bank relationship so that one BNF loan officer maintains complete responsibility for a loan until repayment;
3. Introduction of a performance-based employee incentive program;
4. Increased cooperation between agricultural technicians and BNF loan officers;
5. Changes in form of collateral used;
6. Reduced dependence of local BNF offices on the central office;
7. Improved loan collection procedures.

B. Formalized Training

1. Preparation and use of enterprise budgets;
2. Whole-farm financial analysis including cash flow concepts;
3. Investment analysis (project evaluation);
4. Asset valuation techniques.

HONDURAS PROJECTProposed Calendar of Work

Month	<u>Planning</u>	<u>Implementation</u>	<u>Farm Analysis</u>	<u>Farm Records System</u>	<u>Farm Models</u>	<u>BNF Operations</u>	<u>BNF Reforms Training</u>	Reports
	I	II	III	III C	III D	IV	V	
Jan-June '78								
1 July '78								
2 Aug								
3 Sept								Work Plan-AID Mission
4 Oct								Annual Report-AID
5 Nov								Washington 10/1/78
6 Dec								
7 Jan '79								
8 Feb								
9 Mar								
10 Apr								Semi-Annual Progress
11 May								Report 4/1/79
12 June								
13 July								
14 Aug								
15 Sept								Annual Report AID
16 Oct								Washington 10/1/79
17 Nov								
18 Dec								
19 Jan '80								
20 Feb								
21 Mar								
22 Apr								Semi-Annual Progress
23 May								Report 4/1
24 June								Final Report 10/1/80

SMALL FARM CREDIT PROFITABILITY AND REPAYMENT PROJECT

(Tentative Plan of Work for Nicaragua)

Objective: To develop data collection and analysis methodologies which credit institutions in developing countries can use to improve credit policies and programs and loan repayment.

Scope of Work:

- (1) The development of budget analysis and cost-effective data collection methodologies;
- (2) The analysis of collected data and utilization of the results by the cooperating institution;
- (3) The dissemination of the developed methodologies and their results within the host country and in other developing countries.

The project has an initial three-year implementation period which began October 1, 1977. A follow-up plan for work after the initial three-year period may be developed for continued effort subject to findings of a 30 month evaluation and availability of funds.

The cooperating U.S. universities (Colorado State and Oklahoma State Universities) each will assign one long-term advisor to work with two cooperating developing country credit institutions. One advisor already is assigned to the Banco Nacional de Fomento in Honduras. Additional short-term consultants will be provided as needed. The cooperating host country institution is expected to provide office space and secretarial services for the in-country project activities. One full-time host country counterpart will be identified who will direct the in-country project activities.

Possible Project Activities in Nicaragua:

A. Planning

The planning phase includes the time prior to and shortly after the arrival of the long-term technician in Nicaragua. The general objectives of the planning phase include:

1. Discussion of project objectives and means to achieve them.
2. The preparation of a tentative work plan with the cooperating host country institution.
3. Review literature and experiences with small farm data collection and analysis in other developing countries.
4. Review material from host country institution (INVIERNO) and begin some data analysis, if possible.
5. Handle administrative matters to locate the U.S. long-term technician and the project in Nicaragua

#### B. Initiation of In-Country Work

The objectives of this phase are to establish the long-term technician in Nicaragua, review and revise project objectives, and initiate studies all in cooperation with INVIERNO. Specific objectives include:

1. Set up administrative procedures in Nicaragua such as office space, secretary, driver, etc.
2. Become more familiar with INVIERNO operations, personnel, policies, goals, performance and problems through informal contacts and field visits.
3. Make contacts with other development agencies (foreign and national) in Nicaragua to build on existing knowledge and experience and to avoid duplication.
4. Gather maps, crop-livestock data, and other information relating to project activities if not presently available.
5. Work with INVIERNO personnel to review and revise project goals, priorities, and methods to prepare a comprehensive work plan for submittal to USAID three months after arrival of the long-term technician.

#### C. Data Collection and Analysis

This subject is the major thrust of the project and is intended to result in improved capability to (1) identify useful and relevant data needed for a small farm credit program, (2) gather such data in a cost-effective way, and (3) analyze the data and disseminate the results through program policies and operations. These objectives will be accomplished within the particular constraints of INVIERNO.

### Farm-Family Analysis

The farm-family analysis phase includes the collection and analysis of basic data about small farm-family resource availabilities, management levels, use of and attitudes about credit, risk aversion strategies, and the nature of decision making. Data obtained will be used to generate crop and other enterprise budgets (emphasizing new or alternative technologies), cash flow analyses, programming models for small farms, and to provide further insights on small farm constraints and behavior. More specifically, proposed activities include:

1. Further analysis of data collected from the approximately 125 farm case studies carried out by INVIERNO the past year.
2. Expand such case studies as deemed appropriate by the cooperating parties and as a result of evaluating the experience and data gathered for those first 125 farmers.
3. Initiate an ongoing farm-record keeping system to improve understanding of how farms are operated, their credit needs, their production-consumption-saving decision making criteria, and how management and farm incomes can be improved. The records system would be initiated on a small scale and expanded as experience is obtained and as supervisory personnel are available.
4. Utilize farm level data to determine the importance of risk and uncertainty to the small farmer. This component of the work will be coordinated with the AID proposed crop-credit insurance project to be initiated in three other countries of Latin America.
5. Analyze data from the farmer/demonstration and experimental plots established by INVIERNO to provide insights on alternative technologies.
6. Utilize data obtained from case studies, farm records, and experimental plots to construct programming models of representative small farms. The results of these computer experiments can be used to help establish criteria and priorities for use in granting loans.

### Regional or Area Analysis

This component of the project would include the identification of data needed on a regional basis for analysis and program policy development. Included would be data on organized farmer or community groups. Institutional factors which influence the decisions about which products are grown, how products are marketed, and how resources are allocated within the area would be analyzed. A computerized

regional programming model could be constructed if adequate and reliable data were available for the region or zone. This effort would build on the regional analysis work already carried out by INVIERNO.

#### Analysis of INVIERNO Credit Operations

This phase of the work would focus directly on the credit operations and procedures of INVIERNO and on the CEDE offices and their relationships with borrowers. Alternative data collection and analysis methodologies would be studied to help improve initial borrower selection, loan processing and evaluation procedures, loan supervision and monitoring procedures, and loan repayment. An effort would be made to distinguish between necessary and unnecessary data for successful and efficient credit program management and operation. A critical assessment would be made of the need or lack of need for borrower farm plans, income and net worth statements, collateral, and other requirements generally associated with small farm credit programs. The following questions could help guide the activities of this phase:

1. What minimal borrower data are needed when the farmer first enters the credit program? Which data can serve as reliable criteria for selecting borrowers?
2. What borrower or farm data are needed to design a specific loan for each farmer? Are any data needed? Do certain data help improve credit use and repayment?
3. What minimal borrower and loan data are needed for program management and for an ongoing evaluation? Should they be collected from each farmer or from a sample? What are the costs and advantages of each approach?
4. What data should be gathered from the farmer during the life of his loan? What relationship is there between such data collection and loan repayment?
5. Which data are of use primarily at the local, regional or national level? Should different methods be used depending upon the level being served?
6. What data are needed on credit agent activities and accomplishments? In what way do these data improve credit use and repayment?

7. In what ways can the costs of data collection and flows for operational purposes be minimized?
8. What data are needed from cooperatives or groups receiving credit? How should they differ from individuals?

#### D. Seminars and Training

An important part of the project is the dissemination<sup>of</sup> experience and findings among a wider audience. It is anticipated that this will be accomplished through seminars for INVIERNO personnel and for other credit institutions in Nicaragua. Furthermore, Latin American regional seminars may be organized to share the experience with other countries as well. Formalized training sessions largely will be limited to INVIERNO personnel. Subjects for the seminars and formalized training sessions could include:

1. Experiences with data collection and analysis methodologies for small farm credit programs. It may be appropriate to hold a seminar on this subject at an early period of the project to review experiences of INVIERNO, BNN, and other institutions in gathering and analyzing farm level data.
2. General farm management concepts.
3. Preparation and use of enterprise budgets.
4. Whole-farm financial analysis including cash flow concepts.
5. Investment analysis (project evaluations):
6. Asset valuation techniques.
7. Use of linear programming and other modeling techniques.
8. Application of hand held electronic calculators and mini-computers to farm management analysis.

Note: The previously mentioned project activities are illustrative only and provide a general idea of the proposed project scope. Specific activities must be developed jointly among the participating institutions once the project is agreed to and implemented in a particular country.

APPENDIX D

CHRONOLOGY OF EVENTS AND  
DOCUMENTATION LEADING TO CSU'S  
PARTICIPATION AND RESPONSIBILITY FOR THE SMALL  
FARM CREDIT PROFITABILITY AND REPAYMENT PROJECT  
(CO-AG No. AID/ta-CA-3)

Compiled by  
Ronald L. Tinnermeier  
Project Coordinator

Department of Economics  
Colorado State University  
August 1978

## LIST OF ITEMS\*

(Small Farm Credit Profitability and Repayment Project  
hereafter referred to as Credit Project)

1. September 1, 1976: Basic Memorandum of Agreement signed with AID under Expanded Program of Economic Analysis for Agricultural and Rural Sector Planning (AID/ta-BMA-6). This document was the basic agreement which allowed for the development of specifically funded cooperative Agreements for the Credit Project (also used for the CSU Lesotho Agricultural Sector Analysis Project).
2. May 1, 1977: Cooperative Agreement (AID/ta-CA-2) signed with TA/AG/ESP to acquire the services of R.L. Tinnermeier to discuss and develop the design and implementation plan for a proposed Small Farmer Credit study to be funded under the Expanded Program. Project projected through December 1977.
3. May 18-21, 1977: R.L. Tinnermeier and Anne Ferguson ESP/AID/Washington Traveled to Honduras to explore feasibility of locating Credit Project in that country. Travel was funded under AID/ta-CA-2. USAID and National Development Bank (BNF) expressed interest in moving ahead on the project.
4. July 14, 1977: AID Request for Proposal from CSU to enter into three year Cooperative Agreement on developing data collection and analysis methodologies which credit institutions in LDC can use.
5. July-September, 1977: CSU proposal submitted July 27 for total budget of \$560,907. Letters of August 19 (Frantz to Perelli, AID) and August 23 (Perelli to Frantz) refer to budget negotiations.
6. August 16-26, 1977: Trip to Philippines to explore locating credit project in that country. R.L. Tinnermeier and Odell Walker (Oklahoma State University) met Anne Ferguson AID/Washington in Manila for project discussions. USAID/Manila and Farm Systems Development Corporation (FSDC) wished to proceed with the Credit Project and a draft Memorandum of Understanding was prepared and discussed with USAID, FSDC and the Technical Board for Agricultural Credit (TBAC).
7. September-November, 1977: Project Management Committee formed to coordinate CSU-OSU activities and a CSU-OSU Memorandum of Understanding was prepared and signed.
8. September, 1977: Letters to FSDC (Sept. 8), TBAC (Sept. 13) and Ferguson (Sept. 16) assumed project moving ahead based on telephone conversation with Anne Ferguson. Proposed visit of FSDC and TBAC representatives to U.S. understood to be paid by USAID/Manila.

\* Items underlined are those included in the documentation notebook.

9. September 26, 1977: Cooperative Agreement AID/ta-CA-3 finalized with a budget of \$478,581 assuming CSU would handle long-term advisor in Philippines. Oklahoma State University also signed a Coop-Ag. for \$331,000 with responsibility for placing advisor in Honduras. R.L. Tinnermeier given overall coordinator responsibility for project including the two country programs.
10. September 21, 1978: Tentative timetable for Credit Project prepared.
11. October-November, 1977: USAID/Manila requested, via AID/Washington, that CSU-OSU pay for travel to U.S. of Meli Agabin (TBAC) and per diem costs of Jac Jacolbe (FSDC). CSU telex of Oct. 14 proposed schedule for visitors. USAID/Manila cable via Washington of Oct. 17 specified trip objectives and financial support requested. CSU telex of November 3 notified prepaid ticket had been sent for Agabin and that OSU would pay per diem for Jacolbe. AID/Washington approval for paying invitational travel received (letters from V.C. Perelli, Nov. 8, 1977). USAID/Manila cable via Washington suggested visit may be delayed. Schedule with CSU, OSU and outside credit agencies had already been set up and were cancelled.
12. November 13-18, 1977: Travel to Honduras by Dan Badger and R.L. Tinnermeier to develop project arrangements with the National Development Bank (BNF) as summarized in the attached clearances and trip report. Accompanied by Erhardt Rupprecht, AID/Washington. Draft Memorandum of Understanding prepared and discussed with USAID and BNF.
13. November 19-December 17, 1977: After considerable delay and confusion, two of the three scheduled visitors from the Philippines arrived without notification on November 19th. A tentative schedule for their visit had been cancelled due to the delay. Meetings were rescheduled with difficulty due to their delayed visit falling over the Thanksgiving break. A revised Memorandum of Understanding was prepared on November 20-21 with OSU participation. Jac Jacolbe arrived November 25 and the group departed for OSU on the 29th. The PIO/T and trip report of Galoso outline activities during their visit.
14. December, 1977: January Philippines trip for Bill Spencer and Simon Williams proposed and clearances received.
15. January 21-31, 1978: Bill Spencer and Simon Williams joined Erhardt Rupprecht in Manila to finalize agreements with FSDC. Some difficulties were encountered as reflected in their trip report. A newly revised Memo of Understanding and work timetable wasn't signed by their departure date and the naming of a Filipino as the long-term technician was raised as an issue. Rupprecht letter of February 2 summarized his view of the problem areas.
16. February 5-18, 1978: Honduras trip report summarizes visit of Dan Badger, Loren Parks, Harry Mapp, Jr., and Odell Walker from OSU and Ron Tinnermeier from CSU. Agreements were finalized and proposed project activities were discussed.
17. March, 1978: Honduras Memorandum of Understanding signed by all parties and Project Agreement between USAID and BNF signed.

18. April 13-14, 1978: R. Tinnermeier traveled to Stillwater, Oklahoma to discuss project activities in Honduras with OSU staff. Tentative Work Plan resulted from that meeting and from previous discussions. A copy was sent to the BNF for their response.
19. February-June, 1978: Discussions continued with Philippines to finalize Memorandum of Understanding. Concern raised about significance of delay for project through February 24 letter from Bill Merrill, TA/AG/ESP to USAID/Manila: March 8 letter from R. Tinnermeier to FSDC; ESP March 30 cable to USAID/Manila; and various telephone calls. No written response was received by CSU or OSU from the Philippines.
20. June 6-9, 1978: R. Tinnermeier traveled to AID/Washington to discuss the Filipino delay and alternative strategies. Informal contacts were made with AID Regional Bureaus to identify possible alternative countries. After considering a number of countries, it was agreed that the credit project should shift from the Philippines to Nicaragua if it was possible before the end of this fiscal year. A June 21 memo to K.C. Nobe summarized the rationale for initiating contacts in Nicaragua. A June 19 letter from Tinnermeier to David Bathrick, USAID/Managua, outlined a tentative plan of work in Nicaragua with the Institute for Compesino Development (Instituto de Bienestar Compesino--INVIERNO).
21. July 18-23, 1978: Ron Tinnermeier traveled to Nicaragua to join Dan Badger(OSU) in discussions about locating the Credit Project in that country. A Memorandum of Understanding was signed by Gustavo Gomez-Casco, General Manager of INVIERNO. The document was hand carried to the States for signatures at CSU and OSU. A draft Project Agreement was left for finalizing between USAID and INVIERNO.  
The trip included a two-day stop in Honduras to discuss project activities with BNF. Loren Parks is well settled as the long-term project technician. Discussions are progressing on the development of a more detailed scope of work. The trip accomplishments in Nicaragua and Honduras are summarized in the Trip Report.
22. August 1, 1978: Announcement for Nicaragua position released through Affirmative Action Program of CSU. Applications received by September 1, 1978 will be considered first or later applications will be considered until an acceptable candidate is identified.
23. August 9, 1978: Notification sent to FSDC by letter on the shift of project to Nicaragua. Future collaboration with the Philippines is welcomed subject to a stronger expression of interest from them and to the availability of AID funding for a third country. August 19 letter to TBAC also indicates changes in the project.

24. August 25, 1978: Nicaraguan Memorandum of Understanding finalized and sent to INVIERNO. Reception verified by Gomez letter of September 6, 1978.
  
25. September 1978: Eligible applicant in response to Nicaraguan field party position announcement identified by the Economics Department Selection Committee along with a request to the CSU Affirmative Action Office for approval to proceed to interview for the position.

IMPROVING DATA COLLECTION AND ANALYSIS FOR  
SMALL FARM CREDIT PROGRAMS IN NICARAGUA

BACKGROUND:

The research work described in this proposal is one part of a USAID funded program entitled "Small Farm Profitability and Repayment Project." This project was initiated on October 1, 1977 and is scheduled to be completed by September 1980. A follow-up plan of work after the initial three-year period may be developed subject to the findings of a 30 month evaluation and the availability of funds. The director of the project is Ronald L. Tinnermeier of Colorado State University. The budget allocation for CSU's operations is \$478,000. Man-months (mm) support is as follows: 15mm on-campus staff support; 48mm Nicaraguan advisor; 5.5mm temporary duty by staff; 1 graduate research assistant. In Nicaragua, credit administration and supervision will be conducted through the Instituto de Bienestar Campesino (INVIERNO).\*

PROBLEM:

Data collection and analysis play an important role in the selection, requirements and evaluation of borrowers in a small farm credit program. The methodologies employed in this field should be improved in order to (1) determine worthwhile and useful data that are required for small farm credit programs, (2) collect the necessary data in the most cost-efficient manner, and (3) analyze the data and disseminate the results through program policies and operations.

IMPORTANCE:

Many credit projects fail in the less-developed countries (LDCs) because of the initial misallocation of funds, reluctance

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\* INVIERNO is a quasi-governmental institution in the agricultural sector. It is also a bank and a multipurpose service organization that deals with a selected clientele of small farmers [2].

on the part of borrowers to repay their loans, poor loan administration on the part of lending institutions, and a host of other factors. Since nearly all credit programs require some type of data from farmer-borrowers to act as a basis for their decision making, it is important to understand what role (if any) these data play in the solution to the above mentioned problems.

A project that deals with the role of data collection in small farm credit schemes is important to all parties involved, from the international lending agency to the farmer-borrower himself. The collection of the proper kind of data along with its proper analysis holds the key to increased efficiency and cost-reduction in credit programs. It is one of the primary goals of this project to derive more efficient and less-costly methods of collecting and utilizing data.

#### PREVIOUS WORK:

A number of researchers have developed methods for collecting and analyzing socio-economic data in the LDCs. Most of this work has been conducted in Africa and the Middle East. Hunt [1] provides a comprehensive study of the various techniques of data collection in rural areas such as the one-visit and cost-route methods. He also deals with errors and error control, crop forecasting, and farm operation and budgetary recording. Spencer [4, 5] provides some guidelines for ensuring that useful data are collected in addition to discussing data collection strategy. Much of the same material is provided by Yang [6] in his publication. Kearn [3] is the editor of a pamphlet that describes the experiences of many of the researchers in data collection and analysis.

Unfortunately, none of this literature provides much information on data collection specifically for credit programs. Although a great many of the concepts and procedures could be incorporated into the surveys and questionnaires used by field personnel, more information is required as to the content of such instruments rather than merely their structural makeup.

**HYPOTHESES, OBJECTIVES AND PROCEDURES:**

Three hypotheses will be tested in this project. The first is that much of the data that are presently collected by credit institutions in Nicaragua are not essential in determining the eligibility of an applicant for a loan. Two basic objectives underlie this hypothesis. One will be to distinguish among data that provide decision-making criteria in determining borrower selection for small farm credit programs, and the data that are not applicable or important to such decisions. Having determined the latter, then these data can be eliminated from loan application procedures. The second objective will then be to establish alternative data collection methodologies.

The procedures that will be followed in terms of these objectives will be to analyze the data collected from more than 200 case studies carried out by INVIERNO. This analysis will be followed up by discussions with INVIERNO personnel to determine their views on the important and necessary data required for successful credit operations. Based upon the outcome of these discussions, alternative questionnaires and application forms will be drawn up and tested on field enumerators and other personnel working directly with farmer-borrowers. Their reactions to these alternative instruments will be noted and, where appropriate, incorporated into the analysis.

The second hypothesis is that improved data can be collected from farmer-borrowers if they are involved in the planning phases of the credit operations in their area, and if they are able to perceive the value of the data that are collected from them in terms of benefits to their own situations. The objectives involved here are fourfold. First, it will be determined what value (if any) Nicaraguan farmers presently derive from data collected for credit programs. Next, the farmers' view on the importance of data collection for credit programs will be established. Thirdly, it will be necessary to determine what benefits farmers might derive from data

collection for credit programs. The final objective in this section is to determine to what extent the farmer can be involved in identifying important data for credit programs.

These objectives will be implemented primarily through interviews with the farmers themselves. Farmers who are presently participating in INVIERNO credit programs as well as prospective farmers for such programs will be interviewed. The results of these interviews will be disseminated to INVIERNO personnel through discussions and seminars.

The third hypothesis that will be put forth is that costs can be trimmed and efficiency improved by eliminating unnecessary data from surveys and questionnaires, and by soliciting farmer cooperation and understanding in the collection of relevant data. To test this hypothesis, cost inefficiencies in INVIERNO's present data collection system will be determined by analyzing the cost structure of their credit operations, especially with respect to data collection for loans. The next objective will be to estimate cost reductions as determined by the incorporation of alternative data collection methodologies into the credit operations. Current prices will be used in developing a model for an alternative data collection procedure. In addition, computers and other necessary hard- and software will be incorporated into the project in order to draw realistic comparisons in costs between present and alternative data collection procedures. Finally, through group meetings and individual pre-survey interviews, a relationship will be established between the farmers' value perception of data collection for credit programs and increased efficiency in terms of: (1) loans approved to farmers, (2) purposes towards which loans are being applied, and (3) repayment of loans by farmers. This objective implies that the more value farmers see in the data collected from them, the more accurate will be the data on which the lending agency bases its policy decisions and, thus, the more efficient will be the credit program in terms of the above mentioned points.

**CONCLUSION:**

Alternative methodologies and cost reduction techniques in data collection for credit programs are only valuable insofar as they affect the policies and actual operations of a credit institution. It will be important to this project to consolidate the results obtained from testing the above three hypotheses. The results of the testing will be reviewed to determine if they fit with each hypothesis that was put forth. After this consolidation, conclusions will be drawn and recommendations made based upon the results of testing the hypotheses. These conclusions and recommendations will then be presented to INVIERNO personnel for use in their program policies and operations. The final presentation will be conducted through a training seminar for INVIERNO personnel and, possibly, government officials and personnel from other institutions. The results of the entire project will be published in manuscript form so that they will be available to other institutions and LDCs not participating in the training seminar.

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FAO Agricultural Development Paper, Number 80.

METHODOLOGICAL BASIS OF DATA COLLECTION AND ANALYSIS  
FOR A SMALL FARM CREDIT PROGRAM IN NICARAGUA

INTRODUCTION:

Agricultural credit programs have a long and varied history in the development of most Third World countries. Unfortunately, a common characteristic of many of these programs has been their failure to reach critical goals such as increased agricultural output and a more equitable income distribution among the rural masses. The reasons for failure are as diverse as the Third World countries themselves. Patterns do emerge, however, and factors such as the initial misallocation of funds, the reluctance of borrowers to repay their loans, improper planning and poor loan administration on the part of lending institutions all play key roles in contributing to the downfall of a credit program. Since nearly all credit programs require some type of data from farmer-borrowers to act as a basis for their decision making, it is important to understand what role (if any) these data play in the solution to problems such as those noted above.

From an operational standpoint, the collection and analysis of data is a routine part of the decision-making process of who should receive loans and who should not. In the theoretical framework of determining what the criteria for that decision-making process should be, however, the role of data is not so clearcut. Within this framework questions arise such as: What types of data are needed for borrower selection? How are the data that are collected used by the lender? Is the data collected from farmers related to repayment probabilities [6]?

On the basis of this theoretical framework, it can be established that data collection and analysis play an important role in the selection, requirements, and evaluation of borrowers in a small farm credit program. It is important that the methodologies employed in this field be improved in order to

(1) determine worthwhile and useful data that are required for small farm credit programs, (2) collect the necessary data in the most cost-efficient manner, and (3) analyze the data and disseminate the results through program policies and operations.

This problem will be examined in terms of a United States Agency for International Development (AID) funded program entitled "Small Farm Profitability and Repayment Project" [19]. Colorado State University, under the direction of Dr. Ronald L. Tinnermeier, will be working with this project in Nicaragua. The project has an initial three-year implementation period which began on October 1, 1977. A follow-up plan of work after the initial three-year period may be developed subject to the findings of a 30 month evaluation and the availability of funds. The budget allocation for CSU's operations is \$478,000. Man-months (mm) support is as follows: 15 mm on-campus staff support; 48 mm Nicaraguan advisor; 5.5 mm temporary duty by staff; 1 graduate research assistant [18]. In Nicaragua, credit administration and supervision will be conducted through the Instituto de Bienestar Campesino (INVIERNO).\*

#### PREVIOUS WORK:

The role of data collection in small farmer credit programs in the less-developed countries (LDCs)<sup>†</sup> has only recently begun

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\* INVIERNO is a quasi-governmental institution in the agricultural sector. It is also a bank and a multipurpose service organization that deals with a selected clientele of small farmers. Its primary objective is "to promote the social and economic progress of the rural sector, allowing its population a sustained and continuous integrated improvement, with the aim of attaining a more effective participation of this population in the economic, social, cultural and political life of the nation"[8, 13].

<sup>†</sup> For the purposes of this paper, the term LDC will refer to the Third World. Technically, there are arbitrary distinctions between the two terms but these distinctions vary from author to author and are not important in the context of this paper.

to attract the attention of people working in this field [6, 7, 20].\* For this reason, little is presently available on data collection for credit programs per se. However, a number of researchers have developed methods for collecting and analyzing socio-economic data in the LDCs and some of these broader methods can be applied to the type of problems to be analyzed in this paper. Most of this work has been done in Africa and the Middle East.

An important area of data collection which is often ignored is how farmers and other rural people view surveys, enumerators, and the other aspects of information gathering. Barghouti [1, 11], El Hadir [2], Ogunfowora [14, 11], and Kabwegyere [10, 11] stress the importance of involving rural people in the planning and implementation of data collection activities. Not only can worthwhile information be gathered in this manner, but good relations can also be cultivated between the parties involved. In addition, those who are collecting the data gain a better understanding of the people and environment with which they are working.

Spencer [15, 16], Friedrich [3], and Yang [22] discuss methods of farm management data analysis, the organization of data collection strategy, choosing an instrument, guidelines for ensuring that useful data are collected, and the handling and storage of data.

More important in terms of this paper are some of the theoretical questions of data collection. For example, Jeffers [9] makes an important distinction between the accounting theory of data collection, which assumes that the subsequent use of data is independent of the methods by which they were collected, and the philosophy of science in which observable

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\* Ronald Tinnermeier conducted an agricultural credit seminar in the Spring of 1978 at Colorado State University in which questions concerning data collection and their importance in credit programs were analyzed.

data play an important role in the inductive-deductive cycle of the scientific method [12]. Uchendu [20] introduces many of the same types of questions that this paper seeks to answer. Although not directed specifically at credit issues, these questions undertake to establish roles played by the various actors in an agricultural situation. These questions include: "What are the technical possibilities for increasing farm productivity? What is the farmer's awareness of and response to agricultural advice offered to him, and how extensive have [sic] been the move away from the traditional pattern of farming? What has been the influence of government policy and action with respect to the allocation of funds to various aspects of development . . . [such as] provision of credit and subsidies . . . ?" [21].

The only significant contribution to the methodology of data collection with regards to the USAID project in Nicaragua is provided by Gonzalez-Vega [6].

#### DISCUSSION:

Three hypotheses will be tested in this project. The first is that much of the data that are presently collected by INVIERNO for its credit operations are not essential in determining the eligibility of an applicant for a loan. At the basis of this hypothesis is the fact that data collection for many credit programs has a tendency to become an accounting exercise.\* Data that are collected from farmer-borrowers in this manner often result in long questionnaires which attempt to ask all the questions a lending agency might need for borrower evaluation. These questionnaires are then sifted through and lending decisions

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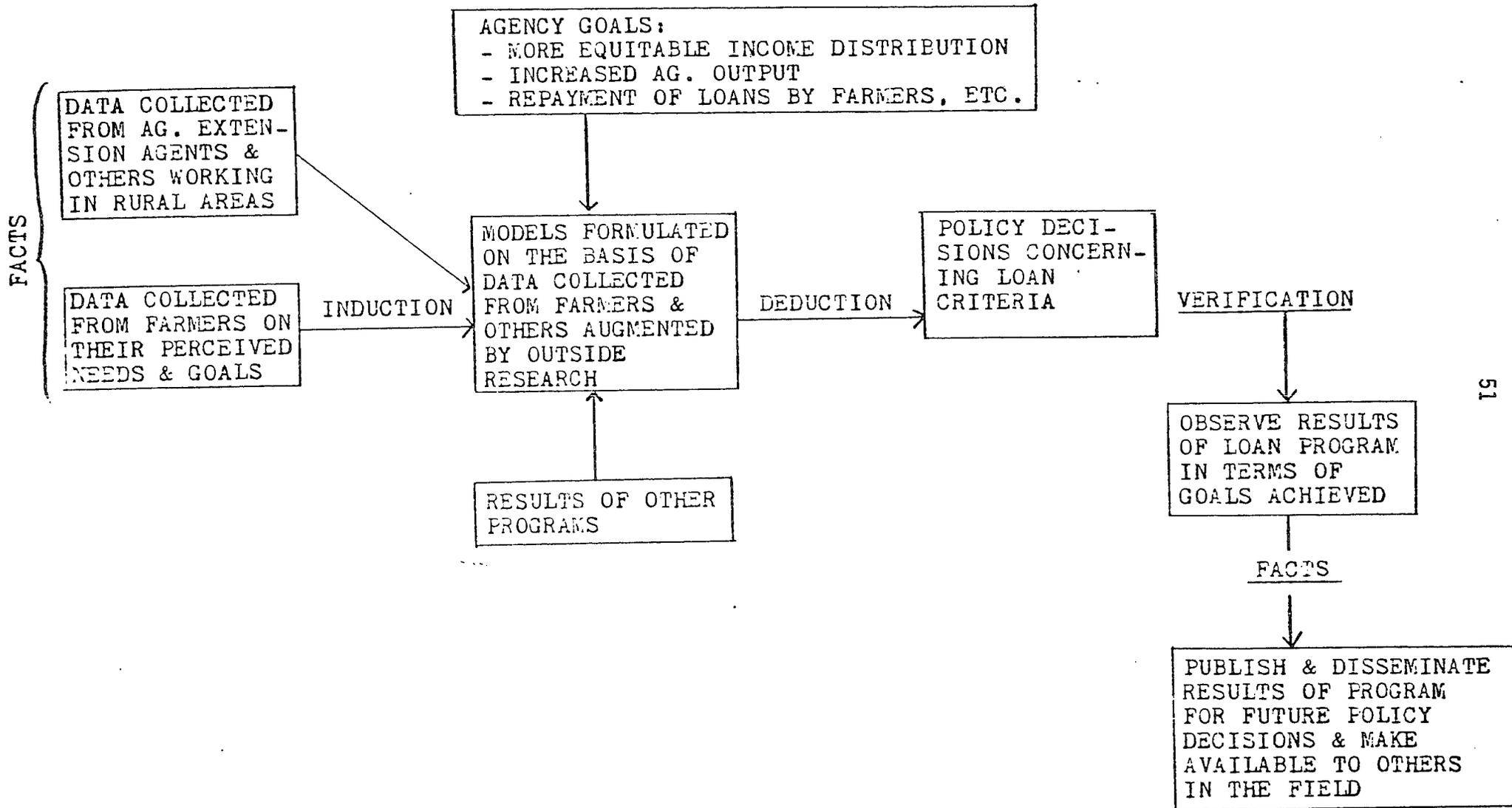
\* This implies that data collection can be carried out in a neutral sense and that whatever is done with the data after it has been collected is somehow independent of the data collection process itself [9].

are made on the basis of a few criteria, some of which may be arbitrary in terms of the goals and policies of the agency. In the final analysis, a great deal of data have been accumulated which are never used in selecting loan recipients. With this accounting philosophy, the same problem occurs with any follow up surveys that the agency might conduct.

What is called for in order to improve data collection and analysis in credit schemes is a holistic attitude. Abandoning the accounting theory in favor of a scientific approach would result in a much more cohesive project. By applying the principles of the scientific method [12], the field data would act as the factual foundation upon which credit decision models could be developed. Instead of trimming the data to fit the project, the project would be constructed on the basis of data collected in the field, data resulting from similar projects, and the agency's own goals for the project. In terms of the scientific method, this would constitute the inductive step of the process. Having based the model on the data, the next step would be to deduce policy decisions concerning loan criteria and borrower selection. The success of the project would be verified by observing the results of the loan program insofar as they met the established goals. Regardless of whether or not the project was successful, the end results would be published and disseminated for future policy decisions and as a reference for projects by other agencies within the country and/or similar agencies in other countries. This entire process is summarized in the flow diagram in Figure 1.

An infinite number of facts exist in the field of observation and it is unrealistic to try and develop a credit decision model based on all the information available. Therefore, a primary objective for the incorporation of useful data into a credit project is for planners to adopt a discriminating attitude about the collection of data. A distinction must be drawn among data that provide decision-making criteria in

Fig. 1



determining borrower selection for small farm credit programs, and the data which are not applicable or important to such decisions.

The objective described above, along with the alternative methodology proposed through the scientific method will be presented to INVIERNO and the AID project in Nicaragua. The procedures to be followed in terms of this presentation will be to introduce the concepts of the scientific method and indicate how these concepts fit in with their specific credit program. This will involve not only the program planners and policy makers, but also field personnel such as supervisors and enumerators. Since the scientific approach encompasses all phases of the credit project, it is important to include people from all levels of the program. Discussions will follow to determine INVIERNO's goals for their credit operations along with their views on the important and necessary data required for successful credit operations.

Next, the data collected from more than 200 case studies carried out by INVIERNO will be analyzed to determine what type of information presently being collected is useful and important with regards to goals and the construction of a credit decision model based upon those goals. The outcome of these discussions will act as a groundwork for the development of alternative questionnaires and application forms that will be drawn up and tested on field enumerators and other personnel working directly with farmer-borrowers. Their reactions to these alternative instruments will be noted and, where appropriate, incorporated into the analysis.

The second hypothesis is that improved data can be collected from farmer-borrowers if they are incorporated into the planning phases of the credit operations in their area and if they are able to perceive the value of the data that are being collected to their own situations. In approaching this hypothesis it is necessary to understand how farmer-borrowers (1) view the role of credit in terms of the benefits

accruing to their own operations, (2) view the procedures that they are required to go through to obtain a loan such as application forms, collateral, and record-keeping, and (3) perceive their obligations to the credit program in terms of the agreements made with the lender.

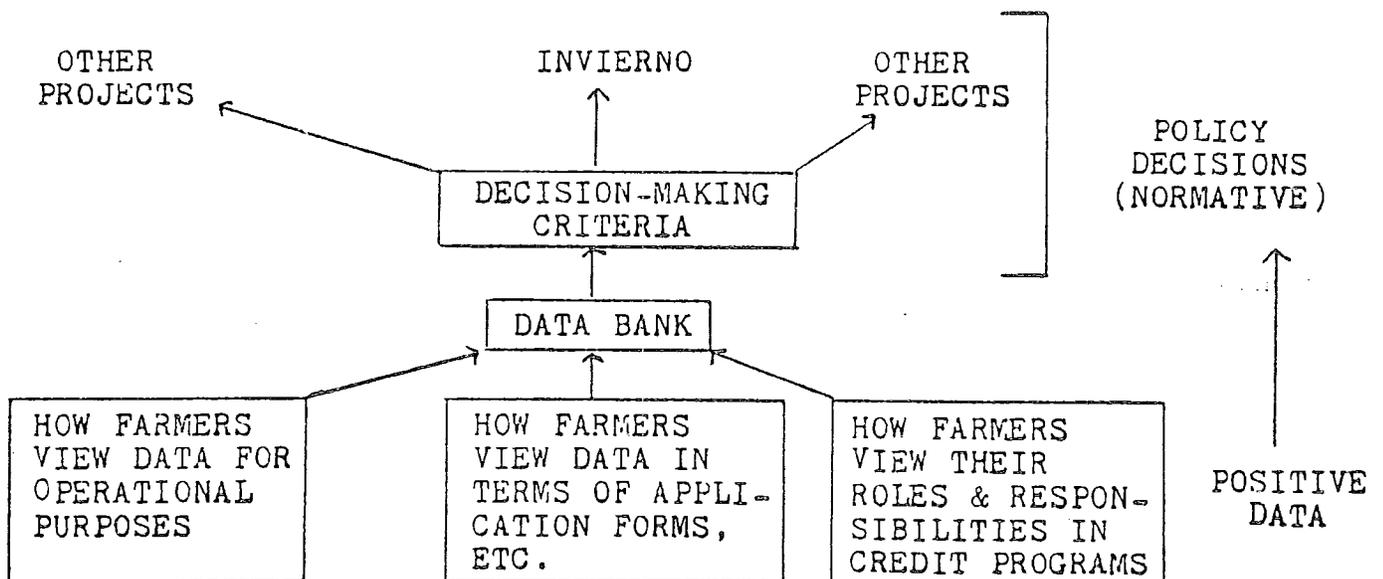
Through this approach of involving farmers, certain generalizations can be made about a farming area. These generalizations can then be used to construct a model upon which policy decisions can be made. The model is essentially a prediction about how farmer and agency goals can be mutually achieved within the context of a credit program. These predictions are tested by the policies that the agency adopts and can only be judged according to the accuracy, degree, and consistency by which they are successful in achieving the goals [4].

Another means of understanding the above procedure is to contrast it with the way normative economics might deal with a credit project. Normative economics involves premises based on value judgments and, as a result, cannot be empirically verified [17]. This would correspond to an assistance agency that went into a rural area characterized by poverty, low-yielding crops, and uneven land distribution, and attempted to prescribe a set of solutions to those problems based upon what they had observed. The probability of failure when this type of approach is employed in the LDCs is quite high. Not only are many of the historical, political, agro-climatic and other important factors not fully understood or considered, but neither are the cultural differences which are so often the reasons why projects that might work well in the United States under similar economic and agronomic conditions, fail completely when introduced into an LDC. Differences in the value of labor, different concepts of time, religious and even superstitious considerations all combine to undermine the project.

The description above accurately reflects the way in which many projects are, in fact, established in the LDCs. These projects clearly lack any strong empirical basis on which to

develop sound policy. Undoubtedly, any policy decision has some normative elements in it. The point is, however, that the normative elements cannot be independent of some positive foundation and still be effective [4]. In other words, any policy conclusion must rest upon some prediction about the effect of doing one thing instead of another, "a prediction that must be based — implicitly or explicitly — on positive economics" [5]. In this case, positive economics refers to some factual data that have been collected to aid in the development of a model and which are capable of yielding predictions about how that model will behave under changing circumstances. The accuracy of the data must be judged in terms of how they were collected and from whom they were collected. If it is farmers who are to be the beneficiaries of a credit project, then it is the farmers who must provide the information that is required to make that project a success. This concept is shown diagrammatically in Figure 2.

Fig. 2



Four primary objectives underlie this second hypothesis. First, it is important to determine what value (if any) Nicaraguan farmers presently derive from data collected for credit programs. This is probably most important with respect to how farmers view data collection for operational purposes. Is there a give and take of information between the farmer and the data collector, or is it only a one-way flow from farmer to collector? The second objective will be to establish the farmers' view on the importance of data collection for credit programs. Through this objective, some feeling can be developed as to what the loan criteria should be from the farmers' point of view. Opinions on such controversial topics as loan collateral, interest rates and repayment can be gathered and analyzed. Thirdly, it will be necessary to determine what benefits farmers might derive from data collection for credit programs. This is primarily a follow-up to the first objective in that if farmers are not presently benefiting from data collection, then some means must be found by which they can benefit. The final objective of this hypothesis will be to determine to what extent the farmer can be involved in identifying important data for credit programs. This will involve analyzing the farmers' views on data collection as determined by the second objective and then incorporating these views into INVIERNO's goals for small farmer credit.

All of these objectives will be carried out through interviews with farmers who are presently participating in INVIERNO credit programs and also prospective farmers for such programs. INVIERNO personnel will be involved in interviewing the farmers. In addition, the results of the interviews will be disseminated to other INVIERNO personnel through discussions and seminars.

The final hypothesis to be tested is that costs can be trimmed and efficiency improved by eliminating unnecessary data from surveys and questionnaires and by soliciting farmer cooperation and understanding in the collection of relevant data. This hypothesis is an outgrowth of the two hypotheses already presented.

Collecting data from farmers is a time-consuming, costly business no matter how efficiently the operation may be handled. Many farmers live in isolated areas that are often inaccessible for several months out of the year. When these areas can be reached, some type of four-wheel drive vehicle or a motorcycle is required to get the data collectors out to the farmers. Upkeep and repairs on these vehicles are usually quite substantial. If, instead, an agency chooses to station its data collectors in the areas where they will be working, then some type of housing allowance must be provided. These are only some of the more obvious problems which can cause costs to mount up rapidly.

The practice of employing the accounting theory as described in the first hypothesis results in a great deal of data being collected that are never actually used in decision making. With respect to data collectors, this means that more time must be spent in the field and, thus, more wages and expenses must be paid by the agency. From the farmers' standpoint, it means sacrificing more of their time for answering questions. In addition, the longer the questionnaires, the shorter is the attention span of the farmer [15], which means that the accuracy of the data collected is more questionable when the accounting theory is used. The costs of analyzing and storing the data also accumulate. If data are being stored on computer tapes, then every effort should be made to keep these storage costs to a minimum.

Trimming costs requires a careful analysis of the present data collection system. By merely incorporating a new methodology, there is no guaranty that cost inefficiencies will be improved. It is quite possible to carry much of the same dead-weight along when changing from one approach to another. Once the inefficiencies from the old system have been identified, care must be taken not to include them in the new methodological approach.

It will also be necessary to estimate the cost reductions

as determined by the incorporation of alternative data collection methodologies into the credit operations. This objective will be carried out along with the planning phases of the credit program when data collection strategies are being analyzed with respect to agency goals, past programs, and the data that is required from farmers to access their goals. Once the costs have been estimated, it will be necessary to include them in the model for determining decision-making criteria.

A relationship must be established between the farmers' value perception of data collection in credit programs and increased efficiency in terms of (1) loans approved for farmers, (2) purposes towards which loans are applied, and (3) repayment. It stands to reason that if farmers are able to see some value in the data that are being collected from them and have an understanding as to its purpose, then the collection of the data should be easier for field enumerators. The enumerators will have to spend less time explaining to the farmers why they are collecting the data and what the specific questions in the survey form mean. In addition, the number of errors that would result in costly re-interviewing could be reduced substantially if this type of relationship can be established.

To accomplish this objective, group meetings could be held during which farmers would be invited to consider what loan criteria should be used in their community. Although the credit agency may have some general ideas about how credit should be used in a community, the farmers, along with extension agents, can pinpoint key areas of need. Lastly, in order to determine the most efficient manner in which loans can be repaid, the farmers' opinions and ideas could prove very useful. After such meetings have been held, then alternative data collection procedures can be tested on individual farmers through pre-surveys to determine their specific contributions in terms of the three points stated in this section.

**CONCLUSION:**

The hypotheses set forth in this paper have not yet been tested. Whether they are appropriate as they stand or must be modified to fit INVIERNO's objectives for small farmer credit can only be determined once work has begun in Nicaragua. The underlying theory of data collection, however, merits consideration in all credit programs that establish some type of criteria for borrower selection.

After the project in Nicaragua has been implemented and the hypotheses tested, the results will be published in manuscript form so that they will be available to other institutions and LDCs for consideration in similar projects.

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APPENDIX F  
MINUTES OF

PROJECT MANAGEMENT COMMITTEE MEETING

Small Farm Credit Profitability and Repayment Project  
September 21-23, 1978 Stillwater, Oklahoma

The second Credit Project Management Committee meeting was held at Oklahoma State University in Stillwater on September 21-23, 1978. Members in attendance included Ronald Tinnermeier, Project Coordinator and CSU Project Leader; K.C. Nobe, CSU Project Manager; Daniel Badger, OSU Project Leader; James Osborn, OSU Project Manager; and Karen Wiese, AID Project Manager (replacing Erhardt Rupprecht). Ms. Virginia Perelli, AID Project Agreement Officer also participated in the meeting. Other OSU staff who attended the meeting at various times included: William Sibley, Assistant Vice-President for Research; Betty McDaniel, Director of Contracts and Grants Office; Pat Schaeffer, Agricultural Economics Contract Accountant; and Harry Mapp, Mike Hardin, Odell Walker, Joe Williams, Kurk Rockeman, David Flood, and Abbie Glen-Allen, all from the Department of Agricultural Economics. The agenda for the meeting is attached as Appendix A.

The first formal session was held Friday morning when the Project Leaders reviewed the activities of the two cooperating universities over the past year. The activities in Honduras appear to be about on schedule. Loren Parks started work in Honduras in July and he and his counterpart, Reynerio Barahona, have initiated farm record keeping with 10 BNF borrowers in the Danli area. A first draft of the record book to be used was distributed to the group along with other record forms which have been proposed or used in Honduras. A short description of Honduras also was distributed. The previously prepared Plan of Work for Honduras was reviewed but no

specific recommendations or suggestions were made since an up-dated plan prepared by Parks with the BNF had not yet arrived stateside. A Cooperating Country Project Committee meeting time for Honduras was discussed but no firm date was set. It appeared to be most feasible in January 1979.

In Nicaragua a Memorandum of Understanding has been signed and a Project Agreement is ready to be signed by USAID and INVIERNO. Project activities are behind schedule in the second country (now Nicaragua) primarily due to the time lost in trying first to locate the project in the Philippines. It was agreed that the long-term technician will be placed in Nicaragua by January 15. If that is not possible due to continuing political conflict, that part of the CSU budget will be de-obligated by AID. Any consideration of a third country or other options would have to be looked at separately at that time. David Flood, Ph.D. candidate at OSU, was interviewed by Drs. Nobe and Tinnermeier for the long-term Nicaragua position and a formal offer to him will be made soon. Farm level data on 200 farms have been collected by INVIERNO and these data will be analyzed as soon as possible. Because INVIERNO has already experimented with farm record keeping and data are available, it should be possible to catch up with activities now being initiated in Honduras.

Other items discussed during the Friday morning session included a review of draft annual reports from CSU and OSU and literature review activities. Copies of the two annual reports were distributed. Results of the OSU literature survey were provided through the distribution of a paper entitled "Preliminary Literature Review on Small Farmer Credit Problems" in which problems of interest rates, loan delinquency, organization and personnel, borrowing costs, informal credit, and farm record keeping are discussed. An annotated bibliography on small farm credit was attached to the paper as

an appendix. The CSU literature review focused on small farm data collection and was summarized in a paper entitled, "Annotated Bibliography on Small Farm Credit Data Collection and Analysis." Findings from the CSU literature search provided references for two papers, "Improving Data Collection and Analysis for Small Farm Credit Programs in Nicaragua" and "Methodological Basis of Data Collection and Analysis for a Small Farm Credit Program in Nicaragua" which were enclosed as appendices to the draft CSU annual report to AID distributed at the meeting.

Both Project Leaders also provided a summary of expenditures under the Project during the past year (see attachments B for OSU and C for CSU). Both universities expended less than what was budgeted, primarily due to less expenses for data collection and analysis than that projected.

The Friday afternoon session concentrated on discussing future project activities, budgets, and timetables. A modified Plan of Work for Honduras prepared by Loren Parks and the BNF had not yet arrived by mail so no specific changes were made to the previously prepared work plan (appendix to CSU annual report). Ms. Perelli expressed concern over the number of TDY personnel that were being sent or proposed for Honduras, especially in light of the request for the assignment of Kurt Rockeman to Honduras for up to one year. Discussion followed but no definite recommendations were made. It was generally understood that use of TDY personnel should be programmed ahead and clearly justified in terms of project needs at the country level.

The previously prepared general scope of work for Nicaragua was briefly reviewed (see appendix to CSU annual report). It will be modified once the long-term resident technician is identified and the input of INVIERNO is obtained. Initiation of this second planning stage may take place in November if the political situation permits. A tentative work timetable for the CSU activities over the next year was distributed and discussed

(Appendix D). Two activities not specifically mentioned previously include a feasibility study of the potential use of handheld electronic calculators (like the TI-59) and micro-computers for training and analysis in LDCs and the development of two training modules on farm record keeping and management concepts. It was proposed that the training modules be developed jointly by CSU and OSU.

Also during the afternoon session, Ms. Perelli and the CSU representatives revised the CSU Cooperative Agreement and project budget for the next two years (Appendix E). This revised budget will serve as the basis for obligating AID funds for the project for the third year. Ms. Perelli indicated the third year funding for the OSU portion already had been obligated but that some budget adjustments may be needed in the future based on actual expenditures and projected costs.

An informal dinner session was held at the home of Dan Badger Friday evening. Dan showed a number of slides on Honduras and Nicaragua illustrating some of the countryside and the general characteristics of small farm agriculture.

A special session was held Saturday morning, September 23 to finalize the CSU budget and amendments to the Cooperative Agreement. Waldo Hooker, Director of Programming in INVIERNO, arrived in Stillwater Friday evening and joined the group Saturday morning. He discussed the present situation in Nicaragua and how it might affect future project activities. He indicated only one INVIERNO office was closed for a few days because of the conflict but that there still is a lot of uncertainty. He was to hand carry to Nicaragua the OSU Cooperative Agreement and account numbers requested by USAID to finalize the Project Agreement. Personal vita for D. Flood also

were carried back to INVIERNO for their consideration relative to his appointment as the long-term technician in Nicaragua.

R.L. Tinnermeier  
Project Coordinator

Appendix A (To minutes)

AGENDA  
 SMALL FARM CREDIT PROFITABILITY  
 AND REPAYMENT PROJECT

Project Management Committee Meeting  
 Stillwater - September 21-23, 1978  
 410 Ag. Hall

Thursday, September 21, 1978

9:00 p.m. CSU (Ken Nobe and Ron Tinnermeier) and AID representatives (Virginia Perelli and Karen Wiese) arrive in Stillwater from Fort Collins, Colorado and Washington, D.C.

Friday, September 22, 1978

7:00 a.m. Breakfast at Student Union Hotel  
 Joe Williams, Mike Hardin, Dan Badger

8:00 a.m. Review of project activities of first year  
 OSU - Dan Badger, Project Leader  
 CSU - Ron Tinnermeier, Project Leader  
 Discuss needed budget adjustments due to change in project activities  
 Meet Betty McDaniel, Director Contracts and Grants Office, OSU  
 Meet Dr. William Sibley, Asst. Vice President for Research, OSU

9:15 a.m. Coffee in 410 Ag. Hall

9:40 a.m. Review Annual Report drafts and discuss needs for AID internal review of project.

12:00 noon Lunch in State Room, Student Union  
 Joined by Pat Schaeffer, Ag. Econ Contract Accountant

1:15 p.m. Formulate project activities and responsibilities for next year; discuss budgeting adjustments needed.

3:00 p.m. Coffee Break

3:15 p.m. Prepare Plans of Work and timetables for project activities and specific outputs expected during the year  
 Finalize suggested amendments to existing CoAgs to reflect current and expected status of the project.

5:00 p.m. Adjourn

6:30 p.m. Dinner

Saturday, September 23, 1978

- 9:00 a.m. Nobe and Tinnermeier visit with David Flood  
Badger and Osborn visit with Virginia Perelli and  
Karen Wiese
- 11:00 a.m. Brunch
- 12:15 p.m. Leave for Arkansas-OSU Football game
- 4:30 p.m. Refreshments at Dan Badger's
- 6:10 p.m. Leave for Oklahoma City Airport and Hotel

OSU Ag. Econ Faculty

Jim Osborn  
Dan Badger  
Odell Walker  
Harry Mapp  
Joe Williams  
Mike Hardin  
Kurt Rockeman

CSU Ag. Econ Faculty

Ken Nobe  
Ron Tinnermeier

AID Staff

Virginia Perelli  
Karen Wiese

Appendix B (To minutes)

Colorado State University  
 CREDIT PROJECT  
 Fund 33-1771-1526  
 Sept. 26, 1977 - Sept. 30, 1978

	<u>Expenditures</u>	<u>Budget</u>	<u>Balance Remaining</u>
	\$	\$	\$
<u>Salaries</u>			
On-campus			
Project Management	6,941.84	7,500.00	558.16
Professional Staff	15,721.14	11,000.00	(4,721.14)
Short-Term & TDY	--	5,000.00	5,000.00
Secretary	--	2,400.00	2,400.00
Graduate Research Asst.	3,030.00	2,280.00	(750.00)
Other	251.74	--	(251.74)
Sub-Total	<u>25,944.72</u>	<u>28,180.00</u>	<u>2,235.28</u>
Off-campus			
Professional Staff	--	16,500.00	16,500.00
Sub-Total	<u>--</u>	<u>16,500.00</u>	<u>16,500.00</u>
Total Salaries	<u>25,944.72</u>	<u>44,680.00</u>	<u>18,735.28</u>
<u>Fringe Benefits (10.64%)</u>			
On-campus	2,061.58	2,756.00	694.42
Off-campus	--	1,756.00	1,756.00
Total Fringe Benefits	<u>2,061.58</u>	<u>4,512.00</u>	<u>2,450.42</u>
<u>Overhead (Indirect Costs)</u>			
On-campus (65%)	18,203.97	20,453.00	2,249.03
Off-campus (16%)	--	2,932.00	2,932.00
Total Overhead	<u>18,203.97</u>	<u>23,385.00</u>	<u>5,181.03</u>
<u>Travel and Transportation</u>			
U.S.	2,014.90	1,050.00	(964.90)
International	6,915.34	8,400.00	1,484.66
Household Shipment & Stor.	--	8,500.00	8,500.00
Shipment of Auto	--	2,375.00	2,375.00
Total Travel & Trans	<u>8,930.24</u>	<u>20,325.00</u>	<u>11,394.76</u>
<u>Allowances</u>			
Total	--	11,055.00	11,055.00
<u>Equipment &amp; Supplies</u>	1,124.70	2,700.00	1,575.30
<u>Other Direct Costs</u>			
Workman's Compensation	--	2,475.00	2,475.00
Data Collection Analysis	--	11,000.00	11,000.00
Other Expenses	936.73	3,500.00	2,563.27
Sub-total	<u>936.73</u>	<u>16,975.00</u>	<u>16,038.27</u>
TOTALS	57,201.94	123,632.00	66,430.06
CSU Contribution	<u>3,304.70</u>	<u>3,824.00</u>	<u>--</u>
PROJECT TOTALS	<u>60,506.64</u>	<u>127,456.00</u>	<u>66,430.06</u>

Appendix C (To minutes)AID Small Farm Credit  
OSU Expenditures

Oct. 1, 1977 - Sept. 30, 1978

	Expenditures	Budget	Balance Remaining
I. Salary and Fringe Benefits			
Salaries	21385.49	36300.00	14,914.51
On Campus	15,067.49		
Off Campus	6,318.00		
Fringe Benefits	2765.54	4,719.00	1953.46
II. Overhead	6768.88	12940.00	6171.12
On Campus (45%)	6780.37		
Off Campus (22%)	1389.96		
OSU Share (2.52%)	-1401.45		
III. Travel and Transportation	7730.99	12000.00	4269.01
IV. Allowances	3587.58	9500.00	5912.42
V. Data Collection	689.88	5000.00	4310.12
VI. Vehicle, Equipment, Material, and Supplies	9070.88	12500.00	3429.12
VII. Other Direct Costs	4316.83	1000.00	(3316.83)
Insurance (Workman's Comp.)	3763.00		
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Total	\$56316.07	\$93959.00	\$37642.93

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Appendix D (To minutes)

CREDIT PROJECT

TENTATIVE WORK PLAN  
CSU Portion  
1978-79

- Oct.-Dec., 1978 - Annual progress report submitted
- Identify in-country training needs
  - TDY teams visit each country to assist in project design and implementation
  - Locate second long-term project technician in Nicaragua or approved alternate country
  - Submit materials for AID internal review of project
  - Initiate analysis of farm level data from Nicaragua
  - Prepare preliminary design for two training modules
  - Initiate field data collection in second country
- Jan.-June, 1979 - Preliminary development and adaptation of budget and other analysis in each host country
- Draft training modules reviewed and modifications suggested by host institutions
  - Preliminary results of farm data analysis presented to host credit institutions
  - TDY teams visit each country to advise on project activities
  - Draft paper on data collection needs and methodologies distributed
  - Feasibility study initiated on potential use of hand electronic calculators and micro-computers for training and credit operational activities
- July-Sept. 1979 - Two training modules completed
- Report on farm level data analysis completed
  - Annual Project Management Committee meeting
  - Annual administrative report submitted
  - Draft paper released on potential use of calculators and micro-computers
  - Final paper prepared on data collection needs and methodologies
  - Joint CSU-OSU workshop to review project field activities and results
  - Initiate field research on importance of farmer participation in data collection and analysis

Appendix E (To minutes)

Project Title: Small Farm Credit Profitability and Repayment

BUDGET

Line item	First Year (actual)	Second Year	Third Year	Total
Salaries	\$25,944.72	\$ 65,500	\$ 67,000	\$158,444.72
Fringe Benefits	2,061.58	6,458	6,939	15,458.58
Overhead (total)	21,508.67	40,474	38,152	100,134.67
Travel/Transportation	8,930.24	12,075	11,075	32,080.24
Allowances	--	13,105	14,080	27,185.00
Vehicles, Equip., Materials, and Supplies	1,124.70	12,000	3,500	16,624.70
Other Direct Costs	936.73	36,375	29,475	66,786.73
<b>TOTAL</b>	<b>60,506.64</b>	<b>185,987</b>	<b>170,221</b>	<b>416,714.64</b>
CSU Contribution	3,304.70	6,719	6,362	16,385.70
AID Contribution	57,201.94	179,268	163,859	400,328.94

- NOTES: 1. Of total estimated amount of \$416,714.64, AID's share is \$400,328.94 or 96.1%. The cooperators share is \$16,385.70 or 3.9% of the total.
2. The cooperator may make line item adjustments without restrictions provided such adjustments do not cause the total of AID's share (\$400,328.94) to be exceeded.

PROJECT TITLE: SMALL FARM CREDIT PROFITABILITY AND REPAYMENT  
 Revised October 9, 1978

BUDGET

Line Item	First Year (actual)	Second Year	Third Year	Total
Salaries	\$25,944.72	\$65,500	\$67,000	\$158,444.72
Fringe Benefits	2,061.58	6,458	6,940	15,459.58
Overhead (total)	21,508.67	43,733	41,411	106,652.67
Travel/Transportation	8,930.24	12,075	11,075	32,080.24
Allowances		13,105	14,080	27,185.00
Vehicles, Equip., Materials, and Supplies	1,124.70	12,000	3,500	16,624.70
Other Direct Costs	936.73	36,375	29,475	66,786.73
TOTAL	60,506.64	189,246	173,481	423,234.64
CSU Contribution	3,304.70	6,719	6,362	16,385.70
AID Contribution	57,201.94	182,527	167,119	406,847.94

- NOTES: 1. Of total estimated amount of \$423,234.64, AID's share is \$406,847.94 . The cooperators share is \$16,385.70.
2. The cooperator may make line item adjustments without restrictions provided such adjustments do not cause the total of AID's share (\$406,847.94) to be exceeded.