

CLASSIFICATION
PROJECT EVALUATION SUMMARY (PES) - PART I

Report Control
Symbol U-447

1. PROJECT TITLE Local Crop Storage			2. PROJECT NUMBER 696-0107	3. MISSION/AID/W OFFICE OAR/R
6. KEY PROJECT IMPLEMENTATION DATES			4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) RWA-EVA 83	
A. First PRO-AG or Equivalent FY 79	B. Final Obligation Expected FY 80	C. Final Input Delivery FY 87	5. ESTIMATED PROJECT FUNDING A. Total \$ 2,867,000 B. U.S. \$ 2,573,000	
			7. PERIOD COVERED BY EVALUATION From (month/yr.) March 1979 To (month/yr.) July 1983 Date of Evaluation Review September 1983	

B. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Reach agreement on use of revolving fund	Norman L. Olsen	11/1/83
2. Staff project up to strength and provide transportation for the staff to visit the Cooperatives	M. B. Bennett	11/15/83
3. Increase project staff training	G. Lerner	ongoing

<p>9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS</p> <p><input type="checkbox"/> Project Paper <input checked="" type="checkbox"/> Implementation Plan e.g., CPI Network <input type="checkbox"/> Other (Specify) _____</p> <p><input type="checkbox"/> Financial Plan <input type="checkbox"/> PIO/T</p> <p><input type="checkbox"/> Logical Framework <input type="checkbox"/> PIO/C <input type="checkbox"/> Other (Specify) _____</p> <p><input type="checkbox"/> Project Agreement <input type="checkbox"/> PIO/P</p>	<p>10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT</p> <p>A. <input type="checkbox"/> Continue Project Without Change</p> <p>B. <input type="checkbox"/> Change Project Design and/or</p> <p> <input checked="" type="checkbox"/> Change Implementation Plan</p> <p>C. <input type="checkbox"/> Discontinue Project</p>
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<p>11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)</p> <p>Eugene Chiavaroli, AID Affairs Officer</p> <p>Dr. Kayihura, Secretary General, Ministry of Social Affairs and Community Development</p>	<p>12. Mission/AID/W Office Director Approval</p> <p>Signature _____</p> <p>Typed Name Norman L. Olsen</p> <p>Date _____</p>
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Executive Summary

Rwanda Local Crop Storage Project

(696-0107)

1. What constraints does this project attempt to overcome and who does it constrain?

The dual goals of the Local Crop Storage Project (696-0107), authorized March 9, 1979, for \$2,867,000, are to increase farm family incomes in participant communes and to increase food availability to small farmers throughout the year at more stable prices. There are three main constraints to the attainment of these goals. They are: 1) the lack of an effective and efficient food storage and marketing system that benefits the small farmer; 2) regional and seasonal price variations that are disadvantageous to the small farmer; and 3) unnecessary crop losses due to improper storage methods used on both family farms and in cooperative silos. By easing these constraints, it was estimated in the PP that, from these operations, a single cooperative, serving 1,500 to 2,000 families and through its effect on local market prices, would increase global farmer income in an average commune by nearly \$46,000 per year by the fifth year of the project.

The primary impact of the project on local commerce has been the opening of new commercial options to producers and traders at all levels. In this sense, the project has given a boost to local private enterprise. It has given a group of less well-off producers and small-scale traders access to reliable, long-term storage in a way that does not tie up their capital resources. These two groups of market actors had previously been excluded from marketing operations which required long-term storage. The effect of the LCS project, therefore, has and will continue to increase competition in grain markets.

2. What technology does the project promote to relieve this constraint?

In this project three types of technology are used to relieve project constraints. They are: 1) the development and operation of storage and marketing cooperatives; 2) the introduction of improved on-farm and cooperative silo/warehouse storage techniques; and 3) the introduction and use of improved insecticides, through cooperatives, after research on the effects of local insecticide use was carried out. This technology is being transferred to the small farmer and the managers of the storage and marketing cooperatives through training and extension services. Project training attempts to assure that the grain storage warehouses constructed under the project will be operated and managed properly. This training has been conducted at several levels under the general direction of the GOR project manager and AID-financed project advisor. Extension agents did not receive formal training under this project since they had previously been trained by MINAGRI.

3. What technology does the project attempt to replace?

Through the introduction of improved on-farm and cooperative silo/warehouse techniques, attempts are being made to reduce crop losses. At present

crop storage losses from insect damage and moisture loss are less than 5% under traditional storage techniques. However, it appears that theft is still a significant problem. Properly managed silo and warehouse storage can - and has at most of the LCS and CGS cooperatives - reduce insect and moisture losses to almost zero. Furthermore, it has also eliminated losses from theft..

The development and operation of storage and marketing cooperatives will reduce small farmer reliance on trader set prices. Before the opening of LCS and CGS cooperatives, trader prices in the commune had been kept artificially low because of the trader's position as the only buyer. Moreover small farmers are routinely cheated on weight estimates of their grain when both selling to and buying from private traders. This problem has been addressed introducing systematic and reliable weighing procedures at the LCS cooperatives.

4. Why do project planners believe that intended beneficiaries will adopt the proposed technology?

Economic incentives seem to be the motivating force in the adoption of this new technology. The project concept of the cooperative--a place where farmers can store their grain at harvest, receive a small margin above the going market price, buy it back later in the year during the soudure (gap between harvests) at somewhat lower-than-market prices and in the interim receive a cash loan--seems to be valid and is accepted by farmers. This is indicated by the fact that most LCS cooperatives in their first year of operation used all of their available revolving funds to buy grain. Still, only five LCS cooperatives are now functioning; they have traded through only one complete buying and selling campaign; and the level of their marketing activities is limited by very restricted working capital. More experience, therefore, is needed before a definitive judgment can be made on the acceptability of the revolving fund concept.

5. What characteristics do the intended beneficiaries exhibit that have relevance to their adopting the proposed technology?

Although the education level of many of the Rwandan small farmers is not very high, they have been quick to take advantage of the newly introduced technology. This high adoption rate is shown by a cooperative membership which averages between 1,000 to 2,000 people. Rwandan farmers are familiar with the concept of cooperative action, often joining together spontaneously for specific endeavors, such as house construction. Therefore, their familiarity with collective action has given the Rwandan farmer a useful historical precedent on which the cooperative movement has built.

6. What adoption rate has this project or previous projects achieved in transferring the proposed technology?

The economic incentives proffered by this project have been primarily responsible for the project's high technology adoption rate. Currently, there are eight CGS cooperatives in operation and it is expected that twenty to twenty three new LCS cooperatives will be in operation by late 1983, raising

the LCS total to thirty by the end of 1983. Hopefully, by the project's completion in 1987, fifty cooperatives will have been built and will be functioning. At present this goal seems attainable.

7. Will the project set in motion forces that will induce further exploration of the constraint and improvements to the technological package proposed to overcome it?

The GOR's objective is to establish a grain and storage cooperative in each of Rwanda's 143 communes. In addition the establishment of a union, or regional unions, of cooperatives has, from the beginning of the project, been envisioned as a logical step in the cooperative movement in Rwanda. These unions could serve as a communication linkage between member cooperatives (including non-LCS cooperatives) and GREANARWA for commercial networking. Currently, several unions have already been formed and future union development can be expected to occur naturally. Finally, due to high level of impact which this project has had, AID plans to continue project support over the long-term.

8. Do private input suppliers have an incentive to examine the constraint addressed by the project and come up with solutions?

The project's greatest positive impact has been on strengthening the private sector in rural Rwanda. The LCS program has opened up the possibility of new commercial operations to a large body of market actors. Also since the LCS cooperatives are actors in the private market, they can, and often do, sell agricultural inputs and other merchandise which is bought from private suppliers and resold to cooperative customers. Merchandise purchases have included: farm tools; improved varieties of seeds; grain flours; clothing; soap; candles and other small consumer items.

9. What delivery system does the project employ to transfer the new technology to intended beneficiaries?

Project execution is based around three distinct components: construction, training and research. Training is an essential element in the delivery system of this project, without which there would be no assurances that the grain storage warehouses constructed under the project would be properly managed and operated. This training has been conducted at several levels (i.e., the national, prefectural, communal and cooperative), and when combined with public spirit campaigns, to reach out to the small farming household, have proven to be very effective in assuring sound project implementation.

To improve storage techniques, a delivery system has been developed which provides for on-the-job training of cooperative managers and warehousemen. An extension program is also planned that will work through the cooperatives to reach the general membership by means of exhibitions and demonstrations. Insecticide sales are also provided for through the cooperatives.

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10. What training techniques does the project use to develop the delivery system?

Training at multiple levels is taking place during the life-of-the-project. With the assistance of the CLUSA advisor, third country training programs in cooperative management have been provided to the DIRAC/LCS staff. Pre and in-service training for personnel on the prefecture and commune levels as well as for cooperative personnel was and is provided for by the LCS staff as part of their job responsibilities. To date only three Rwandans have been sent for training outside of the country, and the primary constraint to accelerating headquarters staff training is now the lack of personnel and coverage during even short absences. Prefectural level training for regional cooperative inspectorate personnel and commune-level training for cooperative encadreurs (organizational) has been minimal to date. Training for cooperative personnel, on the other hand, has been proceeding, although somewhat behind schedule.

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RWANDA - LOCAL CROP STORAGE (696-0107)

Summary Focus of the Project

A primary element of the AID strategy in Rwanda, which has evolved since 1975, is to promote increased food production to keep pace with Rwanda's rapidly growing population. The strategy is being implemented on two levels: the local level through the Local Crop Storage project and the national level through the Food Storage and Marketing project, Phases I and II. Through the Local Crop Storage project, AID is building on experience gained with establishing and/or strengthening communal-level cooperatives to store and market two of Rwanda's staple food crops, beans and sorghum. Initially through an Operational Program Grant (OPG) to the Cooperative League of the U.S.A. (CLUSA), funds were provided for the construction of seven grain storage silos attached to cooperatives and for technical services to train cooperative managers and accountants in cooperative storage and marketing operations. Given the relative success of this pilot effort as well as recognition of the complexity of the dynamics of food production and marketing in Rwanda, a more long-term and expanded assistance commitment through the Local Crop Storage project was deemed appropriate. Through the Food Storage and Marketing (FSM) project, efforts have been (and are continuing to be) focussed on strengthening the GOR parastatal GREMARWA (National Granary of Rwanda) in its role as a "marketplace catalyst" in beans and sorghum. By operating a producer- and consumer-responsive network of strategically located warehouses, GREMARWA will potentially manage a food security stock.

The Local Crop Storage (LCS) project was authorized in March 1979. As stated in the Project Paper (PP), the project is directed toward the dual goals of increasing farm family incomes in participating communes and increasing food availability to small farmers throughout the year at more stable prices. The project has three purposes which, if achieved by the scheduled completion of the project in June 1987, should impact on the sector goals:

- to establish a food storage and marketing system at the local level for cereals and pulses which is more favorable to small farmers;
- to reduce seasonal and regional price fluctuations and to ensure fair weights; and
- to reduce storage losses, both on-farm and in cooperative silos, by introducing improved storage practices and use of approved insecticides through cooperatives.

The project is being implemented through the Directorate of Cooperative Action (Direction de l'Action Coopérative) in the GOR Ministry of Social Affairs and Community Development (MINASODECO). To achieve the first and second project purposes, which are basically interdependent, project funds are being provided to (a) continue the construction of silos and warehouses attached to cooperatives, (b) continue and expand a comprehensive training program for both government and cooperative administration of a cooperative-based storage and marketing system and (c) assist cooperative operations through access to working capital. To achieve the third project purpose, funds have been earmarked for a multicomponent research program. To date implementation progress has been balanced by delays which have reflected the complexity of the project's scope and which confirm the timeliness of this formative evaluation.

XD-AAQ-523-A
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R W A N D A

L O C A L C R O P S T O R A G E

(696-0107)

F O R M A T I V E
E V A L U A T I O N

July 1983

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(i)

RWANDA - LOCAL CROP STORAGE
(696-0107)

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ABBREVIATIONS AND ACRONYMS

BP	Banques Populaires
CGS	Cooperative Grain Storage project (696-0119)
CLUSA	Cooperative League of the U.S.A.
DIRAC	MINASODECO's Directorate of Cooperative Action
FRW	Rwandan Franc (\$1.00=FRW 91.48)
FSM I, II	Food Storage and Marketing project, Phases I (696-0100) and II (696-0116)
GOR	Government of Rwanda
GREMARWA	Grenier National de Rwanda (National Granary of Rwanda)
IITA	International Institute of Tropical Agriculture
INRS	Institut National de Recherche Scientifique (National Institute for Scientific Research)
ISAR	Institut des Sciences Agronomiques du Rwanda (Agronomy Institute of Rwanda)
LCS	Local Crop Storage project (696-0107)
MINASODECO	GOR Ministry of Social Affairs and Community Development
OAR/R	Office of the AID Representative in Rwanda
OPG	Operational Program Grant
OPROVIA	National Office for Development and Marketing of Food and Livestock Products
PIL	Project Implementation Letter
PP	Project Paper
RFMC	Regional Finance and Management Center (Nairobi)
UNCDF	United Nations' Capital Development Fund

RWANDA - LOCAL CROP STORAGE (696-0107)

FORMATIVE EVALUATION

I. INTRODUCTION

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A. Summary Focus of the Project

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*The term "grain" will be used to indicate beans and sorghum.

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B. Purposes of this Evaluation

As jointly agreed with MINASODECO's Directorate of Cooperative Action (DIRAC) and the Office of the AID Representative/Rwanda (OAR/R), and as stated in the Amplified Project Description (attached to the Project Grant Agreement signed May 5, 1979), the purpose of the formative evaluation is to provide a mid-stream "measurement of effectiveness" of participating cooperatives' management of a storage and marketing operation. Although the formative evaluation was originally scheduled for Fall 1981, it has been delayed to follow completion of the pilot project under the CLUSA OPG and to allow for several quantitative and qualitative accomplishments. A second and equally important purpose of this evaluation, therefore, is to evaluate the progress to date against anticipated results and, as necessary, identify and recommend changes in the project's design and management. In addition, this evaluation will focus on:

- (1) progress to date in institutional development, including organizational support and extension to participating cooperatives as well as staff development and training;
- (2) an analysis of the present cooperative marketing strategy and recommendations for improvement, including use of a revolving credit fund; and
- (3) suggestions for supporting the evolution of cooperative unions to strengthen a relationship with GREANARWA.

C. Evaluation Team Membership

Although the Project Paper indicated that the formative evaluation could be undertaken by an AID in-house team with only one consultant in either grain storage or cooperatives, it was decided by OAR/R to broaden the membership to include other specialist services. The team members, and the timing of their participation, included:

Ms. Dianne Blane, Project Officer, REDSO/ESA (Team Leader) (May 31-June 21)
Mr. William Garvey, Agricultural Economist (Contract) (May 31-June 21)
Mr. Phillip Boyle, Social Scientist (Contract) (May 31-June 21)
Mr. James Alrutz, Cooperative Specialist, CLUSA (May 31-June 21)
Mr. Abe Waldstein, Small Farmer Marketing Specialist, AID/W-S&T/MD (June 6-21)
Ms. Mary Beth Bennett, Assistant Agricultural Officer, OAR/R (May 31-June 21)

The evaluation team wishes most sincerely to thank Mr. Wellars Magorwa, Director of the Directorate of Cooperative Action, and his staff for spending so many hours and sharing so willingly their knowledge and expertise with the team. The team specially thanks Mr. Alfred Kabeza, Mr. Thaddee Utumabahutu, Mr. Paulin Bizimana and Mr. Vincent Mpamira, as well as Mr. Gene Lerner, the CLUSA Advisor on the project. The team took several field trips to visit LCS cooperatives and greatly appreciates the many interviews with cooperative officers and managers and with the regional cooperative inspector and his assistant in Butare.

D. Methodology of the Evaluation

The evaluation team has examined the project from various perspectives:

- institutional
- financial
- economic
- sociological/socio-economic (beneficiary participation)

Attention has also been given to project implementation management with specific reference to the OAR/R, the MINASODECO Directorate of Cooperative Action and the contractor.

The above analyses on which the recommendations are based have been supported by extensive personal and group interviews and interaction, on-site visits to cooperatives and a documentation review. DIRAC and AID files, records and reports have also been studied.

II. SUMMARY CONCLUSIONS AND RECOMMENDATIONS

A. Summary Conclusions

1. Relevance: Progress toward Achieving the Project Purposes

- (a) To establish a food storage and marketing system at the local level for cereals and pulses which is more favorable to small farmers.

A precise analysis of the economic impact of LCS cooperatives, their financial status and their effect on farmer incomes must await further marketing experience. Only five LCS cooperatives are now functioning; they have only traded through one complete buying and selling campaign; and the level of their marketing activities is limited by very restricted working capital. Some positive conclusions may be drawn however. The project's concept of the storage and marketing (LCS) cooperative - a central facility where farmers can store their grain at harvest, receive a small margin above the going market price, buy it back during the soudure (gap between harvests) at lower-than-market prices and in the interim receive a cash loan on their grain deposit - appears valid and is accepted by farmers. If in fact before the opening of the cooperative, trader prices in the commune had been kept artificially low because of the trader's position as the only buyer, then the cooperatives are also having a positive effect on increasing

prices to direct sellers to the cooperatives and also favorably increasing prices in the area for farmers still selling to traders. The primary impact of the project on local commerce has therefore been to open new commercial options to producers and traders at all levels. It has given a group of less well-off producers and small-scale traders access to reliable, long-term storage in a way that does not tie up their major capital resources. Competition in produce trading has increased, and this can be expected to have a positive impact on consumer prices as the scale of the project grows. The project's most important impact, which is only now gathering momentum, is strengthening the private sector in rural Rwanda.

(b) To reduce seasonal and regional price fluctuations and to ensure fair weights.

Lacking sufficient working capital, the LCS cooperatives have not yet moved into interregional marketing of grains on any scale. The experience of the Gikoro CGS cooperative, however, clearly indicates that a dynamically-run cooperative can move a significant tonnage of grain, particularly if located in a surplus production area, and thus facilitate the flow of grain to deficit production areas, thereby increasing the efficiency of the marketing system as well as making money for its members. In general the LCS cooperatives are handling only a small percentage of the total volume of grain passing through the marketing system. The cooperatives' influence in the marketing system can be strengthened with the establishment of regional cooperative unions. The unions could serve as a communication linkage between the member cooperatives (including non-LCS cooperatives) and GRENAWA for commercial networking. Since the cooperatives, as discussed in (a) above, are having a beneficial impact on producer and consumer prices on the local level, extension of this impact on an interregional basis will also have a beneficial impact, reducing seasonal and regional price fluctuations.

A project ^{as} ~~con~~sumption is that farmers are routinely cheated on weight estimates of their grain when both selling to and buying from private traders. The problem has been addressed by introducing systematic and reliable weighing procedures at the LCS cooperatives. Farmers are, therefore, now ensured fair weights when dealing with the LCS cooperative. Additional analysis, however, should be made of the extent of the problem.

(c) To reduce storage losses, both on-farm and in LCS cooperative silos, by introducing improved storage practices and use of ^{as} improved insecticides through cooperatives.

As presented in the Project Paper, the concept of the project is biased toward advantages accruing to farmers through centralized, low-cost local storage of grain. In fact, there is no evidence that stock losses are less in the LCS and CGS silo/warehouse facilities than in the most widely used methods of on-farm storage. On the other hand, properly managed silo and warehouse storage can - and has at most of the LCS and CGS cooperatives - reduce insect and moisture losses to almost zero. An extension program to reduce on-farm storage has not yet been initiated. Given the sizeable workload on a small LCS staff to implement activities related to the first two project purposes, reduction of on-farm storage losses has been correctly accorded a lower priority. It is recommended, however, that an extension program focussed on malathion sales through the cooperatives, on-the-job training and short-term courses in storage techniques for cooperative managers, and supplemental demonstrations and exhibits on storage techniques for cooperative members be planned and implemented in the near future.

2. Effectiveness: Progress to Date in Achieving the EOPS

(a) Development and Operation of LCS Cooperatives

Project inputs which support the development and operation of LCS cooperatives are construction of silos and/or warehouses at cooperatives, training of cadres from the national level to the cooperative level and access to working capital through a revolving credit fund. Progress to date in all three efforts is behind schedule. The project is now in its third year of implementation, by which time the construction of 40 storage facilities and six satellite units was to have been completed; an estimated 20-22 will be in operation by the end of the year. Training has been focussed on the cooperative level and, although also behind schedule, has kept pace with construction. The revolving credit fund has not been activated. The primary constraint has been a reduction in the LCS staff which has severely limited its capacity to maintain implementation momentum. The life of the project has been extended by three years, to June 1987, however, and it is hoped that, if MINASODECO accepts and implements the evaluation team's recommendations concerning personnel staffing and management, implementation will proceed satisfactorily.

(b) Research Completed on Technical and Socio-Economic Aspects of Local Crop Storage

Implementation of the research component of the project has not yet begun. To assure its coordination with related studies which will be undertaken in other AID projects in the agricultural sector, the research will be combined in an integrated package. Selection of a U.S. university to implement the research component is now in process, and a research team to work with two Rwandan counterpart institutions - ISAR and INRS - should arrive in Rwanda in late 1983.

B. Evaluation Recommendations

The evaluation team recommends that the LCS office within MINASODECO's Directorate of Cooperative Action and OAR/R undertake the following operational and corrective actions which have been grouped in four categories: institutional development, technical aspects, research and project management. The rationale and analyses on which the recommendations are based are then discussed in detail in the following sections of the evaluation report.

1. Institutional Development

(a) Organizational Support and Extension

In addition to the present LCS staff, MINASODECO should approve and fill the following full-time positions: one trainer, one management/audit specialist, one bookkeeper, one assistant construction supervisor, two secretaries and two drivers.

MINASODECO should relax its travel and per diem policies to permit the LCS staff to perform its duties in supervisory management, training and technical inspection.

The LCS Project Director, the CLUSA Advisor and OAR/R should study the needs of the cooperative union in Butare with a view toward providing technical and financial assistance. LCS project funds should be made available to provide any proposed assistance.

(b) Staff Development and Training

On-the-job training of cooperative managers and commissaires aux comptes (internal auditors) should be intensified. Each cooperative should be visited monthly by at

least one LCS staff member and all operational problems should be discussed at that time. Buying, selling and pricing strategies should be reviewed during each visit. An audit should be performed at least quarterly.

Retraining of cooperative officers, managers and commissaires aux comptes should occur once yearly. Special emphasis should be placed on management and accounting procedures. Cooperative encadreurs (rural trainers/organizers) should also be included in the retraining sessions.

A workshop for cooperative officers should be organized to help them develop goals and strategies for the future viability of their cooperatives. This workshop could be appended to the retraining sessions.

The LCS Project Director and the CLUSA Advisor should determine the training needs of the LCS staff members. Personnel should, however, only be released to attend short-term training courses outside of Rwanda if they not interfere with the responsibilities implicit in the above recommendations.

Given the success of the Kansas State University in-country training course conducted in 1981, a similar course should be conducted again for LCS staff, cooperative managers, GREMARWA warehouse managers and others involved in grain storage.

(c) Development and Operation of LCS Cooperatives

The evolution of regional cooperative unions should be encouraged. The unions could (1) serve as a communication linkage between the member cooperatives (including non-LCS cooperatives) and GREMARWA for commercial networking and (2) potentially assume many of the monitoring functions now performed by MINASODECO/DIRAC. Cooperatives should, however, remain independent of the OPROVIA institutional framework.

Pending the establishment of regional cooperative unions, the LCS staff and GREMARWA should develop a coherent and feasible policy of cooperation to handle grain sales between cooperatives and GREMARWA, thereby creating networks of cooperatives to facilitate interregional transfers of food stocks from surplus to deficit production areas. In all cases the financial integrity and autonomy of the parties must be respected, and transactions should be consummated only if advantageous to all parties as determined by independent decisions of their officers. The modalities of implementing

this policy should be included in all training and retraining courses for cooperative officers and managers.

Cooperatives should begin keeping records on quantities purchased and sold per commodity per member to enable eventual distribution of a patronage bonus in proportion to a member's dealings with the cooperative storage facility and to permit an accurate assessment of beneficiary incidence.

CLUSA should assist the DIRAC/LCS staff to review and revise as necessary the accounting system currently in use to assure the LCS and CGS cooperatives' more effective planning, management and operation. Any revision in the accounting/financial management system should be incorporated in the training program for cooperative officers, managers and commissaires aux comptes. (See also recommendations under Staff Development and Training and The Revolving Credit Fund.)

A potential role for one or two Peace Corps Volunteers, either to reinforce the monitoring support provided by the regional cooperative inspectors or to assist in the establishment of a regional cooperative union(s), should be explored.

(d) The Revolving Credit Fund

Without further delay, MINASODECO, OAR/R and CLUSA should agree on the policies and regulations which will govern allocation and use of the revolving credit fund. The policies and regulations should be implemented immediately.

OAR/R, MINASODECO and CLUSA should consider the following modifications to Project Implementation Letter No. 3, dated July 9, 1982:

- loans for local bean and sorghum purchases should be (1) extended to cooperatives on a long-term, open-ended basis; (2) reviewed annually and modified as necessary and (3) adjusted downward as cooperative earnings accumulate.

import loans (as defined in the PIL) and loans for insecticide sales to cooperative members should be considered as local needs loans, rather than treated as a separate category of loan.

- the interest rate on loans for local and import purchases and for agricultural inputs should be established at 3% below the Banques Populaires'

commercial rate. Interest should be payable annually at the time of the loan review.

- administration of the revolving credit fund should be the responsibility of the LCS Project Loan Committee.

OAR/R should request CLUSA to provide a short-term specialist in commercial banking. The specialist should (1) assist the LCS staff in implementing the policies and regulations which have been agreed upon for allocation and use of the revolving credit fund, (2) develop improved administrative and audit procedures for both the DIRAC/LCS staff and the cooperatives and (3) make arrangements with the Banques Populaires for establishment of a loan guaranty fund, including development of the necessary forms, contracts, etc. The services should be provided as soon as possible.

2. Technical Aspects

(a) Construction

If the recommendations concerning a strengthened LCS staffing pattern and a revision of the MINASODECO travel and per diem policies cannot be implemented by September 1, 1983, in order not to increase the workload on the present LCS staff, new construction activities should be suspended until MINASODECO and OAR/R jointly agree that the staff has the capability to fill its managerial, training and general oversight functions. (See recommendations above under Institutional Development/Organizational Support and Extension).

As a correlation to the above recommendation, the current pace of construction should not be either accelerated or exceed the capability of the LCS staff to provide training and extension services to cooperatives where storage units are being constructed.

To ensure proper workmanship and strict adherence to construction plans and specifications, either the LCS construction supervisor or his assistant should be present at the construction site during the initial stage and periodically through completion of construction.

The LCS staff should advise cooperative officers and managers to make necessary repairs to ensure that silos are in proper operation condition.

An engineering requirement that construction of warehouses near the Zaire border meet seismic standards should be enforced.

(b) Storage Techniques/Technology

The LCS grain storage technician should visit each cooperative at more frequent intervals (at least quarterly) to monitor the effectiveness of silo storage techniques, provide on-the-job training in storage technology and implement an on-farm storage extension program for cooperative members.

The LCS staff should plan and implement an on-farm extension program, including insecticides sales and periodic demonstrations and exhibits of storage techniques at the cooperatives.

Credit-financed insecticides for both on-farm and silo storage requirements should be procured and distributed in a timely fashion to all LCS cooperatives.

Each cooperative should be provided with a graded measure or scale to determine more accurately the tonnage of beans and sorghum stored in a silo. OAR/R should request the REDSO/ESA engineer to devise the most appropriate method.

In the course of his visits, the LCS grain storage technician should confirm that cooperative managers are correctly operating the moisture meters.

3. Research

The socio-economic component of the LCS research effort can be covered through other projects (the Cropping Systems Improvement and Agricultural Survey and Analysis projects and the family budget and consumption survey), except for an analysis of the Rwandan market structure and function. A comprehensive marketing study should be undertaken to fill this gap. The study should focus on two areas: the actors, transactions, costs and margins of marketing channels from producer to consumer; and the real cost of transport in Rwanda under various options.

Personnel at LCS cooperatives and GREWARWA warehouses should be requested to gather (a) weekly price data for beans and sorghum from one nearby market per facility and (b) weekly data on quantities brought for sale to each market.

Survey personnel from the Agricultural Survey and Analysis project should be requested to gather data on producer sales of beans and sorghum to permit a comparison of accurate weights with weights determined by private traders.

4. Project Management

Periodic project management meetings should be initiated immediately. The LCS Director should hold regularly scheduled staff meetings, and the OAR/R and the LCS staff should also meet on a regular basis for joint problem-solving and implementation planning.

OAR/R should share RFMC financial reports with the LCS staff (specifically the LCS accountant) so that the LCS office can more carefully monitor project and contract expenditures.

MINASODECO should arrange more satisfactory office space for the LCS staff. At a minimum, the LCS Director and the CLUSA Advisor should be moved to a larger office with a telephone. The staff should also be provided with additional filing cabinets and storage space for office equipment and supplies.

At least one of the two secretaries recommended for assignment to the LCS office should be skilled in filing and responsible for maintaining an efficient filing system.

The LCS staff should reassess requirements for additional supplies and equipment (such as calculators) to maximize the efficiency of field visits and audits of cooperative accounts.

Completed LCS silos and warehouses should be marked with the AID logo (as required in Project Implementation Letter No. 1).

To assure its maximum usefulness to both MINASODECO and OAR/R, this evaluation report should be translated into French.

III. SUMMARY AND STATUS OF PROJECT INPUTS: AID AND GOR

A. AID and GOR Project-Specific Inputs

The project was authorized by the AA/AFR on March 9, 1979. The estimated total cost of the project, to be implemented over five years (recently extended to seven years), is \$2,867,000. The Project Authorization included a waiver of the host country cost-sharing requirement of FAA Section 110(a). The AID and GOR inputs as presented in both the PP and the Project Grant Agreement are indicated in the following table:

<u>Input</u>	<u>AID</u>	<u>GÓR</u>	<u>TOTAL</u>
Technical Services	\$572,676	\$71,250	\$643,926
Training	100,000	-	100,000
Commodities	158,975	-	158,975
Construction	848,710	177,435	1,026,145
Research	452,100	45,210	497,310
Evaluation	40,000	-	40,000
Revolving Credit Fund	400,000	-	400,000
	<u>\$2,572,461</u>	<u>\$293,895</u>	<u>\$2,866,356</u>
Rounded to:	\$2,573,000 (90%)	\$294,000 (10%)	\$2,867,000 (100%)

The project has been incrementally funded. The original Project Grant Agreement, signed on May 11, 1979, obligated \$1,612,000 in FY 1979 funds. The balance of \$961,000 in FY 1980 funds was obligated in Amendment No. 1 on June 13, 1980.

1. Technical Services

On the basis of its experience in implementing its OPG (titled Cooperative Grain Storage (CGS), 696-0108) and consequently its understanding of the Rwandan cooperative movement, CLUSA was awarded the contract for project implementation. A non-competitive procurement waiver was approved by A/AID on December 7, 1979, and a host country contract between CLUSA and the GOR was signed on October 11, 1980. The amount obligated in the contract is \$574,464 (rounded to \$575,000 by RFMC) for the provision of long-term advisory services from June 1981 to September 1984, plus 48 work-days of short-term consultant services. The delay of eighteen months between the availability of funds (May 1979) and signature of the contract (October 1980) is explained by protracted contract negotiations complicated by the overlap with and transition from the CLUSA OPG. Actually, however, field implementation was not hindered. The CLUSA Project Manager provided under the CGS project continued his services, paid under the contract after October 1980, through July 1981. His replacement arrived in October 1981 and departed in September 1982. The present CLUSA Advisor arrived in November 1982 for a two-year tour of duty. To date CLUSA has provided one short-term consultant, a cooperative specialist to study the status of Rwandan cooperatives, the potential for establishing cooperative unions and a national federation of cooperatives and an analysis of cooperative legislation. As of June 1, 1983, expenditures under the CLUSA contract total \$352,744.98, leaving a balance of \$222,255.02.

The services of two consultants have been charged to the project outside of the CLUSA contract: an engineer to review silo and warehouse construction specifications and an agricultural economist to develop proposals for the research component of the project.

According to the PP, the GOR would provide the staff of the Department of Cooperative Promotion which, at that time, included 36 professionals, three secretaries and 48 commune-level encadreurs (rural trainers). A more accurate estimate of project-specific staff is/was 14. A ministerial reorganization in late 1981 resulted in an expansion of ministerial functions. The Ministry of Social Affairs and Cooperatives became the Ministry of Social Affairs and Community Development; the Department of Cooperative Promotion was abolished; and GOR responsibility for support to the cooperative movement was vested in a smaller Directorate of Cooperative Action within a new Department of Community Development. Personnel shifts resulted in a revised headquarters staffing pattern of nine professionals, two secretaries and three drivers. Since late 1981, the staff has been further reduced to six Rwandans, including one driver. The implications of the smaller Rwandan staff are discussed below in Section IV.A., Organizational Support and Extension.

2. Training

As designed, training at multiple levels would be undertaken during the life of the project. With the assistance of the CLUSA Advisor, third-country training programs in cooperative management would be provided to the DIRAC/LCS staff. Pre- and in-service training for personnel on the prefecture and commune levels as well as for cooperative personnel would be provided by the LCS staff as part of their job responsibilities. To date only three Rwandans have been sent for training outside of the country, and the primary constraint to accelerating headquarters staff training is now the lack of personnel and coverage during even short absences. Prefectural-level training for regional cooperative inspectorate personnel and commune-level training for cooperative encadreurs has been minimal to date. Training of cooperative personnel, on the other hand, has been proceeding, although somewhat behind the schedule presented in the PP. An analysis of the training program on all levels and recommendations concerning organization, attendance and content is included in Section IV.B., Staff Development and Training.

3. Commodities

Major categories of commodities include vehicles, construction materials (cement, roofing sheets, reinforcing bars, etc.) and equipment to operate a silo/warehouse and marketing operation at the cooperative (calculators, scales, locks, pulleys, moisture meters, etc.). PIO/Cs for construction and equipment requirements are issued as AID incrementally approves groups of cooperatives to be assisted under the project. A waiver for the procurement of seven vehicles and ten motorcycles was approved in the Project Authorization. In addition, a waiver was approved by the AA/APR (6/22/81) to procure a 10T Nissan truck to transport construction materials from Kigali to the cooperative sites.

Projected and Actual Vehicle Procurement

<u>Item</u>	<u>Project Paper/Waiver</u>	<u>Actual to date</u>
Landrover	1	1
Toyota Stout Pick-up	3 ^{1/}	1 (used for construction supervision)
Mazda sedan	-	1 (substituted for 1 pick-up)
Motorcycles	20 ^{2/}	2
Nissan 10T truck	-	1
Sedans for researchers	3	1 (though not yet used)

^{1/} Includes a replacement pick-up to be procured in the fourth year of the project.

^{2/} To be used by 10 regional inspectorates with replacement in the fourth year.

4. Construction

Funds have been budgeted for the construction of silos and warehouses attached to cooperatives. According to the PP, the construction of 40 warehouses, each with a 60-100T capacity, plus six smaller "satellite" warehouses should be completed by the end of the third year of project implementation. To date, five are in operation; an additional six will be operating for the July-August 1983 sorghum-buying season; and nine more are now at various stages of construction. Of the latter nine, six should be operating for the January 1984 bean-buying season. Although construction is behind schedule, the present pace is maximum given the LCS staff's management capacity. The LCS staff is also responsible, of course, for continued oversight of the cooperative silos constructed under the CGS project.

It is now estimated that rising costs will preclude construction of the total number of facilities, falling short by perhaps 2-4. A more detailed discussion is included in Section V.A., Construction.

The GOR in-kind contribution to the construction effort includes an assessed value of the land on which the cooperative silos and warehouses are built, the GOR costs to prepare the final design documents (IFB package) and the value of communal self-help labor to assist in the construction. It can be safely assumed that this contribution will be met during the life of the project.

5. Research

As discussed in the PP, the research component of the project was to be implemented through two Rwandan institutions: ISAR (Institut des Sciences Agronomiques du Rwanda) and INRS (Institut National de Recherche Scientifique), both located in Butare. ISAR will undertake studies on indigenous crop storage, bean resistance to pest attacks in storage, effects of bean storage on cookability and an inventory of bean varieties. INRS will undertake a comprehensive socio-economic study, or series of studies, on food crop production costs, labor employment, consumption patterns, the role of commercial traders, etc. Project funds were budgeted for the services of three research assistants and a part-time research supervisor from a U.S. university to assist INRS in undertaking the socio-economic study.

The research effort has not yet begun. Instead, the programmatic decision was made to combine the LCS research effort with complementary research which will be financed under the Food Storage and Marketing project, Phase II (for the technical studies) and under the proposed Cropping Systems Improvement project (for the socio-economic study). A PIC/T (696-0107-3-00033) was issued on September 3, 1982 for \$450,000 to provide partial funding for a coordinated research package to be implemented under a contract with a Title XII university. The estimated total cost of the contract is \$809,000. The selection process is nearing completion, and it is expected that the research team, led by a research manager, will arrive in Rwanda before the end of the year. An assessment of the research effort is included in Section VI., Research.

When the research effort begins, the GOR contribution ISAR and INRS staff time, clerical time and office space - will be required.

6. Revolving Credit Fund

A total of \$400,000 has been budgeted for allocation to LCS cooperatives as working capital with which to purchase beans and sorghum, agricultural inputs (primarily insecticides) and other "merchandise" needed by the cooperative members. Each LCS cooperative could receive an average allocation of \$10,000. The terms and conditions for use of the fund, however, have not yet been determined. A total of about \$15,000 was allocated to the initial five LCS cooperatives last year on a provisional basis. Use of the fund is contingent upon satisfaction of a condition precedent which requires that the GOR submit to AID a detailed plan indicating (a) how the fund will be administered; (b) the credit terms, or interest rate structure; (c) the anticipated default rate; and (d) the mechanism and criteria for review and approval of loans to cooperatives. The Project Authorization specified a fifth element of the plan, which was not included in the Project Grant Agreement: the administrative cost of providing credit. Given the importance of working capital to a cooperative's viability and ability to function on behalf of its members as a marketing operation, a detailed analysis and recommendations for utilizing the revolving credit fund are included in Section IV.D., The Revolving Credit Fund.

7. Evaluation

Both the formative and final evaluation costs were budgeted in the PP. Half of the total, \$20,000, has been spent for consultant services for this evaluation team.

8. Summary Budget Analysis

The financial plan in the PP matches the budget included in the Project Grant Agreement/Amplified Project Description. Project Implementation Letter No. 1, issued on December 29, 1980, however, shifts funding between components and adds two: miscellaneous and administrative costs and contingency. The total, \$2,573,000, remains the same. The following table compares the two budgets with the current status of AID commitments (subobligations) and DIRAC/LCS local currency expenditure records. It is obvious that the project is now tightly budgeted and that additional funds may have to be authorized to maintain project momentum.

<u>Component</u>	<u>PP/PGA</u>	<u>PIL #1</u>	<u>AID Commitments</u> <u>(as of 5/26/83)1/</u>	<u>GOR LC Exp.</u> <u>(as of 6/24/83)</u>	<u>Total</u> <u>(as of 6/24/83)</u>
Technical Services	\$572,676	\$579,000	\$582,444	\$ -	\$582,444
Training	100,000 ^{2/}	91,000	29,394	13,035	42,429
Commodities	158,975 ^{2/}	119,000	240,958	9,767	250,725
Construction	848,710 ^{2/}	772,000	344,016	(201,131) ^{4/}	344,016
Research	452,100 ^{2/}	411,000	450,000 ^{3/}	-	450,000
Revolving Credit Fund	400,000	400,000	69,278	(15,085) ^{4/}	69,278
Evaluation	40,000	18,000	20,000	-	20,000
Misc. & Admin. Costs	-	50,000	-	32,790	32,790
Contingency	-	132,000	*	*	*
TOTAL	\$2,572,461 (\$2,573,000)	\$2,573,000	\$1,736,090	\$55,592	\$1,791,682

*To be absorbed for component cost over-runs.

^{1/}Source: NERIC financial reports

^{2/}Includes contingency

^{3/}PIO/T 695-0107-3-00033; contract not yet signed.

^{4/}Non-add, representing that portion of the AID commitment which has been expended.

\$1.00=FRw 91.48

B. Relationship of LCS to Other AID-financed Projects

In order to better understand the framework within which the LCS-specific analysis and recommendations are made in the following sections of the report, it is important to bear in mind the relationship of the project to other complementary projects in the AID portfolio. These projects include:

<u>Project Title and Number</u>	<u>Status</u>
Cooperative Grain Storage (696-0108) (LOP: \$327,000)	CLUSA OPG; pilot project; completed in December 1982
Food Storage and Marketing Phase I (696-0100) (LOP: \$716,000)	Initiated in 1975; completed in December 1982
Food Storage and Marketing, Phase II (696-0116) (LOP: \$2,100,000)	On-going
Cooperative Training Center (696-0119) (LOP: \$935,000)	CLUSA OPG; on-going
Agricultural Survey and Analysis (696-0115) (LOP: \$3,706,000)	On-going with Bureau of the Census (BUCEN) assistance
Cropping Systems Improvement (696-0110) (estimated LOP: \$12,000,000)	PP design scheduled in late 1983- early 1984

AID's support to improving Rwandan food crop storage was initiated in 1975 with a modest allocation of funds to both Catholic Relief Services (CRS) and CLUSA. In the case of the CRS activity, 21 storage silos were constructed in communes where Catholic missions were located. (CRS has recently been discussing with MINASODECO the DIRAC's assumption of responsibility to monitor the operation of these silos.) In the case of the Cooperative Grain Storage project, implementation was undertaken jointly by CLUSA and the U.N. Capital Development Fund (UNCDF) to build and operate seven silo facilities attached to cooperatives. UNCDF provided financing for the construction and working capital for each cooperative to buy and sell beans and sorghum on behalf of its members. CLUSA focussed on substantive project implementation: selecting cooperatives; supervising the construction; designing and presenting training courses for cooperative personnel; training ministry staff in management, cooperative operations

and storage technology; and monitoring use of the credit funds. The CGS project is considered to be the pilot phase of the LCS project.

Under FSM I, GRENARWA was established and became operational to intervene in food crop marketing by buying and selling beans and sorghum. The purpose of the intervention is to assure maximum producer prices and supplies and minimum consumer prices. Under Phase II, GRENARWA's ability to function with increasing effectiveness and efficiency is continuing to be supported. In addition, however, a major research effort will be undertaken on storage problems (especially related to beans). As discussed above (Section III.A.5.), the FSM-financed research will be combined with the LCS-financed research as one, coordinated effort.

Under the Cooperative Training Center project, a Cooperative Training and Research Center has been built to provide (a) a facility (in Kigali) for cooperatives to organize and conduct their own training courses, (b) short- and long-term training for cooperative, ministry and extension personnel in cooperative organization, management and accounting and (c) research, documentation and information services for the continued development of the cooperative movement. AID inputs, provided by CLUSA through an OPG, include the services of a Cooperative Education Advisor, equipment and furnishings for the Center, scholarship support and a budget subsidy for the first five years of the Center's operation. The Government of Switzerland has financed the construction of the Center and is supporting the Research and Publications Unit.

The Agricultural Survey and Analysis project was initiated in late 1981 to strengthen GOR efforts in agricultural data collection, processing, analysis, planning and management. An agricultural census should be completed within three years, and intermediate data collection and analysis can have bearing and impact on the dynamics of the food production and marketing system which is being influenced by both LCS-supported cooperative operations and GRENARWA. The proposed Cropping Systems Improvement project will focus on agricultural research and strengthening ISAR and the agricultural extension service. The socio-economic studies proposed under the LCS project will be undertaken in conjunction with ISAR's on-going and expanded research program. Institutional linkages will be established between ISAR, a Title XII university and IITA.

IV. INSTITUTIONAL DEVELOPMENT

A. Organizational Support and Extension

The success of the project will ultimately be measured in terms of the institutional viability of storage and marketing cooperatives. To achieve viability requires extensive support to the cooperatives in such areas as organizational planning and management, accounting and break-even analysis, intervention in the marketplace (necessitating pricing policies) and effective storage. Services to the CGS and LCS cooperatives are centered in MINASODECO's Directorate of Cooperative Action. MINASODECO has seconded staff to establish a project office, known as the Project Silos Cooperatifs (Cooperative Silo Project), within the directorate. Refer to the following organization charts of MINASODECO and DIRAC, including the LCS staff.

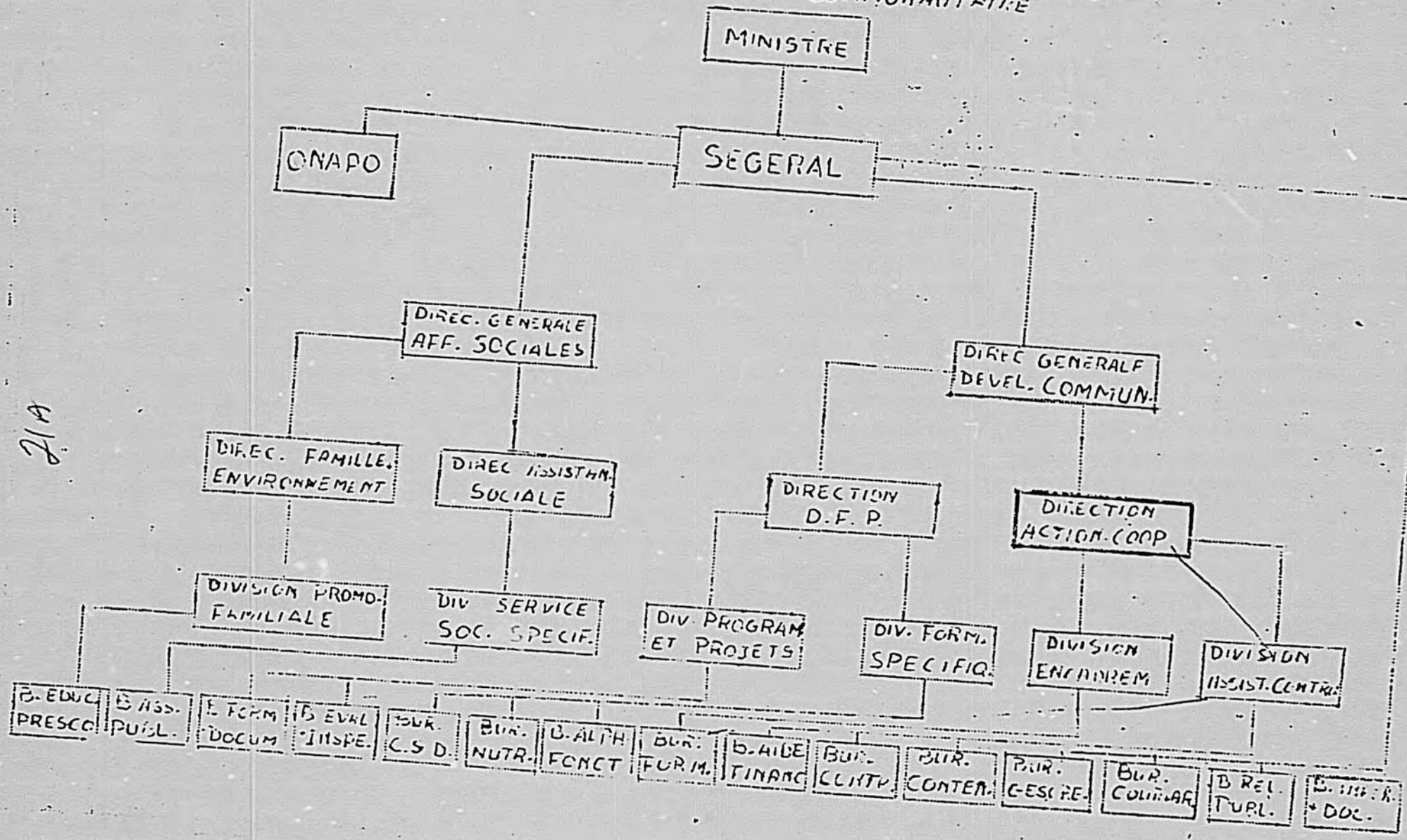
Since initiation of the project in 1979, all training, extension, auditing, construction and administrative support activities have emanated from this office/staff within DIRAC. Prefectoral-level regional cooperative inspectors, their assistants and cooperative encadreurs in communes where the project is active have participated in training programs offered by the LCS staff. In many cases, as part of their job responsibilities, they have also worked closely with the LCS staff. These field people are not, however, either directly or solely responsible to the project.

This centralized approach to cooperative support is continuing, although planning for some cooperative regionalization has been initiated. In Butare, for example, the regional cooperative inspector has been directed by MINASODECO to carry out specific extension tasks for the project, and he has received a LCS motorcycle to assure his mobility. The establishment of cooperative unions to provide extension and other support services to member cooperatives is also being considered.

Centralized support is predicated on having a mobile staff in sufficient numbers to meet the needs of an increasing number of LCS cooperatives. Inadequate staff and per diem allowances now appear to be the two primary constraints to providing comprehensive extension services.

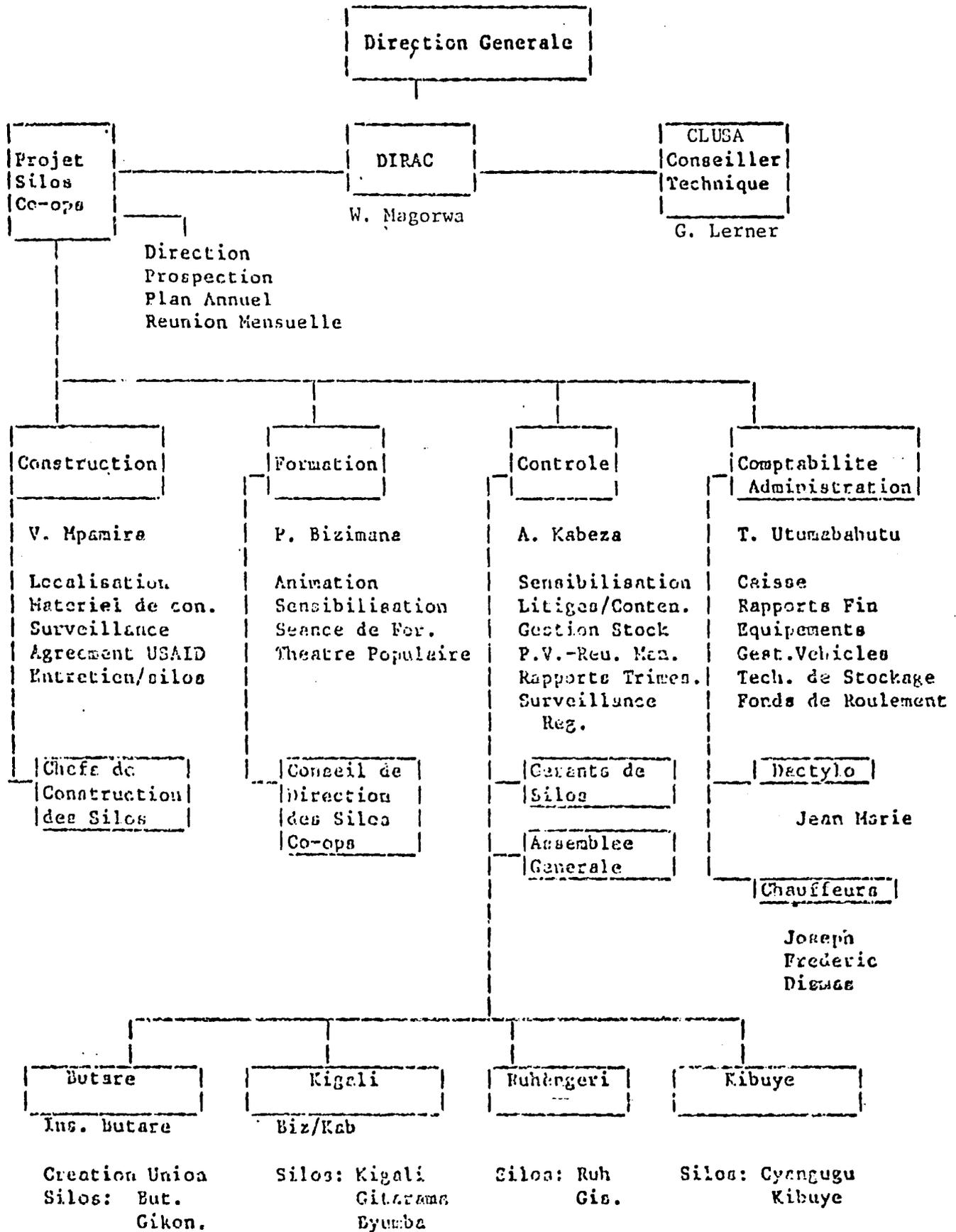
From 1979 until late 1981, the LCS staff numbered 14, including three drivers and two secretaries. Of the 14, eleven were seconded by the ministry and three were paid from project

MINISTRE DES AFFAIRES SOCIALES ET DU
DEVELOPPEMENT COMMUNAUTAIRE



Z/A

PROJECT ORGANIZATION CHART



funds. During this period, seven CGS storage units were operating, and their staffs and boards of directors had been trained. In addition, six LCS storage units were under construction and the cooperative staffs were being trained. DIRAC/LCS staff were visiting the cooperatives on a regular basis.

Since late 1981, the LCS staff has decreased from 14 to 6. At the same time, the number of CGS and LCS cooperatives has increased from 13 to approximately 30. Four professional staff were reassigned and have not been replaced. Two of the three drivers and the two secretaries were shifted to the ministry's pool. Eighteen months ago the LCS Project Director* requested that the four professionals - a trainer, an auditor, a bookkeeper and an assistant construction supervisor - be replaced. The request is still pending.

The decrease in staff is coupled with limitations on staff travel, an equally serious constraint. At the present time, the LCS staff is dependent on government, not project, funds for payment of per diem. They are limited by orders of the ministry to a total of six days of travel per month, which must also include the travel of the government drivers who accompany them. Thus each professional staff member is limited to approximately one day of travel per month. This is, of course, totally inadequate.

Following is a projection of visits to cooperatives which the evaluation team believes is indicative of the coverage required to provide adequate support given the growing management and extension workload as more LCS cooperatives "come on line." Each LCS cooperative should receive the following assistance:

- for management inspection and audit: quarterly visits;
- for training or retraining of cooperative officers and staff, commissaires aux comptes** and communal-level

*The Rwandan DIRAC Director wears two hats: DIRAC Director and LCS Project Director.

**A commissaire aux comptes is perhaps best described as an internal auditor. A member of the cooperative's surveillance committee, he/she is paid a monthly fee to verify the cooperative's accounts, countersigning the bimonthly financial report which is submitted to the LCS auditor. He/she is chosen on the basis of known honesty and accounting skills.

encadreurs: visits twice a year, with a total of 10 days of training (includes both Phase I and Phase II training***); and

- for inspection of stored crops and assistance with fumigation: quarterly visits.

In addition, the LCS Project Director should visit each operating cooperative at least once a year, visit the site of each proposed LCS cooperative storage unit and attend training programs as often as possible. In summary, at least one LCS staff member should visit each LCS cooperative once monthly.

Assuming that approximately 30 cooperative storage units will be operational by the end of 1983 (8 under CGS* and 22 under LCS) and approximately 48 by the end of the project, the following annual LCS staff travel requirements are estimated:

- inspection and audit: 4 site visits/year x 1 day/visit x 30 cooperatives = 120 travel days; x 48 cooperatives = 192 travel days.

- training and retraining: Some training programs will be conducted at the Cooperative Training and Research Center in Kigali, and LCS training staff would not be required to travel. Assuming, however, that (a) half of the training is provided outside of Kigali, (b) three staff members participate in each session and (c) a group from 6 cooperatives is trained at one time, the following number of travel days would be required:

for 30 cooperatives: 3 staff x 5 groups x 5 days = 75 travel days

for 48 cooperatives: 3 staff x 8 groups x 5 days = 120 travel days

- grain inspection and fumigation: 4 site visits/year x 1/2 day/visit x 30 cooperatives = 60 travel days; x 48 cooperatives = 96 travel days

*Savings in construction costs allowed the construction of one more silo (Abaruta cooperative); seven were planned, and eight were built.

***See Section B., Staff Development and Training, below for a discussion of the training phases.

- Project Director: 1 site visit/year x 1/2 day/visit x 30 cooperatives = 15 travel days; x 48 cooperatives = 24 travel days

From the above estimates, the total annual travel days and cost in staff per diem can be calculated:

For 30 cooperatives:

Inspection and audit:	120 travel days
Training and retraining:	75 travel days
Grain inspection and fumigation:	60 travel days
Project Director:	15 travel days
Total	<u>270</u> travel days x FRW 2,000/day per diem = FRW 540,000

FRW 540,000 = \$5,900

This figure does not include driver costs which are more difficult to calculate since the LCS staff members can travel together to accomplish several of the above tasks at one. This will reduce the number of days that drivers are actually in travel status. Assuming half of the total days calculated for the staff, driver travel would be:

135 travel days x FRW 1,000/day = FRW 135,000, or \$1,475

Total annual per diem costs to support 30 cooperatives is approximately FRW 675,000, or \$7,375. Total annual per diem costs to support all 48 cooperatives is approximately FRW 1,080,000, or \$11,805.

In conclusion, the team recommends that, in addition to the present LCS staff, MINASODECO should approve and fill the following full-time positions: one trainer, one management/audit specialist, one bookkeeper, one assistant construction supervisor, two secretaries and two drivers. MINASODECO should also relax its travel and per diem policies to permit the LCS staff to perform its duties in supervisory management, training and technical inspection. If these recommendations cannot be implemented by September 1, 1983, in order not to increase the workload on the present LCS staff, new construction activities should be suspended until MINASODECO and OAR/R jointly agree that the staff has the capability to fill its managerial, training and general oversight functions.

In addition, the team suggests that the development of a cooperative union should be supported on a pilot basis. There are at least four objectives to such a pilot effort:

- (1) to test the ability of a union to provide adequate extension services to its members with a view toward relieving MINASODECO of some, if not all, of its extension responsibilities by the time the project is phased out;
- (2) to facilitate buying and selling grain among members of the union and with GREANARWA, thus promoting two of the project purposes;
- (3) to provide commercial services and to achieve economies of scale which individual cooperatives cannot achieve alone; and
- (4) to test the potential for a union's financial self-sufficiency.

The burgeoning union in Butare may be ready for support. The union includes 15 cooperatives, of which five are CGS/LCS cooperatives. The cooperatives have joined to promote marketing services, among other activities, since some are located in deficit production areas while others are located in surplus production areas. Although the association is not yet functional, the presidents of the cooperatives have been meeting and operational planning is underway.

The LCS staff and OAR/R should consider providing support to this union. Although its needs and desires must still be analyzed, support in the following areas should be considered:

- employment of a full-time manager/extension agent for two years;
- employment of a bookkeeper/secretary for two years;
- rental of an office and office operating costs;
- purchase of a 2-1/2-ton truck for grain movements and extension services; and
- employment of a driver.

Support along the lines noted above might cost \$40-50,000 over two years. Technical support could come from MINASODECO/DIRAC, the CLUSA Advisor and, if necessary, from CLUSA consultants. Consideration might also be given to assigning a Peace Corps Volunteer with a background in cooperatives to work with the association.

B. Staff Development and Training

1. Status of Training Activities

According to the PP, participant training is a primary component of the project. Training should be conducted at the national (ministerial), prefectoral, communal and cooperative levels. Accomplishments to date are summarized below.

National level: Within MINASODECO, 10 staff members were to be sent to a specially designed 2-3 month course in the training of trainers in cooperative management at the Pan-African Institute for Development (PAID) in Douala, Cameroon. Another group of 10 staff members was to attend a 3-6 month course in cooperative management at the Pan-African Training Center in Cotonou, Benin. This last group was to be financed through the African Manpower Development project.

To date only one participant has been sent to PAID, and he is now completing a seven-month course in business management. It appears that the Pan-African Training Center in Cotonou is no longer functioning due to a lack of funding. The LCS construction supervisor, Mr. Vincent Mpamira, attended a six-week course in construction techniques in Dakar in early 1982. The DIRAC Director, Mr. Wellars Magorwa, attended a two-month course in development administration at the University of Pittsburgh in Summer 1982. The LCS trainer, Mr. Paulin Bizimana, attended a two-week seminar on techniques to stimulate rural self-help development efforts (animation pour l'auto-promotion paysanne) in Kigali in October 1982. Other training at the ministerial level has been marginal. The CLUSA Advisor, however, informally provides on-the-job training to all LCS staff members.

Prefectoral level: There appears to have little training of prefectoral-level regional cooperative inspectors ("supervisors" in the PP), although it was foreseen that 10 would attend a two-week course in Kigali to assist them in supervising the operation of cooperatives in their prefectures. The regional inspector for the Butare prefecture, however, has been provided with a LCS motorcycle to assist him in extension and organizing a union of cooperatives. He has been guided in this task by the DIRAC/LCS staff, and he has also participated as a trainer in training sessions for cooperative managers and commissaires aux comptes.

Commune level: Up to 40 commune-level rural trainers/cooperative organizers (encadreurs de commune) were also to be trained. To date, no specific training courses for

encadreurs have been organized. In March-April 1983, however, a training session was held in Kibuye for the officers and managers of the six LCS cooperatives which will soon begin storage and marketing operations. Six encadreurs completed the one-week course in management and accounting techniques for cooperative managers and commissaires aux comptes (see Section 2. below). Furthermore, to the extent that a number of encadreurs are also members of cooperative surveillance committees or are cooperative officers, they have been trained along with that group (see below).

Cooperative level: The most active training under the LCS (and CGS) project has been for cooperative officers and managers. The PP and Project Grant Agreement estimate a requirement for a total of 480 person-weeks of training. This is broken down to 1-2 persons per cooperative, or about 8 weeks each for 60 participants during the life of the project. Training would be held in 3-4 week sessions. The PP also states that CLUSA, under the CGS project, would prepare a general training plan for cooperative personnel, which could then be expanded under the LCS project. This has been the case.

Training for 90 officers and managers of the initial 11 LCS cooperatives has been conducted in 6 one-week sessions. The first training session for the personnel of the next group of 9 LCS cooperatives will begin in 2-3 months.

Although the most active component of the overall training effort, cooperative-level training still appears to be behind schedule. According to the PP, about 96 person-weeks of training would be conducted annually ($96 \times 5 \text{ years} = 480$). The project is now in its third year of implementation, and only 90 person-weeks of training have been completed, i.e., less than half of the target level.

One mitigating and unforeseen factor has been the need to retrain 20 officers and managers of the CGS cooperatives. That group was given an additional one week of training in May 1982. Total training conducted to date therefore totals about 110 person-weeks ($90 + 20$), with, as mentioned above, another 25-30 person-weeks scheduled for officers and managers of the next group of 9 LCS cooperatives in August-September 1983. The second CLUSA Annual Report (November 1981-November 1982) states that 126 person-weeks of training were completed during that period, but DIRAC/LCS records do not confirm this figure.

2. Content of Cooperative-Level Training

Training for cooperative officers and managers is conducted in two phases. The first phase, or session, is a one-week course given to both cooperative officers (generally the president, vice president and secretary) and cooperative managers (gerants) and commissaires aux comptes. This group may also include one member of the cooperative surveillance committee and a silo/warehouse overseer. The latter person is hired by the cooperative if the manager is also responsible for other cooperative commercial activities, such as a provisions store or pharmacy. Phase I includes lectures and practical exercises in cooperative organization and silo/warehouse management techniques. It may also involve a site visit to a silo/warehouse operation. Because of space limitations, this first session is presented separately to (a) the cooperative officers and to (b) the cooperative managers and commissaires aux comptes.

Phase II is a one-week course in bookkeeping techniques, and it is given only to managers and commissaires aux comptes. Some organizational concepts and notions of cost-accounting and break-even analysis are also taught. Instruction in preparing bimonthly financial reports for the LCS office is also given.

The LCS training officer organizes the sessions and presents most of the lectures, although the LCS auditor and accountant/storage specialist may also teach. Occasionally they are assisted by a regional cooperative inspector.

3. Training of Cooperative Members

Although included in the Training Program Plan (January 1981), education/training of cooperative members, so that they may follow silo/warehouse operations and understand decisions taken by their cooperative managers, has been marginal. According to the Plan, training should be along the lines of information dissemination (sensibilisation) and "public spirit" (animation) campaigns. Groups of members are brought together by their administrative sector chiefs and by communal encadreurs. They are then encouraged, and hopefully motivated, to participate in the activities of their cooperative, and the benefits of participation are explained to them. The communal leadership expends a good deal of energy in this effort, especially if a cooperative has been selected for construction of a LCS silo/warehouse. Another "public spirit" campaign accompanies official inauguration of the completed silo/warehouse.

One of the more innovative aspects of the campaigns has been the Educational Theater Group. The Group has been hired to perform for the general public and cooperative general assemblies to stimulate new membership and/or increased member participation in storage and marketing operations. According to the second CLUSA Annual Report, the Group performed seven times in 1982 before an average audience of 300 Rwandans. Evidently, however, at least in the case of the Gikoro cooperative, the performance at the communal headquarters only attracted those members of the general public who were already involved in cooperative activities. This is explained by the proximity of the homesteads to both the cooperative site and the communal headquarters. The usefulness and cost-effectiveness of such a hired theatrical troupe is therefore doubtful. Performance have now been discontinued.

4. On-the-Job Training for Cooperative Managers

Again according to the second CLUSA Annual Report, the LCS staff made more than 30 oversight visits to operating silos during the period November 1981-November 1982. Most of these visits were to CGS cooperatives since the first LCS cooperatives/silos were not functional until July 1982.

Although the DIRAC/LCS policy is to inspect and monitor each cooperative once or twice every three months, it appears that this has not been the case. As discussed above (Section A.), the primary constraint has been the strict limitation on staff travel. The evaluation team noted that, for some cooperatives, visits have become rare. Frequent visits are absolutely necessary if cooperative management is to receive adequate oversight and on-the-job counselling.

5. Conclusions and Recommendations

The number of ministerial-level participants who have been trained to date outside of Rwanda is minimal. Only three, out of a target group of twenty, have benefitted from outside exposure. This is probably due to a lack of suitable candidates and to a general shortage of personnel. It would not be advisable to send any of the present LCS staff members for training until the staff is increased. The present LCS office, although understaffed, has at least benefitted from 1-1/2 to 4 years of on-the-job experience with the CLUSA advisors. Most importantly, absences for training must not interfere with the office's functional responsibilities.

In-country training should continue to be focussed on cooperative officers and managers. Training of prefectoral-level regional cooperative inspectors, although desirable, should not be a priority at present. With the establishment of cooperative unions in various prefectures, however, training in organizational techniques should be given to this group. Training of communal encadreurs should also be a lesser priority. When the Cooperative Training and Research Center opens in Spring 1984, untrained encadreurs can be given a course in cooperative organization and management. Alternatively, and space permitting, those encadreurs can be included in the August-September 1983 Phase I and II training sessions. Communal encadreurs who will be working with future LCS cooperatives should receive both Phase I and Phase II training.

Cooperative-level training appears to be keeping pace with the start-up operations of new LCS silo/warehouses. However, each group of officers and managers is only receiving one week (for officers) or two weeks (for managers and commissaires aux comptes) of training. This is evidently inadequate; record-keeping has not been sufficiently accurate, and accounting weaknesses may result in malfeasance. Several serious instances have occurred, and other minor cases of embezzlement may have gone - or go - unnoticed by cooperative surveillance committees and the LCS staff.

The accounting procedures and record-keeping tools taught in the Phase II training session have not yet been officially authorized for use by the MINASODECO Cooperative Training Division, which is responsible for developing a systematic bookkeeping system for all cooperatives. Thus, instruction in the use of a general ledger, including account balancing and preparation of profit-and-loss statements, is without follow-up at present. By the time these instruments are finalized (1984?), the training will have to be conducted again.

It is advisable, however, that Phase II training be repeated for all managers and commissaires aux comptes of LCS cooperatives. Phase I training for cooperative officers and the managerial group should also be repeated at least once a year. In short, all cooperative-level personnel should be either trained or retrained in both the Phase I or Phase II sessions as soon as possible. Space at the Cooperative Training and Research Center should be sufficient.

Cooperative-level training has been offered in about three sessions per year. Assuming that about 30 LCS and CGS cooperatives are operating by the end of 1983, the number of

training and retraining sessions will have to be doubled to about one one-week session every two months.

Training of cooperative members through information dissemination and "public spirit" campaigns should be the responsibility of cooperative leadership, which is, in most cases, also communal leadership. LCS staff time will be better spent in on-site, one-on-one training of cooperative managers and commissaires aux comptes than in visiting administrative sectors to stimulate cooperative membership. In any case, this is not a frequent activity at present because of travel restrictions, and should not be necessary in the future. Local communal officials are well-placed to conduct such campaigns without outside assistance. The assistance of the Educational Theater Group should not be necessary.

On-the-job training of cooperative managers and commissaires aux comptes must also be intensified. Although the operating LCS and CGS cooperatives are financially solvent, and perhaps even realizing reasonable profits, the potential for serious problems is great if the cooperative management (a) attempts to increase the level of activities, (b) shifts funds between commercial activities, (c) borrows more from a revolving fund or (d) initiates any combination of these actions. Establishment of buying and selling prices may be somewhat haphazard, and calculations of operating costs is casual at best. If the LCS cooperatives are to reach their potential, careful monitoring of their activities is essential. As previously discussed, a one-day visit to each cooperative once a month is necessary to unravel errors, to train the manager and to discuss operational problems.

A special workshop for cooperative officers should also be organized to help them develop goals and strategies for the long-term viability of their cooperatives. This workshop could be conducted in conjunction with the retraining sessions. At present, cooperative leaders are operating on an ad hoc basis, without a clear sense of direction or understanding of marketing strategies. This will become increasingly important as cooperative unions evolve and/or as cooperatives establish marketing linkages with GREANARWA.

In view of the success of the in-country training course presented by Kansas State University in 1981 (under the CGS project), a similar course should again be conducted for LCS staff, cooperative officers and managers, GREANARWA warehouse managers and others involved in grain storage. The course should again focus on grain storage techniques, pest identification and use of insecticides for fumigation.

C. Development and Operation of LSC Cooperatives

1. Organizational and Social Analysis of LCS Cooperatives

As part of an evaluation of the progress and impact of the project to date, it is necessary to appraise the organizational viability of the cooperatives and to assess the impact of these organizations on the lives of their members. Of particular interest here is the extent to which cooperative members participate in the leadership structure of their cooperatives and the perception they have of the benefits accruing to membership. If significant, disadvantages to non-members should also be assessed.

(a) Cooperative Membership

Membership in the LCS and CGS cooperatives varies in number from 429 (Ndora) to 5,846 (Rutare), with most averaging about 1,000-2,000. Members are primarily male heads of household. In seven of the nine communes which the evaluation team visited, the cooperatives had been established prior to construction of the silo/warehouse. In two communes the cooperative was established at the time the silo was built.

Rwandan farmers are familiar with the concept of cooperative action, often joining together spontaneously for specific endeavors, such as house construction. An extension of this is the pre-cooperative group which may, for example, petition the burgomaster for use of a communal field. Another increasingly common cooperative institution is the capital-pooling association, known as ibinima. In this case, a group contributes money to a pool which is then allocated to members on a rotating basis at periodic meetings. In this way major expenses, such as roofing or housing construction, are defrayed.

Membership in a cooperative is thus voluntary and based on traditional concepts of collaborative organization. However, it appears that, in all cases, the LCS and CGS cooperative silo/warehouse activity was organized at the initiative of local commune officials, particularly the burgomaster, who wished to launch an important and useful government service activity. (It is a GOR objective to establish a storage and marketing cooperative in each of Rwanda's 143 communes.)

In the membership drive for a new cooperative, the communal administrative structure is mobilized, and the sector and cell

leaders urge their constituents to join. Memberships fees average FRW 100-250. In most cases membership cards are eventually issued.

It is not clear to what degree farmers perceive the benefits of joining a cooperative. However, the activities of the TRAFIPRO stores, successful in most communes, are probably well known. Consequently, the first activity of a new cooperative is usually provision of a variety of consumer goods. In one case, the cooperative began by establishing a pharmacy. Prior to the construction of silos and warehouses under the CGS and LCS projects, grain storage was a peripheral cooperative activity.

When queried about the benefits of grain storage and marketing through the cooperative, farmers tend to see the dual advantages of maintaining sufficient food stocks in the local community to see them through lean times (soudure) and of buying back the stocks at a price which is often substantially lower than the prevailing market price. Farmers who were interviewed did not mention the advantage of more secure storage in the silo/warehouse than on the homestead.

While farmers perceive the above economic advantages in joining a cooperative, membership as a civic duty is also urged upon them by communal officials. In an extreme case, concurrent with collection of the head tax, all tax-paying males were assessed an additional FRW 200 for cooperative membership. This occurred prior to implementation of the CSG-LCS projects however.

(b) Cooperative Leadership Structure

The general assembly of the cooperative, composed of 50-100 delegates chosen from the total membership, meets at least once yearly to discuss cooperative operations. Every 2-3 years this body elects a board of directors (conseil d'administration). The board, numbering 10-15, then elects its officers, including a president, vice president, secretary and, sometimes, a treasurer. The officers are elected for one year and are collectively referred to as the central committee (bureau central). A basic qualification to be a cooperative officer is completion of some formal education.

Cooperative officers are not remunerated for their services; rather their work for the cooperative is considered a civic duty. As members of the commune's educated elite, leaders are expected to serve the interests of the community. They are in most cases government officials and educators,

including agronomists, judges, tax collectors, encadreurs and teachers, for example. If he has been especially active in establishing it, the burgomaster is sometimes elected president of the cooperative. In one case, the burgomaster is the commissaire aux comptes.

(c) Cooperative Management

In principal a cooperative should employ a manager (gerant) for each major commercial activity (provisions store, pharmacy, grain storage silo, etc.). He/she is employed full-time and earns an average of FRw 6,000-7,500 per month. As is true with cooperative officers, he/she usually has a primary education and perhaps even several years of post-primary education. To minimize overhead, however, many cooperative hire only one manager to run several activities.

The manager is assisted by one or two commissaires aux comptes. As footnoted earlier, this position is best described as an internal auditor or comptroller. A member of the cooperative surveillance committee (comite de surveillance), he/she is paid a modest monthly fee to verify the cooperative's accounts, countersigning the financial reports which are submitted to the LCS office. The commissaire aux comptes usually has some post-primary education and may often be a primary school teacher.

(d) Popular Participation in Cooperative Leadership and Management

Small farmers tend to participate very little in the leadership and management decisions of their cooperative. As discussed above, cooperative officers are expected to provide leadership to the largely uneducated subsistence farmers who represent the majority of the membership. Although farmers are frequently elected to a board of directors, unless relatively well educated, they are very rarely elected as officers. As full-time employees, cooperative managers are by definition no longer farmers, although they may have been farmers prior to their employment.

No one in rural Rwanda, however, is very far from the land, so that most of the communal elite have parents and relatives on a farm. The distinction, therefore, between farmer and commune official or cooperative officer is not one of either ethnic or other class distinction, but rather one of education and profession. Consequently, cooperative leaders are seen by small farmers as those most suited to make management decisions concerning the cooperative's operation.

(e) Constraints to Effective Leadership and Management

The evaluation team believes that there is a critical need for training and retraining cooperative officers and managers, both in the classroom and on-the-job. Although motivation and qualifications may be high, they generally lack the experience and technical skills necessary to avoid serious managerial and financial problems over the long term.

Training in pricing policy, overhead cost calculation, profit estimation, break-even analysis, and general management and financial accounting techniques is sorely needed. If the marketing cooperatives are to function effectively and develop into viable, permanent institutions, the sophistication of their leadership and management must be carefully nurtured through training and counselling. The requisite will and basic educational level are not in short supply within the commune, but further assistance is needed to ease technical knowledge constraints.

(f) Cooperative Benefits to Farmers

Most cooperative members are subsistence farmers, supporting the family on about one hectare of arable land. Beans, sorghum, sweet potatoes and bananas constitute the staple foods of these rural landholders. In the absence of any socio-economic research and data base within the framework of the project, the evaluation team cannot assess the level of benefits accruing to the population as a whole, or even to cooperative members specifically. Records of who buys and who sells grain to the cooperative are not now kept, although all transactions are recorded and totalled daily. More information could tell the cooperative management whether or not more members than non-members and more farmers than traders were using the silos and for what purpose - simple storage or as a secured loan at a low rate of interest.

It is assumed that those farmers who sell to and buy from the cooperative perceive it as more advantageous than trading in the local market. The cooperative strategy is, indeed, to offer a price incentive to farmers, although no distinction is made between members and non-members or between farmers and traders. In some cases, volume discounts are even granted on sales to traders.

Farmers will use the cooperative silo/warehouse if it is located close to the market they usually attend. They may also be attracted to the cooperative if it operates a provisions

store or pharmacy. With a price incentive, the farmer will sell some grain after the bean or sorghum harvest to the silo to meet his cash needs. He will certainly also store grain on his homestead. If he sells production which is necessary to his family's consumption requirements, he will have to buy the grain back during the soudure at a higher open market price. At that time, he will certainly turn to the cooperative to buy his grain at a considerably lower price, other things being equal. Unfortunately, other things are not always equal. The trader, not the cooperative, extends cash credit for grain purchases during lean times, though selling at a price higher than the cooperative's price. The extent to which farmers have neither cash nor grain during the soudure should be determined empirically before farmers' use of the cooperative silo can be predicted. While it appears to be clearly advantageous for farmers to trade with their own cooperative, services rendered by traders, such as cash credit, may undermine such incentive.

(g) Economic Burden to traders

At present levels of cooperative silo activity, it is unlikely that local traders are suffering a noticeable loss of market share or income. The CGS-ICS cooperatives' volume of trade is so marginal compared to the total volume passing through the commune market - perhaps only 1-2% - that traders tend to regard the cooperative as another potential customer or supplier, or even as secure storage of their own grain for future speculative sale.

There are, of course, various types of traders. The average trader (umucuruzi) operates a general produce store and has a vehicle to transport goods in and out of the local community. Constantly turning over his inventory, the trader transports commodities between deficit and surplus production regions and links different agro-ecological zones with their respective crop specialization. A prime example is the exchange of Ruhengeri potatoes for Kibungo beans and sorghum.

Wealthier traders may store grain in local markets for later speculative sale. They may own general stores at several market sites (centres de negece), moving between them according to the local market day. They also transport merchandise between regions, sometimes owning several vehicles and dealing in large volumes.

At the other end of the scale is the small trader (umudandaza), who normally deals in one product in small quantities. He may be a part-time farmer, buying produce from his neighbors for resale in the local market. He may also

serve, in many cases, as an intermediary between large traders and a fairly extensive group of small farmers; assembling the farmers' produce and bringing it for resale to the large trader.

Lacking a data base on the activities of the various types of traders and middlemen, the team cannot evaluate how they will be affected when the number of LCS cooperatives increases. The volume of their trade and their networks of commercial activities should also be studied. It now appears that none are being adversely affected and that many, particularly small traders who store locally for speculative purposes, may actually be benefitting as much or more than the small farmer. See also Section 3., Cooperative Marketing Strategy, below for a further discussion of trader operations with cooperatives.

(h) Conclusions and Recommendations

At present no data are being collected on farmer use of the cooperative silo. Records should be kept of who sells, who buys, the volume of trade and the date of transactions. Cooperative managers should determine how much grain should be stored for resale to members, which requires knowing "if" and "how" members are using the silo. If non-members are using the silo more than members, managers must determine the reasons. The extent to which traders use the silo can also be investigated through more effective and efficient record-keeping.

The present level of cooperative leadership and management is barely adequate to ensure successful operation. The potential for error and graft is great. Cooperative officers must constantly monitor the silo operation to avoid problems. Both officers and managers need frequent on-the-job training as well as yearly retraining courses. Section IV.B., Staff Development and Training, assesses requirements in greater detail.

Socio-economic research data on the consumption and marketing of beans and sorghum is scant. Little is also known about the economic role of the various types of traders in the distribution of production within and between communes and regions. The question of popular participation in the cooperative in general and in the silo operation specifically should also be addressed. Given their general lack of education, it will be difficult to integrate farmers into the small circle of cooperative leadership and management. Some attempt should be made, however, to include at least one influential farmer in each group of LCS cooperative officers.

Socio-economic research into these topics would assist the DIRAC/LCS staff in advising commune officials on how best to communicate the advantages of cooperative membership and trading with the silo to the local population. Communication must be both accurate and sensitive to avoid alienating the farmers.

2. Cooperative Financial Viability

(a) PP Benefit Assumptions

As discussed in the PP, a number of financial and economic benefits from cooperative marketing were anticipated:

- storage of farmers' produce which is excess to current needs for a fee of FRW 1 per kilo with no sale or repurchase transaction;
- selling of farmer production to the cooperative at a higher-than-market price for repurchase later at a lower-than-market price, even including a service fee of about FRW 3 per kilo, with this margin providing the major source of revenue to the cooperative; and
- commercial sales and purchases with traders, other cooperatives and/or GRENARWA.

It was estimated in the PP that, from these operations, a single cooperative, serving 1,500 to 2,000 families and through its effect on local market prices, would increase global farmer income in an average commune by nearly \$46,000 per year by the fifth year of the project. The validity of this estimate cannot be analyzed, however, because it is assumed that, although it deals only in beans and sorghum, the cooperative will influence prices of all crops produced in the commune. Moreover, cooperatives' margins have increased from the FRW 3 per kilo mentioned above to FRW 5/kilo for sorghum and FRW 8/kilo for beans.

(b) The Cooperative Financial Record to Date

A precise analysis of the economic impact of cooperatives, their financial status and their effect on farmer incomes must await further marketing experience. Only five LCS cooperatives are now functioning; they have only traded through one complete campaign; and the level of their marketing activities is artificially limited by very restricted operating funds. Moreover, these cooperatives themselves do not know their real financial position with any accuracy because they do not keep

balance sheets and cost accounts or make any systematized analysis of their financial situation.

A number of useful observations can be made nevertheless on the positive side:

- The project concept of the cooperative -- a place where farmers can store their grain at harvest, receive a small margin above the going market price, buy it back later in the year during the soudure at somewhat lower-than-market prices and in the interim receive a cash loan -- seems to be valid and is accepted by farmers. This is indicated by the fact that most LCS cooperatives in their first year of operation used all of their available revolving funds to buy grain. In other words, they worked at one hundred percent capacity their first year.

- If in fact before the opening of the cooperative, trader prices in the commune had been kept artificially low by virtue of the trader's position as an only buyer, then the cooperatives are having a positive effect on increasing prices to direct sellers to the cooperatives and favorably increasing prices in the area for farmers still selling to traders. In their first year cooperatives bought local purchases from both farmers and traders. Since the cooperatives, in all observed cases, set their buying price above the going market price, the farmer who sold directly to the cooperative obviously received a better price. But farmers who continued to sell to traders, for reasons of convenience, for example, and knowing the cooperative's buying price, also received a better price. Their bargaining position with the trader was stronger, and they would now accept only a differential equal to the cost and bother of getting their grain to the cooperative.

- For lack of sufficient working capital, the LCS cooperatives have not moved into interregional marketing of grains on any scale. However, the experience of the Gikoro CGS cooperative clearly indicates that a dynamically-run cooperative can move a significantly tonnage of grain, particularly when located in a surplus production area, and thus facilitate the flow of grain to deficit production areas, increasing the efficiency of the marketing system, as well as making money for its members.

- In their first year of operation, LCS cooperatives have been strongly oriented toward marketing in their local area. With regard to price policy, they appear to be doing a reasonably good job of balancing the important factors -- open market prices in their areas, a price break for local farmers

and consumers who deal with the cooperative, and maintenance of a satisfactory price margin to cover cooperative expenses. However, the cooperatives' records submitted to the LSC office (see Table 1, page 50) indicate substantial regional and seasonal variations, with both buying and selling prices increasing as the season advances. In questioning cooperative managers, it appears that the guiding pricing principle is the old official set prices, e.g., FRw 20 and 25 for buying and selling beans.

- As a general rule, cooperatives have been able to obtain their predetermined margin over the marketing season. Most cooperatives have fixed a FRw 5 margin between their buying and selling price, and these cooperatives are covering their direct costs and increasing their revolving fund. Some appear to be working at a FRw 3-4 margin. This is barely enough to cover direct costs and, if combined with credit sales (e.g., Gikomero), the cooperative is suffering a liquidity crisis and staff are not being paid. Cooperatives have a good feel for local market prices, and this has enabled them to set prices at a level allowing a successful local commerce. For the future, if they are to play a role in equalizing surplus/deficit trading, their pricing policy must accommodate the national price structure. For this reason they should participate actively in a national price reporting scheme, recommended in this report (Section VI., Research), and take advantage of it in determining their own pricing policies.

While the above observations indicate the positive side of the cooperative financial picture at this point, a few criticisms are in order:

- Cooperatives do not know their operating costs, either global for the entire cooperative operation or broken down by separate activities. The effect of the latter point has become evident in several cooperatives. Lacking working capital to buy grain, the cooperative managers have borrowed money from the boutique (provisions store) account. Grain marketing has moved ahead, but the boutiques are almost entirely out of stock. Yet the boutique is one of the most popular and remunerative services of the cooperative. Was the transaction a profitable one for the cooperative? It is impossible for the managers to say. Although direct, out-of-pocket costs are accounted for, no provision is made for interest charges, maintenance and repair of facilities, taxes, etc. The cooperatives do not appear to draw up complete periodic balance sheets. The manager, therefore, has only a vague idea of both the financial position of his cooperative and how to plan for the future.

- The bookkeeping forms provided to the cooperatives as well as the on-the-job training provided by the LCS auditor seem largely oriented toward an accounting (for the revolving fund) rather than a business management function. Accounting for the revolving fund is very important, but it is not sufficient if the cooperatives are to survive in the tough competition of the grain market. Cooperative officers and managers must know their role in the national grain marketing chain vis-a-vis local producers and consumers, traders, other cooperatives and GRENARVA. To assume that role and survive, they must plan and manage their cooperative operations like a business enterprise. With perhaps one or two exceptions, this is not yet happening in either the CGS or LCS cooperatives.

There appears to be no uniform system (and in some cooperatives no system at all) for tracking membership patronage. In some cooperatives with a system, it appears not to be consistently carried out. Presumably cooperatives should function like cooperatives, and there should be discernible advantages to being a member, such as patronage dividends, breaks on prices, etc. As soon as a cooperative is in a good financial position, it should have the records to show "who" and "what" were responsible and reward the members appropriately.

(c) Recommendation

CLUSA should assist the DIRAC/LCS staff to review and revise as necessary the accounting system (including appropriate forms) currently in use to assure the LCS and CGS cooperatives' more effective planning, management and operation. Any revision in the accounting/financial management system should be incorporated in the training and retraining programs for cooperative officers, managers and commissaires aux comptes.

3. Cooperative Marketing Strategy

As presented in the Project Paper, the concept of the LCS project is biased toward advantages accruing to producers through low-loss, centralized local storage of grain stocks. In fact there is no evidence that stock losses are less in the LCS and CGS silo/warehouse facilities than in the most widely used methods of on-farm storage. Moreover, on-farm storage methods have lower capital costs than storage in LCS facilities. The impact of the LCS storage facilities has consequently been far greater in commercialization than in storage.

The primary impact of the project on local commerce has been its opening of new commercial options to producers and traders at all levels. In this sense the project has given a boost to local private enterprise. It has given a group of less well-off producers and small-scale traders access to reliable, long-term storage in a way that does not tie up their major capital resources. These two groups of market actors had previously been excluded from marketing operations which required long-term storage. The effect of the LCS project, therefore, has been and is to increase competition in the grain market.

(a) Commercial Operations at the Storage Facilities

To date the LSC-CGS cooperatives have been handling purchases and sales of only beans and sorghum. The board of directors of the cooperative sets a date for the beginning of the buying season and for the beginning of the selling season for each crop. The quantity purchased is largely a function of the available working capital. The major bean-buying season begins in January or February and may last several months. Bean sales generally begin in June. The main sorghum-buying season begins in July and may likewise last several months. Sorghum sales generally begin in February. To some degree limitations on working capital have tied the purchase rate of new stock to the liquidation rate of old stocks.

For administrative reasons the contract between the cooperatives and MINASODECO for the 1982 buying season stipulated priority use of project-furnished working capital for sorghum purchases. The contract is attached as Annex C.

The board of directors of the cooperative sets the buying price for produce shortly before the beginning of the buying season. The price is set at one franc per kilo above the expected harvest season market price. Similarly the board of directors of the cooperative sets the selling price for produce shortly before the opening of the selling season. The cooperative allows itself a margin of FRW 3-5 per kilo to cover operating costs and for profit. It appears that remembrance of GRENAWA price ceilings, though no longer in force, plays a greater role in determining the cooperative's margin than an analysis of storage operating costs.

Produce is purchased from anyone. In the 1981 CGS evaluation, Willot noted that 40% of all purchases were from private traders. Field visits by the evaluation team confirm that private traders are responsible for supplying 1/3 to 1/5 of the quantities placed in storage.

The pattern of produce sales is more complicated. In surplus production areas, a certain quantity is sold only to cooperative members. The rest is sold to the general public. In this case also, private traders are important actors in cooperative selling operations. Individual traders may take delivery of several tons of produce at a time from the cooperative. In deficit areas the cooperative limits sales more strictly to its membership.

(b) Commercial Functions Served by Silos

Storage Function: The PP predicted that a number of producers would store grain in the cooperative facilities purely as an alternative to household storage. It was assumed that farmers would be attracted to cooperative storage because losses from insect pests or "theft" would be less than with on-farm storage. It was expected that producers would bring a quantity for storage at harvest and retrieve an equivalent quantity in time of need. The only financial transaction would be a FRw 1 per kilo charge for the storage service. The evaluation team encountered no case where this type of storage function was operational. The following reasons explain the apparent lack of interest.

From the producer's point of view:

- (1) There is no evidence that losses are any greater from insect pests in on-farm storage than in cooperative storage. On-farm "theft" losses, however, are still probably greater.
- (2) Although they have no objection to buying different produce from what they sold, if farmers retain ownership, they want to be sure they get back exactly the produce they put in storage. This is not possible in cooperative storage facilities; everyone's produce is added to the general stock.
- (3) The basic reason for giving up/selling produce is to acquire cash. If farmers cannot get immediate cash for their produce, there is no compelling reason to give up control over it. There is no clear advantage to a producer to set up a commodity account at a cooperative storage facility.

From the cooperative's point of view:

It is more advantageous to make a FRw 3-5 per kilo margin for storing a farmer's produce than to make a FRw 1 per kilo margin. All the cooperative has to do to make the greater margin is pay the producer cash when the produce is delivered. Within limits the cooperative has the working capital to do this.

Commodity credit program for small-scale producers:

The most important commercial function served by the LCS cooperatives is that of offering a commodity credit program at a more reasonable cost and with less uncertainty than was previously available. Many farmers are compelled by circumstances to sell portions of their vital stocks within a month or so of harvest. They then have to buy back equivalent quantities of food stocks during the soudure. This selling-buying transaction can be considered a commodity credit program, i.e., the producer receives a loan on the security of the grain he deposits with the system. When he repays the loan plus a service or interest charge, he can recoup the stocks he has deposited. The LCS cooperative performs the same function. The charge to the user is less with the cooperative storage facility than for the other system for two major reasons. The repayment for the secured loan to the cooperative does not have to cover the transport charges to bring deposited grain into the national food distribution system or from the national food distribution system to the consumer on retrieval. Secondly, the repayment to the cooperative will not have to include the sum of the margins required for the services of intermediaries who distribute produce under the more generalized system. In short, from a producer's point of view, the cooperative's commodity credit program is preferable to the generalized marketing system not only because the costs are less but also because it reduces uncertainty regarding cost and availability. The producer knows the produce is in the commune well in advance of his needs. Moreover he knows the cost of recouping his produce well in advance. He does not have to protect himself from unforeseeable cost surges in the generalized market program.

Storage for Private Traders: An important share of both buying and selling transactions in surplus production areas is conducted with private traders. Traders are using the LCS cooperatives for low-risk/low-cost storage of their own stocks.—The risk is low because the cooperative guarantees the price at which the traders can retrieve the stocks deposited in storage. The cost is fixed at a level far enough below the soudure market price that traders can make a profit. Moreover,

several cooperatives visited by the team give a price break of FRW 1-2 per kilo to traders buying in ton multiples.

Credit Program to Small Traders: The most important constraint on small trader operations in the produce markets is their limited working capital. Small traders are not in a position to store produce for more than a few weeks. They must turn over their money fairly rapidly to be able to profit from grain trading. Access to the LCS storage facilities opens a credit line to small traders which allows them to store grain over several months and still have enough working capital to continue transacting business. By making it possible for small traders first to sell to the cooperatives at a small margin and then buy back at under-the-market price months later, the small trader is able, for the first time, to compete with large traders whose capital resources permit them to put away stocks for months. Moreover, the risks to the small trader of storing grain in a cooperative facility are less than the risks to a large trader storing grain in his own warehouse. The small trader can wait and see what the market price is during the soudure before committing his resources. The large merchant is already committed insofar as he has produce in storage. He risks losing substantial sums if the market price during the soudure does not respond as he anticipated.

"Speculation": The PP defines speculation as a cooperative's buying large quantities of produce from its members without specific orders from potential buyers. The LCS cooperatives have been buying large quantities of produce without specific orders from potential buyers. However, the pejorative connotation of the term "speculation" notwithstanding, the evaluation team regards the buying strategy which the term describes as essential to being able to perform the commercial functions described above. Moreover, since the cooperatives have been able to liquidate all of their stocks to date, there appears to be little risk to them to pursuing what the PP describes as a "speculative" buying strategy.

(c) Relationships to GREMARWA and OPROVIA

For cooperatives in surplus production areas, GREMARWA's intervention is not important. None of the cooperatives in surplus areas appears to be having any difficulty in liquidating its stocks to either its membership or to private traders. It must be added, however, that it is now too early in the season to estimate whether or not current bean stocks will be liquidated before they "hardshell" (which prolongs cooking time).

Two cooperatives visited by the evaluation team, Rutare and Gikomero, had acquired large sorghum stocks in anticipation of sale to GREMARWA. The transaction never took place apparently because the cooperatives and GREMARWA could not agree on a price. These same cooperatives, later in the season, were willing to give a price break of FRw 2 per kilo to private traders for the same stock. GREMARWA would have had to either be willing to pay more or delay securing its stocks to have dealt with these cooperatives. Neither is recommended. Moreover, the cooperatives apparently had enough outlets other than GREMARWA to meet its needs. The cooperatives would have had to have been more flexible in their pricing policy at an earlier date than they felt necessary in order to deal with GREMARWA. It is best that time and experience shape the negotiating postures of these two institutions vis-a-vis each other. At present they are able to operate quite well without relying on each other despite what appear to be potentially mutually supportive roles which they could play.

In deficit production areas the role of GREMARWA in coordinating or delivering food stocks is more essential. Soon after GREMARWA finishes its buying campaign, cooperatives should be able to rely on it for access to food security stocks for their storage facilities at a reasonable price.

At present GREMARWA is relying on private traders, many of them operating on a small scale, for a large share of its supplies. It would be very willing to amend its buying strategy to include cooperatives as suppliers. This would be desirable insofar as GREMARWA intervention promotes the health and welfare of cooperative institutions. However, GREMARWA should not either compromise its economic viability or force cooperatives to compromise theirs for the sake of doing business with each other. The two institutions should remain autonomous and make decisions on whether or not to transact business purely on the merits of a particular transaction. In this sense, moreover, it would be unwise to bring cooperatives under the OPROVIA umbrella in any way. Cooperatives have the best chance of flourishing if they can behave autonomously in the commercial domain.

In commercial terms regional cooperative unions may have a role to play as conduits for excess production out of a region and as clearing houses for supplying cooperatives in a deficit production region. UNICOPAGRI has already been playing the former role in the Byumba prefecture to some degree. It has, for example, supplied credits on occasion for affiliated cooperatives to purchase food stocks so it could, in turn, provide them to its clients.

The evaluation team recommends that the LCS office and GRENAWVA make a major effort to create networks of cooperatives to facilitate interregional transfers of food stocks from surplus to deficit production areas. In all cases the financial integrity and autonomy of the actors must be respected and transactions consummated only if advantageous to all parties as determined by independent decisions of their leaders. Affiliation of communal-level cooperatives with regional cooperatives should be encouraged as one possible step in this commercial networking. The cooperatives should, however, remain outside the OPROVIA institutional framework.

In summary the most striking impact of the LCS project in the commercial sector has been in opening up the possibility of new commercial operations to a large body of market actors. The diagram which follows illustrates this point. A number of commercial relationships, expressed by dotted lines at the left of the diagram, have been made possible as a result of the project. The project has enabled a number of small traders to engage in operations previously possible only for well-capitalized, large traders. Competition in produce trading has increased, and this can be expected to have a positive impact on consumer prices as the scale of the project grows. The project's greatest positive impact has been on strengthening the private sector in rural Rwanda.

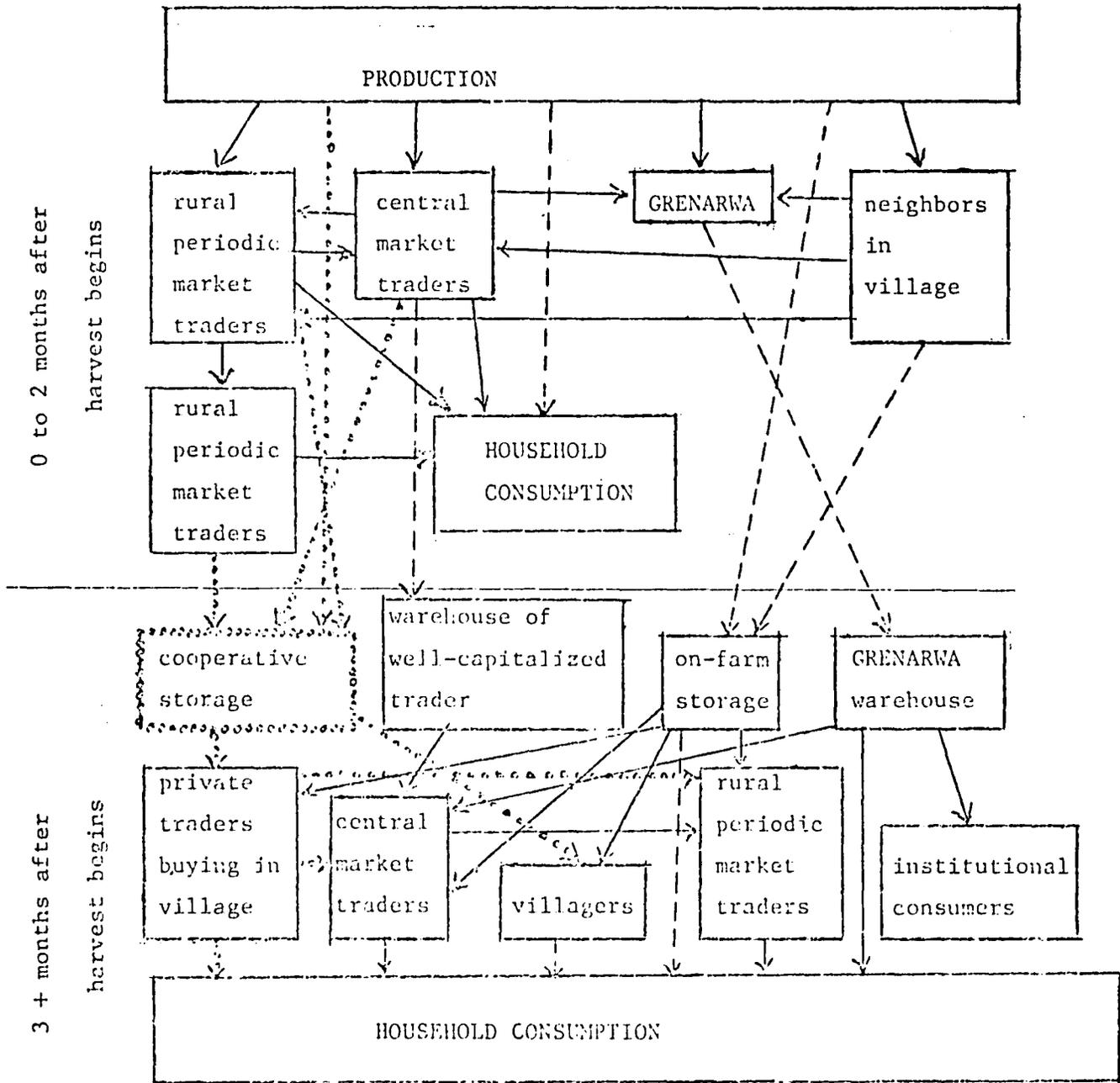
D. The Revolving Credit Fund

1. Provisions for the Revolving Credit Fund in the Project Paper

A total of \$400,000 is earmarked under the project to provide LCS cooperatives with working capital. The Project Paper states that the fund (about \$10,000 per cooperative) could be used "to purchase pulses and cereals, agricultural inputs (particularly insecticides) and other merchandise needed by the cooperators. The cooperative can use the fund to buy a limited quantity of produce which it is certain will be sold or resold to the cooperating farmers later in the season, but would not routinely purchase grain from its members through the revolving fund." At another point the PP states: "A farmer in need of funds could sell his produce to the cooperative and be paid in cash through the revolving fund. The cooperative would only do this when it has a known market for the produce (other members, other cooperatives or GRENAWVA). The cooperative would not be allowed to 'speculate', that is to buy large quantities of produce from its members without specific orders from potential buyers... The cooperative can buy and sell

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Rwandan Marketing System with LCS project



—————> change of ownership accompanying stock movement
-----> stock movement without change in ownership
.....> transactions made possible by LCS project

produce in relatively large quantities, e.g., 20 or 30 tons, with GREMARWA or other cooperatives, when it has specific requirements to do so. Buying transactions can be financed temporarily through the revolving fund which is then reimbursed by members who receive the produce. Selling transactions are paid in cash by the buying groups..."

These guidelines indicate that, within the limitations of the money available, cooperatives may use the fund to buy and resell grain to cooperative members, to finance sales of agricultural inputs to members, and, despite this pejorative "speculate," to buy and sell grain commercially.

The PP further provides that "the credit fund will be managed by the Banques Populaires (BP), a Rwandan rural credit institution operated with Swiss assistance."

Finally, the PP requires that a detailed plan on the operation and use of the revolving fund, including eligibility criteria, interest rate structure and management procedures be established by the interested parties (the Directorate of Cooperative Action, the Banques Populaires and AID) before the fund may be allocated to cooperatives.

As outlined in the Project Paper, the proper functioning of a cooperative marketing system supported by a revolving credit fund assumes that:

- the Banques Populaires is willing in fact to manage the revolving fund; and
- that some financial institution (Banques Populaires, commercial banks, GREMARWA) is willing to finance commercial transactions which exceed the limits of the revolving fund.

Failure either to verify these assumptions or to work out alternative arrangements has contributed in part to failure to fulfill to date the condition precedent calling for a revolving fund operational plan.

2. Experience with the CGS Revolving Fund

Eight silos were built under the CGS project, and seven of these were provided with a revolving fund. The functioning of the CGS and LSC silos and the associated cooperatives is essentially the same. Management, training and audit control are also provided by the DIRAC.

A total of FRw 8,918,000 (or a maximum of FRw 1,274,000 per cooperative) was provided to the project by the United Nations Capital Development Fund as working capital for the cooperatives. Funds were allocated by the DIRAC on the basis of buying plans submitted by the cooperatives. The funds were in effect a gift, however, since no requirements were made for either interest or capital repayment by the cooperatives back to the central fund. The amounts released to each of the seven cooperatives are indicated in Table 1. Only two cooperatives (Gikoro and Gishamvu) have received almost their full allotment. One (Cyeru) has received only FRw 239,314 and the rest approximately half of their share. A total of approximately FRw 4,459,000 (or half the original amount) remains unallocated in the central fund.

Some CGS cooperatives have made excellent use of their revolving fund. Gikoro is an example. With a 90-ton storage capacity, it has turned over some 85 tons of sorghum and 82 tons of beans in its first two years as a functioning silo. Its working fund has increased from the original FRw 925,733 to over FRw 1,200,000. The cooperative has a thriving provisions store (boutique) and also deals in coffee.

The other CGS cooperatives, although not as active as Gikoro, have traded in substantial quantities of grain, brought higher selling and lower buying prices to members and non-members, and have maintained sufficient margins to finance their working funds. In maintaining an adequate audit control of their funds, however, their record is less impressive, making DIRAC's caution in moving forward with the LCS fund understandable. The Gishamvu CGS cooperative, for example, suffered a FRw 36,958 embezzlement by the manager in late 1982. This was not followed up by the local authorities, and the same manager appears to have embezzled an additional FRw 200,000 four months later. The cooperative is at least temporarily closed and the board of directors is attempting to hire another manager. The Kigembe CGS cooperative also suffered a FRw 109,000 embezzlement in late 1982 and is now closed. The Nyarutovu CGS cooperative lost FRw 227,421, and both the Gatonde and Giti CGS cooperatives have lost smaller amounts of their revolving fund. In short, five of the seven functioning CGS silos (Cyeru is shut down due to moisture problems) have suffered detournement de fonds, some of them substantial. This is unfortunately not a good track record.

3. Status of the LCS Revolving Credit Fund

(a) The Morris Proposal

In order to assist the interested parties in developing an operational plan for use of the LCS revolving fund, CLUSA commissioned Dr. William Morris to study the problem. Morris's recommendations were summarized in Project Implementation Letter No. 3, dated July 9, 1982, from the AID Representative to the Minister of Social Affairs and Community Development. The PIL is attached as Annex A. Essentially the recommendations provide:

- An identification of three types of activity requiring credit: (a) the local purchase of beans and sorghum, storing them and selling them back to cooperative members, and the stocking of a small supply of agricultural inputs in the cooperative's boutique; (b) imports of beans and/or sorghum by the cooperative in times of shortage for resale to cooperative members and others; and (c) exports of grain under surplus conditions against a contract of sale outside the commune.
- Credit for local operations and grain imports will be approved and provided by a LCS Project Loan Committee utilizing the revolving fund. Credit for export transactions may be obtained from the BP, guaranteed by the revolving fund.
- The revolving credit fund will eventually be managed by a union, or unions, of cooperatives. Until such time as unions are established, the funds will be managed by the MINASODECO's Community Development Bureau for Financial Aid, the Ministry's "credit window."
- The interest rate on export loans would be set by the BP. Import loans would be made at the same rate as export loans. Local operations will bear interest at 3% below import and export loans.
- Cooperatives are expected to make a profit and, if located in surplus production areas, to no longer require loans from the revolving fund "after two or at most three years."

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- Loan applications to the revolving fund must include the cooperative's bilan (balance sheet) and compte d'exploitation (a statement of grain stocks and credit history) for the previous three years.
- Each import transaction will be treated as a single transaction and will be funded for only two or three months to assure that grain is sold as quickly as possible.
- Presumably (from the text) loans to fund local operations will also be handled on a relatively short-term, single-transaction basis, that is, there would be a separate loan for each bean and sorghum campaign.

MINASODECO has not yet responded to this Project Implementation Letter and presumably has some objections to it. The Banques Populaires, while expressing reservations on certain points, has indicated an interest in participating in some phases of the credit plan (see Annex B).

4. Interim Advances to LCS Cooperatives from the Revolving Fund

Five LCS silos were completed and ready for operation in mid-1982, at which time discussions were still underway on fulfillment of the revolving fund condition precedent. In order to allow these cooperatives to commence operations with the 1982 sorghum-buying campaign, MINASODECO requested OAR/R permission to advance a small amount from the fund to each of the five cooperatives. OAR/R agreed to this request on a one-time basis and under specific conditions. Each cooperative signed a contract which permitted it to buy sorghum for local resale and required loan repayment with interest. The interest rate was placed at FRw .6675 per kilo of sorghum sold, calculated from the day on which the cooperative board of directors decided to start the selling campaign. Repayment of capital and interest was to be required at the time when all the sorghum was sold. A copy of the contract is attached as Annex C.

Three cooperatives in normally deficit production areas were advanced FRw 300,000 each; and two in normally surplus production areas received FRw 240,000 each. With these funds the cooperatives were able to buy and sell a total of 101 tons of sorghum, buying at approximately FRw 15 per kilo and selling at an average of FRw 21 per kilo. (See Table 1*). All funds have been properly accounted for. The Ministry has not yet called in the loans.

5. Some Alternative Suggestions on Revolving Credit Fund Policies

The time for agreeing upon a set of operating procedures for a working fund for the CGS and LCS cooperatives is long overdue. The CGS silos have been functioning at half capacity for lack of sufficient working capital. The revolving fund available to them, as well as access to commercial funds, has been limited for lack of an effective operating procedure. In part for the same reason, their fund allocations have not been properly accounted for. Now five LCS cooperatives are working at the margin under unsatisfactory improvised arrangements. Another six will come on line in time for the 1983 sorghum-buying season. Five LCS warehouses will be completed and ready for operation by August of this year. Provided that an operational procedure can be agreed upon, funds are available to make these new facilities immediately functional.

An efficient procedure for handling the revolving credit fund should meet certain criteria:

- it should allow for the provision of funds in a timely manner and under terms and conditions which conform to the requirements of the activity to be financed;
- it should assure the integrity of the fund;
- it should not overburden the capabilities and resources of the cooperatives; and
- it should encourage, develop, and in fact require of the cooperatives an appreciation of and competence in business-like operations.

A review of the provisions contained in Project Implementation Letter No. 3 indicates that they meet these criteria with perhaps a few exceptions - the requirement of a separate loan for each local bean- and sorghum-buying campaign; separate loans for each import purchase; and 2-3 month limits on import loans.

*It should be noted that the bean-purchases listed in Table 1 for the five LCS silos were not bought from their fund advances but from capital resources from their boutique or pharmacy.

The cooperatives buy beans during the period January-June, concurrently with the sale of their sorghum. Similarly, they buy sorghum during August-November, more or less at the same time that they sell their beans. Separate loans of nearly one year's duration for each campaign greatly increases the size of the revolving fund required to support the local buying and selling operations. This increased requirement might be reduced with shorter-term loans in which the bean purchase loan is paid off with sorghum sale proceeds and vice versa. Given regional and local differences in production and possible variations in tonnage and value of either commodity handled by any one cooperative, however, it is highly probable that the amount of funds required for each of the two campaigns would vary.

Other problems arise with separate short-term import loans. It is assumed that, in any one season, a cooperative anticipates a shortage in its supplies for local consumption and that, to fill this gap, the cooperative will make a one-time purchase from either another cooperative or a trader. However the market, at least at this time, does not usually work this way. Cooperatives appear to cover their deficits with a number of small purchases whenever they can find the grain at an acceptable price. Furthermore, a 2-3 month loan could force them to resell either before they could cover their costs or before the end of the soudure.

Separate loans continually coming due for local purchases and imports do not provide the cooperatives with a true revolving fund, but rather with a revolving door to the lending agency, in this case MINASODECO. In addition to the problems cited above, it is doubtful if either the Ministry or the cooperatives could support the administrative burden of the recommended procedure.

The evaluation team suggests that, as an alternative, consideration be given to an open-ended loan to cooperatives to handle both their local purchases and import needs. At the beginning of the calendar year, a cooperative would present to the Ministry a complete dossier as required under Project Implementation Letter No. 3, plus a detailed plan of operations based on an analysis of local food needs, production, membership, community participation, etc. The amount loaned in the first year of implementation would be somewhat limited to give the cooperative an opportunity to gain experience.

The Ministry would perform rigorous quarterly audits (a prerequisite for any operating procedure). Annually the Ministry would review the cooperative's past performance,

financial resources, audit records and plan for the coming year and then continue, reduce, or increase the loan as judged appropriate. The loan might be limited to five years or such time as the cooperative's profits cover its working fund requirements, whichever is sooner. Such a plan gives the cooperatives greater flexibility, reduces the administrative burden, provides for the integrity of the project's revolving credit fund and gives the cooperatives a greater responsibility in managing their own affairs.*

Following Dr. Morris's recommendation, Project Implementation Letter No. 3 suggests a rate of interest on import loans at BP's commercial lending rate, 9%, and loans to support local purchases at 3% below that rate. The evaluation team strongly supports the idea that cooperatives should operate on business terms. The terms of the present contract with the five LCS cooperatives, for example, are not acceptable. The limited experience of the CGS and LCS cooperatives to date clearly indicates that they can compete economically in local purchase and import operations. Even after offering members higher-than-market prices at harvest and lower-than-market prices during the selling season, they have been able to obtain a FRW 5 margin on both beans and sorghum. This margin is adequate to cover operating expenses, including interest, and allow the accumulation of reserves. For example, a cooperative which bought 35 tons of beans at FRW 20/kilo and 10 tons of sorghum at FRW 17/kilo would require, under ordinary circumstances, no more than FRW 1,000,000 in working capital. With tight management the cooperative could get by with FRW 800,000.** Assuming a FRW 1,000,000 loan and a FRW 5 margin on sales of both crops, an interest charge of 9% would amount to FRW 1.2/kilo, or 24% of the margin. At 6%, the interest charge would amount to FRW 0.8/kilo, or 16% of the selling margin. Assuming the cooperative, by close coordination of its bean-buying and sorghum-selling campaigns,

*It is interesting to note that the Banques Populaires make loans to private grain dealers under these same open-ended terms. It seems reasonable to expect that in the long term, after they have demonstrated their credit-worthiness, cooperatives might satisfy all their credit needs from the Banques Populaires.

**The assumption is made that a cooperative would turn over its proceeds from sorghum sales, as they came in, to bean purchases, and that at least 25% of their working fund is fungible in this manner.

conducted its operations with a FRw 800,000 loan; the interest charge per kilo at 6% would amount to only FRw 0.64/kilo. The evaluation team suggests 6% as a reasonable interest rate at this time (3% below BP's commercial rate), rather than 9%,

because the working fund loan would include import loans (if the proposed modifications are accepted); and a FRw 5 selling margin, while a reasonable assumption for local commercialization, is somewhat less assured for import operations.

The evaluation team also suggests that the management of the fund be handled by a Project Loan Committee within MINASODECO's Directorate of Cooperative Action rather than by the Ministry's credit window, as proposed in Implementation Letter No. 3. This is a pragmatic rather than an ideal solution. There is an urgent need to agree on revolving fund procedures, and fund allocations should be started by July 15, 1983 if the LCS cooperatives are to participate in the 1983

sorghum campaign. The team believes that there is insufficient time to work out the administrative details for managing the fund with a new agency if this deadline is to be met.

6. Adequacy of the Revolving Credit Fund through Completion of Construction

As discussed above, in the LCS Project Grant Agreement \$400,000, or FRw 36,800,000, is obligated for a revolving credit fund. An estimation of the use and adequacy of this fund is presented in the following table.

Table 2 is based on a number of assumptions which seem reasonable, but which are, at best, estimates:

- (a) cooperative trading will increase from 30% of capacity in Year 1 to 100% of capacity in Year 4;
- (b) sixty percent of trade will be in sorghum, and 40% of trade will be in beans;
- (c) local trade will account for 80% of commerce, and imports will account for 20% of commerce;
- (d) prices will increase by one franc per year from a base local-purchase price of FRw 20 for beans and FRw 17 for sorghum and a base import price of FRw 22 for beans and FRw 19 for sorghum; and
- (e) fungability of sorghum- and bean-buying funds is estimated to reduce loan requirements by 25%.

TABLE 2
Use of LCS Revolving Fund Through Completion of
Silo/Warehouse Construction

	Jul. 83	Jan. 84		Jan. 85			Jan. 86			
Number of Operational Coops	11	11 +	10	11+	10 +	17	+11	+10	+17	+3
Capacity MT ^{1/}	774	774	618	774	618	960	774	618	960	180
Tonnage Commercialized (MT) ^{2/}	232	464	195	619	370	238	774	494	576	54
Tonnage-beans (MT) ^{3/}	92	184	74	243	148	115	310	198	230	22
Tonnage-sorghum (MT)	140	280	111	371	222	173	464	296	346	32
Local Commercialization ^{4/}										
beans (MT)	74	147	59	198	118	92	248	158	184	18
sorghum (MT)	112	224	89	297	178	138	371	237	277	26
Imports										
beans (MT) ^{4/}	18	37	15	50	30	23	62	40	46	4
sorghum (MT)	28	56	22	74	44	35	93	59	69	6
Expenditures-Local Grain ^{5/} (FRW 000)										
beans	1480	3037	1239	4356	2596	2024	5704	3634	4232	414
sorghum	1904	4032	1602	5643	3332	2622	7420	4740	5540	520
Expenditures-Imports ^{5/} (FRW 000)										
beans	396	851	345	1200	720	552	1550	1000	1150	100
sorghum	532	1120	440	1554	924	735	1953	1239	1449	126
Commercialization Fund Requirement ^{6/} (FRW 000)	3234	9537		19731			30578			
Inputs ^{7/} (FRW 000)	110	100		170			30			
Total Rev. Fund Req't (FRW 000)	3344	9637		19901			30608			

1/ Only warehouses will be constructed after 9 units currently under construction; warehouse capacity = 60% silo capacity.

2/ Coops will work at 30, 60, 80 100% capacity over 4 years.

3/ 60% commercialization of sorghum, 40% of beans.

4/ Local commercialization is 80% of coop trade; imports is 20%.

5/ Assumes FRW 1 buying price increase each year starting at FRW 20 beans, FRW 17 sorghum on local purchases; FRW 22 beans, FRW 19 sorghum on imports.

6/ Assumes 25% fungibility of beans and sorghum funds.

7/ Allocation of FRW 100,000/coop for input purchases one time only.

Finally, FRW 100,000 will be allocated on a one-time basis to each cooperative in its first year of operation to finance inputs. This is sufficient to stock, for example, one ton of malathion.

Using these assumptions, the capital in the revolving credit fund appears to be adequate through the completion of construction. In fact, there will still be a surplus of more than FRW 6,000,000 in Year 4.

It can be seen from Table 3 that, while the revolving credit funds provided under the project are sufficient to handle estimated needs for local purchases, imports and inputs through the final construction year, funds available for loan guarantee drop off sharply by January 1986.

Several circumstances, however, are expected to alleviate this situation. It is anticipated that the Banques Populaires will only require a 25-30% loan guarantee rather than 50%, which effectively doubles the amount of grain for which loans can be made. Even more promising is the expectation that a Special Guaranty fund at the National Bank of Rwanda will be revitalized within the next three to four months. The objective of the Fund is to offer credit to persons or organizations which would otherwise have difficulty obtaining credit, and cooperatives would be eligible to apply for loans for grain trading. Once this Fund is operative, the entire LCS revolving credit fund could be allocated for cooperatives' local trading, imports and supply of agricultural inputs.

It is important to note that, although the calculations in the above tables have only been carried through the completion of silo/warehouse construction, the LCS cooperatives will not be in full operation until 1989. By that time local purchase and import needs will require an additional FRW 12.0 million, exceeding the available loan funds by FRW 6.0 million for these two activities alone. However, if the assumption is correct that by the fifth year of operation the LCS cooperatives should be in a position to start repaying their loans, i.e., by 1989, up to FRW 12.0 million should be flowing back into the fund. Similar amounts should also flow back into the fund in the following two years.

Additional funds are not required to make CGS cooperatives fully functional over the next few years. Approximately FRW 1,100,000 is available to each CGS cooperative, which is

TABLE 3

Monies Available for Loan Guarantee Fund

	July 83	Jan. 84	Jan. 85	Jan. 86
Available in Revolving Fund (FRw 000)	36,800	36,800	36,800	36,800
Local Purchase Req't Import and Input Req't (FRw 000) (from Table 2)	3,344	9,637	19,901	30,608
Available to Loan Guarantee Fund or other coops (FRw 000)	33,456	27,163	16,899	6,192
Assumed Av. Buying Price (beans and sorghum) (FRw)	18.2	19.2	20.2	21.2
Tons Export Grain which can be loan-guaranteed at any one time at 50% guarantee deposit (MT)	3,676	2,829	1,673	584
Coops in surplus areas	5	9	16	17
Tons per coop in surplus areas for which guarantee available (MT)	735	292	105	34

sufficient for them to buy and sell grain to their storage capacity at estimated price levels over the next four years assuming a 25% fungibility of bean- and sorghum-buying funds. This would also include sufficient funds for them to buy a one-ton stock of malathion for local sale. Although there has been a loss of funds through embezzlement at some of the CGS cooperatives, it appears not to have exceeded the margins already earned by the cooperatives in their trading to date, and their revolving funds as such are relatively intact.

7. The Role of the Banques Populaires

The Banques Populaires currently make loans to traders for grain exports from surplus to deficit production areas. The interest rate is 9%, and the loans are often open-ended and extended annually on the basis of a strict review of the borrower's accounts and needs. Local BP branches can make loans up to FRW 200,000. For loans above this amount the application must be forwarded to the main office in Kigali for approval. The BP is prepared to make loans on these terms to LCS cooperatives if a loan guaranty fund can be established in the Banques Populaires. The level of this fund in relation to the anticipated level of loans would be based on the BP's evaluation of the quality of management and accounting of the participating cooperatives, but would probably be in the range of 25-30%. Interest on the guaranty deposit would be 3%.

There are a number of communes with LCS cooperatives which do not yet have a BP branch. While in principle these cooperatives cannot bank with BP, special arrangements can be made for loan applications to be reviewed by the central BP office in Kigali. The loan could then be forwarded to the cooperative through the LCS office.

8. The Support Capability of the Directorate of Cooperative Action

A key assumption underlies this entire discussion: there is in place a functioning, centralized inspection and accounting system, adequately staffed with trained, experienced personnel, whose means are sufficient to assure close direction and control of the financial management of the cooperatives and their resources. This is in fact not the case. The LCS office's audit function is handled by only one person. Although extremely competent, energetic and interested, he lacks resources, as do other members of the LCS staff, to visit cooperatives on a regular basis, even once a year. Office space and equipment is so minimal that records of previous

audits cannot be found. Of twelve audits planned for the first half of 1983, only two were made, plus one investigation of a suspected irregularity. This planned schedule, even if adhered to, would permit only one inspection/audit per year per cooperative. The LCS staff believes that, during the year following its opening, a cooperative should be visited at least once a month. The evaluation team is recommending a quarterly inspection by the auditor as a minimum.

Staffing is so thin that there is great difficulty in reviewing the twice-monthly reports submitted by each cooperative, and the situation is further aggravated by the need for the accountant to participate in training programs.

The consequences of an inadequate audit system are only partly measured by the high rate of detournements - three in the seven operating CGS cooperatives in the two years since their opening (Table 1). The primary consequence is the lack of confidence such conduct generates among the membership, which can easily lead to the failure of the cooperative.

The lack of adequate LCS staff and audit capability will become more acute with (a) the opening of an additional thirty cooperative silos and/or warehouses within the next couple of years and (b) the assignment of responsibility to manage the revolving credit fund. Constraints and recommendations are fully discussed above in Sections A., Organizational Support and Extension, and B., Staff Development and Training.

9. A Long-term Objective: A Union of Cooperatives

Establishment of a union, or regional unions, of cooperatives has, from the beginning of the project, been envisioned as a logical step in the cooperative movement in Rwanda. Project Implementation Letter No. 3 states: "ultimately a legal entity is needed to be established... forming a union of cooperatives is recommended."

The role which would be played by a union, or unions, of cooperatives (in this case, grain marketing unions) is discussed above in Section A., Organizational Support and Extension. However, the evaluation team wishes to underline here the crucial importance for the long term to find or develop a viable autonomous institution to manage the revolving credit fund. When the LCS project is completed in June 1987, it is probable that MINASODECO will not be able to continue the necessary level of support to training, revolving fund management, marketing assistance, etc. These support needs of

the cooperatives will, however, remain ongoing. If the evaluation team's recommendation to support the nascent union of grain marketing cooperatives in the Butare prefecture is implemented, it should be possible at a fairly early date (certainly before June 1987) to transfer management of the revolving credit funds for the CGS and LCS cooperative silo operations to the union. A provision to this effect might be inserted in a revised Project Implementation Letter No. 3. This would involve management of approximately FRw 2,200,000 for the CGS cooperatives and FRw 5,500,000 for the LCS cooperatives. There are, however, ten other grain marketing cooperatives currently affiliated with the Butare union, and the evaluation team has no information on their financial and physical resources. Presumably they also need working funds. As members of the union, presumably they also would have access to any revolving funds which the union may manage.

As indicated in Section 6. above, there is no surplus in the LCS revolving credit fund if LCS needs are projected through to the point of full operation. There are, however, substantial excess monies over the next three years. If AID is fairly certain that there will be a follow-on project which could cover any gap in LCS revolving fund requirements in CY's 1987, 1988 and 1989 (as the last LCS warehouses come into full operation and before the first LCS silos start substantial loan repayments), then additional money could be allocated on a pilot basis to the Butare union for loan to non-LCS cooperatives.

10. Recommendations

Without further delay, MINASODECO, OAR/R and CLUSA should agree on the policies and regulations which will govern the use, management and disbursement of grant funds provided in the LCS Project Grant Agreement for the revolving credit fund. The policies and regulations should be implemented immediately. In addition, OAR/R, MINASODECO and CLUSA should consider the following modifications to Project Implementation Letter No. 3, dated July 9, 1982:

- (a) loans for local bean and sorghum purchases should be: extended to cooperatives on a long-term, open-ended basis; reviewed annually and modified as necessary; and adjusted downward as cooperative earnings accumulate.
- (b) import loans (as defined in the PIL) and loans for insecticide sales to cooperative members should be considered as local needs loans, rather than treated as a separate category of loan.

- (c) the interest rate on loans for local and import purchases and for agricultural inputs should be established at 3 percent below the Banques Populaires' commercial rate. Interest should be payable annually at the time of the loan review.
- (d) administration of the revolving credit fund should be the responsibility of the LCS Project Loan Committee.

OAR/R should also request CLUSA to provide a short-term specialist in cooperative banking. (Such a specialist may be available from the staff of the Banques Populaires.) The specialist should (a) assist the LCS staff in implementing the policies and regulations which have been agreed upon for allocation and use of the revolving credit fund, (b) develop improved administrative and audit procedures both for the DIRAC/LCS office and for the cooperatives and (c) make arrangements with the Banques Populaires for establishment of a loan guaranty fund, including development of the necessary forms, contracts, etc. The services should be provided as soon as possible.

V. TECHNICAL ASPECTS

A. Construction

Construction of LCS storage units began in 1981. To date 11 units have been completed; 9 units are under construction and will be completed this year; and three new sites have been selected. According to the PP Implementation Plan, 40 units plus six satellite units were to be constructed within a three-year timeframe. To achieve this now, those units currently under construction plus an additional 26 units, including the satellites, would have to be completed within the next 18 months. The evaluation team has assessed means to accelerate the pace of construction and discussed several options, including provision of additional staff and vehicle support for construction supervision and/or contracting units to private builders. The team, however, does not believe that the pace should be accelerated since the other elements of the project - training, extension services, etc. - cannot concurrently meet the increased demand which would be generated by an accelerated construction program. Additionally, because the life of the project has been extended to June 1987, there is no real need to complete construction within the three-year timeframe.

OAR/R and the LCS staff have been discussing the pros and cons of the current construction program using the Fixed Amount Reimbursement (FAR) method of financing. There are certainly advantages and disadvantages to directly implementing the construction of the units as opposed to employing private contractors, and the FAR method's advantages are balanced by certain risks. The team believes that the issues are better left to OAR/R and the Ministry to resolve.

The evaluation team recommends simply that the current pace of construction not either be accelerated or exceed the capability of the LCS staff to provide training and extension services to cooperatives where new units are being constructed. On the other hand, the team believes strongly that, if the recommendations concerning a strengthened LCS project staffing pattern and a revision of MINASODECO travel and per diem policies cannot be implemented by September 1, 1983, in order not to increase the workload on the present LCS staff, new construction activities should be suspended until MINASODECO and OAR/R jointly agree that the staff has the capability to fill its managerial, training and general oversight functions.

As has been previously discussed as well in Section IV.A., Organizational Support and Extension, the team recommends that MINASODECO recruit a full-time assistant construction supervisor. To ensure proper workmanship and strict adherence to construction plans and specifications, either the LCS construction supervisor or his assistant should be present at the construction site during the initial stage and periodically through completion of construction. This will minimize any delays which may result from corrective actions which are required to pass REDSO/ESA's final inspection..

In visiting the LCS cooperatives, the team also noted that several silos had broken or missing locks and/or broken spigots. Routine maintenance is the responsibility of the cooperative's management, and related expenses are a factor of the cooperative's operating costs. The LCS staff should advise cooperative officers and managers to make the necessary repairs to ensure that the silos are in proper operating condition.

B. Storage Techniques/Technology

1. The Project Design

An assumption in the design of the project was that substantial financial benefits to farmers would accrue from a decrease in bean and sorghum storage losses, not only in the LCS cooperatives silos and warehouses but also, more importantly, through an extension effort to bring improved storage techniques to the farmer. The third project purpose is in fact, "to reduce storage losses, reported to be significant both on the farm and in commune silos, by introducing improved storage practices and use of approved insecticides through cooperatives." The question of the effect of long-term storage on beans and the resistance of beans to attack by pests will be studied in depth under the research component of the project. As has been previously discussed, the storage research will be implemented under Title XII auspices. The evaluation team has no comment beyond stating that it considers this research to remain an important component of the project.

(a) On-farm Storage

The PP design team recognized that research on farm storage losses was scanty, but believed that losses were substantial. A 10% average loss was used to estimate that storage losses could be reduced and result in an increase in farmer income of more than \$46,000 per year per commune by the fifth year. The principal methods for effecting this savings would be the

demonstration effort of the silo itself, the sale of malathion in the cooperative's store, and supplemental demonstrations and exhibits on storage techniques which would be offered at each cooperative by the LCS staff.

(b) Silo storage

Properly managed silo and warehouse storage can reduce insect and moisture losses to almost zero. The techniques require close attention to moisture levels when crops go into storage; the proper use of insecticides, in this case malathion and phostoxin; the maintenance of scrupulously clean storage facilities; and constant monitoring. Project inputs included training in storage technology; insecticides; the necessary tools (probes and moisture meters) and regularly scheduled surveillance and on-the-job training by the LCS storage technician.

2. Evaluation Team Findings

(a) On Farm Storage

The extension program to reduce on-farm storage losses has not gotten underway. No cooperatives visited by the team had stocks of malathion in their boutique for sale to customers. In fact, several cooperative managers reported a shortage of the chemical to treat their silo-stored grain. No exhibits or demonstrations have been prepared for use by the cooperatives. In fairness to the LCS staff, it must be said that implementation of the project has required a tremendous effort in many areas from a very small group of people. Reduction of on-farm storage losses has consequently been accorded a low priority. The LCS staff's priorities are, furthermore, in order. Although research on the subject is still limited, it has become increasingly evident that on-farm losses to moisture and insects over the time period in which grain is stored on the farm are probably very low. In an ISAR 1979 study, Durnez concludes that "apparently there is no serious problem of food grain conservation in the rural milieu." In addition, farmers' traditional techniques of protection against insect infestation (banana leaf ashes on sorghum and banana leaf ashes or kaolin on beans) have proven to be quite effective for at least three to four months. Nevertheless, farmers do use insecticides, particularly when they note an infestation; and when malathion is offered for sale at cooperative boutiques, farmers do buy it. The evaluation team therefore suggests that the DIRAC/LCS office implement the on-farm storage campaign as outlined in the Project Paper. A major component will be the provision of

adequate supplies of malathion for sale and silo use (plus phostoxin for the silos) to carry out the campaign. Failure to forward-plan appears to have resulted in a shortage of these chemicals to handle even the needs of silo-stored grain during the 1982 storage season.

(b) Cooperative Silo and Warehouse Storage

Cooperative stock records on file in the DIRAC/LCS office indicate that, with the exception of Cyeru, little or no storage loss to moisture or insects has occurred. Team visits to eight cooperatives confirm this. However, when losses do occur, they can be serious. The Rutare and Gikoro cooperatives have reported sorghum losses because "no malathion was available." The cooperatives' losses probably are a good deal higher than losses in on-farm storage. For the Gikoro cooperative it is a 2.7% loss; and overall for the program, if these were the major losses, the percentage over two years is about 2%. The lack of periodic surveillance by the LCS staff (1) to assure that proper storage techniques are carried out on a continuing basis, (2) to provide on-the-job training and (3) to sample stored grain would be the major criticism of this phase of the project. The LCS grain storage technician has not been in the field since September 1982. This is in large part due to MINASODECO's travel restrictions, forcing the assignment of higher travel priority to audit and training. Although the priorities are defensible, the travel restriction is courting disaster in this formative period.

3. Recommendations

As concluded from the above discussion, the evaluation team recommends that the LCS staff plan and implement the on-farm storage campaign which is outlined in the PP. (This may require translation of the relevant PP sections into French for the LCS staff.) Special attention should also be given to procuring insecticides for both on-farm and silo storage requirements. Arrangements should be made for their timely distribution, i.e., to assure their availability before the harvest seasons.

In interviews with the evaluation team, cooperative managers have frequently stated that it is difficult to estimate the volume of beans and sorghum stored in the silo cells at any particular point in time. It is therefore recommended that each cooperative be provided with a graded measure or scale to determine more accurately the tonnage of beans and sorghum stored in a silo. The graded measure or

scale might be painted on the wall of the silo or might be an inexpensive, retractable metal tape measure. The tape measure would measure the distance between the level of the grain and the top of the silo. OAR/R should request the REDSO/ESA engineer to devise the most appropriate method.

Most importantly, the LCS grain storage technician should visit each cooperative at more frequent intervals. Assuming that the other LCS staff members can also monitor storage techniques on their periodic visits, it is recommended that the LCS storage technician arrange at least quarterly visits.

VI. RESEARCH

The technical and socio-economic studies proposed in the PP have not yet been undertaken. As discussed in Section II., Summary and Status of Project Inputs, the LCS research effort will be combined with complementary research to be financed under the Food Storage and Marketing project, Phase II, and under the proposed Cropping Systems Improvement project. The selection of a Title XII university is now in the final stages, and it is expected that the research team will arrive in Rwanda before the end of the year.

In reviewing the proposed research program, the evaluation team has noted three potential information/data gaps which should be addressed in order to assure a complete and accurate understanding of the Rwandan market structure and function. In an effort to create a cooperative network to facilitate interregional transfers of food stocks from surplus to deficit production areas, marketing data should be systematically collected and analyzed for use by GREMARWA, the DIRAC/LCS staff and the regional cooperative unions. Specifically, the team recommends that personnel at LCS cooperatives and GREMARWA warehouses gather (a) weekly price data for beans and sorghum from one nearby market per facility and (b) data on quantities brought for sale to each market.

The second information gap concerns the extent to which private traders are profiting by either tinkering with their scales or using inexact and inaccurate weights. A project assumption is that farmers are routinely cheated on weight estimates of their grain when both selling to and buying from private traders. The problem is addressed by introducing systematic and reliable weighing procedures at the LCS cooperative. The extent of the problem is not known, however, but could be ascertained by comparing the weight and quantity of a farmer's grain before sale with the weight recorded by the

private trader when he offers to buy the farmer's grain. It is suggested that survey personnel from the Agricultural Survey and Analysis project could be requested to gather this data on a routine basis when recording farmer/producer sales.

To complete an analysis of the Rwandan market structure and function, a comprehensive marketing study should be undertaken. Unknowns include:

- the variables which determine how the farmer will market his produce most advantageously;
- the farmer's interaction with the network of traders who purchase and distribute his produce throughout the country;
- the dynamics of trade, including market activity, in food staples, especially beans and sorghum;
- the volume of trade within and between regions;
- trader networks and communication systems;
- farmer and trader transportation costs;
- trader profits, etc.

Given these and other unknowns, the study should focus on the actors, transactions, costs and margins of marketing channels from the producer to the consumer. The study should also focus on the real costs of transport in Rwanda. An understanding of both components is a prerequisite for determining the most efficient cooperative marketing strategy. The study should be performed by an agricultural economist and/or an economic anthropologist and a transport economist over a period of 3-6 months.

Equally importantly the study should integrate the related price series data undertaken within the framework of the LCS and Agricultural Survey and Analysis projects as recommended above. Data on rural consumption patterns generated from the family budget and consumption survey should also be integrated into the marketing study analyses. Proposed terms of reference for this "survey of Rwanda's marketing structure" have been prepared by S&T/MD's Small Farmer Marketing Access project staff and are attached as Annex D. GAR/R is prepared to finance this study under FSM II.

VII. PROJECT MANAGEMENT

A. AID

Although thinly staffed, OAR/R has monitored the project adequately, especially its design and evolution from the CGS project. Project management responsibility presently rests with a recently-arrived Assistant Agricultural Officer, who is supported by the AID Representative and the Program Officer. The AAO's workload, however, precludes close monitoring, and it is hoped that interaction with the evaluation team has provided a more complete understanding of the project's complexities and issues which require resolution and follow-up attention. Project management should improve with the arrival of the Agricultural Officer in Fall 1983.

In general, the LCS staff enjoys a good working relationship with OAR/R. The LCS accountant (also the grain storage specialist) has frequent contact with the OAR/R procurement and budget and fiscal officers to discuss the status of commodity orders and project accounting. On the other hand, the OAR/R's workload in both these areas has resulted, according to the LCS staff, in long procurement delays, unsatisfactory phone calls to monitor orders and unanswered letters. The accountant especially would appreciate OAR/R's sharing the RFMC periodic financial reports with him so that he can more carefully monitor project and contract expenditures. This request is particularly reasonable since the CLUSA contract is with the GOR. The evaluation team has found several discrepancies in the RFMC financial reports which should be corrected, some involving costs which should be charged to the contract and have instead been charged to other budget line items.

The LCS staff has also stated that it would appreciate periodic meetings with the OAR/R staff, especially the AID Representative, to discuss both policy questions - such as use of the revolving credit fund - and implementation progress in general. The team therefore recommends that periodic project management meetings be initiated immediately for joint problem-solving, implementation planning and constructive group criticism.

B. Government of Rwanda - MINASODECO

Working conditions for the LCS staff at the ministry are far from ideal and should be improved immediately. Improved office space, access to full-time secretarial and filing

services and use of a telephone would greatly improve general office morale and job efficiency. Specifically, the evaluation team recommends that the LCS Project Director and the CLUSA Advisor be moved from the present, cramped office (shared also with the LCS construction supervisor) to a larger office with a telephone. Without a telephone, the LCS staff is unable to receive or send messages to the regional inspectorates, GRENARWA, OAR/R, etc. Job efficiency is greatly reduced by having to drive between offices and ministries, hoping to find the contact at his desk. The staff should also be provided with additional filing cabinets and storage space for office equipment and supplies. If, as recommended in the strengthened staffing pattern, MINASODECO assigns two full-time secretaries to the LCS office, one secretary should also be skilled in filing. The LCS staff now has little time to maintain an efficient filing system, and the project files are consequently in serious disorder. Document retrieval from the loose-leaf file folders is time-consuming at best.

The evaluation team has also observed that the dual responsibilities of the Director of Cooperative Action cum LCS Project Director are so great that attention to project implementation has suffered. The team recommends that MINASODECO consider a means to relieve the Director of some of his non-project related paperwork, perhaps through assignment of some of his tasks to other ministry personnel. In addition to having more time for field visits, the Director would also then be better able to follow up project-related communications through the Ministry's hierarchical chain of command. The example of the GOR's lack of response to PIL No. 3 concerning use of the revolving credit fund is cited by the team.

The LCS staff should also reassess requirements for additional supplies and equipment (such as calculators) to maximize the efficiency of field visits and audits of cooperative accounts. Many of the cooperatives' calculators are not working properly (and should be repaired at the cooperatives' expense) so the auditor must have his own calculator for site audits.

Lastly, as required in PIL No. 1, completed silos and warehouses should be marked with the AID logo.

C. CLUSA

Both OAR/R and the LCS staff have stated that CLUSA contract management is satisfactory. The CLUSA project manager in Washington visits Rwanda once or twice a year, and communications by telex, letter and telephone are efficient. Response-time is satisfactory.

July 9, 1982

REF: AID-221/82 .

Subj: Local Crop Storage Project
AID No. 696-0107
Implementation Letter No. 3

His Excellency the Minister for Social
Affairs and Cooperative Movement

72-11M1021-3

943-52-696-00-69-23

s/c His Excellency the Minister for --
Foreign Affairs and Cooperation
Kigali

Dear Mr. Minister:

This Implementation Letter is issued in accordance with Section 4.2. of the Project Grant Agreement for the Local Crop Storage Project, signed by the Government of Rwanda and the Agency for International Development on May 11, 79, as amended, and provides information on satisfaction of the condition precedent to disbursement of Grant funds for the Revolving Credit Fund. Section 4.2. provides that prior to disbursement of Grant funds for the Revolving Credit Fund, the Government of Rwanda, will submit to AID a detailed plan adequate to show, among other things, how the fund will be administered, the administrative cost of providing credit, terms for providing credit from the fund, anticipated default rate, and the mechanism and criteria for review and approval of specific loans.

As a basis to satisfy this condition precedent, the Project has funded a report dated March 1982, by GLUSA Agricultural Economist, W.H. Morris, entitled "The use of the Revolving Funds of the Agricultural Cooperatives (LCS) Project." The conclusions of the GLUSA report, summarized below, are acceptable to AID:

I. There are three types of activity on the part of the cooperatives requiring credit:

1. Purchase of beans and sorghum locally, storing them and selling them back to cooperators. Small sums also may be needed to fund purchases of other goods for a comptoir de vente.
2. In the case of a shortage of beans or sorghum, purchasing outside the commune for storage and sale to the cooperative members and others.
3. In the case of a surplus purchasing in the commune against a contract of sale outside the commune.

II. Credit for activities of local operations and "importing" beans into the commune will be provided by the LCS Project Loan Committee utilizing Revolving Credit Funds. Credit for the "export" activities may be obtained from the BP with a guarantee by the Ministry (MINASODECO) revolving credit funds in place of a "cosigner".

III. Procedures for providing credit are described in Annex I of the Report entitled "Loan Procedures". Any default will be the responsibility of the cooperative borrowing money. (The Annex I Loan Procedures referred to in conclusion III of the Morris Report are attached to this implementation letter.)

IV. The interest rate of export loans will be set by the BP. Import loans will be made at the same rate as export loans with no charge for the guarantee. Local operations will be financed at a rate up to 3% lower than the rate charged by the BP for export loans. The use of the guarantee fund will be negotiated prior to the beginning of each harvest season.

V. It is expected that the cooperatives will make a profit, particularly on their export operations, including coffee. This should make it unnecessary for cooperatives in food surplus communes to borrow for local activities or import after two or three at the most three years.

VI. Ultimately a legal entity is needed to be established to manage the Revolving Credit Fund in lieu of the Ministry. There are two alternatives--passing a special law of forming a union of cooperatives. The latter is recommended. It is permitted under the current (1966) law and is quite feasible.

It is the opinion of AID that the conclusions and Loan procedures of the Morris Report form an acceptable basis for satisfaction of the condition precedent for disbursement for the Revolving Credit Fund as required by Section 4.2. of the Project Grant Agreement, with the following refinements:

1. Prior to the formation of a legal entity to manage the revolving credit fund, the Ministry of Social Affairs and Community Development, Community Development Bureau for Financial AID which in the past has provided a window for credit such as this, will manage the revolving fund. As per Annex 1 (Morris Report) the loan committee of the revolving fund will initially be constituted of the Director of Cooperative Action, the CIUSA technical counselor, one LCS training officer and a cooperative representative. Three of the four constitute a quorum.

2. AID advances to the Ministry for loans to cooperatives would be processed through an interest free account. Such advances will be requested by the Ministry for loans falling within previously agreed upon criteria. LCS personnel of CIUSA within the Ministry would provide technical assistance to the Ministry with respect to these loans, as well as to assist the Ministry to comply with minimal AID monitoring and reporting requirements.

3. Wherever possible, loans to cooperatives from the Ministry's credit window will be by bank transfer occurring concurrently with an immediate credit need of a cooperative, and not by cash transfer.

4. Cooperative loan repayments, and BP loan guarantee payments, would be deposited by the Ministry into a separate interest bearing account managed by the Ministry - the Revolving Credit Fund - and would be available for additional relending to cooperatives (and for BP loan guarantees) under approved Project lending criteria.

5. Tranches of AID funding (up to \$400,000) would be completely processed through the Ministry's interest free account by the Projects PACD, as extended. Reloans and guarantees from the interest bearing Revolving Credit Fund account would continue so long as there is a need for this lending activity.

6. The total amount of guarantees to BP for "export loans" will not exceed the amount of available AID credit to the Ministry plus the total of loan repayments and BP guarantee payments in the Revolving Credit Fund, plus accrued interest.

7. For all cooperative loan activities AID requires semi-annual reports indicating the number and amount of loans made or guaranteed, the number and amount of defaults, the amount of loan repayments and BP guarantee payments into the Revolving Credit Fund, the present balance of that account, and the amount of available AID loan credit to the Ministry.

8. Should the management of the Revolving Credit Fund be transferred to another legal entity such as a union of cooperatives the Fund would not become the property of the union, but would rather be held in trust for cooperative lending. Upon the dissolution of the union of cooperatives the Revolving Credit Fund would revert back to the management of the Ministry.

9. Should there no longer be a need for the Revolving Credit Fund, the Ministry and the U.S. Embassy (if AID is no longer in operation in Rwanda) would mutually agree to the disposition of the revolving credit funds. Such disposition can be made for any purpose for which AID appropriations would be available.

You are requested to indicate your agreement to the terms and conditions of this letter by signing below and returning the original of this letter to AID. Such Agreement will constitute satisfaction of the condition precedent to disbursement set forth in Section 4.2. of the Grant Agreement. The date for satisfaction of this Section is hereby extended to Sept. 30, 1982.

Very truly yours,

Eugene R. Chiavaroli
AID Affairs Officer

Read and Approved:

For the Ministry of Social Affairs and Cooperative Movement

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NOTE CONCERNANT LE RAPPORT DE MISSION DU DR ELLI MORRIS

1. INTRODUCTION

La lecture du rapport pose des problèmes de compréhension, l'auteur n'étant pas familier de la langue française. Par ailleurs un certain nombre de propos sont attribués aux Banques Populaires, qui n'en reconnaissent pas la paternité.

Les Banques Populaires peuvent faire les propositions suivantes de collaboration :

2. LES CONDITIONS D'UNE COLLABORATION

2.1. Les conditions réalisables

2.1.1. Fonds de Garantie

Un Fonds de Garantie, dont la gestion pourrait être confiée à la BPR, et les avoirs déposés au BOBP devrait garantir les prêts octroyés aux silos coopératifs.

Sur ce point, le solde des avoirs du RID déposés en compte courant en banque (PCR) pourrait constituer une première dotation du fonds, si d'autres fonds ne pourraient être libérés facilement.

2.1.2. Personnel à disposition

Le personnel à disposition du Bureau National, de même que les agents d'encadrement devraient être plus stables, et ne pas subir des mutations entravant le bon fonctionnement de l'appui technique aux silos coopératifs (1)

(1) Voir Rapport CRID "Contribution à l'évaluation d'un projet de silos coopératifs au Rwanda", 1981, page 15.

2.1.3. Formation

La formation des administrateurs, des gérants paraît importante, pour la mise en place du crédit. Il semble que dans ce domaine les objectifs n'ont pas été atteints(1)

2.1.4. Gestion des silos

Les silos coopératifs sont parfois rattachés à des coopératives, un risque de confusion dans la gestion peut naître. Il paraît important qu'une comptabilité séparée des silos (Milan, Compte d'exploitation) soit faite, pour présenter des dossiers bancaires.

La fréquence du contrôle de la gestion devrait être déterminée pour garantir la bonne utilisation des crédits.

2.1.5. Garantie d'écoulement (stocks vivriers)

Outre le fait que les silos devraient pouvoir acheter les stocks de produits vivriers au meilleur moment pour bénéficier de prix du marché les plus favorables, et revendre à un coût incluant les frais de gestion (amortissement de l'infrastructure, salaire du gérant, frais administratifs, coût du crédit), des garanties d'écoulement devraient être apportées, si possible, pour soutenir les silos, dans le cas où ceux-ci auraient des difficultés à écouler (situation du marché défavorable) et rendant les silos coopératifs prioritaires pour l'écoulement lors des marchés d'approvisionnement lancés par l'état (Défense Nationale, Ministère de la Justice).

(1) Voir rapport CRID, déjà cité, page 15.

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2.2. Les objets à financer

Le rapport donne une série d'objets à financer (pages 5 et 6), parmi ceux-ci, nous considérons les suivants comme bancables, sous réserve de l'étude individuelle des dossiers :

- stockage de produits vivriers
- commercialisation du café
- imputs agricoles
- moulins à grains

D'autres objets paraissent exclus, comme le financement de véhicules (dont la gestion s'avère à l'expérience décevante), ou les bâtiments (magasins), pour ce dernier objet, il paraît préférable que le projet silos coopératifs libère les fonds propres nécessaires (parts sociales, cotisations), ce qui peut constituer une part de la garantie du prêt, (d'ailleurs aléatoire, la réalisation de la garantie en cas de non remboursement du prêt, ayant pour effet de mettre un terme au fonctionnement de la coopérative), qui peut cependant avoir un effet psychologique positif.

3. CONCLUSION.

La présente note a pour objectif de poser les bases d'une discussion avec le partenaire concerné (projet silos coopératifs) pour élaborer ensuite un document de base régissant la collaboration pour l'intervention des banques populaires dans le crédit aux silos coopératifs.

/BONP/24.6.82/P.Y./

Copie :

- Crédit
- Adjoint
- Conseiller à la Direction

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ANNEX I

LOAN PROCEDURES

The LCS revolving fund and the guarantee fund will be vested in the legal entity of a union of federation of agricultural general-purpose cooperatives.

A loan committee will be set up, probably comprising the Rwandan director of the LCS project (who is the Director of Cooperative Action), the project accountant, the project training officer, and the CLUSA or project technician.

The "Bilan" and the "Compte d'exploitation" which are supposed to be submitted regularly to MINASODECO, for three years, if the cooperative has existed that long, the grain stocks of the cooperative (kept-up-to-date monthly), and the credit history (a new form that is proposed), should all be available in the Ministry to constitute a full dossier. If they are not up to date they should be updated, before the application is discussed.

The loan application form, as proposed by the project staff, should be completed and signed by the "Conseil de Gestion" or a majority of its members. The "encadreur cooperative," the prefectural inspector of cooperatives, or the supervisor, should assist the cooperative to complete the form or assure that it is completed correctly. The form should state the interest rates at which funds are available, as laid out in the text of this report. The form should be suitable for application for credit at the "Banque Populaire." The LCS project staff will assist in assuring that the dossier for the loan is complete and correct.

If the loan exceeds five times the social contribution of the cooperative at the time it is requested, the 1966 law, Article 24, and Article 3 of the "Arrêt Présidentiel", No. 46/06 of 16 February 1967, requires that the Minister approves the loan. This must be carried out if necessary, or the loan is not legal and default cannot be the subject of a law suit.

The credit committee will have regular meetings and act promptly on loan requests. A representative of the cooperative is encouraged to be present and may present the case. Any failure to repay a loan shall be considered as a reason to deny the application for another loan. Delayed payments shall also be taken into account.

The decision on the loan will be communicated through the supervisor to the Cooperative, the local inspector and the commune encadreur.

The credit committee should consider, with the BP, whether it needs to consider applications to the BP that require guarantee or whether it will respect the BP's decision and automatically guarantee all loans which the BP approves. Where the credit is to be provided by a revolving fund, the money will be paid and repaid through banking channels, and not through movement in cash.

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Annex I
Page 2

The supervisor of the cooperative is required to follow up on all loans made or guaranteed with the project funds and to report on the status regularly. To reduce the risk, local operations loans will be cleaned up in a timely way; that is, any grain and beans that are not certain to be sold to cooperators will be sold to other buyers (i.e. GREMARIA) before it becomes too old. This have to be done even if its means taking a loss.

Import transactions will be funded only for 2-3 months, to ensure that the grain or beans are sold as soon as possible after arrival. Holding imported produce for several months becomes speculative.

The project has the responsibility to follow-up on late payment, or delinquent loans involving the OP. While the objective of the project is to build cooperatives, its objective is also to build financial responsibility and to help cooperatives to graduate out of the need for project loans and guarantees. Delinquencies should, where possible, be turned into a delayed payment situation. As a last recourse, legal means of settlement may be used. Any loans written off must be notified by the project technician to USAID.

ANNEX V

CONTRACT BETWEEN THE LCS COOPERATIVE SILO
PROJECT AND THE PARTICIPATING COOPERATIVE

(Loan Fund Contract)

Between the Cooperative LCS Silo Project and the Cooperative

_____ of the Commune _____ the following is agreed:

1. The Silo Cooperative Project contracts to lend the sum of _____ designated for the Cooperative _____ solely for the purchase of sorghum for the needs of the cooperative members and the local population.

2. The repayment of the capital and interest will begin from the first day of the month in which the Cooperative Board of Directors decides to sell the sorghum purchased with this loan. The duration of the repayment will be a function of the length of time it takes to sell the sorghum.

3. Without contradicting the first article, the objective of the loan is for the purchase of sorghum produced by cooperative members and non-members who will have already stored in the silo a certain quantity of their own sorghum to cover the inter-harvest period.

4. The Cooperative _____ contracts on its side to:

- a. pay .6675 FRW interest per kilo sold;
- b. assure that articles one and three of this contract are respected;
- c. not use these loan funds to pay its manager, guard or others;
- d. guarantee the loan by assuring an impeccable management of the cooperative and the grain storage facility.

5. The use of a part or whole of the sum of the ^{loan} ~~loan~~ for any other purpose than that herein specified will result in the immediate and automatic annulment of this contract, requiring immediate repayment of the entire amount of the loan to the LCS Project.

6. The cooperative must inform the project office each month on the use

of the money and the progress of purchases and sales.

(date)

For the Cooperative

(address)

(date)

For the LCS Project

Kigali, Rwanda

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**Terms of Reference
For
A Survey of Rwanda's Food Marketing Structure**

I. Objectives

Thanks to rainfall patterns and topography, farms in Rwanda are able to make a wide variety of fresh produce available to the market throughout the year. However, on account of these same rainfall patterns and topography, Rwanda is divided into a number of ecological zones each with its particular agricultural cycle and its particular range of crops. This means that different zones have different crops available for sale at different times of the year.

Different crops follow different market chains from field to consumer. A distinction appears to be made between more perishable produce and less perishable produce. More perishable produce such as cauliflower, lettuce, tomatoes, cucumbers, etc., travels relatively short distances to market. It is brought to market by the producer or his or her agent. It is generally sold to a market retailer for cash. The retailer thereupon sells it to a consumer or, in some cases, to an intermediary who will take it to a nearby area for resale.

Less perishable produce such as Irish potatoes, beans, maize and green bananas may come from considerably greater distances. Insofar as it does, it passes through the hands of one or more intermediaries before being presented for retail sale. The particular less perishable crops that pass through the hands of intermediaries vary from region to region according to what is grown locally. In Kigali, Irish potatoes and beans are the major items that must be shipped in from some distance. They are sold in shops not in market stalls.

A survey of Rwandan food marketing structure is being undertaken for several reasons. First, insofar as a market operates efficiently and demand for a commodity remains high, it will generate a supply response. Market structure and activities are, therefore, linked to such national goals as increasing overall food production and to raising the incomes of food producers. Secondly, an understanding of the structure and function of the market will highlight sources of inefficiency which may or may not prove susceptible to remedial intervention.

II. Scope of Study

A) **Small Farmer Marketing Access** - The survey will analyze what portions of a producer's production is allocated to family food needs, to repay debts, to cash sales, to gifts. It will analyze under what conditions the producer makes these allocations. It will undertake a survey of storage, storage strategies and pricing systems at the producer level. It will examine the use of production inputs at the producer level and the ways in which employment of inputs influences marketing decisions. Producer situations in several ecological/topographical zones will be sampled.

B) **Price Mapping by Crop** - In order to test the efficiency of the

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market, data will be gathered to permit the mapping of prices for several different crops. Data will be continuously gathered on a biweekly basis in several sample zones around the country. A transport cost analysis will have to accompany the price maps in order to evaluate their results. /

C) Market Flows by Crop - The survey will analyze data available through its own efforts and through the efforts of other on-going surveys in Rwanda to estimate quantities of different food stuffs flowing through the markets under the climatic conditions of a given year.

D) Market Channels and Market Hierarchies by Crop - The survey will gather data on the routes taken by different crops from producer to consumer by selected ecological/topographical zone. It will map the hierarchy of Rwandan periodic and daily markets by selected ecological/topographical zone.

E) Market Actors and Margins - The survey will analyze the different roles played by actors in the marketing system. It will determine the margin per transaction per crop for these actors. It will estimate the gross annual sales for actors per crop.

III. Tasks to be Carried Out in the Study

The Team for the Rwanda Food Marketing Structure Survey will perform the following tasks:

A) Analyze data on the structure of production and disposal of production available through the Agricultural Survey and Analysis Project of the Ministry of Agriculture.

B) Analyze data on consumption patterns available through the Family Budget and Consumption Survey of the Ministry of Plan.

C) Analyze data on quantities of produce marketed per crop in selected markets.

D) Assess the economic efficiency of the present system of food marketing in Rwanda.

E) Determine the costs of the present marketing system including costs of transport under several options.

F) Identify areas of inefficiency in the system.

G) Make recommendations for interventions that address the question of improving the efficiency of the present system.

IV. Quantitative Data Sought by the Study

A) Production and consumption data for different crops in different areas.

B) Prices of different crops at different markets on a biweekly basis.

C) Quantities of different crops traded by producers.

Consumption by crop in different areas.

Estimates of the cost of production of different crops.

F) Cost of transport per kilometer per ton under various options.

G) Costs of storage under various options.

H) Margins per trader according to the role he/she is playing in the system and annual gross revenues according to role.

V. Issues to be determined

A) Numbers of markets to be selected

B) Crops to be selected

C) Contracting mechanism

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Executive Summary

Rwanda Local Crop Storage Project

(696-0107)

1. What constraints does this project attempt to overcome and who does it constrain?

The dual goals of the Local Crop Storage Project (696-0107), authorized March 9, 1979, for \$2,867,000, are to increase farm family incomes in participant communes and to increase food availability to small farmers throughout the year at more stable prices. There are three main constraints to the attainment of these goals. They are: 1) the lack of an effective and efficient food storage and marketing system that benefits the small farmer; 2) regional and seasonal price variations that are disadvantageous to the small farmer; and 3) unnecessary crop losses due to improper storage methods used on both family farms and in cooperative silos. By easing these constraints, it was estimated in the PP that, from these operations, a single cooperative, serving 1,500 to 2,000 families and through its effect on local market prices, would increase global farmer income in an average commune by nearly \$46,000 per year by the fifth year of the project.

The primary impact of the project on local commerce has been the opening of new commercial options to producers and traders at all levels. In this sense, the project has given a boost to local private enterprise. It has given a group of less well-off producers and small-scale traders access to reliable, long-term storage in a way that does not tie up their capital resources. These two groups of market actors had previously been excluded from marketing operations which required long-term storage. The effect of the LCS project, therefore, has and will continue to increase competition in grain markets.

2. What technology does the project promote to relieve this constraint?

In this project three types of technology are used to relieve project constraints. They are: 1) the development and operation of storage and marketing cooperatives; 2) the introduction of improved on-farm and cooperative silo/warehouse storage techniques; and 3) the introduction and use of improved insecticides, through cooperatives, after research on the effects of local insecticide use was carried out. This technology is being transferred to the small farmer and the managers of the storage and marketing cooperatives through training and extension services. Project training attempts to assure that the grain storage warehouses constructed under the project will be operated and managed properly. This training has been conducted at several levels under the general direction of the GOR project manager and AID-financed project advisor. Extension agents did not receive formal training under this project since they had previously been trained by MINAGRI.

3. What technology does the project attempt to replace?

Through the introduction of improved on-farm and cooperative silo/warehouse techniques, attempts are being made to reduce crop losses. At present

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crop storage losses from insect damage and moisture loss are less than 5% under traditional storage techniques. However, it appears that theft is still a significant problem. Properly managed silo and warehouse storage can - and has at most of the LCS and CGS cooperatives - reduce insect and moisture losses to almost zero. Furthermore, it has also eliminated losses from theft.

The development and operation of storage and marketing cooperatives will reduce small farmer reliance on trader set prices. Before the opening of LCS and CGS cooperatives, trader prices in the commune had been kept artificially low because of the trader's position as the only buyer. Moreover small farmers are routinely cheated on weight estimates of their grain when both selling to and buying from private traders. This problem has been addressed by introducing systematic and reliable weighing procedures at the LCS cooperatives.

4. Why do project planners believe that intended beneficiaries will adopt the proposed technology?

Economic incentives seem to be the motivating force in the adoption of this new technology. The project concept of the cooperative--a place where farmers can store their grain at harvest, receive a small margin above the going market price, buy it back later in the year during the soudure (gap between harvests) at somewhat lower-than-market prices and in the interim receive a cash loan--seems to be valid and is accepted by farmers. This is indicated by the fact that most LCS cooperatives in their first year of operation used all of their available revolving funds to buy grain. Still, only five LCS cooperatives are now functioning; they have traded through only one complete buying and selling campaign; and the level of their marketing activities is limited by very restricted working capital. More experience, therefore, is needed before a definitive judgment can be made on the acceptability of the revolving fund concept.

5. What characteristics do the intended beneficiaries exhibit that have relevance to their adopting the proposed technology?

Although the education level of many of the Rwandan small farmers is not very high, they have been quick to take advantage of the newly introduced technology. This high adoption rate is shown by a cooperative membership which averages between 1,000 to 2,000 people. Rwandan farmers are familiar with the concept of cooperative action, often joining together spontaneously for specific endeavors, such as house construction. Therefore, their familiarity with collective action has given the Rwandan farmer a useful historical precedent on which the cooperative movement has built.

6. What adoption rate has this project or previous projects achieved in transferring the proposed technology?

The economic incentives proffered by this project have been primarily responsible for the project's high technology adoption rate. Currently, there are eight CGS cooperatives in operation and it is expected that twenty to twenty three new LCS cooperatives will be in operation by late 1983, raising

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the LCS total to thirty by the end of 1983. Hopefully, by the project's completion in 1987, fifty cooperatives will have been built and will be functioning. At present this goal seems attainable.

7. Will the project set in motion forces that will induce further exploration of the constraint and improvements to the technological package proposed to overcome it?

The GOR's objective is to establish a grain and storage cooperative in each of Rwanda's 143 communes. In addition the establishment of a union, or regional unions, of cooperatives has, from the beginning of the project, been envisioned as a logical step in the cooperative movement in Rwanda. These unions could serve as a communication linkage between member cooperatives (including non-LCS cooperatives) and GREANARWA for commercial networking. Currently, several unions have already been formed and future union development can be expected to occur naturally. Finally, due to high level of impact which this project has had, AID plans to continue project support over the long-term.

8. Do private input suppliers have an incentive to examine the constraint addressed by the project and come up with solutions?

The project's greatest positive impact has been on strengthening the private sector in rural Rwanda. The LCS program has opened up the possibility of new commercial operations to a large body of market actors. Also since the LCS cooperatives are actors in the private market, they can, and often do, sell agricultural inputs and other merchandise which is bought from private suppliers and resold to cooperative customers. Merchandise purchases have included: farm tools; improved varieties of seeds; grain flours; clothing; soap; candles and other small consumer items.

9. What delivery system does the project employ to transfer the new technology to intended beneficiaries?

Project execution is based around three distinct components: construction, training and research. Training is an essential element in the delivery system of this project, without which there would be no assurances that the grain storage warehouses constructed under the project would be properly managed and operated. This training has been conducted at several levels (i.e., the national, prefectural, communal and cooperative), and when combined with public spirit campaigns, to reach out to the small farming household, have proven to be very effective in assuring sound project implementation.

To improve storage techniques, a delivery system has been developed which provides for on-the-job training of cooperative managers and warehousemen. An extension program is also planned that will work through the cooperatives to reach the general membership by means of exhibitions and demonstrations. Insecticide sales are also provided for through the cooperatives.