

AGENCY FOR INTERNATIONAL DEVELOPMENT WASHINGTON, D. C. 20523 BIBLIOGRAPHIC INPUT SHEET		FOR AID USE ONLY
1. SUBJECT CLASSIFICATION	A. PRIMARY Economics	
	B. SECONDARY Agricultural Credit	
2. TITLE AND SUBTITLE Supervised credit and the small farmer		
3. AUTHOR(S) Tinnermeier, R. L.		
4. DOCUMENT DATE 1971	5. NUMBER OF PAGES 32 p.	6. ARC NUMBER ARC
7. REFERENCE ORGANIZATION NAME AND ADDRESS The Agricultural Development Council, Inc., 630 Fifth Avenue, New York, New York 10020		
8. SUPPLEMENTARY NOTES (Sponsoring Organization, Publisher, Availability) (Presented at Seminar on Small Farmer Development Strategies, Columbus, Ohio, 1971)		
9. ABSTRACT This paper reviews the history, achievements, and limitations of Peru's supervised agricultural credit program, financed by four USAID loans totaling \$25.6 million for the period 1964 through 1970. The Peruvian supervised agricultural credit program has not been very successful in raising productivity levels, in increasing on-farm capital formation, or in improving net farm incomes, compared to similar programs in other countries. This is mainly because of a lack of sufficient technical assistance and a lack of sufficient water. However, other factors played a role. The program objectives were poorly defined. The target group of farmers was not well identified. Economic and welfare objectives were intermixed. Farmers with less than two hectares did not usually employ loan moneys effectively. The institutional arrangements between the supervised credit program and the state agricultural bank were inadequate. The extension agency was responsible for borrower selection and supervision, while the bank was responsible for loan collection. Each blamed the other for poor results. The extension agency should also have been responsible for ensuring repayment of the loans, leaving the bank to handle only the loan records and accounting responsibilities. Delinquency is a major problem in Peru. Almost no rural savings have been mobilized through the supervised credit program, but the potential exists. The cooperatives are appropriate institutions for generating such savings, but unless the existing fixed low interest rates are modified, savings will have to be forced rather than obtained voluntarily. Even so, there may be considerable merit to forcing savings where this results in a more rational use of increased net farm incomes resulting from supervised credit. Aid agencies need to ensure that mistakes in Peru are not repeated elsewhere.		
10. CONTROL NUMBER PN-AAB-907	11. PRICE OF DOCUMENT	
12. DESCRIPTORS Farms, small Peru	13. PROJECT NUMBER	
	14. CONTRACT NUMBER CSD-2813 GTS	
	15. TYPE OF DOCUMENT	

CSD-2813 GTS  
332-71 T591  
PN-HAB-90M

1537  
Ag. O.

SEMINAR ON SMALL FARMER DEVELOPMENT STRATEGIES

Supervised Credit and The Small Farmer

by

Ronald L. Tinnermeier  
Associate Professor of Agricultural Economics

Colorado State University

The Agricultural Development Council and  
The Ohio State University  
Columbus, Ohio  
September 13-15, 1971

September 1971

Department of Economics  
Colorado State University  
Fort Collins, Colo. 80521

**SUPERVISED CREDIT AND THE SMALL FARMER**

by  
Ronald L. Tinnermeier

All interpretations, errors, recommendations and conclusions are the sole responsibility of the author and do not necessarily represent those of the supporting or cooperating organizations.

## SUPERVISED CREDIT AND THE SMALL FARMER

by Ronald L. Tinnermeier \*

Serious attempts are being made by the less-developed countries (LDC's) of the world to improve the lot of the prevalent small and medium-sized farmer. A review of census materials and land tenancy studies clearly points out the magnitude of this problem [3]. Such attempts to help this large segment of the population are justified on both economic and humanitarian grounds.

Agricultural credit, more specifically supervised agricultural credit, has been looked upon as one technique which can contribute to the development of the small, low-income farmer. Supervised agricultural credit includes more than the usual servicing of the loan, the case for regular production loans--it also involves assisting the farmer in planning his farm business and in operating the farm effectively. Such supervision includes technical and financial assistance for the farm business and family.

The countries of Latin American have experimented more with this technique than have the LDC's in the other parts of the world.<sup>1</sup> During the 1960's Latin America experienced a sharp increase in external funding for agricultural credit from the Agency for International Development (AID), the Inter-

<sup>1</sup>These countries have not generally used supervised agricultural credit as a development strategy but rather have emphasized credit cooperatives or other forms of extending agricultural credit [4, 11].

\*Ronald L. Tinnermeier is Associate Professor of Agricultural Economics at Colorado State University. This paper is based on observations and materials gathered in Peru while the author was employed as head of a credit evaluation team with the North Carolina State University Mission to Peru (AID contract).

American Development Bank (IDB), and the World Bank Group (IBRD), much of which was destined for supervised agricultural credit [1]. Normally, these loans were granted with low interest rates, lenient grace periods, and long-term repayment schedules.

The purpose of this paper is to briefly review the history, achievements and limitations of Peru's supervised agricultural credit program and to discuss how its experience might be generalized for other areas.<sup>2</sup>

#### PERU'S SUPERVISED CREDIT PROGRAM

A few isolated supervised agricultural credit pilot projects were initiated in Peru during the 1950's but the first nation-wide program began in 1964 with the signing of the first of four AID loans.<sup>3</sup> From that date through 1970 a total of \$25.6 million was loaned to Peru by AID for this purpose. The Peruvian government contributed an additional \$5 million as its share of the program. This activity will be referred to in this discussion, although the IDB also funded a smaller credit program for selected regional development projects separate from the AID program.

The AID-financed credit program operated in three different geographical regions. The first important region affected by the loan was the La Convencion Valley located northeast of Cuzco which had suffered considerable rural violence and land invasions (attempted spontaneous expropriation) during the early 1960's (most likely strong stimuli for both lender and borrower to sign the loan). This area was one of the first agrarian reform projects in Peru and the new landowners were the target group for the supervised credit. The new owners were previousl

<sup>2</sup>Descriptions and reviews of other country programs can be found in these publications [2, 5, 6, 8, 14, 16].

<sup>3</sup>The signing actually occurred in 1961 but disbursement did not begin until the end of 1964.

share-croppers and farm laborers on the large coffee and tea plantations and originally came from the more mountainous Cuzco area. The credit was extended for the production and storage of coffee and tea, operating through recently formed purchasing and marketing cooperatives.

This system has allowed the small coffee producers to sell through the cooperatives, receiving an average price which was 60 per cent greater than that paid by local buyers. The loan repayment record after extending the credit through the cooperatives has been excellent.<sup>4</sup> It is important to note that the cooperatives not only improved the credit record of the borrowers but that they also assisted the State Agricultural Development Bank in recuperating long past-due individual loans extended earlier by the supervised credit program as well as by the bank itself. This is one case where it can be clearly demonstrated that cooperatives have been highly effective with supervised credit. The Agrarian Reform Agency was very instrumental in the formation and operation of the cooperatives.

In 1967, the devaluation of the Peruvian sol provided even larger marketing margins for coffee exports since there was a lag in local production cost increases and, unexplicably, local buyers continued offering pre-devaluation coffee prices, both of which provided strong incentives for cooperative participation by the producers (cooperative prices were 114 per cent more than that offered by local buyers). Because of AID loan restrictions the La Convencion credit activities have since passed entirely to the State Agricultural Development Bank.

The second region affected by the supervised agricultural credit program was the central sierra or central plateau region of the Andes. Again, the

<sup>4</sup>The State Agricultural Development Bank as well as the supervised agricultural credit program experienced relatively high delinquency rates for loans granted on an individual basis before the coffee and tea cooperatives were formed.

supervised credit was for new landowners resulting from the expropriation of a large sheep hacienda [18]. The new owners were largely of Indian origin, descendants of the ancient Inca Empire. Twelve communal sheep enterprises were formed around the newly acquired land areas and the separate production units were managed by the long-established Indian communities under the general guidance of the agrarian reform technicians. Long-term sheep production loans for breeding stock and for pasture improvement were granted to the communities. But more organizational problems were encountered as compared to the coffee producing area and the government was less influential in the day-to-day operations of the sheep enterprises. Nevertheless, loan repayments were quite satisfactory. The communal sheep operations provided considerable experience and knowledge for the more-recent and more-extensive agrarian reform activities in the same general area since 1968.<sup>5</sup> It should be noted that the selection and supervision of the borrowers in the first two regions was under the control of the Agrarian Reform Agency while the loan collection was the responsibility of the agricultural bank.

The third and most important region with supervised credit operations is the irrigated coastal area. This region is currently under the supervision of the national extension service but with the agricultural bank responsible for loan collection as in the other two regions. Over 80 per cent of the total value of supervised farm loans extended through December 1969 were for this region (S/. 1,112 million<sup>6</sup>). Due to the relative importance of this

<sup>5</sup>The communal sheep enterprise concept has now evolved into a new organizational structure called "agrarian societies of social interest". The so-called SAIS concept has been applied to the recently-expropriated large sugar cane operations on the coast and to the 100,000 hectare Cerro de Pasco sheep ranch in the central plateau. The SAIS guarantees heavy governmental participation as long as its capital contribution is significant. The communities also actively participate in the sheep production activities and it is anticipated that the SAIS will eventually evolve into a cooperative structure. Due to large capital investments the supervised credit funds have not yet been used for these operations.

<sup>6</sup>At the current exchange rate of S/.43.38 per U.S. dollar this is equivalent to \$25.6 million.

zone in credit use and because the irrigated cropland is more similar to agriculture found in the other LDC's of the world, the rest of this discussion will be limited to the experiences with supervised agricultural credit on the Peruvian coast.

### Coastal Credit Activities

The coastal supervised agricultural credit program has been oriented towards the small farmers, largely share-croppers with less than 5 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. Slightly less than one-third of the borrowers are owner-operators and the rest are share-croppers, usually living on a small plot of marginal land on the edge of a large hacienda. The 1964 Agrarian Reform Law provided legal land ownership to these share-croppers but did not transfer any corresponding water rights. Consequently, this seriously affected the outcome of the supervised credit in many areas since the Peruvian coast is without rainfall. The recent military government's revised agrarian reform law attempts to eliminate this problem by combining land and water rights. This 1969 law has also brought about extensive land reform on the coast.

An estimated 80,000 to 100,000 low-income farmers exist on the coast. The government optimistically hopes to reach a large portion of these farmers with supervised credit. The establishment of the supervised credit program was the first attempt to provide financial aid to such a large group of small farmers. The main source of agricultural credit, the State Agricultural Development Bank, had traditionally serviced the larger farms, primarily for export crops; however, the present military government is rapidly

reversing this policy by emphasizing the extension of credit to small and medium-sized farmers and to agricultural cooperatives and other organized groups.

A portion of these low-income farmers have migrated from the more densely populated Andean region. Another group has come from continual land division and fragmentation caused by rural population increases combined with limited urban employment opportunities. There is some evidence that a portion of the share-croppers have come from the large landowners buying up the smaller owners, either for size considerations or for the purpose of acquiring additional water rights [9]. Even though the coastal low-income farmer is faced with many difficulties, he is generally better educated, participates more actively in the marketplace, and is less culturally bound compared to his counterpart in the mountainous regions of the country.

The supervised credit program affects about 4 per cent of the cultivated area on the coast. When the land area for the non-financed export crops of cotton and sugar cane is excluded, the supervised credit activities influence approximately 9 per cent of the cultivated land area [17]. The maximum farm size permitted in the program is 30 hectares of irrigated cropland or its equivalent, but few borrowers have reached this size limit. The interest rate has varied during the life of the program but now rests at the 7 per cent level for most loans. For loans over one thousand dollars and for longer term loans it is 9 and 10 per cent respectively.

#### MAJOR ACCOMPLISHMENTS AND LIMITATIONS

The supervised credit program has, without doubt, accomplished much, especially when one considers that the small farmers lack sufficient capital, have low productivity levels, use limited amounts of

non-farm inputs, have low incomes, and possess little or no formal education, little technical knowledge, and relatively small acreages. Reaching these farmers with supervised credit is no small task.

The program did indeed reach the small coastal farmer. For the first two crop seasons (1964-1966) over 61 per cent of the loans was for farms with 3.5 hectares total area or less and as much as 26 per cent was for farms of 1.5 hectares or less. The majority of the loans (66 per cent) was for less than S/. 10,000 (\$230). Although the program did reach the small farmers, this very fact caused high administrative costs per unit loaned. However, the field technicians felt considerable pressure to reach more farmers. This concern later brought an increasing emphasis on group or cooperative loans. In some cases, the program attempted to assist farmers which were too small resulting in no significant or visible benefits. These were often part-time farmers who were not adequately motivated to apply new techniques nor did they possess sufficient resources to take advantage of the credit and technical assistance provided by the program. Reaching too small of a farmer has been a major limitation for the project. The field agents have recognized the error but this awareness has not yet permeated the upper echelons of the program.

The already established extension office and service network allowed the program to expand rapidly, reaching over 10,000 different farmers within two years, a major accomplishment in itself. However, the rapid expansion brought about the negative consequence of emphasizing the number of loans made rather than stressing their effectiveness in helping the farm family progress. The rapid expansion also resulted in poor training for the credit technicians.

In servicing the loans of the small farmers the extension service technicians gained experience and an intimate knowledge of subsistence

agriculture which they had not experienced in their previous extension activities without credit. The extension agents, many with limited experience in the region or even in agriculture, obtained first-hand knowledge of the whole multitude of problems facing the small farmer including lack of technical knowledge, illiteracy, high variability of water supplies, and a host of other economic and social facts of life for the small borrower. Normally, the field technicians spent over 75 per cent of their working hours in credit activities. This new and more intimate contact with the small farmers helped the field extension agents more realistically to appraise the effectiveness of their various methods for developing agriculture.

There is evidence that the supervised credit did influence the adoption of some new practices and techniques by a portion of the farmers. The percentage of farmers using improved seed more than doubled after joining the credit program, with 75 per cent of the farmers using improved seed at the time of interview. This was especially true for hybrid seed corn, the major crop financed with supervised credit. The second major crop financed, rice, was produced using local seed since the new high-yielding varieties had not yet been introduced and tested in Peru. After 1967, the government placed major emphasis on self-sufficiency in rice production and mounted a large program for rice research, seed multiplication and distribution, resulting in near self-sufficiency by 1971.

It appears that the borrowers also used more chemical fertilizer after joining the program but this is not as conclusive. However, with few exceptions, the farmers applied less fertilizer than that suggested by soil laboratory analysis. The actual amount applied varied considerably from one area to another, no doubt partially due to variability of the water supplies. The borrowers applied more fertilizer to cash crops than

to crops produced for home consumption as found elsewhere [13]. A number of farmers applied only limited amounts, or in some cases, no fertilizer to their crops. This reluctance to fertilize could be due to a number of reasons.<sup>7</sup> (1) For farmers with high risk aversion, large fertilizer application with highly variable water supplies would be irrational. The farmers in agencies historically characterized by drought applied considerably less fertilizer per acre compared to the farmers from areas with permanent supplies of water. (2) The returns to fertilizer might be so low as to not warrant application. There is evidence that for corn the returns do vary with soil characteristics [19] but not to the point of discouraging the application of chemical fertilizers. Using cross-sectional data, it was found that for low phosphorous soils the marginal returns to nitrogen application were less than twice the cost of the fertilizer. On high phosphorous soils the marginal returns were almost three times the cost of nitrogen. The marginal returns of phosphorous on low phosphorous soils approached five times the cost of the fertilizer.<sup>8</sup> (3) The supervision by the credit specialists was inadequate or non-existent. Although the returns to phosphorous were high for some soils, very few farmers applied this nutrient. Also, very few borrowers used laboratory soil analysis for determining fertilization rates, both of which suggest that little technical assistance was provided.

Increases in productivity have been disappointing. Farmers can be found that have experienced significant increases in productivity and in levels of living; however, such cases are atypical. Estimated average

<sup>7</sup>Chemical fertilizers are readily available for most coastal areas, although mixing may be required to provide a complete fertilizer.

<sup>8</sup>The calculation of returns is based on relatively high levels of fertilization. Lower rates would likely produce higher marginal returns.

yield levels for most crops financed with credit were less than the yield averages published for the same regions by a national statistical reporting service.

Furthermore, on-farm capital formation does not appear to have changed significantly as a result of supervised credit. A number of factors can be suggested as responsible 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 incomes, (2) The credit was used primarily as operating capital (less than 30 per cent of the individual loans were long-term), (3) Any increases in net income went into additional consumption expenditures rather than into farm investments, and (4) The technical assistance did not meet the needs of the borrower or was not available. Available survey data will be used to empirically test the third hypothesis in the future.

The formation of cooperatives has progressed concurrently with the extension of supervised agricultural credit in Peru. An increasing number of loans are being made to cooperatives who then loan to the farmer members. In a limited number of cases the cooperative operates the land and is therefore the final recipient of the loan. In the areas of the coast with limited water supplies, cooperatives have been formed to finance and operate new deep-well installations. The land is then farmed cooperatively, or individually, depending upon the desires of the borrowers. The supervised credit finances the well (once proven productive), the pump and distribution system, as well as crop production loans for the area served by the well. Loan delinquency has fallen significantly where credit has been extended in this way.

The cooperatives have been a mixed blessing for the supervised credit program. Farmer participation is no doubt improved through the cooperatives

since little farmer participation in credit matters took place when individual loans were made. The cooperatives are also beginning to wield considerable influence in politics. The amount of participation by the members is still an important research topic.

On the other hand, loaning through groups has not really solved the administrative problems of loaning to small farmers since the coops extend sub-loans on an individual basis similar to the extension service and the same records and controls are still required. It is just a matter of shifting the administration of loans from the bank to the cooperatives.<sup>9</sup> The cooperatives have also been set up on a limited liability basis with the farmer being responsible only for the amount of his own loan.

Many of the cooperatives have been rather lax in extending and collecting member loans. Little or no supervision is provided by the cooperative. Many loans are long-term and the results of poor control and supervision will not appear until it is too late to recuperate the inadequately applied loans.

The supervised agricultural credit program also managed to reduce the legal and administrative requirements demanded by commercial banks and by the State Agricultural Development Bank. The characteristic delay from application to disbursement found with the regular institutional sources of credit was normally cut in half by the supervised credit program. Nevertheless, the rapid formation of cooperatives has shifted the extension

<sup>9</sup>There may be some economies related to providing technical assistance through cooperatives. Obviously, group meetings and demonstrations are easier to organize. However, a serious question can be raised concerning the effectiveness of such methods on each individual's operation. The cost of the assistance per farmer will be less but the results might also be less compared to making personal on-farm visits.

of loans from individuals to groups resulting in larger delays, often approaching or surpassing the pre-program levels.

*default of  
3 years minus  
about 15%*

Loan delinquency has been holding at the 25 to 30 per cent level, a serious problem for the program. Such a high level of delinquency once again questions the adequacy of the technical assistance provided to the borrowers. The program has gone through periodic crises of shortages of loanable funds but additional AID or governmental contributions have alleviated some of the pressure to date.

#### ALTERNATIVE COURSES OF ACTION

A number of lessons can be obtained from the Peruvian experience with supervised agricultural credit. Generally speaking, Peru has not been as successful in increasing productivity, in improving on-farm capital formation or in raising farm incomes as compared to the Colombian and Brazilian cases, largely due, it is suggested, to Peru's inability to resolve a number of issues related to supervised credit.

It seems appropriate to briefly discuss these issues in order to understand how they might serve as lessons for other countries. It should be clear that policies, or the weighting of policies, will and should vary from country to country depending upon the existing political, social and economic setting. This does not discount, however, the value of seriously analyzing the experiences of one country to serve as guides for a second country to avoid obvious pitfalls or to revise already existing programs.

#### Program Objectives

Probably no other issue of supervised agricultural credit elicits more different points of view than that of program objectives. Brossard [7] prefers "to call supervised credit a rural welfare service..." indicating

that the extension or educational part must be publically financed rather than self-financed within the program itself. Few would disagree.<sup>10</sup> However, suggesting that supervised credit is synonymous with welfare is perhaps ill-advised since the credit portion of the program might also be looked upon in that light, as happened in Peru in the early planning stages. Such a misconception could destroy a credit program in a short time unless outside financing is continually obtained--a most unlikely prospect.

The basic objective of supervised credit is no different than any other type of agricultural credit. It is for the purpose of assisting the borrower to obtain new inputs so that he is able to increase productivity and income on a sustained basis. The difference arises in that supervised credit must be combined with technical and educational services and it is usually oriented towards the low-income farmer. True, other objectives might also be important. The government may view supervised credit as a means of slowing down rural to urban migration. Or it may expect the program to increase the production of certain crops or products over others. Social and political considerations could also weigh heavily. But these objectives should not overshadow the principal objective of changing the productive structure of the low-income borrower.

Peru did not adequately define program objectives at the beginning nor during the operational phases of the program. This was clearly demonstrated in field interviews with the credit supervisors in 1967. The supervisors

<sup>10</sup> Some supervised credit programs have been able to pay for part of the educational and supervision costs with interest income. Colombia is now experimenting with a technical assistance program almost entirely financed by the borrowers. Such a project is feasible only for the medium sized or larger farmers.

were confused as to objectives resulting in haphazard borrower selection and few guidelines for evaluating the success of the program. Before beginning the program it would have been desirable to conduct a detailed credit survey of the region to determine the number of potential borrowers and to obtain factual information about their needs for institutional credit, if any, and for technical assistance, as done in other countries [15].

No effort was made to define the life of the program or of the borrowers and this is now becoming an important issue. Is the supervised credit program temporary or is it to have perpetual existence? How long should a borrower remain in the program? Of course, the longer each borrower remains, the less likely new borrowers will be able to enter the program. It should be recognized that once a program is begun there is a tendency for it to become permanent and to work with the same borrowers year after year. Many borrowers have now been in Peru's program for 5 years and they are reluctant to transfer to the agricultural bank, primarily because of longer application delays, more impersonal treatment, and additional legal and other requirements. Formal procedures need to be established to ensure an orderly transition to the bank once a borrower has progressed satisfactorily with supervised credit unless the supervised credit program is expected to continue indefinitely.

#### Farm Size

Another lesson evolving from the Peruvian experience and closely related to program objectives, is the relationship between farm size and credit effectiveness. It has been found that there is a minimum farm size below which the supervised credit is ineffective. In Peru this would be at the 2-3 hectare level. Other supervised credit programs have identified this same relationship and have set minimum size restrictions for credit. The

exact minimum size is rather elusive since there are a number of indeterminate variables involved. The interest and ability of the farmer is paramount. The type of crop grown is also significant since it directly affects the size of the farm business. Climatic and soil conditions also influence size. Normally, as the program attempts to reach smaller and smaller farmers it must commit more and more funds and technicians for technical and educational services. A very small acreage can be highly productive and, where very intensive cropping takes place, it can produce a relatively high level of farm income. However, intensive cropping usually means more perishable products and correspondingly more complex marketing considerations.

It is really just a question of establishing priorities. If a program attempts to work with the very small farmers it gives up the opportunity of significantly influencing total agricultural production. It is not suggested that the one to two hectare farmer be overlooked. Rather, the focus of the supervised credit should be on the farmers with, say, 2 to 10 hectares who can serve as a demonstration to the smaller farmers. The smaller farmers could easily be included in all group extension meetings and activities. Group loans could also be extended to these very small farmers but the administrative and supervisory controls should be reduced to an absolute minimum. These same marginal farmers could be included in Food for Peace programs and other humanitarian projects. But the supervised credit program should not be expected to solve the plight of this group of farmers, since the solution to their problems is related to a host of variables, the least important of which is credit.

Perhaps as the technical competence of an agency and of a country improves it will be possible to provide technical assistance directly to

the 1 or 2 hectare farmer, as done in Taiwan and Japan. Attempting to do so now in most LDC's with the existing human and capital resources, will only lead to frustration and mediocre results.

Technology is the key for developing the small farmer, regardless of his farm size, and technical assistance must be the principal component of supervised agricultural credit. But, first priority should not be placed on working with those farmers with little immediate potential for increased productivity. If a program is able to demonstrate its effectiveness in developing the 2-10 hectare farmer, it can then confront the more demanding challenge of helping the farmer with less than 2 hectares.

Again, the Peruvian case has illustrated it is not possible to reduce or eliminate the training component of supervised credit. By doing so it has produced mediocre results compared to other programs where training was not overlooked. A well-trained cadre of extension agents and national specialists will help assure that program objectives are specifically and realistically defined and modified with time, as conditions require. It also assures that the most important part of supervised credit, technical assistance, is current and available to the borrowers. The on-going training program also serves as an important feed-back to the various research specialists to help orient their endeavors.

#### Institutional Arrangements

The relationship of supervised credit to the existing agencies such as an extension service and a state agricultural bank is one of the thorniest issues to be confronted in establishing or operating a supervised agricultural credit program. Most countries have an institutional source of agricultural credit, usually an autonomous or semi-autonomous bank, which has been operating for some time. What should be the relationships of the

supervised credit program to the bank? Should the technical assistance and supervision be incorporated into the existing bank structure or should it be completely independent? It is no easy matter to resolve since the bank is usually reluctant to see a competitive program begin even if the bank has not traditionally serviced the target group.

If the supervised credit program operates through the regular institutional source of agricultural credit, say a bank, this results in procedures and policies which have traditionally been applied to large and medium-sized farmers, procedures which are usually not appropriate for the small, low-income farmers. The characteristically abundant supply of lawyers in the bank only accentuates the emphasis on these legal and other formal requirements. The principal advantage of operating through a bank is, of course, that it is already geared to meet many of the administrative and accounting needs of the credit program.

A clear lesson from Peru is that it is not advisable to separate borrower selection and supervision from loan collection although an FAO publication has suggested the two responsibilities should be separated [8]. Colombia has also experienced inadequacy when dividing these responsibilities. In both cases the selection and supervision was handled by one entity while the loan collection was handled by the bank.<sup>11</sup> The time and effort required for sufficient coordination under these circumstances is overwhelming. Those responsible for the supervision feel no direct consequence of poor borrower selection or inadequate supervision while those collecting characteristically blame poor payment on those doing the supervising.

<sup>11</sup>The major supervised credit activity in Colombia which is handled by INCORA is not under this arrangement. Reference is made to a smaller project where INCORA shares responsibilities with the livestock bank.

A satisfactory arrangement exists when the bank is responsible for maintaining individual loan records, for disbursing and receiving funds, and for providing the customary accounting reports and summaries. Even then there are difficulties because the financial information is not readily available for the credit supervisor unless weekly or monthly status reports are provided by the bank. This is particularly serious when the bank office is not located in the immediate area where the loans are made.

Establishing arrangements with one or more private banks to handle the financial records and accounting responsibilities of a supervised credit program has not been attempted by any country to the author's knowledge. However, such a relationship might hold great promise in reducing some of the high banking costs. Obviously, the political strength of the state agricultural bank will dictate whether this is politically feasible or not. The Peruvian Agricultural Development Bank would strongly oppose such a move because the supervised credit accounts make up a significant portion of their loan portfolio. Still, there are strong arguments for considering the private banking alternative for maintaining loan records.

It is more difficult to suggest the relationship which should exist between the extension service and supervised credit. Obviously the technical assistance is crucial but the immaturity of the extension service, or even its absence, in many countries, precludes any generalizations. The credit responsibility did inject new life into the Peruvian extension service at the outset but the lack of adequate training and orientation accompanying the shift to credit soon brought about disillusionment on the part of the field agents. A common complaint in the field was that extension no longer existed as such because the agents were involved in too much credit paperwork. This is a real danger and steps must be taken to minimize the

administrative load of the agent releasing him for farm visits to ensure the credit is being used wisely. If the training is inadequate and the agent feels he has little to extend, he will tend to spend more time in the office handling the administrative aspects of credit.

It may appear to many that the institutional arrangements are insignificant considerations in the overall supervised credit picture. This is not the case for those countries involved in operating programs. An effort can easily get bogged down in administrative and inter-agency conflicts impairing the general progress of the program.

Probably one of Peru's major administrative limitations has been its inability to find faster and cheaper ways of extending and controlling the many small, individual loans. The formation of cooperatives has been the main technique used to reach more farmers but this has not been entirely satisfactory as mentioned previously. The formation of small groups with joint liability shows promise as a technique but new forms and procedures still need to be experimented with before definite conclusions can be reached. How these same groups can be effectively reached with technical assistance is still an open question.

#### Program Subsidies

All the supervised credit programs in Latin America have been subsidized in one form or another. The most common governmental support has been to cover the extension or educational costs of the projects. Programs for the very small, low-income farmers cannot operate without this support since exorbitant rates of interest would have to be charged to cover such expenses. Therefore, at least for the early educational stages of supervised credit, there is no other alternative than for the government to provide a subsidy if it wishes to reach this particular group of farmers. As the farmers

become more technically educated, however, less individual attention will be required and it may be possible, through demonstrations and other group oriented methods, to reduce the costs of technical assistance and educational activities to the point where a large portion of these expenses could be self-financed through interest charges.

Concessional interest rates have also been provided in virtually all the supervised credit programs but Adams found no convincing reasons for granting these concessional rates <sup>12</sup>[1]. It is interesting to note that over one-half of the supervised credit borrowers interviewed in Peru did not know how much interest they were being charged. Therefore, it is difficult to assume that the real negative rate of interest is brought about by pressures from the small farmer. Generally speaking, the large landowner is also receiving concessional rates of interest and it is more likely that these powerful and influential borrowers had more to do with setting rates than have the farmers with less economic and political power. If income transfers take place in this setting it is certainly not in favor of the low-income farmer.

Assuming Peru doubled the existing interest rate to 14 per cent, giving a real rate of interest of about 4 per cent with current rates of inflation, an additional income of at least \$200,000 would be available for additional loans or for training, each crop season. Obviously, changing the interest rate structure of the supervised credit program implies a corresponding major change in all institutional agricultural credit interest rates, a move that would face strong opposition from some circles.

<sup>12</sup>The concessional interest rates could have the effect of lowering the interest rates in the informal credit markets for those not in the program, but no data were obtained in Peru to test this hypothesis.

What might turn out to be a most serious consequence of concessional interest rates is its effect on resource allocation and capital formation. There is a clear tendency of the newly formed cooperatives to make large investments in farm machinery, often at the suggestion of a government employee. These investments normally require large amounts of foreign exchange and tend to be labor substituting. Further research is needed to adequately measure the impact of this investment on rural employment and on the total foreign exchange picture.

A third form of subsidizing the low-income farmer is through loan delinquency and default. As indicated previously, the Peruvian program has experienced considerable delinquency. Only a small percentage of these delinquent loans are actually "written-off" but if a loan is delinquent for over 2 or 3 years it is virtually in this same category. Interestingly, the national credit supervisor disregards delinquency, apparently assuming that this is a legitimate cost to be born by the government. Such a cost can take on huge proportions, however, if it is not viewed seriously. As of March 1970, approximately \$5 million (S/.221 million) was outstanding and due for just the coastal program. Over 70 per cent of this had been due for more than 90 days. This is indeed a high cost for developing the small farmer, especially when there is little evidence that any benefits have been passed on to him.

How much delinquency should be allowed or is reasonable? There is no set answer. Rates of less than 10 per cent delinquency with defaults below 5 per cent would seem reasonable, if it could be demonstrated that the credit was significantly raising productivity and net farm incomes. The programs of Colombia, Brazil, Mexico and the Dominican Republic, to mention a few, appear to have met this standard.

### Rural Savings

Adams has suggested that there is a potential for mobilizing voluntary rural savings, at least in Latin America [1]. The credit unions in Ecuador have demonstrated that this potential does indeed exist [10]. However, such a source of capital has not yet been tapped in Peru.

A study of selected supervised credit borrowers in an irrigation project near Chimbote showed that the average operators' equity in his farm business amounted to less than one per cent. A similar situation will be found for many cooperatives also financed with supervised credit. The paid-in capital is insignificant and savings do not exist.<sup>13</sup> Obviously, little effort has been made by the supervised credit program to date to mobilize some of these potential savings.

Field credit supervisors have recognized the advantage of establishing member savings accounts in the cooperatives. They have proposed that 5 per cent of each individual's loan be deposited in a cooperative savings in his name. Of course, these would be forced savings as contrasted to Adams' voluntary savings proposal. The accumulated savings would then be available for consumption loans and for family emergency loans. Such a proposal has considerable merit since it frees the farmer from depending on the high interest, informal sources of credit for emergency and other types of personal loans which are not normally covered by supervised credit. It may also serve to reduce the expenditures for religious and other festivities required for social status in many countries. There is a strong temptation for a farmer to spend any increase in net income on unneeded consumer items, often with little forethought. The forced savings would demonstrate how capital can accumulate with time and

<sup>13</sup> Cooperatives are obligated by law to maintain certain reserve and educational accounts but these come from cooperative operating surpluses and not from member contributions.

might help orient the farmer in using his earnings in a less frivolous manner. A serious bottleneck for inducing either voluntary or forced savings through cooperatives is an existing law limiting interest payments to no more than 2 per cent.

In order to mobilize savings from supervised credit borrowers the technical assistance is again a crucial element. Poor technical assistance will be reflected in poor income levels resulting in little or no savings. Forced savings in this situation would only increase the burden of the borrower reducing his repayment capacity.

## CONCLUSION

In summary, supervised agricultural credit does have promise as a strategy for developing the low-income farmer but it is certainly no panacea for development. If a borrower lacks the necessary basic resources of land and water, if there are insufficient supplies of inputs, if there are no markets for his products, or if price incentives are inadequate, then the credit in whatever form, will be unproductive. These are some of the essential elements for agricultural development referred to by Mosher [13] and they must precede the establishment of any supervised credit program. To ensure that these elements exist it is necessary to coordinate the supervised credit program with a national development plan so that these elements are considered and provided for by governmental policies.

The next most essential element for the small farmer, after the above essential conditions are met, is technology. The small, low-income farmer desperately needs to become familiar with and to apply new agricultural practices and methods. Such technology includes new methods of soil preparation, the seeding, cultivation and harvesting of crops, as well as livestock management. It includes new crop varieties, the appropriate application of insecticides, herbicides, and chemical fertilizers, the proper use of sources of power with tools and implements, and finally, it includes the optimum combination of enterprises and the marketing of farm products. In some cases, it also includes efficient on-farm water management.

Technical assistance must be the principal component of supervised agricultural credit. The credit, when needed, is complementary to the technical assistance. The advantage of supervised credit is that the credit is readily available to implement the technical recommendations. The state agricultural banks have always provided capital but the technical assistance entered the picture only as resources permitted (funds usually were not available for this

purpose). There is little evidence that this procedure has been adequate for development of the small farmer.

The technical assistance can be separated from credit, as done in the Puebla project in Mexico, but it seems that time and resources must be devoted to securing the credit to implement the technical advice given. If a program is nation-wide in scope this could require a rather sizable effort. Theoretically this effort is not required in a supervised credit program.

Credit does provide a convenient contact between the extension agent and the small farmer. Where the agent is also a well-trained technician, the farm visits can be used for providing technical assistance as well as loan supervision, resulting in a savings of time and of human and physical resources. If this same agent is also responsible for seeing that the loans are repaid then he is bound to feel the direct consequences, favorable or unfavorable, of his technical advice. Obviously, the agent must receive sufficient training and technical backstopping to be capable of providing such advice.

The Peruvian supervised agricultural credit program has not been very successful in raising productivity levels, in increasing on-farm capital formation, or in improving net farm incomes as compared to similar programs in other countries. This, it is argued, is due to the absence, or partial absence of some of the essential elements for agricultural development mentioned previously which must precede a supervised credit program, particularly technology in the form of technical assistance, and water. Furthermore, insufficient attention was placed on the following issues:

- (1) The program objectives were poorly defined resulting in haphazard borrower selection and control. The target group of farmers was not well identified resulting in the field credit supervisors continually groping to find potential borrowers. Economic and welfare objectives were

intermixed. The main objective of increasing productivity and thusly net farm incomes should not be clouded by other social or political objectives.

2) Very small farmers, with 1 or 2 hectares of land, or less, have not effectively used the supervised credit. It is argued that for the initial stages of development the supervised credit program should set a minimum farm size under which it will not extend supervised credit. It is felt that the program has a greater chance of succeeding with the farmer with 2 or more hectares. The smaller farmer can be brought into all extension and technical assistance activities but he should not be the main focus of the supervised credit. In this way greater immediate impact will be felt. As the program matures, it can attempt the more difficult challenge of working with the very small farmer.

(3) The institutional arrangements between the supervised credit program and the state agricultural bank were not very operational. The extension agency was responsible for borrower selection and supervision while the bank was responsible for loan collection. Each group blamed the other for poor results. It is suggested that those responsible for selection and supervision should also be responsible for ensuring that the loans are repaid. The bank would then handle only the loan records and accounting responsibilities.

The eventual status of the borrowers is a second institutional issue. Normally it is felt that the supervised credit program develops the farmer to the point where he is a good credit risk and he then passes to conventional credit sources. This does not happen automatically, however, and unless formal procedures are established for doing this it may never happen. The farmer will continue in the supervised credit program year after year, reducing the chances for new borrowers to enter the program.

(4) The supervised credit programs have always been subsidized through budget support, concessional interest rates, and by covering defaulted loans. There is little chance that the technical and educational services can be financed by interest payments alone. However, the reasons for continuing concessional interest rates are less convincing. Raising interest rates would protect loan portfolios, provide additional funds for more loans or for the training of field agents, and would help ensure proper resource allocation by cooperatives and on the farm. Higher interest rates would also allow higher rates on savings deposits, stimulating additional rural savings.

Delinquency is a major problem in Peru. Loans are continually being refinanced resulting in a third type of subsidy to the small farmer. Technical assistance is the key to reducing this program subsidy since the success or failure of a program, partially reflected by loan delinquency, is determined to a large extent by the success or failure of the technical assistance.

(5) Almost no rural savings have been mobilized through the supervised credit program but the potential exists. The cooperatives are appropriate institutions for generating such savings but unless the existing fixed low interest rates are modified, and there will be strong opposition by many groups to such a proposal, savings will have to be forced rather than obtained on a voluntary basis. Even so, there may be considerable merit to forcing savings where it results in a more rational use of increased net farm incomes coming from supervised credit.

If Peru had applied the changes suggested in this paper, the author is convinced the results of the supervised credit program would be

strikingly different. As things stand now, the country's foreign exchange burden has been increased as a result of the supervised credit loan, large national budgets have been expended supporting the supervised credit, and many field personnel have been employed, all to little avail.

The international aid agencies must clearly understand the lesson of Peru to ensure the same mistakes are not repeated elsewhere. Additional empirical research is required to evaluate more specifically the crucial elements of supervised agricultural credit. As information becomes available in each country, it needs to be diffused rapidly so programs can be strengthened on the basis of such experience. It is unfortunate that the international aid agencies have not assisted in evaluating the on-going supervised credit programs and in periodically bringing together the various country specialists to share their experiences and mistakes. There is still time to do so and it would provide high payoffs if handled properly.

## REFERENCES

- (1) ADAMS, DALE W., "Agricultural Credit in Latin America: A Critical Review of External Funding Policy," American Journal of Agricultural Economics, 53:163-172, May, 1971.
- (2) \_\_\_\_\_, et. al. El Credito Supervisado en la Reforma Agraria Colombiana: Un Estudio Evaluativo, Bogota: Centro Interamericano de Reforma Agraria, 1966.
- (3) BARRACLOUGH, SOLON L. and ARTHUR L. DOMIKE, "Agrarian Structure in Seven Latin American Countries," Land Economics, Vol. XLII, No. 4, 391-424, November, 1966.
- (4) BAUER, ELIZABETH, ed., Proceedings of the International Conference on Agricultural and Cooperative Credit, August 4 to October 2, 1952, Berkeley, University of California, 1952.
- (5) BELSHAW, HORACE, Agricultural Credit in Economically Underdeveloped Countries, Rome: Food and Agriculture Organization of the United Nations, Agricultural Study 46, 1959.
- (6) BINNS, B., Agricultural Credit for Small Farmers, Rome: FAO Agricultural Development Paper 16, 1952.
- (7) BROSSARD, D.B., Manual of Supervised Agricultural Credit in Latin America, Rome: FAO Agricultural Development Paper No. 47, 1955.
- (8) \_\_\_\_\_, New Approach to Agricultural Credit, Rome: FAO Agricultural Development Paper No. 77, 1964.
- (9) Comite Interamericano de Desarrollo Agricola, Tenencia de la Tierra y Desarrollo Socio-Economico del Sector Agricola-- Peru, Union Panamericana, 1966.
- (10) DAVIS, JON S., "A Study of a Pilot Project in Directed Agricultural Production Credit in Ecuador," Unpublished paper prepared by Peace Corps volunteer. (Mimeographed).
- (11) JOHNSON, VERNON WEBSTER and ERWIN C. JOHNSON, "Farm Credit Activities in Selected Countries with Reference to Credit Programs for Underdeveloped Areas," For the Ford Foundation, IBRD, Foreign Operations Administration and Harvard University, September, 1954. (Mineographed).
- (12) MILLER, FRED, "Supervised Credit and Agricultural Development: A Peruvian Example," Inter-American Economic Affairs, Vol. XXIII, No. 4, Spring 1970. (An article largely based on No. 17).

- (13) MOSHER, ARTHUR T., Getting Agriculture Moving, New York, Frederick A. Praeger, 1966.
- (14) NISBET, CHARLES T., "Supervised Credit Programs for Small Farmers in Chile," Inter-American Economic Affairs, 21:37-54 Autumn, 1967.
- (15) RAO, T.S., Guide to Methods and Procedures of Rural Credit Surveys, Rome: FAO Agricultural Development Paper No. 73, 1962.
- (16) RIBEIRO, JOSE PAULO, and CLIFTON R. WHARTON, JR., "The ACAR Program in Minas Gerais, Brazil," in Subsistence Agriculture and Economic Development, ed. Clifton R. Wharton, Jr., Chicago Aldine, 1969, pp. 424-438.
- (17) TINNERMEIER, RONALD, et. al., "An Evaluation of Selected Supervised Agricultural Credit Programs in Peru," Report submitted to AID by North Carolina State University Agricultural Mission to Peru, Lima, June, 1968.
- (18) \_\_\_\_\_, et. al., "Estudio Economico de Algunas Empresas Comunales en la Sierra Central," Mision Agricola de la Universidad del Estado de Carolina del Norte, Lima, Peru, Noviembre de 1969.
- (19) \_\_\_\_\_ and BENJAMIN LIZARASO, Normas para el Uso Optimo de los Fertilizantes en Algunos Valles de la Costa, Lima: Ministerio de Agricultura, Boletin No. 3, Agosto, 1969.