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INVIERNO:
INNOVATION IN CREDIT AND IN RURAL DEVELOPMENT

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PREFACE

The subject of credit for small farmers as one of the principal change elements to bring about rural development in the low income countries has received much attention by governments, international institutions and academics. Increased interest in this subject has reflected, in particular, the augmented emphasis by the international organizations, among them the U.S. Agency for International Development (A.I.D.), on the small farmer equity issue as well as the accumulation of evidence that small farmer credit programs have been falling short of their targets almost everywhere.

As a result, much has been written during the past decade about the role of credit in small farmer development, about major institutional alternatives for delivering this service and about the constellation of preconditions and policies which appear to be critical for the success of a small farmer credit program. In practice, however, there have been only a few significant attempts to address the problems identified in the literature while the corresponding recommendations have been partially adopted at best.

During the past two and one-half years, INVIERNO, an autonomous institution devoted to rural development in Nicaragua, has been addressing in an innovative fashion the various constraints limiting the provision of credit and other comprehensive services to small farmers and has been delivering them in a fully integrated manner for the first time in this country.

It may be still too early to evaluate the performance of this new institution, as INVIERNO has not been in operation long enough to yield a measurable cycle of outputs. However, the concepts and the procedures adopted have been so innovative and the results promising enough that AID has considered it desirable to sponsor a reference document about this experience. The present study, therefore, is an attempt to document the approaches, difficulties and successes of the first two years of operation of INVIERNO, for the benefit of the "development" profession at the academic, the policy-making and the implementation levels.

The authors of the study, Claudio Gonzalez-Vega of the University of Costa Rica and the Autonomous University of Central America, at San Jose, and Ronald Tinnermeier of Colorado State University, at Fort Collins, spent a limited amount of time both visiting Nicaragua (fourteen and nine days, respectively), as well as surveying the available mate - rials and working on the report at their own stations (twenty-seven and six days, respectively). This limited amount of time did not allow the depth of penetration and analysis which INVIERNO deserves. The authors, however, were already familiar with Nicaragua and one ot them (Tinnermeier) had some participation during the early stages when

INVIERNO was being designed. Both of them have evaluated many agricultural credit programs around the world.

The authors want to thank Ing. Gustavo Gomez, General Manager of INVIERNO, for all the cooperation that he, personally and through his staff, offered at all times and Mr. David Bathrick, AID Program Manager for INVIERNO, for all his encouragement and support. In general, Nicaraguan officials at several of the institutions of the agricultural Public Sector, as well as the staff of the AID Mission in Nicaragua, were extremely generous with their time and patient enough to allow the authors a chance to develop a fairly accurate picture of the structure of the program and the performance of the institution. Nevertheless, the study does not necessarily represent the official or individual views of those at AID or at Nicaraguan institutions who offered their collaboration or who commented upon earlier versions. As it is always the case, the authors alone are responsible for the result.

March, 1978

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I

INTRODUCTION

A. THE LITERATURE ON SMALL FARMER CREDIT

Academicians and policy makers have been devoting increasing attention to small farmer credit during the past decade. Several factors have contributed to this augmented interest. On the one hand, there has been a reconsideration of the expected relative contributions of the agricultural and industrial sectors to economic development.[1] A new consensus has been emerging that agricultural growth is critical for industrialization and for general economic progress. On the other hand, questions besides efficiency and the rate of growth of the economy have been added. These include the distribution of income and wealth, participation in the social process and the exercise of political power and, in general, improving the quality of life, all of which are policy objectives more explicitly adopted by the low income countries (LICs). Since the bulk of the population of the LICs lives and works in the rural economy and since the speed at which the labor force can be shifted to non-farm occupations is inevitably slow within present time horizons, attention has centered on the development of the rural sector.

Credit has been one of the most important components of the strategies for the development of the rural sector. At the theoretical level, credit always has been included among the required ingredients of the strategies, while frequently recognizing that its effectiveness can be greatly enhanced in combination with other inputs. At the practical level, moreover, the provision of credit has encountered fewer obstables than the provision of other components of the strategies.

Not only is the input -money- fungible, but there is also a minimum, relatively efficient infrastructure for its provision -the banking system- and, unlike other inputs, it may be administered at a significant distance from the farm. Other inputs, technology for example, may not be as easy to create or to transmit, and the infrastructure necessary for their distribution is totally missing in many LICs. As a result, credit has tended to dominate most of the development "packages". During the past two decades a major infusion of funds has been channelled to agriculture through the institutions of the organized credit markets of the LICs, but until recently little analysis of the impact of this strategy has been attempted.[2]

At a workshop sponsored by the Agricultural Development Council in Washington, D.C. in April, 1972, a distinguished group of scholars met to "consider and compare experiences of extending agricultural credit to small farmers and to identify research and policy issues of

major interest." [3]

Many of the participants in the ADC Workshop later took part in the AID Spring Review of Small Farmer Credit, a worldwide research program which over a one and one-half year period assembled over 70 country case studies along with a number of other special studies on small farmer credit programs. Nineteen comparative analytical papers were also prepared.[4] Six regional and four country-wide workshops were conducted in Africa, Asia and Latin America, and a conference in Washington, D.C. formally ended the program in July, 1973. As a means of "distilling and disseminating" the results of the Spring Review, an outstanding book on small farmer credit was written.[5]

At about the same time other international agencies were also spurred to devoting time and analysis to the subject. The World Bank incorporated an agricultural credit policy paper into one of its books on development.[6] The Food and Agriculture Organization of the United Nations convened a worldwide conference in Rome in October, 1975, and it organized several local and regional workshops.[7] Most recently, under the auspices of the Agricultural Development Council and the American Agricultural Economics Association, another workshop was organized in San Diego, California in August, 1977.[8]

B. OBJECTIVE OF STUDY

The purpose of this study is to evaluate the performance of the Institute for Campesino Development (INVIERNO) in Nicaragua. In several respects, this report is less ambitious than a standard program evaluation or review; in other respects, it is considerably more ambitious. In the first place, the study primarily focuses on the agricultural credit activities of INVIERNO, possibly the most important, but only one of the many components of the Rural Development Program in Nicaragua. This Program, partially financed by AID, reaches beyond INVIERNO, which is itself a multipurpose institution. Several other important activities, contemplated in the AID Loan Agreement[9] and carried out by INVIERNO and other agencies of the Nicaraguan Public Agricultural Sector, are considered in this report only to the extent to which they affect the performance of the agricultural credit program.

In the second place, although sponsored by AID, this is not an evaluation in the AID tradition. It neither follows the "logical framework" nor does it ask all the questions or inquiries about all the aspects usually included in the evaluation of an AID financed program. It is not an audit of INVIERNO's handling of the AID loan and it does not compare INVIERNO's activities and performance with the frame of reference provided by the Loan Agreement mentioned.

On the other hand, the purpose of this study is to highlight the

major innovations and approaches adopted by INVIERNO in the field of small farmer credit. These questions are examined in the light of the important issues identified in the recent literature already mentioned and as a result of research undertaken in other LICs. Tentatively, the report investigates the possible applicability of the innovative concepts and procedures implemented by INVIERNO to similar programs in other countries. In particular, the study relates the performance of INVIERNO to the questions raised during the AID Spring Review of Small Farmer Credit and other more recent exercises of the same kind.

In the first section (Theoretical Framework), the report summarizes the issues and hypotheses currently being discussed in the literature. A second section (INVIERNO: A Rural Development Institute) attempts to describe the complexities of INVIERNO's origin, purposes, organizational structure and use of resources. A third section (Innovative Approaches) highlights the revolutionary concepts and procedures adopted by INVIERNO in the area of small farmer credit. A final section (Results to Date) briefly summarizes some of the observable results of the program and calls the attention of the reader to basic unresolved questions.

C. LIMITATIONS OF THE STUDY

It is necessary to keep in mind the main limitations of this study, which arise from the small amount of time and resources available to its authors, from the nature of INVIERNO and from the use of the readily available data as the main source of information. The authors spent in Nicaragua a very brief period of time which precluded all the depth of analysis desired. However, they were already familiar with Nicaragua and one of them with INVIERNO and counted with the most generous cooperation from officials at the Nicaraguan institutions and at the AID Mission in Nicaragua.

The limitations of time and resources, moreover, restricted this evaluation to the readily available data and reports, some of them of very high quality, which the authors used extensively. That is, no primary information was generated. Rather the analysis was undertaken on the basis of the already existing information.

INVIERNO is a young institution. At the time of this study it had been in operation for only two and one-half years. In effect, the credit program which is the focus of this study has less than two years of existence. Such a short period of time is not enough to permit a definitive evaluation of the institution's performance. INVIERNO is certainly an innovative effort to solve the small farmer problems, and it has made great strides in this direction. But this early success has to be kept in perspective. Many new institutions look good at the beginning, while others do not even get started. As in any other case, time will be the only relevant test.

Moreover, as INVIERNO well recognizes, the task undertaken can only yield its outputs in the long term. "Sustained growth of the standard of living of the rural population will be achieved fully only over the long term. However, over the short and medium terms, significant progress could be attained in certain areas as an immediate response to the tasks carried out in the beginning years which, in turn, will contribute to the acceleration of the process."[10]

This study, therefore, only attempts to identify those indicators of performance and to evaluate those concepts and procedures which may indicate possibilities for success in the long term, in the light of experiences with small farmer credit programs elsewhere and in the light of theoretical considerations.

INVIERNO, as an integrated effort to improve the standard of living of the rural population, is a complex program involving a multitude of elements. This study, by focusing on agricultural credit, may not have correctly isolated the most important variables for its success. The impact of INVIERNO on the standard of living of the rural population of Nicaragua will require a more complete assessment, possibly after the completion of a few more years and obviously beyond the possibilities of the present effort.

Finally, no attempt was made in this study to evaluate the political environment within which INVIERNO operates.

II

THEORETICAL FRAMEWORK

A. SMALL FARMER CREDIT PROGRAMS

Credit has been a major component of the agricultural development programs implemented in the LICs during the past two decades. As a result, a major infusion of funds has been channelled through the institutions of the formal credit markets of these countries to their agricultural sectors. This has been the consequence of the allocation to agricultural credit of a significant proportion of the funds granted by AID and other international agencies to LICs as well as of the requirement that national financial institutions devote increasing shares of their portfolios to this sector.

The majority of the small farmers of LICs, however, have not benefited from this credit expansion. Among the farmers of LICs, only a small fraction- about five percent of all African farmers and about fifteen percent of all farmers in Asia and in Latin America - are presently receiving formal credit.[11] In addition, one of the most important features of this expansion has been the concentration of the increasing real volumes of funds in the hands of a few large farmers.[12]

The record and image of small farmer credit programs have not been impressive in several other respects. In many instances, credit has not been accompanied by productivity or income increases, delinquency rates have been high, and many credit institutions have not remained financially viable. The AID Spring Review of Small Farmer Credit attempted to explain some of these results. The main conclusions of this exercise are summarized below.

B. ROLE OF CREDIT

One of the main conclusions of the Spring Review was that "the conditions for success of production credit in small farm agriculture are more stringent than commonly thought. In most situations those conditions are not satisfied, and small farmer credit programs will fail to accomplish production objectives."[13]

For the success of a small farmer credit program more than money is needed. There must be a new technology, markets that can supply additional inputs and absorb additional output, institutions willing to lend to small farmers on terms the farmers consider attractive and,

perhaps most important, farmers willing to borrow, to invest and to repay loans. The authors of the Spring Review believed that if these conditions held, a program of formal credit for small farmers could lead to an increase in the value of their output.[14]

On the other hand, if these conditions are not satisfied, a small farmer credit program will be an imperfect tool, at best, for improving small farmer production. Although in some cases a small farmer credit program under these circumstances should not be abandoned, if political realities do not permit the creation of more efficient methods, it is clear that continuing allocations of new funds will usually be necessary in order to keep the program viable, and there is no guarantee that the desired results will be obtained.[15] In particular, small farmer credit programs are very inefficient as mechanisms for income redistribution and welfare support. In any case, the relevant consideration is the opportunity cost of the funds to be committed, that is, whether these funds could contribute more to small farmer progress if invested in other ways.

Several of the Spring Review authors suggested that in many LICs the technologies meeting the desired conditions are not available while in many other cases the relative prices of inputs and of products, as perceived by the farmers and discounted for risk, are not favorable to the adoption of new technologies. The more pessimistic of these authors concluded that further expansion or support of credit programs was not to be recommended until new, output-increasing and profitable technologies became available to and understood by the potential borrowers.[16] In their view, extending credit in the absence of these technologies would lead to meager or even negative results from the standpoint of both borrowers and lenders. One corollary of these considerations is that the high delinquency and default rates occuring in many small farmer credit programs may be attributable in part to the low yield and cash returns generated.

In the long run, therefore, the only way to assure small farmers in many LICs a continuous stream of profits is to invest in research which will provide them with a succession of cost reducing technologies. Nevertheless, if credit is not available once these new technologies are developed, small farmers will be less likely to share the benefits resulting from their use.

C. INSTITUTIONAL FORMS

There are many institutional forms for providing credit to small farmers: state agricultural banks, supervised credit agencies, national and regional development agencies, area pilot projects, crop purchasing authorities, various kinds of farmers associations and cooperatives, credit unions, commercial and rural banking systems,

private processors and exporters, suppliers, distributors and dealers, village merchants, etc. One of the main conclusions of the Spring Review was that these differences in "institutional form seem not to matter as much as the economic factors -discussed- or those major policy issues which confront all institutions. If one institutional form seems to work better in one country, the reasons have less to do with the form itself than with the policies and powers with which it was equipped to carry out its mandate, with its leadership and with the cultural milieu in which it is placed."[17]

The Spring Review authors agreed, however, that in those countries where small farmer credit programs have been able to reach only a small share of the potential borrowers, one of the features of any institutional form of most interest is its capability to handle large numbers of clients and to do it cheaply. In turn, this capability seemed to be a function of at least three factors: administrative skills; low cost delivery, supervision and collection methods; and access to large supplies of funds. That is, independently of its particular institutional form, a successful small farmer credit program requires good management and administrative procedures as well as financial viability.

Several of the recommendations of the Spring Review regarding institutional strategies become particularly relevant in the light of INVIERNO's experience. In some instances this institution has adopted concepts and procedures similar to those suggested but seldom tried elsewhere. In other cases the innovative approaches of INVIERNO have gone beyond the perceptions of the Spring Review, while in other important aspects INVIERNO has actually implemented the opposite of the recommendations with relative success.

The Spring Review authors recommended, for example, the decentralization of all elementary decisions on credit transactions (e. g. borrower selection, loan amounts and enforcement techniques) so as to make use of local administrative skills on matters where the headquarters staff has no particular advantage.[18] Through the extensive use of the computer, INVIERNO, however, has completely centralized some of the decisions leading to borrower selection and the determination of loan amounts while releasing local administrative and technical skills from bureaucratic tasks and making them available for field work.[19]

Other Spring Review recommendations of interest are the grouping of farmers wherever possible for the transactions related to credit, including technical supervision, and keeping with special inducements good managers in the field. The Review was unable to explore the advantages of various types of formal and informal groups, but it recommended that individuals be grouped at some stage so that the small farmer - credit agent ratio be greater than one. On the other hand, the low salaries of the local managers and the attraction which persons with the requisite managerial abilities feel for headquarter jobs would

have to be overcome, in order to maintain an efficient administration at the local level.

The Spring Review suggested that formal small farmer credit programs imitate some of the practices of agents operating in private informal financial markets by adapting their positive features. In particular, it was claimed that the "moneylender may well be more appropriate as a guide to successfull small farmer credit programs than is the commercial institutional lender", since "the moneylender has survived through time, making loans to the clientele addressed by the small farmer credit programs."[20] In particular, it was observed that informal credit is granted without all the burden of administrative formalities, such as detailed application forms, loan investigations, registration of deeds, disbursement of loans in installments, all of which are disliked by small farmers and which significantly increase the costs of borrowing. It has been found that in the case of small farmers these non-interest costs are much higher than interest payments.[21] Finally, should the credit program dislodge the moneylender, it is essential that the new institution not fail to deliver the valuable services heretofore delivered by the informal lender.

The Spring Review emphasized that the total requirements of the rural household must not be ignored by a small farmer credit program. That is, the production, marketing, consumption and reserve management activities of these farmers need all be considered in an evaluation of their economic and financial environment and in the design of the services offered. Otherwise, the small farmer will choose to stay out of the program or to participate once and not to repay.

It was recongnized that reliable access to timely formal loans can increase the small farmer's range of production alternatives and may induce an increased commitment of his cash and other resources to production and marketing uses. To achieve this, however, requires a credit program that meets all the financial needs of the farmer - not just the narrow part of the spectrum identified as credit to finance inputs for technological change. A line of credit made available to the small farmer, enabling any borrower with a good repayment record to get quickly a loan up to a maximum amount, for uses that he chooses without supervision, would provide him with greater flexibility to respond to market opportunities.[22] For the small farmer, financing consumption was seen as demanding as financing production and marketing.

In summary, to be successful, a credit program must be perceived by the small farmer as permanent. For this, the program must be culturally adapted; it must provide simple and reliable access for the small farmer, and it must be operational within the resource constraints of the country. The Spring Review provided numerous examples of how frequently small farmers are repelled by the complexity and formality of the procedures of institutional programs. It was believed

that providing a line of credit would simplify the application procedures and remove the artificial distinctions of production from other credit which are, in any case, difficult to enforce.

Another recommendation of the Spring Review was to provide for internal or associated savings programs, not excluding forced savings measures, to give an additional source for the continued expansion of the credit resources. These savings as well as access to an integrated capital market would provide the credit program with a secure financial base from which to run its various services. Unfortunately, prevailing assumptions about financial behavior have led to a lopsided growth of the rural financial markets; heavy emphasis has been placed on bringing credit funds from the outside at low interest rates while little attention has been given to rural savings mobilization.[23] The evidence presented during the Spring Review suggested that "informal unrecorded savings, going directly into physical capital - and other assets - without intermediaries or with only the kind of small-scale unrecorded lending that occurs within farm communities, have been and probably continue to be the largest financial bulwark of smallholder agriculture" in most LICs.[24] In consequence, a savings activity associated with the small farmer credit program could lead to a significant resource mobilization, increasing the volume of rural financial savings, improving their allocation and securing the credit institutions's financial viability.

Finally, another important conclusion of the Spring Review regarding institutional strategies was that "credit institutions working within an integrated program have better overall success."[25] A distinction was made by the Spring Review authors between credit-providing institutions which themselves carry out complementary functions such as extension or marketing and institutions which specialize in credit but are closely linked to integrated programs. Several of the authors found some support for the specialization strategy, letting the credit institutions concentrate on a single, difficult task. This position, however, presupposes the existence of complementary institutions. Where extension and marketing services do not exist or are being performed ineffectually, a new multipurpose agency may be indicated. The evidence presented during the Review suggested that multipurpose agencies have had a better record than specialized credit agencies, possibly because the latter have had trouble coordinating with complementary institutions.

Obviously, the correct strategy depends on the stage of development. In countries with a weak rural institutional infrastructure, the concentration within a single institution of scarce managerial and financial resources, e.g. by priority region, makes initial sense. Among other things, it allows planners to identify clear and unambiguous program objectives. However, the proliferation of semi-autonomous regional authorities eventually becomes undesirable and, as more institutional resources developed, functional specialization be

comes attractive. In any case, any small farmer credit program must avoid being saddled with partially incompatible goals and no established priorities. In particular, such a program needs to establish a self-evaluation mechanism to measure progress toward its multiple goals. Without strict control in this respect, the program easily shifts and tends to narrow rather than expand its coverage in the small farmer sector.

D. CREDIT POLICIES

The success of a small farmer credit program is significantly influenced by the macroeconomic and institutional policies which guide, restrict or control its operations. Among these, interest rate policies are the most important. In his Summary of the Spring Review, E.B. Rice indicated that "a formidable argument was presented in the Review for raising interest rates from the subsidized or even negative -in real terms - levels at which they commonly sit, to a level that reflects the scarcity value of capital, inflation, risk and administrative costs."[26]

The Spring Review found that the interest rates charged on small farmer loans have been too low. These rates have not reflected the opportunity cost or shadow price of the resources transferred, thus promoting capital-intensive activities and methods of production and so restricting employment opportunities in the rural areas of LICs. These rates have not equated the supply and demand for institutional credit, making non-price forms of rationing -which have favored large borrowers and discriminated against small farmers - necessary to clear markets. These rates have not covered the costs of granting agricultural credit, thus inhibiting financial institutions from expanding their activities in the rural areas. In particular, these rates have not covered the costs of entering into additional markets and of servicing marginal clients, among them small farmers. When a financial institution has been forced to continue to provide these services, a government subsidy has been necessary for that institution's survival. These low interest rates, in turn, have transferred a substantial subsidy to a small group of priviledged borrowers, thus contributing to a deterioration of income distribution in the rural areas. In inflationary environments, these rates have been negative in real terms, erratic and unpredictable, further discouraging the mobilization of financial savings and reducing the efficiency with which credit is allocated.[27] To increase these interest rates from their present levels could help to correct several of these dis - tortions while it will not depress aggregate investment activity, given the excess demand for formal credit prevailing at the present level of interest rates.

In summary, the Spring Review recognized that the policies that have attempted to keep the price of credit low have at the same time

restricted the access of small farmers to formal credit and have induced a shift in institutional portfolios in favor of the larger borrowers. For this reason, the various arguments in favor of low interest rates are not correct. Low interest rates cannot eliminate the monopoly power of moneylenders in the rural areas of LICs if they restrict access to formal credit. Low interest rates cannot create the missing inputs, the missing markets or the missing technologies that keep the productivity of small farmers low in many LICs. Once these inputs, markets or technologies become available, subsidized credit cannot stimulate the adoption of innovations unless large enough loans are granted to large numbers of farmers. Low interest rates, however, have led to rationing and to the exclusion of the large majority of small farmers from credit portfolios.[28]

The high costs and risks associated with a multitude of small loans to poor farmers are among the main reasons justifying the higher interest rates recommended. As a complementary approach, the Spring Review explored possible reforms in the practices of credit institutions in order to reduce these costs and risks and to make credit more accessible to small farmers. Several authors believed that this could be done "if banks were to take the extra trouble and find the right employees for the job."[29]

Application forms are widely regarded with hostility by small farmers. However, there are reasons why they are needed and why their contents have become so troublesome to loan applicants. A certain amount of information is needed to analyze a loan application. Loan officers cannot know as much as they need to about farmers in a number of different villages unless they ask and then keep the information on file in writing. A loan officer could eventually build up a substantial body of such knowledge if he stayed in the same place for a long time, but an institution would be greatly inhibited if it coult not transfer its loan officers. The question is then how much information is necessary rather than desirable? What uses are actually made of the particular kinds of data required in application forms? In fact, the question of whether repayment probabilities are related to the kinds of data the farmers must supply is not often examined. There is much scope for revision. The kinds of information customarily required from business firms are more elaborate than what is obtainable from small farmers. The necessity for long, complicated forms, using terminology unfamiliar to such farmers, is questionable; if farmers do not understand the questions asked, the answers will not be worth much.

Equally, the Spring Review authors found that the agricultural land frequently required as collateral is not very valuable to the credit institution. Typically there is not an active market in the sale of land in many LICs. In addition, the act of taking possession of small farmer lands involves some very arduous and unpopular mea -

sures. In summary, since this form of collateral excludes numerous small farmers and since "it is a questionable form of repayment insurance, and tends to alienate farmers in any case, the use of land for collateral is clearly out of place for a credit institution that positively wants to build up a small farmer clientele."[30]

One of the main complaints of small farmers against lending institutions is that they have to wait for some time in a state of uncertainty until their loans are approved and that the money usually arrives too late for the use for which it was intended. It may be said that farmers should apply earlier, but for the farmer this may be no guarantee of good results when the timing is erratic. The reasons affecting the timing of a loan disbursement have to do with loan approval procedures and the internal flow of papers in the lending institution, sometimes with higher level approvals of tranches of loan funds moving to local branches, with the number of clearances needed for approval, with the echelon and locations of the officer who can make a final decision, and with the elaboration of particulars that must be in a loan application.

If the objective of a credit program is to expand its service to small farmers, the time-consuming use of too much manpower is a considerable impediment on the supply side, as is the poor service on the demand side. To the extent that approval procedures actually do reduce defaults, they would have justification. But where they do not seem to be effective, they should be simplified. The Spring Review authors suggested a greater delegation of approval authority, that is, giving the loan officer in contact with applicants full, or more nearly full, responsibility for approval decisions and also for results.[31]

A more fundamental reform in approval procedures recommended, offering more significant cost reductions, is to delegate the selection of individual borrowers to persons outside of the credit agency by group lending. Loans can be extended to a group of farmers for distribution among its members by decisions taken within the group. The group as a whole would be responsible for repayment while individual defaulters would be under pressure from other members to repay.

Several of the Spring Review authors agreed that supervision of the use of new technology is an essential component of most small farmer credit programs. Even when the value of supervision was questioned, there was almost unanimity about the importance of advisory assistance in ensuring that the small farmer properly apply the entire recommended package of practices. The Spring Review concluded that "if the credit and supervisory services are unified, the cost of supervision can justifiably be separated from the cost of credit operations and charged to the government budget rather than the borrower."[32]

The Spring Review authors also indicated that graduation policies are necessary for small farmer credit programs which give special services, privileges and subsidies to small farmers for a period of

time calculated to bring them to commercial viability. When that position has been reached and assuming that the commercial banking system is prepared to deal with them, the succesful small farmers must be graduated out of the special program to make way for new clients. However, low interest rates encourage older, successful clients to continue in the program, while the institution usually tries to keep these creditworthy borrowers from leaving.[33]

Before the Spring Review and other more recent similar efforts, the subject of credit for small farmers had not been comprensively analyzed in relation to the needs and conditions of LICs. The magnitude of these efforts highlights the extra-ordinary difficulty of analyzing the reasons for success and failure of small farmer credit programs. More research about particular institutions, concepts and procedures is needed in order to ascertain the validity of the recommendations and to tackle the questions left unanswered. It is hoped that this study of INVIERNO can contribute something in this direction.

III

INVIERNO: A RURAL DEVELOPMENT INSTITUTE

A. NICARAGUA

The largest of the Central American countries, Nicaragua lies between Honduras, on the north, and Costa Rica, on the south. It has a total population of about 2.2 million people living in an area of 125,750 Km^2, but 61 percent of the population is concentrated on the Pacific side, a coastal plain gradually rising toward rugged mountains in the central north. The country possesses primarily agricultural resources, its main exports being cotton, coffee, beef and sugar. Gross domestic product has grown at an average rate of 6.4 percent per annum since World War II.

Small farmers have practically no access to health facilities, education and other infrastructure and public services. They also have a limited access to land and other productive resources. While the average annual family income in the rural areas was US$902 in 1973, the average annual family income of rural households in the lower 50 percent bracket was US$236.[34] The average family size was 6.1 persons.

B. BACKGROUND OF INVIERNO

The Instituto de Bienestar Campesino (Institute of Campesino Welfare), INVIERNO, is one of the pieces of a major attempt by the Government of Nicaragua to restructure the institutions and policies of its Public Agricultural Sector. In early 1972, a National Agricultural Committee was established to define a strategy for rural-agricultural development.[35] In turn, this Committee, recognizing the complexity of the task, created the Agricultural Sector Analysis Unit (UNASEC) to perform an assessment of the conditions, problems and opportunities in the sector. UNASEC accumulated a vast amount of information which was consolidated into a sector assessment and a draft statement of strategy. Finally, in August of 1975, the National Agricultural Committee issued the statement of Policy and Strategy for Development in the Rural Sector.[36] This document stressed that the objective of the Rural Development Plan for 1975-80 would be "to improve the standard of living of the rural population, through greater access to the flow of goods and services and increased participation of the individual in the decisions that affect his progress."[37]

This Plan included a major restructuring of the Public Agricultural Sector in which the Ministry of Agriculture would be relieved of direct operating functions and would become the leader and coordinator of the Sector.[38] The Ministry's operating functions, in turn,

would be distributed among various autonomous institutions. One of those would be INVIERNO, whose sole responsibility and orientation would be to stimulate the development of the small farmer by making the various required services more effective at the local level.[39]

In January of 1975, UNASEC initiated a detailed conceptualization of and planning for INVIERNO. AID became interested in the potential of this new institution for improving the lot of the rural poor and initiated its own studies, eventually interacting with UNASEC in defining INVIERNO's organizational structure and programs.[40] The INVIERNO law was published in May of 1975 and the institution was officially inaugurated on June 2, 1975.[41] AID Loan 524-T-031, dated September 25, 1975, provided up to US$14,000,000 to support the Rural Development Sector Program. It was contemplated that approximately US$12,000,000 of this loan would go to support the creation of INVIERNO and the financing of its programs.[42] In addition the Government of Nicaragua committed itself to contribute over US$ 18,000,000 as counterpart funds for the initial phase of this Integrated Rural Development Strategy.

In the Six months between June and the end of 1975, INVIERNO's Central Office was organized and staffed and administrative manuals governing the organization and its operating procedures were drafted. Also the manuals for operating the initial programs of credit, input delivery and marketing were prepared. Materials for the spring planting were ordered, and financial resources were secured. Personnel to staff the local offices (CEDEs) and a Regional office were recruited, and a preliminary census of the zones where INVIERNO was to start operations was completed. The field offices were officially opened on March 1st, 1976; the first loans were authorized on March 27; and the first loan disbursements to small farmers began on April 2nd.[43]

C. OBJECTIVES OF INVIERNO

According to INVIERNO's law, its fundamental objetive 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 its population in the economic, social, cultural and political life of the nation."[44]

More specifically, "the purpose of INVIERNO is to develop in the individual lower income rural farmer -the campesino- the capability and means which will enable him to have access, directly or jointly, or in coordination with other agencies, to the opportunities and services which he needs for his development, with the purpose of promoting a sustained increase in his standard of living."[45]

In summary, the autonomous institution INVIERNO is a multi-purpose service organization in the Public Agricultural Sector of Nicaragua, dealing with a clientele of selected small farmers and non-

farming rural poor.

D. TARGET GROUP

INVIERNO's principal objective is to serve the lower income farmer. In order to ensure that this is the case an upper limit was originally set at the average national annual income per capita, which amounted to US$590 in 1975. However, since there is no practical method for accurately and rapidly determining the net income of farmers who do not keep books, in its first operations, the institution has used a 99 manzanas farm size limit as an income surrogate for the initial screening of beneficiaries.[46]

Each of these two limits seems too high since about 93 percent of the rural population of Nicaragua and about 97 percent of the rural population of Regions II and V where INVIERNO operates have per capita annual incomes below the national average and since about 78 percent of the rural families own less that five manzanas of land or no land at all.[47] These limits seem unnecessarily high since INVIERNO so far has been serving farmers with incomes and sizes of farm well below these limits. Moreover, INVIERNO has been serving many farmers who do not own their land. For these reasons, a significant reduction of these limits would not exclude any of the operations which INVIERNO is carrying out at present and most likely would not set any effective limitation on INVIERNO's future growth. On the other hand, such a reduction may contribute to preserve the original objectives and target group despite any future biases in the institution's development; and, in particular, it would allow a more accurate image of INVIERNO to be projected, protecting the institution from unjustified criticism.[48]

Some informed observers have argued, however, that as INVIERNO moves towards the more undeveloped Atlantic lands, the size of farm needed to generate a self-sustaining income for a rural family may exceed 99 manzanas, in view of the characteristics of these marginal areas. This may be the case particularly with respect to livestock activities. We believe that these cases, although possible, are a minor proportion on INVIERNO's total clientele. In any case, since it is income levels and not farm size which matters, it has been suggested that an income limit be enforced in those cases in which farm size exceeds certain limits (e.g. 50 manzanas) but that the 99 manzanas limit still be kept.[49]

The first annual evaluation of INVIERNO indicated that "the INVIERNO credit program is clearly directed at borrowers who are in the small farmer category as indicated by average loan size and the limited number of large loans."[50] The average size of loan further declined after that first evaluation and the larger loans identified by the review team have not been repeated. This first evaluation team reviewed all the credit applications which resulted in loans greater

than C$15,000 for basic grains or C$ 20,000 for vegetable crops.[51] It found that the farmers who received these large loans (less than 200 borrowers) were "more affluent than their neighbors but were of the same social and cultural milieu. They controlled more land and owned more of that which they controlled, but appeared to be well within the income, tenure and other limits which INVIERNO has established."[52]

The first annual review also found that in the case of basic grains a farmer with 50 manzanas of dry farm land, a good part of it in steep hillsides and unsuitable for cultivation, is not well endowed. Twenty manzanas of dryland beans or sorghum will scarcely net him US$ 570, after deducting rent and labor costs. The producer of potatoes and other vegetables is considerably better off. Although his farm is smaller, it is usually at a higher elevation in a cooler, wetter climate. The prospective return from vegetable crops is high but so are production and marketing risks. Two manzanas of properly cultivated potatoes or four manzanas of cabbage, tomatoes, onions or garlic will - according to fairly optimistic economic crop models - provide the C$10,000 net income which is INVIERNO's near term goal.[53] Several of the loans granted during the first year of operation were of a size which would automatically achieve this level when the crops were sold at the anticipated prices, but no information is available about these results. The number of these loans declined significantly during the second year.

In order to avoid abuses, the first evaluation team recommended that "a senior level credit committee should review all loan authorizations over C$ 10,000 and emit opinion before disbursement. The responsibility is not onerous (80 loans in the primera and 110 in the postrera), but it will protect the good name and fiscal integrity of the institution."[54] This recommendation was accepted in part by INVIERNO, and a special procedure for the review of loans of more than C$ 15,000 was designed and adopted.[55]

According to this procedure, the manager of each local office (CEDE) is responsible for carrying out a special investigation concerning each loan above C$ 15,000 and must manually reject an application when the potential borrower (i) has been financed by another credit institution during the same planting period; (ii) has an outstanding balance with another credit institution for more than 25 percent of the amount to be granted, in the case of medium or long term credit; (iii) has repayment problems with another credit institution; and (iv) the farmer's net annual family income is above C$ 30,000.[56] If the farmer is still elegible, the CEDE Manager can authorize a loan up to C$ 25,000, the Regional Manager can authorize a loan up to C$ 35,000, the Director of Operations can authorize a loan up to C$ 50,000 and the General Manager can authorize a loan up to C$ 150.000. These larger loans are for farmer organizations.

Taking into consideration the fact that income generation poten

tial is more a function of the amount of land under cultivation than of the total amount of land owned, a recent internal evaluation of INVIERNO has suggested that the corresponding farm size limit be redefined as either 30 manzanas of cultivated land or 99 manzanas of total land, thus excluding farmers who cultivate more than 30 but own less than 99 manzanas.[57] In addition, INVIERNO has introduced specific size limits in the case of particular crops. For example, in the case of coffee, farmers who are already cultivating more than three manzanas are not elegible, and the maximum area to be financed is five manzanas.[58]

In practice, the farmers financed by INVIERNO have been of sizes considerably smaller than the limits discussed. One of the reasons for this has been the focusing of INVIERNO's efforts on small farm communities with a maximum size of 300 families.

INVIERNO has been granting loans of a fairly small size. The average size of loan disbursed has ranged between C $1,100 and C$2,568 for the various planting seasons, as follows:[59]

1.	Primera of 1976	C$ 1,748	or	US$ 250
2.	Postrera of 1976	C$ 1,187	or	US$ 170
3.	Apante of 1976	C$ 2,568	or	US$ 366
4.	Primera of 1977	C$ 1,361	or	US$ 194
5.	Postrera of 1977	C$ 1,100	or	US$ 157
6.	Apante of 1977	C$ 1,904	or	US$ 272

The average size of loan has declined between each one of the planting seasons in 1976 and the corresponding season in 1977. In summary, between 1976 (all seasons) and 1977 (all seasons), the average size of loan disbursed by INVIERNO declined from C$ 1,447 to C$ 1,234.

As shown in Table 1, over three-quarters (about 79 percent) of the total number of loans disbursed by INVIERNO since its creation had been, as of September of 1977, for less than C$ 3,000. In effect, about 91 percent of these loans had been for less than C$ 5,000 while only five percent had been for more than C$ 7,000. In Region II, on the other hand, there had been a lower proportion (about 74 percent) of loans below C$ 3,000 and a higher proportion of loans between C$ 3,000 and C$ 5,000.

The average size of the area financed by INVIERNO has also been very small, ranging between 2.11 and 2.96 manzanas for the various planting seasons, as follows:

TABLE 1

INVIERNO, Distribution of Loans According to the Amounts Disbursed.
(Accumulated up to September 30, 1977)

LOAN AMOUNTS	REGION V		REGION II		TOTAL	
	Number	%	Number	%	Number	%
Less than 1,000	2,538	36.2	175	18.2	2,713	34.0
1,000 to 2,999	3,015	43.0	546	55.8	3,561	44.7
3,000 to 4,999	783	11.2	160	16.6	943	11.8
5,000 to 6,999	286	4.1	48	5.0	334	4.2
7,000 to 9,999	182	2.6	20	2.0	202	2.6
10,000 and over	202	2.9	13	1.4	215	2.7
TOTAL	7,006	100.0	962	100.0	7,968	100.0

Source: Instituto de Bienestar Campesino. INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino, cit. p. 99. Loan amounts in Cordobas.

TABLE 2

INVIERNO: Number of Loans Authorized, According to Farm Size.
(Percentages)

FARM SIZE	Primera 1976	Postrera 1976	Primera 1977
Less than 5 manzanas	45.0	49.0	83.2
5 to 9.9 manzanas	22.0	22.0	10.3
10 to 19.9 manzanas	15.0	14.0	4.8
20 to 99.9 manzanas	18.0	15.0	1.7
TOTAL	100.0	100.0	100.0

Source: Instituto de Bienestar Campesino, INVIERNO, Informe Anual 1975-1976. Managua, 1977. pp. 59-61. Unpublished data from the 1977 Census of INVIERNO.

1.	Primera of 1976	2.96 manzanas
2.	Postrera of 1976	2.11 " "
3.	Apante of 1976	2.20 " "
	Average for 1976	2.48 " "
4.	Primera of 1977	2.35 " "
	Region V	2.28 " "
	Region II	2.79 " "

As has been the case with respect to the average size of loan, the average size of farm of the INVIERNO borrowers has been declining through time, as reflected in the distribution of loans authorized, shown in Table 2. While during 1976 almost one-half of all loans authorized were for farmers with holdings less than five manzanas of land, during 1977 this proportion increased to over 80 percent. On the other hand, the proportion of loans authorized for farmers with more than 10 manzanas declined from over 30 percent to just six percent. This substantial reduction in the size of farm of INVIERNO's borrowers has been due, in part, to the institution's efforts to eliminate a few larger borrowers who had received loans during the first year as the institution gained confidence in its objectives and procedures. The incorporation of Region II also added a substantial number of small farmers.

E. GOVERNMENT COMMITMENT

One highly visible characteristic of INVIERNO is the substantive commitment which the Government of Nicaragua is giving to the project. This commitment has been shown in several ways, both in the planning of the institution and in its operations. An evaluation of the management of INVIERNO found that the most significant aspects of this commitment are that:[60]

1. INVIERNO was not created overnight. Instead, it was the result of an intensive study over an extended period. This interest in the quality of the program has continued afterward, particularly through the relationships between INVIERNO and DIPSA.

2. INVIERNO is an integral part of the country's overall national development plan. It does not operate as an isolated public program; rather, it maintains constant interaction with other public agencies serving the small farmer and other rural poor.

3. The Government has restructured the entire Ministry of

Agriculture to assure the integrity of the program. As indicated, the Ministry is divesting itself of its direct service components, and it is concentrating mainly on research and supportive services. INVIERNO is the largest attempt by the Government of Nicaragua to provide direct agricultural services through a specialized institution to a clientele of small farmers.

4. According to the AID Loan 524-T-031 Agreement, the Government of Nicaragua must contribute US $ 18,600,000 as counterpart funds for INVIERNO. As of October of 1977, the Government's contribution of funds to the program amounted to US$ 11,719,133.

5. The Government has been supportive of INVIERNO's efforts to build a quality staff and a viable continuing institution without political interference.

F. DEVELOPMENT CONCEPTS: INTEGRATED APPROACH

INVIERNO is a comprehensive and coordinated program which focuses on all the basic elements and factors that can promote the progress of small farmers. In effect, INVIERNO belives that "opportunities must not only be provided, but the services should be delivered to the individual rural farmers and to the community in a comprehensive manner, so that these opportunities may be accepted and profited by the rural farmers, and that once they have been received, may be fully appreciated."[61]

The primary objective of INVIERNO is an improvement of the standard of living of the low income farmer. To achieve this objective, INVIERNO is attempting to provide its beneficiaries -which are called socios (partners) -with a set of integrated services the effects of which will be felt gradually as time passes. INVIERNO hopes to provide these services through several programs, some actually being carried out and others only proposed, such as institution building, integrated agricultural credit, technical agricultural assistance, marketing help, community action -called MDC: motivation, organization and capacitation - and municipal development, adaptive research and technological packages appropriate for small farmers, land sale guarantees, cooperative development, access road construction an improvement, small rural and handicraft enterprises and rural housing construction and improvement.

Rather than assume all these activities directly and all at once, INVIERNO has decided to handle certain services itself and to coordinate selected services with other public agencies.At present, INVIERNO is providing agricultural credit, technical assistance, marketing assistance, and community action to its beneficiaries directly through its personnel. Other services have been planned and financed by INVIERNO but are being executed by other agencies. Also,

on the basis of the needs discovered among its beneficiaries, INVIERNO can request other organizations to channel the required services for which they are more qualified. Through support services provided by other public agencies, INVIERNO has promoted access road construction, infrastructure and municipal development and research oriented to the development of technology appropriate for small farmers. Finally, education, health and energy are provided under the institutions' coordination. All this interagency coordination is possibly the least expensive way to provide the set of integrated services required by small farmers, thus allowing a more efficient use of the limited resources available to INVIERNO.

This strategy of integrated services has responded to a perception similar to that of the AID Spring Review that "credit institutions working within an integrated program have better overall success." [62] However, at the same time this strategy increases the demands on the institution's financial, administrative and managerial resources and capabilities and it also reduces the size of the clientele that can be reached. In turn, all this forces the institution to evaluate very carefully its capacity to undertake the various activities by itself, without experiencing negative marginal returns, and to make the politically difficult choice of selecting a limited set of beneficiaries from among those demanding its services.

In practice, the extent to which the various services have been provided by INVIERNO has not been the same, thus endangering the integrated approach endorsed at the conceptual level.[63] As in many other programs, credit has been given first priority, while most of the other services have been organized around and for the sake of the credit operations. This has not happened by planning or conceptual design. Rather, it has reflected INVIERNO's take off strategy, given the institutional constraints and political circumstances which it faced. Not only was the credit management component particularly difficult, but credit is the activity which most significantly influences the institution's image with the Government and with the public. However, there is a danger that only borrowers and not other non-borrower farmers will benefit from the program. It seems that in the future INVIERNO will center its activities around the technological and community organization components of the program.

Some of the problems have been also due to the difficulty of coordinating operations with other public agencies. This has been, in particular, the case with respect to marketing. The first year of operations, INVIERNO signed a contract with the Nicaraguan Institute for External and Internal Marketing (INCEI) for the marketing of basic grains. The farmers, however, chose not to sell their crops to INCEI, dealing instead with private intermediaries. The contract was not signed for a second year. INVIERNO was forced, therefore, to limit its marketing aid to the dissemination of information about crop prices and other marginal activities, such as the hiring of trucks

for vegetables, establishing contacts between buyers and sellers, etc. In the future INVIERNO expects to promote small on-the-farm storage facilities in order to allow farmers to sell their crop at the time when they can obtain better prices. Price fluctuations, particularly in the case of corn, are very sizeable in Nicaragua.

With respect to other activities, there has not been a clear definition of policies and procedures, as has been the case with respect to community organization (MOC), an area to which INVIERNO believes more attention needs to be provided.[64] Only preliminary explorations have been made in the crucial areas of technological development research and of land tenure, two critical aspects of small farmer development.

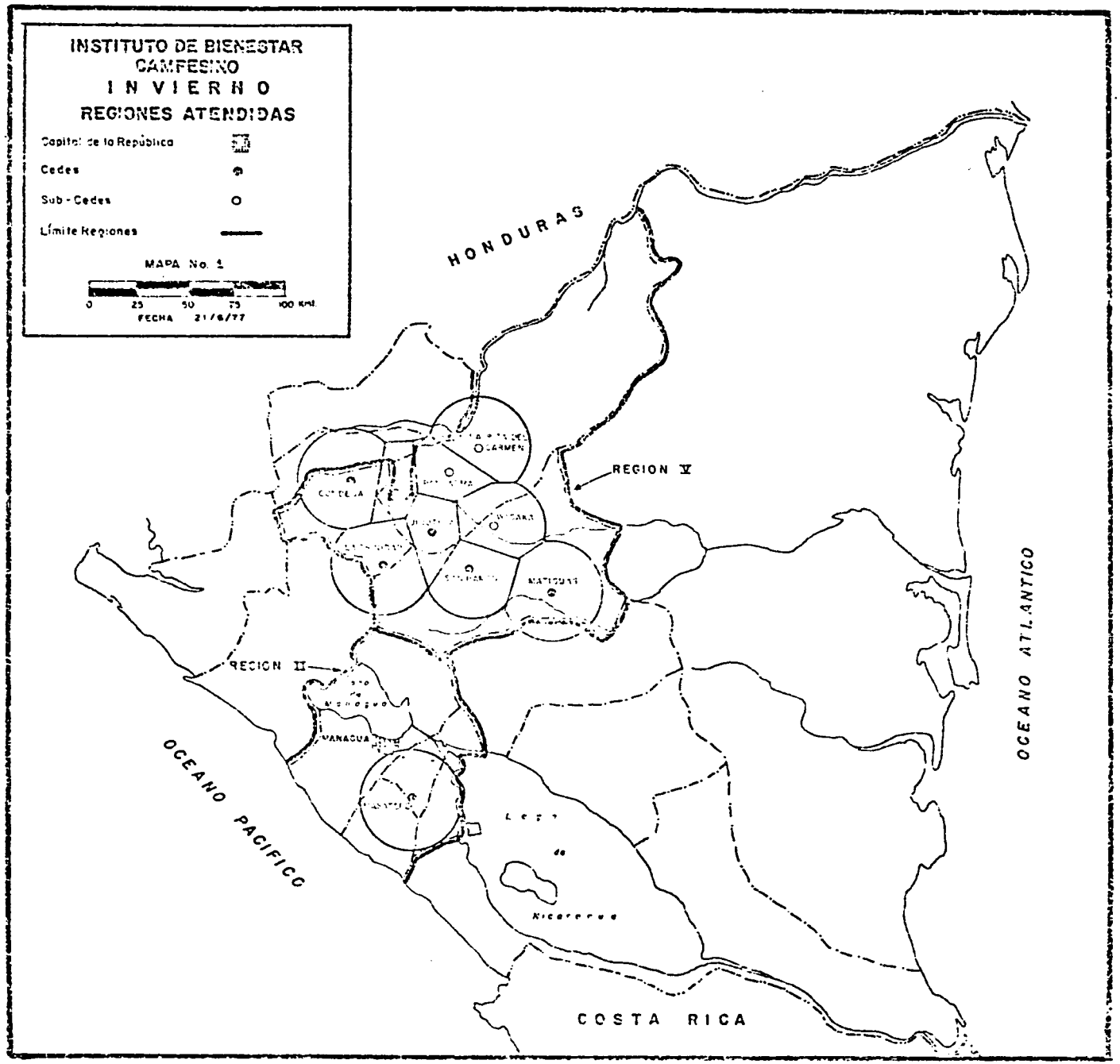
Fortunately, INVIERNO is aware of this non-proportionate expansion of its activities and is already attempting to correct it. In order to favor the integration of the various services it has been proposed that in the future the institution start its operations in a new locality with efforts in the community development area (MOC) which hopefully would lead to a better identification of the community's needs.[65] The desired approach would be to deliver these services to the whole community and not only to INVIERNO's borrowers. In order to ascertain the extent to which the communities desire the various services, INVIERNO has started to promote the participation of its beneficiaries in the formulation of its operating plans.[66]

G. DEVELOPMENT CONCEPTS: AREA CONCENTRATION

The scarcity of human and financial resources limits the possibilities of reaching the entire rural population of the country on a massive scale through a program of integrated development. For this reason, INVIERNO has attempted a strategy of regional concentration, based on a regional development plan. From the eight regions into which the country has been divided for the purposes of agricultural development, INVIERNO has selected two and will be concentrating all of its efforts in these two regions during the first stage of its operation. Depending on the development of the required road infrastructure, INVIERNO will attempt first to saturate these two regions. Later, as the program is consolidated, costs are reduced by the numbers and density of beneficiaries in each region and the institution has gained enough experience and as the communities themselves start to undertake the provision of certain services, INVIERNO will gradually expand into other regions.

These two regions were selected as a result of a critical analysis which considered the availability of physical resources and infrastructure in each region, their agricultural potential, their relative degrees of development, the degree of concentration of the

MAP 1: REGIONS II AND V, WHERE INVIERNO OPERATES



target groups and other social and economic indicators related to the rural population, such as production and productivity indicators, land tenure patterns, income and employment generation potential, population density, illiteracy rates, road network and availability of warehousing.[67]

The two regions chosen were the Central Interior Region (Region V) and the Central Pacific Region (Region II), as shown in Map 1. Region V includes the Departments of Esteli, Matagalpa and Jinotega, while Region II includes the Departments of Managua, Masaya, Carazo and Granada. Operations started in 1976 in Region V and were initiated in Region II in 1977.

Region V with 253,000 inhabitants has the largest total rural population among the regions into which the country has been divided. In this region the rural population represents 74.8 percent of the total population, and this is the region with the largest percentage of small producers. In addition, average family income in the rural areas is the lowest in this region, representing about 60 percent of the national average. Only in Region II, where it represents 75 percent of the national average, and in Region IV is this average below the national level, in addition to Region V, as shown in Table 3.

In summary, about 40 percent of the Government's target group is concentrated in the two regions selected. Although in these two regions per capita incomes are the lowest in the country, a justification for action, the two regions also contain abundant unexploited natural resources and a high proportion of the country's productive infrastructure: roads, warehouses, electricity, etc. This suggests the possibility for a more significant impact in comparison with other regions.

A second and lower priority was assigned to Region II which, in comparison with Region V, possesses a better social and economic infrastructure and has greater alternatives for employment in other productive activities outside of the agricultural sector, greater access to markets and other more favorable environmental circumstances.

H. DEVELOPMENT CONCEPTS: ALL SERVICES AT THE LOCAL LEVEL

INVIERNO's general philosophy is to deal with the total needs of the small farmer at his doorstep or in his own immediate area. That is, INVIERNO attempts to bring its services to the small farmer rather than wait for the small farmer to request them. Its intent is to assure that the services which may be necessary for an improvement in the standard of living of the rural population may arrive at a time, and in a form, quantity and juxtaposition which will facilitate the rural resident's own self-help efforts. All this is accomplished through

TABLE 3

NICARAGUA: DISTRIBUTION OF RURAL FAMILY INCOMES IN 1973
(Percentages)

AND AVERAGE FAMILY INCOMES.
(Cordobas)

INCOME CATEGORY	REGION II	REGION V	NICARAGUA
Less than 1,000	15.0	25.0	18.0
1,000 to 1,999	23.0	30.0	23.0
2,000 to 4,999	36.0	27.0	36.0
5,000 to 9,999	19.0	15.0	16.0
10,000 and over	7.0	3.0	7.0
TOTAL	100.0	100.0	100.0
Annual average income of a rural family	4,813	3,837	6,317
Annual median income of a rural family *	3,000	1,834	2,750
Annual average income of the 50 per cent poorest rural families	1,784	974	1,649

Source: Computed on the basis of figures in Comité Nacional Agropecuario. Resumen de la Situación y Diagnóstico del Sector Agropecuario de Nicaragua. Managua: UNASEC, 1974. pp. 145-147.

* Indicates the maximum expected income of the 50 percent poorest of the rural families.

multidisciplinary, mobile teams located at the CEDE level and composed of agricultural technician-extension agents, input and marketing specialists and social community workers.

With respect to the agricultural credit program, this approach is an effort to addres the problem of making credit available in small amounts to large numbers of small farmers at reasonable costs and adjusted to their needs. Costs need to be reasonable both for the borrower and for the lender. The costs -both private and social- when small farmers seek credit with the formal institutions at the urban center are very high.[68] INVIERNO's strategy significantly reduces these costs, while at the same time it also reduces the institution's average costs of providing these integrated services opportunely and at the adequate levels, by augmenting the size of the clientele reached at each location. Just as the small size of the loans raises the institution's average costs, the increased numbers of borrowers can bring them down.[69] This, in turn, makes it possible to achieve the final objective: to improve the small farmer's access to institutional credit.

On the other hand, INVIERNO's credit program is not operated as a welfare program. Rather, the interest rates charged are supposed to be sufficiently high to make the program self-sustaining. Similarly, INVIERNO expects farmers to pay the full costs of the inputs delivered to them as well as the full transportation costs of the produce moved by the institution.[70] The costs of other programs which generate important externalities are to be covered by the Government from the national budget. Even in the case of such subsidized services as technical assistance or community organization (MOC), a corresponding self-help effort by the community or individual is required.

I. ORGANIZATIONAL STRUCTURE

INVIERNO operates at three different levels: national, regional and local. This, in turn, is reflected in the three levels of its organizational structure: the Central Office, the Regional Offices and the Development Centers (CEDES). In addition, each CEDE serves a certain number of localities.

The top management of the institution is located in Managua at the Central Office, where the policies, regulations and procedures for the implementation of the various programs are issued, after a series of consultations and interaction at the various level. The Central Office also is in charge of the final programming of the various activities and of the provision of the higher logistical support required by the rest of the organization. The Regional Offices enjoy a certain degree of autonomy and have the operating responsibility for the various programs being implemented in the region. The CEDEs are the operating bases from which the various services are delivered to the rural population. All the technical staff -the mobile teams - in charge of these services are stationed at the CEDEs.

At the Central Office, a Board of Directors provides the overall policy direction of the institution. It is headed by the Minister of

Agriculture and composed of ten other high level public officials, including two representatives of each one of the two major political parties and a representative of the peasant organizations.

The General Manager has responsibility for executing the policy decisions of the Board of Directors and for managing the daily program and administrative activities of the organization. A Vicemanager of Operations coordinates all the program activities at the central, regional and local levels. A Vicemanager for Data Processing is in charge of the administration and technical operation of the management information and other data systems by means of electronic computation. There also is a Department of Programming and Control in charge of integrating the programs and budgets at the regional and national levels in order to design a general plan for INVIERNO's activities. A Department of Municipal Development is in charge of the analysis and evaluation of projects submitted by the municipalities for INVIERNO's consideration and financing.

Other divisions of the administrative structure include an Internal Auditor for trouble shooting and quality checks on procedures and practices; a Legal Counsel; a Department of Accounting; and a Department of Personnel and Administrative Services, which handles the employee pay and classification systems, purchasing of goods and services for the other units, motor vehicle scheduling, inventory and other logistical support.

The Program of Agricultural Production, reporting to the Vicemanager of Operations, is in charge of the technological capacitation of the farmers served. It develops the technological packages and it prepares training courses and other assistance programs. Also reporting to the Vicemanager of Operations is the Program for the Promotion of Rural Enterprises, which is in charge of the design of the marketing, input supply and similar programs, the program of credit for small and medium enterprises and the promotion of formal peasant organizations in the rural areas.

As already indicated, INVIERNO provides its services to the small farmers through a network of local offices called Development Centers (CEDEs), located in market towns which have been selected after a careful regional analysis. Each CEDE is headed by a manager, and his staff includes a certain number of technical assistance supervisors (agronomists in charge of supervising several AGROMOCs), social promoters (a primary community development/MOC professional usually with a degree in one of the social sciences), CREDOMERCs (responsible for delivering inputs to the farmers and assisting them in marketing their product), cashiers and AGROMOCs (an agricultural technician with additional training in communication and social sciences who serves as the primary liaison with the localities). The AGRONOMOCs are the primary transmitters of agricultural technology and a main input into INVIERNO's credit operations.

The Regional Offices provide direct supervision, coordination and guidance to all the CEDEs in their jurisdiction. Centrally located in each region, these offices are headed by a Regional Manager. His technical backstopping staff includes agricultural specialists, sociologists and CREDOMERCs. At present there is only one Regional Office with 14 employees located in San Ramon, which is responsible for Region V. The only CEDE operating in Region II (Masatepe) is directly responsible to the Central Office in Managua.

Currently, there are five CEDEs in Region V and one CEDE in Region II. In addition, in order to reduce operating costs, INVIERNO has created four SUB-CEDEs. These units do not have a manager and are served by a mobile team based at a CEDE. Two of them are linked to the CEDE in Jinotega and one to each of the CEDEs in Condega and San Ramon. The possible number of SUB-CEDEs to be served from a CEDE is limited by distance and road availabilities. These local offices are now reaching 283 localities, as shown in Table 4. This represents an increment of 59 percent over the total of 178 localities served during the initial year of operation. In addition to the initiation of operations in Region II, during 1977 a major expansion also took place in San Ramon and in Condega, where important SUBCEDEs started operations.

INVIERNO's strategy has been to saturate the geographical area to be reached from a CEDE in order to minimize its operating costs. For this reason, particular emphasis was initially placed on the selection of new localities to be served. An eligible locality must be situated within a 25 Km. radius from a CEDE or SUB-CEDE, must have an allweather access road, must be located in an area of medium to high agricultural potential (on the basis of soil, climate, irrigation potential, etc.), must include at least 20 houses in a five Km. radius (originally a minimum of 30 houses in an area of two Km. of radius was required) or must be located along an access road on the way to another community served by INVIERNO.[71] However, for 1978, the institution has decided not to increase the number of localities to be served, unless it can do so with its present staff, in order to keep its operating costs at their 1977 level.[72]

J. FINANCIAL RESOURCES

INVIERNO receives funds from three different sources: the Government of Nicaragua, the United States Agency for International Development (AID Loan 524-T-031) and its own revenues, mostly as interest on its loans and deposits. These funds are used both to capitalize the institution and to cover its operating expenditures.

From its creation in June of 1975 to the end of October of 1977 INVIERNO had received US$ 11,495,772 from the Government of Nicaragua. Of this, 18.9 percent was to cover the institution's ordinary expenditures, while 81.1 percent was for its capitalization.

TABLE 4

INVIERNO: NUMBER OF LOCALITIES REACHED.

CEDE	1976	1977
INVIERNO (TOTAL)	178	283
Region V	178	225
San Ramon	28	43
Matiguas	20	26
Jinotega	45	47
La Trinidad	46	51
Condega	39	58
Region II	--	58
Masatepe	--	58

Source: Instituto de Bienestar Campesino. INVIERNO. Informe anual 1975-1976, cit. p. 25. Unpublished data for 1977.

TABLE 5

INVIERNO: FUNDS RECEIVED FROM THE GOVERNMENT.
(Cordobas)

DATE	Current Expenditures	Capital Account	TOTAL	%
1975 (June-December)	3,511,717	3,288,757	6,800,474	8.5
1976 (All year)	---	42,268,240	42,268,240	52.5
1977 (January-October)	11,702.037	19.699.656	31,401,692	39.0
TOTAL	15,213,754	65,256,653	80.470.406	100.0

Source: INVIERNO, Financial Division, Unpublished.

The AID Loan assigned INVIERNO US$ 12,000,000. Of this total, at the end of 1976 INVIERNO had disbursed only US$ 449,473. During the first year of operation, loan disbursements were light in view of the need to satisfy several conditions prior to disbursement and due to the inevitable delays in accumulating expenditure data and requesting payment.[73] As of October 31, 1977, INVIERNO had received an additional US$ 1,706,741 for that portion of its second year of operation. Therefore, INVIERNO had disbursed a total of US$2,156,215, and at the same time it had already requested the disbursement of an additional US$ 1,676,751.[74]

Of the amounts of the AID Loan disbursed 27.7 percent had gone into the creation and organization of INVIERNO as well as into training and adaptive research -in connection with small farmer technologies- while 69.9 percent had been allocate to the integrated agricultural development program, and 2.4 percent had gone to the program for the development of rural enterprises. Funds for credit, included in the second category, had represented 56.4 percent of the total disbursed. Of the amounts requested as of the end of October of 1977, credit represented 88.1 percent, According to the Loan Agreement, credit is expected to receive 34.2 percent of the total.

One additional source of founds for INVIERNO consists of the interest earned both on its loan portfolio and on the deposits and other financial assets held with its idle funds. The institution has not been able to lend its funds as rapidly as it had originally planned. For this reason it keeps an important proportion of its funds in the form of interest-earning deposits and other financial assets. At the end of 1976 these invested funds represented over three times the amounts loaned. At the end of 1977 they represented just over two times the amounts loaned by INVIERNO, as shown in Table 6. That is, funds invested in financial assets represented 47.3 percent (at the end of 1976) and 43.9 percent (at the end of 1977) of INVIERNO's total assets. On the other hand, the institution's loan portfolio represented only 14.9 percent (at the end of 1976) and 21.4 percent (at the end of 1977) of these total assets. Finally, the interest earned on the financial investments amounted to four times the interest earned on the loan portfolio during 1976. During 1977 this proportion had declined to 1.7. As the size of INVIERNO's credit portfolio increases so will its interest earnings increase.[75]

Finally, INVIERNO also receives some revenues from other activities, such as input sales and the sale of the product from its extension-test plots. These revenues amounted to C$ 146,180 during 1976 and to C$ 475,734 during 1977.[76]

K. OPERATING EXPENDITURES

As indicated, INVIERNO's banking operations are intended to be self-sustaining, while the costs of its other programs are to be

TABLE 6

INVIERNO: INTEREST EARNED ON ITS PORTFOLIO

(Cordobas)

	1976	1977
Credit portfolio at the end of the year	6,929,263	16,778,342
Interest earned on credit during the year	525,397	1,720,582
Portfolio of financial assets at the end of the year	22,060,450	34,455,450
Interest earned on financial assets during the year	2,098,523	2,935,725

Source: INVIERNO, "Estados Financieros" at the end of 1976 and at the end of 1977.

covered by the Government of Nicaragua from the national budget. Therefore, INVIERNO faces two important management problems: how to distribute its resources among its various programs and how to allocate the resulting costs to its banking and non-banking operations. In particular, this requires an accounting system that may reasonably distribute costs between these two categories.

The basic criterion adopted by INVIERNO has been to classify as banking costs those cost items that would have to be present if the institution operated merely as a bank and to classify as non-banking all other costs. To put in practice this general criterion, INVIERNO has designated the Central Office, Regional Office, CEDEs, INTA - INVIERNO Program and Scholarships and Capacitation Program as its five expenditure centers.

The staff positions at each expenditure center have been examined in order to determine if they would exist if INVIERNO operated only as a bank and to what extend. As a result, a percentage of each wage and salary in the institution has been imputed to the banking and

TABLE 7

INVIERNO: PERCENTAGE OF SALARIES ALLOCATED TO THE BANKING AND NON-BANKING PROGRAMS. 1977.

ADMINISTRATIVE UNIT	BANKING	NON-BANKING
CENTRAL OFFICE		
Manager	100	-
Auditor	75	25
Vicemanager of Operations	30 (0)	70 (100)*
Programming and Control	-	100
Financial Division	-	100
Municipal Development	-	100
Legal Division	100	--
Administrative Department	50	50
Vicemanager of Data Processing	75	25
Accounting Department	90 (100)	10 (0)
Agricultural Production Program	-	100
Promotion of Rural Enterprises	-	100
REGIONAL OFFICE		
Manager	- (100)	100 (0)
Support Staff **	-	100
CEDEs		
Manager	100	-
Technical Assistance Supervisors	- (50)	100
Social Promoters	-	100
Programming and Control	-	100
CREDOMERCs	30 (75)	70 (25)
AGROMOCs	20	80
Cashiers	100	-
Drivers	100 (50)	- (50)
Warehousing	100 (0)	- (100)
Typist	- (50)	100 (50)
Helper	100 (0)	- (100)
Secretary	100	-

Source: Instituto de Bienestar Campesino, INVIERNO, "Criterios de Distribucion de Gastos", unpublished, s.d. and Ministerio de Agricultura y Ganadería, DIPSA, "Tasas de Intereses sobre Creditos Agrícolas", s.d.

* The figures in parenthesis indicate previous allocations (1976) now changed.

** Previously the Auditor of the Regional Office was allocated 75 percent of his time to the banking operations and 25 percent of his time to non-banking operations.

non-banking programs. These percentages have been revised as the institutional emphasis on the various activities has shifted and as operating experience has shown more accurately how the personnel's time is distributed among various tasks. The most recent allocations are shown in Table 7, which also indicates what some of the previous allocations were.

INVIERNO has also computed a ratio between the total amount of salaries and other personnel expenditures imputed to the banking and to the non-banking programs at each expenditure center and uses it to determine the proportion of all other administrative costs to be allocated to the banking and non-banking categories at each one of those centers. At present these proportions are as follows:

Central Office:	banking programs	38 percent
	non-banking programs	62 percent
Regional Office:	non-banking programs	100 percent
CEDEs:	banking programs	26 percent
	non-banking programs	74 percent

These percentages imply that 28 percent of the total cost of INVIERNO would be allocated to its banking programs.

Obviously, any classification of this kind has to be arbitrary and this one is no exception. In the case of INVIERNO, the allocation has been specially difficult because INVIERNO is a relatively simple institutional structure managing a very complex integrated program. The same personnel, equipment and operating budget are applied to a variety of activities, both banking and non-banking. However, the justification of a few of the allocations is not totally convincing. The proportion on banking costs, particularly at the CEDE level, may be too low, and Table 7 shows a tendency to reallocate important cost items from the banking to the non-banking category. A temptation to reallocate costs in this fashion will increase if the institution fails to make the banking program self-sustaining.

Financially successful small farmer credit programs do not have the same cost structure as an urban commercial bank. The last is not, therefore, the correct frame of reference. Credit institutions incur two kinds of administrative costs: handling costs, like recording and disbursing a loan, and risk-reducing costs, incurred mostly in order to reduce the probability of default associated with a loan portfolio.[77] These costs consist mainly in the acquisition and use of information, supervision and collection. They are not independent of the losses suffered by the institution from default. If more resources are spent in the evaluation and supervision of every borrower, the lending institution can reduce its losses. Given the nature of

the risks faced by the institution, there is an optimum amount of resources to be devoted to these risk-reducing activities. In the case of INVIERNO such an optimum and the corresponding level of administrative costs would seem to be higher than the present allocation to the banking program as described, but important externalities may be involved, justifying this allocation.

TABLE 8

INVIERNO: EXPENDITURES OF THE BANKING AND NON-BANKING PROGRAMS (Cordobas).

COST ITEMS	1976	1977
BANKING PROGRAM		
Personnel	2,223,371	4,090,895
Administrative Costs	664,273	1,204,442
Portfolio Reserve	693,048	815.462
Depreciation and Other	73,718	184,635
TOTAL	3,654,409	6,295,434
NON-BANKING PROGRAM		
Personnel	7,322,074	10,048.960
Administrative Costs	2,715,001	4,185,289
Depreciation and Other	1,014,864	2,248,444
TOTAL	11,051,939	16,482,694
BOTH PROGRAMS	14,706,348	22,778,128

Source: Instituto de Bienestar Campesino, INVIERNO, "Estados Financieros," for 1976 and 1977.

In any case, what is remarkable about INVIERNO is the correct perception that the credit program must be self-sustaining, i.e. non subsidized, and the corresponding effort, unparalleled elsewhere, to separate banking and non-banking costs in a reasonable fashion. Hopefully, INVIERNO will be able to continue both with its original philosophy about the role of subsidies in agricultural development and with its efforts to design a rational means to allocate costs between its two areas of operation.[78]

As shown in Table 8, as a proportion of INVIERNO's total expenditures, the costs associated with the banking program actually re-

presented 24.8 percent during 1976 and 27.6 percent during 1977. While between 1976 and 1977 banking costs increased by 72.3 percent, non - banking costs increased by only 49.1 percent, and total costs increased by 54.9 percent. This augmented relative importance of the banking costs is a result of the expansion of the institution's credit operations. Table 9, in turn, shows that personnel costs in both kinds of programs represent over 60 percent of INVIERNO's total costs, a desirable proportion for such field-oriented programs.

Over one-half of all personnel costs (53 percent during 1976 and 50 percent during 1977) and of administrative costs (63 percent during 1976 and 78 percent during 1977) have been incurred at the Central Office. These figures reflect the concentration of credit management costs in the Central Office, which results from INVIERNO's particular strategy to handle a large number of small accounts through a computerized system. Finally, the reserves to cover losses due to default represent almost 20 percent of banking costs. These reserves, in turn, have represented about 10 percent of the total portfolio at the end of the year.

TABLE 9

INVIERNO: EXPENDITURES OF THE BANKING AND NON-BANKING PROGRAMS. PERCENTAGE COMPOSITION AND RATES OF GROWTH.

COST ITEMS	1976	1977	RATE OF GROWTH
BANKING PROGRAM			
Personnel	60.8	65.0	84.0
Administrative Costs	18.2	19.1	81.3
Portfolio Reserve	19.0	13.0	17.7
Depreciation and Other	2.0	2.9	150.5
TOTAL	100.0	100.0	72.3
NON-BANKING PROGRAM			
Personnel	66.3	61.0	37.2
Administrative Costs	24.6	25.4	54.2
Depreciation and Other	9.1	13.6	121.6
TOTAL	100.0	100.0	49.1

Source: Table 8

L. PERSONNEL

INVIERNO's personnel grew rapidly during 1977, particularly at the CEDE level. In effect, during this year, personnel at the Central Office increased by 15.2 percent, personnel at the Regional Office

increased by 27.3 percent, and personnel at the CEDEs increased by 70.9 percent. At the end of the year, INVIERNO had 320 employees. More than one-half of them were located at the CEDEs, as shown in Table 10. In effect, the proportion of the institution's staff working at the CEDEs increased while the proportion of those at the Central Office declined. This change in the relative allocation of personnel to the field as compared to the Central Office reflects the expansion of the institution's operations after a short formative period.

TABLE 10

INVIERNO: PERSONNEL.

LOCATION	JUNE 1976		DECEMBER 1976		DECEMBER 1977	
	Number	%	Number	%	Number	%
Central Office	81	37.3	92	41.8	106	33.1
Regional Office	15	6.9	11	5.0	14	4.4
CEDEs	121	55.8	117	53.2	100	62.5
TOTAL	217	100.0	282*	100.0	320	100.0

Sources: INVIERNO: The First Year. Cit., p. 33. Instituto de Bienestar Campesino, INVIERNO. Informe Anual 1975-1976. p. 31. Unpublished payroll data.

* In addition, there were 62 persons in training, to be assigned to the CEDEs during 1977.

At the end of 1977 INVIERNO's personnel in managerial positions (Department heads, Division heads, Regional supervisors, CEDE managers, professional advisors and specialists) represented 16.9 percent of the total, while "tecnicos" in the field (AGROMOCs, Technical Assistance Supervisors, CREDOMERCs, Rural Administrators, Social Promoters) represented 41.6 percent, and support staff (statisticians, secretaries, cashiers, drivers, typists, warehousing helpers, guards, mechanics, key punchers, helpers, etc.) represented another 41.6 percent.

At present INVIERNO's personnel includes, at the Central Office:[79]

Manager, Vice-managers and Department Heads	9
Professionals in technical positions	43
Paraprofessionals in colaborating positions	23
Secretaries	17
Other	17

On the other hand, at the CEDEs and Regional Office there are:

Managers	6
Technical Assistance Supervisors	15
Social Promoters	17
AGROMOCs	62
Rural Administrators	7
CREDOMERCs	13
Cashiers	17
Secretaries	11
Other	32

The main forces affecting personnel growth and utilization have been the number of CEDEs opened, the number of localities served by each CEDE and the number of farmers served at each locality. In order to arrive at the appropriate configuration of personnel to achieve its objectives, INVIERNO has been trying to develop a method for resource allocation which depends on the number of farmers served. Thus, for a given number of beneficiaries a specific number of social workers, AGROMOCs, desks, jeeps, etc. are assigned. The result are resource allocation tables which describe formulae for the utilization of organizational resource such as personnel, equipment and vehicles. This method of resource allocation is used in other areas as well. As already indicated, for example, the establishment of a CEDE or the decision to serve a locality is based on the estimated number of beneficiaries who cluster in a given area and the maximum distance from the CEDE that this cluster can be located and still be adequately served.

The original table of organizational requirements was as follows:[80]

One assistant to the Manager for 1,000 or more beneficiaries;
One social worker for 500 or less beneficiaries;
One CREDOMERC for 500 or less beneficiaries;
One AGROMOC for 60 or less beneficiaries;
One Technical Assistance Supervisor for every four or five AGROMOCs;
One administrator for every 600 beneficiaries (except when there are two of the SUB-CEDEs); etc.

In practice it has been difficult to implement these ratios, and INVIERNO has needed to revise them in order to reduce costs. Among the main recommendations of the operating plan for 1978 is the policy not to increase the number of localities served, unless they can be served with the present personnel level and to approach resource allocation not on the basis of the number of beneficiaries per AGROMOC but on the basis of the number of localities per mobile team. In addition, this implies an increased emphasis on the assistance to groups instead of to individuals and a desire to augment the area served by a given team.[81]

IV

INNOVATIVE APPROACHES

A. PROGRAM MANAGEMENT

A consensus has been emerging to the effect that management is a critical factor in the success of any integrated rural development program, specially in the delivery of services to the poor.[82] This management goes well beyond any narrow definition of administrative services. It is not "a thing apart" but becomes closely intertwined with technical activities. Such management includes the implementation of a system for planning, methods of supervision, use of a systems approach in judging the resources required for service to the rural poor, the elaboration of operations manuals in order to introduce discipline into the various practices, training and assistance in realistic methods of organizing the poor, etc. All this has been particularly important in the case of INVIERNO, a fairly large and complex program for the delivery of an integrated package of services to small farmers. Achievement of the institution's goals has placed very heavy demands for an efficient management system, and the quality of this system has been a key element in the success of the institution. The AID Spring Review had recognized that leadership and administrative skills are more important than institutional form for the success of a small farmer credit program and this view has been confirmed by INVIERNO's experience.[83]

A recent comparative study of sector management in LICs has found the following key elements of good management in the case of INVIERNO:[84]

1. Close coordination with other agencies and ministries through formal agreements and informal mutually planned undertakings.

2. High priority to the planning function centrally and locally with coordinated local, regional, and central planning meetings including, at headquarters, recorded commitments to take particular actions by specified dates.

3. A system for resource allocation based on numbers of participants served, which controls staffing, office equipment, vehicles, etc.

4. Internal coordination through a series of synchronized planning meetings at all levels as well as required written reports.

5. Internal and external evaluations, internally through the Executive Committee, and externally, two annual loan requirement evaluations have been completed.

6. Procedural controls and their periodic reappraisal, which involves a system for issuance of manuals, procedures, and instructions and plans for their periodic review to assure that they are still appropriate.

7. Centralized decision making on a consensus basis with beginnings of delegation to regional and local offices.

8. Delivery of services by teams on an outreach basis to serve the farmer at his doorstep.

9. Gradual regionalization and further decentralization to spread the program to other areas and bring it closer to the people.

10. Internal reporting that parallels oral discussions at planning meetings.

11. Citizen involvement by encouraging the formation of community groups which can take over some of INVIERNO's functions by forming such organizations as production and marketing cooperatives.

12. Personnel administration which makes INVIERNO an attractive place to work.

13. Automatic data processing which, among many other uses, makes it possible to process a large volume of small loans at low cost.

14. Training to strengthen technical skills, increase understanding of INVIERNO's philosophy and objectives, improve administrative performance, improve interpersonal skills, particularly related to the motivation of the farmers.

Although stylized, this description of INVIERNO's management systems by Development Associates is basically accurate. It has been shared by other equally reputable organizations, too. The Central American Institute of Business Administration (INCAE) has indicated that, in general, observers are "favorably impressed by the sophisticated techniques employed, the introduction of novel concepts and the high caliber which characterizes the managerial level of the new organization".[85] The main factor for this managerial success has been the competence of INVIERNO's staff. Although pleased with the results of their efforts and with the appreciation by various

observers, INVIERNO's managers and professionals have continued with their practices of rigorous internal evaluations, their search for better approaches and methods and their desire to anticipate potential problems due to the expansion of their operations.

B. PERSONNEL ADMINISTRATION

One of INVIERNO's salient features has been the desire that its personnel be of the highest quality, both in education and competence. To assure this quality INVIERNO has implemented a highly professional personnel system which combines a competitive salary scale, a liberal fringe benefit package and an effective system for the selection and promotion of the personnel from within which includes six-month individual employee performance evaluations. All INVIERNO positions are described with their responsibilities and authorities as well as the minimum qualifications required of the incumbent. This atractive pay and classification system has helped bring persons to INVIERNO with substantial academic training and prior work experience, in may cases exceeding by much the minimum requirements. In turn, these high quality people have tended to stay at INVIERNO in view of the professional stimulation provided by the institution which no observer can escape - as well as its dynamism and innovative approaches. A high degree of professionalism is particularly evident throughout the institution.

The first evaluation team confessed that "one is instantly impressed with the evident intelligence and personal dedication of INVIERNO employees at all organizational levels. This personal excellence is even more apparent at managerial levels. It is evident that INVIERNO has selected carefully in recruitment and oriented its people thoroughly in the aims of the organization and the norms of performance which are expected."[86]

The view of another more recent evaluation team is similar. "The team was universally impressed by the dedication, professionalism, detailed knowledge, and action oriented enthusiasm of its staff, both in central and field offices."[87] Such qualities had not diminished at the time of the present study.[88]

Other features of INVIERNO's personnel management system have been the maintenance of all records and handling of all time-consuming personnel matters by the Central Office, thus relieving the local offices of much burdensome paper work; the classification of all employees by skill and training areas (the equivalent to a talent bank), allowing a more efficient use and allocation of each person throughout the organization and, finally, a rational system for the creation of new job positions which requires local offices a justification in terms of cost-benefit analysis.

The high quality of INVIERNO's personnel has been further

complemented with a series of training programs. Training takes place both as a preservice and an inservice requirement. It is intended to strengthen the employee's technical skills, to increase the understanding of INVIERNO's philosophy and objectives to improve administrative performance and to broaden the employees' abilities to interact with and motivate the potential and actual beneficiaries.

During 1976 INVIERNO organized 14 training courses, with a participation of 473 persons from all levels of the organization and 104 community leaders. During 1977, 31 courses were organized, with the participation of 332 INVIERNO employees, 27 officers from other institutions and 579 community leaders.[89]

C. PLANNING

Planning has been given a high priority throughout the institution, and a great deal of effort has been devoted towards achieving a clear definition of INVIERNO's philosophy, objectives, and approaches. This planning function takes place at all levels of INVIERNO, primarily through planning meetings and planning records as well as through a once a year overall planning exercise with community participation.

Department and Division heads keep track of project objetives and individual program objectives through the use of individual standardized planning sheets. Each Department sends in a narrative description each month to the Department of Programming and Control. There has been an increasing use of PERT charting. Similar individualized planning records are maintained at the Regional Office and CEDE levels.

Along with the planning and progress records, the key to planning has rested on a series of closely synchronized meetings at the Central Office, Regional Office and CEDE levels. Every other Monday, the Central Executive Committee meets in Managua, both as a decision making group and as a planning body where short and long term strategies are discussed and agreed upon. This Committee consists of INVIERNO's General Manager, two Vice-managers, Department and Program Directors, Regional Manager and CEDE Managers. In turn, the regional staff meets with the Regional Manager to learn about the results of the Managua meetings at each CEDE. These synchronized meetings have been devices both for planning and for a flow of information for planning and operations from the top down and the bottom up.

Given the need for INVIERNO to accomplish many complex objectives rapidly, during the first two years the setting of broad plans for the institution has been tightly centralized. During 1978, however, yearly plans and budgets have been initiated at the CEDE and regional levels and, starting in June of this year, active community participation is expected in the planning function. The institution

has recognized the need for a two-way planning mechanism in an attempt to integrate plans elaborated at the botton within the general framework defined by the higher officials.[90]

According to the corresponding manual, the management of the institution defines the policies and frame of reference for the various services to be provided. On the basis of these policies each CEDE must elaborate its annual plan, according to the following steps:

1. Each working team must elaborate its own annual plan, under the responsibility and coordination of the technical assistance supervisor. In this respect, they must elaborate a plan corresponding to each locality served by the team. These plans at the locality level must be discussed by the team members, and a consensus must be reached. Then, the multidisciplinary team must consolidate all these plans.

2. The plans elaborated by the teams must be discussed by the CEDE manager and the technical assistance supervisors, who must proceed to consolidate them at the CEDE level.

3. This plan (known as the first version) will be revised and adjusted on the basis of the annual plans prepared by each locality in order to arrive at a second version or definitive plan.

4. The preparation of the second version starts with a diagnosis of each locality's problems and opportunities. At a meeting of all the members of the locality, these are induced to express individual goals, and then the locality must prepare their annual plan with the aid of the team, using as frame of reference the first version elaborated by the CEDE.

5. On the basis of the plans for each locality, the team will discuss once again the possibilities for action and will elaborate a second version. All locality plans are then consolidated into a final plan for the CEDE, and the Regional Manager and the CEDE managers will contribute to the consolidation at the regional and national level, with the help from the Central Office.

6. At least once a month, the members of each locality and the corresponding team will evaluate the progress made towards the plan goals and will adjust this accordingly.

In order to integrate all the different activities and programs, internal and external coordination has received much attention. Internally INVIERNO coordinates its activities through the Executive Com

mittee, by monthly reports and with the assignment of coordinating functions to specific units. The executive Committee is a prime example of the nature of INVIERNO's internal coordination. Rather than consisting of a series of isolated divisions and departments, with their corresponding heads, the institution operates as a team even at the highest managerial levels. This team shares results, formulates plans and closely coordinates its activities. The result of this interaction is the formation of a solid sprit de corps.

External coordination efforts are used to extend INVIERNO's relationships with outside institutions. As indicated, in attempting to provide comprehensive services to the rural population, INVIERNO has considerable interaction with outside public agencies. In some cases, these relationships are formalized in written agreements to provide specific services while in other cases the relationship is simply one of coordination. The group ultimately responsible for this outside coordination is the National Council of Rural Agricultural Development, a public agricultural committee of which INVIERNO is a member.

INVIERNO is also critically aware of the importance of evaluation. Therefore, several elements have been built that will permit internal and external evaluations. In the institution's overall plan certain quantifiable goals have been established which have become benchmarks against which actual results can be measured. This has been accomplished in the most recent internal evaluation, the depth and quality of which is a reflection of the importance accorded to these activities and of the competence of INVIERNO's personnel.[91] As a personal initiative of INVIERNO's General Manager, a team of five high officials (Vecemanager of Operations, Director of the Department of Programming and Control, Director of the Program of Agricultural Production, Assistant Director of the Department of Municipal Development and Regional Manager) was organized in August 1977, on a fulltime basis (i.e. leaving their regular positions) in order to evaluate the progress made in the different programs and to identify problems which could limit future expansion.

In order to evaluate the impact of INVIERNO's programs this team personally interviewed a sample of the institution's beneficiaries and a sample of the institution's employees. It also examined all the information available about program results as well as the original plans and the procedures designed. Their final report includes a series of crucial recommendations about the future course of the institution, several of which are considered at various places in the present study. Particularly interesting is their analysis about the degree of achievement of various of the quantifiable goals (e.g. number of participants, the average amount of loans, number of beneficiaries per unit of resource, average cost per loan, the area that a CEDE can adequately serve, etc.). They found that progress in terms of numbers of beneficiaries had been satisfactory and in

accordance with the original targets. On the other hand, the average size of loan disbursed and the area financed per beneficiary had been much below the stated targets. The team, however, had sufficient flexibility to understand that these results are not due to operating deficiencies, necessarily, but rather reflect original programming errors, as feasible results in this respect were overestimated due to lack of detailed knowledge about the situation in the field.[92] The correct recommendation, therefore, has been to readjust the parameters employed in the definition of targets and to evaluate the impact of these new, more realistic levels of operation on the future behavior of costs.

In order to establish a functioning organization, since its creation INVIERNO has designed and implemented numerous manuals, procedures, practices and systems. As of the end of 1977 the institution had issued over 130 manuals, clearly describing INVIERNO's procedures and operations at the national, regional and CEDE levels.

Development Associates has considered this as "a very creative process by a dynamic institution which, because of its status as an autonomous agency, had the flexibility for innovation. However, the same manuals, procedures, practices and systems could become in time limiting bureaucratic constraints rather than enabling documents. INVIERNO is aware of this danger and is trying to build means for encouraging creativity."[93] In effect, to ensure that the manuals, procedures and practices, once created to enable exciting things to happen do not degenerate into rigid operating obstacles, INVIERNO has been reviewing them on a periodic basis, to make certain that they serve the organizational needs at each point in time. The management style and philosophy which permeates the institution encourages constructive criticism. This is particularly true in the case of the executive Committee.

Another debureacratization technique is the six-month personnel evaluations, at which time employees receive feedback from their supervisors on performance strengths and weaknesses. Employees who have performed well are so informed and are rewarded by salary and/or responsibility increases. The institution, in general, is open both to internal and external feedback.

Accounting also is a creative process at INVIERNO. The best aspects of traditional accounting practices have been blended with new accounting procedures specifically developed by the institution. Therefore, periodic reports are prepared with the standard accounting data, while other information for efficient management is also periodically reported. The electronic processing of data makes this more ample use of accounting for managerial purposes possible.

Three examples of INVIERNO's innovative accounting are (i) cost allocation by banking and non-banking programs, (ii) monthly operating statements, and (iii) the use of depreciation. The first innovation,

already discussed, responds to the policy of making the credit program self-sustaining. The second feature reflects the fact that many of the INVIERNO staff come from the private sector and have brought with them a concept of profit accounting which they are attempting to blend with public funds accounting. Each month, therefore, INVIERNO produces a profit and loss statement.[94] In as much as INVIERNO is a program on wheels, that requires a large amount of mobile equipment that wears out over a rather short period, the institution has built the depreciation concept into its accounting system. By doing this, it is actually setting aside a financial reserve for the replacement of this equipment. This concept of depreciation, typically employed in the private sector, is not found in the public sector institutions of Nicaragua.

In summary, INVIERNO seems to have built into its organizational structure certain elements of good management which appear to facilitate the achievement of its objectives.[95] First of all, the executive Committee seems to have helped launch and keep together many of the program components. This Committee allows for group decision making and feedback as well as the integration of the activities of technicians and administrators. A second key element has been the attention given to quality control. This is extremely important in a new organization that has to face the provision of many services very rapidly after its creation. In INVIERNO there are three structural quality control points: the Director of Programming and Control coordinates and monitors administrative matters at the central level; the Vice-manager of Operations coordinates and controls programmatic matters at the central level; and the Internal Auditor audits administrative and programmatic matters.

D. AGRICULTURAL CREDIT IN NICARAGUA

Nicaragua's overall credit system is composed of the Central Bank, the National Bank of Nicaragua, the National Development Institute (INDONAC), the Bank of Popular Credit, the Nicaraguan Housing Bank (BAVINIC) and private commercial banks, cooperatives, savings and loan associations and businesses. The dominant lending institution in the country has been the National Bank of Nicaragua which has been supplying between 45 and 70 percent of all the institutional credit in the country for the past ten years. However, this Bank appears to be playing a relatively smaller role each year as the rest of the system expands. Until very recently, the National Bank of Nicaragua has also been the main provider of medium and long-term loans outstanding in the country. This participation has dropped to about 65 percent, due to the efforts of private banks to grant long term loans for the reconstruction of Managua after the 1972 earthquake.[96]

As in other countries, before the creation of INVIERNO and the simultaneous restructuring of the Ministry of Agriculture and other

agencies of the Public Agricultural Sector, credit had been the main instrument of public policy for this sector. For over twenty years, agriculture captured a high but variable share of total bank credit, averaging about 50 percent.[97] The National Bank of Nicaragua has also dominated the agricultural credit figures. Its relative participation, however, had gradually declined even before the creation of INVIERNO, from 72 percent during 1969 to 56 percent during 1973.

TABLE 11

NICARAGUA: RELATIVE IMPORTANCE OF THE NATIONAL BANK OF NICARAGUA, 1976.

	NATIONAL BANK OF NICARAGUA		REST OF THE BANKING SYSTEM	
	Amounts*	%	Amounts	%
Total amounts autstanding	1,215.8	43.3	1,593.7	56.7
Short-term loans	506.1	29.3	1.219.8	70.7
Medium and Long-term loans	709.7	65.5	373.9	34.5
Agriculture (Crops)	419.8	57.9	305.8	42.1
Livestock	219.2	53.2	192.6	46.8
Rural Credit**	147.2	100.0	---	---
Commercial	90.9	19.0	386.3	81.0
Industrial	285.5	28.7	709.0	71.3
Small Enterprise	53.2	100.0	---	--

Source: Banco Nacional de Nicaragua, Informe Anual, 1976. Managua, March, 1977. pp. 7-9

* Amounts in thousands of cordobas

** INVIERNO has not been considered

As indicated in Table 11, by 1976 the National Bank of Nicaragua was granting 57.9 percent of all loans to agriculture and 53.2 per - cent of loans to livestock as well as C$ 147 million for rural credit (small farmers). The figures do not take into account INVIERNO's portfolio. Before the creation of INVIERNO, the main, and almost only, institutional source of credit for small farmers in Nicaragua was the National Banck of Nicaragua.[98] Even so, at the time, less than 18 percent of this Bank's portfolio went to small farmers (those owning less than 50 manzanas of land). During 1976, this proportion had declined to 12 percent. The creation of INVIERNO was not meant

to replace this limited but important source of credit, but rather to complement the regular activities of the National Bank of Nicaragua in the two regions where INVIERNO operates. However, some very important problems of coordination are still unsolved in this connection.

Both INVIERNO and the National Bank of Nicaragua are institutions of this country's Public Agricultural Sector. However, no clear division of labor or formal basic mechanism of coordination were originally established.[99] As already indicated, INVIERNO has concentrated its efforts in only two regions (II and V), while the National Bank of Nicaragua continues to serve the whole country. Also, since INVIERNO has attempted to reach localities and not individuals and since it has attempted to maximize the number of beneficiaries at each locality in order to reduce its costs, in its initial efforts INVIERNO did not distinguish among the members of a locality on the basis of their previous contact with the National Bank of Nicaragua. As a result, during the first planting season, about 14 percent of INVIERNO's borrowers had already been clients of the Bank. Some had come to INVIERNO because of their bad record with the Bank (over 30 percent of the Bank's portfolio was overdue), while others who still had access to the Bank preferred the more integrated services promised by INVIERNO.[100] When INVIERNO's interest rate was increased from 13 to 18 percent per annum during the postrera of 1976 and as the institution increased its efforts to reject too large farmers, the extent of the overlapping decreased.

More recently, INVIERNO and the National Bank of Nicaragua have had several contacts, particularly at the local level. Client lists have been exchanged, and information about credit-worthiness has been shared. However, the question of graduation, in the sense of passing on to the National Bank of Nicaragua the most prosperous of INVIERNO's beneficiaries, has not yet been finalized. On the contrary, INVIERNO's hope has been to organize community groups which will eventually undertake some of the services provided by the institution but which will remain linked to INVIERNO, at least as a provider of professional managerial services. The institution plans to leave these decisions to the communities themselves. In the particular case of credit, INVIERNO hopes to provide cheap administrative services like the recording of loan amounts, while it would leave to the community such field activities as disbursement and collection as well as the decision about loan applications. In any case, the question of graduation has not been among INVIERNO's goals. Rather, the institution's objective has been to make individuals and communities less dependent on outside help and graduation would be justified only in this light.[101]

E. LOAN PROCEDURES: CENSUS

INVIERNO's agricultural credit program has been an attempt to address the problem of making credit available, in small amounts, to

a fairly large number of small farmers, at reasonable costs and adjusted to their needs. In this connection INVIERNO has adopted several innovative concepts and procedures which, if successfully implemented, would be particularly relevant for other small farmer credit programs in LICs.

The identification of INVIERNO's potential beneficiaries has been achieved by means of a "census" performed by the AGROMOCs in each one of the localities to be served. In effect, each locality is canvassed completely to explain the credit program to all the farmers living in the area and to ascertain their needs and their desire for obtaining credit. This first step is a reflection of INVIERNO's philosophy of bringing the public sector services to the doorstep of every potential beneficiary.

This objective of INVIERNO of providing all of its services at the small farmer's location certainly increases the institution's costs, but it does not neccessarily increase the social costs associated with the provision of these services. It has been found that the costs for small farmers of requesting credit from public agencies are usually very high.[102] The summation of all of these individual costs of borrowing is very likely to be greater than INVIERNO's costs of reaching them, given the economies of scale and other size and administrative efficiencies achieved by the institution. Therefore, from a social point of view INVIERNO's strategy is justified. If, in addition, a decline in administrative costs per cordoba loaned depends on reaching these farmers on a massive scale, the strategy is also justified from the "private" point of view of INVIERNO. Moreover, the institution has been attempting to be self-sufficient in connection with its banking program and the rate of interest charged hopefully will eventually cover most of these costs.

If, during this census, a farmer declares his wish to get a loan from INVIERNO, a census form appropriate for electronic processing called boleta is filled out, identifying the farmer and describing the essential characteristics of his family, farm and productive opportunities. An application for a loan for a specific purpose is filled out at the same time, reflecting the interaction between the farmer and the AGROMOC in connection with the farmer's possibilities and desires.[103] All this basic information is later used in the evaluation of the loan application. The two-page long boleta does not seem too difficult to fill and most of the questions asked seem relevant for the identification of the farmer and of his productive activities and necessary in terms of the decision about the size of loan. In effect, there have been several changes in this boleta in order to obtain the information which is necessary to evaluate creditworthiness, to determine the technical recommendation of inputs to be financed and at the same time to minimize the time and effort involved in filling it out. In this respect INVIERNO has shown a flexible attitude without unnecessarily disrupting the

existing mechanisms.

The recent internal evaluation of INVIERNO requested a sample of beneficiaries to indicate their level of satisfaction with the cen - sus.[104] This mechanism received fairly high grades at all the CEDEs. Therefore, it appears that the socios are highly satisfied with the census and with the possibility of being able to apply for credit at their own localities. However, such level of satisfaction was not present with respect to the timing of the notification of the loan approval and of the disbursement of the loan funds. The same sample of beneficiaries reflected a low image in this respect.[105] These de lays can certainly reduce the farmer's productivity or even cause a change in his production decisions, as the farmer cannot obtain the required inputs at the appropriate time. In many cases this, in turn, will induce the farmer not to disburse all of the already autho rized loan.

The internal evaluation team suggested that, in order to avoid these delays, the census be performed with greater anticipation.This recommendation assumed that the time spent in the process of elec - tronic handling of the loan applications is fairly given and cannot be significantly reduced. Although the suggested solution seems simple, it may add other problems. The more removed the process of application is from the moment when the funds will be used, the more likely will be the changes of opinion about the amount of credit desired and about its possible uses. In addition, the farmers are concerned not only about the rapidity of the approval procedures but also about their reliability. To remove the date of the census fur- ther away from the planting period may increase these uncertainties. All this may result in the farmers not disbursing all the amounts authorized, a phenomenon already causing INVIERNO some administrative problems and cost increases.[106]

The loan applications collected during the census period are checked at the CEDE and them submitted to the Central Office in Managua where they are key-punched and the information collected in a data bank in the computer. This information is analyzed elec- tronically and if the loan is approved, the amount of the loan is calculated and a loan contract, notification letter and a budget are printed -all electronically - showing the dates of anticipated withdrawals of funds and the amounts to be financed for each of the various types of inputs.

This procedure has significantly reduced INVIERNO's administra- tive costs per cordoba loaned for various reasons. In the first place, there has not been enough white collar personnel available at the CEDE level or in the surrounding areas to undertake the man- ual processing of loan authorizations at this level. Even in the case that INVIERNO would have been able to design a system of incen- tives in order to mobilize these administrative officers to the coun-

tryside, a very costly training process would have been necessary in order to enable these persons to handle thousands of loan applications according to INVIERNO's innovative concepts. This would have meant a significant change in the nature of INVIERNO's training programs, directed at present at the MOC and technological aspects of the institution's programs. Moreover, since all loan applications arrive at the same time at be beginning of each planting season, INVIERNO would have required an excess white-collar staff capacity, in order to process these loan applications with sufficient rapidity at peak times. The present mechanism, on the other hand, releases manpower at the CEDE level for field activities, while versatile technicians can undertake some of the administrative tasks at peak time if necessary.

F. LOAN PROCEDURES: SELECTION CRITERIA

INVIERNO's credit beneficiaries are selected by means of a two-stage computer program. In the first stage the loan application is subjected to a comparative analysis in order to ascertain if the loan applicant fulfills the ten basic prerequisites to become a socio. If he does not fulfill any one of these prerequisites, the application is automatically rejected. During the second stage, those applications which have not been automatically rejected are graded according to a point system. Build into INVIERNO's computer program is a weighting scale which assigns points to key criteria in the loan application. The application receives either a passing grade -if the total points exceed a present minimum - or a failing grade - if they do not.

In order to become a socio, the applicant must be a farmer, that is, someone who cultivates a piece of land as his main occupation. He must have access to land as an owner or, if it is rented, granted free of charge or with a sale promise.[107] He must live in one of the localities previously selected by INVIERNO in any one of the two regions where the institution has concentrated its operations. These localities must have all-weather access roads. The locality must have a minimum of 20 families and a maximum of 300 families, but it could be smaller if it is located along a road on the way to another community already served. Absence of any one of these prerequisites leads to the automatic rejection of the loan application.

Up to this time, an applicant has also been automatically rejected if he has lived for less than two years in that locality and does not own land or possess a sale promise; if he does not want to become INVIERNO's socio; if the area for which financing is requested is larger than the amount of land available to the applicant; if the total amount of land available to him exceeds 99 manzanas; if he is under 18 years or if he is over 60 years old, provided in this case that he has not been a socio before; if INVIERNO does not finance any of the activities for which the loan has been requested; if the farmer cultivates less than 15 manzanas of owned land and has requested a loan for more than

C$ 20,000; if the amount requested is more than the line of credit previously authorized; and if the reference from the advisory group (grupo de consulta), the neighbor or the AGROMOC is negative.

Supposedly, these various prerequisites help to select potential beneficiaries which more closely reflect the characteristics of INVIERNO's target population. In any case, it is obvious that these requirements do not prevent the access of small farmers to the institution's credit window. More significantly, such access is independent ot the farmer's land tenure status. In effect, as indicated, the majority of the beneficiaries so selected have been fairly small cultivators.

Nevertheless, as with any other list of requirements selected a priori, experience has demostrated that some of the criteria chosen are redundant or do not really show any correlation with credit-worthiness or with the basic features of INVIERNO's target group. The recent internal evaluation has recommended several modifications of this list of reasons for automatic rejection. In the first place, as already discussed, the team suggested that the condition for rejection related to the availability of land be complemented with a limit of 30 manzanas of cultivated land. Undoubtedly, a reduction of the maximum farm size limit is a desirable movement. However, INVIERNO could possibly further reduce it without altering the nature of its clientele or of its operations.

The team has also recommended that, in the case of applicants who do not own land, the requirement that they must have lived in the locality for more than two years be dropped. They argue that "at present INVIERNO's staff has a better knowledge of the localities where they work, and the beneficiaries themselves contribute to the selection of the best possible candidates, with their references. In addition, it is hoped that the community boards (juntas communitarias) will work better than the advisory groups as a source of references."[108] However, in other countries "roving" tenants are known as very high risks, since they tend to disappear. The two year requirement, therefore, might help to sort them out.

On the other hand, the recommendation from a neighbor has not been adequately used and the evaluation team suggested that it be dropped, particularly because it unnecessarily introduces personal biases in the process. The references from the community board, the advisory group or the AGROMOC seem sufficient. INVIERNO's general policy is to eventually substitute the community boards for the advisory groups and to get them involved in collecting.

If the applicant is not automatically rejected, during a second stage of the computer program the farmer's application is graded on the basis of a point system, according to the following table:

1.	If the farmer has lived for at least five years in the locality;	5 points
2.	If the farmer has lived between three and five years in the locality;	2 points
3.	It the AGROMOC's reference is good;	1 point
4.	If the AGROMOC's reference is bad;	-2 points
5.	If the farmer owns two or more manzanas of land;	3 points
6.	If the farmer owns less than two manzanas of land;	1 point
7.	If the farmer has owned land for more than two years;	3 points
8.	If the farmer has two or more manzanas of land with a sale promise;	2 points
9.	If the farmer has had a sale promise for three years or more;	3 points
10.	If the farmer has occupied land -not his own - for three years or more	1 point

This table emphasizes residence and ownership of land. The number of years lived in a locality indicate stability, while ownership of land indicates the existence of a potential security for the loan. As in the previous case, however, the field experience has suggested some possible changes in this table.

The internal evaluation team attempted to judge the effectiveness of the point table by correlating willful and justified delinquency, for a sample of 60 socios, with the parameters considered in the point system. The statistical analysis seemed not to reveal any significant correlation. However, not only may it be too early for such a test, but unfortunately the data presented by the team and reproduced in Table 12 do not permit an adequate evaluation of the possible relationship between lack of repayment and the parameters considered. It would have been more useful to compare the proportion of all socios in a given category with the proportion of delinquent socios in the same category. However, the figures seem to suggest that willful delinquency is greater for farmers who are not owners and for farmers with less than seven points. The team concluded, on the other hand, that time of residence and farm size have not been significantly correlated with willful delinquency. As a consequence, the team suggested the new

TABLE 12

INVIERNO: DISTRIBUTION OF A SAMPLE OF SOCIOS WITHOUT REPAYMENT.

(Percentages)

POINT PARAMETERS	DELINQUENCY: JUSTIFIED	WILLFUL	TOTAL
1. Time of residence in a locality:			
-four years of less	-	-	-
- over four years	100.0	100.0	100.0
2. Land Tenure:			
-owns land	61.2	38.1	54.3
- other forms of tenure	38.3	61.9	45.7
3. Farm Size:			
- five manzanas or less	50.0	55.5	51.7
- 5.1 to 10 manzanas	21.4	16.7	20.0
- 10.1 to 20 manzanas	14.3	16.7	15.0
- 20.1 to 50 manzanas	11.9	11.0	11.7
- 50.1 to 99 manzanas	2.4	----	1.6
4. Point grade:			
-six to seven points	28.6	50.0	35.0
-over seven points	71.4	50.0	65.0

Source: Instituto de Bienestar Campesino. INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino. Cit. p. 67.

table:

1.	If the farmer has lived for at least four years in the locality:	3 points
2.	If the farmer has lived between one and three years in the locality;	2 points
3.	If the farmer owns two or more manzanas of land;	3 points
4.	If the farmer owns less than two manzanas of land;	2 points
5.	If the farmer has a land sale promise for two or more manzanas;	2 points
6.	If the farmer has occupied his land - not his own - for more than three years;	1 point
7.	If the farmer belongs to a local organi - zation;	2 points
8.	If the farmer has a cosigner who is also an INVIERNO socio;	3 points
9.	If the applicant has been a farmer for three or more years	1 point

The relative importance of residence has declined, which seems reasonable since according to the previous table, if the farmer had lived for at least five years in the locality, his acceptance was assured (five points for this fact plus one point for a good reference from the AGROMOC added up to the minimum of six points required).

Initially INVIERNO had little idea about what would be appropriate weights for each parameter. During the first planting period the institution set a fairly restrictive point minimum for acceptance. Once the applications corresponding to the first census were processed, only a small number of farmers, much below INVIERNO's targets, had been accepted. Therefore, a simulation process with the computer was undertaken in order to determine a more realistic table as well as a point minimum which would lead to the acceptance of a new reasonable number of potential beneficiaries. Before the new table recommended by the internal evaluation team is implemented, INVIERNO

would have to subject it to a similar simulation process and it would have to determine a new point minimum. This is one clear example of the advantageous use of the computer, since it is obvious that such simulations and sensitivity analyses could not be done without it.

G. LOAN PROCEDURES: LINE OF CREDIT

If a farmer's first application is accepted he is granted a five year line of credit. The amount of this line of credit depends on the acreage controlled by the farmer and on the amount of credit initially requested. This line of credit is then drawn by applications for funds for specific purposes during any of the subsequent planting periods. Each particular request must be approved by INVIERNO, according to the procedure described above.

This line of credit guarantees the socio that he will have access to credit in the amounts he can reasonably use, irrespective of the success of his agricultural activities, as long as the causes for his inability to repay are "justified" (out of his control) and as long as he follows the advice of the AGROMOC and adheres to other socio obligations. This concept of the line of credit contributes to a reduction of the farmer's uncertainty about the performance characteristics of the credit program, a feature emphasized during the AID Spring Review.[109] The line of credit approach also helps to reduce administrative costs, both for the borrower and for INVIERNO, to the extent that the legal and similar expenses associated with yearly contracts are avoided and because the institution can maintain a single balance for each socio instead of keeping one balance for each credit operation into which the borrower enters, as is usually the case in other credit institutions.[110] In addition, the borrower is not required to make several different installment payments, corresponding to each one of his operations, but a single payment at the end of each cropping period.

INVIERNO has had some problems in its attempt to implement this concept. In the first place, socios had been asked to sign nine-month contracts. This had been due to legal problems associated with INVIERNO's creation law and to the fact that the higher interest rate now charged could not be charged initially. INVIERNO, therefore, signed short-term contracts so that the interest rate could be eventually increased. These problems appear to have been solved already.

Some of the other advantages of the line of credit have not been completely obtained. For example, it was expected that once the line of credit was approved there would be no delays and other obstacles in obtaining the funds. However, such has not been the case. As already mentioned, there have been important delays in the notification of the approval of a loan and in the disbursement of the funds.

This problem has been particularly acute when a socio is not present during the corresponding census but desires a loan for the planting season. That is, the line of credit concept in practice has not had all the flexibility of a credit card which it so much resembles. Unfortunately, the computerized system lacks the flexibility required to solve this problem, while the manual processing of loan applications at the CEDE level would require additional white-collar personnel with the corresponding increase in average administrative costs.

At present, INVIERNO is experimenting with a compromise solution suggested by the internal evaluation team which involves the use of the computer for the massive handling of loan applications at the beginning of each planting period, complemented by manual autorizations at the CEDE level in the case of qualified borrowers who are already socios.[111] This procedure is available to socios who already have a line of credit approved and who for some reason could not complete the census boleta in time. The person in charge of filling out the application must check the same questions as the computer program and use the same rejection criteria. Then, on the basis of the technology recommended, he proceeds to approve the amount requested, elaborating the corresponding activity budget. These applications must be sent to the Vice-Manager of Operations for his final approval. Although this manual procedure introduces an element of flexibility into the system which seems appropriate, it also imposes additional control burdens on the system, and there is a danger, which INVIERNO will hopefully avoid, of a tendency for more and more applications to be processed at the CEDE level as time goes by, with the corresponding increase in INVIERNO's costs.

H. LOAN PROCEDURES: DISBURSEMENT

INVIERNO's strategy has been to disburse the loans and deliver the corresponding inputs at the locality where the farmer lives. INVIERNO's beneficiaries have indicated a high degree of satisfaction with this system which significantly reduces the costs of borrowing. However, there is a danger that the institution's cost will be too high if the concept of mass delivery is not maintained.

In order to reduce administrative costs, INVIERNO has tried to apply minimum number of socios-per-locality ratios. INVIERNO's system has been to serve only localities with at least 20 families within a five kilometer radius. Within this area, the minimum number of socios to be served has been established at 10. These communities are usually located on a road to a larger locality where a larger number of socios are served. It is observed that 9.3 percent of the localities of this type served have less than 10 socios.

In practice, a more important problem has been the tendency of

TABLE 13

INVIERNO: DISTRIBUTION OF THE LOCALITIES REACHED DURING THE PRIMERA OF 1977, ACCORDING TO THE NUMBER OF SOCIOS.

NUMBER OF SOCIOS PER LOCALITY	REGION V Number	%	REGION II Number	%	INVIERNO Number	%
Between 1 and 5	9	4.1	6	9.7	15	5.4
Between 6 and 10	9	4.1	2	3.2	11	3.9
Between 11 and 20	45	20.7	26	42.0	71	25.4
Between 21 and 30	56	25.8	18	29.0	74	26.5
Over 30	98	45.3	10	16.1	108	38.8
TOTAL	217	100.0	62	100.0	279	100.0

Source: Instituto de Bienestar Campesino, INVIERNO; Informe de Evaluacion del Instituto de Bienestar Campesino, Cit. p. 59.

teams to visit localities more than once either for the census or for disbursement. During the primera of 1977, a second visit was paid to 15 percent of the localities. This problem was particularly acute in Region II, where 70.6 percent and 62.7 percent of the localities received a second and a third visit, respectively. The number of socios reached declined drastically from an average of 17.1 socios per locality, during the first visit, to an average of 8.6 and of 3.0 during the second and the third visits, respectively. As a result, the average number of socios reached by INVIERNO in total was 14 per visit to a locality. It seems reasonable to pay a second visit to a locality when its number of socios is so high that they cannot all be reached in a single day. This was the case, however, only with respect to 13 localities, representing five percent of the total. The most frequent reason for the second and third visits was that the inputs were not available for delivery during the previous visits. This reflects an operating failure of the institution, possibly due to lack of adequate planning of the amount required at each CEDE.[112] Other reasons reported were that the socios did not attend the first meeting or that they had not been able to secure access to land yet. It seems reasonable to request potential borrowers who cannot be present during the disbursement at their own locality to come to the CEDE office for their cash and inputs. This system is too costly to operate it in a casuistic fashion.

When a loan has been approved, INVIERNO delivers the cash to the farmer, usually in two or three installments, and at the same time it sells the inputs which the farmer can buy if he so desires. Approximately two weeks after the application forms with the census information have been sent to Managua for the electronic processing, each CEDE receives the notification of approval or rejection of

each application and a computer list of the amounts of inputs recommended and the corresponding values to be disbursed, according to the corresponding crop budgets, for each individual socio.

The computer possesses in its memory information about the amounts required by each crop as well as about disbursing dates and expected repayment. On the basis of these data the computer prepares a list of the socios for whom loans have been approved, indicating a plan of activities and authorized amounts for each one.[113] In addition to these lists, the CEDE receives printouts with a notification for the socio of the approval and a line of credit contract for each new socio. Also, a list of non-accepted applicants with an indication of the reasons for rejection is sent to each CEDE.[114]

All socios in a locality are gathered for disbursement on the same day. Each socio is first interviewed by the AGROMOC, who attempts to convince him about the full use of the recommended amounts of inputs. The borrowers, however, have usually disbursed much less than the maximum authorized amounts. Nevertheless, INVIERNO has designed a procedure to increase the amount authorized (up to one and one-half times) if the farmer requests so.[115] The AGROMOC then records the amounts actually disbursed and gives the socio a written authorization which the socio takes to the cashier in order to get the amount in cash. Once he has all the cash, the socio goes to the CREDOMERC and buys from him the authorized inputs, using a portion of the cash just received for that purpose.

The procedure described has the disadvantages that the CREDOMERC becomes a cashier when he receives cash in payment for the inputs purchased, that the socios may not understand why they have to receive cash if they must return it immediately and, in particular, that this mode of operation significantly increases the amount of cash that has to be taken to the locality by the team. An alternative would be to deliver inputs in kind and the rest in cash. About 61 percent of the socios interviewed by the internal evaluation team accepted this change as desirable. A potential disadvantage of this new procedure could be, however, a tendency to force socios to receive the physical inputs from INVIERNO, irrespective of quality, thus reducing the flexibility and standards of the program.

Table 14 compares the amounts of credit authorized by INVIERNO on the basis of the census information and the recommended crop budgets and the amounts actually disbursed by the socios. Between 48.0 and 69.9 percent of the total amounts authorized have not been disbursed. On the one hand, a certain proportion of the socios approved (ranging between 15.7 and 43.0 percent) have not disbursed at all, while on the other hand those who have used the funds have disbursed only about one-half of the amounts authorized (ranging between 38.3 and 59.6 percent of those amounts), as shown in Table 15. Moreover, the proportions of the number and of the amounts

TABLE 14

INVIERNO: AMOUNTS OF CREDIT AUTHORIZED AND DISBURSED

PLANTING SEASON	AMOUNTS* AUTHORIZED	AMOUNTS DISBURSED	DISBURSED AS A % OF AUTHORIZED
1976			
Primera	8,163.4	4,247.2	52.0
Postrera	9,345.5	3,397.8	36.4
Apante	1,894.3	870.7	46.0
TOTAL	19,403.2	8,515.7	44.0
1977			
Primera	23,158.6	7,022.6	30.3
Region V	17,965.4	5,411.0	30.1
Region II	5,193.2	1,611.6	31.0

Source: Instituto de Bienestar Campesino, INVIERNO, Informe de Evaluación del Instituto de Bienestar Campesino, Cit. p. 92

* Amounts in thousands of cordobas.

disbursed as compared to those authorized have been declining through time.

INVIERNO does not have a complete explanation for these discrepancies. The internal evaluation team claimed that the reason has not been that the amounts implicit in the recommended crop budgets are too high, since "these reflect all cost situations observed in the field."[116]

The survey among socios conducted by the internal evaluation team revealed as main reasons for not disbursing a fear to get into debt (54 percent), lack of the expected access to land (33 percent), fear of the drought (13 percent) and non-acceptance of INVIERNO's terms (13 percent). Similarly, the main reasons for not disbursing the whole amount were fear to get into debt (54 percent), self-financing (33 percent), and a fear of the drought (8 percent).[117] One of the problems has been that the farmers who rent land need to formalize their situation about two to three months before the planting season. At this point they did not know if they were going to get a loan or not. INVIERNO is planning to make an anticipated

TABLE 15

INVIERNO: NUMBER AND AVERAGE SIZE OF LOANS DISBURSED AND AUTHORIZED

PLANTING SEASON	NUMBER OF LOANS AUTHORIZED	DISBURSED	%	AVERAGE SIZE OF LOAN* AUTHORIZED	DISBURSED	%
1976						
Primera	2,882	2,430	84.3	2,832.0	1,748.0	61.7
Postrera	3,575	2,862	80.0	2,614.0	1,187.0	43.9
Apante	517	339	65.5	3,664.0	2,568.0	51.6
TOTAL	6,974	5,631	80.7	2,782.0	1,512,0	52.0
1977						
Primera	7,227	5,157	71.3	3.204.0	1,361.0	42.4
Region V	5,917	4,409	74.5	3,036.0	1,227.0	40.4
Region II	1,310	748	57.0	3,964.0	2,154.0	54.3

Source: Instituto de Bienestar Campesino, INVIERNO, Informe de Evaluación del Instituto de Bienestar Campesino, Cit. p. 92.

* Amounts in cordobas.

disbursement for this purpose at the appropriate time. This seems particularly important, since about one-half of INVIERNO's beneficiaries rent their land. There are other indications that the delay in notification and in disbursement are important explanations for this behavior. It is hoped that INVIERNO will further investigate the reasons for these differences between authorized and disbursed amounts.[118]

I. LOAN PROCEDURES: COLLECTION

The line of credit draw down by the socio must be repaid out of the crop proceeds. Interest is paid on the amount drawn down and on the unpaid balance after partial repayment. In theory, repayment becomes due whenever a farmer sells any crop financed with the line of credit. In practice, however, INVIERNO has had significant difficulties in computing repayment due, in organizing collection and in recuperating the funds loaned. As some observers have put it: "INVIERNO's first year of credit was characterized more by outreach effort than by rigorous enforcement of lending standards."[119]

According to the original design, repayment is a function of the farmer's capacity to pay. This capacity is to be measured by the concept of availability. Availability, in turn, is a function of gross income and would be computed as follows:

1. The farmer's gross income would be equal to the area financed times the estimated yield times the estimated price;

2. The estimated yield would be the average yield resulting from a sample of crop yields at the same technology level in the same locality;

3. Availability would then be equal to gross income reduced by 75 percent of the maintenance allowance calculated to the next crop sale.

If availability had been less than the estimated payment -equal to the total outstanding balance plus accrued interest in the case of seasonal production credit and plus the corresponding amortization quota in the case of investment credit - the actual payment required would have been equal to this availability. That is, the socio would have had to pay all he could afford at that moment. On the other hand, if availability had been greater than the estimated payment, the borrower would have had to pay the full estimated payment plus 30 percent of the difference between the availability and the expected payment. If the amount actually paid had exceeded the balance owed, the excess would have been placed in an interest-bearing savings account in the client's name, to be withdrawn at his own wishes. This system, however, was never implemented.

This original concept of variable repayment would have been one of INVIERNO's most interesting innovations, to the extent to which it intended to protect both the socio and INVIERNO against the risks inherent in the fluctuations of agricultural production and prices. That is, the use of the line of credit to carry the borrower during the bad years was supposed to be offset by accelerated repayment during the good years. In every case repayment would have been a function of crop proceeds.

Unfortunately, in practice, INVIERNO attempted to undertake too ambitious a set of computations in order to possess reasonable estimates of expected repayment at all times for the purposes of financial management. Therefore, at the beginning of the planting season INVIERNO expected to compute an "initial standard payment" on the basis of the yields and prices implied in the crop budgets used by the institution to calculate the amounts of credit to be authorized and on the basis of the area to be cultivated by the borrower, according to his application. A "final standard payment" was to be computed on the basis of the same yield and prices as the "initial standard payment," but the area cultivated was to be estimated through a divi

sion of the total amount of credit actually disbursed per crop by the standard financing per manzana according to INVIERNO. This assumes that the farmers follow the recommendations of the crop budgets. However, as indicated, they have been disbursing much less than recommended. On the other hand, the "last estimated payment" would have corresponded to the yields as estimated by the AGROMOC at the borrower's own plot, the last price as estimated by the Marketing Department and the final area calculated by the computer. Finally, the "theoretic payment" is the amount disbursed plus accrued interest plus the amortization quota in the case of investment credit.[120]

Each one of the various computations had a different purpose. The "initial standard payment," for example, would have been used to project expected recuperations and to predict output for various crops financed. The "final standard payment" would have allowed an adjustment of the previous predictions on the basis of the amounts actually disbursed. The "last estimated payment" is what the socio would have had to pay under normal circumstances. The difference between the "last estimated payment" - computed as described on the basis of availability -and the effective payment by the borrower would have been INVIERNO's definition of delay (mora). A higher interest rate would have been charged on the delayed outstanding balances.

In practice, it was not possible to obtain the yield estimates for each borrower required for the computation of the "last estimated payment". This was due both to the heterogeneity among farmers in the different zones served by INVIERNO in each one of the two regions and to the difficulties involved in organizing and performing the field surveys with the required anticipation, given the time limitations and priorities of the field personnel. As a result, the computer could not produce the necessary lists with the corresponding "last estimated payments" in time for collection. This was one of the factors determining a weak collection effort.

Another problem arises from the nature of the farmer's financial activities. The typical INVIERNO borrower is a basic grain producer who consumes about 30 percent of his own crop. This consumption at the farm tends to reduce the borrower's cash flow to levels at which repayment becomes difficult, unless funds are forthcoming from other farm activities not necessarily financed by the institution, like pigs, poultry, eggs, etc. or farm wages earned by the family members outside their own farm. If this is indeed the case, then INVIERNO should make efforts to strengthen the family's ability to make these extra cash earnings. This implies that INVIERNO, which is attempting to implement an integrated package of services, should be looking even more at the total needs and opportunities of the family enterprise and not only at the activities related to the crops directly financed by the institution. In particular,

INVIERNO's technical assistance should stress the best methods for managing the socio's farm as a unit. The detailed survey now being conducted among a sample of socios, on a regular basis, could provide much relevant information about expenditure, consumption, production, income, cash flow management and reserve management patterns.[121]

Another problem connected with repayment has been that INVIERNO has not informed the socios about the expected date of repayment. John Heard's team believed that: "on occasion the complexity of INVIERNO's repayment formula has taxed the socio's ability to comprehend. This is only a problem , of course, if it affects the viability of the program. In one of the communities visited near Matiguas, all of the socios had their repayments postponed, and as a result none of them paid off any of their outstanding balances. Though climatic conditions had certainly warranted concession in the repayment schedule, the team was concerned that, as a first experience with credit, the local group might come away with an erroneous impression concerning the seriousness of their repayment responsibility in general. During questioning, the Matiguas group reinforced this impression by expressing that the future was an unknown quantity and that they were simply grateful to be affiliated with any campesino organization giving credit."[122]

Each one of these ommisions is a reflection of a generalized disregard for collection, implicitly postponed in comparison with other of INVIERNO's activities, possibly because of the emphasis placed on other more agreeable and equally innovative of the institution's concepts and procedures. INVIERNO's management, however, is now fully aware of these deficiences, and it has started to operate a more systematic collection effort. It is too early to evaluate the final efficacy of the new attitude and methods, and the danger persists that the delicate concept of variable repayment, highly desirable, be misunderstood by the field personnel or not correctly implemented, leading the institution into financial difficulties.

The new strategy implies a different set of computations. Instead of the "last estimated payment" the computer will calculate a "minimum payment". This is the amount that the borrower is expected to repay under normal conditions of production. It includes the amounts of short-term credit disbursed, the corresponding amortization of investment credit, the corresponding quota in the case of restructured previous loans, the delayed balance, if any, and interest accrued. This "minimum payment" will be reported every three months.[123] The borrower will be expected to pay this amount during the six months following the corresponding report. If he does not, the balance will be considered delayed. This six month period seems sufficiently long for the farmer to obtain the necessary cash and allows him enough flexibility to market his product at the best possible time.[124]

On the other hand, if the borrowers have suffered considerable losses

in the activities financed by INVIERNO, due to causes outside their control, the institution will be willing to reduce the "minimum payment" required, in order to adjust it to the farmer's capacity to pay. Two situations, are possible:

1. If the crop of a given farmer suffers a complete destruction in all or in a portion of the cultivated area, and

2. If there is a generalized yield reduction in one or more localities, significantly reducing the income levels of the affected borrowers.

In the first situation, a consideration of individual cases is possible while the second one reflects a generalized situation. In these cases a "last estimated payment" will be computed. In the first case a ratio of the area with a total loss of the crop to the total area cultivated is used to proportionately reduce the amounts owed for production and maintenance credit, while other amounts due are not affected. In the second case the amounts due for production and maintenance are reduced in proportion to the decline in expected yields, the other balances left untouched. The amounts not repaid for these reasons are then restructured. The borrower is expected to repay the restructured balance by means of several amortization quotas during a period which depends on the total amount restructured, as follows [125].

1. If the amount restructured is less that C$ 2,000, the maximum period is 18 months;

2. If the amount restructured is between C$ 2,000 and C$7,000, the maximun period is 24 months; and

3. If the amount restructured is over C$ 7,000 the maximum period is 30 months.

Although these are defined as maximum terms, there is no operational mechanism for inducing a more rapid repayment of the amount restructured. In this case, the fact that the terms are longer in the case of larger amounts restructured introduces a bias in favor of larger borrowers which seems unnecessary.

The outstanding balance of INVIERNO's agricultural credit portfolio at the end of October of 1977 was C$ 14.7 millions, corresponding to 7,475 borrowers. At the same time, 2,183 socios were delayed in their payments for an amount of C$2.2 millions. That is, 29.2 percent of the number of borrowers were delayed in their payments, according to INVIERNO's own definition, which represented 14.9 percent of the total amount outstanding.[126] This amount not repaid corresponded to 27.2 percent of the total amount disbursed during the primera and the pos-

trera of 1976.

INVIERNO has classified delayed borrowers into four groups according to the degree of risk estimated. The first two groups include 483 borrowers who owed C$ 1,174.000, of which C$ 674,000 were current and C$ 500,000 were delayed. Those 483 borrowers had never made any payments, and so, having shown no wish to repay, it can be expected that their present current balance will also be defaulted. They represented 12.3 percent of the number of borrowers financed during the primera and the postrera of 1976, and their delayed balance represented 6.2 percent of the total amounts disbursed during those planting periods, while their total balance represented 14.6 percent of those amounts (which implies that their loans are larger than the average). Obviously this is a very high level of minimum risk and the institution could not remain self-sustaining in its banking program under these circumstances.

In addition, there were 201 borrowers owing C$ 209,000 whose total balance was delayed but who had made some payment at some point in time. That represented 2.6 percent of the total amounts disbursed. The likelihood of recuperation seems higher in this case, but obviously not all of the amount will be recovered, thus increasing the losses due to default. Finally, there is a group of 1,548 borrowers who owed C$ 4,732,000, of which C$ 3,273,000 were current and C$ 1,459,000 were delayed and who had also made some payments. It is expected that these borrowers will repay, provided that the results of their activities are favorable.

INVIERNO has not been able to find any correlation between the characteristics of different types of borrowers and lack of repayment. A sample survey has indicated that the most important reasons for not repaying have been the total loss of the crop (29 percent), low yields due to the drought (42 percent), lack of willingness to repay (8 percent), priority attention to other debts (7 percent), plagues (6 percent), the borrower has disappeared (5 percent), the borrower died (6 percent), INVIERNO did not request repayment and the borrower did not know how much and when to pay (9 percent), the socio did not plant the crops financed (5 percent).[127] INVIERNO hopes to further investigate these reasons and to evaluate the degree of riskiness associated with each possible cause of default. Finally, the institution expects that the use of community boards in selection of borrowers and collection will improve this record.[128]

J. LOAN TERMS: MULTIPLE USE

In theory INVIERNO's line of credit may be used for production, i.e. to finance certain approved inputs for particular crops, for investment and for family maintenance. Therefore, a typical loan would include the financing of a significant proportion of the costs of produc

ing one or more crops - computed on the basis of economic crop models, acreage and the technology level to be employed - as well as a small amount for investment and for maintenance.

INVIERNO prepared a formula for the computation of family maintenance as a function of the amount of land to be cultivated, on the basis of a field survey conducted by UNASEC. The resulting amount was supposed to represent the family's expenses for the time from disbursement to crop sale. The amount for maintenance was to be granted only once but the cost of living allowance was to be continuously considered at the time of calculating the borrower's repayment capacity at the end of each cropping period. In this way family maintenance would have become a continuing element in the line of credit approach. In practice credit for maintenance has been granted the first time, but the allowance has not been considered in computing repayment due, in view of the difficulties already described in this connection. This is unfortunate since, as the Spring Review emphasized, the credit institution must take care of all of the farmer's financial needs. The internal evaluation team appears to have questioned the operationality of the concept and recommended further study before continuing implementation.[129]

As shown in Table 16, credit for maintenance has represented between 3.6 and 18.2 percent of the amounts authorized (and between 1.9 and 8.2 percent of the amounts disbursed) in different planting periods. Credit for investment has been even less important, representing less than five percent of the total amounts. The proportion of credit for maintenance appears to have declined through time, while the proportion of credit for investment has increased slightly. While farmers have tended to disburse about 37 percent of the amounts authorized for production and 35 percent of the amounts authorized for maintenance, they have disbursed only 26 percent of the amounts authorized for investment.

Table 17 shows the relative importance of the various types of inputs financed. The most important have been fertilizer and rented oxen, followed by rented land. Seed has also been an important item. INVIERNO does not finance family labor, but it finances hired labor if it is necessary. This item has been the least important of all.

The survey conducted by the internal evaluation team indicated that, in general, INVIERNO's socios are satisfied with the amounts of credit available. Only in a few CEDES the socios interviewed expressed the view that the amounts available for land rent and hired labor were not sufficient for their needs. On the other hand, the survey conducted among INVIERNO's field personnel indicated the need for financing of fixed investment and of livestock. These requests, however, rather than the lack of adequacy of the crop budgets, reflect the lack of use at the CEDE level of the special procedures to increase the amounts authorized, if the borrower so desires.[130]

TABLE 16

INVIERNO: AMOUNTS AUTHORIZED AND DISBURSED*
FOR PRODUCTION, INVESTMENT AND MAINTENANCE COSTS

PLANTING SEASON		PRODUCTION	INVESTMENT	MAINTENANCE
1976				
Primera:	Authorized	6,676.5	-----	1,488.9
Postrera:	Authorized	8,552.1	206.7	586.7
Apante:	Authorized	1,825.2	1.8	67.3
1977				
Primera:	Authorized	15,622.9	813.0	1,529.5
	Disbursed	5,740.0	215.0	534.1
Postrera:	Disbursed	3,970.9	133.6	104.9
Apante:	Disbursed	1,058.0	12.3	20.8

Source: Unpublished INVIERNO computer printouts.

* Amounts in thousands of cordobas

TABLE 17

INVIERNO: INPUTS FINANCED WITH THE AMOUNTS*
OF PRODUCTION CREDIT DISBURSED, 1977

TYPE OF INPUT	PRIMERA		POSTRERA		APANTE	
	AMOUNT	%	AMOUNT	%	AMOUNT	%
Land Rent	1,124.6	19.6	633.9	16.0	176.7	16.7
Seed	954.1	16.6	700.1	17.6	381.7	36.1
Fertilizer	1,336.9	23.3	873.8	22.0	156.1	14.8
Pesticide	393.7	6.9	409.9	10.3	131.0	12.4
Hired Labor	716.3	12.5	431.4	10.9	67.3	6.4
Rented Oxen	1,118.7	19.5	837.7	21.2	128.6	12.2
TOTAL	5,740.0	100.0	3,970.9	100.0	1,058.0	100.0

Source: Unpublished INVIERNO computer printouts

* Amounts in thousands of cordobas

K. INTEGRATED TECHNICAL PACKAGE

As already stated, the AID Spring Review found that the unavailability of profitable investment opportunities for small farmers has been one of the most serious problems facing the majority of agricultural credit programs in LICs.[131] Even when profitable investments have been available, the additional risk associated with the adoption of such technologies has been more than the small farmer is willing to accept. Such deficiences can soon result in major difficulties for a credit program as reflected in high delinquency levels, considerable restructuring of loans and the exclusion of a major portion of the target group from receiving additional credit over time.

Although INVIERNO is a multifaceted program with several objectives, it has placed considerable emphasis on raising small farmer incomes through the adoption of new technology and it has experimented with a number of ways of reaching this objetive . The key person for developing and introducing new technology has been the AGROMOC, the primary and continuing link with the farmer.[132] AGROMOCs initially worked with the farmers mainly on a one-to-one basis but are now using farmer groups and voluntary farmer collaborators as means to reach more farmers.[133]

The technical recommendations of the AGROMOC are based on three data sources:

1. Experimental work previously carried out by the Ministry of Agriculture and now by the Nicaraguan Institute of Agricultural Technology (INTA);

2. Results obtained from field test plots run by the AGROMOCs and from the demostration-training plots operated by selected socios; and

3. The experiences of the farmers themselves at their own plots. The technical knowledge resulting from these three sources guides the AGROMOC's recommendations to the farmers.

The AGROMOC uses the test and demostration plots in his technical assistance activities by directly involving some of the farmers in operating the plots, through periodic field days to demostrate methods and results and through individual contacts and group meetings to discuss new agricultural innovations, recommendations and experiences. To date, the voluntary collaborators,chosen among members of a locality with leadership potential when INVIERNO starts operation there, appeared to have been used primarily as messengers to alert the community to meetings, field days, etc. These voluntary collaborating farmers, however, could also be trained to serve as an element in extending technical knowledge and assistance to neighboring farmers, a considerably less costly delivery mechanism if initiated and made successful. A recent

summary of data from AGROMOC daily time use reports shows that up to 56 percent of their extension time has been associated with individual farm visits.[134] This study also points out that this results in high administrative costs as well as in a reduction in the number of farmers reached over time, both of which are in direct conflict with program goals.

During its first two years of operation, INVIERNO has concentrated on improving the production of corn, beans, and sorghum, the major crops known and grown by small farmers.[135] INVIERNO feels, and rightly so, that it must begin with crops presently grown by small farmers and produce technological changes which build on that experience. This is reflected in the types of technological packages recommended and financed by the institution.

At the present time, there are two technological packages for farmers producing basic grains, Technological package "A" is for the farmer with little or no prior experience in the use of modern inputs. In this case, the credit may be used to finance improved seed, family maintenance, oxen and land rental. Major emphasis is placed on improved weeding and water retention, seed and greater plant density. Technological package "B" is for the more modernized farmer and credit may be used for all the items cited as well as to finance hired labor, fertilizer, insecticides and other off-farm imputs. Typical crop budgets are prepared by the Central Office indicating the amounts of each input recommended under these two technological package alternatives.

These two alternatives have been developed for each of the major basic grain crops for the two regions served, an obvious potential weakness in the program given the significant differences usually found among zones and farmers. AGROMOCs have been instructed to modify the recommended packages to fit the local and individual needs but this appears not to be widely done. A modification of the tecnological packages is made by the Central Office for each for the three cropping seasons. Thus, as many as six packages may be available for each one of the basic grains: packages "A" and "B" for each of the three distinct cropping periods. The computer's memory would not allow a greater variations of packages, and the necessary adjustment in order to meet the different conditions normally found at the farm level will have to be made by the AGROMOC at the time of disbursement. This will require further training the AGROMOCs for these tasks, since it appears that they are not adjusting the individual budgets as much as would be desirable.

The selection of the most appropriate technological package, therefore, should be made by the AGROMOC in consultation with the borrower. Soil testing has often accompanied some of these recommendations. A estimated 3,400 soil samples have been taken and

evaluated to date. The selection of input amounts is then forwarded through the CEDEs to the Central Office with the other loan documents.

The system seems to have the disadvantage of building in rigidity in the selection of technological packages. However, at the same time it greatly frees the AGROMOCs and other field staff from the time consuming tasks of filling out crop budgets by hand as it is done in most other small farmer credit programs. Moreover, this rigidity in the selection of technology is not unique to INVIERNO's computerized system. The same experience has been observed in most hand and locally operated systems where due to time and other constraints, a "typical" crop or farm budget ends up being used as the basis for most loans. Ideally, the AGROMOCs merely recommend a certain package, but the farmer himself decides about what and how much to employ. The weight of the two opinions in INVIERNO's case is not completely clear.

The computerized system has two potential advantages:

1. Theoretically a much wider range of technological package alternatives could be made available to the AGROMOC and farmer from which to select; and

2. If data on actual loan withdrawals by item are fed back into the system, it should be possible to modify the crop budgets so that they are very close to what the farmers actually do. In addition, once reliable census or sample data on farm yields are obtained, an analysis of yield and net income by technological package used would provide valuable insights as to the most appropriate technologies to recommend for raising small farmer incomes. None of these options is feasible under a hand-operated system.

INVIERNO contemplates developing packages of inputs and farm management practices which will be an improvement over those practices presently being used. This includes looking for ways to utilize the farmer's labor and other resources more effectively so as to result in increased incomes and levels of living.

This research activity directly carried out by INVIERNO and in cooperation with INTA and other research institutions is one of the most critical variables through which the institution can reach its longer term objetive of raising the level of living of the target group. The technological packages mentioned are based on recommendations resulting from earlier work by the Ministry of Agriculture. Those research functions have passed to INTA, which is just now beginning its research activities.[136] The delay in the initiation of research directly applicable to INVIERNO's socios has not yet materially harmed the program, but unless usable research findings are forthcoming soon, this could be one of the weakest links in the integrated package approach. The cooperative agreement signed between INTA and INVIERNO

will hopefully produce results soon.

INVIERNO operates a number of extension-test plots (parcelas extensivas) while demonstration-training plots (parcelas de capacitacion) are operated by farmers under the supervision of the AGROMOC. Fairly detailed records of these plots are kept and the data coded for analysis on the computer. No doubt these plots will produce useful information, but it is unlikely that they will be able to substitute for more systematic, standardized experimental research. Rather, they should serve to further test and adapt such experimental research to actual small farm conditions.[137]

During 1976 a total of 27 extension-test plots convering seven manzanas were established in three separated CEDEs. These plots concentrated on the production of corn, beans and sorghum. In that same year a total of 82 demonstration-training plots in five CEDEs were used to train farmers. A total of 273 different treatments were demonstrated on those farmer-operated plots. About 5,000 farmers attended field days and special programs around these plots during 1976.[138]

In 1977, the same number of demonstration-training plots were established in Region V, but the production of potatoes and of a number of vegetables were demonstrated in addition to basic grains. An additional 12 plots were established in Masatepe (Region II) for corn production. The extension-test plots also were expanded in 1977 for a total of 40 plots in six different CEDEs. Again, a number of other crops besides the basic grains were being tested in these plots. By the end of 1977, over 5,300 meetings with 7,000 farmers had been organized around these plots, for a total of 108,000 farmer-meetings.

As shown in its extension and demonstration plot work, INVIERNO is searching for alternative crops, activities, or farming systems which can increase farm incomes. These include, among others, livestock activities, perennial crops (fruits), tobacco, farm mechanization, farm storage, and horticultural crops. By 1977 about 15 non-basic grain technological packages had been developed and were being tested. A critical problem for INVIERNO is how to reduce the risk associated with agricultural production in the drought prone and more marginal areas serviced by the program. Appropriate technology for those areas may require only minimal amounts of credit which would be in direct conflict with the need to raise average loan size, so the banking operations are essentially self-financing over a long term.

It is still too premature to judge the effectiveness of the technological recommendations, since INVIERNO has been in operation for two and one-half years only. Furthermore, due to the logical initial emphasis on start-up problems, the institution is just beginning to evaluate the impact of its programs at the farm level. Approximately 125 detailed, farm record-keeping case studies are being carried out

in the two regions where INVIERNO operates. These data are being computerized and analyzed. In addition, periodic sample surveys and other data collection techniques are being utilized to complement the case studies. In this way considerable information should be available on levels of technology adoption, changing cropping patterns and the corresponding income levels.

The proportion of borrowers using technological package "B" for the cultivation of beans has increased from 22 percent during the primera of 1976 to 70 percent during the primera of 1977, while the proportion of borrowers using package "B" for corn increased from 25 percent during the primera of 1976 to 56 percent during the primera of 1977.[139] Some of the significant differences observed among the various CEDEs may be due to a differential impact of the drought.

Unfortunately, farm level income data are not yet available so it is unclear what the actual impact of these technological packages has been at the farm level. The study of synthesized technological package crop budgets does suggest that improved practices are more profitable compared with traditional methods but the real test of this assumption is the continuation of the actual measurement and verification at the farm level.

L. LOAN TERMS: INTEREST RATES

One of the issues which surfaced during the AID Spring Review was the little justification found for subsidized interest rates. In Nicaragua, institutional interest rates have been determined by the Central Bank as part of its overall monetary policy. These rates have varied with the type and purpose of the loan in question.

Just before the creation of INVIERNO, the lowest interest rates for the agricultural sector corresponded to the small farmer rural credit program of the National Bank of Nicaragua. These rates had been established at the nine percent per annum level as compared to the eleven percent charged on all other agricultural loans.[140] Given the very low rates of inflation which prevailed in Nicaragua before the 1970s, these rates had not been highly subsidized, but in the early 1970s the country's rate of inflation increased to 20 to 30 percent per annum, and these rates became negative in real terms. For the 1976-1977 period, the Central Bank established the same rates for all loans with the same term. Before, commissions had been normally charged at the time when the loan was executed. These additional charges were permitted to cover special services requested by the borrowers. The new rates explicitly incorporated these commissions. Maximun rates were set at 13 percent per annum for short-term credit and at 14 percent per annum for long-term credit.

During the primera of 1976 INVIERNO charged 13 percent per annum. This interest rate was increased to 18 percent during the postrera of the same year. The justification for this higher interest rate rests on the institution's policy to achieve the financial viability of its banking program.[141] In order to arrive at that rate, INVIERNO estimated its costs and revenues, testing the sensitivity of the results.

The procedure employed by INVIERNO to separate the costs of the banking and non-banking programs has been described already. Once these costs had been separated, the institution classified each category of the banking costs into "fixed" and "variable" and projected its total annual (personnel and administrative) costs. As of the end of July of 1977, the annual fixed costs of the banking program were estimated at C$ 3,976,396 and the annual variable costs of the same program were estimated at C$ 1,184,554. Since the number of socios in the portfolio at that date were 7,096, the estimated average variable cost was C$ 167.57.

On the basis of these figures, INVIERNO would have reached a position in which interest revenues would have just been equal to administrative costs if it had 7,000 borrowers -which it did- and if the average size of loan had been C$ 4,500. At the end of July of 1977, however, the average size of loan was only C$ 1,854, and INVIERNO was far from being able to self-finance its banking program.

TABLE 18

INVIERNO: ESTIMATED FIXED AND VARIABLE COSTS OF THE BANKING PROGRAM. 1977

COST CATEGORY	FIXED	VARIABLE
Central Office:		
Personnel	2,060.743	131,537
Administrative	1.128,114	72,007
CEDEs		
Personnel	896.022	763.278
Administrative	498.437	424.697
TOTAL	4,583,437	1,391,520

Source: Instituto de Bienestar Campesino, INVIERNO, "Criterios de Distribucion de Gastos," cit., pg. 6.

A more recent estimate - reported in table 18 - as of September of 1977, projected the total costs of the banking program at C$ 5,974,957 as compared to a total of C$ 21,310,974 for the non-banking program. Although the number of borrowers in INVIERNO's portfolio at the end of October of 1977 was 7,711, the average number of borrowers per year was set at 5,977. Similarly, the average amount of credit in the portfolio

was set at C$ 10,671,920. This results in an average loan size of C$ 1,785.80. On the other hand, the average variable cost per socio is C$ 228.43. For INVIERNO to be self-sustaining in these conditions, it would require a minimum of about 9,000 borrowers with an average loan of C$ 4,000.[142]

The internal evaluation team considered that the average size of loan disbursed has been too low from the point of view of what is desirable both for the borrower and for INVIERNO.[143] The team claimed that the reduced amount of credit used by the socios a significant restriction to the expected increase in incomes while, most importantly, the financial viability of the institution is in danger. The team recommended a consolidation of present institutional services at the present level of operation before any further expansion of the program is attempted. In order to induce a greater use of credit, it suggested that INVIERNO look at the socio's enterprise in a more comprehensive fashion, taking into account all the crops grown at each socio's farm, in particular perennial crops (such as coffee), livestock and also handicrafts. It recognized that the present land tenure arrangements are an important constraint, too.

On the other hand, the survey conducted among the socios indicated that they were satisfied with the level of the interest rate charged.[144] In effect, farmers seem to have adequately recognized the value of getting their applications in and obtaining money and materials at their own locality and so have accepted the higher interest rate without difficulty.

M. COMPUTER USE

INVIERNO has made an intensive use of electronic data processing for its operations and management. In addition to using the computer to handle traditional administrative activities such as cash flow analysis, payroll and budgets, INVIERNO also is attempting some highly innovative work in applying computer technology to programmatic areas.

Among the uses of the computer as a management tool are INVIERNO's traditional and more innovative accounting records. The separation of banking and non-banking costs, for example, is an outstanding example of an effort to clearly define and measure the costs of the various programs implemented by the institution. Another use of the computer has been made in the area of recording the use of time by field workers. By categorizing the time each outreach worker spends, e.g. by the method of instruction used: demonstration plot, one-to-one agricultural technical assistance, group agricultural class - INVIERNO has been able to evaluate the working patterns and efficiency of its field personnel.[145] Another source of important information which the

use of the computer handles cheaply has been the computerized analysis of the results of demonstration plots. Both the inputs and the resultant yields have been processed electronically, giving the extension staff useful data on what seem to be the most effective methods of production for farmers in their particular localities.

In general, the magnitude and complexity of the programs implemented by INVIERNO have required operating on a massive scale, with the purpose of reaching the greatest number of families in the least time and at the lowest cost possible. This has implied that efficient systems had to be designed, which would guarantee top-level performance of the operating activities of the institution with regard to the quality, timeliness and opportunity of the services provided. This has been particularly true in the case of agricultural credit. The program was designed to reach the rural population on a broad scale, in the simplest way possible, guaranteeing at the same time the timely delivery of loans and of the inputs needed by and at the doorstep of many small farmers. Besides, it has been necessary to reduce to a minimum the costs involved in delivering these services to a scattered population which operates on the basis of very small loans.

INVIERNO's most important and innovative use of the computer, therefore, has been its ability to process a large number of individual small loans at a relatively reduced cost. The AID Spring Review recognized that one of the most important factors which has militated against extending credit to small farmers in most LICs have been the high costs involved in processing the loan applications. With the use of the computer, INVIERNO is attempting to make this loan processing cost-effective. At the same time it hopes to produce timely decisions with respect to loan authorizations - a computerized decision making model enables the institution to handle and make judgement about a large volume of small loans in a short period of time - and in addition INVIERNO acquires an effective control over the transactions involved, guaranteeing the quality of the services offered to the beneficiaries and the financial viability of the institution.[146] Finally, the nature of INVIERNO's operations make indispensable a continuous follow-up, evaluation and reprogramming, with the aim of making adjustments on the basis of field experience. The computer significantly facilitates all these procedures.

The use of the computer, however, may not be free of dangers and other disadvantages.[147] One of INVIERNO's most important management challenges, therefore, is to increase the effectivenes of the computer's use and to minimize its potential drawbacks as well as to complement it with other mechanisms in order to add flexibility to the system.

One important area of potential problems is the coordination of the data processing activities at the Central Office with the needs and requirements of the AGROMOCs and other field staff. Three possible kinds of problems may arise in this connection:

1. Delays;

2. Insufficient understanding of the computerized procedures or of the resulting outputs; and

3. Outputs in a form not readily usable by the field staff in their daily activities.

The computer could become an important bottleneck during certain peak periods, particularly just before loan disbursement. As reported, there have been important delays in the notification of the loan authorizations and in the disbursement of the loans. These delays, however, have been due more to problems of data collection in the field and to problems of coordination of the field activities with the centralized computerized operations. A systematic coordination effort could eliminate most of these problems and if the census is undertaken sufficiently in advance, as suggested by the internal evaluation team, disbursement will be timely and opportune. The problem referred to here, therefore, is that any breakdown in the computer application or in the program for the selection of borrowers may result in potentially damaging delays.[148]

In the second place, although the computer greatly reduces the administrative burden at the local offices, thus liberating resources for other more important field activities, it also increases the problems of communication both between the field staff and the Central Office and particularly between INVIERNO's personnel and the socios. An example of this was the problem encountered when, during, the primera of 1976, the first computerized loan authorizations arrived in the localities. The field staff did not know what weights had been assigned by the computer program to the various farmer characteristics determining acceptance or rejection. Since there had been a significant number of rejections, the AGROMDCs had a difficult time trying to explain to the rejected applicants the reasons for their rejection. Having no other answer to offer, they claimed: "You were rejected by the machine." This obviously caused much resentment and a deterioration of INVIERNO's image.

A similar problem arose in connection with the daily reports which the AGROMDCs have to prepare about their daily activities. Originally, it took each AGROMDC a good half an hour a day to fill out the required forms with the detailed information requested, using codes from a several-hundred long list.[149] The AGROMDCs resented this use of their time - for the sake of the machine- when at the same time they learned that the Central Office in Managua was not processing this information in view of the computer's limitations in terms of memory and availability. The forms that the AGROMDC have to fill out have been redesigned and the problem solved. Similarly, the printouts received by the CEDEs at disbursement time now contain information about the causes for rejection of applications. In general, these problems can be solved with better administrative procedures -

which INVIERNO is redesigning all the time - and adequate training of the field staff.

At a different level there is also the danger that the computer may be viewed as a problem solver and that the institution may develop too much a dependency on the systems rather than on agile problem solving. The computer and related systems cannot solve new and unpredicted problems. However, once the institution's management reacts to a new problem, it can process the information required for its solution with the use of the computer, and it can undertake simulation and sensitivity analyses of alternative solutions in order to choose the best one.

At times, the operation of the computer seems to have proceeded without a clear idea about priorities. Numerous reports have been prepared without, in some cases, a clear idea of what is expected from them. Being there, there is a danger that the computer will be used for almost anything, irrespective of costs. Fortunately, INVIERNO is such a flexible institution, so open to criticism, experimentation and desire to improve, that there are already clear signs that the computer will be used more efficiently in the future. In practicular, INVIERNO will have to make a special effort to move from its present relatively independent computer programs - each one the result of a particular need felt at some point in time - towards a completely integrated system of computation.

N. COMMUNITY PARTICIPATION

INVIERNO's goals include an increasing participation of the small farmer in the decisions that affect his progress.[150] With this purpose in mind, the institution has been encouraging the involvement of socios in the development and management of the services provided to them as well as the formation of small farmer groups and organizations.

As already described, when INVIERNO first arrives to a new locality, the multidisciplinary mobile team informs the community about the existence, purposes and modes of operation of the institution. All members of the community are formally invited to participate in the census in an attempt to determine their needs and to gather basic information about all the potential beneficiaries.

Initially, INVIERNO worked with the community to identify among the members of the locality one person who is recognized as a leader or who has leadership potential. This individual, called the volunteer collaborator, is viewed as the prime contact person between INVIERNO and the community and as a disseminator of information from the institution to the community. INVIERNO plans to provide training to these collaborators in leadership skills, community development techniques and the holding of meetings. It is assumed that many col-

laborators will take future leadership roles in groups that may be developed to work with INVIERNO and community self-help projects.[151]

At the same time, INVIERNO requested that a consultation group of three persons be elected - directly or implicitly - to help the institution in credit allocation. The group supplies references about the creditworthiness of potential socios which are considered during the approval process. Most recently INVIERNO has promoted local Juntas comunitarias (community boards), usually consisting of five to six elected directors to serve as the focal point for community action in the self-help sense, and to obtain resources and assistance from the Government and other agencies, in the pressure-group sense. They have been created under INVIERNO's auspices, but serve as representative units for all agencies implementing the integrated rural development program. The institution has thus far trained the members of 42 juntas and is continuing this leadership training for all juntas.

John Heard's team claimed that "thus far, the juntas appear to have no tangible function in the annual production-marketing cycle. The AGROMDCs and the CREDOMERCSs handle all aspects of credit, input distribution and marketing. The longer this situation persists, the team believes, the more difficult it will be for the members to see the logic of their participation in the process. INVIERNO plans to initiate, however, some limited support activities on the part of the juntas in that they will assist the loan approval and collection activities. This is a step in the right direction. In any event, it is important that the juntas not be insulated from more substantive functions."[152]

Moreover, while INVIERNO plans the grouping of the juntas under the regional, eventually member-controlled, cooperative scheme (called tienda campesina, i. e. peasant store), services are obviously needed at the regional context. To the extent that viable functions can be found for the community group - in the area of true management of resources one way or another these should be encouraged. Group credit could possibly be such an element. Another could be local storage or some other function in the marketing chain. "Once the junta is able to perform a genuine intermediary role over a needed service, this can be a means for both internal capitalization, by means of deducting a small margin, as well as for the gradual building of local management capability. A more meaningful role could also provide for greater participation, awareness -concientizacion - and pride at the community level."[153] It would help reduce the negative image of INVIERNO as a paternalistic program.

This emphasis on the need for more community development and massive capacitation of the small farmers in order to enable them to participate, as individuals and in groups, in the programming of their own development has been shared by the internal evaluation team.[154] It has resulted in the incorporation of the communities in the planning - of INVIERNO's annual operations. Specifically, the team recommended

that in the future, when INVIERNO is going to start operations in a new locality, it should follow this sequence:[155]

1. A general survey of the locality;
2. Motivation and organization of the junta;
3. Capacitation of the junta;
4. Diagnosis of the community's problems and resources;
5. Formulation of a plan for the locality; and
6. Initiation of all other services.

Motivation training (MOC), a "concientizacion," awareness promotion activity, is a very important component of all of INVIERNO's activities. It deals with how to relate to the rural people and how to motivate farmers to positive action in meeting individual and community needs. In the initial phases of INVIERNO's operation, MOC instruction and methodology was directed at the newly hired AGROMOCs so they could communicate better and be more sensitive to the needs of the rural poor. Being better prepared to establishing open dialogue, the farmers' interest could be generated, new development services could be introduced and mutual confidence would hopefully be established. Thus, AGROMOCs act both as agricultural technicians and as change elements in relating to socios. Eventually all of the institution's field personnel received MOC training and even internally many of the staff seem to use MOC techniques in relating to other INVIERNO personnel.

Hopefully, MOC training will continue to be provided to junta members, in order to increase their active participation in INVIERNO's operations. In this way INVIERNO will help to develop, strenghten and institutionalize local groups which eventually could assume several of the institution's present activities.[156] At this point, INVIERNO would have reached one of its most important objetives: to reduce the dependency of small farmers on outside institutions.

V

RESULTS TO DATE

A. THE EXPANSION OF INVIERNO: QUANTITATIVE RESULTS

One of the recent external evaluations of INVIERNO claimed that the institution represents an answer to the "need for a dynamic, self-contained, integrated, rural development institutional mechanism. It has made extraordinary progress in outreach during its first two years of life by any standard." 157 This chapter attempts to summarize some of the quantitative indicators of this programmatic expansion and to call the reader's attention to some unresolved questions which will have an important impact on the nature, extent and success of INVIERNO's future expansion.

1. INVIERNO's agricultural credit operations were initiated in March of 1976, at five different CEDEs in Region V. During 1977 a sixth CEDE was added in Region II and four SUBCEDEs were created in Region V.

2. Between the primera of 1976 and the primera of 1977, the number of localities reached by INVIERNO increased by 88 percent.

NUMBER OF LOCALITIES REACHED		LOCALITIES PER CEDE
1976		
Primera	150	30.0
Postera	175	35.0
Apante	53	10.6
1977		
Primera	283	47.2
Region V	221	44.2
Region II	62	62.0

3. An increasing proportion of the farmers applying for credit have been authorized loans during 1977.

	PRIMERA	POSTRERA	APANTE
Number of Applications	8,467	5,271	1,166
Number of Authorized Loans	7,227	4,926	1,035
(Percentage)	85.4	93.5	88.8
Number of Rejected Loans	1,240	345	131
(Percentage)	14.6	6.5	11.2

In general, a higher proportion were authorized in Region II (about 91 percent) than in Region V (about 88 percent).

4. Between the primera of 1976 and the primera of 1977 the number of authorized loans increased by 151 percent. On the other hand, the number of disbursed loans increased by only 112 percent. These differences reflect the fact that during these periods only between 66 percent and 84 percent of the number of authorized loans were actually disbursed.

	AUTHORIZED	DISBURSED	%
1976			
Primera	2,882	2,430	84.3
Postrera	3,575	2,862	80.0
Apante	517	339	65.6
1977			
Primera	7,227	5,157	71.3
Region V	5,917	4,409	74.5
Region II	1,310	748	57.0

During 1977, the number of loans disbursed also included 3,825 for the postrera and 573 for the apante.

5. During the same period the number of authorized loans per locality increased by 32 percent, while the number of disbursed loans per locality increased only by 12 percent. During the primera of 1977 the number of authorized loans per locality was 27 in Region V and 21 in Region II, while the number of disbursed loans per locality was 20 in Region V and 12 in Region II.

	AUTHORIZED	DISBURSED	%
1976:			
Primera	19	16	84.2
Postrera	20	16	80.0
Apante	10	6	60.0
1977			
Primera	25	18	72.0

6. Between the primera of 1976 and the primera of 1977, the total amount of agricultural credit authorized increased by 185 percent. On the other hand, the total amount actually disbursed increased by only 65 percent. These differences reflect the fact that during these periods only between 30 percent and 52 percent of the amounts authorized were disbursed

		AUTHORIZED	DISBURSED	%
1976:				
Primera	1,000C$	8,163.4	4,247.2	52.0
Postrera		9,345.5	3,397.8	36.4
Apante		1,894.3	870.7	46.0
1977				
Primera		23.258.6	7,022.6	30.3

During 1977 the amounts disbursed included C$ 4,209 thousand for the postrera and C$ 1,091 thousand for the apante.

The proportion represented by the amount disbursed with respect to the amount authorized was very similar in both regions.

7. During the same period, the average size of authorized loans increased by 13 percent, but the average size of disbursed loans actually declined by 22 percent. This reflects the fact that only between 42 percent and 62 percent of the average amount of credit authorized was actually disbursed.

		AUTHORIZED	DISBURSED	%
1976				
Primera	C$	2,832	1,748	61.7
Postrera		3,575	1,187	43.9
Apante		3,664	2,568	51.6
1977				
Primera:		3,204	1,361	42.4
Region V		3,036	1,227	40.4
Region II		3,964	2,154	54.3

8. Between the primera of 1976 and the primera of 1977, the number of borrowers in INVIERNO's portfolio increased by 190 percent. This growth reflects both the expansion in the number of socios just described, and a high rate of non-repetition. Of the socios approved for the primera of 1976, only 51 percent returned during the primera of 1977, while of the new socios approved during the postrera of 1976, only 55 percent returned.

	FINANCED	%	FINANCED	%	TOTAL IN PORTFOLIO
1976					
Primera: New Socios	2,440	100	----	100	2,440
Postrera:					
New Socios	1,483	100	----		1,483
From Primera 1976	1,390	57	1,050	43	2,440
TOTAL	2,873	73	1,050	27	3,923
Apante:					
New Socios	96	100			96
From Primera 1976	134	6	2,306	94	2,440
From Postrera 1976	148	10	1,335	90	1,483
TOTAL	378	9	3,641	91	4,019
1977					
Primera:					
New Socios	3,050	100			3,050
From Primera 1976	1,237	51	1,203	49	2,440
From Postrera 1976	810	55	673	45	1,483
From Apante 1976	60	63	36	37	96
TOTAL	5,157	73	1,912	27	7,069

The reasons for this high rate of non-participation are not completely known.[158] This is an alarming development, both because almost 2,000 farmers who requested INVIERNO's services in the past have not been able or willing to request them again and because their outstanding balances will be hard to recuperate under these circumstances.

9. In almost one-third of the localities, INVIERNO has served less than 20 socios. During the primera of 1977, INVIERNO reached 97 localities with less than 20 socios.

NUMBER OF SOCIOS	NUMBER OF LOCALITIES	%
1 - 5	15	5.4
6 - 10	11	3.9
11 - 20	71	25.4
21 - 30	74	26.5
Over 30	108	38.8
TOTAL	279	100.0

10. Between the primera of 1976 and the primera of 1977, the area financed by INVIERNO increased by 68 percent, the average amount of credit per manzana declined by 21 percent, and the average area financed per borrower declined by 22 percent.

	AREA FINANCED (manzanas)	AREA PER SOCIO (manzanas)	CORDOBAS PER MANZANA
1976			
Primera	7,204	2.96	590
Postrera	6,025	2.10	564
Apante	746	2.20	1,167
1977			
Primera	12,092	2.30	466
Region V	10,046	2.30	418
Region II	2,046	2.70	702

11. During the primera of 1977, about 83 percent of INVIERNO's socios were in possession of less that five manzanas of land. Only 6.5 percent of the socios were in possesion of more than 10 manzanas of land. It implied a significant change with respect to the primera and postrera of 1976, when 45 percent and 49 percent, respectively, were in possession of less that five manzanas and when 33 percent and 29 percent, respectively, were in possesion of more than 10 manzanas.

	LESS THAN 5 MANZANAS	5 - 10 MANZANAS	10 - 20 MANZANAS	OVER 20 MANZANAS
1976				
Primera	45%	22%	15%	18%
Postrera	49%	22%	14%	15%
1977				
Primera	83%	10%	5%	2%
Region V	81%	12%	5%	2%
Region II	94%	4%	2%	-

Moreover, even in those cases when the socios possessed more than 20 manzanas of land, the average area financed during the primera of 1977 was 6.3 manzanas.

12. During the primera of 1977 about 42 percent of the socios owned their land, while about 46 percent rented it. Owners possessed 53 percent of the available land, while renters possessed 30 percent. The average size of farm was almost twice in the case of owners than in the case of renters.

FORM OF TENURE	NUMBER OF SOCIOS	%	AREA POSSESSED	%	AVERAGE AREA
Owners:	3,490	42	17,386	53	5.0
Region V	3,076	46	16,051	57	5.2
Region II	414	17	1,335	29	3.2
Renters:	3,746	46	9,790	30	2.6
Region V	2,663	40	6,785	24	2.5
Region II	1,083	69	3,005	66	2.8
Occupants	938	11	4,887	15	5.2
Region V	898	13	4,750	17	5.3
Region II	40	3	137	3	3.4
Other	96	1	561	2	5.8
TOTAL	8,270	100	32,624	100	3.9

13. The largest proportion of the funds authorized has been for production credit, while family maintenance and investment have received relatively small shares.

	PRODUCTION	%	MAINTENANCE	%	INVESTMENT	%
1976 (C$ 1,000)						
Primera	6,676.5	82	1,486.9	18	----	-
Postrera	8,552.1	92	586.7	6	206.7	2
Apante	1,825.2	96	67.3	4	1.8	-
1977						
Primera	20,140.6	87	2,205.0	10	813.0	3
Region V	15,622.9	87	1,529.5	9	813.0	5
Region II	4,517.7	87	675.5	13	-----	-

14. The largest proportion of the funds disbursed has financed the cultivation of corn and beans. The greatest increments in the area financed, however, corresponded, between the primera of 1976 and the primera of 1977, to potatoes and vegetables, with rates of growth of 68 and 301 percent, respectively. The areas financed for corn and beans, on the other hand, increased by 61 and 5 percent, respectively.

AREA FINANCED (manzanas) for:	PRIMERA 1976	POSTRERA 1976	APANTE 1976	PRIMERA 1976
Corn	5,163	1,259	60	8,300
Beans	1,885	3,471	439	2,926
Corn&Beans	--	--	--	218
Sorghum	--	846	24	---
Potatoes	88	137	141	163
Vegetables	68	312	91	273
Peanut	--	---	---	45
Quequisque	--	---	---	32
Corn& Sorghum	--	---	---	26
Corn & Yuca	--	---	---	10
Yuca	--	---	---	100
TOTAL	7,204	6,025	746	12,095

B. UNRESOLVED QUESTIONS

There can be not doubt that INVIERNO is an extremely innovative effort to solve the problems of the Nicaraguan small farmer and that

it has made extraordinary progress in outreach during its first two years of experience. This institution has adopted more concepts and procedures of the kind recommended during the AID Spring Review of Small Farmer Credit and in other pieces of the recent literature on the subject than any other credit agency in Latin America, while in certain cases it has even innovated beyond the Spring Review recommendations.

On the other hand, time will be the only relevant test of the validity of the approach adopted, but in this sense it is still too early to measure the success or failure of INVIERNO's innovative concepts and procedures. Therefore, this study has attempted to evaluate these concepts and procedures in the light of theoretical considerations and of experience with similar programs elsewhere, it has attempted to identify the strengths and weaknesses in the design and operation of the institution, and it has suggested how these positive and negative features may affect the successful future development of the program.

In any case, INVIERNO's main strength has been the quality of its management system and the competence of its professional staff. One is favorably impressed not only by the novel concepts introduced and by the sophistication of the procedures employed but particularly by the rigorous internal evaluation efforts, the continuous search for better approaches and methods and the ingenuity and energy with which new problems are solved. Hopefully, therefore, INVIERNO will successfully face most of its present deficiencies and will improve its internal performance, accordingly. Rather, INVIERNO's final success in the long run will depend upon "environmental" circumstances beyond the institution's control. These external circumstances include the land tenure, technology and input-output pricing questions.

The need for an appropriate cost - and/or risk-reducing technology has already been discussed. In the absence of such a technology the small farmers will have no incentive and/or capacity to demand credit and/or repay loans. INVIERNO will have to continually check if INTA is generating sufficient innovations of the kind required and will have to be prepared, for its own survival, to undertake the research tasks if necessary. An incorrect pricing of the inputs and, particularly, of the outputs of INVIERNO's socios could also eventually reduce their ability to repay and so jeopardize the program in the sense that absence of the appropriate technology will.

Another potentially critical variable wich could impact negatively on the distribution of benefits resulting from INVIERNO's program is the unresolved question of the ownership and distribution of productive agricultural resources, particularly land. Nicaragua is noted for its concentrated distribution of land holdings, although this may be less of a problem in certain areas of Region V as compared with other parts

of the country. There is a chance, based on experience in other countries with similar land holding patterns, that some of the benefits accruing from the INVIERNO program may quickly pass to the owners of the productive resources, i.e. the landowners. This could take place through an increase in land rent, land sale prices, and/or eviction of tenants and sharecroppers from the more profitable pieces of land. It is too early to say whether or not this process is taking place in Nicaragua, but the potential certainly exist. Upward of 85 percent of INVIERNO's socios in Region II and as many as one-half of those in Region V rent land. As in the case of technology and pricing policies, the solution of the land tenure problem is largely external to INVIERNO's operations. On the other hand, at the national level and with INVIERNO's support, several proposals are now being considered, related to a land sale guarantee scheme, and a land tax program, and other programs which could help to alleviate the problem.[159]

These considerations are an illustration of the AID Spring Review perception that the conditions for a completely successful credit program are more stringent than commonly thought and remain frequently beyond the control of the lender. Unless these preconditions are satisfied, however, the chances for success of the credit program are significantly reduced. On the other hand, the danger in these considerations is that it is quite easy to make a list of all the things needed and to see and to say that all these factors are the necessary prerequisites for a successful program. But, if everything is a prerequisite for success, the effort will never be started. Moreover, prerequisites can turn out to be the result rather than the cause of success. INVIERNO's operation, although endangered by some fairly unfavorable "environmental" circumstances, may also stimulate some dynamic sequences; and, as a result, certain conditions for success, thought to be prerequisites, may become additional positive consequences of the effort.

Among INVIERNO's most difficult internal challenges is its objective to make the banking program financially self-sufficient. So far, the behavior of costs and of repayment casts serious doubts about the feasibility, under present procedures, of achieving this goal. INVIERNO needs to reduce its banking costs, possibly through a more extensive use of group lending. However, INVIERNO must avoid the temptation to promote rigid, bureaucratic groups of a specific type (e.g., community cooperatives). Rather, the institution must stimulate all kinds of varied, spontaneous and informal groups and must attempt to incorporate them in its operating systems. These groups will also contribute to improve collection performance, but the latter will still crucially depend on the successful solution of the technological change problem.

FOOTNOTES

1. Ian Little, Tibor Scitovsky and Maurice Scott, Industry and Trade in Some Developing Countries. A Comparative Study. London: Oxford University Press, 1970. See also Bruce F. Johnston and Peter Kilby, Agriculture and Structural Transformation. Economic Strategies in Late-Developing Countries. New York: Oxford University Press, 1975.

2. An early attempt was made by Dale W. Adams, "Agricultural Credit in Latin America: A Critical Review of External Funding Policy." American Journal of Agricultural Economics, LIII: 2, May, 1971, pp. 163-172.

3. Ronald Tinnermeier and Chris Dowswell, "Small Farmer Credit." Research and Training Network Workshop Report No. 1. The Agricultural Development Council, New York, March, 1973. p.1.

4. Agency for International Development. A.I.D. Spring Review of Small Farmer Credit. Small Farmer Credit. Twenty volumes. Department of State, Washington, D.C., 1973.

5. Gordon Donald, Credit for Small Farmers in Developing Countries. Boulder: Westview Press, 1976.

6. The World Bank, The Assault on World Poverty. Problems of Rural Development, Education and Health. Baltimore: The Johns Hopkins University Press, 1975.

7. Food and Agriculture Organization, Agricultural Credit for Development. World Conference on Credit for Farmers in Developing Countries, 14-20 October, 1975, Rome. Milan: FAO and Cassa di Risparmio delle Provincie Lombarde, 1975.

8. Papers appeared in American Journal of Agricultural Economics LIX: 5, December, 1977, and in Savings and Development, several 1978 issues.

9. AID Loan No. 524-T-031, signed September 25, 1975.

10. Instituto de Bienestar Campesino. INVIERNO. Philosophy, Policies and Programs. Managua, September, 1976. p. 9.

11. The World Bank, Op. cit., p. 105.

12. Claudio Gonzalez-Vega, "Interest Rate Restrictions and Income Distribution", American Journal of Agricultural Economics, LIX: 5, December, 1977. pp. 973-976.

13. Edward B. Rice, "Summary of the Spring Review of Small Farmer Credit", Small Farmer Credit. Summary Papers. Cit., p. 8.

14. Gordon Donald, Op. cit., p. 27.

15. Richard S. Eckaus. "Rationalizations and Operating Procedures for Small Farmer Credit Programs," Small Farmer Credit. Analytical Papers.Cit., p. 394.

16. Ronald Tinnermeier, "Technology, Profit and Agricultural Credit." Small Farmer Credit. Analytical Papers. Cit., p. 108.

17. Edward B. Rice, Op. cit., p. 23.

18. Ibid., p. 26.

19. INVIERNO has adopted an impersonal point system for borrower selection and a crop budget system for the determination of loan amounts which are flexibly implemented. The views of the AGROMOC and of the Junta are important elements in the decision-making process, as will be explained below.

20. Chester B. Baker, "Role of Credit in the Economic Development of Small Farm Agriculture." Small Farmer Credit. Analytical Papers. Cit. p. 57.

21. Gerald I. Nehman and Dale W. Adams. "How Concerned are Rural Borrowers About Interest Rates? A Brazilian and Bangladesh Case." Unpublished Paper, Ohio State University, 1975.

22. Gordon Donald, Op. cit., p. 49. It is obvious that this approach requires an act of faith in the small farmer's capability to manage his financial affairs with foresight and in the strength of his desire to increase his output. Such faith was not universal. Some believed that the small farmer will neglect his debt obligation unless he is required to pay at harvest time when he has the cash in hand and that he will not use credit for appropriate inputs unless he is so required and then supervised.

23. Dale W. Adams."The Case for Voluntary Savings Mobilization: Why Rural Capital Markets Flounder." Small Farmer Credit. Analytical Papers. Cit., p. 309.

24. Gordon Donald, Op. cit., p. 81.

25. Edward B. Rice, Op. cit., p. 26.

26. Ibid., p. 6.

27. Claudio Gonzalez-Vega, "Interest Rate Policies and Small Farmer Credit Programs in LDCs." Small Farmer Credit. Analytical Papers. Cit., p. 335.

28. Claudio Gonzalez-Vega. On The Iron Law of Interest Rate Restrictions. Agricultural Credit Policies in Costa Rica and in Other Less Developed Countries. Unpublished Ph.D. Dissertation, Stanford University, 1976.

29. Gordon Donald, Op. cit, p. 119.

30. Ibid.,p. 122.

31. Ibid., p. 123.

32. Edward B. Rice, Op. cit., p. 31.

33. INVIERNO's strategy has been not to graduate individual farmers, except when their income and/or farm size exceed certain size limits described in Chapter III, Section D.

34. Equivalent to C$ 6,317 and C$ 1,649, respectively. Comité Nacional

Agropecuario. Resumen de la Situación y Diagnóstico del Sector Agropecuario de Nicaragua. UNASEC. Managua, 1974.

35. This Committee, at the highest level, included the present President of the Republic, the President of the Central Bank, the Ministers of Agriculture, Finance and Economics and a representative of the private sector.

36. Comité Nacional Agropecuario. Unidad de Análisis Sectorial. Política Agropecuaria. (Estrategia General de Política para el Desarrollo Rural de Nicaragua). s.d.

37. Ibid., p. 1.

38. For a further description of the restructuring of the Public Agricultural Sector see Ministerio de Agricultura y Ganadería, Dirección de Planificación Sectorial, El Programa de Reorganización y Fortalecimiento Institucional en la Estrategia de Desarrollo Rural de Nicaragua. Managua, April 1, 1976.

39. This restructuring also included the creation of the National Institute of Agricultural Technology (INTA), the National Institute of Renewable Natural Resources (IRENA) as well as the Agricultural Sector Planning Direction (DIPSA), a sohpisticated sector planning, program budgeting and evaluation unit at the Ministry of Agriculture.

40. Department of State. Agency for International Development. Capital Assistance Paper. Nicaragua. Rural Development Sector Loan.(AID-DCL/P-2091). (A Proposal and Recommendation for the Review of the Development Loan Committee). June, 1975.

41. Legislative Decree No. 20, published in La Gaceta, Diario Oficial LXXIX: 97, May 5, 1975.

42. According to the Loan Agreement, the loan funds would be devoted to (i) Agricultural Sector planning, coordination and training; (ii) Creating the Institute for Campesino Development; (iii) Integrated agricultural development activities; (iv) Access road betterment; (v) Rural municipal development and (vi) Rural small enterprise development.

43. During October of 1976, Albert L. Brown of the American Technical Assistance Corporation (ATAC), acting as team leader, and six other professionals from AID, INVIERNO and DIPSA undertook an evaluation of INVIERNO after its first year of operation. The resulting report was INVIERNO. The First Year. An Evaluation of AID Loan 524-T-031. Managua, October, 1976.

44. Ley Creadora del Instituto de Bienestar Campesino (INVIERNO), in Conceptos, Programas y Ley Orgánica del Instituto de Bienestar Campesino. Managua, 1976. p. 28.

45. Instituto de Bienestar Campesino. INVIERNO. Philosophy, Policies and Programs. Cit. p. 8.

46. One hectare is equal to 1.43 manzanas. That is, one manzana is

equivalent to 0.6989 hectares and to 1.726 acres. The 99 manzanas, therefore, are equivalent to about 69 hectares.

47. According to data in Comité Nacional Agropecuario. Resumen de la Situación y Diagnóstico del Sector Agropecuario de Nicaragua, cit. pp. 145-147.

48. It has been claimed that "setting the upper limits of credit elegibility at $ 590 per person certainly contravenes the intent to serve the lower income farmer...and calls into question the sincerity and responsiveness with which the program is attempting to reach the rural poor." Washington Office on Latin America. The Nicaraguan AID Program. Rural Development Loan. INVIERNO. Washington, D.C., s.d. pp. 6 and 7. We do not share the unsupported claims contained in this document. INVIERNO replied with the document Reply to a Report on INVIERNO Distributed by the Washington Office on Latin America. Managua, June, 1977.

49. At present, in addition to a C$ 30,000 annual family income limit, INVIERNO enforces a C$ 50,000 limit on individual credit operations and a C$ 70,000 limit on any individual line of credit.

50. INVIERNO. The First Year. Cit., p. 56.

51. Seven córdobas are equivalent to one U.S. dollar. Therefore, C$ 5,000 are equivalent to US$ 2,143 and C$ 20,000 are equivalent to US$ 2,857.

52. INVIERNO. The First Year.Cit., p. 57.

53. Equivalent to US$ 1,430.

54. INVIERNO. The First Year. Cit., p. 3. Primera is the first or spring planting season (April-May-June), postrera is the second or summer planting season (July-August-September) and apante, a possible third season.

55. Instituto de Bienestar Campesino. INVIERNO. "Procedimiento para la Investigación de Socioscon Créditos Mayores de C$ 15,000." Managua, April, 1977.

56. Ibid., p. 3. The income limit of C$ 30,000 is equivalent to US$ 4,286 per annum, while the maximum amount of a line of credit is US$ 10,000.

57. Instituto de Bienestar Campesino. INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino. Grupo de Estudio, Managua, January, 1978. p. 65.

58. Instituto de Bienestar Campesino. INVIERNO. "Política de Crédito de INVIERNO en el Corto Plazo para Iniciar el Programa Agrícola de Establecimiento y/o Renovación de Cafetales." s.d.

59. Instituto de Bienestar Campesino. INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino. Cit. p. 92.

60. Development Associates, Inc. Preliminary Study of Sector Management. Outline for Project to Strengthen Field Support. Washington, D.C., February, 1977. pp. 2-4.

61. Instituto de Bienestar Campesino. INVIERNO. Philosophy, Policies and Programs. Cit. p. 8.

62. Edward B. Rice, Op. cit., p. 26.

63. Instituto de Bienestar Campesino. INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino. Cit., p. 4.

64. Ibid., p. 5.

65. Ibid., p. 6.

66. Instituto de Bienestar Campesino. INVIERNO. "Sistema de Programación para los CEDE." Managua, December, 1977.

67. It has been claimed that "political, and not the intended economic reasons, determined the selection of the Matagalpa/Jinotega region as the first area of intervention." Washington Office on Latin America. Op. cit., p. 18. INVIERNO extensively documented the reasons for this choice in Reply to a Report on INVIERNO Distributed by the Washington Office on Latin America. Cit. In particular, it claimed that the choice was based on the detailed evaluation by UNASEC of the opportunities in the rural sector, "with the same style of respons-bility and professional seriousness with which the whole analysis was made." Ibid., p. 3.

68. Gerald I. Nehman and Dale W. Adams. Op. cit.

69. Gordon Donald, Op. cit., p. 118.

70. In order to determine the price of inputs INVIERNO takes into account the purchase price, transportation costs from Managua to the CEDE, taxes, four percent for "obsolescense", transportation costs from the CEDE to the locality and five percent handling costs.

71. Instituto de Bienestar Campesino. INVIERNO. "Instructivo para la Incorporación de Nuevas Localidades y Censo para Crédito." Managua, December, 1976. p. 11. See also Instituto de Bienestar Campesino, INVIERNO. "Plan de Crédito Agropecuario." Managua, March, 1976. p. 2.

72. Instituto de Bienestar Campesino, "Plan Operativo para 1978.", Managua, February, 1978. p. 2.

73. INVIERNO. The First Year. Cit. p. 23.

74. As of March 31, 1978, INVIERNO had disbursed US$ 5,272,707. Of these, US$ 3,040,926 (58 percent) had gone into agricultural credit.

75. INVIERNO has not been able to lend its funds as rapidly as it had originally planned because the average size of the loans has been much smaller than expected.

76. This reflects, in part, an accounting revenue, due to the way in which costs and margins are computed in the case of input sales.

77. Claudio Gonzalez-Vega, On the Iron Law of Interest Rate Restrictions. Cit. p. 274.

78. Among other things, this separation forces the institution to look for ways to reduce costs. Recently INVIERNO conducted a study of time

and movement which suggested the allocation of one vehicle per two AGROMOCs, cutting in two the stock required.

79. According to the February, 1978 payroll.

80. Development Associates, Inc. Op. cit., p.2-6.

81. Instituto de Bienestar Campesino, INVIERNO. "Marco de Acción para el Plan Operativo de 1978." Unpublished, s.d.

82. Governmental Affairs Institute. Agricultural Sector Implementation Project. Managing Planned Agricultural Development. Washington, D.C. August, 1976. Guy Hunter, The Implementation of Agricultural Development Policies: Organization, Management and Institutions. Summary and Comments of the Second International Seminar on Change in Agriculture, University of Reading. London, Overseas Development Institute, 1974. Uma Lele, The Design of Rural Development: Lessons from Africa. Baltimore: The Johns Hopkins University Press, 1975. Amy G. Mann and Jan Miracle, Rural Development: The Interplay of Analysis and Action, Bloomington: International Development Research Center, 1975. Arthur T. Mosher, Serving Agriculture as an Administrator. New York: Agricultural Development Council, 1975.

83. Edward B. Rice, Op. cit., p. 23.

84. Development Associates, Inc., Op. cit., p. 8.

85. INCAE. "INVIERNO" (Case Study prepared by Francisco Leguizamón and John C. Ickis). Managua, March, 1977. p. 1.

86. INVIERNO. The First Year. Cit., p. 31.

87. John Heard et al. Cooperatives as a Vehicle for Rural Development in Nicaragua. An Assessment for the Purpose of Foreign Assitance Strategy Formulation. Managua, January, 1978.

88. This enthusiasm and dedication has been shared by AID's Program Manager for INVIERNO, too.

89. INVIERNO hired a training consultant for an 18-month period to conduct training as a support service by the Central Office to the local offices.

90. Instituto de Bienestar Campesino. INVIERNO. "Sistema de Programación para los CEDE." Cit., p. 1.

91. Instituto de Bienestar Campesino. INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino. Cit.

92. Ibid., p. 19 and pp. 86-94.

93. Development Associates, Inc., Op. cit., pp. 2-10.

94. Ibid., p. 2-20.

95. Ibid., p. 2-21. As in other sections of this chapter, the study relied significantly on this source.

96. Private banks operating in the country include Banco de America,

Banco Nicaraguense, Bank of London and Montreal, Bank of America N.T. and S.A., First National City Bank, Banco de Centroamerica and Caley Dagnall Bank.

97. Delinquent and refinanced loans are included in the data.

98. Carlos Rene Ramirez. "The Rural Credit Program of the National Bank of Nicaragua." Small Farmer Credit in Mexico and Central America. AID Srping Review of Small Farmer Credit cit.

99. The President of the National Bank of Nicaragua is a member of the Board of Directors of INVIERNO. Recently both institutions signed a formal agreement under the auspices of the Ministry of Agriculture. However, better coordination is still needed.

100. Carlos Rene Ramirez, Op. cit., p. 15. Recently the National Bank has made some outstanding efforts to improve its operations.

101. According to INVIERNO, a farmer has graduated when he has acquired the minimum means necessary to achieve a certain standard of living and is able to exploit them rationally and efficiently.

102. In Bangladesh non-interest costs of borrowing represented between 12 and 74 percent of the amount of the loan (per annum) , and increased as the size of the loan declined. Mirza Shahjahan, Agricultural Finance in East Pakistan. Dacca: Asiatic Press, 1968. In a similar study in Brazil it was found that non-interest costs of borrowing represented between 15 and 44 percent per annum, also increasing as the size of the loan declined. Gerald I. Nehman. Small Farmer Credit in a Depressed Community of Sao Paulo, Brazil. Unpublished Ph.D. Dissertation, Ohio State University, 1973.

103. INVIERNO expects to increase the participation of the Junta Comunitaria in the preparation of applications and in the selection of borrowers in the near future.

104. The objective of the survey was to measure INVIERNO's image with its beneficiaries. Five factors related to the efficiency and convenience with which the services are provided were selected, and each farmer was asked to grade it with points from one to three. Average values for each factor grades were obtained at the CEDE level and at the national level. When the average represented more than 75 percent of the possible maximum the activity was given a grade A (high image); between 50 and 75 percent it was given a grade MA (medium high image); between 25 and 50 percent, it was assigned a grade MB (medium low image); and with less than 25 percent it was given a grade B (low image). Instituto de Bienestar Campesino. INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino. Cit., p. 45.

105. The rapidity of the procedure of approval received grades of MA in one CEDE, of MB in two CEDEs and of B in four CEDEs. Ibid., p. 47.

106. INVIERNO has indicated its preference to improve the timeliness of

the notifications and of the disbursements, particularly important when the farmer is renting land and has to pay the rent well in advance, even at the cost of increasing uncertainty as described.

107. That is, the farmer may not own the land that he cultivates, but he must own the crop and receive the income generated by his activity.

108. Instituto de Bienestar Campesino. INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino. Cit., p. 64.

109. Gordon Donald, Op. cit., p. 48.

110. This is one of the reasons why these institutions do not know how many borrowers they serve.

111. Instituto de Bienestar Campesino. INVIERNO. "Guía para el Análisis Manual de Crédito Agropecuario para Avío." s.d.

112. It is assumed that only in the case of about 15 localities a second visit was justified. Then, only 273 visits would have been necessary for the disbursement of the loans for the primera of 1977. However, 374 visits were made. This represents 37 percent more than what seems necessary and possibly represents a similar increment in costs. Instituto de Bienestar Campesino. INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino, cit. ,p. 61.

113. Authorization levels are calculated based upon the maximum amounts budgeted for each cropping activity to include such lending activities as land rental, various modern agricultural inputs needs, contracted labor, oxen rental, equipment purchase, family maintenance, etc. As these specific amounts will vary based on the precise needs of each socio, the amount authorized serves as a maximum ceiling level with actual amounts determined by the socio in consultation with the AGROMOC.

114. Instituto de Bienestar Campesino, INVIERNO. "Plan de Crédito Agropecuario." Managua, March, 1976. p. 23.

115. Instituto de Bienestar Campesino, INVIERNO. "Procedimiento a Seguir para Autorizar Sobregiros a los Presupuestos por Cultivo." s.d. The internal evaluation team found that in general the field personnel was reluctant to use these exceptional procedures.

116. Instituto de Bienestar Campesino. INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino. Cit., p. 90. A more reasonable explanation is that these are "maximum crop budgets," but that farmers who self-finance a portion of their costs disburse less.

117. Ibid., pp. 93 and 94.

118. INVIERNO hopes to acquire more realistic information with a continuous survey of a sample of socios which collects detailed information about payments and receipts. INVIERNO. "El Sistema Contable de Fincas." Managua, August, 1976.

119. John Heard et al, Op. cit., p. 100.

120. Instituto de Bienestar Campesino, INVIERNO. "Plan de Crédito

Agropecuario." Cit., pp. 26-34.

121. Instituto de Bienestar Campesino. INVIERNO. "El Sistema Contable de Fincas." Cit.

122. John Heard et al., Op. cit., p. 100.

123. Instituto de Bienestar Campesino, INVIERNO. "Recuperaciones." s.d.

124. INVIERNO is considering the innovative approach of requesting each socio, at the time of disbursement and in front of the other members of the community, to indicate when and how he expects to repay the loan. This will give the borrower enough flexibility to manage his cash flow and at the same time will force him to publicly accept his repayment responsibility.

125. Instituto de Bienestar Campesino, INVIERNO. "Recuperaciones." Cit. p. 5.

126. Instituto de Bienestar Campesino, INVIERNO. "Situación y Análisis de Cartera al 31 de Octubre de 1977, con Relación a los Socios Financiados en la Siembra de Primera y Postrera del Año 1976, Dentro del Programa de Crédito Agropecuario." Managua, November, 1977.

127. Ibid., p. 18.

128. INVIERNO is also considering the innovative concept of rewarding a community with the donation of a visible community project , if the community achieves a certain repayment standard.

129. Instituto de Bienestar Campesino, INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino. Cit., p. 73.

130. Ibid.,pp. 48-52. See also Instituto de Bienestar Campesino, INVIERNO. "Procedimiento para Análisis y Concesión de Créditos para Inversión." s.d.

131. Ronald Tinnermeier. Op. cit.

132. See Instituto de Bienestar Campesino, INVIERNO. Proyecto de Guía Metodológica de Asistencia Técnica Agropecuaria. Managua, December 1977, for a description of the AGROMOC's functions. More detailed instructions are found in "Manual del AGROMOC para la Entrega de Asistencia Técnica, Producción Agropecuaria y Desarrollo Rural." Managua, January, 1976.

133. The original design was to work with groups, but in practice it has been easier to operate on a one-to-one basis. INVIERNO is trying to correct this bias.

134. Instituto de Bienestar Campesino, INVIERNO. "Plan de Crédito Agropecuario." Cit., pp. 5-14.

135. Instituto de Bienestar Campesino, INVIERNO, "Financiamiento para la Primera de 1977." Managua, 1977.

136. Instituto Nicaraguense de Tecnologia Agropecuaria. Objetivos, Organización y Programas. Managua, 1977.

137. Instituto de Bienestar Campesino, INVIERNO. "Procedimiento para la Presentación de Resultados de las Parcelas de Capacitación." Managua, 1977.

138. Instituto de Bienestar Campesino, INVIERNO. Informe Anual 1975-1976. Cit. pp. 57-61. This represented a total of 80,000 farmer-meetings.

139. Instituto de Bienestar Campesino, INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino, Cit., pp. 164-165.

140. Banco Central de Nicaragua, Normas de Política Monetaria, Crediticia y Cambiaria. Managua, 1975.

141. Instituto de Bienestar Campesino, INVIERNO. "Justificación para una Tasa de Interés del 18 por ciento anual para el Programa de Crédito Agropecuario de INVIERNO." s.d.

142. Instituto de Bienestar Campesino, INVIERNO. "Criterios de Distribución de Gastos." Cit.

143. Instituto de Bienestar Campesino, INVIERNO. Informe de Evaluación del Instituto de Bienestar Campesino. Cit., p. 20.

144. Ibid., p. 48.

145. Instituto de Bienestar Campesino, INVIERNO. "Comentarios sobre el Uso del Tiempo en los Servicios de Capacitación y Asistencia Técnica a los Socios de INVIERNO." s.d.

146. It is worth mentioning that the automatic data processing system was installed by Nicaraguan personnel who appear to be highly qualified and experienced. Instituto de Bienestar Campesino, INVIERNO, "Request to AID for the Financing of Expenses of Data Processing with Funds from AID Loan No. 524-T-031." Managua, June, 1976.

147. The most extreme accusations against the use of the computer relate to its potential for political misuse -as a surveillance system. Washington Office on Latin America, Op. cit., p. 18.

148. Fortunately, cooperation among various Nicaraguan data processing users guarantees INVIERNO's access to other computers in case of break down.

149. INCAE. Op. cit., pp. 11-16.

150. Instituto de Bienestar Campesino, INVIERNO. Philosophy, Policies and Programs, Cit., p. 7.

151. Usually they have been the owners of the demonstration-training plots as well.

152. John Heard et al., Op. cit., p. 109.

153. Ibid., p. 110.

154. Instituto de Bienestar Campesino, INVIERNO. Informe de Evaluación

del Instituto de Bienestar Campesino. Cit., p. 6.

155. Ibid., p. 40.

156. During 1977 INVIERNO promoted community activities resulting in the completion of over 200 roads, latrines, vaccinations, schools well construction and other projects.

157. John Heard et al., Op. cit., p. 98.

158. Preliminary considerations explaining this include: 1) the socio's preference to first cancel outstanding obligations resulting from the drought rather than again solicit credit; 2) INVIERNO's decision to reject many who participated initially so that project resources would concentrate even more on the target group; and 3) many socios listed have other family members later entering as socios so as to utilize available land while they select other employment alternatives. This matter is being analyzed further by INVIERNO.

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