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THE NATIONAL AGRICULTURAL CREDIT BANK OF UPPER VOLTA
(CAISSE NATIONALE DE CREDIT AGRICOLE)
-- AN APPRAISAL OF ITS ORGANIZATION AND POLICIES

by

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ACRONYMS

AID	Agency for International Development
AVV	Autorité des Aménagements des Vallées des Voltas (Volta Valley Authority)
CFJA	Centre de Formation des Jeunes Agriculteurs (Young Farmer Training Center)
CNCA	Caisse Nationale de Crédit Agricole (National Agricultural Credit Bank)
DAI	Development Alternatives, Inc.
F CFA	Francs CFA = exchange rate on November 4, 1980 = 1\$US = 220 F CFA
GF	Groupelements Féminins (Women's Groups)
GV	Groupelements Villageois (Village Groups)
ORD	Organisme Régional de Développement (Regional Development Organization)
SNCA	Structure Nationale de Crédit Agricole (National Agricultural Credit Structure)
SWID	Strengthening Women's Roles in Development
TWIS	Training of Women in the Sahel (ORD)
USAID	United States Agency for International Development

INTRODUCTION

The National Agricultural Credit Bank (C.N.C.A. -- Caisse Nationale de Crédit Agricole) of Upper Volta was established and began operations on August 21, 1980. It was created to provide an effective vehicle by which the rural majority could receive credit efficiently. It is expected to sustain the flow of rural resources (both inputs and output) without depleting its funds and still assuring the viability of the credit system.

The U.S. Agency for International Development had several rural credit programs operating at the time the author did this study in Upper Volta. These included the Eastern ORD agricultural credit program, AFRICARE/Segueniga, Strengthening Women's Roles in Development, Training of Women in the Sahel (ORD), and the Village Development Fund of the Volta Valleys Authority (AVV -- Autorité des Aménagements des Vallées des Voltas). Besides these on-going projects USAID/Ouagadougou has new credit projects in the planning stage. All these credit funds (from both the on-going and the projected projects) could conceivably be handled by the newly created CNCA.

Development Alternatives, Inc. (DAI) was contracted by USAID/Ouagadougou to perform an appraisal of the organization and policies of the CNCA. This appraisal was done by the contractor in Upper Volta (October 27 to November 23, 1980) and in Washington, D.C. (November 24 to December 4, 1980) through a

review of documents about the CNCA (Annex A) and interviews with USAID and CNCA administrators (in Ouagadougou) and field agents (from each of Upper Volta's 11 ORDs) (Annex B).

The report of this appraisal is organized as specified in the DAI-AID/W PIO/T (No. 625-00024 and A #1) as follows:

1. Training;
2. Financial Viability;
3. Management Practices;
4. Rural Savings;
5. Consumer Credit;
6. Appropriateness of Bank Policies in Meeting National Development Objectives; and
7. Current Capabilities.

BACKGROUND ON THE CNCA

After three of years of functioning as the National Agricultural Credit Structure (SNCA -- Structure Nationale de Crédit Agricole) the CNCA was officially established as a legal bank of Upper Volta on August 21, 1980. Through the CNCA the rural people of Upper Volta will receive loans from a legalized bank rather than -- as in the past -- from a government administrative unit, the Ministry of Rural Development.

The CNCA will be providing short-, medium-, and long-term rural credit to ORDs, village groups and individuals. It will enlarge the list of acceptable loan purposes from the traditional seasonal agricultural production inputs and animal traction packages by adding also loans for orchards, beef fattening, poultry farms, irrigation systems, small tractors, rural artisan projects, group loan projects, agricultural marketing, agricultural equipment, and food processing.

The CNCA will attempt to standardize for the entire country of Upper Volta the rural credit terms of loans, lending and repayment procedures, and system of accounting. It will establish one uniform credit policy which will apply to all ORDs rather than different policies in each ORD as before.

CNCA will try to coordinate all projects (large and small) for rural credit from all international donors and

domestic sources. Likewise it will provide continuity and sustain the lending activity after the end of one source of funding and before the beginning of another.

The CNCA wants to stop ORDs from using rural credit funds for meeting ORD operating expenses (paying salaries, repairing vehicles, buying gasoline, etc.) by placing rural credit money in bank accounts separate from ORD accounts.

CNCA will try to solve the problem that farm input suppliers were having of receiving payment from ORDs very late. CNCA will pay suppliers directly and charge these payments off as loans to ORDs.

Three-Phased Process by Which CNCA is becoming Established

The CNCA is becoming established through a three-phased process -- the preparation, the transition, and the permanent phases. The first, the preparation phase, was the phase in which it functioned as the National Agricultural Credit Structure (SNCA -- Structure Nationale de Crédit Agricole). This phase lasted three years and was used to prepare for the second phase. On August 21, 1980 the first phase ended and the second phase began. On this date the SNCA became the CNCA.

On August 21, 1980, the CNCA began functioning as a legitimate bank. The CNCA will operate in this second, the transition phase, and gradually evolve into its third, the permanent phase, of its establishment. The differences between Phase II and

Phase III are summarized as follows:

<u>Phase II</u> <u>The Transition Phase</u>	<u>Phase III</u> <u>The Permanent Phase</u>
CNCA credit to and through ORDs without terms of agreements between CNCA and ORDs signed.	CNCA credit to and through ORDs under terms specified in long-term contracts between CNCA and each ORD.
Credit administered in each ORD by an ORD-supervised credit bureau. Salaries of this three-person bureau are paid by the ORD.	Credit administered in each ORD by a CNCA-supervised credit agency. Salaries of this three-person agency are paid by the CNCA.
CNCA credit funds in each ORD held in a branch of a commercial bank.	CNCA credit funds in each ORD held by an agency of the CNCA.
CNCA credit funds disbursed by checks cosigned by ORD director and credit bureau chief in each ORD.	CNCA credit funds disbursed by checks cosigned by CNCA agency chief and CNCA accountant in each CNCA agency.
Three-person credit bureau in each ORD reports to ORD director.	Three-person credit agency in each ORD reports to CNCA administrators in Ouagadougou.
CNCA credit flows through ORDs and unofficial village groups to village group members.	CNCA credit flows through CNCA agencies in each ORD to officially recognized village groups which are legal entities themselves.
Controlling credit from funds managed by ORDs before CNCA was established.	Controlling credit from funds managed by CNCA and started after CNCA was established.
Handling CNCA credit accounts by hand accounting system.	Handling CNCA credit accounts by computerized accounting system.
No savings accounts.	Savings accounts.
No teller service.	Teller service.
No checking accounts.	Checking accounts.

Main Differences Between Old and New Credit Systems

Before CNCA was established each ORD was giving rural credit. There are several notable differences between the old and new systems that should be mentioned. The new system under the CNCA will:

- Keep credit funds separate from ORD funds and in a separate bank account;
- Establish credit agencies at each ORD with administrative autonomy from the ORD;
- Take check signing authority for credit funds from the ORD directors;
- Systematically collect orders for factors of production from farmers through local, regional and national credit committees;
- Use local committees to prepare bulk loan requests, regional committees to advise on these loan requests and a credit committee at CNCA headquarters to give final approval to these requests;
- Use local committees to collect loan repayments;
- Make loans in kind to the ORDs who will relend in kind to village groups;
- Pay suppliers for factors of production before they are delivered to the ORDs;
- Increase the number of purposes for which rural credit can be given;
- Sign an official working agreement with each ORD; and
- Receive loan repayments from rural credit projects started before CNCA was established.

Strong Points of CNCA that are Starting to Become Evident

Based on impressions made during the time devoted to this exercise, the following features of the CNCA appear to be strong:

- CNCA is starting small. It has a small portfolio (initial capital of only 1,300 million F CFA or about 6 million U.S. dollars), and a small staff (see Annex C). It is introducing

changes gently and evolving toward its permanent phase slowly. It is maximizing its use of the experience ORDs have had in administering credit, by continuing to use the ORD field staff to distribute and collect loans.

- CNCA is preventing the ORDs from using rural credit funds for purposes other than giving rural credit by moving these funds away from the ORD accounts. This action will encourage ORD directors to find sound long-term solutions to meeting their recurring cost obligations.
- CNCA credit is complementing the ORD objectives of promoting rural agricultural production, distribution of agricultural equipment, and improving social and economic conditions of the rural population by providing credit for these purposes through a system which is fully integrated within the existing ORD structure.
- The local, regional, and national credit committees being created by CNCA will provide the structure needed for a decentralized loan approval and collection system. The regional committees (one in each ORD) should strengthen the overall program of the ORDs by making credit the central focal point around which to focus ORD programs of planning, technical assistance, provision of inputs and marketing.
- The CNCA system for assembling orders for factors of production -- in which local committees take responsibility for distributing the orders they themselves have assembled -- should improve the accuracy with which quantities of inputs delivered conform to the amounts required. In other words, losses to the ORDs from overordering agricultural production inputs should be reduced. The timing of these orders should improve the timing of delivery of inputs.
- By having CNCA pay suppliers of inputs directly -- rather than having these suppliers collect directly from the ORDs -- suppliers' liquidity problems will be reduced and they should be more highly motivated to make deliveries on time.

These are some of the more obvious strengths of the CNCA that are starting to emerge. Caution, however, should be taken

to deal with problems that could emerge as presented in the following parts of this report.

OBSERVATIONS ON SELECTED ASPECTS OF CNCA

In the short time spent by the author on this appraisal exercise certain observations were made. These are presented under the topics listed in the introduction to this report.

Training

CNCA has a training center which has responsibility for all aspects of training for the personnel handling CNCA loans. Three separate one-month training courses have been given to date to the three groups -- (1) credit bureau chiefs from each of the 11 ORDs; (2) 11 credit agents; and (3) 11 credit accountants. This was a first round of training that concentrated heavily on the theory of economic development, the theory of money and banking, the basic organs used in creating and running the CNCA, and an introduction to lending procedures and accounting systems. Besides these three separate one-month courses, a one-week course was given to the 11 credit bureau chiefs and the 11 credit agents jointly. This course was given in the field with practical experience on how to organize and use local and regional committees in ordering factors of production for the coming crop season. This field training was very practical and useful to the agents attending. It is this latter type of practical training that should be developed in succeeding training courses. It is recommended that this practical training be presented in a manner that is appropriate for cascade training

in which those receiving the training repeat the same course to the next level below them and so on until the farmers themselves are reached. If this type training is conducted then the topics covered in the training should be topics of practical importance to borrowers. Examples of topics that can be included in such a borrower-oriented cascade-type training are shown in Annex D.

CNCA represents a new approach to rural development in which the factors of production are made available to the rural population on credit and through the structure of the ORD. Though the mutual complementary -- of CNCA for the ORD program and the ORDs for the CNCA program -- may be obvious to most observers, there is the risk that some ORD administrators or employees may see the CNCA as a threat to their personal vested interests. The training program of the CNCA would do well to help ORD administrators and employees appreciate fully the positive aspect of this complementary relationship between the CNCA and the ORDs. Specifically ORD directors will need help in viewing positively their loss of control over credit funds. Likewise, extension agents will need help in viewing positively the loss of their responsibility for handling loan repayment money.

Financial Viability

Financial viability of the CNCA refers to its ability to achieve financial equilibrium. In other words, is the CNCA likely to achieve a state of financial self-sufficiency in which revenue exceeds costs?

CNCA administrators were asked what criteria are considered to be most important in determining the interest rate to be charged for loans from CNCA. There was a consensus that the following criteria are used:

- CNCA's costs of lending;
- The wishes of the donors of funds;
- Rates being charged by other institutional lenders; and
- Interest rate ceiling imposed by the Government of Upper Volta.

Other criteria that were asked about but found not to influence CNCA's interest rate were:

- Setting an interest rate that would clear the financial market;
- Rates being charged by informal lenders; and
- Rate of return expected from the investments made with the credit. This influences term of loan but not the interest rate.

Cost of Lending

Achieving financial viability was found to be an important policy of the CNCA and the means for achieving it is to strive to have revenues exceed the costs of lending. Revenues come from interest collected on loans given. Costs to be covered by these revenues include:

- The inflation rate on owned funds or the discount rate on borrowed funds;
- Cost of operation of the CNCA:

- Rent of buildings and equipment
- Utilities
- Salaries, premiums, commissions and indemnities
- Office supplies
- Transport
- Computer services
- Losses from loan default
- Reserve for building capital base of CNCA.

The CNCA plans to set its interest rate three percent above the discount rate. CNCA administrators hope that this three percent margin will cover the full cost of administering CNCA credit incurred by both CNCA (two percent) and the ORD's (one percent).

After the credit bureaus in each ORD become CNCA agencies the CNCA will pay the salaries of the three persons in each of these agencies from its two percent. However, until that time the ORDs are expected to pay the salaries of these three persons making up the ORD Credit Bureau from its one percent. It is recommended that the ORDs' costs of administering credit through their credit bureaus be monitored carefully to see if one percent is in fact enough to cover the costs that the ORDs will incur, including:

- The salaries of the three members of the credit bureau;

- The salaries of the credit agent in each sector of the ORD;
- A portion (at least one-tenth) of the salaries of all sector chiefs, subsector chiefs, and extension agents involved in giving and collecting loans;
- The cost of running the computerized system of accounting;
- Commissions to agents based on loan repayments received;
- Transportation costs incurred by ORD personnel in administration of credit;
- Rent of ORD office space and equipment for the credit program; and
- Use of ORD utilities and office supplies for the credit program.

If it is found through this monitoring procedure that the one percent allocated to the ORDs is not enough to cover their full cost of lending, then it may be necessary to reverse the percentages going to the ORDs and CNCA from one percent and two percent, respectively, to two percent and one percent. This could be continued until the CNCA agencies are created in each ORD and CNCA starts to pay the salaries of the three persons in each CNCA agency. It is important that ORD directors be encouraged to budget enough to cover their costs of operation. Consistent with this, those costs associated with the credit program should be paid from credit funds.

It has been suggested that the ORDs' portion of the interest rate might be increased to two percent at first, if necessary. It may also be useful to consider ways of reducing costs to the

ORDs in administering credit. An obvious way of reducing costs is by giving fewer loans. This could be done without reducing the number of persons served by requiring all individuals requesting loans to do so as a part of a consolidated group loan. This would have the following additional advantages:

- Efficiency in collecting orders for factors of production, distributing credit and collecting loan repayments would be increased.
- The loans could be guaranteed by the unlimited liability of the group.
- Variable cost of the computer services would be reduced.

Consistent with CNCA's policy of easing into the new system of credit gradually, it is recommended that no loans go to individuals and that individuals should go through village groups to get their loans from CNCA.

The number of employees in the CNCA is still modest (see Annex C). However, the CNCA should be alert to a tendency for a new bank of this kind to engage more employees than are necessary to do the job and more than the institution can afford and still remain financially viable. By using the field agents of the ORDs the CNCA may be able to avoid this danger.

It was reassuring to the authors to sense a cost-consciousness on the part of CNCA administrators and what appeared to be a genuine interest in making the CNCA a financially viable institution. If revolving fund projects are set up correctly from

the beginning there are no recurring costs not covered by interest income. This is clearly the intent of CNCA administrators.

Cost of Dormant Capital

Just as unlent money is dormant capital, likewise, undistributed seeds and fertilizer are dormant capital, and equipment in storage is dormant capital.

Most CNCA loans will be in kind to ORDs with payment going directly from the CNCA to the suppliers of the inputs. The loan dates for the ORDs start the day the CNCA pays the suppliers. The ORD relends this capital (in kind) to village groups. The loans to the village groups begin the day the inputs are delivered. As the time between the date the ORDs receive their loans and the date the village groups receive their loans increases, the cost of dormant capital for the ORDs increases proportionately. This becomes a major cost to ORDs which are holding equipment from one year to the next. The solution to this problem seems to be in eliminating the ORDs as holding depots for inputs. If local committees prepare accurate requests for the inputs needed by village groups in their areas, then deliveries can be made directly from suppliers to local committees, relieving the ORDs of their costly holding role. This would require timing and accuracy in ordering factors of production until now unknown in Upper Volta and an understanding on the part of village group presidents that when they have signed a request for factors of production, they have made a commitment to receive these factors of production when delivered and a commitment to

take responsibility for repayment of the loans thus received. The strong effect of committing GVs to amounts they have ordered (thereby removing the risk of losses from overordering by ORDs) may be lost if ORD agents revert to the old practice of estimating orders for factors of production.

Subsidized Interest Rates

The current policy of the CNCA is that interest income should cover the full cost of lending. One argument is that all farmers (rich or poor) should be charged the interest rate needed for the lending institution to cover its full cost of lending and that any subsidy going to the farmers should be in the price of the factors of production but not in the interest rates.

Another argument is that the borrowers can get credit at a subsidized interest rate and the lender can receive an interest rate high enough to cover its full cost of lending and the difference would be paid by the same source which would have paid the subsidy on the price of the inputs mentioned above.

Both arguments have shortcomings. In the first, ORD directors find it awkward to have inputs being distributed at different prices -- the subsidized price and the non-subsidized price. In the second, a low interest rate attracts all borrowers -- especially the rich, who are more aware of current rates of interest being charged by all sources of credit than the poor -- with the risk that credit intended for the poor could be consumed by the rich.

The recommendation advanced here is that whatever method for administering subsidies is adopted it should be clearly identified and understood by the lender. Also, the necessary precautions should be taken to be sure that the subsidies get to those for whom they were intended.

Repayment of Loans

Repayment of loans affects financial viability directly. Institutions with low loan repayment rates suffer twice: first, from loss of the interest payments needed to pay for the costs of lending, and, second, from loss of the basic capital.

Various ways of measuring loan repayment rates are presented in Annex K. Causes and cures for low repayment rates are also discussed in the same annex. In essence, Annex K is saying that the lending institution itself can do much to improve loan repayment rates. For example, if animal traction packages are complete and working, loans for this purpose have a much higher probability of being repaid than if they are incomplete or if the traction animals have not been adequately trained.

Annex K also refutes the notion that small farmers are the high risk borrowers. When properly supported and properly informed of loan repayment dates and amounts, small farmers repay. It has been the experience of the authors of this report from work in other countries that problems of loan delinquency are greater among the wealthy and politically influential borrowers than from small farmers.

Management Practices

The observations on the management practices of the CNCA are reported here under the following subtopics: (a) procedures (lending, repayment, insurance, decentralization, and operation of the credit bureaus); (b) terms and conditions of loans (loan amounts, loan purposes, term, interest rates, down payments, repayment schedule, eligibility, and loan guarantee); (c) accounting and statistical reporting; and (d) preventing corruption.

Procedures

Lending Procedures. CNCA will assemble loan requests annually through a four-tiered structure of loan committees. First village groups will take loan requests from the members of each group. Second, local committees will assemble requests from village groups. Third, regional committees will collect and review consolidated requests from local committees. Fourth, the CNCA national loan committee will act on mass requests received from each regional committee.

Ideally, local committees should hold their annual meeting no later than November 15 to assemble loan requests from village groups. CNCA would like for one of these local committees to be organized in each extension unit and be composed of the ORD subsector chief, the extension agent for that extension unit, the credit agent from the credit bureau (if possible), and the president of each village group in the extension unit. Besides assembling loan requests these local committee meetings are

used to remind village group representatives of the responsibilities of the village groups in (a) distribution of the credit -- in cash and in kind -- and (b) in collection of loan repayments after the harvest. These two responsibilities of the village groups need to be stressed more often than just once a year. First, when a village group places a request for factors of production on credit they need to understand clearly that they are committing themselves to accepting delivery of these inputs directly from suppliers -- this removes the storage losses ORDs have experienced in the past; and second, the unlimited liability aspect of lending to individuals through village groups is the main form of loan guarantee that the CNCA asks for on its loans.

After all local committees have submitted their loan requests to the credit bureau of the ORD, the ORD director presides over a regional credit committee meeting before the end of November. This committee is composed of the ORD director, the national credit service chief from CNCA headquarters, all ORD sector chiefs, and the chief of the ORD credit bureau. If this meeting is properly prepared for and seriously conducted it can be potentially the most important meeting held by the ORD director each year for planning the program needs for the coming crop year for not only credit and quantities of each factor of production but also the program needs for personnel, storage (of both inputs and output), transportation (of personnel, inputs and output), pricing and marketing interventions, and technical training for extension agents.

CNCA has also provided for the possibility of individuals by-passing both the village group and the local committee to place a request directly to the regional committee for large projects such as tractors, orchards, poultry farms, beef fattening, and food processing plants. (More will be said about this procedure under the section titled "Appropriateness of Bank Policies in Meeting National Development Objectives.") Though the structure of the CNCA allows individuals to give loan requests directly to the regional committee, this is not the procedure preferred by the CNCA administrators. They prefer to have individuals place their loan requests through their village group.

CNCA is installing a system in which village groups register the loan requests of each of their members on a loan request form. An example of the form used for requesting animal traction loans appears in Annex L. This form has two sections. The left side of the form is for listing orders for the various components of the animal traction package. The right side is for noting an estimate of the borrower's production in the year just ended. This production information is valuable but the current system being followed by local committees is not making effective use of this information. Therefore, it is recommended that these production estimates be used in the economic analysis proposed in the "training" section of this report, an example of which appears in Annex I.

The importance of holding local committee meetings before November 15 and regional committee meetings before November 30

cannot be overemphasized. Orders placed after these dates risk not being delivered in time for use during the production season. Factors of production which are delivered late are of little or no help to the borrower and the production increases needed for repaying the loan on time are not there.

Repayment Procedures. Under the old system some ORDs have had a problem with their procedures for collecting loans. Loans were collected from borrowers by extension agents and turned in to the ORD cashier via the subsector chiefs and the sector chiefs. The problem had been in the embezzlement of this money by extension agents. It is recommended that extension agents continue supervising loan collections without handling the cash. This should be done by having the treasurer of the village group collect loan repayments from individual members of the group. These treasurers should then pass this money on to the CNCA bank account at the ORD via the subsector chief and the credit agent at the sector level (or, in his absence, the sector chief). This would have the effect of impressing on the village groups their responsibility for enforcing loan repayment and reducing the number of ORD employees handling cash.

All loan repayments should be recorded in a receipt book with pre-imprinted consecutive page numbers with the original copy going to the person making the loan repayment. This is an effective means for controlling repayment receipts handled by ORD agents.

One of the disappointing features of village groups has been the slowness with which they have accepted their unlimited liability for the repayment of all loans received by their members. CNCA should recognize this and take steps, first, to fully inform village groups of their responsibility in this respect and, second, to give the village groups the full responsibility of collecting loan repayments.

Insurance of Traction Animals. CNCA is establishing an insurance fund for replacing traction animals which die (FGMB -- "Fonds de Garantie Mortalité Betail"). The procedure will be to collect ten percent of the value of the traction animal purchased on credit at the time the loan is made as the insurance premium for the first year. Another ten percent would be collected each following year until the loan is paid off. In the author's opinion this will be an excessively burdensome task for ORD agents and credit bureaus and could be avoided entirely by adopting the practice already followed in Upper Volta's eastern ORD -- that of including the value of all insurance premiums in the amount of the loan. Insurance premiums would then be collected with loan repayments without distinction and without additional work by ORD agents.

Decentralization. It was noted that there is the possibility for an individual to by-pass the village group and the local committee and make his request for an individual loan directly to the regional committee and -- according to one source -- directly to the national credit committee at CNCA head-

quarters. This is centralization of loan approval authority as opposed to decentralization. It is decentralization that is being recommended by the author of this report. Ultimately the CNCA should allow decentralized loan approval authority to the extent that strong village groups (see criteria for distinguishing strong from weak village groups in Annex M) could make loans (of amounts under a ceiling set by CNCA) directly to their members who satisfy criteria imposed by the village group itself (see the example of criteria that village groups could set for loan approval in Annex J).

A policy by CNCA to decentralize its loan approval authority would be consistent with another of its policies, namely, that of minimizing administration costs by employing the smallest number of employees needed for the CNCA to function efficiently.

Credit Bureau in Each ORD. The ORD credit bureaus (later to become CNCA agencies) are made up of three persons: (1) a bureau chief; (2) a credit agent; and (3) a credit accountant. The responsibilities of this credit bureau consist of preparation of the loan requests for the rural population of the ORD, distribution of credit, controlling the use made of the credit, and collecting loan repayments. Specific duties of the three members of the credit bureau are listed in Annex N.

It is recommended that the efficiency of operation of these credit bureaus be maximized through deliberate policies and actions by CNCA to: (1) decentralize loan approval and loan

collection authority; (2) computerize accounting and statistical reporting system (this point will be discussed further in the section titled "Accounting and Statistical Reporting"); (3) establish tight, clear, and fair techniques for controlling CNCA money yet making that money easily available for meeting production needs of the rural population; (4) establish a system of receiving "feedback" from CNCA clients along with the flexibility to allow CNCA to incorporate good new ideas into its policies; (5) motivate CNCA bureau personnel to work well -- and long hours when necessary -- by paying fair salaries, on time always, and with extra premiums for superior work; and (6) support CNCA with the equipment, supplies, vehicles and fuel needed to do their work without delays.

Terms and Conditions of Loans

The CNCA is committed to providing short-, medium-, and long-term rural credit to ORDs, village groups and individuals. It is expected to standardize rural credit terms and conditions for the whole country.

Loan Amount. Though the Director General of the CNCA can approve individual loans for no more than five million F CFA, loans for more than this can be made with the approval of the administrative council. The CNCA has no stated policy for the minimum amount for which a loan can be made. It is recommended that the policy followed in the Eastern ORD be adopted in this regard. In the Eastern ORD no loans for less than 5,000 F CFA

are given. Farmers who wish to receive a loan for less than 5,000 F CFA are obligated to make their application as a part of a consolidated group loan the total of which is for at least 5,000 F CFA.

Loan Purposes. The limited list of loan purposes for which ORDs were extending credit under the old system -- animal traction and seasonal crop production inputs -- has been lengthened by CNCA. CNCA will give loans for (1) factors of production -- fertilizer, seed, pesticides, and fuel; (2) equipment -- traction animals, soil cultivation equipment, buildings for production purposes, forests and orchards, irrigation, drainage, poultry, beef cattle, tractors, processing equipment for agricultural products (food preservation, oil press, rice huller) and rural artisan enterprises (leather tanning, dying, weaving, pottery); and (3) marketing of agricultural products -- purchase of stock, transportation and storage. Housing loans are not given except if the houses are an integral part of the agricultural enterprise. Also credit for accessories for animal traction (yokes, harness, chains and row markers) will not be given by CNCA as it was in the past by the ORDs.

It is recommended that credit for cereal banks be added to the list of loan purpose possibilities. It is also recommended that tractor loans be given very cautiously in the beginning with heavy emphasis on the importance of a realistic economic analysis (Annex I) before the loans are approved.

Loan Term. The CNCA policy is to give loans for the following terms:

- Short-term -- up to two years -- for seasonal production inputs such as seed, fertilizer, pesticides and marketing loans.
- Medium-term -- two to ten years -- for loan purposes such as animal traction, beef fattening, and poultry production.
- Long-term -- ten to fifteen years -- for loan purposes such as orchards and forests.

It is recommended that the expected rate of return on the investment be used to determine the precise term of a loan. For example, if loans for fertilizer are expected to be repeated every year for a borrower and the rate of return on the investment in fertilizer is equal to or greater than the interest rate then a loan term of one year is appropriate. On the other hand, if loans for cereal banks are not expected to be repeated and the borrowers are expected to sustain the project after the life of the loan, then the term of the loan should be long enough that the return on the investment will both replace the capital and pay the interest. In this case a return on the investment of at least 31 percent a year could sustain a loan term of five years. The 31 percent would cover both the interest rate (11 percent) and replace the capital (20 percent for each of the five years). Likewise, lower rates of return on investments need longer loan terms and higher rates of return can support shorter terms.

Just as it is recommended elsewhere in this report that cost of lending serve as the basis for setting the interest rate, and flow of income be used as the basis for setting the frequency of repayment, it is recommended here that rate of return on the investments be used to set the loan term.

Interest Rates on Loans. As pointed out earlier in this report in the section on "Financial Viability," CNCA will set interest rates to cover costs of lending. The basic guidelines being used currently by the CNCA to set interest rates are as follows:

- For short-term loans:
 - To borrowers whose total indebtedness to all sources of credit is 30 million F CFA or less, the interest rate is the preferred discount rate (currently 8 percent plus 3 percent (to cover costs of lending -- 1 percent to the ORDs and 2 percent to CNCA) for a total annual interest rate to the borrower of 11 percent.
 - To borrowers whose total indebtedness to all sources of credit exceeds 30 million F CFA, the interest rate is the normal discount rate (currently 10.5 percent) plus 5 percent (to cover cost of lending) for a total annual interest rate to the borrower of 15.5 percent.
- For medium- and long-term loans:
 - To borrowers whose total indebtedness to all sources of credit is 30 million F CFA or less, the interest rate is the preferred discount rate (8 percent) plus 3 percent (to cover costs of lending) for a total annual interest rate to the borrower of 11 percent. This rate will not take effect until the 1982 crop year. For the 1981 crop year the total annual interest rate to borrowers of medium- and long-term loans will be 9 percent.

- To borrowers whose total indebtedness exceeds 30 million F CFA, the interest rate is the normal discount rate (10.5 percent) plus 5 percent (to cover costs of lending) for a total annual interest rate to the borrower of 15.5 percent.

For marketing loans the interest rate is the preferred discount rate (8 percent) plus 2 percent (to cover costs of lending), for a total annual interest rate to the borrower of 10 percent.

It is recommended that the progressive character of this interest rate policy be maintained in which borrowers of larger amounts of credit are charged progressively higher interest rates. This will be discussed further in the section on "Appropriateness of Bank Policies in Meeting National Development Objectives."

Down Payments on Loans. Current CNCA policy requires a 10 percent down payment on the value of an animal traction and other medium- and long-term loans and 15 percent on marketing loans. No down payment is required on short-term loans.

In view of the possibility that this 10 percent down payment requirement may discriminate heavily against the poorest farmers it is recommended that CNCA consider adopting the practice followed in the Bougouriba (Diébougou) ORD. There, no animal traction loan was given for more than 100,000 F CFA. Though no down payment was required, it was in effect required of those buying animal traction packages which cost more than 100,000 F CFA. The amounts of the down payment was the amount by which the investment exceeded 100,000 F CFA. Small farmers

requesting loans of 100,000 F CFA or less made no down payments.

Loan Repayment Schedule. Generally, for all loan purposes, loan repayments are due once per year after the crop harvest (which takes place from September to November) but before March 31. While this is appropriate for most loan purposes related to the crop production cycle, there are loan purposes for which this loan repayment schedule is not appropriate. For example, loan projects which give a continuous flow of income -- such as artisan projects, village stores, and grain mills -- should repay on installments falling due more often than only once per year -- perhaps as often as once per month for certain types of loan projects. It is recommended that the loan repayment schedule conform strictly to the timing of the flow of income resulting from the loan project.

Under the old system medium-term animal traction loans were given a one-year grace period before borrowers were expected to begin repaying loans. This grace period has been eliminated from the new animal traction loans given by CNCA. It is important to mention the reason for having this one-year grace period under the old system. This was to give the borrower an extra year to get his animal traction package completed, get the animals trained and have every possible chance of realizing an increase in agricultural production before the first repayment installment was due. While it clearly reduces the amount of

interest the borrower has to pay if the year of grace can be avoided, it is also necessary for the lender to be quite sure that the animal traction package is complete, trained, and working effectively before that one-year grace period is eliminated.

Eligibility for Loans. CNCA will give loans to:

(1) individual crop or livestock farmers, fishermen, rural artisan or entrepreneur in agricultural related enterprises; (2) groups; (3) private societies; and (4) ORDs.

Administrators of the CNCA have expressed their intent to give preference to loan requests received from groups over individuals. For reasons discussed further under sections on "Preventing Corruption" and "Appropriateness of Bank Policies in Meeting National Development Objectives," it is highly recommended that the CNCA should in fact do as their administrators have stated they intend to do -- give preference to loan requests from groups over individuals.

Loan Guarantees. CNCA accepts the following tangible forms of guarantees for its loans:

- Co-signature of another person who has tangible assets;
- The harvest of the borrower's crops;
- Chattels; and
- Real estate.

It is recommended that small farmers worthy of credit but unable to provide any of the tangible assets listed above be allowed to substitute intangible forms of guarantee such as:

- The unlimited liability guarantee of the village group of which he is a member;
- Reputation among his neighbors;
- Number of years of farming experience;
- Previous loan repayment experience;
- Willingness to cooperate with the ORD extension agent;
- Crop diversification on the borrower's farm; and
- Results of income estimates as determined on the economic analysis of the project for which the loan is being requested (Annex I).

Accounting and Statistical Reporting

The CNCA is in the process of creating a normal hand system of handling the accounts and providing the statistics necessary for the credit system at CNCA headquarters and ORD-level credit bureaus. The author of this report has participated in the installation of a similar hand system for keeping the accounts and producing the statistical reports for the rural credit system in the Eastern ORD of Upper Volta. The problems of accuracy, speed, and amount of work required to produce useful and regular results were so great in the Eastern ORD that the hand system was rejected and a computerized system for doing this work was installed, tested, refined and put in continuous operation. A description of this computerized management system appears in

Annex O. It appears senseless for the CNCA to incur the time, work, expense and unsatisfactory results that will surely characterize the tedious, hand system of accounting and statistical reporting being installed when this could be avoided. To avoid this it is recommended that CNCA adapt and adopt the computerized system already tested and tried and ready to do the job for them (see Annex O).

The adoption of a system of computerized management is recommended as a means of: (1) providing basic statistical reports (on number of loans given, amount loaned, and repayment progress); (2) reminding each borrower of his loan situation and amount due to be repaid; (3) recovering lost loans; (4) stopping embezzlement of funds by loan collecting agents; (5) providing working tools for extension agents in their follow-up of loans; (6) reducing accounting reports to be filled in by credit agents at all levels, and (7) calculating commissions to be paid to ORD and CNCA agents based on loan repayment.

The tasks that can be performed by the computer are mentioned above. These tasks are presented in greater detail in Annex O. In addition to these there are additional programs that should be written to handle special needs of the new rural credit system being installed by the CNCA. New programs need to be written to:

- Assemble requests for factor of production requests;

- Managing the traction animal insurance account. At the end of each fiscal year the computer could calculate the net profit it has earned from its animal insurance fund and then distribute the profits according to some formula such as:
 - 25 percent to a national (underwriters-type) CNCA insurance account;
 - 75 percent to those who have paid insurance premiums but not benefited from the replacement of an animal because of the good care they gave their animals to keep them alive.
- Calculate interest charges on a daily rather than an annual basis.

Parenthetically, if extension agents are relieved of their old task of collecting loan repayments, it is recommended that they continue to receive the computer-calculated commissions based on loan repayments as an incentive for them to:

- Continue giving many sound loans;
- Give the technical assistance needed to make the loans productive and repayable; and
- Organize loan repayments (even though they have no further responsibility for receiving the repayment money).

If administrators of the CNCA feel it is too difficult to install this computerized system in the whole country at once then it is recommended that the Eastern ORD be followed by the Volta Noire ORD, the AVV, and the USAID SWID and TWIS accounts. This approach would be a second preference. The first preference would be to install the computerized system in the whole country at once, immediately.

Preventing Corruption

Other agricultural credit banks in other countries have experienced growing corruption at higher and higher levels of the bank structures as the banks grow older. This corruption takes many forms, such as:

- "The open drawer" policy in which the person requesting a loan is expected to drop a little "something" into the open drawer of the administrator deciding on his loan request.
- Influential people who have "agricultural" loans with repayments overdue are able to have the due dates overlooked by exchanging a "favor" with an administrator of the bank.
- "Kickbacks" in which a percentage of a loan is given back to a bank administrator in exchange for his favorable decision on a "borderline" loan request.
- Loan funds intended for low income farmers that end up in the hands of wealthy people who have other possible sources from which they could borrow money.
- Gifts of cash or farm products given to loan officers on farm visits when considering a loan request.
- Embezzlement of loan repayment funds by loan collection agents.
- Local leaders can apply political pressure on loan committees to encourage them to give a favorable decision to the loan request of a friend.

To prevent corruption of these or other kinds from creeping into the CNCA it is recommended that the CNCA:

- Give loans exclusively to those who make their applications through village groups of which they are a member. Individuals who are not

members of village groups should not be allowed to by-pass any link in the chain of command from village group to local committee to regional committee to national committee to executive committee of the CNCA to administrative council of the CNCA.

Keep political administrators off the regional committees. Keep the structure of the regional committee as proposed by the CNCA and presented here in the section on "lending procedures."

Rural Savings

CNCA administrators generally agree that eventually savings deposits will be accepted but no date was mentioned for starting this banking service. Opinions differ on the savings potential that exists in the rural population of Upper Volta. These opinions range all the way from very little savings potential to very great. Those who hold the latter opinion base their judgment on rumors of cash and jewels hoarded and held in rural homes and cattle, sheep, and goat herds that can be seen all around the country. Cattle are kept in Upper Volta for one or more of the following reasons: (1) as a productive and profitable capital investment; (2) as a form of security to be sold only in an emergency; and (3) for prestige. In light of this, liquidation of cattle to make savings deposits is a rational economic feasibility only to the extent that reasons (1), (2), or (3) above are not earning at least the savings interest rate for the owner. If returns from investments and hoardings in the form of cattle are lower than the savings interest rate, then it can be reasonably argued that this is an important source of savings for Upper Volta. Otherwise it is not.

Assuming that there is a savings potential in Upper Volta from one source or another then CNCA should establish a savings program. The following possibilities are recommended for consideration:

- Savings deposits and withdrawals should be available to the rural people of Upper Volta:
 - At a convenient location;
 - At a convenient time;
 - Free from excessive formal and time-consuming procedures.
- Mobile banks for the purpose of receiving and disbursing savings could be used to follow the weekly markets around the country.
- CNCA might encourage the establishment of credit unions by offering small loans on a matching fund basis (for example, 10:1 -- that is for each 1,000 F CFA put up by a village group, CNCA would match it with a loan of 10,000 F CFA). Once started these credit unions would, of course, receive savings deposits.
- Savings deposits could earn variable interest rates according to the length of time for which the deposit was committed. Demand deposits would earn less than long-term deposits.

Consumer Credit

CNCA does not give credit for consumption per se. Its loans are for production purposes only.

The authors wish to advance the argument that in the same sense that fuel for tractors and feed for traction animals are productive loan purposes so, then is food for labor. There is also the notion of "fungibility" to consider. Fungibility is

the condition in which credit for one thing (for example, for hiring farm workers) frees up the money that had been used for this purpose from the farmers own funds in the past. The credit for this purpose allows him to use his own money (that would have been used for the thing purchased with credit) for consumer goods.

The recommendation that is made with regard to consumer credit is to accept the fact that a clear distinction between what are consumption and what are production uses of credit is hard to make. The more important things in assuring loan repayment are (1) the intangible forms of loan guarantee (discussed above in the section on "Loan Guarantees") offered by the borrower; (2) credit support services offered by the ORD and CNCA (see Annex K); (3) prospects for the borrower to market his products at fair prices; and (4) the signature of the village group president (representing all members of the village group) on the borrower's loan request form.

It is not recommended that CNCA give loans for consumption beyond that which is needed to sustain farm workers in good physical working condition.

Appropriateness of Bank Policies in Meeting National Development Objectives

The Government of Upper Volta's stated long-term objectives are food self-sufficiency, reduction of under-employment, and access of all Voltaics to such basic human needs as water, health, and education.

ORDs have the following objectives:

- The promotion of rural production;
- Equipping the rural population for production;
- Promotion of social and economic well-being of the rural population.

The basic thrust of the CNCA is observed here in the context of these national development objectives. These observations will be presented under the following subtopics: (a) serving the poor; (b) choice of loan purpose; (c) capital absorption capacity; and (d) lending through village groups.

Serving the Poor

Recognizing that the rich of Upper Volta already have a wide choice of lending institutions from which they may obtain loans for agricultural and non-agricultural investments, a credit institution was needed to serve the needs of the poor. Before CNCA was created the agricultural credit needs of the poor were being served by the Ministry of Rural Development.

In the section above on "Terms and Conditions of Loans" it has been noted that new policies with regard to animal traction credit will take effect on loans from CNCA. Significant among these new policies are:

- The interest rate on animal traction loans will increase from 5.5 to 11 percent per year;
- A 10 percent down payment will be required -- this will be increased to 20 percent eventually;

- Insurance premiums against the death of traction animals will increase from 750 F CFA per donkey per year and 1,500 F CFA per ox per year to 10 percent of the purchase price of the animal per year (the price of donkeys is about 15,000 F CFA and oxen about 40,000 F CFA per head).
- Credit for animal traction accessories (yokes, harness, chains, and row markers) will be discontinued.

Each of these changes represents an added burden to the borrower but the poor feel these the most. Looking at these changes one by one, the following is recommended:

- Charge progressively higher interest rates for progressively larger loans, taking care always to assure enough interest income to cover costs of lending.
- Limit animal traction loan size to some fixed amount (perhaps 125,000 F CFA) and charge no down payment. For animal traction packages costing more than 125,000 F CFA the borrower would pay the difference from his own sources which would in effect become a down payment for the larger farmers but not the smaller.
- By using traction animal mortality rates, adjust the insurance premiums downward to the amount which is just enough to cover costs.
- Allow accessories to be included in the animal traction package paid for from credit.

There is the possibility that a disproportionately high percentage of the CNCA funds could eventually be in loans to wealthier individuals more than to the poorer members of the rural population who are in need of such funds.

- Preference be given to loan applications from village groups over individuals;
- A ceiling be set on the loan amount one person can borrow;
- A ceiling be set on the percentage of CNCA's total loan portfolio that can be used for loans to individuals;
- That all loan requests pass through the full chain of command from village group to local committee to regional committee to national credit committee to the executive committee of the CNCA to the administrative council and that no individual be allowed to by-pass any lower level in this chain of command. (This does not contradict the principal of decentralization in which lower levels can approve loans under a given loan ceiling without consulting higher administrative levels in this chain of command.)

CNCA has a policy of not loaning to ORDs which are not financially solvent. This policy will cause farmers in these ORDs to not have access to credit through their ORD. Farmers in these ORDs especially should have access to credit through their village group in which the CNCA loans directly to the village group by-passing the ORD as intermediary.

Certain development projects wish to subsidize the poor farmers. This can be done through the CNCA in two ways, either (1) distribution of inputs with subsidized prices but at a full interest rate, or (2) distribution of inputs with full prices but at subsidized interest rates. The arguments for and against each of these alternatives are presented in the section above on "Subsidized Interest Rates."

Upper Volta has young farmers training centers (CFJA -- Centres de Formation des Jeunes Agriculteurs). It is recommended that CNCA make animal traction credit available to students of these centers for use and training at the centers during their last year of the program if:

- Their father is a member of a village group;
- The loan request is co-signed by the father and passes through the father's village group.

Choice of Loan Purpose

The loan purposes approved by CNCA should be consistent with national development objectives: (1) the expected rate of return on the investment should be high (this is discussed further above in the section on "Loan Term"); (2) unemployment, under-employment and seasonal unemployment should be reduced; and (3) technology appropriate to the relative abundance of capital, labor, land, management, and government resources should be promoted (for example, labor-intensive versus labor-saving investments should be clearly distinguished).

It has already been recommended in the section on "Training" (with an example in Annex I) that an economic analysis be made on projects before loans are made to determine the return that can be expected from investments. More imagination is needed to search for really high return investments that can be promoted by CNCA.

~~It is alarming to observe that very often in Upper Volta,~~ investment projects are approved based on production increases expected from extending the land area farmed more than from intensifying production on existing land areas. This may be possible in the short run but not in the long run.

Capital Absorption Capacity

USAID had learned from its experience with credit programs in Upper Volta that simply making capital available for credit does not of itself guarantee that that capital will in fact be absorbed. While one school of thought argues that capital absorption is low because the effective demand for capital is weak, the author has rejected this argument for Upper Volta and argues instead that capital absorptive capacity is low because of deficiencies within the credit distributing institutions. The elements needed in an institution to enable it to absorb large amounts of capital through rapid, sound, and collectable loans to small farmers are listed in Annex P.

Lending Through Village Groups

In the absence of national legislation to give legal status to village groups the CNCA has decided to use the legal entities of the ORDs as intermediaries through which CNCA gives loans to village group members. In this capacity ORDs are charged with distribution of credit and collection of loan repayments through its credit bureaus.

In the future, after village groups have been given legal status CNCA will be able to give loans directly to village groups through CNCA agencies at each ORD.

In spite of the temporary awkwardness of giving loans indirectly to village groups through the ORDs, it is recommended that the CNCA should not reduce its efforts to serve the village groups and should not shift its efforts instead toward individuals (who can borrow directly from CNCA). This emphasis on lending through village groups is recommended so as to:

- Achieve greatest efficiency in serving the largest number of small farmers when collecting orders for factors of production, distributing loans, and collecting loan repayments.
- Avoid corruption (see discussion in section above on "Preventing Corruption").
- Benefit from the effects of unlimited liability of the village group for the loans of each of its members.
- Reduce the variable cost of the computerized accounting and statistical reporting system which varies with number of loans registered. This number is reduced when individual loans are consolidated into one loan for a whole village group.

Article Number 15 of CNCA's "Projet de Convention d'Ouverture de Crédit" provides for lending to co-signers of a loan in which each party signing the loan has equal responsibility for repaying the loan. It is felt by some, but not all, of the CNCA administrators that this article can be interpreted broadly and expanded to include more than two co-signers. If this is true

CNCA would not have to wait for national legislation making legal entities out of village groups before CNCA could give loans directly to village groups. It is recommended that this broader interpretation of this article be used and CNCA start lending directly to village groups classified as strong by the criteria listed in Annex M.

Current Capabilities

USAID/Ouagadougou is interested in shifting all the loan funds from its present and future rural credit projects into one Voltaic bank. The author has examined four of the current USAID rural credit projects and written reports on them as follows:

- The Agricultural Credit System of the "Eastern ORD" of Upper Volta -- Final Report -- June 1977 through July 1980.
- Credit Consultancy Report on AVV, Upper Volta's Oncho Freed Areas "Village Development Fund" -- August 14 - September 24, 1980.
- Credit Consultancy Report on "Training of Women in the Sahel (ORD)" Credit (Revolving Fund) Activity -- September 25 - October 10, 1980.
- Credit Consultancy Report on "Strengthening Women's Roles in Development" Credit (Revolving Fund) Activity -- October 11-26, 1980.

As the analysis of these four projects progressed the question was no longer "if" but rather "when" could these USAID rural credit accounts be transferred to the CNCA. Following are some of the issues that will influence the precise date "when" each USAID rural credit account can be moved to the CNCA.

The Eastern ORD USAID rural credit project has been giving animal traction loans since 1976. Repayments from these loans started in 1978 and are continuing. As CNCA moves in to the ORDs of Upper Volta there is a question of how will money from repayments from on-going projects such as USAID's Eastern ORD project be handled. It is recommended that this project be transferred to CNCA through a formal transfer agreement signed by the Eastern ORD, USAID and CNCA. This transfer agreement should show the financial position of this account (assets-liabilities = net worth) on the date the account is transferred. Included in the assets would be the loan repayments receivable. From that date forward, all loan repayments received would be deposited in the CNCA-controlled account for that project. The same procedure should be followed for all projects transferring their accounts to the CNCA.

The Oncho Freed Areas Village Development Fund (VDF) revolving fund credit account is under the Volta Valley Authority (AVV) which is within the Ministry of Plan. Since CNCA is governed by an administrative council which is made up of the Ministries of Plan, Finance and Rural Development the transfer of this VDF account to the CNCA should be smooth. However, it is recommended that the VDF account not be transferred to the CNCA until all rural credit accounts of the AVV are transferred at the same time.

The Training of Women in the Sahel (ORD) (TWIS) revolving fund credit account is within the Ministry of Social Affairs and

Women's Affairs. To avoid resistance to the transfer of this account out of this ministry it should be emphasized that the money is not being transferred to the Ministry of Rural Development but to the CNCA which is serving the interests of all ministries of Upper Volta. The TWIS project operates in the Sahel (Dori) ORD only. There is no branch of any commercial bank in Dori that could hold a CNCA-controlled TWIS account. Therefore, it is recommended that the office of the National Treasury in Dori be used like a branch bank to hold this account. The Sahel ORD credit bureau should aid TWIS project personnel in distributing and collecting loans.

The Strengthening Women's Roles in Development (SWID) revolving fund credit project operates in four ORDs -- Bougouriba (Diébougou), Est (Fada), Centre Est (Koupela), and Centre Ouest (Koudougou) -- through the ORD structure. Though this project will end in September 1981 the credit fund will continue to revolve and should be controlled by CNCA. There was a question as to whether or not an additional service charge could be added to CNCA's interest rate to cover additional costs of administration that this revolving fund might incur after the project ends in 1981. Though the answer from CNCA administrators was not "absolutely no," it does not seem wise to ask CNCA to start a policy of allowing different credit projects to add different service charges at will. This author concurs with the CNCA's desire to have a uniform interest rate and service charge for all projects which have accounts controlled by CNCA.

All four of the USAID projects discussed above are currently charging interest rates below the 11 percent they will be expected to charge after they are transferred to CNCA. The ORD de l'Est rural credit project charges 5.5 percent and VDF, TWIS, and SWID charge 8 percent. Before these accounts can be transferred these project agreements will have to be amended to allow the 11 percent interest rate to be charged.

Except for the interest rate each project will be able to retain its unique features under CNCA control -- for example, unique features with regard to characteristics of borrowers to be served, loan purposes, geographic areas, and group vs. individual specification, can all remain unique to each project.

The transfer of these accounts to CNCA becomes, in effect, a grant from the people of the USA to the people of Upper Volta with these funds being held, controlled and accounted for by CNCA. How then, would CNCA use the 11 percent annual interest that it receives on these funds? The first 8 percent is held to cover the inflation rate on F CFA in Upper Volta, 2 percent is to cover CNCA's costs of operation and 1 percent is to cover each ORD's costs connected with administering these credit funds. Arguments for reversing this 2 percent/1 percent distribution until CNCA credit agencies are established are presented in the section above on "Cost of Lending."

All project sponsors will take comfort in knowing that CNCA will serve as a custodian of credit revolving funds even after

the projects end, taking full responsibility for distributing
credit, collecting repayments and controlling and reporting
each project's accounts.

SUMMARY OF MAJOR RECOMMENDATIONS

The major recommendations of this report are as follows.

- CNCA administrators should take special care to not lose sight of their "viability of the institution" objective -- in which, total annual revenue exceeds total annual costs.
- Use cost of lending to set the interest rate.
- Use expected rate of return on investments to set the term of loans.
- Use flow of income patterns to set the repayment schedule.
- Adopt a computerized system for managing the credit fund -- to produce statistical reports and produce data needed in doing the accounting.
- Distinguish clearly between centralized and decentralized loan distribution and collection procedures. Decentralize loan approval authority by allowing strong (see Annex M) village groups use their own criteria (Annex J) to approve loans (of less than an amount fixed by the CNCA) and distribute these loans without consulting a higher administrative authority.
- Introduce a cascade-type training program to credit agents aimed at reaching borrowers. Add topics of practical use to borrowers such as how to do an economic analysis estimate before requesting a loan (see Annex D).
- Expand on Article Number 15 of existing "Projet de Convention d'Ouverture de Crédit" (authorizing CNCA to lend to co-signers of a loan) to allow CNCA to begin at once to give loans directly to groups without having to wait for national legislation which will make legal entities of village groups.
- Take necessary steps to avoid corruption of the CNCA: Require borrowers to not jump any link in the chain of command for getting a loan request approved (starting with the village group); limit size of loan an individual can take; limit per-

centage of CNCA total portfolio that can be loaned out to individuals; and charge progressively higher interest rate on larger loan amounts.

- Officially transfer old revolving fund credit accounts to the CNCA project-by-project rather than by one blanket decree that all loan repayments received by an ORD after a certain date must be turned over to the CNCA.
- Until CNCA starts paying salaries of personnel in credit bureaus (later to become CNCA agencies) switch the proportions of the interest rate for the CNCA and the ORDs to 1 percent for CNCA and 2 percent for the ORDs.
- Help village groups to understand that a request for factors of production signed by the village group president is a commitment on the part of the village group to not only accept the full amount that was ordered but to take responsibility for the repayment of this loan.
- Add the animal insurance premiums to the loan amounts at the time the loans are given.
- Complement program of Young Farmers Training Centers (CFJA) by making animal traction loans available to students in their last year of training.
- Introduce savings accounts.

LIST OF DOCUMENTS REVIEWED ABOUT THE CNCA

- CNCA -- Training Manual for Bureau Chiefs, Credit Agents and Accountants
- CNCA -- Projet de Convention D'Ouverture de Crédit
- CNCA -- Abrégé de Calcul des Intérêts à L'Aide de la Table Violine
- CNCA -- Constitution
- CNCA -- Mise en Place des Bureaus de Crédit Agricole des Structures Régionales de Développement
- CNCA -- Règlement Général de Crédit
- CNCA -- Instructions pour le Crédit
- CNCA -- Les Crédit Agricoles de Masse
- CNCA -- Les Crédit D'Approvisionnement en Facteurs de Production
- CNCA -- Le Crédit de Collecte et de Commercialization Primaire des Produits Agricoles
- CNCA -- Statuts
- CNCA -- Etude de Factibilité pour la Création de la Caisse Nationale de Crédit Agricole (CNCA0)

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ANNEX B

LIST OF PERSONS INTERVIEWED ABOUT CNCA

LIST OF PERSONS INTERVIEWED ABOUT CNCA

Tiao, Charles - CNCA Director General

Meyer, Richard - USAID-Ouagadougou Mission Director

Melevan, Emerson - USAID/Ouagadougou Assistant Mission Director

Zoghby, Samir - USAID/Ouagadougou Rural Development Office
Director

Thomas, Howard - USAID/Ouagadougou Human Resources Office
Director

Coulter, Carey - USAID/Ouagadougou Program Office Director

Smith, James - USAID/Ouagadougou Program Economist

Favarel, R. - CCCE Technical Advisor to CNCA Director General

Barbe André - CNCA Chief of Research and Credit Service (from
CNCA/France)

Ouédraogo, Rasmane - CNCA Deputy Chief of Research and Credit
Service

DuBois - CNCA Chief of Administrative and Finance Service
(from CCCE)

Koalaga - CNCA Deputy Chief of Administrative and Finance Service

Peytavin - CNCA Chief of Control and Management Service (from
CCCE)

Iao, Bernard - CNCA Controller

Paré, Benjamin - CNCA Controller

Rohmer, Alain - CNCA Chief of Training Center (from CNCA/France)

Kibora, Ada - CNCA Deputy Chief of Training Center

Lompo, Luc - Director of Eastern ORD

Botoni, Bernard - Director of Volta Noire ORD

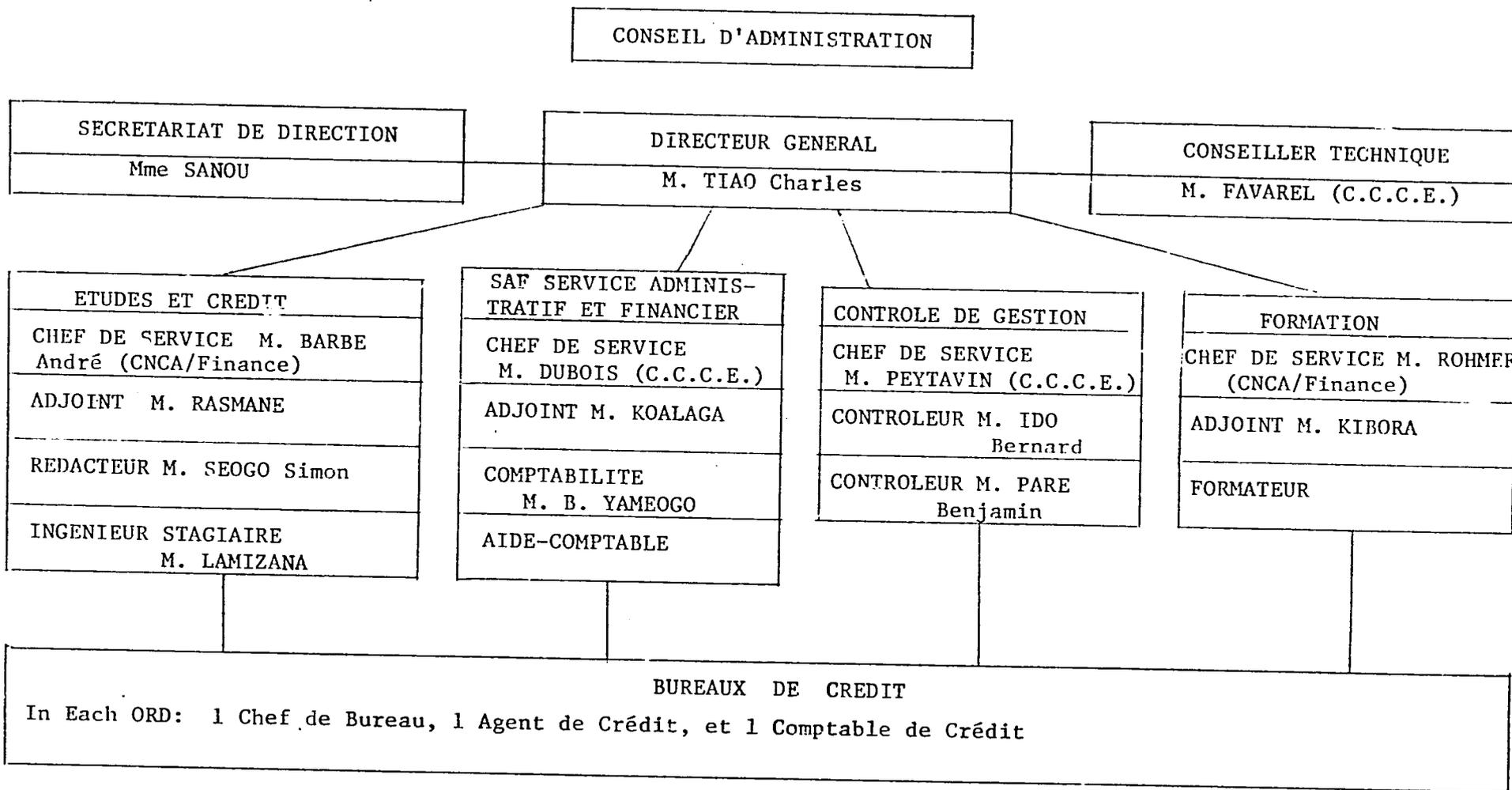
Ouédraogo, Abdoulaye - Director of Yatenga ORD

Eleven Credit Bureau Chiefs from all eleven ORDs

Eleven Credit Agents from all eleven ORDs

Three Credit Accountants from Eastern, Volta Noire and Yatenga
ORDs

PROGRAMME D'ORGANIGRAMME



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ANNEX D

EXAMPLES OF PRACTICAL TOPICS THAT CAN BE TAUGHT
THROUGH CASCADE TRAINING

ANNEX D

EXAMPLES OF PRACTICAL TOPICS THAT CAN BE TAUGHT
THROUGH CASCADE TRAINING

1. Procedures for decentralizing loan approval authority:
 - Setting up local committees; and
 - Collecting requests for factors of production.
2. Develop a calendar of work in which all steps in distribution and collecting loans are carefully timed and scheduled.
3. Simplified systems of accounting that can be used on each loan:
 - Running balance on each loan account (see example in Annex E);
 - Journal of receipts and expenditures (see example in Annex F);
 - Profit and loss statement (see example in Annex G); and
 - Functions an accounting system should perform (Annex H).
4. Elementary principles of business management:
 - Economies of buying and selling in bulk;
 - Providing the market with what is demanded, where and when it is demanded and in the form and amounts demanded.
 - Price elasticity of demand; and
 - Avoiding saturated markets.
5. Estimating costs and returns that can be expected from investments for which loans are being requested. (See "Exemple de Analyse Economique pour Calcul du Plafond de Credit," Annex I).

6. Responsibility of village group regarding repayment of loans by members of the group:
 - What do village groups understand to be their responsibility for repayment of loans from requests signed by the village group president; and
 - What action would a village group take with regard to borrowers who are delinquent in loan repayment.
7. Reasons for loan down payments:
 - Reduces loan amount;
 - Gives borrower a stronger sense of ownership; and
 - Serves as proof of sincerity of borrower and improves his credit worthiness.
8. Helping local committees to establish their own criteria with which to judge loan requests (see example in Annex J).
9. Teaching literacy in numbers to villagers responsible for keeping the accounts on loan projects.
10. Calculating the cost of holding inactive capital.

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ANNEX E

FDV LOAN ACCOUNT

COMPTE DE PRET
(Niveau de siege et niveau emprunteur)

BLOC : BANE

VILLAGE : V1; V2, V3, V4

OBJET DU PRET : BANQUE DE CEREALES

DATE	CREDIT	INTERET					REM- BOURSE- MENT	SOLDE
		Taux par an	Montant par an	Montant par jour	Nbre de jours	Montant total		
11.2.80	200.000							200.000
29.3.80		8%	10.240	28	46	1.288	72.000	128.000
	300.000							129.288
19.4.80		8%	34.343	94	21	1.974		429.288
	300.000							431.262
1.10.80		8%	58.501	160	165	26.400		731.262
	100.000							757.662
1.3.81.		8%	68.613	188	161	30.265		887.927
15.3.8.		8%	54.234	149	379	56.471	210.000	677.927
11.2.83		8%	41.952	115	333	38.274	210.000	734.398
11.2.84		8%	28.214	77	365	28.214	210.000	524.398
11.2.85		8%	13.671	37	365	13.671	210.000	562.672
							210.000	352.672
							170.886	380.886
							184.557	170.886
							184.557	184.557
								0
TOTAL	900.000					196.557	1.096.557	

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ANNEX F

JOURNAL OF RECEIPTS AND EXPENDITURES

JOURNAL DE CAISSE DE BANQUE DE CEREALES

(Niveau trésorier de comité et commissaire au compte des
banques de céréales)

BLOC : BANE

VILLAGES : V1, V2, V3, V4

Date	Libelle	Montant reçu	Montant dépensé	Solde
10/2/80	Cotisation des membres	72.000		72.000
11/2/80	Acompte au FDV		72.000	0
11/2/80	Crédit du FDV	200.000		200.000
12/2/80	Ventilation acheteur V1		50.000	150.000
12/2/80	" " V2		50.000	100.000
12/2/80	" " V3		50.000	50.000
12/2/80	" " V4		50.000	0
29/3/80	Crédit du FDV	300.000		300.000
21/3/80	Ventilation acheteur V1		25.000	275.000
9/8/80	Ventes de céréals acheteur V1	112.500		387.500
1/3/81	Remboursement au FDV		210.000	177.500

ANNEX G

PROFIT AND LOSS STATEMENT

CALCUL DE BENEFICE NET D'UNE BANQUE DE CEREALES

(Niveau gestionnaire de banque de céréales et commissaire au compte)

BLOC : BANE

VILLAGE : V1,V2,V3,V4

PERIODE : du 1 OCTOBRE 1980 au 30 SEPTEMBRE 1981

RECETTES :

Ventes de céréales (180 x 7.500) 1.350.000

Total :

1.350.000

DEPENSES

Achat de céréales (180 x 5.000) 900.000

Sacs (180 x 225) 40.500

Çamagrain (180 x 50) 9.000

Transport des céréales (180 x100) 18.000

Location du magasin (180 x 200) 36.000

Remboursement du crédit (Capital 165.600)
(Intérêt 44.400) 210.000

Autres dépenses (assiettes,fil,aiguilles,
palets) 25.000

Total :

1.238.500

BENEFICE NET : (Recettes moins les dépenses)

111.500

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ANNEX H

FUNCTIONS AN ACCOUNTING SYSTEM SHOULD PERFORM

ANNEX H

FUNCTIONS AN ACCOUNTING SYSTEM SHOULD PERFORM

Borrowers of loans should keep accounts on enterprises financed from their loans. These accounts should perform the following accounting functions:

1. Present clear and simple image of the business enterprise.
2. Show, at regular time intervals, the profit earned (receipts minus expenses) during the time intervals.
3. Show the cash balance in the account at any point in time.
4. Control the treasury.
5. Control the stock of material.
6. Show the volume of business.
7. Show the revenue that is needed for making regular loan repayments.
8. Draw attention to items that earn a low profit.
9. Provide information needed for ordering and replenishing stock.
10. Show daily interest costs on outstanding loan balance.
11. Justify expenditures.
12. Serve as a training experience for the borrower that could be applicable on future business enterprises.

ANNEX I

EXEMPLE DE L'ANALYSE ECONOMIQUE POUR CALCUL DU PLAFOND
DE CREDIT

EXEMPLE DE ANALYSE ECONOMIQUE POUR CALCUL DU PLAFOND

DE CREDIT

FAMILLE : N° ACTIFS 4 N° NON-ACTIFS 3 TOTAL 7

I. REVENUES PAR ANNEE

A. CULTURES

	CULTURES ATTIELES						D A B A	
	2 BOEUF		1 BOEUF		1 ANE		HA	FCFA
	HA	FCFA	HA	FCFA	HA	FCFA		
MIL	11,5	8 000	1	14 000				
SORGHO	12,5	30 000	2	20 000	1,0	15 000	1	5 000
ARACHIDES	10,5	10 000	0,5	10 000	0,5	10 000	0,5	10 000
SOJA	10,25	9 000	0,25	9 000	0,25	9 000	0,25	9 000
RIZ	10,25	9 000	0,25	9 000	0,25	9 000		
MAIS	10,25	2 000	0,25	12 000	0,25	12 000		
COTON	10,5	10 000	0,5	10 000	0,25	15 000	0,25	10 000
TOTAL	5,75	78 000	4,75	64 000	2,5	40 000	2,0	34 000

B. ELEVAGE

	N°	FCFA	N°	FCFA	N°	FCFA	N°	FCFA
BOEUF	2		1					
ANES					1			
MOUTONS	2	8 000	2	8 000	2	8 000	2	8 000
CHEVRES	2	7 000	2	7 000	2	7 000	2	7 000
POULETS	5	1 250	5	1 250	5	1 250	5	1 250
PINDADES	5	1 500	5	1 500	5	1 500	5	1 500
TOTAL		17 750		17 750		17 750		17 750

II. DEPENSES ANNUELLES

SEMENCE		5 000		5 000		13 000		1 000
ENGRAIS		4 000		4 000		13 000		1 000
SOINS VETER		3 000		1 500		1 200		
PESTICIDES		2 000		2 000		11 500		5 00
PIECE DE RECHANGE		3 000		3 000		12 000		
DABA		500		500		500		5 00
NOURRITURE ANIMAUX		16 500		8 250		6 000		
MAIN D'OEUVRE		2 500		2 500				
CARTE D'ADHESION		300		300		300		200
IMPOT		5 250		5 250		5 250		5 250
TOTAL		42 050		32 300		20 750		8 450

III. REVENUE BRUT

CULTURES		78 000		64 000		40 000		34 000
ELEVAGES		17 750		17 750		17 750		17 750
TRANSPORT CHARRETTE						20 000		
TOTAL		97 750		81 750		77 750		51 750

IV. REVENUE NET

REVENUE BRUT		97 750		81 750		77 750		51 750
DEPENSES ANNUELLES		42 050		32 300		20 750		8 450
REVENUE NET		55 700		49 450		57 000		43 300

	2 BOEUF	1 BOEUF	1 ANE	DABA
REVENUE NET (SANS CREDIT)	53 700	49 450	56 000	43 300
-REVENUE NET NECESSAIRE POUR LA CONSOMMATION DE LA FAMILLE	30 000	30 000	30 000	30 000
-REVENUE NET DISPONIBLE POUR LE REMBOURSEMENT ANNUEL D'UN CREDIT M.T.	23 700	19 450	26 000	13 300
CREDIT TOTAL QU'ON PEUT AVOIR AVEC CET REMBOUR- SEMENT ANNUEL D'UN CREDIT M.T.	96 000	50 000	67 000	
ELEMENTS DE PRET QU'ON PEUT AVOIR AVEC CET CREDIT				
- ANIMAUX	70 000	35 000	10 000	
- CHARRUE	20 000	11 000	11 000	
- JOUGS/ACCESSOIRES & CHARRETTE	6 000	4 000	1 000	
TOTAL DU PRET	96 000	50 000	67 000	
REMBOURSEMENT TOTAL TOTAL DU PRET	116 705	58 350	78 000	
INTERET	20 705	8 350	11 000	

ANNEX J

RECOMMENDED CRITERIA BY WHICH VILLAGE COMMITTEES
MIGHT JUDGE LOAN REQUEST

1. The borrower should earn enough profit from this project to both repay the loan and build a reserve with which to start another investment project.
2. The project should supplement (not replace) borrowers regular source of income.
3. The project should directly or indirectly increase food production.
4. The project should directly or indirectly improve nutrition of the village.
5. The project should provide social and economic benefits to all villagers.
6. The project should help to solidify the village.
7. The project should not cause problems to other villagers.
8. The project should serve as a demonstration to others.
9. Profit from the project should stay in the village.
10. The project should compliment other projects.
11. The project should have strong horizontal and vertical (both forward and backward) linkages thus allowing the investment to have a multiple economic impact.
12. The project should help strengthen the role of the village committee.
13. The borrowers should have a reputation of good character among villagers who know them.
14. The borrowers should have good personal relationships with their families and neighbors.
15. The borrowers should have good work habits.
16. The borrowers should have no other debts outstanding.

17. The borrower must have a plan of work and budget worked out for this project.
18. The borrower must demonstrate an ability to foresee the problems that could arise with this project.
19. The borrower must have been trained to do the work of this project.
20. The borrower should be one who works well with ORD extension agents.
21. The project should draw on existing ORD expertise rather than need expertise not currently found within ORD.
22. The project should provide the borrowers with training in business management and accounting that they can apply to other business activities.
23. ORD technical services to the projects should be given in a way that the borrowers themselves will learn the techniques and grow out of their dependence on ORD technical assistance.
24. Loan purpose should not conflict with local religion.
25. Loan purpose should conform to local caste lineage of the borrower.

LOAN REPAYMENT DELINQUENCY IN THE EASTERN O.R.D.
(ORGANISME REGIONAL DE DEVELOPPEMENT)
OF UPPER VOLTA

by

Thomas Stickley and Edouard Tapsoba

Workshop on Rural Financial Markets
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LOAN REPAYMENT DELINQUENCY IN THE EASTERN O.R.D. (ORGANISME
REGIONAL DE DEVELOPPEMENT) OF UPPER VOLTA

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LOAN REPAYMENT DELINQUENCY IN THE EASTERN O.R.D. (ORGANISME
REGIONAL DE DEVELOPPEMENT) OF UPPER VOLTA

by

Thomas Stickley and Edouard Tapsoba *

A. INTRODUCTION

Upper Volta is one of the Sahelian countries most severely affected by the 1970-73 drought. It has made a strong commitment to increasing agricultural production and improving the quality of life in rural areas where most of its population lives.

Since 1965 the Voltaic Government has pursued a regional approach to rural economic and social development through the creation of O.R.D.'s (Organisme Regional de Developpement). As one of its first recovery projects in the Sahel, the United States Agency for International Development has agreed to provide substantial material and technical assistance to the ORD in the eastern region of Upper Volta through an Integrated Rural Development Program. This program began in January 1975 and is being complemented by various United Nations and European Common Market projects plus bilateral projects from France and Switzerland to provide additional technical and material assistance.¹

The major responsibilities of the ORD's are:

- to provide extension services for farmers and artisans.
- to motivate and organize the population in the planning and execution of development programs.
- to assist in agricultural research.
- to provide farm credit.
- to improve the marketing of farm products.
- to participate in the extension of infrastructural programs.²

* Associate Professor and Research Associate, respectively, with the African Rural Economy Program, Department of Agricultural Economics, Michigan State University, East Lansing, Michigan 48824, U.S.A., currently on long term assignments with the USAID Integrated Rural Development Program in the Eastern ORD, Fada N'Gourma, Upper Volta.

1. The Integrated Rural Development Project of the Eastern ORD

The purpose of USAID's Integrated Rural Development Program in the Eastern ORD is:

- to increase the Eastern ORD's capacity to assist small farmers to increase agricultural production and incomes; and
- to achieve a measurable impact on farmer productivity in four "intensive" zones.

The project purpose is to be achieved through:

1. Expansion of the capacity of the ORD for administration and outreach through:
 - a. the construction and equipment of improved central and field facilities and the provision of logistical support for field staff,
 - b. the training of ORD personnel, and
 - c. technical assistance.
2. Generation of basic data through applied research related to:
 - a. traditional and improved farming systems,
 - b. credit requirements and alternative credit systems,
 - c. technical possibilities and economies of animal traction and animal production, and
 - d. marketed surpluses, marketing systems, and price fluctuations.
3. The testing of production and marketing interventions primarily in the intensive zones with AID providing support mostly in the form of medium term credit for animal traction and a revolving fund for the purchase of cash crops by the ORD.²

As a part of its growing involvement in rural development work in the Sahel, the Agricultural Economics Department at Michigan State University engaged in an AID contract to fill five technical assistance positions in AID's Integrated Rural Development Program in the Eastern ORD.¹ This contract began in May 1977 and is expected to continue for a total of 4 years. The technical assistance provided by MSU to the Eastern ORD is a combination of program implementation and applied research to serve the end of improving program design and execution. The five technicians provided by MSU are: Production Economist, Marketing Economist, Credit and Cooperative Economist, Livestock/Range Management Specialist and Audiovisual Specialist.

Already the Integrated Rural Development Program has accomplished much in terms of expanding the administrative capacity of the Eastern ORD through extensive logistical and technical support. Through MSU's applied research program, production of the basic economic data either has been or soon will be completed. And through the medium term credit program 1365 sets of animal traction packages have been placed in the hands of small farmers throughout the Eastern ORD.

The applied research program relating to the animal traction medium term credit program has consisted of:

1. Organization of existing data to establish an accounting system for the animal traction credit program.³
2. Special studies to bring together the data needed on special problems relating to the credit program such as: program of insurance of traction animals, system of payment of incentive premiums to loan collection agents, and special lending activities such as cereal banks and village stores.^{4, 5, 6, 7}
3. A complete inventory of all 869 current borrowers with medium term animal traction loans outstanding.⁸

2. Source of Data

It was in the complete inventory⁸ of 869 current borrowers of medium term credit conducted in October 1978, that data for the current paper was collected.* The objectives of this inventory of credit were:

1. To discover and correct on-the-spot any incorrectly completed medium term animal traction credit contracts.
2. To discover problems with the medium term animal traction credit program and propose solutions.
3. To monitor effectiveness of the program of vaccination of traction animals.

* A larger and more comprehensive credit survey is currently being conducted by MSU's team in the Eastern ORD. Results are expected by the end of 1979. This larger credit survey will deal with such topics as savings potential, real cost of borrowing, and attitudes of borrowers toward borrowing from institutional

4. To find the reasons for delinquency in loan repayment.
5. To monitor the insurance program of traction animals.
6. To develop complete statistics on number of borrowers, amount of credit disbursed, and repayment.

B. THE RATE OF DELINQUENCY

Data from the inventory of credit showed delinquency rates on the medium term animal traction credit program to be as follows:

1. Number of Borrowers Delinquent

This measure of delinquency was calculated two ways: (a) as a percentage of all borrowers and (b) as a percentage of those borrowers who had loans due during the accounting year.

- a. Number of borrowers delinquent as a percentage of all borrowers of medium term animal traction credit on June 30, 1978: 71 of the 869 borrowers failed to repay during the accounting year. This is a delinquency rate of 8%.
- b. Number of borrowers delinquent as a percentage of those borrowers who had loans due during the accounting year (July 1, 1977 through June 30, 1978): 149 borrowers had medium term loans that were due for repayment during the accounting period; 71 of these 149 failed to repay either all or part of the instalment that was due. This is a delinquency rate of 48%.

2. Amount of Loans Delinquent

This measure of delinquency was also calculated two ways: (a) as a percentage of all loans outstanding and (b) as a percentage of the loans due for collection during the accounting year.

- a. Amount of loans delinquent as a percentage of all loans outstanding on June 30, 1978, 51,905,045

FCFA* was outstanding in medium term animal traction loans of which 706,987 FCFA was delinquent. This is a delinquency rate of 1%.

- b. Amount of loans delinquent as a percentage of the amount of loans that should have been collected during the accounting period; during the July 1, 1977 through June 30, 1978 accounting year, 2,315,205 FCFA should have been repaid. Of this amount 706,987 FCFA was delinquent on June 30, 1978. This is a delinquency rate of 31%.

The practical uses of these varied definitions of delinquency are many. For example, the administrator who wants to show a low rate of delinquency can choose the definition that produces the lowest figure. The authors wish to advance the notion here that the most meaningful definitions of delinquency are 1b and 2b, above. These are: (1b) number of borrowers who failed to repay all or part of their loan instalment as a percentage of all borrowers with loan instalments due, and (2b) amount of loans not repaid as a percentage of all loans due for repayment. In the Eastern ORD of Upper Volta these rates were 48% and 31% respectively for the accounting year of July 1, 1977 through June 30, 1978 for the medium term animal traction credit program.

C. CAUSES OF DELINQUENCY

Regardless of the definition of delinquency preferred, an understanding of the causes for this delinquency is essential if the delinquency rate is to be reduced. The inventory of credit showed that 37% of the cases of delinquency were the fault of the borrowers, 37% were the fault of the lending institution (the ORD), and 26% were the fault of nature.

* 214 FCFA = \$ 1 U.S. (Exchange rate of March 26, 1979).

1. Delinquency Caused by the Borrower (37%)

The 37% of the delinquency cases caused by the borrowers were broken down into borrowers who had an attitude of indifference and of feeling no obligation to repay their loans (19%) and borrowers who were able but unwilling to liquidate chattels to meet their loan repayment obligation (18%).

Of the 867 borrowers included in the inventory, 328 responded to an additional question asked to determine their attitudes toward repaying loans to a private money lender as compared to repaying loans to the ORD. The reasons they would repay their loans to the private money lender before they would repay to the ORD were:

- 51 % - It is necessary to repay loans from a private money lender in order to qualify for a new loan next year.
- 12% - Private money lenders are more severe in their loan collection procedures than the ORD.
- 11% - Delinquency of a loan from a private money lender brings disgrace to the family.
- 9% - There is no possibility of not repaying -- one is obliged to repay the private money lender.
- 7% - Repayment to the ORD can be delayed until the borrower has the means to repay.
- 4% - Loans are received from private money lenders in secret and repaid on time to prevent the money lender from telling the secret.
- 3% - Repayment must be the result of the investment made with the loan. If it is not, one is justified in delaying repayment of ORD animal traction credit.
- 1% - The private money lender is located nearer and therefore gets repaid before the ORD.
- 1% - The private money lender is present at harvest time and takes part of the harvest as repayment of the loan.
- 1% - Repayment of ORD credit is not necessary because: (1) the ORD is linked to the government to whom the borrower pays taxes regularly and (2) the borrower gave gifts to the ORD agent to get approval of his loan.

Evident from these responses is the need for the ORD to change its image to one in which the borrower feels that it is as important to repay the ORD as it is to repay private money lenders.

2. Delinquency Caused by the Lender (37%)

The ORD itself was the cause of 37% of the cases of delinquency in repayment of medium term loans either through mistakes or through neglect (omissions in service).

The 37% of the delinquencies caused by the ORD were due to the following mistakes made by the personnel of the ORD:

- 29% - Part of the animal traction package arrived too late for use during the first season of the loan.
- 3% - Traction animals purchased were too small.
- 3% - ORD agents arrive too abruptly (without prior warning) to collect loan repayments.
- 2% - The ORD agent who was sent to collect the loan was different from the person who made the loan.

Besides these mistakes, the credit inventory also brought attention to the following omissions in ORD services linked to the medium term animal traction credit program:

- The practice of doing an economic analysis of a potential borrower's expected costs and returns to determine his debt-carrying capacity was not adopted as a standard procedure to be followed by ORD agents before giving medium term animal traction loans.
- The terms and conditions of the animal traction loans were not made clear to borrowers at the time they accepted the loan.
- Often ORD personnel offered no help in training the traction animals.
- At times no one from the ORD came to ask for repayment of the loan.
- Often no one from the ORD was on hand when borrowers were selling their products to claim loan repayment.

3. Delinquency Caused by Nature (26%)

The 26% of the cases of delinquency caused by nature are divided into causes associated with weather and low crop yields and causes associated with the health and family problems of the borrowers.

Causes of delinquency related to weather and low crop yields were the following: low crop yields caused by the death or

illness of the traction animals (10%) and low crop yields caused by inadequate rainfall (7%).

Causes of delinquency related to the health and family problems of the borrower were the following: borrower was ill during the growing season (5%), death of the borrower (2%), and financial problems in the family (2%).

D. REDUCING DELINQUENCY

Faced with the causes of delinquency mentioned above, the lending institution must search for ways of reducing the effect of these causes and improve the rate of delinquency.

1. Reducing Delinquency Caused by Borrowers

Delinquency caused by borrowers can be reduced through both prevention and cure.

Delinquency caused by borrowers can be prevented through a more careful screening of loan applicants to avoid giving loans to farmers with bad attitudes about their responsibility to repay ORD credit. The motivation for this more careful screening can be through a system in which commissions are paid to field level credit agents as a percentage of loans collected. Field level credit agents motivated to have high collection rates will be thinking of this at the time loan applicants are being screened and be more careful about approving loans.

In the Eastern ORD of Upper Volta such a system of payment of commissions to field level credit agents has been installed. Each field level credit agent and his immediate supervisor are paid commissions on loan collections as follows:

	Percent of Loan Collections for:	
	Field Level Credit Agent	Supervisor of Field Level Credit Agent
Basic commission on all loans collected.	0.8%	0.2%
Additional commission if more than 100 persons benefited from the credit program. . . .	0.4%	0.1%
Additional commission for 100% repayment.	0.4%	0.1%
Additional commission on delinquent loans collected	0.4%	0.1%
Additional commission on loans collected before the year in which the loan is due.	0.4%	0.1%

The effects of delinquency caused by borrowers are reduced through loan guarantee requirements. In the Eastern ORD loan guarantee requirements are not all strictly enforced, but more favorable consideration is given to loan applicants who can offer most of the following forms of loan guarantee:

- payment of a registration fee on each loan received. This fee is deposited in a "bad debt" (loan guarantee) fund.
- insurance of traction animals.
- moral guarantee.
- close working relationship with the ORD extension agent (who is also the field level credit agent).
- unlimited liability of a village group for repayment of loans for any group member.
- purchase of stocks in the ORD by the village group of which the borrower is a member.
- sale of harvested crops through the ORD.
- diversification of crops raised on the farm.
- number of years of experience as a farmer.
- favorable result from economic analysis to estimate debt-carrying capacity.

Delinquency caused by borrowers can be cured by putting pressure on those capable of but unwilling to repay their loans. This pressure should come from the other members of the village group. The system of unlimited liability for repayment of loans is needed for pressure from this source to be most effective.

Pressure can also come from the field level credit agents of the CRD. A system of payment of commissions for loans collected (described above) can serve as the motivation for the field level credit agent to apply this positive pressure. Pressure in a negative sense can come from the implementation of a strong, fair, and well-publicized loan foreclosure policy. From such a policy farmers will learn that their animal traction package will be confiscated if they do not repay their loans (without any of the acceptable excuses -- these will be discussed later). Such a policy is currently in effect in the Eastern ORD of Upper Volta.

2. Reducing Delinquency Caused by the Lender

Stronger support to field level credit agents, stronger village groups and estimation of a potential borrower's debt-carrying capacity are the principal means for reducing delinquency caused by the lender.

a. Positive support to field level credit agents.

In the Eastern ORD this positive support has taken the form of:

- A technical manual on the credit system was distributed to each field level credit agent and his supervisors.
- Adequate blank forms and other office supplies necessary for administering the credit program are in the hands of the field level credit agents.
- Transportation by motorbikes is available to all field level credit agents.
- A system of commission payments based on loan repayments (described above) is in effect.
- Annual short courses are administered for training all field level credit agents to inform them of changes in the system and to concentrate on solving their problems.

b. Strengthening village groups before distributing credit through them to their members.

In the Eastern ORD credit is administered to individual borrowers through their village groups (pre-cooperatives). Standards have been recently set for these village groups. These

standards are to be met before credit can be distributed through them to their members:

- at least two years since the group was organized.
- stable number of members (not necessarily a large number but a minimum of 10 members).
- cohesion, understanding and confidence among all the members.
- confidence in the officers of the group.
- officers who are active and honest.
- reputation for repaying loans on time.
- successful completion of at least one activity.
- use of democratic procedures in making all decisions affecting the group.
- a treasury that -- even if small -- is steadily growing.
- adoption and use of an acceptable system of accounting for group funds.

Upholding these standards before lending money through village groups to their members will strengthen the village groups and improve repayment rates of loans to their members.

c. Estimation of potential borrower's debt-carrying capacity.

In the Eastern ORD a system is currently in use whereby each field level credit agent together with each potential borrower estimate the potential borrower's debt-carrying capacity. From estimated annual income is subtracted his estimated annual expenses. The resulting net annual revenue is the maximum that he can use for making annual repayments on a loan. With these annual repayment possibilities a total debt ceiling for a medium term animal traction loan is determined. The likelihood of repayment problems later are greatly reduced after making this estimate of his debt-carrying capacity.

3. Reducing Delinquency Caused by Nature

The random incidence of natural hazards affecting loan repayment are difficult to change. There are, however, certain protective precautions that can be taken to reduce the rate of delinquency caused by nature. Those precautions that have been taken in the Eastern ORD for this purpose are as follows:

a. Conservatism in estimation of debt-carrying capacity.

As a precaution against the high incidence of low crop yields resulting from frequent drought conditions in the Sahel, the policy of exercising extreme conservatism has been adopted in doing the economic analysis for estimating the debt-carrying capacity of a potential borrower (described above).

b. Insurance program against death of traction animals.

Borrowers of credit for the purchase of traction animals are required to insure those animals. The cost of this insurance for the full term of the credit is added to the loan amount when the loan is made.

c. Responsibility for loan repayment of borrowers who die.

Surviving family members of borrowers who die are expected to repay their loans. In certain cases, the village groups of which these borrowers had been members may repay these loans. Normally, however, it is the deceased borrowers' families who bear this responsibility.

d. Loan renewal policy.

At the risk of being accused of defining away the rate of delinquency, it must be mentioned here that a loan renewal policy is in effect in the Eastern ORD in which borrowers who have suffered from natural catastrophies can have loans renewed. In this way loans that would become delinquent because of natural causes are saved from the delinquency classification. Excuses acceptable for renewing loans are as follows:

- crop failure resulting from drought.
- death or serious illness of the borrower.
- deficiencies in ORD services vital to the successful use of the animal traction package (for example: traction animals that were not trained in time for use in the growing season and failure to deliver a vital piece of the animal traction package).

The loan renewal policy requires payment -- at the time of renewal of interest on the loan for the time period the loan is extended.

e. Bad debt fund.

If all the above mentioned precautions fail to prevent delinquency and the loans have to be written off, the loan fund is protected from erosion with the "bad debt" (loan guarantee) fund. The source of this fund is a registration fee collected on each new loan given.

E. CONCLUSION

Contrary to the popular belief that institutions should not expect high rates of repayment of loans in drought prone areas such as the Sahel, it is argued here that there is a great deal that lending institutions themselves can do to get higher rates of loan repayment. The excuses of bad weather and recalcitrant farmers have been too willingly accepted as the reasons for loan delinquencies to hide the predominant major reason for this delinquency -- namely, shortcomings in the performance of the lending institutions themselves.

It has been the theme of this paper that the lending institution can reduce delinquency caused by its own inadequacies through improvements in the services it offers to the borrowers. But the responsibility of the lending institution does not stop there. Delinquency caused by the borrower and by nature can also be reduced through certain measures taken by the lending institution.

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ANNEX L

VILLAGE GROUP LOAN REQUEST FORM FOR ANIMAL TRACTION CREDIT

C. N. C. A.

TABLEAU RECAPITIF CREDIT MOYEN TERME CULTURE ATTELEE

Bureau de crédit de
 Sous-secteur de
 Groupement villageois de

EQUIPEMENT

PRODUCTION VALORISEE

NOM ET PREYOM	BOEUF		ANES		CHARRUES		MOUES		CHARRETTES		ACCESSOIRES		TOTAL	MIL. - SORGHO			ARACHIDE			COTON			ELECTRIQUE		PRODUCTIONS DIVERSES		TOTAL
	Nb	Valeur	Nb	Valeur	Nb	Valeur	Nb	Valeur	Nb	Valeur	Nb	Valeur		Nb	TON- NAGE	Valeur	Nb	TON- NAGE	Valeur	Nb	TON- NAGE	Valeur	Nb	RENTI RS	Valeur	Valeur	
TOTAUX :																											

Exemplaires : 1 - Chef de sous-secteur
 1 - Agent de crédit

PROCES-VERBAL DE REUNION DE DEMANDES
D'EQUIPEMENT EN CULTURE ATTELEE

=====

Bureau de crédit de
S/Secteur de

Les membres du groupement villageois de
réunis le déclarent :

- être d'accord pour solliciter de la C.N.C.A. un crédit global d'équipement en culture attelée à moyen terme de :
- accepter d'être solidairement responsables du prêt qui leur sera accordé.

S'engagent

à rembourser à bonnes dates fixées le :

Les échéances annuelles dont les montants sont les suivants :

1° 2° 3°
4° 5°

Fait àle.....

SIGNATURES :

Les responsables du groupement

 Le Chef de sous-secteur
 L'Agent de crédit
 L'encadreur de zone

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ANNEX M

CARACTERISTIQUES D'UN GROUPEMENT VILLAGEOIS FORT

ANNEX M

CARACTERISTIQUES D'UN GROUPEMENT VILLAGEOIS FORT

1. Ancienneté (minimum 2 ans d'expérience).
2. Membres stables (pas nécessairement un grand nombre mais un minimum de 10 membres).
3. Cohésion, entente, et confiance entre les membres.
4. Confiance aux membres du bureau.
5. Bureau actif, dynamique, et honnête.
6. Remboursement des échéances aux dates fixées (court terme et moyen terme).
7. Gestion des biens (réussite d'une activité par année, disponibilité de matériel pour compléter les activités).
8. Démocratie dans toutes les décisions.
9. Collaboration franche avec les agents de l'ORD (mais capable de travailler sans assistance d'agent et soutenir changement de personnel de l'ORD).
10. Participation de tous les membres aux activités du G.V.
11. Solde de caisse croissant.
12. Diversification des cultures dans les parcelles collectives.
13. Système de comptabilité.
14. Conduite des projets possédant de l'initiative. Exemples:
 - Champs collectifs
 - Banques céréales
 - Boutiques villageoises
 - Moulin à mil
 - Décortiqueuse de riz
 - Coopérative d'épargne et crédit
 - Projet artisanal: chaises locales
tissage
secco
canaries
pièces détachées de matériel agricole
jous
colliers

ANNEX N

DUTIES OF MEMBERS OF CREDIT BUREAU

ANNEX N

DUTIES OF MEMBERS OF CREDIT BUREAU

Le Chef de Bureau

- Prévoit les programmes et calendrier des activités de son Bureau.
- Contrôle l'état d'avancement des travaux des agents placés sous ses ordres.
- Organise les réunions de crédit au niveau des secteurs (crédit collectif).
- Vérifie les états récapitulatifs concernant les demandes d'emprunt des différentes actions de crédit.
- Assure l'étude préliminaire des demandes de crédit individuel.
- Veille à la mise en place rapide des crédits accordés.
- Contrôle le suivi des emprunteurs.
- Contrôle les actions de recouvrement des crédits et les relance périodiquement.
- S'assure du bon fonctionnement de la comptabilité.
- S'assure de la gestion rigoureuse de la trésorerie.
- Signe conjointement avec le comptable les chèques et virement de fonds.
- Veille à la bonne marche de son Bureau.

L'Agent de Crédit

- Examine les demandes d'emprunts formulées aussi bien par les groupements villageois que par les emprunteurs individuels de sa zone d'intervention.

- Organise les comités locaux de crédit concernant les groupements villageois.
- Assiste aux réunions de crédit des sous-secteurs.
- Formalise les octrois et assure la mise en place des crédits accordés dans le cadre des procédures C.N.C.A.
- Assure le suivi des emprunteurs et vérifie l'utilisation des crédits mis en place.
- Préparer les actions de recouvrement en liaison avec les services d'encadrement des Structures de développement.
- Signale au Chef de Bureau les échéances impayées.
- Relance périodiquement les débiteurs défaillants.
- Tient le répertoire des affaires en instance.

Le Comptable

- Assure le fonctionnement de la comptabilité.
- Gère avec la plus grande rigueur la trésorerie du Bureau.
- Etablit tous les documents comptables d'identification des opérations clients.
- Assure tous les mouvements de fonds (approvisionnements, débloages, paiement de factures, encaissement des échéances, etc.).
- Etablit en fin de mois les documents comptables du Bureau (balance, situation mensuelle, etc.).
- Contrôle l'échéancier des remboursements et dresse mensuellement l'état des impayés.
- Signe conjointement avec le Chef de Bureau les chèques et virements de fonds.

THE COMPUTER -- AN APPROPRIATE TECHNOLOGY FOR MANAGING
A VIABLE AGRICULTURAL CREDIT SYSTEM IN A LOW
INCOME COUNTRY -- UPPER VOLTA

by

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INTRODUCTION

The Integrated Rural Development Program is an Agency for International Development sponsored project in the Eastern Regional Development Organization (ORD) of Upper Volta. The program is one of many that was implemented in the Sahel following the drought of 1970-73 in an effort to increase agricultural production and improve the quality of life in the rural areas where most of the population lives.

One aspect of this AID/IRD project was the introduction of animal traction to replace the hoe cultivation method used in the Eastern ORD. The author was given the responsibility of developing a technique for managing the agricultural credit system that would support this animal traction program.

The choice of the appropriate technology for managing the credit system was made by assessing the problems facing the existing system and then considering the alternative techniques for solving these problems in light of the resources available.

PROBLEMS FOUND IN THE AGRICULTURAL CREDIT SYSTEM IN THE EASTERN ORD

Problems found in the Eastern ORD's credit system were of two types; those concerned with the central administration of the system and those concerned with the operation of the system at the field level.

At the administrative level an inviable credit system faced a steadily eroding portfolio. This erosion was curtailed temporarily by new

injections of capital from various programs of foreign assistance. Funding came from many sources each of which demanded detailed statistical reporting, often on short notice. Portfolios of loans and loan repayments were incomplete and disorganized. There was a high incidence of errors and omissions in recording loan repayments. Procedures for collecting loans were unclear and irregular. The credit and cooperation section was unable to furnish basic statistical reports. The clerical staff had poorly organized and inefficient work habits.

In the field, loan repayment rates were weak -- an average of only 30 percent of loans due was collected per year from 1976 to 1980. Borrowers did not understand clearly the terms and conditions of their loans. Records of repayment kept at the level of the extension/credit agents in the field were inconsistent with those kept at the headquarters level. These field level extension/credit agents were poorly organized and poorly motivated in their loan collection responsibilities. Embezzlement of loan repayments by these extension/credit agents and their supervisors ran high. Productivity of capital invested through this agricultural credit system was low due to weak technical assistance from the extension/credit agents. A high rate of reassignment of field level extension/credit agents from one post to another created difficulty in maintaining continuity from one year to another in loan collections, recordkeeping and reporting.

Based on these problems a search began for a management technique that would help solve them.

CHOOSING AN APPROPRIATE TECHNOLOGY FOR MANAGING A VIABLE AGRICULTURAL CREDIT SYSTEM

In 1977 and 1978 piecemeal efforts were made to improve the labor-intensive management techniques that had been developed since 1974 when the

credit program began in the Eastern ORD. Loans and loan repayments were all registered by hand. Efforts were made to improve the old system of hand filing loan forms and records of repayment. Some of the demands for statistical information were met by using tedious, slow, error-prone, hand methods of tabulation. In an effort to establish a complete set of basic data on the animal traction medium term credit portfolio, a complete inventory of borrowers of animal traction credit was made in the fall of 1978.¹ An effort to motivate borrowers to repay their loans was made through appeals by radio and in mass meetings. In the name of patriotism and personal honor, efforts were made to convince extension/credit agents and their supervisors not to embezzle loan repayments they had collected from borrowers.

Though these efforts were not without success, they fell short of the mark of establishing a management technique that would produce a viable agricultural credit system. As this became clear the possibility of establishing a computerized system of management was considered. The possibility of having the management tools produced quickly, regularly, and accurately by the computer led to the decision to introduce a computerized system of management designed to solve the problems stated above and to meet the objectives listed below.

OBJECTIVES OF THE COMPUTERIZED SYSTEM

The decision was made to design a computerized system of management that would meet the following objectives:

¹"Inventaire de Credit Rural Traction Animale" by Amidou Dahany, Sinare Moussa, Tuina Jonas, Yoni Lebene, Edouard Tapsoba, and Thomas Stickley, Bureau de Developpement Communautaire, Organisme Regional de Developpement de l'Est, Fada N'Gourma, Upper Volta, November 1978.

1. To produce regular, accurate, and rapid statistical reports on the number and amount of loans and loan repayments by sector of the ORD, by loan purpose, and by source of funding.
2. To improve loan repayment rates.
3. To improve the productivity of ORD employees.
4. To improve the productivity of investments made with capital distributed through the agricultural credit system.
5. To achieve viability of the agricultural credit system, that is a self-supporting credit system in which revenue exceeds the costs of operation.

INSTALLATION OF THE COMPUTERIZED SYSTEM

A. Preparatory Steps

The process of installation of this computerized system began with the following preparatory steps:

1. In November 1978, administrators and programmers of the National Data Processing Center (CENATRIN) of Upper Volta met with the Eastern ORD to discuss the problems to be solved and the objectives of the system to be met.
2. The Eastern ORD and CENATRIN produced a plan of work for installing the system.¹

¹"Cahier de Charges pour la Gestion Automatisee des Credits Agricoles" by Thomas Stickley, Hamidou Dahani, Etienne Ouedraogo, and Oumarou Tientore, Centre National de Traitement de l'Information, B.P. 1132, Ouagadougou, Upper Volta, February 1980.

3. Twenty-nine different programs were written by CENATRIN programmers in COBOL (Computer Business Oriented Language) to classify, aggregate, and analyze basic statistical data.
4. All short-term and medium-term loans were classified by year and by village since the ORD credit program began in 1974.
5. Basic data codes, code indexes, and coding forms were developed.
6. Data coders were trained.
7. Preliminary coding was done for use in testing the program.
8. The 29 programs were tested and refined using the computer facilities of CENATRIN in Ouagadougou.

B. Continuous Operations

Following these preliminary steps, the following continuous operations were started:

1. Coding of all 3821 short-term and medium-term loans given from 1974 through 1979.
2. Coding of all loan repayments received since 1974.
3. Verification and correction of coding.

INPUT AND OUTPUT OF THE COMPUTERIZED SYSTEM

Following are the input and output of the computer used in the system.

A. Input

1. Nature of the Input

The input is of two types: the input needed to establish the system and the input provided on a continuous basis.

a. Input to Establish the System

Twenty-nine programs were entered into the computer to register the basic data (6 programs), to produce annual and semi-annual output (18 programs), to produce quarterly output (3 programs), and to list basic data codes (2 programs).

Basic data codes were also entered into the computer to identify loan types, loan terms, loan purposes, borrowers, borrowers' villages, and sources from which funds were received.

b. Input Provided Continuously

As new loans are disbursed they are coded and entered into the computer. Likewise all repayments received are coded and entered.

2. Input Schedule

Input is fed into the computer on the following schedule which conforms to the loan disbursement period (January 1 through September 30) and the loan repayment period (which is continuous but has a common due-date for the repayment of all loans of March 31).

a. Input to establish the system was fed into the computer at the beginning of the program in 1979 but can be added to or changed at any time.

b. New loans are coded as disbursed and code sheets are accumulated throughout the lending season (January 1 through September 30). These are then punched into the computer in October each year after the close of the lending period on September 30.

c. As loan repayments are received they are coded immediately and punched into the computer quarterly (or more often if repayment activity is intense).

B. Output

1. Nature of the Output

The output produced is of three types: statistical reports, aids to field extension/credit agents in doing their jobs, and calculation of commissions to be paid to extension/credit agents based on loan repayments received.

a. Statistical Reports

Statistical reports are produced on number of loans made, number of persons benefiting from loans, amount of money loaned, amount of loan repayments received as a percentage of loan repayments due, number of delinquent borrowers as a percentage of all borrowers with loan repayments due, and list of uncollectable loans to be written off. These reports are broken down by fiscal year, sector of the ORD, factor of production (loan purpose), and source of funding.

b. Aids to Field Extension/Credit Agents in Doing Their Jobs

The following output is produced to help the extension/credit agents do their jobs more efficiently: bills to borrowers, lists of these bills, lists of live loans, lists of overdue loans, lists of paid-off loans, lists of borrowers who were overcharged/undercharged interest according to date repayments were made, loan repayment control sheets, monthly reports of loan repayments received, lists of borrower identification numbers already assigned, and lists of village identification numbers already assigned.

c. Calculation of Commission to be Paid to Extension/Credit Agents

Based on Loan Repayments Received

To encourage extension/credit agents to give and collect more sound (productive) loans, commissions are calculated [at the rate shown in Table 1] and produced as the output of the system.

TABLE 1

CALCULATION OF COMMISSIONS TO BE PAID TO AGENTS
BASED ON LOAN REPAYMENTS RECEIVED

Type of Commission	Extension/ Credit Agent	Sub- Sector Chief	Sector Chief	Chief of Credit and Cooperation Section in Each Sector
(Percentage of Money Collected)				
a. Base commission on all loans collected	1.6%	0.4%	0.10%	0.10%
b. Supplemental commission for collection of loan installments not yet due	0.8%	0.2%	0.05%	0.05%
c. Supplemental commission for overdue loans collected	0.8%	0.2%	0.05%	0.05%
d. Supplemental commission for collection of 100% of loan installments due	0.8%	0.2%	0.05%	0.05%
e. Supplemental commission if at least 100 persons were served by the credit system in an extension unit	0.8%	0.2%	0.05%	0.05%

An extension/credit agent in the Piela extension unit, for example, received a commission of 6443 FCFA for the 1979-80 fiscal year. This amounted to about 2 percent of his annual salary of approximately 300,000 FCFA.

2. Output Schedule

The computer output is produced on the following schedule which is built around the farm production season (May through September) and the government's fiscal year (April 1 through March 31):

- a. Once per year in October:
 - List of live loans.
 - Bills for each borrower.
 - List of these bills.
 - List of borrower identification numbers already assigned.
 - List of village identification numbers already assigned.
 - Number and value of each factor of production sold on credit.
 - Number of loans made and amount loaned.
- b. Once per year in April:
 - Loan repayment statistics.
 - List of paid-off loans.
 - Statements of underpaid/overpaid interest on paid-off loans.
 - List of these statements.
 - List of loans to be removed from the computer registry because they have been paid-off for more than ten years.
 - Calculation of all commissions to be paid to agents.
- c. Twice per year in April and October:
 - Loan repayment control forms.
 - List of overdue loans.
 - List of uncollectable loans.

- d. Once quarterly (in January, April, July, and October, or more often if necessary):
- Status of loan repayment activity.

EVALUATION

Evaluation of the computerized system is done here on the basis of the objectives to be met.

1. Regular and accurate statistical reports of the number and amounts of loans and loan repayments are produced by sector of the ORD, factor of production (loan purpose), and source of funding. This objective has been satisfied.

2. Loan repayment rates are expected to improve as a result of the effect of several aspects of the computerized system. The bills sent to each borrower reminds them of the amount due to be repaid and the date it is due. Embezzlement by agents is controlled by the pressure put on these agents by borrowers who receive bills for loans they have already repaid. The prospect of being paid a commission which is a percentage of loans collected serves as an incentive to these agents to increase these loan collections. When borrowers are given their bills the agents are given a listing of these bills. This listing helps the agents organize their job of collecting loan repayments.

3. Productivity of ORD agents has improved. At the administrative level among the clerical staff this improvement has been the result of fewer, simpler and more clearly defined duties and the computerized control of mistakes. At the field level, productivity of agents has improved resulting from incentive commissions based on loan collections and improved knowledge of loan portfolios in each extension unit from the lists of live loans, lists of loan payments due, lists of overdue loans, lists of paid-off loans and monthly reports of loan repayments received.

4. Productivity of capital invested in agriculture through the credit system seems to have improved from the increased incentives of field extension/credit agents to give more and sounder loans in order to receive a higher commission on loan collections and the pre-loan economic analysis of loan purpose already being used by extension/credit agents.

5. Viability of the credit system was improved as the result of improved repayment rates, improved productivity of the ORD staff and improved information from statistical reports for use in evaluation, financial analysis, and budgeting of the rural credit account.

Though a meaningful cost-benefit analysis of the computerized system cannot be done before the system has functioned for two years, some of the elements of such an analysis have started to emerge.

- a. Additional costs of the computerized system compared to the old system include: (1) fixed costs: the Eastern ORD's share of the cost of writing the 29 programs (about \$12,000), training coders (about \$500), ORD staff time used in installing the system (about \$1,000) and training agents in the field to use the computerized system (about \$1,500) -- this makes a total of about \$15,000 as the fixed cost of installing the system; and (2) variable costs: registration of loans, registration of repayments, computer time to produce bills, lists, commissions and statistical reports, and paper, printing, and binding -- this amounts to roughly \$2.00 per loan registered which is based on the variable costs associated with the original 3821 loans registered -- due to the economies of scale, this cost will go down as number of loans registered increases.
- b. Additional benefits that should be measured in this analysis are: increased repayments, decreased embezzlement, increased speed and accuracy with which

statistical reports are produced, increased productivity of capital invested through the credit system; and reduced costs resulting from discontinuing the annual inventory of credit at the field level.

c. The following items were unchanged by the system and therefore would not be included in the cost-benefit analysis: number of persons employed for the agricultural credit system; logistical support for the credit system (office space, office furniture, vehicles, and travel costs); and basic loan contract forms and receipts used by field level extension/credit agents.

RECOMMENDATIONS

Following are recommendations suggested for others installing such a computerized technique for managing a viable agricultural credit system in a low-income country.

1. The purpose and objectives of the computerized system of management should be kept simple at first. Inclinations toward adding tasks to the computer program which could complicate the system must be overcome in the early stages of its development. Tasks can be added later after the original simplified program has been thoroughly tested and tried.

2. Even though the distance between computer programmers and users of the program may be great, close communication between these two parties must be maintained during the time programs are being written and tested.

3. Procedures must be clear and simple for registering loans, registering repayments, correcting mistakes, and making changes in the basic data in order to sustain frequent reassignments of ORD personnel at all levels.

4. Stress thoroughness, regularity, accuracy, and punctuality in training of clerical staff dealing with the program.

5. Coding should not begin before basic data to be coded is complete and classified, and borrowers have been assigned mutually exclusive beneficiary numbers.

6. Bills should not be distributed to borrowers by the extension/credit agents suspected of having embezzled repayments asked for by those bills. Credit and cooperative chiefs in each sector should distribute these bills.

7. Local facilities for key-punching, computer programming, and data processing must be of sufficient quality (this is clearly sufficient in Upper Volta).

CONCLUSIONS

A computerized system for managing a viable agricultural credit system in a low-income country -- Upper Volta -- was chosen over alternative labor-intensive methods to gain speed, accuracy, regularity and thoroughness in production of the statistical reports, aids to field staff and calculation of commissions.

Based on the evaluation (presented above) of the experience of one year, the system has been successful in reducing the problems discussed earlier in this paper.

Even in low income countries which are using the agricultural credit system to introduce the earliest steps of agricultural development -- for example, moving from the hoe to a donkey and plow, as in the Eastern ORD of Upper Volta -- the computer can be the most appropriate technology for managing a viable agricultural credit system.

ANNEX P

BUILDING CAPITAL ABSORPTION CAPACITY

BUILDING CAPITAL ABSORPTION CAPACITY

- Giving many loans quickly and soundly.
- Sorting out high return investment possibilities.
- Building an institutional structure that gets high loan repayment rates.
- Support of loans so that borrowers credit rating improves and they advance to larger projects.
- Motivation, training, and support of agents.
- Strengthening business management ability of borrowers.
- Training village committees to evaluate loan applications soundly and efficiently.
- Thinking big and looking far ahead.
- Scheduling, timing and planning.
- Accurate, rapid, and regular accounting and statistical reporting.