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EVALUATION OF RURAL DEVELOPMENT PROGRAMS IN DEVELOPING COUNTRIES: AN APPRAISAL OF SUPERVISED CREDIT PROGRAMS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

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CHAPTER I
INTRODUCTION

Situational Background

Within the last decade, agricultural development has become and will continue for a number of years to be the prime concern for government and developmental planners. This condition exists, in fact, because the attempt to obtain a sustained rate of development through programs concentrated on urban industrialization, at the expense of the agricultural sector have failed to achieve the expected result in those countries that have followed the urban industrialization approach.

Misconceptions as to the nature of development and the role of agriculture in that process have led most underdeveloped countries to favor the expansion of the industrial sector relegating agriculture to a position of lower status in their developmental strategies. Agriculture is indeed, located in the lower priorities in most developmental plans. The arguments for such preferences vary, yet many of them are quite valid. As Gaitskell has pointed out:

Pursuing industry is a much tidier, easier process. Turnover of capital in industry is more rapid than in agriculture so it can stand high interest rates more
easily and thereby attract finance. There seems to be less uncertainty about industry, and there is a uniformity in an industrial process whatever the locality, which helps to predict profitability. By contract, agriculture involves enormous variations from crop to crop and country to country and this is accentuated by the fact that anything organized about agriculture can easily be upset by climatic effect beyond human control.1

In those cases in which some importance is given to the agricultural sector, the developmental strategy is always to reach a high rate of agricultural output. This strategy is based on the assumption that poverty can be taken care of through high growth rates which will eventually filter down to the masses.

The industrialization and high growth rate of agricultural production strategies, although effective in increasing the Gross National Product (GNP), have proven ineffective when dealing with three of the most striking problems of developing countries in general and the rural sector in particular: poverty; unemployment, and inequality. As Seers2 remarks:

If all three of these have declined from high levels then beyond doubt, this has been a period of development for the country concerned. If one or two of these central problems has been growing worse, especially if all three have, it would be strange to call the result "development" even if the per capital income doubled...a plan which conveys no targets for reducing poverty, unemployment, and inequality can hardly be considered a development plan.


The equity question is of prime importance in a bimodal society such as those in existence in most Latin American Countries because poverty and unemployment seem to be related to or the consequence of the way in which the production resources are controlled.

While some writers have called attention to the need of developing a framework to analyze the problem of the small farmer in the context of the socio-economic and political surrounding seldom are such issues incorporated as an integrated part of their development strategies. Gotsch, for example, suggests a systems approach for relating the small farmer activities to an overall developmental question. He proposes the inclusion of the following four variables: 1) the nature of the available technology with particular reference to its scale effort; 2) the distribution of land holdings by size; 3) the distribution of income and social power; and 4) the distribution of institutional services. For Gotsch, these four variables provide a conceptual framework for specifying the casual relationship in a dynamic system that either creates or resolves rural poverty. He says that for example, if technologies with

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3 A bimodal society is one in which there are two highly concentrated groups in two opposite extremes: one in control of the economic, social and political power and in the other extreme exists a group lacking all kinds of power.

significant scale effects are introduced into a social setting characterized by a highly skewed distribution of land holdings, their effects will be to further skew the distribution of income and poverty, which in turn, results in further inequity. If equity means that inequality should not be increased, then special attention should be given to the small farmer. They generally constitute the largest group in the largest single sector of most under developed countries. They are usually among the very poorest in the country and are subject to special handicaps in the developmental process. Yet, most developmental programs are based upon the assumption that all farmers have equal access to the production resources or that the accessibility to the means of production are neutral in regard to the social and economic structure. Those programs also assume that if service is provided all farmers are able to take advantage of them. However, it is apparent that when opportunities appear for expansion of agriculture production, large farms may be better able to expand because they have access to the new technology and to other public services such as extension and credit. Therefore, any rural developmental strategy has to be directed toward solving the existing problem, that is, inequity, poverty, and unemployment.

Kanel calls attention to the question of rural development under the present condition of large rates of population growth, the relative high proportion of the labor force in the rural areas and the incipient urban industrial sector. He states:

The agricultural sector shelters many people for whom employment in the rest of the economy is not available. A developmental strategy based on larger farmers vests in them the decisions about choice of technology, factor proportion, and labor and tenure arrangements. Some of the likely outcomes include excessive adaption of labor-saving capital, decrease in employment and a shift from tenants and permanent workers to a greater use of temporary seasonal workers...With development dominated by larger farmers, the new opportunities as well as factor market imperfections (credit and foreign exchange policies as well as surplus of labor) become push factors displacing people from rural employment. With peasant proprietorship the same conditions become full factors: opportunities to use new technology and new employment opportunities while those who have no alternatives or who cannot or are not ready to utilize the new technology at least have access to subsistence...thus, an agricultural sector organized into small farms can satisfy two important requirements of the early stages of development: it can create employment and absorb people for whom alternatives do not exist elsewhere, and it can provide the necessary increases in production if required service institutions are developed.

Kanel further contends that a large scale is not required in order to achieve efficient organization of crop and livestock production. In most types of farming there are no decisive economies of scale for large units, and farms of different sizes can co-exist. The ability of the small farm to participate in development is not adversely

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affected by sheltering an excess labor force, but instead it depends on two additional conditions: 1) a yield-increasing technology that is highly desirable and 2) a structure of related services available on equal terms to small farmers.

One of the major interests to provide services if not in equal terms at least in a more equitable base, to small farms is the provision of institutional agricultural credit and guidance in the use of the new technology; that is, combining credit with extension education.

The emphasis on credit and educational programs takes root in some general propositions found in the agricultural development literature; among these are: 1) To increase agricultural output is a costly enterprise due to the high risk involved in modern methods of cultivation. 2) The transformation of agriculture is an investment problem. 3) Lack of capital is the primary cause of low labor and land productivity. 4) Agricultural Credit will be ineffective without technology which is profitable to the farmers. 5) An

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educational program is needed to successfully combine credit with new technology given the level of education of the majority of the farmers in developing countries. ¹¹

To supply capital to the farmers without showing them how to make effective use of it and without insuring adequate utilization of labor and farm resources often results in more problems than those that were intended to solve. ¹² Therefore, it is recommended that in order to have an adequate impact on agricultural production the provision of additional capital or credit should be accompanied by and coordinated with a sufficient amount of technical advice. Accordingly an institutional system integrating the two activities has developed under the name of supervised credit.

Supervised credit, according to its advocates, is a technical term to describe a particular system of credit provision aiming at improving both production and family living. It coordinates credit with extension or educational services to insure effective investment supervision. Usually supervised credit extends further; such as,


¹³ Ibid. p. 100.
making improved provisions for marketing and other auxiliary services.  

The need for using this kind of approach is probably grounded on the fact that in underdeveloped countries, and specifically in Latin America, where this approach has been more often used, the majority of the farmers not only face the problem of lack of working capital but also face the disadvantage of little or no formal education, low level of technological knowledge, small acreages and an entire gamut of all kinds of social illness. 

Brossard, quoted by FAO called supervised credit a rural welfare service, for credit is only a part, indeed a very essential part, but not the most important one in the system. The basis of any supervised credit program is education, not only to teach the farmer better farming practices, but also to help promote the entire family.

A conflictive situation is likely to arise when policies and programs like supervised credit, which are established as a means toward correcting inequalities, are taken as an end in themselves. Hopper's statement is illustrative of this fear:

\[14\] FAO, Agricultural Credit in Economically Underdeveloped Countries. (Rome: Agriculture Studies No. 46) p. 199.


\[16\] FAO op. cit. pp. 199-200.

National governments must clearly separate the goals of growth from the goals of social development and political participation... These goals are not necessarily incompatible, but their joint pursuit in unitary action program is incompatible with the development of effective strategy for abundance... Each aim must be held separately and pursued by separate action. Where there are complementaries they should be exploited. But, conflict in program content must be resolved quickly at the political level with full recognition that if the pursuit of production is made subordinate to other aims, the dismal record of the past will not alter. If governments persist in counterfunding the objectives for agricultural development, the plans and course of action will remain uncertain hesitant, confused, and filled with mutually defeating components. This is not goal attained, and only small return for the resources spent.

From the international donors point of view, supervised credit program goals might be to increase total food production or the efficiency with which the food is produced. However, from the standpoint of the individual countries, the appropriate goal may be to increase the farmers' welfare through the use of an additional resource.

Another possible conflictive situation is likely to arise from the existence of agricultural credit institutions and extension services or technical assistance facilities each one with its separate role and with its own objectives to be accomplished in the rural sector. Vested interest may well be in conflict, which points out the need for a clear definition of the program goal where the two activities, credit and education, are mixed.

The lack of understanding of the purposes, goals and factors affecting the supply of technical knowledge and credit and the relationship of these two factors with the socio-economic condition under which most of the small farmers live has led to the tendency to consider supervised credit like any other type of agricultural credit and to
appraise the result of such programs from the point of view held by commercial credit institutions.

Nonetheless, supervised credit is a technical term applied to a particular system of credit provision which theoretically intends to integrate, adequately and timely, credit with practical farming and home management. It also provides guidance under intensive supervision by well trained and competent personnel. It is regarded as an educational process premised on the idea that the combination of agricultural and technological knowledge, if properly applied, can be many times more effective than either credit or education alone. Thus, the combination of credit and educational services for the farmer and his family is the basis for increasing production and improving living conditions for rural families.

In the case of supervised credit in Latin America in general and in Colombia in particular the goal tends to be to increase the level of living of a specified type of farmer, through a learning process which includes: learning how to utilize a better technology in the production process, learning how to use credit in his farming business and learning how to utilize the increased income in improving his way of life; consequently, learning is a vital part of

supervised credit. If this is so, then it is important to know the educational side of these activities and the factors surrounding the rural population as learners since in the long run production and productivity will depend on what farmers have learned about the use of their available resources. Appraisal of these programs however, has often been focused on superficial change in production, efficiency within the organization, number of loans made, bookkeeping, and similar activities; perhaps this is because these changes are relatively easy to measure. ¹⁹

This kind of appraisal, leaves out questions pertaining to the validity of the program to solve the problem of the target population. It also does not account for the appropriateness of the methods followed to achieve the goals and the suitability of these goals under the socio-economic and political constraints in which the target population lives.

Hence, other fundamental types of measures are also needed in order to see whether or not the programs have generated changes in information, knowledge, skill, attitudes and desires without which no further action can take place.

These changes are often felt to be the real criteria to judge the success of a program; yet data of this sort may not be easy to obtain.

since it is difficult to disentangle the effect of a particular program from the effect of the myriad of other changes occurring at the same time.

The whole area of how the supply of knowledge interacts with the type of complexity of the technological package, size of farm and type of farm business, type of tenure, level of formal education, experience in farming or credit use, and supervisor expertise suggests that the appraisal device for supervised credit programs should be defined in broader terms than it has been.

The social, economic and political conditions of farmers differ widely among the developing countries and no two supervised credit programs should be the same. Nonetheless, there are common elements among these programs that help distinguish them from other types of rural development programs; such as, the objectives, the clientele, the operation, and the organization. These distinguishing features must be identified, recognized and included in the methodology used for assessing the effectiveness of supervised credit programs.

For the most part, this fact seems not to be recognized and the evaluation of supervised credit programs is confined to measurement of the credit aspects and its banking characteristics, leaving out the educational as well as the social side of the program.

For these reasons, it appears urgent to develop a more comprehensive frame of analysis whereby the role of a combined program of education in the sense not only of securing adoption of
particular improved practice but also giving the farmer the opportunity "to develop his power to perceive critically the way he exists, and to stimulate his action upon that reality so that he is able by his own initiative to improve his overall economic and social relations"20 and credit, in a rural development program can be assessed by including all those forgotten elements. Thus, the question remains as to whether the approaches used in the evaluation and analysis of agricultural credit in general are correctly used with respect to the evaluation of supervised credit programs and if the data taken with these criteria provides an indication of the supervised credit performance in the overall rural development of the concerned country.

Statement of Problem

The purpose of this study is to provide additional understanding in the interpretation of information from supervised credit programs as an instrument in the development of the rural areas of developing countries. In order to achieve this purpose the study will be focused on two major problems: First, to describe the criteria under which supervised credit programs historically have been evaluated and, in turn, to determine if these criteria were appropriate to the specific target population for which they were developed. This evaluation takes into consideration the theoretical assumptions, foundations, educational objectives and the goals of the supervised credit program.

Second, an attempt will be made to develop a comprehensive evaluative model with which the major results sought through a supervised credit program can be assessed.

### Objectives of the Study

The general objective of this study is to develop a frame of analysis whereby a supervised credit program can be evaluated by taking into consideration the socio-economic benefits derived by the rural population of the developing countries participating in the program. More specifically, the study seeks:

1. To review the literature concerning supervised credit programs, and to identify the criteria used in establishing and conducting these programs.
2. To identify factors from the available data and studies shown to be associated with participation in supervised credit programs.
3. To develop guidelines for improving the selection of evaluation criteria and methodology in evaluating a supervised credit or similar type of program.
4. To develop a basis for recommendations that can be useful in improving the evaluation of supervised credit programs.

### Need for the Study

Agriculture research and the technology that it generates is considered as a necessary condition for transforming traditional agriculture. But as far as the majority of farmers in developing countries is concerned, agriculture research and new technology
is not advantageous to them unless they have access to and can afford the results.  

Therefore, programs directed to provide knowledge and access to that knowledge have been created. Many resources for credit have been channeled for this purpose in the last decade. Adams calculated that over one billion dollars have been furnished to agricultural credit systems in Latin America. However, very little careful evaluation of these programs has been done. Adams emphasizes neglect in economic evaluation; yet it seems to be true that this is not the sole aspect of the program that has been neglected.

The lack of empirical information has given rise to many arguments, some favoring these programs, others condemning them which in turn has created a confusing situation for those in charge of making decisions in the allocation of the available resources. Misconceptions about the supervised credit aims could result from the lack of knowledge of the factors that affect an educational process under several socio-economic constraints. If we accept that the final aim of a program like supervised credit is the general improvement of the rural people's well being, then it is important to know.

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22 Adams op. cit., p. 163.
whether or not this kind of approach is appropriate for the kind of problem the target population is facing.

Knowledge in evaluating this kind of program is still more important due to the fact that in countries like Colombia there is an increased interest in channelling, if not all, at least the greatest part of the agricultural credit for small farmers through or in coordination with the extension service, rural development agencies or rural development projects.23

An understanding by credit institution personnel and extension leaders of the complex problem involved may lead to a better collaboration between extension service and credit institutions.

Procedure for the Study

The first objective was achieved by reviewing the available literature on supervised credit programs — the origin, assumptions, nature, goals, objectives and differences with other types of programs. The main sources of information were reports from seminars and conferences about supervised credit, programs, and The United Nations publications on the subject.

For the second objective, the information was obtained from a review of evaluation studies of supervised credit programs in Latin America. The review was comprised of studies done in Peru, Colombia, Ecuador, Venezuela, Brazil, El Salvador and Chile.

The population of the studies consisted of all dissertations, theses reports, articles and related literature in the field and was available for consultation to the researcher.

Among the information sources readily available were 1) the special collection of "Reference Material on Agricultural Credit" located in the Department of Agricultural Economics and Rural Sociology at The Ohio State University, 2) the A. I. D. Spring Review of Small Farmers Credit series, 3) the Dissertation Abstracts International.

The criteria for the study selections were:
1) The study was concerned with the supply of credit accompanied with some type of extension education regardless of the name given to the program.
2) The study was concerned with programs in developing countries.
3) The information was available and could be used by the researcher.

Since one of the objectives of the study was to assess the appropriateness of the criteria used in evaluating supervised credit programs as social action programs, a theoretical framework was developed to provide the guidelines against which the performance of the development function for which the supervised credit program is responsible was compared.

More than thirty studies were reviewed but about fifty percent of them were left out because they were studies such as: 1) one based on "in-depth interviews, with farmers in several projects",
by one evaluator in a "5-day evaluation" of a program covering a country; or 2) because the studies did not comply with the established criteria.

The third objective of the study was to develop a model that enables the evaluator to predict the success of the program by the means of knowing the relationships of all the elements intervening in the program. Information for the third objective was acquired by reviewing the literature about the concept of models and model building, models most frequently used in evaluation of social action programs. Information was also reviewed concerning concepts utilized in evaluating the performance of large social organizations. The concept of "systems" was introduced with the purpose of having a way to connect different sets of variables in a more integrated evaluation model.

The fourth objective was developed from the review of the literature, findings and conclusions of the study.
CHAPTER II

CONCEPTUAL FRAMEWORK OF SUPERVISED CREDIT PROGRAMS

The purpose of this section was to describe the characteristics of supervised credit programs (SCP): the nature, assumptions, goals sought and the differences from other similar developmental programs.

A necessary condition for an appropriate appraisal of the success or failure of the supervised credit program was to have a clear understanding of the circumstances under which the program was proposed, developed and implemented. Therefore, the theoretical framework for assessing a supervised credit program should provide a conceptualization of the motives for establishing this kind of activity and a basis for evaluating the result.

Supervised Credit Program Background

According to Rice, supervised credit was the earliest institutional concept of credit transplanted to developing countries by American advisers. The concept came from the original model presented by the United States Farm Security Administration (FSA), during the 1930's to solve the problem of the underprivileged and marginal farmers living in poor rural areas of the United States. One special characteristic of the program was that it called for concentrated attention by an extension agent or a supervisor to all aspects of the farm as well as the family as a whole with the purpose of triggering change in the economic, social and political power structure.

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Hartman\textsuperscript{25} et al. talking about the role of the supervisor in the FSA program affirms:

The effort of the supervisor soon began to affect the status-quo power structure of special interest, individuals and groups who were more concerned about maintaining social and political control than they were about assisting the disadvantaged farmers to develop into a position of more importance through economic stability.

Hartman further adds that for the supporter of the program it was a "model institution that attacked the causes of rural poverty and offered a degree of social justice and political importance to the neglected but numerous small farm operator."

Supervised Credit Program Foundations and Assumptions

Schultz\textsuperscript{26} stated that an expansion of farm loans without the supply of new inputs and the prerequisite of knowledge to employ them is not sufficient to modernize the sector. The progress in that sector is determined not only by the efficiency with which farmers use the resources that they already command but also by the willingness, knowledge and ability of the farmers to utilize the additional resources.

Empirical information tends to show that without on-the-farm training and/or a program of education of improved farming techniques, the farmer will not be able to increase his farm productivity and will thereby fail to make the best possible use of additional resources.


\textsuperscript{26}Schultz, op. cit., p. 80.
Penny asserts that "there is a direct relationship between the degree of economic-mindedness attained by a farmer and his willingness and ability to use credit productively for development." Hence, one of the underlying assumptions for establishing supervised credit is that the farmers are unable or unwilling to use credit productively without technical help or supervision.

In the unwilling case, supervision amounts to control and to insure that funds applied are not deliberately used for purposes other than requested. Control, although frequently an important aspect in supervised credit program operation is not the primary purpose of such programs. Instead, supposedly the inability of producers to adequately and efficiently use additional capital because of lack of capacity or knowledge is the basic reason for trying credit to technical services and educational programs.

A successful supervised credit program in promoting development of the agricultural sector provides more than just control over the use of the credit furnished. The technical assistance given and the education of the producer are primary aspects of most programs. These provide the producer with the skills necessary to efficiently utilize the resources supplied and will significantly increase the productivity of both the new inputs used and the already existing


28Dale Colyer and Guillermo Jimenez "Supervised Credit as a Tool in Agricultural Development" (Mimeographed) undated.

29Ibid. p. 2.
human resources. Thus, supervised credit programs can be a way to induce technological advancement and at the same time promote the skills essential for successful adoptions of change.  

**Nature of Supervised Credit Programs**

Brossard points out that the problem of the small and backward farmer is an extremely complex one; it is one which cannot be solved through simple measures. It is not merely a credit problem nor a problem of education. What is needed is an integrated program of improvement in which credit and education combined are the most important features.

Rochac outlines the main points to consider in supervised credit programs: (1) social promotion; (2) equilibrated social and economic objectives; (3) adequate selection of the target population; (4) adequate finance; (5) careful selection of priorities.

1. Social Promotion — Supervised credit programs intend to improve progressively the marginal or submarginal farmer to the position that he can become an active element in the social and economic development process. The

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30 Idem

31 Dario Brossard "Features of Supervised Credit in Latin America" in Elizabeth K. Bauer (ed) Proceeding of International Conference on Agricultural and Cooperative Credit, August 4 to October 2, (Berkely, University of California, 1952) p. 298

supervised credit program seeks to eliminate the cause of rural poverty, by providing the means to those families at the edge of the development process. It is an educational plan that attempts to teach how to work more efficiently on the farm, and how to improve the home; induce the farmers to produce more and better products for the market; show how to obtain maximum benefit from whatever he produces either for home consumption or for the market; and indicate to the farmers how to improve to an optimum their material and social life.

2. Equilibrated Objectives — The economic progress of a farmer can be possible and stable only if it is complemented with a series of technical and social improvements. The rural family must learn to apply some advanced technology and to acquire certain habits that can bring them highest betterment. The social progress becomes the stimulus for the economic progress, since the farmer creates new needs and sharpens the existing ones. In order to satisfy these needs, the farmer will be urged to increase his productivity by increasing his efficiency. In underdeveloped areas it is common to find farmers with low levels of aspiration toward high income because their frame of need is very simple. For those farmers it is necessary to help amplify their horizons so that they can feel the benefits of better education.
health, housing, and community services. The farmer that experiments with these social benefits is more likely to accept better productive techniques that eventually enable them to increase their income and to satisfy their desires for progress. Thus, it is convenient in all supervised credit plans to coordinate the economic objectives with the social ones in order to attain the desired result that this combination is likely to produce.

3. Selection of the Target Population – Supervised credit is appropriate for any kind of farmer whose operations and family life need to be improved by the sort of combined activities that it embodies. But, those who have adequate assets can readily obtain finance on reasonable terms from ordinary agricultural institutions. Besides this, those farmers are likely more competent in planning their operations and in taking advantage of the extension services or any other technical assistance service available. Limitations on financial resources as well as personnel make it necessary to select those farmers who are in the most need. While a supervised credit program may benefit all farmers in the area it covers, its primary aim is to benefit poor farmers who by reason of technical or economic limitations, or whatever other condition is not able to improve his farming practice but will be able to do so if better opportunities are provided.

Personal qualities are the most important factor in the
4. Adequate Finance - Normal agricultural credit is granted for productive purposes and has as a requirement that the borrower provide part of the total investment. Supervised credit should go further than agricultural credit since it is intended to create a new type of enterprise by improving the farmer's economic and social condition of those who cannot satisfy their credit needs through normal credit channels. To attain this objective it is necessary to offer the farmer constant and successive technical advice and appropriate finance so that the farmer can invest in those businesses that eventually lead him to the economic and social progress sought. The investments do not have to be limited only to production but should also provide for expenses such as education, health, food and living improvement. Because the supervised credit gives special attention to the administrative plan in which all the items to be financed can be specified, it is easy to include those aspects where social deficiencies are affecting the development of the rural families.

5. Selection of Priorities - The supervised credit program intends to fight the causes that retard the rural family and its progress in farm enterprise. But the problem is so complex that not any one program is able to handle all facets of the problem at the same time. Thus, priorities have to be

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established according to the most pressing needs and most needed goals.

Goals and Objectives of Supervised Credit Programs

The aim of credit in a supervised credit program is not merely to increase agricultural production per se, but to be ancillary to a program of education which does not limit itself to teaching better methods of farming but also to improve social and economic conditions by changing old habits of thinking and managing. Although essential, the credit component is only an instrument for reaching the target population by the educational program. As soon as these targets have been reached to the extent that the credit element becomes so much more important than the educational element integrated with it; that the latter can be said only to support the former, the term "Supervised Credit" will no longer be applicable. 34

The implication of the statement above is that the general intention of the supervised credit program is to be transitional in character: bringing the farmer to the position where the conventional but appropriately designed agricultural credit and extension education services are adequate for his needs and he is able to take advantage of those services. 35

Adams, Giles and Pena 36 comment that for most writers on

34 FAO, Agricultural Studies No. 68, p. 104.
the subject, supervised credit has two types of objectives: (1) the primary objective is to increase sharply the socio-economic level of the participating farmers by creating a group of viable family-farm units which can provide their operators with a satisfactory level of living; (2) the second objective often sought includes — (a) increasing the overall agricultural output, (b) diversifying the agricultural production, (c) increasing the output of a particular crop, (d) assisting borrowers to accumulate capital for land purchases (e) raising the technical skills of borrowers, and (f) building a broad base of rural support for the lending agency.

Adams and his associates point out that three elements are combined to accomplish these objectives:

1. The credit granted to operators of family sized farms who are unable to satisfy their needs through normal channels.

2. The supervision and planning which is aimed at helping the borrower to more effectively combine the credit with other factors of production.

3. The education and training which the borrower receives through the program.

This combination, according to the writers mentioned above is rooted in three assumptions: (1) the additional capital will enable the borrowers to more adequately exploit their land and labor resources. (2) the supervisor is capable in assisting the farmers to improve the farm operation, and (3) there are new techniques available at the supervision level that if applied properly will materially assist in improving the operation of the farm unit.
Differences From Other Developmental Programs

The educational objectives of a supervised credit program are substantially the same as those of an extension education or community development program in the sense that both intend to promote the overall improvement of the rural life by stimulating the efforts of the people and increasing their capacities to help themselves. They differ; however, on the aspect of credit. The supervised credit program stresses greater concentration on the individual farmer and his family and the efforts of the supervised credit supervisor are more concentrated than those of a multi-purpose extension agent or community developer.

Although the credit provision may play a leading part in improving the rural welfare, supervised credit differs from ordinary bank agricultural credit in many important respects. In supervised credit, the objective of rural betterment is more central and specific. Credit in the supervised credit program is normally more fully integrated with extension educational services and it is broader in scope and not confined only to increasing production.

While the repayment of any kind of loan must be safeguarded, commercial considerations are secondary rather than of primary importance. Accordingly, credit worthiness is placed on the prospective repayment capacity as it results from the combination of credit, extension and other operations.
Another distinctive feature of supervised credit programs is that while it may benefit all farmers in the area in which it operates, the primary target is to benefit poor farmers who by reason of technical or economic inexpertness, or inadequate supply of working capital and other essential services cannot provide adequate security for credit of ordinary source but will be able to do so, if given the right kind of help and supervision. 37

**Supervised Credit As Social Welfare Program**

The description of the motives and implications for establishing a supervised credit program indicates that the benefits of the program are two kinds — tangible and intangible: tangible benefits are those that can be objectively measured and expressed in quantitative or monetary terms. Intangible benefits are results reflected by changes in knowledge, attitudes, skills, understanding, interest and participation in this program.

The attainment of intangible benefits may be essential prerequisites to the achievement of the tangible ones since in the long-run, the changes and improvements in the farmer productive capabilities is what may count in a productive process.

If, in fact, a supervised credit program has as its main objective the transformation of the socio-economic relationship of the small farmers in developing countries by seeking the two kinds of objectives mentioned above, it follows that a supervised credit program is a welfare

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37 FAO, Agricultural Studies, No. 4 46 p. 201.
program of educational and financial characteristics. An immediate consequence of that assertion is that as a welfare program, the educational as well as some of the administrative costs are expected to be shared by the whole society which in the final analysis is the beneficiary of any investment in the betterment of rural population. In fact, most educational programs such as extension or even formal education do not depend only on direct benefits for justification, but also on indirect non-monetary gains in welfare for participating families. Even if supervised credit programs are considered only as a means to increase production, the educational aspect needs to be emphasized.

Wharton\textsuperscript{38} points out that farmers require three major kinds of new developmental knowledge.

1. Knowledge about new inputs which are available and which will in fact produce favorable results such as new seeds, varieties animal breeds animal feeds, fertilizer, pesticides, sprays, farm implements and equipment. He also includes new knowledge about food inputs which will improve the nutritional level of the farm family and family labor force, as preventive health measures. These items he said, may or may not but usually do, involve new production techniques.

2. Knowledge about new techniques of production: time and techniques of planting; maturation and protection of crop or animal, harvesting; culling, feeding and fattening, inoculation, general medication, and crop rotation, cover, forage, soil conservation.

3. Knowledge about how to economize in production and marketing.

In production the farmer requires knowledge about how best to combine inputs. In marketing the farmer also needs knowledge of how to live with uncertainty in the short and long run.

The farmer must know the expected costs of producing at various levels of output under various technological conditions. He must be able to estimate with reasonable accuracy the future price which he is likely to obtain for each of the possibilities which he is considering. Proficiency in manipulating these variables to arrive at a reasonable successful decision is no small accomplishment. It is one thing to raise a crop or an animal technically, it is another to do so economically.

Supervised credit programs; however, are established as a means for accelerating agricultural development and not as a sole instrument designed to increase production. It is, indeed, thought of as a basic instrument of incorporating, through an educational process, the marginal rural population into the main stream of the country's social and economic life. The foundation of supervised credit, as its proponents see it, goes beyond the economic concepts of economic benefit and economic efficiency in terms of physical
output.

Tinnermeier and Dowswell\textsuperscript{39} point out that a developmental institution that functions as a catalyst for some sort of planned change requires an insightful understanding of the environment in which the individual and also the credit institution operate. In this context development has to be understood not as a simple increase in the product per capita, but as a process of self sustained change with far reaching structural modifications in the distribution or reordering of the economic, social, and political power.

Gotsch, quoted by Tinnermeier and Dowswell\textsuperscript{40} argues that small farmers' development problems cannot be studies in isolation, that information such as the rural social structure, attitude of the small farmers with respect to new technology, credit and government personnel, is needed if credit is going to increase productivity. For this reason, in order to accomplish a developmental role, supervised credit programs deal with factors which affect the condition and relationship of the lives of the farmers and the social, political and economic structure. Some factors; such as, education for the farmers, consumption or long term investment credit at low interest rates bear necessary elements that qualify the program as a social action or welfare program. The betterment and improvement of the farmer's


\textsuperscript{40}Ibid. p. 3.
condition seem to be the main objective of this type of program; however, for those authors who define rural development as agricultural growth with its implicit limited objective of increasing production, the position is that supervised credit is not a welfare program.

One of the most characterized defenders of that position is Miller. He says that supervised credit considered as welfare is incompatible with agricultural development. He raises the question as to how supervised credit can be employed as compatible with agricultural development. He proposes that a supervised credit program which seeks a more efficient agricultural sector will discriminate against marginal producers and tend to force them from the land. He grounds his argument in the costs involved of having the farmer on the land and on the assumption that unemployment is not necessarily more costly than rural underemployment. Miller alleges that the role of the marginal farmer must be clarified if the objectives of raising the standards of living and increasing productivity efficiency are to be confronted directly. He alleges that problems arise from superficial reactions to low productivity and/or to poor living conditions without considering the reasons for their existence or the consequences of the policies used to improve the situation.

In his argument, Miller seems to overlook the fact that in Latin America, the farmers that he calls "marginal farmers" are the majority and that the farmers with "enough land" are those who do not

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need a supervised credit program because they are already participating in the formal capital market and usually they can afford technical assistance. Furthermore, as Havens\(^\text{42}\) points out, the marginality of the farmer is not because of low productivity, but, as a consequence of the concentration of resources determined by the socio-economic and political structure.

Miller also does not fully consider the effect of forcing an additional poorly prepared labor force which has no alternative employment opportunity to migrate. Miller’s position is, in fact, contrary to what has been empirically found: that the actual need is a program that provides security of employment or provides an adequate income to keep workers in farming until a late enough stage of economic development has been reached.\(^\text{43}\) The program also needs to support an educational system that is capable of developing the skills that are needed for urban employment or for upgrading the rural labor force.

In view of these facts we may infer that the argument held by Miller leaves out some of the important problems that a supervised credit program should solve.

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\(^\text{43}\)See Kanel, op. cit., p. 2.
The immediate practical implication of considering a supervised credit program as a social welfare program is that goals other than raising agricultural output become very important. Goals directed toward 1) a better income distribution; 2) creating employment; and 3) reducing poverty call for program concentration on those farmers less able to succeed in increasing production (those regarded as disadvantaged).

The question concerning the legitimacy of a social welfare program for the small farmers is beyond the scope of this study; however, in a simplified manner, one can say that if other sectors of society have been benefitting directly or indirectly from the exploitation of the peasant, but at the same time for whatever reason that society is not satisfied with the condition in which the peasants live; then undertaking a "welfare" program to improve the farmers situation is justified.

The meaning of the term "welfare" as is used here differs from the meaning used in economic theory. In economics, welfare is associated with preference or choice. A person is thought to be able to rank goods in order of preference. The welfare of that person is then said to be maximized if given certain constraints, such as, his income; he then attains those goods that rank high in his preference scale. This concept although it is useful in economics analysis does not help in analyzing the situation of a man who chooses his preference and then is worse off for having made that choice. Berliner points

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out that the popular use of the term "welfare" provides a better basis for dealing with such cases for there are many real world situations in which a rational man cannot be expected to know whether or not he will be better off if he makes a certain choice. There are also cases in which he has no choice to begin with. In this case his welfare depends on where he is in relation with other groups in society.

The peasants are regarded as a group of people having limited access to the institutional services, such as, agricultural credit, technical assistance or extension education; lacking formal education and knowledge of modern agricultural technology; possessing low acreage or no land at all; living below the subsistence level and without any participation in the social system and power structure. In contrast, there is another group of farmers who are able to take advantage of all the benefits provided by society. The relative welfare of the two groups is based on the way the benefits are distributed among the members of the two groups. When a program is organized to promote what we call the peasants welfare it is understood that its intention is to create conditions that will somehow promote the farmers to the level that they are able to participate actively as members of society.

If one accepts this interpretation of welfare, then it follows that a program ought to strive to change the peasants situation only insofar as the changes expected will improve the peasants position in relation to the other group of farmers. Certain programs for example, are designed to increase agricultural production. Such programs may be justified only on the assumption that changes in
production will improve the level of living of the small farmers; an assumption that may not be true for the majority of small farmers as when the increase on production is accompanied by a fall of prices because the larger farmers can produce more cheaply. Increase in production, therefore, should be treated only instrumentally; that is, only to the extent that it contributes to the improvement of the farmer betterment should it be viewed as objectives of a welfare program.

The small farmers are in greater degree deprived of achieving general education than other groups of society. This factor alone is a handicap for the peasants to acquire the type of specific skill needed in modernizing agriculture whether they work as laborers, share croppers or independent small farmers. Furthermore, education in the broadest sense, may help peasants to change their attitude about the desirability of certain activities and the value of education itself provided that the peasant has access to those commodities. It is quite likely that these attitudes are more important in fostering agricultural development than are the specific skills promoted by any developmental program.

The conceptualization of supervised credit programs as a social welfare program leads toward two major questions: One in relation to the explanation for the persistence of the social and economic problems of the vast majority of the farmers in spite of the programs, and second, in relation to how the program is evaluated to determine its success or failure. The first question deals with the validity of the theoretical premise on which the program is based and the understanding of the basic problems of the farmers. The
second is a methodological one and will be considered when we discuss the problem of evaluating a social action program in an on-coming section.

In summary, this section attempted to describe shortly the antecedents, foundations, nature, goals, and differences of supervised credit programs from several types of developmental programs.

The supervised credit program model was originated as a response to the problems faced by the underprivileged and marginal farmer living in poor areas of the United States during the depression of the 1930's.

The major assumption of supervised credit programs is that the farmers are capable of improving their situation provided they have the means and knowledge to do so.

Supervised credit programs are integrated programs in which credit and education combined are the most important features. The supervised credit programs which are programs of social promotion of the farmer using equilibrated social and economic objectives with adequate finance and is concerned with special target populations.

Supervised credit programs differ from other types of agricultural credit in that the credit component is normally more fully integrated with extension educational services and it is broader in scope and not confined only to increasing production.

Finally, since the main objective of supervised credit is the transformation of the socio-economic relationship of the poor farmers it follows that a supervised credit program is a social action program
of educational and financial characteristics.
CHAPTER III
EVALUATION CRITERIA USED IN SUPERVISED CREDIT PROGRAMS

One of the objectives of this study was to determine factors related to or associated with success or failure of a supervised credit program when that kind of program is defined as a social action program. Hence, the purpose of this section is to review the more likely source of information for accomplishing that purpose i.e., the review of supervised credit program evaluation studies.

In this endeavor some problems surfaced which limited to some extent the completeness of the review. One is the problem of localizing the study since many of them are just reports made for financial agencies whose major interest is to gain knowledge in the financial aspect of those programs and have very little information about the other aspects of programs in which this study is interested. A second problem is that the majority of programs have not made a formal evaluation of their program. The evaluation usually is based on a rough estimation of the program's accomplishments. The evaluation criteria are generally concepts or value judgements of administrators whose interest is to maintain the program at whatever cost. A third problem arises when one attempts to establish an adequate set of criteria to determine factors affecting a program. In effect, specific criteria that might be proper in one case may be entirely inappropriate to others.
The question arises whether it is possible to develop a set of criteria that is applicable for all supervised credit programs and if it is, can be meaningfully placed within a general evaluation conceptual framework. Besides these problems there is another problem to be overcome in the analysis of studies obtained from diverse origin and purpose. The problem relates to the design and application of a common system of classification that can be applied to all of them.

If the number of studies is large and if they are made in different environments, then the lack of a classification system might be cumbersome due to the diversity and complexity of the variables involved in a supervised credit program.

For the purpose of this paper; however, the problem is minimized because after reviewing most of the available evaluation studies of supervised credit programs, fourteen out of thirty were eliminated because the information they provided was irrelevant for the accomplishment of the objectives of this paper. Consequently, the number of studies here reviewed is small and most of them follow the same general purpose and orientation which made the task easier. Therefore, the summary of the studies should be considered as a sample of supervised credit program evaluation which describes in general terms the characteristics of the type of evaluation studies that have taken place.

Mann points out that in order to describe any evaluative research, it is necessary to state the nature and size of the sample.

the setting in which the method was tested, and the nature of the method itself, the change criteria employed, the findings and the methodological error that may have been present. In the present instance, however, it was only necessary to identify the main criteria for determining the success or failure of the program.

A first approximation was to summarize the available studies describing the purpose or objective, the research design, and major findings. Also when possible, a list is made of factors identified as contributors to the program success or failure. The summaries are comprised of studies done in Peru, Colombia, Ecuador, Venezuela, Brazil, Chile and El Salvador.

The number of studies were not evenly distributed since it seems that the concentration and number of publications are related to the relative importance of the program in the country concerned. The review of this literature accomplished several purposes. It helped to establish precisely which components of the program have contributed to the success or failure of the program. And it determined what is known about the effect of simultaneous application of different criteria, each of which may have been independently validated. Moreover, it established which components have proved either difficult to measure or relatively weak as an effective measure. When this information has been accumulated and organized, it would be possible to develop a set of priorities that could indicate, on the basis of known research findings, which relationship among components ought to be tested and in what order in the evaluation of a program.
However, there is still a limitation worth mentioning regarding the usefulness of the variables that are identified following this approach.

It is obvious that the factors that are identified are a function of the orientation of the evaluation study thus, they may or may not be representative of the major factors affecting the program as a whole. For example, an evaluation study directed to determine loan delinquency rate as the major deterrent of a program is likely to identify the factor related with loan delinquency regardless of the effect of that factor over the impact of the program as a whole.

Review of the Experience in Selected Countries

The Peruvian Experience

Tinnermeier and others made an evaluation of the supervised agricultural credit programs administered through the facilities of the Agricultural Development Bank (ADB), the National Agricultural Research and Extension Service (SIPA), the National Office of Agrarian Reform (ONRA), and the National Forestry Service (FS). The evaluation study focused on the organization, operation and effects of the existing supervised credit programs. The objectives of the evaluation were:

1. To evaluate how well the revolving fund fulfills its objectives of:

(a) Increasing agricultural production and improving farm

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income among small and medium sized farmers.

b. Channelling funds to farmers who will be able to move to conventional credit sources within the time periods envisioned in this loan.

c. Facilitating the implementation of Agrarian Law by providing credit to tenants who receive land under the law.

2. To train Peruvian counterparts in techniques of evaluation.

3. To provide data so that the executing agencies will be in a position to modify fund lending policies or practices to keep them closely attuned to the overall objectives of the program.

The study was a descriptive study based on three sources of information:

1. Interview with farmers participating in the program and personnel of the different projects.

2. Loan census data gathered from SIPA, ONRA, and the bank.

3. Production data available from SIPA, ONRA, FS, the Bank, and other sources.

Descriptive statistics such as percentages and frequency distribution were used to describe the situation of the farm and farmers and regression analysis to determine the influence of selected variables on the delinquency rate. The percent of the individual's loan which was delinquent was considered as the dependent variable. The independent variables were designated as: cultivated land in the farm, area of land in crop financed per farm and the amounts withdrawn per hectare in the crop produced with the loan. Other independent variables considered were the type of tenure and the type of
crop. In general, the impact of the supervised credit program was measured by: 1) fertilizer use, 2) use of improved seeds, yield levels, 3) farm investments, and 4) land use. The determination of previous inputs and production levels were difficult to obtain: therefore, some kind of approximation method was used.

The Major Findings and Conclusions of the Study were:

1. There is little doubt that the credit program had changed attitudes developed new skills for the farmers, trained farmers and extension personnel to some extent, in the use of credit, and increased the farmer's level of living if not over the long-run, then at least during the time of the loan.

2. Increases in fertilizer use for farmers now applying little or no fertilizer will have larger yield responses compared to farmers already applying relatively high rates and then consequently, encouraging the use of more fertilizer by low or non-users will bring about immediate effects on production levels.

3. Although no comparisons were made among agencies and differences in the level of breeding technology between crops, it was concluded that Plan Costa has had a very positive effect on the quality of seed used by borrowers. In each of the agencies studies the percentage of Plan Costa Farmers using selected seed after participating in Plan Costa was considerably greater than before they participated in the program.
4. In general, the average yield of the main crop was lower for the participants in the program than for the entire region.

5. Farm investment
   
a) Most of the investments were for farm improvements, largely relating to an irrigation system, b) the propensity to invest increased with the size of the farm. The larger the farms, the higher the percentage of farmers who invested, c) the average farm investment tends to be related to the availability of water and other factors in the agency.

6. Land use - It appears that the input of the program on land use was not great. The author concluded that any direct results of Plan Costa participation on the size of borrowers' farms in terms of cultivated area is not perceivable from the data.

Other more general conclusions were:

1. The improvement in the income and technical levels of the low-income farmers, although possible through corrected effort in a relatively short period of time, must be viewed as a continuing long-run process.

2. Major emphasis must be placed upon the quality and benefits of the production technology and supervisory aspects of the program with credit being considered as an arm to implement the technical measures of the farm.

3. As the backbone of the program, the production technology
and improved inputs must be continually re-examined and modified as needed to render them adaptable, useful, and their results reliable for the individual farmers.

4. The cooperatives should not only serve as a means to the formation of groups to reach more people but also must serve other functions, such as supplying and marketing.

5. More attention to the borrower selection must be made. Criteria about farm size, maximum age, water supply, and application of technology must be clarified.

6. There is a need to formulate specific goals for their programs and to extend these goals to the local level so that the field personnel can organize their programs with fulfillment of these goals in mind. These goals must be quantified so that definite measures of fulfillment can be determined.

7. Continual effort needs to be concentrated on improving budgets used in stimulating borrowers' needs.

Two limiting factors were identified:

1. Lack of clear and specific goals
2. Resource endowment

When Tinnermeier47 was the head of a credit evaluation team with North Carolina State University Mission in Peru, he wrote a paper based on observations and materials that he gathered in Peru. He wrote his paper for the seminar in "Small Farmer Development Strategies".

with the purpose of reviewing the historical achievements and limitations of the Peru's supervised agricultural credit program and to discuss how its experience might be generalized for other areas.

According to Tinnermeier a few isolated supervised agricultural credit pilot projects were initiated in the 1950's but the first nationwide program began in 1964 with the signing of the first of four AID loans. He analyzes the supervised agricultural credit program in the coastal region of Peru where the supervised credit clientele consisted of small farmers — largely sharecroppers with less than five hectares of land, who are unable to obtain conventional production credit due to high risk operations or because they lack the necessary legal land tenancy or ownership documents required by the other institutional sources of agricultural credit. He affirms that the establishment of supervised credit programs was the first attempt to provide financial aid to such groups of small farmers.

He presents the major accomplishments and limitations in general terms and admits that the program did reach the small coastal farmers. For the first two crop seasons (1964-1966) over sixty-one percent of the loans was for farms with 3.5 hectares total area or less and twenty-six percent was for farms of 1.5 hectares or less. However, in some cases the program attempted to assist farmers which were too small resulting in no significant or visible benefits.
Other accomplishments were:

Supervised credit did influence the adoption of some new practices and techniques by a portion of the farmers. However, the increases in productivity have been disappointing. The estimated average yield levels for most crops financed with credit were less than the yield averages published for the same regions by the National Statistical Reporting Service. Furthermore, farm capital formation does not appear to have changed significantly as a result of supervised credit.

A number of factors are suggested for this poor showing:

1. The necessary resources of land and water were missing or in short supply, resulting in little or no increase in net income.

2. The credit was used primarily as operating capital.

3. Any increase in net income went into additional consumption expenditures rather than into farm investments.

4. The technical assistance did not meet the needs of the borrowers, nor was it available.

The formation of cooperatives has progressed concurrently with the extension of supervised agricultural credit in Peru. The supervised agricultural credit programs also managed to reduce the legal and administrative requirements demanded by commercial banks and by the State Agricultural Bank.
At the workshop on "Empirical Studies of Small Farm Agriculture in Developing Countries," Tinnermeier and Finn48 analyzed the impact of one portion of the Peruvian Supervised Credit Program. They referred to the part of the program that is administered by the Peruvian National Extension Service (SIPA). The purpose of the paper was:

1. To describe the Supervised Credit Program as to its size and the type of activities it finances.
2. To analyze the impact of the credit on the use of input, on productivity and on the income at the farm level.
3. To describe data concerning loan delinquency and its causes.

The primary source of data was a survey of 279 participants in the program in the fall of 1967 and a re-survey of the same program in the fall of 1969.

The major conclusions of the paper were:

1. The SIPA supervised credit program of Peru has received sufficient financing to reach many small producers in the area of its operation.
2. The program has, without doubt, reached the very small farmers, specifically those with less than three hectares, but it is generally concluded that the credit has not significantly helped those small farmers increase their

48 Ronald Tinnermeier and Michael Finn, "The Impact of Small Farmer Credit in Peru" a paper presented at the workshop on Empirical Studies of Small Farm Agriculture in Developing Nations, Purdue University, Lafayette, November, 1972.
productivity levels and, as a consequence their income.

3. The supervised credit has had only minimal impact on the adoption of fertilizer use, crop productivity, and income levels for small producers.

4. Family income did increase, but the increase cannot be attributed to the farmer's having participated in the supervised credit program.

5. Loan delinquency is a problem in this program and overextension is suggested as one of its causes. There is little evidence to support loan refinancing. Loan refinancing must be accompanied by extraordinary financial and technical assistance to truly assist the farmer in reducing his debt burden.

The evaluation of a supervised credit program in the Peruvian Coast was the subject of Finn's study. The objectives of the study were:

1. To examine the relative performance of small versus medium sized farmers in loan repayment, technique improvement, and increasing productivity.

2. To test the tentative conclusion based on the literature stating that the smallest farmers have higher default rates than the middle-size farmers.

3. The study also attempts to determine whether or not the smallest farmers should be excluded from credit programs on the basis of their higher default rates and whether or not the inclusion of the smallest farmers would be justified on grounds that they receive other significant benefits from participating in the program in spite of their high default rates.

4. Given the fact that official Plan Costa records indicate a loan delinquency of over 25 percent but do not report on progress made in improving farm incomes or modernizing farm technology, the study was directed toward collecting data to measure progress towards the achievement of these program goals and to find out whether loan delinquency could be reduced without sacrificing other program goals.

The performance of the program was measured on:

1. a loan delinquency index
2. a productivity and income change over time
3. adoption of the use of fertilizer and improved seeds

Finn analyzes and expands models of farmer decision making in risky environments to explain and predict the behavior of the farmers in Plan Costa. He generates from these theories, hypothesis about the farm and farmers' characteristics likely to be associated with the adoption of fertilizer use and loan delinquency.

The study was based on data collected in two surveys, one in 1967 and the other made in 1969, with the same participants in five agencies purposely selected to be representative of areas where different crops predominated and areas with different irrigation
availabilities. The study was also based on data from the loan records kept by program officials. Most of the measures, specifically productivity and income, were estimated since no direct information was collected. Adoption was operationalized by the use of fertilizer. The changes in the dependent variables were measured over time since there were no comparison groups. The hypothesis of the relationship among variables was tested with multiple regression techniques and with a comparison of mean sample data of adopters and non-adopters in the different agencies.

1. The study found that while most farmers did try farming with the use of fertilizer and improved seed, many reverted to farming without the use of these inputs. It did not find a strong relationship between productivity of adoption and age, education, off-farm income and number of contacts with extension personnel. Furthermore, it was concluded that the mere adoption of fertilizer, although correlated with the use of other modern inputs, cannot be taken as an indication of program success. Adoption did not generally show greater increases in farm income than the non-adopters did. Finn speculates that a) water inadequacy, b) management skill possessed by farmers, c) the quality of the supervision may be responsible for the poor performance of the adopters.

Improvements in physical productivity and farm incomes were slight and loan repayment was found to be only weakly related to the level of farm income.
2. The second major conclusion of the study was that the high default was associated with off-farm income but not related to the ability to repay since the defaulters have similar net incomes to those who paid even though the source of income was different.

The author speculates that the high default rate is partly the result of the unavoidable risk of making unsecured loans to small farmers for the purpose of promoting the use of modern techniques and because Plan Costa was designed to serve farmers who are not "credit worthy" enough to secure loans through regular channels. Thus, a high default rate is not necessarily a sign of a failing program.

Other possible causes of high default rate were:

1. failure to collect the loans when the individual had the ability to repay his loan,
2. inadequate screening of farmers with high potential for crop failure due to an unsecure or inadequate resource base,
3. inadequate supervision of farmers after the loans were granted,
4. overlending in relation to the potential farm income.

The study was inconclusive about which factors can be considered as contributing to the success of the program; since, adoption was considered a poor predictor of success; default was not considered as
an indicator of program failure; and because in those cases in which there was some increase in farm productivity and in farmers income there was also an alternative explanation. However, the factors associated with program failure were clearly identified as follows:

1. Goal ambiguity - conflict of perceived goals among the international donors, national policy makers, and field personnel.
2. Lack of informative systems to feedback the performance of the program
3. Lack of criteria for allocating funds
4. Poor supervision
5. Insecure or inadequate resource base
6. Lack of appropriate technology for the small farmers

From the studies of Peru we find that the criteria used to measure the impact of the supervised credit program is limited to measure the impact of delinquency rate, the adoption of fertilizer, use of improved seeds, yield levels, farm investments and land use. These criteria clearly reflect the orientation held by a financial institution.

The Colombian Experience

Supervised Credit in Colombian's Agrarian Reform: An Evaluative Study, is the title of the research conducted by Adams, Giles and Pena. 50

The purpose of the study was:

1. To determine the results of Supervised Credit Programs to

50 Adams et al, op. cit.
date as a means of asserting whether or not further financing by AID was justified.

2. To carry out an independent evaluation of supervised credit in order to suggest to INCORA possible improvements in the program.

3. To prevent information on INCORA's program as a basis of comparison for other agencies working with supervised credit programs.

The specific objectives were aimed to answer the following questions:

1. What are the changes which supervised credit stimulates at the farm level?

2. Do supervised credit programs have an impact on farmers who are not participating in the Program?

3. What marketing problems are supervised credit borrowers having?

4. What are the principal communication problems within the supervised credit program?

5. What difficulties are the supervisors encountering?

6. How does supervised credit fit in with other Agrarian reform programs in Colombia?

7. What are the problems associated with supervised credit data reporting, and what are the possibilities for putting much of the supervised credit information on IBM cards?
The study took as background information the general proposed objectives of supervised credit programs which are:

1. To increase the socio-economic level of participating farmers.

2. To increase the output, diversification of agricultural production, increasing the output of a particular crop, asserting borrowers to accumulate capital for land purchases, helping to raise the technical skills of the borrowers, and building a broad base of rural support for the lending agency.

The programs are established under three assumptions:

1. That additional capital will enable the borrowers to more adequately exploit their land and labor resources.

2. The supervision provided is such that it can materially assist improvement of the operation of the farm.

3. There exists new techniques available at the supervision level, and that these techniques, if applied, will materially assist in improving the operation of the farm unit.

Under these assumptions, three elements are combined to produce the supervised credit programs: Credit, supervision and education and training.

A survey study was designed to cover five areas where the supervised credit program had been established for the longest period of time. A random sample was taken from those participants who had had supervised credit for one year or more. As a control group a neighbor (non-participant) of each of the borrowers was interviewed.
Constituting the analysis of the study is a description of the characteristics as well as the comparison between the two groups with aspects such as changes in farm organization, in the use of the family labor supply, use of land, animal enterprise and change in knowledge. Other aspects described in the study were: marketing problems, farmer participation in cooperatives, communications and farmer knowledge and opinion of the supervised credit programs; adoption of new practices, characteristics of the supervisors and administrative personnel and finally, characteristics of the organization of the delivery system of the supervised credit program.

The major findings of Adams and associates are that the changes in farm organization, annual crop production, adoption of better techniques, were endured by the supervised credit program. Other changes such as the size of the farms, farm specialization, family labor supply, skill of borrowers, marketing and influence in the non-participants were not as great.

The quality of the borrowers was the main contributor to the program success. They were younger, more aggressive and better educated group of borrowers than the average operator of small farms in the area studied. They have more access to mass communication than do their neighbors.

The following factors were associated with program failure:

- the characteristics of the supervisor - young, relatively inexperienced, lack of a good deal of training in the technical aspect of agriculture;
the lack of coordination with other institutions, specifically the research and education centers, and the ambiguity in the overall program objectives.

An economic evaluation of the Supervised Credit Program was the title of a study made by Gimenez in Colombia. The general purpose of the study was to provide both borrowers and lenders of development funds analytical guidelines for the allocation of funds within development projects. The specific objectives were:

1. An efficient way of allocating existing budgets within agricultural development projects.
2. The key inputs in agricultural production activities.
3. A method for comparing a specific project with alternative projects.
4. How supervised credit programs have affected agricultural production in one of the supervised credit programs of the Colombian Institute for Agrarian Reform (INCORA).

Three hypotheses were derived and stated in null form:

1. If additional capital is utilized, the additional gross revenue will be negative in some farm units.
2. If capital is reallocated among different inputs of production, gross revenue will not increase.
3. The supervised credit program has had no effect in the economic development of one specific project.
Two different populations were sampled. One population consisted of farms which had been participating in INCORA's SCP since 1965. The other population was composed of farmers who were not working with any type of government organized agricultural programs. The variables considered were: agricultural output and cropping patterns, inputs in terms of land, labor and capital inputs. The factors included in the analysis were: 1) changes in farmland cropped, 2) changes in the market prices of crops produced, 3) changes in the physical productivities of the various crops and 4) changes in the crop distribution patterns. The analysis of these changes consisted of determining 1) the amount of each of these changes, 2) the relative proportion which each factor contributed to the total change in the gross value of farm output, and 3) the extent to which the SCP was responsible for the changes in the factors influencing values of farm production.

A regression analysis was used, having as the dependent variable: Gross value of farm output; and as the independent variable: cropland, hired labor, value of farm equipment, operating costs and outstanding balance of SCP loans.

The major conclusions were that the changes of the gross value of farm output (GVF) and the factors that affect it shows that the SCP has affected the agricultural production of those farms participating on the
The SCP has increased GVF through changes in product mix and increases in the physical productivities of some of the crops.

The analysis of the aggregate production functions led to the rejection of the hypothesis that the reallocation of capital among inputs would not increase GFV. The hypothesis that the SCP had not effected economic development in the project was also rejected.

Two factors were related with the changes of the gross farm value of output: 1) cropland and 2) operating capital.

The objective and type analysis did not allow the author to identify factors limiting the success of the program.

Whitaker made a study of the supervised credit program with the purpose of analyzing the role of supervised credit in the process of economic growth. The researcher attempted to provide a more rigorous and quantified assessment of supervised credit in Colombia based on explicit theoretic models and hypothesis. He focused the impact of credit programs on: 1) factor use, 2) production, 3) profits, and 4) technology among small farmers producing corn. Also, he is concerned with the effort of institutions' constraints surrounding credit use, on the efficiency of resources used by borrowers.

He organized the study in two ways - 1) quantifying the direct impact of the INCORA Supervised Credit and technical assistance

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programs on a sample of small farm borrowers producing corn in
the program in 1968 '69, '70; 2) measuring the effect of constraints
(imposed by INCORA) surrounding the credit use, on the efficiency
of resource allocation in corn production among the INCORA borrowers.

The impact of the program was measured by the total corn pro-
duction, profit and techniques used to produce corn. The effect of the
policy of tying the use of credit to specific factors of production was
measured by simulating what could happen with the profit, production
and factors used if the institutional constraints did not exist.

The objectives of the study were:

1. To develop a model to characterize the level of factors used,
profit, production, and the mix of technology, for a sample of INCORA
borrowers producing corn before they had access to INCORA credit.

2. To compare the results of the model out lived in objective
one to the present (determined from a farm sample survey) in order
to measure the impact of INCORA credit and technical assistance
programs on factor use, profits, production and technology.

3. To develop a model to characterize the level of factor use,
profits and production, and the mix of technology, for the sample of
INCORA borrowers producing corn, with no constraints on how working
capital may be used.

4. To compare the results of the model outlined in objective
three to present situation to measure the impact of restrictive INCORA
loan policies on the efficiency of resource allocation by measuring
differences in levels of profits, production and factor use.
5. To economically analyze the result of both models, and set forth conclusions and recommendations, and suggestions for further research.

The rationale of the study is that most studies of the INCORA program have been based on cross tabulated material and conclusions about the impacts are educated value judgements, with little reliance on explicit conceptual models or quantification of results. There is no reliable data available to make before and after comparisons. Since it is impossible to obtain pre-INCORA data that would be accurate, the author developed a linear programming to calculate the impact of INCORA's credit program on production and profit and to simulate budgets for small farmers that characterize production in absence of INCORA loans.

Two models of Linear programming were used:

1. A model "A" in which the absence of the supervised credit is assumed.

2. A model "B" considering the actual situation that is used by working capital but with some restrictions.

The three constraints used in solving the model were: 1) working capital; 2) family labor; and 3) land.

The major findings were:

1. The INCORA loans for working capital for the sample of borrowers producing corn increased the profits and production, modified the pattern of resource use, and induced agricultural technology.
2. The INCORA policy of trying loan proceeds to purchase of specific inputs limited profits and production for sample of borrowers and led to a more labor intensive production process, than if working capital had been freely allocated.

3. Apparent shortages of agricultural credit, as evidenced by requests for INCORA loans that exceed available funds, may be explained by divergencies between the shadow price of working capital and the rate charged for INCORA loans.

The factors related to success that are mentioned in the study are:

The use of modern factors, and the shift to new technology which led to increases in yields and hence production and profits.

The major factors limiting the success of the program are: the institutional constraints over the use of working capital or INCORA loans.

The study of Schwinden and Feaster\textsuperscript{52} includes three parts. The first two are a description of the history, objectives and organization of the supervised credit program and the third one is compiled of several evaluative studies of the program.

All the studies compiled are based on either information taken from the borrowers files kept on the supervised credit offices or information gathered on survey designed to have representative samples from the participant farmer or agencies. Cross-tabulation and regression analysis are the two major statistical tools used in analyzing the data.

The authors classify the summaries under three headings:

1) apparent uses of the credit; 2) apparent production impact and
3) affect on savings, farmer organization, farmers attitudes, general
image, and possible changes.

In the use of credit they summarize a study made in one of the INCORA Colonization projects. It was found that the credit was significantly used to increase the capital value of the main enterprises of the region – cattle raising and pasture improvement. Other variables found associated with credit and technical assistance were roads, improved agricultural practices, and management practices. The apparent production impact is divided in three phases:

The first phase presents a survey study made by INCORA and the World Bank. This study concludes that with intensive credit assistance, gross income of farms almost doubled in the first years and net income nearly tripped. In the following years credit assistance could be reduced while gross and net income continued to grow.

The second phase presents another survey study of eight projects by INCORA and the agency for International Development (AID) which arrived to the following conclusions: 1) The credit provided with supervision has a positive effect upon employment generation.

2) The gross value of products sold increases substantially as a result of credit.
3) Income distribution is favorably altered through credit effects upon employment external to the farm and by substantial increases in income wealth and level of living of the farmer borrowers.

4) Measures of farmer progress are highly farm and family resources generally raised from a predicted level through successive plans.

5) There was a transformation from nearly subsistence level of operations and this transformation gives some insights into the behavioral pattern of borrowers.

6) The modest increase in the family living level indicates rather strong propensity to save and/or to capitalize. The increasing use of labor and inputs encouraged by credit supervision and farm management advice certainly create opportunity for steadily increasing net worth via debt retirement and capitalization.

7) Relationships between credit extended production, cash income generation, and repayment capacity show favorable possibilities.

8) Two negative factors are evident as a result of the evaluation:
1) the credit is a subsidy with the time costs of money borne by the GOC through INCORA. The time cost to borrowers in real terms is negative;
2) the length of the recovery period ties up the portfolio for long periods of time.
The third phase presents a sample survey made to compare borrowers in the sample in relation to all borrowers in the projects; characteristic of sampled borrowers regarding farm size, non-INCOLA debt, and number of farm plans completed and the relationship between INCOLA credit to the borrower samples and their net worth. They found that there are differences and similarities among all INCOLA projects and the four specific projects. The similarities were in regard to the aggregate portfolio as a percent of the total, and loan value for livestock. They differ in farm size distribution and the source of credit that is different from INCOLA.

The effect of the supervised credit program on savings, farmer organization, farmer attitudes, general image, and possible changes seems to be presented in Schwinden and Feasters' report as their own appreciation of the program since they do not provide any indication of the source of information used to sustain their claims.

The savings, according to them, appears to be in increased capitalization, physical assets, and reduction of liabilities affecting the net worth. Savings also appears to be in the form of advanced payments.

Schwinden observes that apparently neither economically nor politically oriented organizations of small farmers will develop very rapidly. The borrowers' attitude toward the program is usually favorable although some prefer the Caja (the agricultural Credit Bank). The general image of the credit program was up until about 1970, that the program operation was effective and that borrowers were benefitted.
Finally, the program has been successful in improving the income and capital situation of the borrowers and has other beneficial external effects. Farm planning and compliance with recommended farm practices were generally accepted by the borrower with regard to small farmers continuing to increase input purchases and adopt improved technology. The supply of credit available to the small farmers from institutional sources does not satisfy credit demands.

Four factors can be identified as contributing to the success of the program:

1. The technical assistant,
2. Planning and implementing the farm plans,
3. Orientation toward marketing the production,
4. Adequate funding

Factors mentioned as limiting the success of the program were:

1. The program was too well spread,
2. Low rate of interest,
3. The policy change of shifting credit away from family farm units toward production cooperatives which will reduce credit availability for many or most small farmers with family farm units.

The Colombian studies include all the criteria for determining the success of the programs used in the preceding cases except for the delinquency rate factor. In addition to these factors they measure or describe changes in farm organization, use of family labor, animal
enterprise, changes in farmer knowledge and opinions about the programs, communication exposure, supervisor and administrative characteristics and the delivery systems of the supervised credit program.

Other variables were: changes in market prices of crops produced, crop distribution patterns, profit, and income distribution. As can be seen, the evaluation criteria include a more comprehensive group of variables according to the aims of a supervised credit. However, all those variables were used to determine the credit impact and make inferences about the program's success based on credit alone.

The Venezuelan Experience

Christ⁵³ reported on two studies made in Venezuela to evaluate the supervised credit program in that country. The purpose of the evaluation was to analyze the progress made under the supervised credit program.

The data for the study was extracted from two sources: 1) information available from the borrower's loan docket and ledger sheets and 2) a survey made in the areas in which the programs were operating. The variables considered in one study were: number of dependents, land use, livestock, mechanization, housing, sanitary facilities, financial status. In another study the factors considered were previous situation, effectiveness of regular rural bank, preference for supervised credit, technical supervision, future demand for credit, family maintenance,

increase in capital assets and earnings, home improvement, con-
tribution of supervised credit to marketing of product, borrowers
opinion of supervised credit systems, training given to supervised
credit borrowers and attitude with respect of loan repayments.
Descriptive statistics were used to calculate the improvement that
resulted from the program. Christ describes the major result in
percentages of increase in relation to what was there before the
program: he presents increases in: land used 18 percent, livestock
49 percent, number of tractors 38 percent, housing improvement
41 percent, sanitary facilities 86 percent and financial status 16 percent.
These results are from the first study considered in the report.

In the second study Christ found in relation to previous situations
and with respect to credit that 31 percent of farmers interviewed
had not had access to other types of credit; one hundred percent of the
participants preferred supervised credit to another type of credit,
and that they liked the technical assistance, terms, planning and the
amounts of money loaned.

He also found that the supervisor was competent and that they had
very good borrower-supervisor relationships. Eighty-four percent stated
that they were not yet in position to continue farming without additional
credit. One hundred percent of those interviewed expressed a desire to
pay their obligations when they were due and to protect their credit
standing.
Christ considers that as shown by the two studies, the results have been quite impressive in that they all show substantial increases and improvements.

In the Venezuelan studies, the program impact was measured mainly by home improvements, training given to the farmers, increases in capital assets and change of opinions and attitudes of the farmer in relation to the supervised credit program, loan repayment and effectiveness of the bank in granting loans to the farmers.

The Ecuadorian Experience

A study of a Pilot project in Directed Agricultural Production Credit in Ecuador was made by Davis. 54

Davis' study was an intent to analyze a Pilot project in directed Agricultural Production Credit in Ecuador. According to Davis, the difference between supervised credit and directed credit is that in the latter, the primary emphasis is on demonstrations and group educational courses for the farmer along with the upgrading of services of the local credit union to the point where the farmers should be able to supervise themselves with some assistance from the credit union.

The purpose of the study was to critically analyze the assumption that substantial input of outside capital and technical assistance into a farm will favorably affect farm productivity, internal capital formation and economic growth.

54 Jon S. Davis "A Study of Pilot Project in Directed Agricultural Production Credit in Ecuador" Nov. 1, 1969, Unpublished study sponsored by USAID/Ecuador.
The study was a survey study with information gathered by three sets of questionnaires and administered to managers of the credit union to three different groups of farmers, and to a group of agricultural extensionists who have given the farmer technical assistance. The study tried to analyze the directed credit programs' different perspectives, i.e., the mechanical and technical aspects of providing the small farmer with credit for production purposes on a directed basis and tried to point out some of the day-to-day operational and administrative problems of the program.

This study concludes:

1. There is confusion about the objectives of directed credit programs as defined by the National Federation of Credit Union which implements the program and the Cooperative Bank of Ecuador and the Local Credit Union and the Directed Credit Department. On the one hand, the author concludes that the National Federation, by concentrating on institution-building, has created a program of promotion and not a program of directed agricultural production credit. He said that in order to have a Directed Credit Program, two conditions must be met: the input of outside capital and outside agricultural technical assistance into a farm.

2. The program must have a balance between the need for local autonomy and the necessity of National Control and supervision; because of the lack of understanding of the local credit unions of what constitutes
a Directed Credit Program and what the responsibilities are that go along with the acceptance of this type of credit.

3. There is ample justification for the National Federation to evaluate the success of its efforts in terms of quantitative statistical data, rather than qualitative. Two reasons are: a) that the various agencies demand periodic assessments of the success of both the overall credit union movement and the directed credit program, b) that the measured progress in the use of credit and technical assistance in the individual farms is not feasible on a short term basis.

4. One of the dominant goals is institution building and its quantitative expansion as the benchmarks used to evaluate progress within the directed credit program. Under the present plan of expansion the entire credit union movement may be threatened by insufficient servicing of member credit unions due to lack of manpower.

5. The plans of Directed Credit Programs called for the technical assistance to come from the extension service of the Ministry of Agriculture. After four years of trying, the plan has failed to materialize into an effective system of cooperation because the Extension Service is understaffed, lacks money, is too bureaucratic, does not have sufficient means of transportation, and is too involved with the larger farmers.
6. The directed credit program has a high dollar to participant ratio when a comparison is made between the total number of participants and the total amount of money loaned. However, only one percent of the 45,000 credit union members have received a Directed Credit program loan each year or about four percent since the program was started.

7. The operation of the directed credit program is possibly aggravating the historical split that is existing between the rural and urban members of predominantly urban unions.

8. The National Federation is trying to expand so that it becomes self-supporting by 1972, but this very emphasis on expansion whether by increasing the total number of members or by entering the new field of life insurance as by suing the directed credit institution building may ultimately leave the entire credit union movement in a much weaker position.

Keeler, Mera and Cruz\(^5\) made an evaluation of the directed agricultural production credit in Ecuador with the purpose of measuring the results of this program in terms of increased production and increased income for the sixteen cooperatives which were, according to the National Federation of Savings and Loan Cooperatives (FECOAC), in the operative phase of the programs.

The study was concerned with the viability of the concept of directed production credit. The concept of directed credit is deceptively simple, to combine credit for production with technical assistance. The concepts are quite similar between supervised and directed credit except that the supervision is less intensive in directed credit. Credit for production, according to FOCOAC, should include (1) an investment of the supervised credit program (already discussed in one of the preceding sections of this paper) or work plan: (2) payment of the loan in installments as needed instead of in a lump sum; (3) control of the loan by field inspectors; and (4) obligatory savings of part of the loan, usually about ten percent. Technical assistance requirements are: (1) attendance at preparatory courses which may include subjects such as cooperativism, technical practices, and explanations of the directed credit concept, (2) attendance at demonstrations of technical practices, (3) use of improved seeds and animals, (4) use of methods of control of annual parasites and soil worms. In practice, however, many complicating factors enter into the picture, such as availability of appropriate technical assistance when needed, weather conditions, marketing problems, fluctuating prices, understanding by the borrower of the concept itself; in short, all the problems which usually attend poor farmers in underdeveloped countries. The objectives of the evaluation were:

1. To accurately describe the DAPC programs.
2. To evaluate the results of the DAPC programs.
3. To analyze factors affecting the DAPC programs.
4. To recommend improvements for the DAPC programs.
Seventeen credit cooperatives were designed by FECOAC as those which were fully integrated into the DAPC programs. The authors visited each of the sixteen cooperatives, interviewed the managers, and gathered data from the records of the cooperative on all production loans in 1971. A total of 284 structured interviews were obtained from a random sample of loan recipients from nine of these sixteen cooperatives.

In addition, two control groups were sought: one group of farmers who were members of credit co-ops and had received production loans but had not received technical assistance, the other group consisted of farmers who had received technical assistance but had not had production loans. The description of the scope of the DAPC program in 1971 was based on the records of each of the sixteen cooperatives.

The results of the program were measured in terms of income difference from 1970 to 1971 and in terms of production increases of twenty percent or more between the last harvest and the previous one and the degree of participation in cooperative affairs. Comparisons were made with the control group. Various factors such as, size of land holdings, amount of credit, number of contacts with the extensionist, or the use of farm plan were analyzed to see what effect they would have on increased income or production.

The results of the DAPC program were shown as follows: the sample of DAPC members were classified into three production groups – increased
production group, decreased production group, and stable production group. The comparison group was classified in the same way. They found a difference of nineteen percent between increases and decreases with DAPC members compared to a seven percent difference between the increases and decreases of non-members. The program appears to be both reducing the losses in production and stimulating increases in production. Slightly over half of the sample indicates an increase in income compared to thirty-six percent of the control group. Therefore, in absolute terms and compared to the control group, the members of the DAPC program are experiencing increases in income.

The effect of the DAPC program on participation in cooperative activities of members has been null.

They did find that the production and income are independent of each other. The explanation is that production increases for small farmers are not transferred into income because of marketing facilities. Three factors can be identified from the study as related to failure:

1. Lack of adequate credit
2. Lack of effective technical assistance
3. Marketing problems

Guzman\(56\) made a review of the supervised credit program of the National Development Bank in Ecuador with the purpose of showing

the success or failure of the settlers in the economic and financial spheres; achievements with respect to social betterment; and the technical and administrative aspects of the program.

There is no detail about the procedures followed but the author says that the evaluation was carried out on the basis of a statistical sampling of loans granted through 1969. The sample consisted of 185 participants in the program.

The author concludes that there were important favorable economic and financial changes: (1) the amount of land controlled by the farmers; 2) the quantity and quality of the farmers' assets, 3) the livestock and income from crop production, 4) financial position of the participant; 5) generating income for other sectors of the economy.

He also concludes that the economic and social status of the participant in the program has visibly improved in a relatively short time. He says that the people have purchased more agricultural and urban lots; they are strongly oriented toward providing education for the children even when this means paying high fees; they have improved their feeding habits; they have paid wages to other people; their assets have increased on an average of 145.8 percent and their average net capital has increased by 137.8 percent. Another important effect in the field of social betterment for the families participating in the program is the improvement of the home of the participant farmer.

Participation in formal organizations by the farmer is another result of the supervised credit program. Forty-five percent of the sample belonged to organizations, mainly cooperatives. The study in general is a description of what the supervised credit is and a report
of what is the opinion of the participant without any analysis about the factors contributing to the success or failure of the programs.

The studies from Ecuador use the following criteria for measuring the results of the program:

1) increases in production and income
2) degree of farmer participation in cooperative affairs
3) changes in financial and economic position
4) the amount of income generated for the other sectors of economy

The major concern in those studies was to see how great an increase in agricultural production could be obtained by using outside capital and technical assistance.

The Brazilian Experience

The Ribiero and Wharton study, although cannot be considered as a direct evaluation of supervised credit programs, they can however, evaluate three of the major criticisms to supervised credit programs developed by the "Association de Credito y Asistencia Rural" (ACAR) in Minas Gerais Brazil. These criticisms are: 1) subsidy rate of interest, 2) cost of the program, and 3) actual impact of the program on agricultural production and productivity.

The analysis of the first issue was discussed by comparing how

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the large farmer has controlled the agricultural credit and type of interest rate they have paid on the loan that they have received before the ACAR program was established and the access to the sources of credit and the rate of interest that the small farmer has with the program. To analyze the second issue, they made a cost study taking information from the monthly reports submitted by the technician working in the project. The actual working time spent in each activity was used to calculate the percentage devoted to credit activities. The percentage was applied to the actual cost of a calendar year to determine the cost per year of the credit activities.

The third issue was analyzed taking information from three studies which used as its measures: net income, changes in farmers' agricultural output through time, changes in output, input ratios through time, economic efficiency, and price efficiency. The conclusions of this study were:

1. The provision of loans to ACAR farmers had some merit in providing them with a "share of the pie" also at a subsidy rate. Another justification for these subsidy rates in the case of the smaller farmers served by ACAR related to their risk sensitivity because many are so close to a subsistence level of living.

Furthermore, the loan enables the farmer to adopt a new practice of technology that involves an additional cost; the subsidy rate encourages him to try it, and the supervision provided gives him added technical backstopping with the new practice. But subsidy rates had
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   Furthermore, the loan enables the farmer to adopt a new practice of technology that involves an additional cost; the subsidy rate encourages him to try it, and the supervision provided gives him added technical back-stopping with the new practice. But subsidy rates had
two other implications: they probably accounted for continued upward pressure on available loan funds and chronic "credit squeezes" since the rate of interest charged was below the equilibrium level; and they undoubtedly had effects upon the allocation of resources within the farmers securing the loan.

2. The study revealed that the cost of the program represented between seven and eleven percent of the value of the loan. This amount could be viewed as the cost for the "supervision" component in the loan. If one compares this cost with the value of the total change in annual output per farm not accounted for by changes in factor inputs, and if one views such cost as an investment in human capital, then one finds that the rate of return on such an investment is 6.5 times.

3. From the three studies made to evaluate the impact of the program, one can extract the following conclusion:
   a) Those borrowers who had received three or more loans showed a general upward trend in their net worth, specifically among subsistence farms.
   b) From the second study the conclusions are that the result of efficiency measures were mixed, but the technological changes resulting from the introduction via combination of credit plus extension yielded a significant return of more than six fold.
c) The third study found that the non-ACAR farmers had a greater efficiency than the ACAR farmers; this result is exactly opposite to what one would expect.

Factors which contributed to success:

1. ACAR approached its task with three cultural ingredients: experimentation, adaption, and flexibility.
2. There was notable administrative and financial continuity to the program with insulation from the political process.
3. The program trained and used national technicians.
4. ACAR allowed for organizational evolution.

Factors limiting success:

1. Lack of sufficient well trained personnel.
2. Lack of adequate finance.

The Interamerican Bank for Development (BID) made a study of the supervised credit in Brazil with the purpose of evaluating the operational as well as the institutional aspect of that program. They call supervised credit an educational program to differentiate it from other types of agricultural credit. The study is a description of the characteristics of the area in which the program has been operating, the target population, the infrastructure, the social problems, and the policies affecting the program.

The information for the study was obtained from a random sample,

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utilizing an interview schedule.

The following factors were used by the authors in measuring the impact of the program:

1. The number of beneficiaries are limited.
2. The impact on production and productivity in all the agricultural products promoted by the program has been impressive. However, no solution has been proposed to eradicate the rural poverty.
3. The acquisition of land has been increased from 15 percent in some areas to 64 percent in others.
4. Increases in fixed capital—livestock has increased in 30 percent and equipment and machinery in 60 percent.
5. Employment has increased more than 20 percent.
6. Income and level of life—they found that most of the farmers had increased their income and had obtained improvement in their homes, nutrition, transportation, electric energy and water supply. However, the greater benefits have been for those with greater resources in the income scale.

Factors that act as contributor to program success are:

1. The concentration of operational and institutional functions of planning, supervision and technical assistance in an independent organism.
2. The cost of planning and supervision is not paid by the bank institution.
3. The link of credit and extension education.
4. The combination of technical assistance and credit at low or
no cost has been instrumental in promoting a certain line of production considered as priority for the urban market.

5. The combination of agricultural input that has given opportunity to thousands of small farmers to increase their family income.

The Brazilian studies use criteria very similar to all of the other studies reviewed; however, some factors not mentioned before are:

1. Comparisons of the subsidized rate of interest given to the small farmers and the larger farmers.

2. Comparison of the cost of the program with the value of loans that were made.

3. Technical efficiency.

4. Price efficiency.

5. Changes in output and input ratios through time.


7. Level of living.

It can be noted that most of the measures mentioned are quite complex and each consists of several more specific measures.

Vasquez, Solis and Weisenborn present an analysis of the Supervised Credit Program in Salvador since 1961 to 1973. They consider the program administered by the Administration of Bienestar Compesino (ABC) which has as its objectives:

1. Through a broad supervised credit program, increase agricultural production and provide higher incomes and better standards of living for agricultural producers.

2. To convert the agricultural producer into an effective manager of his own enterprise, an active worker of the land, and an effective producer by providing the necessary technical assistance and social and economic orientation to supplement his credit program.

3. Improve land tenure systems by granting loans with the provision that borrowers' rights be expressly guaranteed in the land lease that they enter into with the land holders. This will also help increase, to the extent possible, the number of rural owners.

4. To encourage plans for land development and reclamation, soil conservation, and improved methods of operation in order to adequately and effectively use the land.

5. Grant loans for cancellation of existing debts which are detrimental to the operation and maintenance of the farm and house, provided that the loan granted for this purpose isn't specifically for cancellation of the debt, but is also made to improve the borrower's existing operation.

6. To finance and give technical assistance for development or improvement of agricultural industries.
7. To provide funds and technical assistance to promote the creation of multi-purpose agricultural cooperatives and associations. This will be done in collaboration with other agencies of the government which have the same objectives.

8. To help improve the marketing of agricultural products by providing funds and technical assistance for the establishment of rural markets. The evaluation procedures have been confined to problems with repayment rather than impact on income, employment or any other type of result. The author says that since 1966, ABC has conducted an annual evaluation but again, is largely confused with financial aspects and central office procedures. They measured the impact of the program based on a gross estimate of the basic gains and production increases. The information for making such estimation was gathered by informal visits to the various agencies and beneficiaries.

The small farmers of Salvador continue to have the chronic problems of inadequate technological packages, inadequate credit, poor market access, and small units with insecure tenure arrangements. In addition, they have a low level of education, poor diets, poor housing, and inadequate sanitary conditions.

Given the attitudes which prevail within the private credit system in Salvador at present, it appears that future credit for small farmers
will have to come largely from public institutions. Any new major influx of funds for this purpose will have to be tied to improved technological packages to provide the incentive to risk-taking on the part of small producers.

Some of the factors recognized as limiting the program were:

1. Financial problems – the government does not allocate the resources according to the bank commitments.
2. Lack of funds to make longer term capital loans.
3. Transportation for the agents.
4. Credit delinquency.
5. Low level of education on the part of the farmers.

In the study from Salvador the impact of the program is measured by the increases in agricultural productivity, the most common indicator found in the other studies.

The Chilian Experience

Supervised Credit Programs for Small Farmers in Chile is the title of a paper written by Nisbet60 with the purpose of: (1) describing the three credit programs in Chile that have tried to deal with the problem of majority farm operators being locked out of the institutional credit market; 2) pointing out some problems and weaknesses of these credit programs based on the impressions gained during several field trips and material gathered from lending institutions; 3) analyzing the

role and impact of supervised credit programs. He analyzes the credit program under the State Bank of Chile, the Agrarian Reform Corporation (CORA) and the Institute of Agricultural Development (INDAP).

The State Bank was the first institutional lender to extend credit to small farm operators in Chile under supervised credit programs. Nisbet says that this program puts together financial and technical assistance to small and medium size farm operators who demonstrate earning potential, work family farms, possess administrative capacity, and are interested in the improvement of farm production and their standards of living. Nisbet observed that the personnel of the State Bank in charge of the supervised credit program has been more interested in the economic aspect of credit than in the educational aspect. This emphasis is reflected by the preoccupation of the program's supervisor in the recovery of loans extended as opposed to the progress that users are able to derive from the use of loanable funds. Because of that, the Bank's rate of recovery on supervised credits is higher than the average for private commercial banks in Chile that theoretically extend credits to clients representing a lower level risk.

The Agrarian Reform Corporation grants supervised credit and technical assistance to its colonists with the objective to improve the productivity of farmers of small plots and farmers of vegetable gardens of low income who do not have access to other institutional sources of credit.

The program was limited due to the small number of new colonists and the scarcity of funds.
The INDAP program purpose was to provide gratuitous technical assistance and low cost loans to small and medium sized farmers – including those exploiting minifundia as well as indigenous people. Nisbet notes that for most small farmers working with INDAP represents a first contact with financial institutions – one step toward a break from traditional agriculture. Providing technical assistance along with credit has forced these farmers to examine their own financial needs – another new experience for them. Small farmers now have access to technical assistance and institutional credit, most often at a negative rate of interest because of inflation. The major conclusions of the paper are that little can be done by supervised credit programs alone to alter the conditions of farmers in the low-income sector. If supervised credit programs are not coupled with a general program of economic development, i.e., public works, education, and technical assistance, supervised credit programs will not provide the base for a take-off out of traditional agriculture. The result will be that farmers will remain dependent upon a continuous supervised credit program and supervised credit program will take a welfare type agency existence. Nisbet points out that there is a basic conflict between the stated purposes, goals and action programs of supervised credit on one hand, and field reports of how supervised credit operates. In practice, Chile's supervised credit has been almost totally limited to the granting of short-term and
medium-term credits to small farmers. Because of this, supervised credit is able to have only limited impact on increasing agricultural input and is principally a way to provide short-run assistance to small farmers. Output expectations are not markedly changed, little change in physical output results, and farmers continue to depend upon supervised credit.

**A Summary of the Studies Reviewed**

The review of the evaluation studies indicates that if not all, at least the majority of them can be classified as descriptive studies, i.e., studies in which the major objective is to describe the resulting phenomenon or to describe the relationship among the variables contributing to the outcome of the program. Most of the studies are survey research; some of which are combined with some type of documentary research. Most of the studies utilize primary data although there is more frequently found a combination of primary and secondary data. In some occasions the same source of data is utilized to support propositions directed toward a specific end. This is the case of the four studies and papers reported from Peru.

The most common means to collect information is through interview schedules. Two methods of control are used: one is a kind of purposive control group taken from a population that is not participating in the program; and a second is using a panel study, i.e., survey in which the source group of participants is interviewed several times over a specific period of time.
Another characteristic of these evaluations is that it is easier to identify and list a series of factors related to the limitations of a successful program rather than the factors that contribute to success or maintenance of the program. This is perhaps due to the acceptance of the general claim that the supervised credit program is a failure because it did not produce the expected result of turning around the bulk of the problem faced by the small farmers in the developing countries. However, the claims of Tinnermeier and Finn⁶¹ that "a review of literature on small farmer credit programs around the world will show that the successful programs are the exception rather than the rule." are not supported by all authors in this review, including themselves. They agree that given the conditions in which these special types of farmers live and the diversity of constraints upon their environment, the most negative aspect of the programs; such as, a relative high credit delinquency and program cost cannot be considered as a program failure if they have contributed toward the accomplishment of a more egalitarian income distribution, employment, and decrease of rural poverty.

For this author the problem of identifying the factors associated with the program's success rests upon the lack of an established set of criteria concerning the constituents of a successful supervised credit program. These criteria seem to be absent from the program objectives as well as from the evaluation studies reviewed; hence,

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⁶¹ Tinnermeier and Finn, op. cit., p. 39
in the absence of these criteria there is a tendency to list in the evaluation report only those factors believed as limitations to the success of the program assuming perhaps, that if those factors are removed the program will be a successful one. Nevertheless, according to the criteria used in the evaluation studies some factors can be directly identified and others inferred from the available information. Thus, the factors most likely considered to be associated with the program's success are:

1. Improved and adopted agricultural technology.
2. Good supervision, qualitatively as well as quantitatively.
3. An adequate farm size.
4. The quality of the resource base, specifically land and water supply.
5. Characteristic of the farmer, in other words, progressive farmers.
6. Program with clear long-term objectives.
7. The use of farm planning and budgeting.
8. Production of crops easily marketable.
10. Organizational flexibility.

The following factors have been identified as limiting the success of a supervised credit program.

1. Lack of adequate technical assistance.
2. Lack of adequate institutional finance.
4. Lack of clear objectives and specific goals.
5. Mis-use of credit by the farmer – use in consumption rather than investing in production.
6. Lack of appropriate technology to fit the small farmers' needs.
7. Lack of coordination with other institutions.
8. Lack of transportation.
9. Short term credit instead of more long range credit.
10. Lack of criteria for allocation of resources.
11. Lack of an information system to feedback the program performance.
12. The programs are too broad.
13. Loan delinquency.
14. Low rate of interest.
15. Educational characteristics of farmers.

As we clearly see, only three out of fifteen factors mentioned as limiting the success of a supervised credit program can be directly attributed to the characteristics or farmers' domain: 1) mis-use of credit by the farmers. 2) loan delinquency and, 3) educational characteristics of farmers. However, a close look to the environment in which they take place and the nature and characteristics of the supervised credit program will reveal that even those factors can be
fully considered as a restraint since they are already built into the program. In other words, the low level of education and technical knowledge is the characteristic that a farmer has to have to qualify as a participant in the program. Use of the funds in consumption rather than investing in production is debatable in a rural development program since the welfare of such a large group of farmers cannot be ignored. 62

The other factor that could be attributed to the farmers' characteristics is loan delinquency; however, Finn63 suggests that high default rate is not necessarily a sign of a failing program. Because the program is designed to serve farmers who are not "credit worthy" enough to secure loans through the regular channels, and because this kind of program strongly encourages the modernization of farmers' techniques which is probably in conflict with the minimization of default on program loans, a level of default higher than that experienced by commercial banks is expected.

Furthermore, Finn64 observes that a high default rate is associated with institutional type of factors such as: 1) failure to collect loans when the individual had the ability to repay his loan; 2) inadequate screening of farmers with high potential for crop failure due to an insecure or inadequate resource base, 3) inadequate supervision of


63 Finn, op. cit., p. 136.

64 Ibid. p. 135.
farmers after the loans were granted, and 4) overlending in relation to the potential farm income.

Therefore, it is safe to say that almost all the limiting factors in a supervised credit program, as perceived by the authors of the studies reviewed, can be classified as institutional constraints. Those institutional constraints affect the outcome of a program such as supervised credit programs and by disregarding that effect they can distort the result of an evaluation.
CHAPTER IV
EVALUATION OF A SOCIAL ACTION PROGRAM

An Overview of Evaluation Theory

The review in the preceding section has led the author to conclude that perhaps the most productive way to develop a frame of reference for evaluating a supervised credit program is in terms of what is usually understood as evaluation research theory.

Alkin asserts that a theory of evaluation should offer a conceptual scheme by which evaluation areas or problems are classified; it defines the strategies to include the type of data and means of analysis and the appropriate report to each of those areas of the conceptual scheme.

At their best, the propositions presented in a theory of evaluation should enable one to fully predict the appropriateness of utilizing various evaluation strategies within a given conceptual scheme. Thus, the role of theory and model development in the evaluation context consists of separating the relevant explanatory variables from the irrelevant ones.

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66 Ibid., p. 106.
Precisely what is and what is not relevant to comprehend depends on the philosophy and value judgement of the researcher and/or the agency involved in the evaluation process. Hence, a theoretical model may predict results which are different from others because the basic criteria under which they are built varies between models. The models involve arbitrary elements, since they are, in general, derived not only from observations of empirical data but also from other initial assumptions which for the theoretical model in question are taken as given. One of these given general assumptions is that there exists an evaluation research theory that can be used as a frame of reference in evaluating a social action or educational program. The position adopted by this author is that evaluation research is still at the stage of empirical generalization and therefore a framework is needed to guide attention to the type of events that should take place in the research design; such as, hypotheses to be tested, controlled extraneous variable, type of information recorded in data-gathering, kind of questions that should be answered in the analysis, and the nature of connections with previous empirical findings so that an evaluation theory can be established.

The establishment of a theory is a systematic process which includes several stages of hypotheses formulation and empirical testing in a scientific manner.

Hempel points out that scientific systematization has two levels:

the level of empirical generalization and the level of theory formation. The early stages in the development of scientific discipline usually belong to the former level which is characterized by the search for laws which establish corrections among the directly observable aspects of the subject matter under study. The more advanced stages belong to the second level, where research is aimed at comprehensive laws, in terms of hypothetical entities, which will account for the uniformities established on the first level. Theories intend to explain empirical generalizations. Empirical generalizations suffer from some remarkable shortcomings they usually have a rather limited range of application; and even within that range, they have exceptions so that actually they are not true general statements.

Miller68 supporting his statement that the ultimate goal of science is discovering and testing theories which yield hypotheses subject to test for predictability, cited Nidditch who declares that unless there are empirically testable consequences, a formula about facts can rationally be neither supported nor subverted; if there can be no evidence for it or against it, it is useless. Science is concerned with generality, not with practicularity. The scientist deals with individual facts in order to discover the properties of the whole set of phenomena to which the individual facts belong; his interest is in sets of facts

rather than in their members as such. 69

Because data must be objective and reproducible, Miller quoted Hynias arguing that if the event is a unique historical incident that cannot be repeated for others to observe, then the event has no status as a scientific fact. The facts of science have nothing to do with particular and unique occurrences. 70

Brooks 71 comments that too often evaluation of social action programs has been undertaken in a theoretical vacuum; its prosecutors have acted in complete ignorance of the results of similar programs carried out elsewhere, and have made no effort to communicate to others the general principles that have emerged from their work. This occurrence works against one of the basic principles of theory formation emphasized by Kerlinger 72 who asserts that "relationships are the essence of science" and that scientific endeavor deals with groups or sets rather than with unique individual cases.

It is not only the lack of relationship and systematic accumulation of the findings in evaluation research that have hindered the construction of an evaluation theory, but also the lack of agreement among

69 Ibid. P. 118.
70 Idem
researchers in regard to the status of evaluation which make the task even more difficult.

To support this claim is enough to review the concepts of some of the leaders in evaluation research. Caro, for instance, declares that evaluative research represents only one form of applied research that may contribute to social action programs without assessing the effect of any specific intervention. Research, he says, on the causes of problem behavior, the incidence and concentration patterns of social problems, and public knowledge of and the attitudes toward existing services may all have important policy implications without being specifically evaluative. Caro does not recognize evaluation research as a standard procedure of research.

Schuman discussing a definition of Hyman affirms that evaluation is a form of applied research where the major objective is not the production of knowledge, but rather the study of the effectiveness of the application of such knowledge. He quotes the Subcommittee of Evaluation of Mental Health activities in support of his claim, which states that evaluation connotes scientific method, but has characteristics that distinguish it from the type of research whose objectives are the accumulation of knowledge and data in order to formulate hypothesis and theory for the sake of new knowledge.


Guba argues that evaluation is not designed to establish universal laws, but to make possible judgments about some phenomenon. He gives as reason the fact that to derive a law requires the creation of an artificial situation that by any means conforms to the purpose of evaluation. Guba contends that in an evaluation situation the researcher does not want to establish a highly controlled condition in which all possible sources of confoundings are filtered out, but in fact the researcher wishes to set up conditions of "invited interference" from all factors that might ever influence the outcome of the program. He alleges that when control is exercised in order to establish universally true principles, the researcher is dealing with contrived situations, but what is needed in evaluation is a natural setting regardless of the utility for other purposes.

Weiss underlines the importance of developing a theory for evaluation studies when she claims that one of the most important elements in producing a useful evaluation is locating the study in a theoretical perspective. Programs are expected to work because they meet needs, affect processes, set events in motion. There are some theoretical justifications to expect a program to succeed. As a program

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develops assumptions are made explicit and to test the linkages from step to step, knowledge begins to accumulate in such a way that it is usable and transferable to a variety of programs and settings. It is in probing the theoretical premises of the program that evaluation can ultimately become most practical. Weiss also notes that repetition of the result is the basis of scientific generalization since through repeated investigation one can increasingly specify the conditions under which programs succeed or fail and the processes by which success and failure come about. However, she points out that replication is a relative rarity in evaluation research. Not often does a second investigator study the effects of the same type of program using the same criteria.

It is evident from our discussion that evaluation research is still a mass of information lacking articulation which by any means constitutes a body of systematic knowledge that can be used to predict the outcome or effectiveness of a social action program.

**General Purpose of Evaluation Research**

Evaluation of social action programs is undertaken for many reasons and purposes. People decide to have a program evaluated for rational as well as for non-rational reasons.

Brooks' reasons why a social action program should be evaluated are as follows:

1) To inform the funding agency as to the value being received for dollar spent. (The accounting function.)

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77 Brooks, op. cit., p. 98.
2) To refine and improve the program being evaluated through a continuous feedback of its results to the planning process. (The feedback function.)

3. To make available to other interested communities whether involved in community action programs or not, the results of the program being evaluated. (The dissemination function.)

4) To clarify, validate, disprove, modify, or otherwise affect the body of theory from which the hypotheses underlying the program were derived. (The theory-building function.)

Other reasons pointed out by Weiss are: 1) Postponement - this is the case when the decision maker may be looking for ways to delay a decision. 2) Ducking responsibility - when the decision maker needs to legitimate his decisions in view of opposition or controversy. 3) Public relations - The administrator believes that he has a highly successful program and looks for ways to make it visible. 78

Political and obtaining a program director are among the less rational reasons given for making evaluation. The effort to reconcile different ideas about the purposes of evaluation research is evident in many definitions of evaluation.

Brooks, 79 for example defines the purpose of evaluation as:

1) Determination of the extent to which a program achieved its goals

78 Weiss, op. cit., p. 11
2) Determination of the relative importance of the program's key variable in bringing about the result observed among the target population at the program's conclusion and
3) Determination of the part played by program variables as opposed to variables external to the program, in bringing about the observed results (i.e. to what extent would these have occurred without the program).

Caro\textsuperscript{80} sees evaluation as one aspect of planned social change and consequently, evaluation is considered by him as an attempt to provide a program administrator with accurate information on the consequences of his actions. He alleges that at least in an idealized sense an evaluative program develops in response to some problem. This is preceded by a planning process that includes 1) analysis of the problem; 2) specification of the objectives; 3) evaluation of relevant existing programs, and 4) an exploration of possible alternatives. Program implementation is then followed by another evaluation phase which, in turn, contributes to further planning and program refinement.

Social change as object to evaluative studies is underscored by Hyman, quoted by Schuman.\textsuperscript{81} He defines evaluation as the procedure of fact finding about the result of planned social action programs. In other words, for him the purpose of evaluation research is to determine what social changes have taken place as result of the social action program.

\textsuperscript{80}Caro, op. cit., p. 88

\textsuperscript{81}Schuman, op. cit., p. 29.
Cohen follows the same line of ideas when he suggests that the central purpose of evaluating most social action programs is the broad measurement of change. He said that although the aims of social action programs are diverse, their assessment typically focuses on the degree to which they have succeeded in shifting the position of specified target population relative to the rest of society.

Freeman and Sherwood focus on the purpose of evaluation research from the point of view of efficiency, efficacy, and accountability. They observe that in order to influence social policy, evaluation must provide a basis to determine the efficiency in allocating the financial as well as the human resources in the solution of the social problem. For them an efficient program is the one which yields the greatest change per unit and not the one that can be run at least cost per recipient. Efficacy is referred to as the extent the program has obtained the expected change or effect.

Accountability has to deal with the implementation of the prescribed process. Freeman and Sherwood define it as the evidence that there is indeed a target population that can be dealt with by means of a program; that such population is important either because its

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size or intensity of problems and that the program for the target population actually is undertaken with them.

One of the aspects of accountability is the estimation of the incidence and prevalence of problems. Accountability can avoid the claim that a program has failed when in fact the program was not implemented.

There is an area in which there seems to be some agreement about the purpose of evaluation research, that is, evaluation for decision-making.

Schuman affirms that evaluation study should be a problem-solving enterprise with a clear cut relationship to a decision-making function.

Alkin makes the same point more explicitly differentiating several areas in which evaluation can seek information for decisions about the state of the system 2) evaluations that are necessary in providing information to assist in the selection of particular program likely to be effective in meeting specific educational needs 3) program implementation evaluation required in providing information relative to the extent to which a program has been introduced in a manner in which it was intended and to the group it was directed;


85 Alkin op. cit. p. 109
4) program improvement — evaluations necessary in providing information during the course of a program about the manner in which the program is functioning, enroute objectives are being achieved, and what unanticipated outcomes are being produced, and 5) program certification is evaluation which provides information that might be used by decision-makers in making judgments about the worth of the program and its potential generality to other related situations. We note that Alkin ties all purposes of evaluation research to the decision-making process.

A great deal of evaluation classification has been concerned as an effort to summarize the major purpose of evaluation research. Guba and Stufflebean\(^{86}\) for example refer to four types of evaluation each of which is defined through a taxonomy of decision type. They talk about context, input, process, and product evaluation.

A similar process is presented by Scriven\(^{87}\) when he classified evaluation in formative and summative evaluation. Formative evaluation refers to the internal evaluation of a program, usually undertaken as part of development process in which the progress of the program is compared to the objectives of the program. Such evaluation

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\(^{86}\)Egon G. Guba and Daniel Stufflebean "Evaluation — The Process of Stimulating, Aiding and Abetting Insightful Action" Address at Second National Symposium for Professors of Educational Research Sponsored by Phi Delta Kappa. The Ohio State University, Columbus, Ohio. 1968.

enables the administrators to tell whether the program is working and to suggest changes to make in it. Summative evaluation refers to a systematic attempt to determine whether a fully-developed program is meeting its objectives more successfully than alternative programs (or no programs).

Besides all the disagreement about the purpose of evaluation research, Scriven warns about the consequences of confounding between the goal of evaluation in a particular context and the role of evaluation in social action programs. He says that failure to make this rather obvious distinction is one of the factors that has led to the delution of the process of evaluation to the point where it can no longer serve as a basis for answering the question, "What is the goal of the program?" To know the program goals is important because if the goals are not worth achieving then it is uninteresting to learn how well they are achieved. Thus, Scriven concludes that proper evaluation must include as an equal partner, with the measuring of performance against goals, procedures for the evaluation of the program goals.

In summary, it can be said that evaluation has been taken for multiple purposes; however, the central concern is to provide evidence on which to base decisions about maintaining, institutionalizing and expanding successful programs and modifying or abandoning unsuccessful ones.

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Methodological Drawbacks In Evaluation Research

Most authors in the field of evaluation research agree that in principle evaluative research is not different from other forms of social science research in terms of methodology. The so called scientific method constitutes the set of logical rules for determining the validity of assertions about observable events. Those who study social action programs use the scientific method, among other methods, in an effort to describe, explain, predict and control the expected outcome assumed to be caused by the intervention of the program. However, the evaluation of social action programs presents a predictable built-in set of specialized methodological problems in terms of conceptualization, measurement, and interpretation. 89

A recent study made by Mann 90 illustrates how methodological problems may confound the interpretation of an evaluation finding. The researcher was interested in assessing the frequency and nature of methodological error in published evaluation research. The criteria used in selecting the population of studies from where the sample for the study was taken guarantees that the evaluation was made over studies of a relatively high methodological caliber, and the sample represented the most likely source for obtaining information about the success of evaluative research. The sample involved 181 studies concerning: 1) the nature of the study design used; 2) the number of subjects and practitioners included, 3) the nature of the sample.

89 Caro, op. cit., p. 90.

90 Mann, op. cit., pp. 267-282.
4) the setting in which the method was tested, 5) the nature of the method itself; 6) the change criteria employed; 7) the findings obtained; 8) the type of methodological errors that may have been present.

The information in the study was analyzed in order to answer two central questions: 1) what are the general characteristics of evaluative research when distinction of content area is ignored? 2) what are the differences in character and outcome of studies that were conducted in different areas?

According to Mann, the analysis was intended to determine whether evaluative studies have as a group accumulated a reliable, valid, and social significant body of knowledge that can be generalized across content areas or help to distinguish among them. The major conclusions of the study can be summarized as follows: 1) Most evaluative research uses the simplistic possible experimental design; 2) the findings of evaluative research are unrelated to the ways in which change is measured; 3) the technical proficiency of this kind of research is at a low level.

Mann\(^{91}\) recognizes that in considering the remarkably poor quality of evaluative research, it is necessary to remember the variety of technical and social difficulties that arise in the design and execution of those studies. However, he says that evaluative research is not undermined so much by the problem of its execution as by the kind of methods used in the evaluation process.

\(^{91}\)Mann, op. cit., p. 280.
Houston's contention is that the reason why most evaluators use "primitive methods," that is, those different from experimental designs and scientific criteria, e.g., validity, reliability and objectivity, is that the decision-makers in reaching their decision do not count on those criteria.

Weiss seems to have a different point of view from those who hold the position that the doubts of most evaluation findings may be due to methodological flaws. For her, the problem is more ideological than methodological. She states that because evaluation is likely to have important political consequences it becomes fair game for people whose views are contradicted (or at least unsupported) by the findings to find flaws in the sampling, design, choice of statistics measurement procedures, time span and analytical techniques even though their real criticisms derive less from methodology than from ideology. Weiss' allegations seem to be grounded on the fact that almost as a rule social programs are ideologically bound and many times they shock the interest of the dominant social groups.

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93 Weiss, op. cit., p. 325-328.

94 Weiss, op. cit., p. 216.
Conceptualization

Two major problems have been found in the conceptualization of a social action program: 1) the political characteristic of the program and 2) the cultural bias of the evaluator. Cohen observes that evaluation researchers identify professionally and intellectually with their disciplines of origin since that is what they know, what their colleagues understand, and if done well, is what will bring them prestige and distinction.

Social action program conceptualization has also to do with the stage of development of social action science.

Weiss points out that the social and behavioral sciences do not give many answers to the question on the causes and process of social ills, nor do they have much to say about the processes of social change and the conditions necessary for bringing about desired changes. Thus, she concludes that evaluation may well be revealing the deficiencies in the theory and assumptions on which programs are based. In support to her statement she quotes Schuman who asserts:

If a program is unsuccessful, it may be because the program failed to "Operationalize" the theory, or because the theory itself was deficient. One may be highly successful in putting a program into operation but, if the theory is incorrect... then, the desired changes may not be forthcoming: i. e.,

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95Weiss, op. cit., p. 335.
"the operation was a success, but the patient died."
Furthermore, in very few cases do action or service programs directly attack the ultimate objectives. Rather they attempt to change the intermediate process which is "casually" related to the ultimate objective. Thus, there are two possible sources of failure: 1) the inability of the program to influence the "casual" variable, or 2) the invalidity of theory linking the "casual" variable to the desired objective.

Social action programs are based on philosophical principles that guide if not the majority of society at least the ruling class. One of those principles is that the social, economic and political systems are functioning well and that, consequently, the problem is with those who are not able to keep up with the rest of society. Thus, programs are designed to bring about changes in that direction. Cohen\textsuperscript{96} notes that one of the aims of large-scale social action programs is to produce peace, or at least to reduce conflict.

The conceptual nature of a program affects the type of analysis used in determining the success or failure of the program. In this regard, Cohen\textsuperscript{97} made the following statement:

If any question about the efficacy of social action programs is crucial, it is how such efforts at change succeed or fail. The requirement here may not be quantitative research but political and social analysis, which follows the political and administrative history of social change programs. It may be possible to learn as much about the source of program success from studying the politics of their intent and execution as from analyzing the quantitative relationships, and the sources of variation in their success are therefore, bound to have as much to do with how efficiently program inputs are translated into outcome.

\textsuperscript{96}Cohen, op. cit. p. 216.
\textsuperscript{97}Cohen, idem.
In spite of the relative importance of conceptualization on evaluation research most of the discussions about methological problems have centered on research design, measurement and interpretation of the result. It is important to note that if the premises on which the program rest are not correct the result will be of no value regardless of the kind of research design, the accuracy of the measuring instrument and the ability of the researcher to interpret the data.

Evaluation Research Design

Experimental research designs are ideal whenever there is a need for making a valid assessment of a program outcome. It requires randomization, complete control, and manipulation of all factors as well as valid and reliable measures to determine the extent to which the result is a consequence of the program intervention. In short, it requires a laboratory-type environment.

The difficulties in establishing or finding that kind of condition in a dynamic always changing socio-economic environment has brought controversy about the feasibility of experimental design in evaluation research. Among the obstacles for using experimental research in evaluation, the most critical seems to be the use of a control group. A control group is a collection of individuals whose characteristics are as identical as possible to the treatment group except that they do not receive the treatment.
Schuman quoted by Caro\(^98\) proposed two basic obstacles for the effective use of control groups in evaluation research: 1) service-oriented actionists are reluctant to withhold services from randomly selected clientele, and 2) self-selection. There is usually no way to control the flow of persons who want the services. Furthermore, it is possible that those people looking for services are in some way more progressive or better off than the rest of the target population.

There are other uncontrolled or difficult-to-control factors that might help to explain program outcome, such as, the physical and environmental characteristics of the program site, temporal factors of short duration, and continuity of the treatment, the interaction effect among variable, and the uncontrolled effect of other programs to cite some of them.

The difficulties of having a septic condition has limited the use of experimental evaluation research. In fact, Rossi\(^99\) reveals that there are almost no examples of current evaluation reports in social action programs using experimental design principle with any degree of fidelity. He notes that controlled experiments and cost-benefit models, in social action programs, can only be approximated because although they are relatively easy to devise on paper, their implementation in the field does not go without compromise.

\(^{98}\) Caro, op. cit., p. 107.

All types of manipulation have been proposed to achieve control of extraneous variables when a laboratory-type condition is not feasible. Caro,\textsuperscript{100} for example, advises that when control groups are not possible, experimental control may be approximated through some design adjustments. He recommends 1) to match participants with non-participants and compare them through the use of analysis of variance. Precaution must be taken in using this technique since matching can only accomplish its objectives when the groups have randomly been assigned to the treatments. Related to this point Campbell and Stanley\textsuperscript{101} state: "Matching is no real help when used to overcome initial group differences. This is not to rule out matching as an adjunct to randomization, as when one gains statistical precision by assuming students to matched pairs, and then randomly assigning one member of each pair to the experimental group, the other to the control group" 2) to use a comparison group that receives an alternate treatment. Caro\textsuperscript{102} suggests that where policy-makers are committed to the principle of providing additional services, a comparison group design such as the one mentioned may actually provide more useful information than a design using only a strict control group.

\textsuperscript{100} Caro, op. cit., p. 108.


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The debate about the appropriateness of experimental design in different milieu has led to the development of several types of experimental, quasi-experimental, and non-experimental designs that can be used in evaluation research depending on the type of problem the researcher needs to solve, the objective of the research, or the type of extraneous variables that may confound the effect of the treatment variable.

Campbell and Stanley\textsuperscript{103} have organized those variables into two categories and several sub-categories. On the one hand the variables that pose threats to internal validity, that is, variables that can produce the same effect in the absence of the treatment variable if not controlled, and population characteristics, places, situations or circumstances that impede generalization such as threats to external validity.

The differences among designs are based on the flexibility to control the threats to internal and external validity. They enable the researcher to infer cause-effect relationships, determine associations among variables or simply to describe the outcome of a program. Hence, the type of design employed in conducting the evaluation of a social action program determines the interpretation of the data collected and the kind of conclusion that the researcher is able to draw.

\textsuperscript{103} For a complete discussion and inventory of threats to internal and external validity, and the type of design that best control them see Campbell and Stanley, op. cit., and Glen H. Bracht and Gene V. Glas "The External Validity Experiments" American Educational Research Journal, Vol. 5, Nov. 1968, pp. 437-474.
Measurement Problems in Evaluation Research

Social action programs are designed to expose procedures that hopefully will produce changes in the individual, social, economic or political environment of the members of the target population.

In evaluation, it is very difficult to obtain reliable and valid measures of change. This is due to the fact that changes are of quantitative and more often of qualitative nature. Dealing with quantitative data is not the major concern in social action programs since there are standardized procedures of dealing with that type of data. In contrast, the qualitative data is more subjective.

Ghorpade indicates that qualitative data is an essential ingredient of the methodology for studying a program's effectiveness for two reasons: 1) It is not possible to use experimental and other types of tight research designs in studying the effect of a social action program. Consequently, most studies are now experimental using observational and other types of relatively loose research designs; 2) A vast majority of the evaluation research studying frequently undergoes changes and reconstructions of the original design due to factors such as discovery of an alternative hypothesis. Reconstruction of research designs is frequently accompanies by the accumulation of qualitative data and material.

Ghorpade suggests that there is a tendency of social scientists to use judgements of experts as substitutes for physical measures of program output. Gathering this type of information is easy as well as practical; however in spite of the practical attraction, that type of data is accepted with skepticism. The principal criticism against using such measures is that there is no basis for checking their validity and reliability.

However, Ghorpade admits that often it is not possible to devise actual hard measures of effectiveness. In this case, the use of qualitative data may be the only course of action open. Thus, instead of completely rejecting the qualitative data, it may be worthwhile to use such measures in conjunction with other types of measures.

Caro discusses the problem of seeking valid, reliable and sensitive measures of program effectiveness and comes out with three main obstacles: 1) There are no dependable records in the agencies that are in charge of the programs. The quality of the agency records in which the evaluator often depends is poor. Those records usually reflect the organizational, professional, and individual interests of those who maintain the records; 2) When the evaluator has to collect his own data he may find that administrators as well as practitioners and clients may artificially redirect their behavior to affect the outcome of the evaluation; 3) Timing of measurement —

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105 Caro, op. cit., p. 106.
This problem is usually solved by continuous or repeated measures. However, there are cases in which the researcher has only an opportunity for a single post-treatment measurement.

Freeman and Sherwood argue that the problem with the measurement of the relationships between sets of change scores involves serious statistical and mathematical difficulties. Measurements of each variable at a minimum of three points in time are required to provide some estimate of the shape of the curves involved. Two of the problems involved are: 1) the relationships between the shape of the curves - the change curve for intermediate variable and the change of the curve for dependent variable; 2) the questions of the time lag throughout the series and between the two sets of changes.

Schuman asserts that the concept of process is crucial to an understanding of the problem involved in isolating and controlling the program variables hypothesized as the cause of the desired effect. He declares that in a social action program there are a chain of events from the precondition for the program to consequences of the effects that need to be identified in order to determine which variables or events can be taken as dependent or independent variables. Thus, the measurement of the effect of a program requires specification according to four major categories of variables: (1) Component parts

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106 Freeman and Sherwood, op. cit., p. 19.

or processes of the program (2) Specific population or target groups reached (3) Situational conditions within which the program occurs and (4) Differential effects of the program.

The major problem in evaluative research is that the researcher is not measuring directly the phenomena that he studies; rather, he observes and measures empirical manifestations or indexes of the phenomena.

Weiss observes that each specific measure is an approximation of the outcome in which we are interested. She talks about four types of measures that need to be devised depending on program intent:
1) Measured effects on persons served; such as, attitudes, values, personality variables, knowledge and skills. Each of these may be directly relevant to program goals. 2) Measuring effects on agencies — in this case the indicator of the program's outcome will be measured by institutional characteristics, 3) Measuring effects on a larger system — a program may have as its goal to change a community or even a national service, 4) Measuring effect on the public — if a program seeks to alter public values or attitudes, the appropriate indicator of outcome is obviously the public's view. It is clear that any measures in evaluation have to be based on data collected to satisfy two sets of criteria: 1) criteria related to information discrimination and gathering; and criteria related to validity, bias, and reliability that is; (a) the data must focus on the process, structures, and the observable outputs

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of a social action program activities; (b) either be nonreactive or supportive of program goals during the collection of data; and (c) the data should be as free as possible from the bias of social action program field professionals; (d) the data collected should be replicable by other data collectors and; (e) the data gathered should be judged by the user as fairly representative of reality. 109

The evaluation of a social action program is indeed a complex endeavor which requires many decisions on what to measure, how to measure, and how to handle different types of data.

Problems in Interpreting The Evaluation Results

Warmbrod110 points out that in interpreting the outcome of a program, close attention needs to be paid to the interest or purpose of the evaluation in terms of the type of three major categories of research design: descriptive studies, correlational studies, and those studies directed to investigate cause-effect relationships.

He contends that the claim made by the researcher in whatever conclusion he reaches must be bound within the type of design. He affirms: 1) if the evaluator's interest is solely description, then it must be made clear that claims cannot be made that the program

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necessarily produce or cause the outcome described. 2) If the evaluative studies are intended not only to describe the outcome, but also to investigate the relationship between outcome and input, it does not necessarily result in conclusions denoting cause-effect relationships; however, 3) If the study is designed to ascertain cause-effect relationships it will also describe the outcome as well as establish the degree of significance of the relationship between outcome and type of programs offered.

Warmbrod further comments that the major concern in interpreting evaluation findings includes whether or not a comparison group is used as well as the nature and characteristics of that group with which the nature and characteristics of the outcomes of the program are compared. He suggests that if the evaluator wants to go beyond a description of the program's outcome with some degree of assurance, he must take some provisions for using a comparison group.

Warmbrod also emphasizes that in interpreting the outcome of an evaluation, attention must be given to those possible threats to internal validity as well as the extent to which the findings can be applied to other group situations, and measures of outcomes and times.

In summary, the interpretation of the outcome of an evaluation research is a function of the type of research design used. The research design determines the type of control over extraneous variables that the evaluator is able to exercise, the type of data he has to collect, and the type of analysis he is able to apply.
Consequently the interpretation of the result needs to be made within that frame. Longest\textsuperscript{111} remarks that one of the contributing factors to the confusion about evaluative research may be the prevailing belief that evaluative research is to be classified as "applied" rather than "basic" and does not require the best research methodology and interpretation within a well-defined theoretical framework.

Models For Evaluating A Social Action Program

The Concept of Models

The preceding discussion about the major problems in evaluation research points out that the need for searching evaluation research strategies is still valid. It also shows that the knowledge although abundant is dispersed and unorganized to be useful in building a theory that can help in the formulation of explanatory hypothesis, hence, models have often been suggested as alternatives to theories.

Models, as used here, denotes abstractions of concepts which can be expressed in different ways retaining those features of reality pertinent to the analysis of the problem under consideration.\textsuperscript{112} Models, however, possess several properties that suggest that it may not be an optimal approximation of the real world. For that reason most model builders strive to test their model against reality. While

\textsuperscript{111}James Longest "Designing Evaluative Research" \textit{Journal of Extension, Vol. XIII, March/April, 1975 pp. 48-55.}

\textsuperscript{112}L. D. McClements "Some Aspects of Model Building" \textit{Journal of Agricultural Economics, January, 1973, p. 104.}
such a procedure is an important element in validating models, it has been pointed out by Koopmans and others\textsuperscript{113} that the position is rather extreme. For him it is more important to examine the assumptions under which the model was built than to test it against reality. As Rasche and Shapiro\textsuperscript{114} have pointed out, criteria for judging the performance of a model as a whole are not yet well developed in the literature, thus there is no theoretical basis for such a test.

Before going into the subject of suggesting an evaluation model for a supervised credit program, it is worthwhile to analyze some of the evaluation models more often proposed for evaluating social action programs. Given the fact that in general those programs are allegedly expensive, cost-benefit analysis is usually suggested to determine the success of the Cost Benefit Analysis model program.

The cost benefit analysis is adopted to determine the economics of the use of several proposed resources. The design of cost-benefit analysis is directed toward answering the question of what are the least expensive programs among the several social programs that can be developed to achieve a particular social goal. As such, it allows the decision maker to assign the resource to the most economically productive investment.

\textsuperscript{113} Thalling Koopmans \textit{Three Essays on State of Economic Science}, pp. 135-142.

However, some questions arise in relation to the utility of the model in the evaluation of a social program when the decision has been already taken and the objective of the evaluation is to measure the program's performance. Rothenber, quoted by Rossi, gives some reason for the shortcoming in using cost-benefit analysis in social action programs:

A rational decision among alternative policies may be accomplished by ordering all alternatives in terms of the balances or ratios between anticipated cost and the anticipated benefit of the programs in question. The benefits of a particular policy alternative are the anticipated want fulfillment patterns made possible by the proposed change. The costs are the want fulfillments which are possible with alternative usage of the resources involved and which would have to be given up if the proposed policy is to be achieved.

The empirical problem is how to identify and rank the infinity number of alternatives that may exist.

At one extreme, cost-benefit analysis could be restricted only to those programs which are being placed before authoritative decision makers to decide among them. At the other extreme, cost-benefit analysis could be extended to cover all conceivable programs.

A second problem in the application of cost-benefit analysis is centered around the question of what are the goals of the social action programs. At first glance, this question seems to be irrelevant; it is well accepted that unless a program can specify the objectives and the activities it is seeking, whether these be the amelioration of some

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115 Rossi, op. cit., pp. 11-49.
specific social problem or advancement of some other specific social
goal, evaluation is meaningless. However, in the real world, this
is not a well established fact as it seems to be since the motives of a
social program are quite varied.

Cohen noted that "the aims of a social action program are
diverse and their purpose is to shift the position of specified target
population relative to the rest of the society."

Furthermore, most social action has not only a publicly stated
objective but also some hidden non-stated objectives such as those
directed to minimize social or political unrest as Cohen points out:

Not all purposes of social action programs are so neat or
so abstract, nor can they all be evaluated by counting dollars,
teachers, or special programs. One of the aims of large-
scale social action programs is to produce peace or at least
to reduce conflict. . . . These programs represent an effort
to rearrange political relationships and the sources of vari-
tion in their success are therefore bound to have as much to
do with political and administrative matters as with how
efficiently program inputs are translated into outcome.

Rossi contends that those programs whose aims cannot be
stated in terms of the desired outcome cannot be subjected to cost-
benefit analysis.

118 Rossi, op. cit., p. 24.
A third major problem with cost-benefit analysis in social action programs is the reduction of want-fulfillness patterns to a common matrix or price system so that the cost and benefit ratio can be calculated.

A fourth underlying concern in cost-benefit analysis is how to limit the costs and benefits which are to be considered. A social program although apparently limited in scope, may be traced to effects quite far from the narrow area apparently affected. In part, the problem is related to the question of external causes, that is, the costs and benefits imposed upon systems other than the target system.

The fifth question concerns aggregating costs and benefits to come up with measures relevant to the population in question. Specifically, this question boils down to whether one should be concerned with the problem of aggregate levels of well-being or with the distribution of well-being in a social system.

Levine, quoted by Rossi¹¹⁹ and based on his experience, felt that cost-benefit analysis is a useful framework to conceptualize the problem of decision making but in practice there is so little empirical data available that cost-benefit analysis actually undertaken tends to be somewhat fictional in character.

Levine argues that four major problems stand in the way of using cost-benefit in practice.

a. the lack of any firm data on the effectiveness of the problem.

b. the great difficulty of finding control groups with which a person participating in the program can be compared and hence a corresponding inability to estimate the impact of the effectiveness of programs.

c. the problem in estimating at a given point in time the benefits that are accrued in an uncertain future and;

d. the uncertainty about the kind of discount rate that ought to be applied to future earning. Those problems are so great, he says, that the proper empirical application of cost-benefit analysis is almost impossible to achieve.

Rossi, after examining several empirical works about social action programs in the United States, concluded that before cost-benefit analysis can be applied, considerable prior work had to be undertaken to provide reasonable empirically based estimates of program effectiveness.

Cano and Myren\textsuperscript{120} in a cost-benefit analysis of an agricultural project in Mexico made the following comment:

Benefit-cost relationships are not criteria as such, but rather may contribute to form criteria for investment. There is no simple mechanical test for determining whether

the benefits are sufficient to carrying out a project. Risk and uncertainty abound and professional criteria and common sense cannot be replaced by an equation. To arrive at a reasonable conclusion in evaluating a project, it is necessary to look at everything that is known about all aspects of it and all important relationships. What may appear to be a decisive factor in one case may be of little importance in another...the knowledge exists or is being produced with which it will be possible for a farmer to increase yields in a spectacular manner, but it is not possible to exclude the possibility of an unfavorable reaction for psychological, political or social reasons or because of deficiencies in rural infrastructure...what the project produce is information and technical assistance...To be sure the information is useful but the fact that it can be applied in unlimited quantities once that is disseminated make it difficult or impossible to fix a price. Perhaps this is the reason that information and technical assistance have been undervalued and at times completely omitted.

In a program like supervised credit the educational aspect is seeing as the acquisition of skill or technical acumen which will produce a flow of determined output that requires resources and thus, it has a price; while the output has some expected discounted price for which it can be sold.

Farmers have a given level of knowledge and additional resources can be used either to fulfill activities with the old knowledge or to change toward a more productive knowledge. This, assuming of course that one can determine a prior amount of learning which occurs from a given set of resources and that the benefits are greater than the costs.

A cost, perhaps the major, associated with the educational aspect of the program is supervision. If only cost was considered, the optimum would be to have an infinite number of farmers for each supervisor, as the more farmers per supervisor the less the average cost. However,
efficiency requires that cost be minimized for a given quantity and quality of the output. It is obvious that beyond a certain number of farmers to be assisted the quality of assistance provided would decline. This is due to the heterogenous characteristics of the farmers and supervisors. It is also because the learning process takes time and effort. Besides, new knowledge does not flow automatically into the farmers' heads. Again, one can objectively measure the cost of resources which go into the educational activities under a given price system, the trouble is to ascertain the benefits objectively.

It can be said; therefore, that cost-benefit analysis is a useful tool in assessing those quantifiable variables which need to be complimented or integrated in an evaluation strategy so that, others, that are not quantifiable factors, can be accounted for. However, the cost-benefit approach cannot be discounted since it can form an integral part of a more complete model.

The Goal Model Approach

One procedure designated to measure the extent to which the objectives of a program have been achieved is one presented by Sherwood who has suggested a "goal-model" approach to determine the success of a program. In the evaluation of a social action program, he proposes the study of three kinds of variables: program, intermediate, and independent variables.
Sherwood has described program variables as constituting that complex set of organization "stimuli" which, if any scientific prediction is to be made concerning their effect must be so accurately described and thoroughly understood that they can be reconstructed at another time in another plan by other professionals. If the program works, then that which constitutes the program must be sufficiently understood so that the program can be repeated in other projects with other directors. Conversely, if the program fails, then that which constitutes the program must be sufficiently understood so that the program is not repeated and is not reorganized bearing only a new name or a new director. Here the problem is how to describe and thoroughly understand the program components. Levinson suggests two possible strategies: 1) to divide the program into input and out-put segments, that is, how the program was formally planned (input) and how the program operates in day-to-day practice (output) 2) strategy is to work out an "impact model" which to Sherwood is a set of theoretical concepts or ideas which trace the dynamics of how it is expected that the program will have the desired effects; a theory which logically interrelates a set of principles and procedures which logically imply that certain decisions rather than others be made with respect to such crucial day-to-day program situation.

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However Levinson\textsuperscript{122} cautions that developing a rigorous "impact model" is a difficult and tiresome task for program administrators and therefore a source of their resistance to do meaningful program evaluations. Moreover, programs that have just begun, are in a stage of transition, have no theoretical underpinnings or are experiencing extensive personnel turnover; all the programs may be so unstable as to defy any attempt to describe them accurately in terms of an "impact model." The other two components of a 'goal-model' are the intermediate and dependent variables. For Sherwood those two types are interrelated and, depending on the criteria selected by the evaluator, they both can be used as criterion variables.

The model although useful in determining some aspects of the program is incomplete for evaluating a supervised credit program in that the mere description of the program and its elements do not give enough information as to judge if the program has been successful as is the case with most descriptive studies — they give only knowledge about what is happening in the program without explaining what makes the program success. However, the goal-model as well as the cost-benefit model can be useful as a compliment to, or as a part of a more complete evaluation model.

Toward the Development of an Evaluation Model
For Supervised Credit Programs

The objective of developing an evaluation research model for supervised credit programs is to understand the interdependence of all factors involved in the program in order to be able to predict the relevant outcome at any point in the program. This can probably be best achieved by introducing the concept of system to the evaluation strategy.

The concept is useful given the complexity and the unmanageably large number of variables involved in the evaluation of a social action program. A system can be described as a relationship between the component elements and the relationships among them. Thus, in a social action program the different components can be grouped in output, inputs, and processes. The relationship between the components can be described within the context of a system. The notion of interdependence implies that a change in one part of the system affects the operation of another part of the system. Hence, in an interdependent system, one cannot explain the outcome on the basis of the knowledge of input alone. By developing a system model independent of, but corresponding to, a real situation, one can seek to understand the process of changes, to anticipate them and finally

to evaluate them. A system model, by its very nature, appears fruitful in view of the fact that most developmental programs occur in the context of a particular socio-economic and political situation quite often in an atmosphere of conflict and tension.

The system model provides a framework for social action program evaluation designed to extend knowledge of the nature of the interrelationship among different aspects of the program. That knowledge may be thought of as having two levels. At the fundamental level, there is the understanding of the behavior of an individual set of variables. Without sufficient knowledge of the behavior of the individual set of variables, there is little basis for understanding that behavior may be affected by other sets of variables. Then, on the basis of sufficient knowledge of the individual set of variables, it is possible to proceed to the second level, system variables, i.e., the understanding of the nature of the interdependence among all sets of variables. Then, the objective of system analysis is to gain such understanding of the system as to enable the analyst to predict how the outcome will be affected by variations in the system structure.

A starting point for development a system evaluation research model for evaluating a supervised credit program is the definition of three sets of criterion variables and the relationship among them:

1. The development of criterion measures for supervised credit performance
2. The development of measures for supervised credit program resources, and activities and policies.

3. Development measures of those variables characterizing the internal structure and functioning of the system.

4. The determination of possible relationships between these three sets of measures.

Information found about the existence of such relationships might then be used to guide the supervised credit program administrators in deciding what policies or procedures to adopt in order to achieve a certain level of performance by the program.

But these measures alone are useless unless a linkage is built among them to accomplish that purpose. An evaluation research model is proposed basically on ideas used in evaluation of large organizations. The model consists of three sets of variables designated as: 1) output variables (dependent or criterion variables); 2) input variables (independent variables) and 3) system variables or variables which characterize the internal structure and functioning of the system. All three sets of variables need to be identified, described, and operationalized before they become useful in an evaluation model.

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The initial step involves the conceptualization of supervised credit programs and the specification of the goals along with the selection of variables whose measurement would reflect the performance of the program with respect to those goals. These variables are designed as output variables.

In selecting the output variables for a supervised credit program, a question should be answered: For what purpose was the program created and for what purposes is it being maintained? The purpose presumably represents the conceptualization of whatever the policy makers consider the contribution of the program is and should be making in the solution of society problems.

The variables selected as output or dependent variables should have at least two characteristics 1) they should be amenable to be operationally defined and thereby measurable and, 2) they should represent characteristics of the products of the program in quantitative as well as qualitative forms.

The input set of variables are those factors in the system's environment whose variability affects the system's functioning. Here are included those factors entering in the system or emphasizing upon its boundaries or serving as constraints to the system behavior. Three classes of input variables can be identified in a supervised credit program:

1. Variables which specify the environmental conditions in which the program is located. This class of parameters
may be looked upon as providing some real constraints to the variation in the remaining classes of input variables.

2. Variables describing the target population such as, size, socio-economic level, education, previous experiences, and the like.

3. Variables which encompass basic resources which the program receives during a given period of time such as financial resources, equipment, and so on.

The third major set of variables can be called the system variables. These variables characterize the internal structure and functioning of the system. The system variable can be classified in two major categories:

1. These variables reflecting the program pattern of staffing, such as size and quality of the staff, formal and informal patterns of authority, and attitude of the staff toward the target population's problems.

2. Policies and procedures - The parameters of this kind may be said to reflect the program internal functioning rather than its structure. Since the model consists of specifying certain relationships among the variables being considered the research design to be used in a correlational one in which input and system measures (predictors) are to be statistically correlated with output measures (criterion measures). The task here
will consist of trying to detect relationships between two sets of variables, input and system variables on the one hand and output variables on the other. It is needed to look for relationships between input and system variables and their relationship with any output variable.

The next step will be working with each class of output variable. Each of the input and system variables will be related to each of the output measures. As a first approximation, this can be accomplished by the use of simple correlation analysis. Multiple correlation and path analysis model can be used to describe the overall system of relationship between the variables and how they interact to produce changes in the dependent variables. The path diagram itself specifies these relationships by addressing the degree to which various independent variables explain the variance of the dependent variable. The path analysis actually indicates the amount of change in standard deviations of a dependent variable given a similar change of one standard deviation in one of the independent variables, while other independent variables in correlation matrix are being controlled. 125

The use of multivariate statistical methods points out some underlying dimension of the input and system variable measures.

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These two can be also exploited by relating them to output measures. The relationship between output variables might be of vital importance to administrators, for example, if high performance with respect to one goal, such as, income tended to be accompanied by low or high performance in another goal that relationship could be useful in deciding which objectives should receive emphasis in the long range goals. Another aspect of the evaluation research model is that it helps in determining the input system relationship which is of particular interest not only to a supervised credit program administrator, but also to the social scientist, so that he can learn how changes in the input variables affect the structure and functioning of the whole system. The model is an attempt to predict the outputs of the program from the knowledge of various input variables and system variables but it would be useful also to attempt to predict input and system variables by using output variables as predictors. Being a correlational model as it is, it can be used to restrict the variables set in such a way that a model of casual relationship can be further developed.
CHAPTER V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Statement of the Problem

The purpose of this study was to provide additional understanding in the interpretation of information from supervised credit programs as an instrument in the development of rural areas of developing countries. The study was focused on two major problems; 1) to describe the criteria under which this type of program has been evaluated, and 2) to develop a comprehensive evaluative model with which the major results sought through a supervised credit program can be assessed.

Objectives of the Study

The general objective of this study was to develop a frame of analysis whereby a supervised credit program can be evaluated.

The Specific Objectives Sought:

1. To review the literature of supervised credit programs, and to identify the criteria used in establishing and conducting these programs.

2. To identify factors from the available data and studies shown to be associated with participation in supervised credit programs.

3. To develop guidelines for improving the selection of evaluation criteria and methodology in evaluating a supervised credit or similar type of program.

4. To make recommendations that can be useful in improving
the evaluation of supervised credit programs.

Procedures for the Study

The study had as its main source of information, reports from seminars and conferences, United Nations publications, research studies and reports, dissertations and theses and articles on the subject. Most of that information was localized and available from the special collection of reference material on agricultural credit located in: 1) The Department of Agricultural Economic and Rural Sociology at The Ohio State University, Columbus, Ohio; 2) the AID Spring Review in Small Farmers Credit series and 3) Dissertation Abstracts International.

The criteria used to select the studies were:

1. The study was concerned with the supply of credit accompanied with some type of extension education or technical assistance regardless of the name given to the program.

2. The study was concerned with programs in developing countries in Latin America.

3. The study was available for the researcher.

Information was obtained concerning concepts of models, model building, models more frequently used in evaluating social action programs and conceptualized in evaluating the performance of large organizations. The concept of systems was introduced with the purpose of having a way to connect different sets of variables in a more integrated evaluation model.
Major Findings of the Study

Supervised credit programs

The supervised credit program model was originated as a response to the problem faced by the marginal farmers living in poor areas. The major assumption for its formulation was that the farmers are capable of improving their situation provided they have the means and knowledge to do so.

Supervised credit programs are integrated programs in which credit and education combined are the most important features. Supervised credit programs are programs of social promotion which use equilibrated objectives with adequate finance and are concerned with a special target population whose capabilities and personal characteristics are more important than their economic characteristics.

Supervised credit programs differ from other types of agricultural credit programs in that the credit component is normally more fully integrated with extension educational services and it is broader in scope and not confined only to increasing production. Since the main objective of a supervised credit program is to transform the socio-economic relationship of the poor farmers, it follows that a supervised credit program is a social action program of educational and financial characteristics.

Evaluation Criteria Used in Supervised Credit Programs

It was found that in general most of the evaluation studies reviewed reflected the theoretical orientation of a financial institution. The most common criteria used as indicators of the supervised credit program performance are in terms of increased productivity, income,
rate of interest, credit delinquency, capital formation and use of technology. It was also found that there is a lack of an established set of criteria concerning the constituents of a successful supervised credit program. These criteria seem to be absent from the program objectives as well as from the evaluation studies reviewed. It was found that there is a clear tendency to identify factors limiting the success of the program and a very limited identification of those factors that have been or could be contributing to the success of the program.

The factors found to be most likely considered as associated with the supervised credit program success were:

1. Program with clear long-term objectives.
2. Organizational flexibility.
3. Financial and administrative continuity.
4. Good supervision, qualitatively as well as quantitatively.
5. Adequate farm size.
6. The quality of the resource base, specifically land and water supply.
7. Characteristics of the farmer, in other words, progressive farmers.
8. Improved and adopted agricultural technology.
9. The use of farm planning and budgeting.
10. Production of product easily marketable.

The following factors were identified from the studies reviewed as limitors of the success of a supervised credit program:

1. Lack of clear objectives and specific goals.
2. The programs are too broad. They include too many activities
in too many different places.

3. Lack of adequate institutional finance.

4. Lack of adequate technical assistance.

5. Lack of coordination with other institutions.

6. Lack of appropriate technology to fit the small farmers needs.

7. Lack of transportation.

8. Lack of criteria for allocation of resources.

9. Short term credit instead of more long range credit.

10. Lack of an information system to feedback the program performance.

11. Low rate of interest.

12. Resource endowment of the farmers.

13. Low level of education characteristics of farmers.

14. Misuse of credit by the farmers - use in consumption rather than investing in production.

15. Loan delinquency.

Only three out of fifteen factors most often mentioned as limiting the success of a supervised credit program can be attributed to the characteristics of a farmer's domain:

1) Misuse of credit by the farmers

2) Loan delinquency

3) Educational characteristics of the farmers.

However, a close look at the nature, characteristics and objectives of the supervised credit programs reveals that those factors are already built into the operation of the program and thus, are not really limiting factors.
In summary all the limiting factors in a supervised credit program, as perceived by the authors of the study reviewed, can be considered institutional constraints.

Evaluation of Social Action Programs

The review of the literature in the state of development of the evaluation theory tends to support the proposition advanced; evaluation research as applied to evaluation of social action programs is still a mass of information lacking articulation. It does not constitute a body of systematic knowledge useful in predicting the outcome or effectiveness of a social action program. Four major drawbacks to evaluation research methodology are:

1) Conceptualization; because if the premises on which the program rests are not adequate to the problem situation the result will be of no value regardless of the type of research design, the accuracy of the measuring instrument and the ability of the researcher to interpret the data; 2) the type of research design used because there are some designs which provide for better ways of controlling internal as well as external invalidity; and 3) measurement of the outcome; the major problem is that the researcher is not directly measuring the phenomena under study rather he is observing and measuring empirical manifestations or indexes of the phenomena; 4) interpretation of the evaluation result - the research design determines the type of control over extraneous variables that the evaluator is able to exercise, the type of data collected and the type of analysis applied. However, all of these factors are meaningless without a well defined theoretical framework.
An analysis of the three models reviewed shows that cost-benefit analysis is a useful tool in assessing those quantifiable variables, but it needs to be complemented or integrated in an evaluation strategy so that other not quantifiable factors, can be accounted for.

The goal model implies there is a set of theoretical concepts that trace the dynamics of how the program is expected to have the desired effect. The model requires a description of all aspects of the program: that is how the program was planned (input) and how the program operates in a day-to-day practice. The goal model although useful is incomplete because the mere description of the program and its elements does not give enough information to judge whether or not the program has been successful because there is not a basis for comparison.

A systems approach model appeared to be the most useful in evaluating a supervised credit program given the complexity of and the number of variables included in that type of program; however, the cost-benefit and the goal model are not excluded possibilities in a systems approach model.

**Conclusions**

Based on the related literature and major findings of the study the following conclusions were derived:

1. Supervised credit programs were conceived as a tool to be used in helping the marginal farmer to improve his social as well as economic condition as such; it can be defined as a social action program of educational and financial characteristics. Hence, the apparent conflicts between the educational and financial objectives are solved
when supervised credit is considered in this context.

2. Even though most writers recognize that supervised credit programs are social action programs, most evaluations are based on a financial type of criteria reflecting the philosophy and orientation of such institutions. Since those institutions usually have different interests from those implied in social action programs, there is a clear source of conflict which works against the success of supervised credit programs.

3. Because most of the criteria used in evaluating supervised credit programs takes into consideration only the financial aspect of the program, we can conclude that the criteria are not the most appropriate for the type of objectives sought by the program for the target population. The target population included in a supervised credit program consists of those that usually are not able to comply with the financial requirements of the financial institutions.

4. Given the fact that most supervised credit evaluation studies have been directed toward assessing the feasibility of the program from the economic point of view there is the tendency to judge supervised credit programs, in general, as a failure disregarding any educational advancement or betterment in the condition of the farmers and the rural areas in which the program is operated.

5. Lack of well established criteria for determining the success or failure of supervised credit makes the evaluation task difficult; the evaluator passes judgements concerning the success or failure of a program based on insufficient and partial information about the program, usually the financial part of the program.
6. Most factors associated with supervised credit program limitations are directly related to the institutional characteristics of the program and thus they cannot be corrected simply by increasing the technological efficiency of the farmers. It requires the total transformation of such institutions in relationship with the farmer that they pretend to serve.

7. The lack of clear understanding about the purposes and aims thought in a supervised credit program has led toward confusion among those implementing the program, consequently conflict arises when decisions have to be made in selecting either social or economic goals as a priority.

8. Given the complexity of intervening factors in a program such as supervised credit programs, an integrated system approach incorporated with some type of cost-benefit analysis as well as a goal model concept seems to be the most appropriated model for evaluating a supervised credit program or programs similar to them.

9. The body of theoretical knowledge about evaluation research is in the stage of empirical generalization and as such is limited in explaining or predicting the outcome of a program. The lack of agreement concerning the status of evaluation research impedes the systematic accumulation of the findings that eventually can be related in the construction of an evaluation research theory. As a consequence, evaluation research suffers from clear conceptualization, use of appropriate research design, measurement problems, and dubious interpretation and applications of the result.
Recommendations

Based upon the related literature, findings, and conclusions of this study the following paradigm for evaluating a supervised credit program was suggested:

I. CONCEPTUALIZATION OF THE PROGRAM

1. What: educational or financial or both?
2. Why: it was established?
3. Whom: for whom is it maintained?

Identification of:
- the socio-economic, political & physical environment
- the target population and sample
- the evaluation objectives in terms of the changes sought by the program

II. IDENTIFICATION AND SELECTION OF THE CRITERION VARIABLES

Development of comprehensive measures of performance or changes sought

Measures of:
- the effect of the program in the target population
- the effectiveness of methods & strategies
III. DEFINITION AND SELECTION

of the independent variables, input variables, intervening, and other independent variables

System Variables, Resources policies, procedures & activities

Environmental & physical variables

Personal & psychological variables

Socio-economic political & cultural variables

Select the most relevant variables

Use the available information to select the most probable variables affecting the program outcome

IV. DEVELOP & COLLECT

Develop the appropriate instrument &
Collect the pertinent data on the variables defined and selected
V. ANALYZE THE DATA

by setting judgmental standards & values concerning desirable levels of performance on measures collected & summarized

- Use correlation models to find out relationship between the outcome & the independent variables & among the independent variables themselves.
- Use predictive models to determine the core of independent variables which are most likely to contribute to the outcome of the program.
- Use casual models or experimental designs to determine what variables produce the change or outcome of the program.

VI. INTERPRET THE DATA

relative to the program goals sought as the basis for drawing conclusions concerning the direction of the progress of the clientele and the effectiveness of the program strategies.

VII. MAKE RECOMMENDATIONS

on the basis of inferences and interpretations made concerning the nature and degree of the relationships between the outcome variables and all other independent variables.

MAKE SUGGESTIONS concerning either the modification of unattainable objectives or changes in strategies employed.

VII. FEEDBACK:

information communicated to all people involved in the program if the evaluation efforts are to result in improvement of the programs.
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