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MID-PROJECT EVALUATION  
SEGUENEGA INTEGRATED RURAL  
DEVELOPMENT PROJECT

UPPER VOLTA

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## I. EXECUTIVE SUMMARY

This review of the Seguenega Integrated Rural Development Project (SIRD) comes four years after the Project Paper was approved. An ambitious effort, with a truly integrated approach, the SIRD Project was hindered by severe start-up problems that have had a lasting effect on the achievement of Project goals and objectives. Nevertheless, a concerted effort on the part of the contractor to correct and minimize the impact of these initial shortcomings has resulted in a dramatic increase in the overall potential for continued sustainability of the SIRD Project.

A number of the outputs detailed originally in the Project design are working well, such as the livestock components, and others are beginning to show progress. As a result:

- *It is the opinion of the evaluation team that the SIRD Project be extended beyond the planned completion date, if certain pre-conditions are met.*

This major recommendation is offered after a detailed analysis of individual Project components which resulted in the development of specific recommendations to correct problems and improve Project implementation. We have also undertaken the redesign of various components as appropriate. Section V, Financial Analysis, provides detailed information for revisions to the remaining implementation period under the Africare contract, with projected costs for an additional

five years. Recommendations of action for both immediate and future consideration for each log frame component are detailed in Section IV.

Our major findings with respect to the Contractor's activities in organizing and implementing the Project would support the following statements:

- *The Project design was deficient in the level of attention given to technical assistance requirements, operational management and financial controls required to insure the effective implementation of an extremely complex project carried out in a harsh environment. For example, the original SIRD Project design document contained no job descriptions and/or qualifications for those technical assistance positions required under the Project.*
- *The implementation of the project was slow in starting but has improved considerably over the last eighteen months. This improvement is a credit to the dedication of the Contractor's field staff.*
- *Effective project management and financial management procedures have been less than adequate. For example, it has been nearly impossible to determine a status of commitments and fulfillment of these commitments from all donor sources to ascertain the to-date status of contributions.*

Our major findings with respect to the Government of Upper Volta (GOUV) would support the following:

- *The various Ministries, particularly Rural Development, do not participate at a high enough level in the operational management and implementation of the Project to achieve the goals and objectives originally desired.*

The lack of participation in the management and implementation of the Project by the various concerned Ministries, i.e., Rural Development, Health, Agriculture, etc., has hindered progress to date.

Continuation and replication of the SIRD Project will not be possible without the support and participation of the various Ministries in the GOUV taking part in the Project. Learning the nature of such a project and its benefits may encourage the various Ministries to support other similar efforts and include provisions in their individual development plans and budgets for support to such projects.

Our major findings with respect to USAID would support the following:

- *There is a distinct absence of any meaningful project management guidelines in the AID/Africare Grant Agreement, resulting in minimum Mission monitoring and supervision of ongoing implementation.*

*During the field evaluation of the project, it was discovered that a routine inspection field examination program of the project components was absent, and in fact certain components, e.g., all health facilities, had not been visited for some time by any AID official.*

- *The progress and financial reporting requirements established by AID are not acceptable for monitoring the SIRD Project.*

*The management of the implementation of any project requires a detailed accountability of all its resources, assets, commitments, etc., whether payment of cash, donations of assets, or any in-kind donation. Planning budgets, monitoring performance and achieving all project objectives cannot be realized if the status of committed resources is not known at any given time.*

- *AID/Ouagadougou should have been more active in overseeing the Project, specifically monitoring GOUV and Africare interaction with a view towards encouraging greater GOUV participation in Project implementation.*

## Pre-conditions to Continuation

The following pre-conditions are recommended for serious consideration regarding the possible continuation of the Project beyond the ending date. We strongly recommend that these pre-conditions be instituted before the project is continued:

- *A detailed review of expatriate technical assistance requirements. Special emphasis should be placed on project management, financial systems development, and rural education;*
- *That the USAID/Africare Grant Agreement be revised to require a monitoring and detailed reporting system that will make it possible for AID/Ouagadougou and USAID/Washington to monitor and follow both the technical and financial progress of components in the Project;*
- *Establishing of a "Project Steering Committee" comprised of key GOUV central and regional Ministry representatives, Project staff and selected members of the beneficiary population. This body should meet regularly to establish implementation policy, discuss plans and programs, and address problems before they develop into insurmountable obstacles.*
- *The Government of Upper Volta should appoint a Project Manager and Africare take steps to recruit a rural development project management specialist trained and experienced in managing complex projects utilizing current management techniques. The purpose being to assist and train the Project Manager and his staff.*

Detailed progress, findings and specific recommendations for each project component can be found in Sections IV and V.

## II. INTRODUCTION

### A. PROJECT HISTORY AND PLAN

In September 1978, Africare received a 5.9 million dollar grant from AID to support a five-year integrated rural development program in the Seguenega Sector of Upper Volta's Yatenga region. The program design was the result of a joint effort over the prior three years by Africare and the Government of Upper Volta, with periodic discussions and reviews between Africare and AID. Program development and planning, between the Africare Development Team and Voltaique officials and technicians, were undertaken through a series of integrated rural development workshops.

Under this grant, Africare works directly with Voltaique officials and technicians at the national, regional and sectoral levels and with the rural people at the village level to assist in:

increasing Seguenega's capacity to deliver social services;

increasing the production and productivity of the people;

improving the planning and management capacities of the people and of government agencies at all levels; and

increasing the participation of the rural people in planning, implementing and managing rural development projects.

The Seguenega Sector, located in the southern portion of the Yatenga region, has a population of about 110,000 residing in 144

villages. Development in Seguenega is the responsibility of the Yatenga ORD (Regional Development Organization), whose staff includes about 300 technical, administrative, extension, and support personnel. Where project work was undertaken that was substantially new to the area, or where there was a shortage of technical know how, the ORD requested Africare to provide short- and long-term advisors. Thus, specialists were to be provided by Africare for periods of up to three years to assist in health, livestock, credit, and planning activities. Additional support to the ORD was to be provided by the Africare Development Team and by the Africare Permanent Representative posted in Ouagadougou.

Between the time the project paper was approved and October 1980, project development proceeded slowly. The lack of substantial progress was noted in a report by the Auditor General. From November 1980 to date, there have been varying amounts of project infrastructure facilities installed, as well as services and activities implemented.

The project design paper called for development activities in three principal areas:

Social Services, including village infrastructure, health services, literacy, and young farmer training;

Farm/Animal Production, including vegetable gardening and rice cultivation, as well as livestock and poultry production; and

Support Services or physical and institutional infrastructure including well construction, road development, reforestation, physical plant, and strengthening the Ytenga ORD's overall management capabilities.

The long-range objective of the project is to enable Africare to work with and assist the Government of Upper Volta, its designated agencies and the people of Seguenega to achieve an improved network of social services, production opportunities, and support services for the residents of the Seguenega Sector.

#### B. OBJECTIVES OF THE EVALUATION

This report represents a mid-term evaluation of the Africare Seguenega Integrated Rural Development Project, Project No. AID-AFRI-G-1470, an Operational Program Grant approved in September 1978.

Its objective is to evaluate progress to date toward achievement of project objectives and outputs, objectively identify and examine constraints to the achievement of those objectives, and, to the extent possible, make recommendations to alleviate those constraints.

### III. METHODOLOGY

#### A. PLANNING AND ORIENTATION

The Ronco evaluation team met in the firm's Washington office to review the required scope of work, establish a methodological framework, and develop a work/evaluation schedule. The team then visited Africare's Washington office to receive further orientation and background on the project's history and current status.

Two days after arrival in Ouagadougou (a weekend and holiday intervened), the team had an extensive briefing with the AID Mission's Director, Deputy Director, Project Officer, Agricultural Officer, and other interested AID officials. In this session, problems and issues of particular interest to the Mission, to which it suggested the team give priority attention, were identified. The specific issues were those of project component sustainability after project completion and replicability of project components elsewhere in Upper Volta.

A further briefing was held for the team by Africare's resident representative in Ouagadougou. This meeting served to refine the team's work/evaluation schedule. In addition, a pre-field trip briefing was held jointly by the team and by the principal project officials in Seguenega. The purpose of this meeting was to gain further insight into project activities, to explain the role of the evaluation team, and to assure the cooperation of project personnel in the team's evaluation.

## B. DATA COLLECTION

Three methods of data collection were used:

- examination of documents;
- personal interviews of project personnel, ORD personnel involved with the project, and project beneficiaries (villagers); and
- direct observation of project activities.

Although the Mission offices were closed during the first two days after the team's arrival in Upper Volta, documents were supplied by the Mission Project Officer. Throughout the work period, Mission and project documents were made available to the team.

Semi-formal interviews were held with key project and ORD individuals in each principal area of activity. The interviews were structured to the extent that they gave the team member(s) additional background, current status of project activities, as well as the interviewee's assessment of strengths and weaknesses of these activities. Finally, interviewees' perceptions/opinions and recommendations for the future of project activities were sought.

All interviewees were assured that all information received would be treated objectively in the evaluation. Furthermore, they were reminded that the evaluation was of a constructive, not an antagonistic, nature.

Informal interviewing also took place all throughout the direct observation portion of the evaluation. Project personnel

accompanied team members to each village and/or principal activity of the project, thus permitting additional impressions/insights to be gained.

The team, divided according to specialities, initially spent eleven days in the project area inspecting all project activities, including most of the road network. Additional trips were made to the project area and to Ouahigouya (Yatenga region capital and location of project-ORD headquarters) to obtain further information.

### C. SYNTHESIS AND WRITE-UP

Data, impressions, tentative conclusions, and potential recommendations were discussed within the Ronco team to achieve a consensus and increase the reliability of team evaluations. The evaluation itself took place within the context of the project's logical framework, as will be seen in the following sections.

Each team member took primary responsibility for drafting particular section(s) of the report according to his speciality and the fieldwork he carried out. Each member reviewed and commented on the work of the others.

Mid-way through the evaluation, the team met with the Mission Director, and other AID officials concerned with the project, and the Africare resident representative to brief them on the progress and initial findings of the evaluation.

At the end of the work period, an exit conference was held with the Mission Director, other AID officers, the Africare resident representative, and the project coordinator from Ouahigouya. An oral presentation of preliminary findings and recommendations

was made, and Mission/Africare comments were solicited and received. These were incorporated in a partial, draft report left with the Mission prior to the team's departure from Upper Volta. The final report was completed in Washington after each Ronco consultant individually and jointly reviewed the final draft. This final draft of the report was submitted to the Africare Office in Washington, D.C., and a copy taken by the Africare project back-stopping officer to Ouagadougou for review by the Government and AID/Ouagadougou.

#### IV. STATUS OF LOGICAL FRAMEWORK COMPONENTS

##### A. SOCIAL SERVICES

##### 1. General Village Development Infrastructure

##### a. Village Development Committees

##### (i) Description

The purpose of the Village Development Committee (VDC) is to afford the villager the opportunity to participate directly in the decision-making process for the development of his village. Key to the development of the SIRD project village infrastructure is the establishment of a functioning Village Development Committee in each of the project's 45 villages (12 Type I, 18 Type II, and 15 Type III).

##### (ii) Progress to Date

● Village Development Committees have been formed in each of the project villages.

##### (iii) Findings

The establishment and the functioning of the Village Development Committees was delayed by the slow start-up of the project; the fact that the baseline socioeconomic survey was not carried out, leading to difficulties in properly classifying villages; and that, as of October 1981, two-thirds of the VDC's were not operational because villagers did not fully understand the roles of a VDC. This stemmed from inadequate planning, pre-

paration, explanation, and follow-up work by the project extension agents. Another serious problem was the delay in selecting and training the appropriate extension agents (animateurs/animatrices).

In the past eight months, a great deal of effort has been made to rectify this situation and the results of that effort are starting to appear in the form of various activities being undertaken by different villages.

The Village Development Committee is a departure from the traditional political and economic decision-making process. The VDC combines the traditional village associations into a group which elects its leaders. Through the elective process, various new activity groups are formed to carry out certain project activities at the village level.

Further, each VDC elects two of its members to represent itself on a "zonal committee" (CZE). Seventeen CZE's deal only with problems the VDC's have been unable to resolve themselves.

The CZE's in turn elect two people each as representatives to the higher council in Seguenega, the Conseil Consultatif de Seguenega (CCS). This body meets quarterly to resolve those problems which the CZE's cannot resolve on their own.

Observation of the CCS in operation indicated that it is a forum in which problems and issues are raised, discussed, and solutions sought.

(iv) Recommendations

- Although the village Development Committee has had some modest success in bringing together villagers

to air grievances, common problems, etc., it cannot really effect implementation of activities because, as such, it is not a formally organized institution, with the infrastructure and resources to conduct commercially viable activities and provide acceptable social services. To build further on the VDC foundation, it is recommended that a long-term technical advisor be hired to take the VDC's that important step toward becoming an effective institution with authority, procedure, and all facilities necessary to direct and execute activities.

- Consonant with the above recommendation and in order to further strengthen the SIRD project village infrastructure, it is suggested that no more than six "development centers" be strategically located within the project area servicing five or more villages. The purpose of the centers would be to consolidate all training and extension activities, to maintain demonstration and training facilities, to service neighboring villages on a timely basis, and to serve as a submanagement office for the project. The final objective is the creation of cooperative societies in the development centers with their union in Seguenega.

- Consideration should be given to consolidating the 17 zonal committees (CZE's) into six committees which would be located at each of the six development centers recommended above. These development center committees would be responsive to the VDC's of their respective areas, and would be much less unwieldy than the present 17.

b. Extension Agents

(i) Description

Part of the support for this institutional infrastructure is that of trained extension agents (animateurs/animatrices) who will act as village organizers and provide assistance in agricultural and livestock production, credit, village health care, literacy, and general village development. The objective is to post one trained male ORD extension agent (animateur) and one trained female ORD extension agent (animatrice) in each Type I village (12).

(ii) Progress to Date

Male and female extension agents have been posted to each of the 12 Type I villages.

(iii) Findings

The placement of the animateurs and animatrices was accomplished to the latter half of 1981. Their effectiveness to date has been limited by the following factors:

Too many diffuse and difficult tasks have been assigned to them, e.g., literacy, health, agricultural training activities, village development committees, etc.

Fuel allowances for transportation in the project area are inadequate for the amount of "job coverage" that is presently required.

As a result of the two above findings, extension agent motivation has suffered.

While their primary responsibility is to the Type I villages, they are expected to cover various activities in Type II and III villages. This stretches them even thinner and leaves no time for follow-up visits and work.

On the other hand, there have been accomplishments - Young Farmer Training in Goubre is proceeding very well because of a capable, dedicated team of extension agents; organizational problems within the VDC of Konde-Tangaye were overcome, one result of which was the purchase and installation of a mill by the women's association of that village. (See next section for details.) Needs assessments of young farmer pre-coops have been carried out.

(iv) Recommendations

- Tasks and level of responsibility must be redefined so as to be consonant with the extension agents' time and abilities. It is potentially counter-productive for the project as a whole to give villagers some limited exposure to the elements of the project, thereby raising their expectations, but then appear unable/unwilling to carry through because of the inability of extension agents to devote the time required to organize projects of interest to villagers. For example, it is too much to ask that an extension agent be almost totally responsible for the successful operation of a VDC, when that institution is a sharp departure from the traditional institutions,

and is fraught with potential power/jurisdictional problems once activities get underway and become successful, both economically and socially. A good example of an area which has potential for problems is that of literacy - some male villagers do not want their wives/daughters participating in literacy classes. (See Section IV. A.3.a.iii, "Village Based Functional Adult Literacy - Teaching Cadre" for details.) It is doubtful that an extension agent has the necessary experience and presence to act with the care and tact called for to change villager thinking on this matter.

- The fuel allowances for extension agents must be increased if they are expected to be able to carry out their assigned tasks.
- Opportunity for retraining and for "lateral learning" (where agents share teaching and work experiences, both good and bad, and thus learn from each other) must be provided. The development center concept explained earlier would be an excellent means of accomplishing retraining and further learning.

c. Revolving Credit Funds

(i) Description

To help the Type I villages develop, certain revolving credit funds were to be established: \$26,500 Agricultural

Credit for equipment and expendable materials; \$13,000 Women's Credit for equipment and materials not supported by other funds, and a Self Help Fund for small village projects not supported by other funds.

(ii) Progress to Date

- The three credit funds have been established.
- The Agricultural Credit Fund started to operate in the first half of 1981 and the other two funds in the first half of 1982.

(iii) Findings

In the last quarter of 1981, 2,475,000 CFA credit from the Agricultural Credit Fund was granted for fertilizer and various small agricultural implements. Fertilizer made up the bulk of the credit granted. Villager confusion over the conditions of the credit to be granted and the general unavailability of the quantities of small agricultural implements requested have held up the operation of this fund.

The Women's Credit Fund has just begun with the purchase of a mill and motor by the women's association of Konde-Tongaye. The project has purchased five more mills (and motors) for subsequent resale on credit to other villages. It appears that the principal future activity of this fund will be to finance the purchase and installation of village mills. Because of the potential of this activity (milling), the elements of the loan to Konde-Tangaye and the success registered during the first seven weeks of operation are shown below:

	<u>CFA</u>
Purchase Price (mill/motor)	498,700
Building, installation, initial diesel fuel, and lube oil	198,595
Interest over term of loan	<u>118,705</u>
Total	<u>816,000</u>

Quarterly payments = 68,000 CFA starting September 30, 1982 and running until June 30, 1985.

Operations began on April 16, 1982. Between start-up date and June 10, 1982, the activities are as follows:

Receipts	100,075 CFA
Expenses (diesel fuel/ lube oil)	<u>49,500 CFA</u>
Net Income	<u>50,575</u>

Following are details of the milling operations:

A villager (male) was appointed as miller. Each individual who has grain milled gives the miller a small amount of flour in payment.

The Milling charge is 35 CFA for a four liter container of grain.

Corn, millet, sorghum and rice are milled.

60 percent of the grain currently milled is from Konde-Tangaye. The remainder comes from Rambo, Dierko, Pouna, Tantoga, Kouga, and Bouli.

The initial success of the milling operation at Kinde-Tangaye has come to the attention of other neighboring villages, which are now requesting installation of mills.

The Self Help Fund began its credit operations in early 1982 with the approval of a loan to the Seguenega Village Development Committee to set up a grain bank in Seguenega from which grain will be purchased (initially from the project) and resold to villagers. The first tranche (400,000 CFA) of the total loan, 800,000 CFA, was paid out in the first quarter. Slightly over half of the first tranche was used to start filling the grain bank with millet. Feasibility studies will start in September 1982 for the installation of grain banks in Koudouma and Beringa.

As expressed elsewhere in this report, the delay in establishment and operation of many of the funds were part of the late start-up of the project.

(iv) Recommendations

- It is recommended that if a fund is underutilized that consideration be given to reallocating a part of those monies to other funds whose activities have proven successful. Part of the rationale of establishing credit funds for Type I villages was that these villages had more of the elements of potential success than the others, that availability of specialized credit would promote this success, and as such, these Type I villages would be "growth points" for the project as a whole. With visible

success of the Type I villages, other villages would aspire to do the same. Unfortunately, sale of fertilizer on credit got off to a slow start, has not been as significant in monetary terms as other activities, and has suffered from a low rate of recovery to date.

- Additional milling facilities should be installed only after careful consideration is given to location in order to avoid market overlap and to insure proximity to grain banks. Furthermore, to ensure that the potential of milling activities is met, mill maintenance and repair channels must be established for timely availability of spare parts and repairs.

d. Local Residents with Speciality Skills Training

(1) Description

Ancillary to the extension agents posted in the 12 Type I villages and to assist in various aspects of the project are ten male and ten female local residents to be selected and trained in speciality skills relevant to rural development in each Type I village. These local residents are in addition to those trained specifically under health, literacy, and other project components.

(ii) Progress to Date

- Some identification of villagers and an introduction to credit, livestock husbandry, and vegetable gardening have been accomplished.

- A limited introductory training session in poultry has been conducted with large groups of villagers.
- A day's training was recently given to 40 villagers each at Seguenega and Kalsaka in vegetable gardening techniques.
- In total, some 30 villagers have received five days' training in vegetable gardening, and over 180 have received a one-day introduction.

(iii) Findings

The delay in placing animateurs and animatrices, the multiplicity of tasks given them, the number of villages to cover, and the motivation problems delayed the identification and selection of interested, motivated local residents who would receive training.

With the mass exposure given to the elements of poultry raising, the increase in exposure given sheep fattening and vegetable gardening, identification of likely candidates should accelerate.

Moreover, the "demonstration effect" that village activities such as the poultry flock at Sittigo and the vegetable gardening at Ramsa have had should also accelerate identification of suitable villagers.

(iv) Recommendations

- Initially, livestock, vegetable gardening, and literacy management personnel, teamed up with the appropriate extension agents, should follow up the exposure and brief training given large numbers of

villagers to identify additional villagers for training in speciality skills. Additionally, a mechanism/procedure should be established in those villages which have experienced a "demonstration effect" in order to identify those individuals/groups from other villages who have expressed a high level of interest in project activities.

- In the future, the whole process of identifying, selecting, and training resident villagers in specialty skill areas would be greatly simplified by the adoption of the development center concept expressed earlier. The centralized character of the development centers, with its clearly defined activities and its visibility, would attract interested villages and would provide an optimum training environment.

e. Supervisory and Support Unit

(i) Description

A supervisory and support unit will be established in Seguenega, consisting of a headquarters office, a male supervisor for animateurs, a female supervisor for animatrices, a secretary, a driver, a four-wheel drive vehicle, and audio-visual equipment for extension purposes.

(ii) Progress to Date

The unit has been established, staffed, and the equipment received.

(iii) Findings

Effort is being made to restructure the workload and the programming of the project animateurs/animatrices. The restructuring was necessary because they were overburdened with tasks and thus had not had sufficient time in training to become effective instructors. For example, their literacy training schedule was so heavy that they were unable to carry out health education duties. The latter responsibilities were shifted away from them to the health post nurses.

(iv) Recommendations

- The Supervisory and Support Unit should become an integral part of the recommended project management unit in Seguenega. (See Section IV.C.4.k and g.i.iv., for the recommendation to move key project management personnel to Seguenega to strengthen the management/supervision of the project.)
- Even with the restructuring of workloads, the animateurs/animatrices still have a wide variety of functions to perform. This will require careful programming, sequencing, and supervision for their field activities to be effective.
- As project activities develop and as the six development committees become operational, work emphases will likely shift which will require some new training and some periodic retraining.

- Both the training and field activities will require that a flexible implementation plan be drawn up, which takes into account the linkages between project activities, and which adapts to the amount of progress made in these activities - both in terms of field expertise and material, logistical, and audio-visual support needed.

f. Self Help Projects

(i) Description

As a means of insuring villager involvement in developing village infrastructure, 12 self help projects are to have been completed and another eight under way with potential for completion within one year.

(ii) Progress to Date

● More than 12 self help projects have been completed and 16 are in various stages of completion.

(iii) Findings

These projects are principally villager built facilities, i.e., village pharmacies, village maternity centers, literacy centers, lodging for project extension personnel, and small grain storage bins.

A larger cereal grain bank in Seguenega was started in early 1982, with the approval of a loan of 800,000 CFA, half of which was given in the form of materials and initial supply of millet.

Problems with the operations of the village pharmacies and the poor quality of many of the village literacy center facilities are discussed in the subject sections of the paper.

(iv) Recommendations

- The problems of supply of medicines, control over their sale, reimbursement of monies, and the inadequacy of many of the literacy centers must be resolved for these small projects to have the desired effect, i.e., continuing villager involvement in developing village infrastructure.
- The placement of additional grain banks should take into account planned location of village mills. In fact, the six development centers proposed earlier most likely should be the loci of future grain banks and milling facilities.

g. Formation of Producer Associations

(i) Description

As part of the operation of the Village Development Committee, village producer associations were to be formed - at least one viable producer association in each of ten Type I villages.

(ii) Progress to Date

The objective has been met. In fact, all Type I villages (12) have a viable producer association.

(iii) Findings

Producer associations are active in vegetable production, rice production, poultry raising, and one in grain milling.

Commentary on the various producer association activities, their successes and problems, are found in the individual sections of the report which deal with each activity.

(iv) Recommendations

- Consideration should be given to making these currently active associations the nucleus of the previously proposed cooperative societies program in the development centers and the cooperative union in Seguenega.
- Consideration should also be given to bringing sheep crossbreeding and fattening activities under the aegis of the cooperative societies. Both the crossbreeding and fattening programs have high potential for success. The potential would be enhanced by the formation of organizations which would give the producers the ability to both supply themselves dependably with animals and associated inputs, and to open marketing channels south to Ouagadougou, Bobo Dioulasso, Abidjan, and other potential urban markets. The organizations referred to are the cooperative societies themselves, the cooperative union in Seguenega and the Bali-Bali

pure-bred multiplication center at Seguenega  
(discussed in Section IV.B.3.i., "Sheep Multipli-  
cation Center Proposal.")

## 2. Village-Based Health Services

### a. Village Health Teams

#### (i) Description

One in each village (30) comprised of one Village Health Aide and one Village Midwife at a minimum, with basic training, facilities, and supplies to operate a village pharmacy, to collect varying degrees of basic health and demographic information, and to involve their villagers beneficially in programs such as health education, applied nutrition, personal hygiene, disease immunization, environmental sanitation, and simple health care including normal child delivery.

#### (ii) Progress to Date

- Twenty-two teams installed in villages.
- Over one month training for team members.
- Twenty-two Pharmaceutical Kits/Obstetrical Kits in each village with a team.
- Training Materials/Programs designed by PHA-Africare.

#### (iii) Findings

Although there are 22 trained teams installed in a like number of villages, along with their pharmaceutical and

obstetrical kits, the delivery of services and execution of the various educational health programs designed by the Africare PH Advisor were poorly implemented in most villages. Supervision of the village teams by the dispensary nurses was poor because they were reluctant to take on any additional duties beyond those required at the health posts. Health programs in the villages were loosely scheduled, and on-the-job training hardly existed. The facilities and supplies (pharmaceutical and obstetrical) were in poor condition, not well stocked, with items missing. Village aides are voluntary workers selected by the village development committees but receiving very little, if any, supervision from the village development committees.

(iv) Recommendations

- The joint management of the health component should review and resolve the personnel policies and problems related to work loads and compensation required to insure adequate supervision and implementation of the village programs and services.
- The four dispensary nurses must develop scheduled work plans to implement the various programs for the villages under their supervision as well as procedures for monitoring the results and to collect data.
- The village development committees should consider a modest payment program for the health aide and for the midwife in each village to establish some professional responsibility and incentive for good work.

- The central dispensary pharmacy should be required to establish a written procedure for the distribution, perpetual inventory control, and cost of supplies and materials used in the delivery of health services in the villages. Restocking of supplies should be made by purchases from the central dispensary under village development committee supervision.
- Each nurse should be required to maintain on-going records for each of the villages under his/her supervision in a standard format developed by the Director of Health Services in the Project.

b. Health Post Facilities

(i) Description

Three physically upgraded Health Posts and one newly completed one, staffed and equipped to provide improved dispensary, maternity and MCH services on site, as well as support the work of five to seven Village Health Teams per Post.

(ii) Progress to Date

- A Health Post (Dispensary) built in Rambo, with all services.
- The renovation of Health Posts at Kossouka and Bema completed.
- The Kalsaka Health Post renovation complete, except to dispensary and installation of doors and windows.

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(iii) Findings

Although the four health post facilities have generally been completed, there were several rather serious problems to be corrected. Although the project used the BURGEAP study of water sources and needs of Yatenga (1975), there is a serious deficiency in potable water at all of the health centers. One well exists at the Seguenega Health Center which appears to be located in the path of a soon-to-be built national road. Much of the equipment for the health posts is stored in Seguenega and is yet to be transferred. Medicines and supplies promised by the Ministry of Health have not yet been received at the Posts. Other than these logistical matters, perhaps the most serious problem is the mediocre standard of work performance at the health post dispensaries, including absenteeism which limits availability of the 24-hour service.

(iv) Recommendations

- Although the locations of the dispensaries have already been established, the information in the BURGEAP study should be reevaluated by a short-term water engineer, who would develop a more specific plan for the supply of water to all the dispensaries (posts). Even if wells cannot be placed nearby, the potable delivery systems and procedures must be established.
  
- Certainly it is recommended that the balance of equipment, materials, and supplies be delivered to the health posts and that written procedures for their use and control be established immediately.

- Staffing problems must be reviewed, salary levels examined, and procedures established to insure attendance, and the maintenance of established work standards for all health posts which would be enforced by the Ministry of Health.
- It is recommended that every effort be made by whatever means seen appropriate, to assist the Government in improving management and support services for health components of this project. Additionally, management and control of personnel and services provided by the health posts must be improved and the necessary management training program instituted.

c. Central Medical Center

(i) Description

One physically upgraded health post/center staffed and equipped to provide improved dispensary, maternity, MCH, nutrition recuperation, and central pharmacy services on site, as well as direct support to the work of five to seven Village Health Teams, and general support to the work of the four health posts.

(ii) Progress to Date

- Seguenega health center structure has been upgraded to eight rooms.
- Furniture (ORD), UNICEF Maternity Table, and German nutrition and recuperation equipment installed.
- Certain materials, supplies, and pharmaceutical items are at the center.

(iii) Findings

On several occasions, the Central Medical Center at Seguenega was visited and certain observations made that require corrective action. The central pharmacy was totally disorganized. Pharmaceutical drugs and medicines were labeled in English; however, the medical officer in charge does not read English. There was an absence of refrigeration of any kind, not only in Seguenega, but also in the health posts for certain pharmaceuticals. Particularly inadequate was the medical procedure for inoculations. The Center at Seguenega, like the health posts, is operated with oral and some written procedures, but lacks the management capability necessary for effective supervision of its activities and supervision of the four health posts.

(iv) Recommendations

- It is recommended that an administrative officer be posted to the Seguenega Medical Center, whose responsibilities will be to implement operational management procedures at the center and the health posts, including the coordination of a monitoring system for the village delivery of services and instruction programs. He should act as assistant to the Director of Health Services in the project area, have actual authority and responsibility in all financial and administrative matters.
- Certainly one of the first operating procedures developed by Africare, the Government, and the new administrative officer should be one that clearly

defines the use of the facilities and control of all materials, supplies, and pharmaceuticals in the project.

- It is recommended that with the current experience of the delivery of health services and village health instruction programs that the equipment, materials, supplies, and pharmaceutical lists be reviewed, revised, and medical procedures improved. For example, kerosene or equivalent refrigerators should be installed at the Seguenega Health Center and at the health posts, and pedojets purchased and used for immunization programs in order to provide a more efficient and clinically sound approach to prevention of applicable communicable diseases.

d. Evacuation Procedure

(i) Description

Referral procedures have been established for the evacuation of serious cases from the 30 villages to the health posts, the health center, and the departmental hospital.

(ii) Progress to Date

- Oral referral procedures have been established for evacuation.
- Project roads are excellent for evacuation of patients from/to points within the project area.

(iii) Findings

Although there is a kind of evacuation procedure in existence with an experience record of 188 cases in 29 months, it is basically unwritten. Evacuation from the villages to Seguenega can be arranged if the one vehicle (ambulance) is not under repair. If the evacuation is necessary but not of the highest priority, reasonable moves can be made to the Ouahigouya departmental hospital. Any serious surgery or treatment requiring attention in Ouagadougou will entail considerable time to travel the 120 miles from Ouahigouya on national roads not of the quality of those in the project area. There is evidence that any person requiring evacuation needs from 1,000-5,000 CFA cash to be evacuated; however, the availability of such funds is unknown or at least not clear. One Ford Bronco serves as the only ambulance. Its operating budget covers approximately 50 percent of its costs. If it breaks down or needs maintenance, there are no organized alternative ambulance/transportation arrangements, which can be a serious problem for an evacuee. Also the formal arrangements made between the health post, the medical center, and the departmental hospital apparently need updating (see below).

(iv) Recommendations

- A written evacuation procedure must be developed for patient evacuation. It should include a pre-established physical plan (method, route, notification) and agreement between the Director of Health in the project, the departmental hospital at Ouahigouya, and facilities in Ouagadougou as to the types of cases requiring treatment and at

what location treatment will be given, including Seguenega, Ouahigouya, and Ouagadougou.

- It is recommended that a second vehicle be made available for the medical center at Seguenega. It should have dual use: as a backup ambulance when the project ambulance is not operating; and secondarily, for use by the health post nurses for supervisory field trips when the project ambulance is in operating condition.
- It is recommended that a short tract of secondary road be upgraded and linked to the Canadian built highway (see Section IV.C.2.a.iv., Road Improvements - Road Construction, recommendations) for rapid accessibility from the project site to Ouagadougou.
- It is necessary that financial control over those funds paid and/or received in the villages and health posts be tightened with written procedures audited by the recommended "administrative officer," to insure the movement of all generated funds into the cash flow for the health components.

e. Departmental Hospital Support

(i) Description

Procedures and arrangements were to be established for departmental hospital support of the lower levels of the system.

(ii) Progress to Date

- The Director of Health Services had made the necessary arrangements for clinical treatment of patients referred from the Seguenega Medical Center
- Arrangements were made by Africare to ship to the departmental hospital one Mobile Army Field Hospital to be used to supplement their existing facilities and to support the SIRD program.

(iii) Findings

The departmental hospital at Ouahigouya has been operating as a government facility for some time, and the arrangements that have been made are purely clinical in terms of support to the project. Existing evacuation procedures used in the villages and the medical center that have been established are functioning as indicated above, between the departmental hospital and the medical center. It is not clear that there exists any written agreement between the project management and the hospital as to what support services of a clinical nature are to be handled, paid for by whom, and what instructions are to be followed for acceptance of patients by the hospital.

(iv) Recommendations

- Procedures for acceptance of patients by the hospital, and under what terms, should be reduced to writing and thoroughly understood by the village health teams and the staff at the medical center. This is necessary to establish types of evacuations and insure the efficient delivery of treatment to referred patients.

f. Village Revolving Pharmacy and Vaccine Funds

(i) Description

Procedures were to be established for Village Health Team operation and maintenance of village revolving pharmacy funds, with support from the health posts and health center and a revolving vaccine fund operating.

(ii) Progress to Date

- Operating procedures established.
- For eight villages reporting in March 1982, 1,066 consultations.
- Drug sales reported for 1982 were 578,907 CFA, of which 250,497 were from the medical center, and 328,410 were from village pharmacies.
- Immunization not being accomplished under the project.

(iii) Findings

Operating procedures are a mixture of oral and various written instructions in the hands of the village teams. The lack of adequate management supervision by the health post nurses in the villages has curtailed the effectiveness of Village Health Team activities. The lack of administrative audit and supervision of the revolving pharmacy funds has caused shortages in revenues received for the sale of pharmaceuticals resulting in village supplies not being replenished, limiting treatments accordingly. The basic consultations and use of medicines are curative. Preventative health

services are minimal at the village level. Project intentions are vague on the subject of immunization, and refrigerators and acceptable equipment is needed - such as pedojets, which are not routinely used.

(iv) Recommendations

- Although there are procedures established for the delivery of medical and health services at the village level, strict procedures for the operation of the village revolving pharmacy funds must be instituted and adhered to.
- It is recommended that management at the health post, with assistance from the project advisory staff, develop these operational procedures and train the village health teams in their proper use.
- It is recommended that a procedure be established and implemented to instruct the village health teams in organizing, on a routine basis, those villagers requiring immunizations that can be taken care of at the health post.

g. Payment for Medications and Services in the Village

(i) Description

It was originally intended that the village patients receiving medication and/or other services from the village health team would make part payment for medication and some full compensation for services received from the village teams.

(ii) Progress to Date

- Payment for medications are being made by the villagers as planned.
- Although there is a fee schedule for medications, none exists for services. Payment for services, if made at all, tends to be in kind.

(iii) Findings

Obviously, it can be stated that payments are made for medication and that medication is being used. As stated in earlier recommendations, the management of the funds is questionable. The French Government is distributing free malaria suppressant to the villagers through personnel other than the Village Health Team, which makes it a little difficult for the project health component to charge for that medicine. Money payments to the village teams for services rendered are nearly nonexistent, and in-kind payments are sporadic. This situation obviously makes it difficult to expect a trained villager to render services without any dependable compensation at all, considering the amount of time he is expected to put into his schedule of duties.

(iv) Recommendations

- The village development committees must develop a plan to see that at least a modest salary is paid to the health aide and the midwife for their scheduled work.

- A review of the types of medications needs to be conducted and a determination made as to what should, and should not, be paid for. At the very least, the Government needs to be responsible for some subsidizing of medication for endemic disease control.
- It is recommended that a reasonable fee schedule be set for medical consultations to assist in paying for the village health aid and the midwife. An established fee schedule will help reduce the amount of time spent on consultations for situations that can be taken care of by the family internally, particularly as the in-village health education program develops.

h. Animatrice Support to Village Health Teams

(i) Description

Animatrices were to have been installed in 12 Type I villages, and having supported the work of the village health teams over the early stages of the project in those villages, phased out by the end of the project.

(ii) Progress to Date

The animatrices were installed in the villages and are handling several training programs, including health.

(iii) Findings

It was discovered that because of the schedule of duties for literacy training that the health training programs

could not be handled by the animatrices. Subsequently, these duties were delegated to the health post nurses. This caused the health post nurses to demand salary supplements for the extra duties.

Since it was decided that the animatrices would not conduct the health training programs, and because in Section 2.A., the matter of personnel and composition have been dealt with, no recommendations are to be made for this activity.

(iv) Recommendations

None.

i. Proposal for Health Services Management in Upper Volta

(i) General Emphasis

Practically all of the recommendations presented above, if implemented, would assist the Ministry of Health in achieving its ultimate goal of improving the level of health and the quality of life of Upper Volta's entire population. However, the recommendations are based specifically upon the findings reported herein and the conclusions derived from these findings. Many of the recommendations are already part of a USAID health program being implemented through the Upper Volta Health Ministry.

(ii) Planning/Programming/Budgeting/Evaluation System

While there was a very commendable emphasis in the project on the "bottom up" aspect of planning and decision making, from the village level through to the ORD headquarters, discussions with Ministry of Health officials indicate a need for improved management and planning from the ministerial to department levels and, in some way, to share this process with the ORD's. This is admittedly

a very difficult proposition because it involves trying to do the same thing, both in the Ministry of Health and the Ministry of Rural Development, and "meshing" these processes in a health project which is nominally the responsibility of the Ministry of Health. It also means trying to get that concept to fit in with the combined Ministry of Health and ORD relationships at the levels of the subdistricts, like Seguenega. However, this should not negate the following recommendations, and may even make them more important.

(iii) A Health Management and Planning Unit

A Health Management and Planning Unit should be established at Ministry Headquarters. The Unit should be located in the Ministry's organizational framework and at a sufficiently high level so that it will have direct access to top officials in the Ministry. Most likely, the appropriate arrangement would be to have the Unit serve as a staff office to the Director General or perhaps to the Director of Public Health; but there could be several other equally workable arrangements. However, in any case, the creation of such a Unit would require some assistance from outside the country in much the same way as it did in Ghana (USAID Project 0068 - Management of Rural Health Services.)

The Health Management and Planning Unit should have a small secretariat and the Unit's membership should be small enough to permit free operation of group dynamics at meetings, and yet large enough to be representative of important sections of the Ministry and involved disciplines. For example, it might be quite important for a social scientist and an economist to serve as members.

Likewise, the Department Medical Offices could be represented on a rotating basis by the appropriate department medical directors (medecins chefs).

The responsibilities of the Health Management and Planning Unit might be as follows:

The institution of a system of management which will promote planning-programming-budgeting-evaluation with each component of the system, carried out in coordination with all levels of the Ministry of Health. Work being carried out by other ministries and/or agencies which relate or could relate to the work of the Ministry of Health will be seriously considered. The obvious application of this proposal to further health planning activities which might be undertaken jointly in the future, by the ORD's and the Ministry of Health's appropriate subdivisions, makes such a recommendation particularly appropriate. Admittedly, the planning of the health component of the Seguenega ORD was undertaken jointly, but it would be sensible to have this institutionalized as a normal procedure for the future.

Continued review of existing health plans, and development of new plans, with provision for alterations of these plans at timely intervals in accordance with changes in program needs,\* budgeting, and evaluation.

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\*It is not to be construed that all rural health programs must be the same. A suitable "mix" of program elements needs to be determined for each geographic area of some agreed-upon size and administrative boundary. One program "mix" may vary considerably from another.

Establish the basis for a cohesive and maximally efficient management system for carrying out health programs. Refer program plans to the planning unit and obtain agreement by all operating components of the Ministry of Health (conceivably down to the Arrondissement level, but certainly involving the Department Medecins Chefs and their staffs).

The following steps should be included in the Health Management and Planing Unit's rule of procedure: (a) Department Medecins Chefs should carry out their own yearly planning, programming, budgeting, and evaluation exercise prior to annual discussions in Ouagadougou, and they should encourage health staffs at all peripheral levels in the Department to assist in this exercise by going through the same procedure at their own level; and (b) the Department Medicins Chefs should meet each year in Ouagadougou to review their own plans, programs, budget estimates, and results of any evaluation undertaken during the past year. This should be done in sufficient time so that these matters can be discussed in detail with the members of the Health Management and Planning Unit and incorporated in the Unit's recommendations to the Ministry as appropriate.

In this way, it is anticipated that a continuous flow of information and planning projections could proceed from peripheral elements of the Ministry to Department Health Departments and to the Health Planning Unit from where the information and projections could flow to appropriate offices and departments in the Ministry, as well as to other agencies in the government responsible for making policy decisions and budgetary allocations. A reverse flow of information, and directives where appropriate, should follow consideration of the PPBE documents submitted by the Ministry of Health to these agencies.

(iv) Feedback to Health Training Institutions

Field studies and reports should be utilized to update and support curriculum development at health training institutions at all levels, including those undertaken in ORD's. This would insure, for example, that the right "mix" of public health and curative medicine would be considered in the design of appropriate curricula. In addition, the professional societies, e.g., the Medical Society, as well as central committees, like the Nursing Council, should have access to this type of information in design or redesign of curricula for which they have responsibility. Finally, management problems uncovered in the field could serve as case studies for use in management training curricula at all appropriate levels, and to update management expertise as time goes on.

(v) Training in Management and Supervision

As pointed out by Rizzo et al.<sup>1/</sup>, management training is a critical component of increasing organizational

<sup>1/</sup> Rizzo, Edward E. and Davidson, Alfred, "AID Strategies for Health Management Improvement." September 12, 1980, issued by AID covering letter dated June 22, 1981, by the Office of Health, Bureau for Development Support, p. 32.

effectiveness, specifically in "providing increased health services and/or services to an increased clientele at a given quality level for service."

This view is certainly supported by our findings in respect to the health component of the SIRD project. Therefore, it also seems reasonable to assume that additional management training would be most helpful in promoting smooth implementation not only of the SIRD project, but of any others like it which may be considered in Upper Volta and, of course, of projects already underway within the Ministry of Health. The following two paragraphs quoted from the Rizzo paper seem particularly pertinent:

"The training materials (texts, cases, readings, etc.) should be adapted to the culture, the health sector and the organizational needs. This principle is often violated because such materials either do not exist or have not been adapted to the training objectives of a particular organization. This is one field where AID, WHO, and other donors can assist greatly in collaboration with national or regional institutions.

The training methods should reflect the fact that management is a performing art and not an intellectual discipline. Thus, the transfer of knowledge is not enough; it is necessary to include practice. Methods should include role-playing, case analysis, programmed instruction, simulation, management games, field work, etc. Here again is an area in need of donor assistance to develop the materials, the methods and to help adapt these to different cultures." 2/

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2/ Rizzo and Davidson, p. 34.

### 3. Village-Based Functional Adult Literacy

#### a. Teaching Cadre

##### (i) Description

A principal component of the Village-based Functional Adult Literacy program is the provision of trained staff to teach in the villages. The project calls for two trained instructors in each of 30 project villages to teach functional adult literacy in More, with no more than 20 of the instructors being ORD animateurs or animatrices, the balance being residents of the villages in which they teach.

##### (ii) Progress to Date

- Training started with most classes in their first year of operation, a few in the second year, and one in its third year in some 17 villages. (See Section IV.A.3.c.ii., "Classroom Instruction.")
- Eight village residents have been identified and given five days of literacy instruction training; however, the selection and training of most of the remainder will depend on the satisfactory completion of the current literacy program effort. The bulk of their activity falls under work specified for the development of animateurs/animatrices.

##### (iii) Findings

The project had planned and posted animateurs/animatrices in the villages to carry out a number of functions. After training at the National Functional Literacy Training Center

(DAF), the animateurs/animatrices were to initiate literacy training of villagers. In addition, they were to assist in the selection and training of village resident instructors. In the November 1981 self-evaluation, it was stated that, in spite of their training, the animateurs/animatrices could not yet be considered instructors. Yet their schedule of duties is that of a senior rural development officer dealing in (1) literacy training, (2) organization of agricultural programs, (3) village instruction for health, sanitation, nutrition, (4) the training of young farmers, (5) supervising 4-C units, (6) organizing pre-coop associations, as well as liaison with the village development committees, and other duties as assigned.

Significant is the absence in the project, since its inception, of a rural development specialist and a rural education specialist. Neither were contained in the design of the project, not to mention the fact that other than in the livestock area was there an experienced agricultural specialist with rural development experience. Certainly a team of short- and/or long-term technical assistance specialists should have played a vital part in the planning of implementation activities for, and training of, the instructors and rural development officers.

Part of the duties of the animateurs/animatrices, and as their title suggests, is to generate interest in and organize activities in villages. The self-evaluation of November 1981 reported an "insufficient sensitizing and informing the population (sic.)." This internal finding of lack of widespread interest was by the evaluation team. In some villages, the "prestige" of becoming

literate was reserved for the village elders. In other villages, however, interest in becoming literate was found to vary. In certain villages, men were not interested in becoming literate. In other villages, husbands would not permit their wives, and in some cases, their children to attend literacy classes. The men feared that once their wives and/or children became literate, they would leave their villages seeking "greener pastures" elsewhere. In certain villages, where literacy is being taught, single women are not permitted by their parents to leave home to attend class. On the other hand, in several villages, where adequate information and explanation about the literacy program had been given to villagers, interest was high.

Capabilities and motivation of the animateurs/animatrices were found to vary widely and correlated inversely with class absenteeism (average 40 percent) and rate of student attrition (as high as 50 percent).

Some parents stated to the evaluation team that they saw little use in having their children learn to read and write in Mooré. Several parents felt that their children must learn French if they are to have the opportunity to work for the government or work abroad, e.g., the Ivory Coast.

These questions of capability, motivation, and language were put in close perspective by the contrast of the Young Farmer Association Center in Goubre, where two high calibre instructors (an ORD animateur and an animatrice) were teaching a highly motivated group of students. The students received basic instruction in both French and Mooré. In addition, practical subjects, e.g., agriculture for the boys, and weaving for the girls, are taught in Mooré.

Certainly, an integrated rural development project of this size, with this number of technical components, should have had more technical assistance, both long- and short-term, for implementation.

(iv) Recommendations

- It is recommended that a rural education specialist, at the least, and ideally with a sociologist and general agriculturalist, make an assessment of the project training needs and redefine the curriculum and establish realistic goals for the trainers and the trainees.
- Consideration needs to be given to the consolidation of all training and extension services into the six "development centers" located strategically within the project area.
- It is recommended that development teams could then be trained in the various disciplines to teach at the development centers, maintain demonstration and training facilities, and visit five or more villages on a routine basis. The interaction of the various technical trainers, and the meeting of villagers at the development centers can only result in improving the development programs, particularly when these programs could be scheduled to fit the marketing days where each center is located. This

would encourage family social contact and generate more incentive to go to a rural development center for instruction and other instructive demonstrations. This would undoubtedly increase the length of the village marketing activities as well.

b. Village Adult Literacy Centers

(i) Description

The project calls for an adult literacy center to be established in each of the 30 villages. The centers are to be furnished with the necessary furniture and materials for providing literacy instruction to two classes of adult with up to 15 adults per class.

(ii) Progress to Date

- At June 1982, the SIRD project reports that 22 centers have been opened, increasing from eight centers reported opened in the November 1981 self-evaluation report.

(iii) Findings

The evaluation team noted certain deficiencies: for some villages, the "centers" are sheds, which are not suitable for holding classes, and other centers were not adequately equipped. It appears that there was no standard design for the construction of the literacy centers and/or the modification of any existing buildings designated for these purposes.

(iv) Recommendations

- As recommended above, it is necessary that the development center approach be adopted and that a

a standard design for construction and/or modification of existing structures be developed, along with a total equipment, materials, and supplies budget to deal with five or more satellite village programs for each center.

- These development centers should also be designed to include facilities and the capacity to teach the various construction and maintenance skills, such as well construction, road maintenance, soil conservation, etc., and serve as base of operations for the various skilled teams.

c. Classroom Instruction

(i) Description

With an operational literacy teaching infrastructure and adequate facilities being developed over the first four years of the project, the literacy component has the following objective for the amount of classroom instruction to be given:

<u>Number of Villages (2 classes per village)</u>	<u>Years of Instruction</u>	<u>Total Hours of Instruction</u>
2	4	600
8	3	450
10	2	300
10	1	150

(ii) Progress to Date

- The total hours of instruction is far behind the objective as is the number of villages with two classes.

- No literacy center is in its fourth year of instruction; one center is in its third year with one class; three centers are in their second year with one class each; and 13 are in their first year of operation, six of which have two classes and seven of which have one class, according to the January-March 1982 quarterly technical report.
- Three other villages are reported to have one post-functional literacy class each, but the classes are not in operation.

(iii) Findings

The literacy component of the project was delayed because the project itself was late in starting. The quality of instruction ranged from poor to good depending on the calibre and motivation of the instructors. The training materials used were those used in the National Functional Literacy Training Program, as well as a newsletter in Mooré (developed by the project) for the more advanced classes, and the pictorial/simple Mooré training aids used for poultry raising.

Because the literacy program got a late start, it will not be clear until early 1983 how much the third-year students have learned and to what extent they will be capable of becoming resident instructors in their own villages, thereby expanding the project's literacy base.

Additionally, the team found the length of each class, two hours, to be too long. See the Recommendations section.

(iv) Recommendations

- In connection with the last two recommendations of Section IV.A.3.a.iv., "Teaching Cadre," the placement of the development centers could be such that they easily incorporate most of the current villages (17) where literacy training is going on and help meet the classroom instruction objective. In addition, the exposure that the six centers would gain, by virtue of being in close proximity to the market place, could help break down villager resistance to literacy. Furthermore, the logistics of servicing six centers is much less than that of the proposed 30 villages.
- Based on studies done in other developing countries, which indicate that the farmer's level of concentration declines sharply after 45 minutes of instruction, class length should be reduced from two hours to one, and the number of classes per week should be increased.

d. Adult Literacy Headquarters Facility

(i) Description

As part of the required infrastructure, an adult literacy headquarters facility in Seguenega was to be established, furnished with typing and duplicating equipment, and staffed with trained personnel to backstop the village literacy effort.

(ii) Progress to Date

- The headquarters facility has been established and equipped with a typewriter, some literacy materials, and a copier. A trained technical aide started working during the first quarter of 1982.

(iii) Findings

The SIRD project's self-evaluation (November 1981) pointed out that the lack of a training program for instructors (animateurs/animatrices) had seriously hindered the literacy activity. This resulted in the preparation of an annual plan of villager instruction as well as the retraining of nine instructors.

The self-evaluation also spoke of the general lack of instructional materials in the village literacy centers, a situation which has been rectified. It also addressed the need to develop post-literacy materials.

(iv) Recommendations

- Consonant with the recommendation to consolidate all training and extension services into the six development centers, the headquarters facility should be able to service more easily the logistical needs of six rather than 30 centers, and therefore, be able to devote a greater proportion of time to planning, programming, and the training of cadre.
- A rural education specialist should be used, as indicated earlier, to plan and design effective

programs of instruction, ongoing training of instructors, and the development and distribution of post-literacy materials in order that the literacy effort not falter.

- The adult literacy headquarters facility is the appropriate location at which to hold retraining of instructors and to afford the opportunity for "lateral learning" (explained in Section IV.B.1.b.iv., "Vegetable Production - Training, recommendations).

#### 4. Young Farmer Training

##### a. Revolving Credit Fund

###### (i) Description

In order to make young farmer training activities viable, the project will establish a permanent revolving credit fund of \$14, 700 for young farmer associations and 4-C (equivalent to 4-H) projects to purchase basic agricultural and training equipment.

###### (ii) Progress to Date

- The credit fund has been established, but no loans have been made to date.

###### (iii) Findings

The credit fund is to be used to help establish ten young farmer associations and support projects undertaken by eight 4-C clubs. The funds are to be used to help these groups purchase equipment, supplies, and livestock, gardening, or other production inputs.

Because of the overall delay in the startup of the project, and because of problems explained in the next section, 4.b., an assessment of needs for four associations had just been completed.

The principal problem expressed by the young farmers is the increasing cost of tools and equipment, and the fear that, even with credit available, the production activities they undertake will not generate enough revenue to cover the costs they incur.

(iv) Recommendations

- It is recommended that procedures for the fund be re-examined, and that it include (1) the procedures for developing a project proposal for submission to a loan committee (with assistance from the extension agent), (2) that the loan committee is made up of experienced technical staff, and that (3) a loan officer is appointed to monitor the project's progress to insure that implementation is successful. Naturally, these procedures need to be reduced to writing or, if they are written, modified if and where necessary.
- The revolving fund and its use should serve as a training program teaching the processes of planning, budgeting, and goal achievement for the young farmers and, therefore, require technical training inputs of this nature.

b. Functioning Projects

(i) Description

A major output of the SIRD project was to strengthen training institutions for young farmers through the Young Farmers Training Centers (ten), young farmers pre-coops (five), and 4-C's (three). The measure for the success of this training would be that at least one functioning project, such as gardening, live-stock, or a collective field, would be established in each YFPC and 4-C club.

(ii) Progress to Date

- No functioning projects have been established in either the YFPC's or the 4-C clubs.
- Five pre-coop associations have been formed, and four projects have been assessed, but are not yet functioning.
- No 4-C projects are functioning in the three clubs.

(iii) Findings

It is obvious why the revolving funds made available for young farmers' training have not been used. Ten training centers have been established to support the project activities, and unless the training for project planning, budgeting, marketing, etc. in the YFPC's and the 4-C's is conducted, projects will not be started.

Operating young farmer associations presupposes the existence of active Young Farmer Training (YFT) Centers whose graduates will become members of the associations. According to the

present YFT advisor, who assumed his position in October 1981, little young farmer training had been done prior to his arrival.

This is supported by the November 1981 evaluation of SIRD by the Commission of Social and Economic Services (part of the "self-evaluation" process that took place). Initially, ten centers had been opened, but six of them subsequently closed because of lack of training materials, instructors, and equipment. Since October, four of the six closed centers have been reopened. Equipment, tools, instructional materials, etc. are just now starting to flow to the four centers which remained open. Funds to support the reopened centers' equipment and material needs are only now being allocated.

Young farmers training was intended for students 15-18 years of age. In fact, students tend to be 11-14 years old. Thus, there is a "motivational" problem due to their youth. For example, interest in drawing water from wells for watering gardens soon flags. Also, it is unreasonable to expect an 11-14 year old to have the maturity to appreciate fully the necessity of three years of training, without recompense, before he is eligible to join a young farmers' cooperative and farm for money. Moreover, YFT centers, typically, have poor quality land to work.

Enrollment in young farmer training also suffers in that some primary schools are "competing" with the YFT centers. Villagers want their children to go to traditional schools to learn French, and thereby be better qualified to obtain government jobs.

The progress of both the young farmer training and the young farmers' association is constrained because extension

agents are limited in the amount of travel they can do. This limitation is caused by the fact that extension agents receive a monthly gasoline allowance of only 3,000 CFA (\$8.80), which permits them to buy approximately 12 liters of gasoline or slightly more than 3.2 gallons US.

(iv) Recommendations

- It is strongly recommended that more attention be given to teaching agricultural fundamentals and farming techniques in the Young Farmers Training Centers, based on improving the existing crops for the region. This activity would then supplement the basic knowledge of the young farmers and result in the generation of new ideas and suggested programs to be financed.
- It follows that the programs of training, suggested under the recommendations on the use of the revolving fund (established to finance projects) should be carried out resulting in well organized activities for the YFPC's and the 4-C groups.
- It is necessary to review the extension agent's scope of work, schedules, and required logistical support to determine the budgetary needs. There must be sufficient financing to insure not only effective training programs but also the supervision and monitoring of the YFPC and 4-C projects.

## B. FARM/ANIMAL PRODUCTION

### 1. Vegetable Production

#### a. Establishing Village and School Gardens

##### (i) Description

The project calls for 16 hectares of village vegetable gardens and 4.5 hectares of school gardens to be established.

##### (ii) Progress to Date

- Approximately 14 hectares under cultivation in five villages. Another four hectares established in four other villages with minimal production.
- Four hectares have been set aside for school gardening, with one hectare actually being cultivated at the time of the evaluation.

##### (iii) Findings

The vegetable production component emphasizes various vegetables, e.g., potatoes, tomatoes, carrots, onions, cabbage, lettuce, peppers, and okra as dry season cash crops. Production of vegetables takes place in village and school gardens. The commercial village gardens are established through the use of credit for certain inputs and are expected to become self-sustaining. The school gardens serve to introduce school-age children to farming as an activity and provide some vegetables for their consumption. In both cases, an objective is to improve people's diets.

For the five villages (Ramsa, Mogom, Seguenega, Goubre and Kalsaka) with significant production, vegetable gardening

is a money maker. There are certain problems, however, which must be resolved to ensure its continued success:

Sufficiency of water - with the exception of Ramsa, with its numerous wells, the villages run short of water for vegetable gardening in January/February of the year. Multiple uses of the wells and the fact that most of them are too shallow are the principal causes of the water shortages.

Only some intercropping was practiced.

Typically, vegetables are grown by individual villages at the same time of the year. The result is that all the vegetables grown arrive on the market at once, leading to a temporary glut, and therefore, low prices.

Vegetables are not produced during the four-month rainy season because of the prevalence of pests.

Only one project village is a member of URCOMAYA, the regional vegetable growers' cooperative. Seven small vegetable growing cooperatives located in Ouahigouya have the lead role in URCOMAYA. The project village in question, Ramsa, apparently is uncertain about taking a more active role, partly on the grounds that they feel URCOMAYA is set up to serve them, and partly because they feel that the Ouahigouya people, as "city folk," know more than they do.

There is a continuing "demonstration effect," in that members of other villages frequently come to see Ramsa, the largest, oldest, and best run of the village gardening operations. A hoped for side benefit of vegetable gardening at Ramsa has been to slow the exodus of young men migrating elsewhere in search of work.

Vegetable gardening has also introduced some new vegetables (leafy green) into the diets of villagers. The nutritional implications of this introduction are positive because of the addition of vitamins and trace elements to the diet.

(iv) Recommendations

- Deepen vegetable garden wells to insure year-round supply of water.
- Intercropping should be extended, and in particular, leguminous crops with non-leguminous ones, to take advantage of legumes' nitrogen fixing abilities.
- The timing of raising various vegetables could be staggered throughout the dry season to take advantage of supply differentials in the market place.
- Trial vegetable gardening during the rainy season should be started at Ramsa, the village with the most experience with vegetables. Pest control (not complete eradication) could be possible with a

combination labor intensive (hand picking the pests off plants)/safe multi-purpose pesticide (such as rotenone) approach.

- Vegetable gardening activities at this point in time should be limited to those five villages where there has been significant production so that this activity can be further improved, and a model developed for replication.

b. Training

(i) Description

As an integral part of the vegetable production activity, the project calls for 50 government agents and 150 farmers to be trained in vegetable production techniques.

(ii) Progress to Date

- Forty extension agents have received some (one to five days) training.
- Over 100 farmers have been given one day's training. Thirty farmers spent one week in training.

(iii) Findings

Examination of various village gardening operations revealed farming practices which ranged from poor to fairly good. It is clear from the small amount of training given the extension agents and from the minimal exposure the farmers have received that this range of practices would prevail.

Even at Ramsa, the most advanced village gardening operations, individual plots needed weeding and watering (Ramsa alone does have sufficient water throughout most of the year). No pest control (hand picking pests off plants) was evident, and proper plant spacing was sporadic among plots.

The project approach to training appears to ignore some hard-learned training concepts, both as it applies to establishing a cadre of extension agents and the transfer of information to working farmers. The key ingredient is the critiquing of the student all along the training/learning/application sequence, and most importantly, in the student's own environment, i.e., the vegetable garden. It is evident that this has not taken place insofar as vegetable gardening is concerned. By contrast, it does take place at the village of Sittigo in the demonstration poultry flock operation, which is under the close supervision of the project livestock officer.

(iv) Recommendations

- A formal training program with pictorial/written training aids should be developed which covers the entire sequence of theory, demonstration, practice, critique (feedback), and tutorial critique in the student's environment (reinforcement). This last element allows the student to experiment independently with his new knowledge/skills, allows for trial and error, and ensures positive reinforcement of the total learning experience.
- It is not enough to give extension agents and farmers merely exposure to training. The training

program must include not only a retraining element, but also the opportunity for "lateral learning." Lateral learning entails continuing contact with other members of the group (be they extension agents or farmers) to share and learn from each other's experiences, good and bad. Formal provision for this must be made. Lateral learning further reinforces the information transferred and the new skills acquired. Lateral learning should be a component of every training/learning activity as part of the SIRD project.

- The poultry operation at Sittigo and the teaching materials in Mooré, which have been developed by the project livestock officer, should be used as models for training and materials development for the vegetable gardening activity.

## 2. Rice Production

### a. Improving Rice Production

#### (i) Description

The objective is to establish a total of 100 hectares of "bas fonds" rice production, with five functioning village producer associations.

#### (ii) Progress to Date

Forty-six hectares were under rice cultivation in 1981, and preparation is underway for the 1982 crop on 60 hectares, including the opening of 14 hectares of land at Tougouya.

(iii) Findings

Low-lying areas (bas fonds), which are subject to seasonal flooding, are being improved for the cultivation of rice. Small retention dams and dikes are built with village labor, and they hold enough water to allow the rice-growing cycle to be completed. This activity entails the extension of credit for seeds, fertilizers, etc. to village producer associations (groupements) engaged in rice growing.

The single largest constraint to success is the distribution of rainfall - too little or too much. Nowhere is this clearer than at Yamsinde, where, in 1979, the average yield/hectare was 1.5 metric tons (MT); in 1980, a complete failure was registered because of lack of rain; and in 1981, there was a good harvest with a yield of 2.52 MT per hectare on 14 hectares. In the case of certain other villages, sudden strong rains washed out seed and fertilizer.

A second constraint is the present inability to secure adequate supplies of Dourado seed. Dourado is a 90-day open-pollinated improved rice with disease and drought resistance.

The effects of these two constraining factors appear in the low credit reimbursement rate (44%) experienced by the rice production activity.

At present, rice is somewhat of a "prestige" food, associated with holidays and entertaining; as such, its popularity is growing.

Using Yamsinde's 1981 experience, one can very roughly calculate the profit potential of a good year, viz:

### Yamsinde - 80 Families

Production	36,540 kg
Estimated home consumption (40%)	<u>14,615 kg</u>
Left for sale	<u>21,925 kg</u>
Sales (21,925 kg @ 130 CFA/kg)	2,850,250 CFA
Production expenses:	
Seed - 100 kg/HA X 14.5 HA X 95 CFA/kg	137,750 CFA
Fertilizers - 100 kg/HA X 14.5 HA X 70 CFA/kg	<u>101,500 CFA</u>
Income after production costs	<u>2,611,000 CFA</u>
Income per family (CFA)	<u>32,637</u>
Income per family (\$) (assumes 300 CFA)	<u>109</u>

#### (iv) Recommendations

- The project should carry out its plan to divert some of the rice acreage to create its own seed supply this year.
- A physical requirement noted is the need for a cover to be grown on the bunds enclosing the rice fields to prevent erosion.
- It would be wise to go slowly on the expansion of rice production given the Yamsinde experience in 1980, the Tiptenga failure in 1981, and the very low yields registered by Rondo and Boulguin in 1981.

These poor results are reflected in the low credit reimbursement rate for rice production and continued/ increased poor results will jeopardize the agricultural credit revolving fund.

### 3. Livestock and Poultry Production

#### a. Cross Breeding

##### (i) Description

The objectives are to distribute a total 250 Bali-Bali rams for crossing with local sheep, and to distribute 8,000 roosters throughout Seguenega to be cross bred with local stock.

##### (ii) Progress to Date

- 203 Bali-Bali rams have been distributed.
- A total of 560 roosters have been distributed to villages with demonstration flocks and to other villages on demand.

##### (iii) Findings

As part of introducing improved genetic stock to the project area, Bali-Bali rams are purchased by the project in the Sahel region of Upper Volta. They are then distributed in the project area through an exchange/sales program whereby one Bali-Bali ram is exchanged with a farmer for two local sheep. The local sheep are then sold, and the funds generated by the sale are used to further develop project livestock activities. Bali-Bali sheep can have mature carcass weight of up to three times that of local sheep, while the F1 cross-bred offspring can weigh twice what its mother does at maturity.

The introduction of improved genetic stock to the project area also includes the distribution of imported roosters through an exchange/sales program whereunder one rooster is exchanged for two local chickens which are subsequently sold. Monies from the sale are used to maintain and expand this program. The progeny of the imported rooster/local hen cross weigh up to 50 percent more than do local chickens.

Bali-Bali cross breeding has the highest chance of continued success for several reasons. Those villagers who undertake cross breeding (and sheep fattening) tend to be the more progressive individuals with some "small business" (petit commercant) background. Cross breeding is a money maker. For example, a local sheep sells for 1,500-6,500 CFA depending on sex and size; a cross-bred sheep sells for 8,000-15,000 CFA depending on sex, size, and coloration. With this profit potential, the farmer can afford to pay for the Bali-Bali ram(s') feed, drugs, and vaccinations. Sheep raising is a long-established practice in the area. Visual and written training aids in Mooré should be available by late autumn, 1982. These aids will be in the form of flip charts and pamphlets to be used in training old, new, and young farmers. The livestock revolving credit fund provides sufficient funds to permit the continued purchase of Bali-Bali rams from the Sahel area, but, to date, it does not cover the cost of fuel for the trips to the Sahel to buy and transport back the rams.

The initial rooster distribution objective was reduced to 5,000, and subsequently, to 1,500. The requirement to

continually import hybrid stock is this operation's weakest link because of the high mortality rate of the imported birds. This has adversely affected the viability of the poultry center, the number of demonstration flocks started, and the entire cross-breeding effort. Introduction of imports into Yatenga has been tried in the past and has not succeeded. The high mortality occurs because of lack of resistance to local diseases, the lack of confinement of the hybrids on the village level, and the resulting contact with diseased and non-vaccinated local chickens and guinea fowl. While the villagers have accepted the practice of vaccination and administration of other medicines, they do not yet completely understand the need for complete confinement of the flocks. Only Sittigo, which is under the close supervision of the livestock officer, is practicing complete confinement. Some villages have had to start over with new flocks twice, and, even so, success is by no means guaranteed.

An additional problem is that poultry production has been based, in part, on the provision of Food for Peace grain at cost, and free powdered milk (both of which have become unfit for human consumption). To date, the grain has been available from OFNACER (Office National des Cereales) annually. Whether this availability will continue in the future is open to question.

Two villages have planted their own fields of millet for flock consumption in order to defray the cost of feed. To date, two of the five villages have shown interest in egg production, one of which has cross-breds old enough to begin producing eggs. The other three villages are only concerned with increasing the size of their flocks.

In part, the reluctance to go into egg production is based on the perception that flock size is equivalent to wealth, and that the sale of hens and roosters is more lucrative than the sale of eggs. To a lesser degree, old taboos vis-a-vis egg consumption play a role. At present, hybrid cross eggs (larger) command 20 CFA each, versus 15 CFA for the smaller local eggs.

Excellent training material in Mooré will be available in quantity within two months for village extension agents. This material will be essential to (a) instill confidence in the extension agents that they, themselves, are knowledgeable about poultry production, and (b) generate sufficient interest among other villages to undertake poultry production.

The poultry operation at Sittigo has had a "demonstration effect" in that it has prompted visits from other villages to see what Sittigo is doing. For example, the women's group from Sima built new chicken housing fashioned after that at Sittigo. What is also of interest is that all of the housing and ancillary equipment at Sittigo is made from local materials.

(iv) Recommendations

- The livestock project officer will be leaving the project at the end of September 1982. One or more qualified Voltaique personnel must be identified and trained as soon as possible so that there is no lapse in the operation of the livestock center, in the direction, motivation, and training given the extension agents, and in their training of interested villagers.

- At the village of Mogom, one farmer has a sufficiently large herd of sheep to be able to market rams in Abidjan. Consideration should be given to establishing a sheep marketing activity as part of a village cooperative society. This farmer, with his experience, could be the focal point for formalizing a marketing channel to Ouagadougou and Abidjan.
- Establish a pure-bred Bali-Bali multiplication center to supply rams and ewes to farmers (see Section IV.B.3.i., "Sheep Multiplication Center Proposal").
- For the time being, concentrate only on the poultry flocks already established. Work with villagers to get them to practice all the necessary husbandry (especially the isolation of flocks) required to improve their management to the extent that they can then enlarge their flocks and eventually institute egg production. This should include record keeping on production costs and income generated by the sale of birds and eggs.
- Convince the remaining three villages to plant millet for the continued feeding of their flocks.
- The Government of Upper Volta should consider line breeding two breeds of imported chickens with desirable characteristics for subsequent cross

breeding at the National Livestock Center. This is seen as a means of developing a cross breed tolerant to Voltaique conditions with desired characteristics. It calls for a degree of sophistication and expertise beyond the scope of the project livestock center.

b. Poultry Center and Demonstration Flocks

(i) Description

The objectives in the project were to establish a poultry center to conduct simple experiments in breeding, feeding, fattening, laying, and disease control, and establish 25-50 flocks with birds from the results of the activities of the center.

(ii) Progress to Date

- The poultry center has been established with a pilot flock.
- Five village demonstration flocks have been started from roosters and hens supplied by the center.
- Only one flock, located at Sittigo, was actually being contained in a controlled environment by its villagers, and was being used to produce chicks to increase the flock size.

(iii) Findings

The high mortality rate of the imported roosters at the poultry center has hindered any plans for carrying out experiments. Its current activities center around vaccination/disease control

and fattening of the chicks prior to distribution to the villages for cross breeding. Of the five village demonstration flocks started, three have had to be started over again. The lack of controlled confinement for the birds in these three villages caused increased disease contacts resulting in a very high mortality rate that made replacement necessary. The poultry center can be described as a chicken house not equipped for the simplest of controlled experiments documented by basic recorded experiment data. The flock at Sittigo, which was maintained in confinement, was successful primarily because the livestock advisor took direct, close supervision of the activity.

(iv) Recommendations

- It is recommended that the problems and failures so far in the poultry component of the project be part of a revised training program, particularly with the Sittigo positive experience. It is further recommended that plans be established to set up several strategically located project demonstration flocks (preferably in the recommended development centers) with the poultry center birds, with no further distribution of roosters and hens to the villages until the execution of the following recommendation.
- Certainly, it will be necessary to improve the poultry center's capability for carrying out basic experiments by installing uncomplicated equipment to measure and record progress. Also, additional demonstration aids should be developed to be used in the various

demonstration flocks in the project area. Farmers can then see, in progress, the basic sound poultry husbandry techniques necessary for results.

- During the operation of the demonstration flock units and in the instructional programs, it must be firmly explained that until a controlled, confined environment is constructed, and agreement is obtained from the village development committee and from the individual farmers to use sound husbandry practices, no birds will be available to them.
- The operation of the various pilot units must be planned as a simple commercial operation. The concept of developing marketing incentives will foster requests for poultry projects. Young men in the YFTC's and the 4-C's can go through a training program and manage the demonstration flocks. Funds generated from the sale of mature birds, eggs, etc. can be used to pay a modest salary to the young men.
- A program for supervising and monitoring the demonstration flocks must be developed along with revised written training materials for the farmers by the livestock advisor.

c. Revolving Fund for Supplemental Livestock Feeding

(i) Description

Although the Logical Framework describes this activity as "Revolving Credit for Supplemental Livestock Feeding," it is, in fact, a revolving fund of \$20,000 to " . . . allow the ORD to purchase salt, minerals, cottonseed or other feed supplements for resale to producers." (Project Paper 2.B.3.3.3. - Supplementary Feeding Program, p. 22.) The fund was to have allowed the purchase and resale of feedstuffs up to 300 tons annually.

(ii) Progress to Date

- As of June 1982, a total of 100 tons of various feeds and mineralized salt licks had been sold to farmers.

(iii) Findings

The limited total sales to date are due to the following reasons:

Villagers have received limited exposure to this aspect of the livestock program because project extension agents (animateurs/animatrices) were "stretched thin" over the many project activities, e.g., literacy, health, etc., that they cover, and could give little attention to this activity. Also, the two livestock center extension agents have been fully occupied with other livestock/poultry operations, including a widescale livestock vaccination program in late 1981.

The difficulties encountered with the poultry program which have greatly reduced the number of roosters distributed for cross-breeding purposes, and therefore, the potential for supplemental feeding of poultry.

The fact that the cattle-fattening activity never got started.

Adequate supplies of certain feedstuffs, e.g., cottonseed, millet, cannot be guaranteed.

Farmers resisted the concept of adequate supplementary feeding, feeling they could fatten their animals primarily by grazing. Traditionally, livestock have been fattened by grazing alone, or in the case of poultry, by allowing chickens to forage for themselves. Also the cost of the supplementary feedstuffs was and continues to be a deterrent, especially as inflation causes price increases which would have to be passed onto the purchasers, so that the revolving fund could continue to operate. The high cost of feed concentrate, pelleted wheat bran and the imported mineralized salt licks, has resulted in low volume of sales of these items. Additionally, there are nonmineralized locally produced salt licks available at lower cost.

(iv) Recommendations

- In order to increase villager exposure to the net benefits of supplementary feeding, consideration

should be given to starting small demonstration supplementary feeding efforts in the development centers. One or two farmers should be selected on the basis of interest and motivation to use a small number of their sheep to show other villagers the impact/benefits of supplementary feeding. Close supervision of this suggested experiment by livestock center personnel should be required.

- The above recommendation must be carried out so that farmers can see the net monetary benefit of supplementary feeding. Only if they see and understand the benefit, will the project be able to charge prices which cover not only purchase, transportation and handling costs, but also the effects of inflation, and thus, keep the revolving funds operating.

d. Livestock Fattening

(i) Description

Initially, the project called for a livestock fattening program under which a yearly maximum of 200 cattle and 400 sheep were to be purchased and fattened by farmers through the livestock of revolving credit funds.

The objective is now set at a total of 200 sheep which will be purchased and fattened on credit.

(ii) Progress to Date

Of the 136 sheep sold, 38 were distributed in 1981 and 98 in the last half of 1982.

(iii) Findings

This activity was delayed and reduced in scope for the following reasons: (a) the delay in startup of the project; (b) the uncertainty of supply of the quantities of feed necessary for cattle; (c) the fact that relative to sheep, cattle fatten more slowly, resulting in farmers becoming impatient; (d) the fact that the livestock project advisor will leave in September 1982; (e) the sheep fattening part of the overall livestock fattening program held more chance of success; and, thus, the cattle portion of the activity, wisely, was dropped.

Sheep fattening is a money-making activity. Villagers purchase the rams for the price which the livestock center paid in the Sahel, i.e., 6,000-14,500 CFA (depending on weight), fatten each ram at a maximum cost of 2,350 CFA, pay interest of ten percent on the total purchase and feeding costs over a four-month period, and resell them at a range of 15,000-25,000 CFA per ram, depending on weight.

Profit Calculation CFA Per Ram

Purchase price	6,000-14,500
Fattening costs*	
25 kg wheat bran	900
25 kg Cottonseed	500
vaccinations and medicine	200
½ mineralized salt lick	<u>750</u>
Interest on above	280- 560
Total Cost	8,630-17,410
Selling price	<u>15,000-25,000</u>
Profit	<u>6,370- 7,590</u>

\*During the rainy season, June-October, the sheep are allowed to graze on grass, during which time little or no feed is given. If there is sufficient grass, the farmer may be able to conserve some of his feed supplies, which would lower his cost somewhat for the next year.

The farmers understand the various husbandry practices necessary to make this activity viable, including the purchase of feed and medicines.

(iv) Recommendation

- At present, Bali-Bali rams are weighed after purchase at the livestock center, but not when sold due to the lack of portable scales. At the time of sale, cotton or produce scales should be rented and used to weigh the sheep sold, so that total weight gain and rate of gain can be calculated. At present, records are only kept of total feed, medicine, and vaccination costs.

e. Veterinarian Services

(i) Description

An integral part of the livestock and poultry activity is the provision of basic veterinarian health services for participating farmers throughout the sector. These services require a mobile unit for treating and vaccinating animals and financing of the medicines by a revolving credit fund.

(ii) Progress to Date

The output objectives has been largely met.

(iii) Findings

The existing veterinary post at Seguenega has been equipped with medicines and supplies. As part of the project livestock center, it services the project area with treatment against internal and external parasites for poultry, sheep, and goats, upon request. It also vaccinates sheep, goats, and cattle against Rhinderpest, Black Leg, PPNeum, Newcastle, and cholera.

The livestock center's veterinary services also extend to the field via the center's two veterinary agents. The team observed these agents selling and administering veterinary medicines to farmers participating in the Bali-Bali sheep fattening program.

(iv) Recommendations

- The need for qualified Voltaique personnel expressed earlier applies here also - because of the need for continuity in the supervision given the veterinary agents.
- Quality veterinary services are necessary if the Bali-Bali cross-breeding and fattening programs are to have the high potential for continued success which they now show.

f. Training Extension Agents

(i) Description

As part of the livestock and poultry production activity and as part of strengthening ORD capabilities, the project

calls for training 20 ORD field extension agents per year in improved livestock techniques.

(ii) Progress to Date

● From the beginning of the program to date, a total of 58 extension agents reportedly have received some in-service training in animal husbandry techniques. Of the 58, 27 received an introduction to poultry raising during the first quarter of 1982.

(iii) Findings

The training of the ORD extension agents was delayed by the slow startup of the project. The delay in classification of villages and consequent delay in exposing villages to the various elements of the project, of course, delayed the implementation of livestock activities in the villages and, thereby, the opportunity to give hands-on training of extension agents at the village level.

Moreover, the lack of definition of the duties of the supervisor of the project's extension agents and the lack of coordination across project activities (as noted in the November 1981 self-evaluation report by the Subcommittee on Planning and Management) could only have adversely affected the training of ORD extension agents. If the need for cross-activity cooperation and sequencing of activities was not understood at the project management level, it is unlikely that it would have been imparted to the ORD agents.

Finally, the ORD extension agent, just as the project animateurs and animatrices, suffers from inadequate training, supervision, support (e.g., inadequate gasoline allowance), motivation, and the burden of too many tasks.

(iv) Recommendations

- In order to accelerate this activity and to capitalize on the training already given the ORD agents, the following steps are recommended: (a) that the duties and responsibilities of the incumbent project supervisors of the animateurs/animatrices be clearly defined; (b) that the same process take place for both the project extension agents (animateurs/animatrices) and the ORD agents; (c) that their training/retraining be reinforced, and that they understand both the sequencing and the need for cross-activity cooperation; (d) that the six "development centers" previously recommended be used to expose large numbers of villagers to livestock activities, to give practical training to both project and ORD extension agents and that retraining and lateral learning be carried out at these centers. The theoretical training can be carried out at the Seguenega livestock center.
  
- The transportation constraint should be alleviated now that approval has been granted to make ORD personnel eligible for the mobyette revolving credit fund.
  
- Resolution of the training, motivation, supervision, support, and task problems of the project extension agent cadre should serve as a model for ORD management in its resolution of the problems of its cadre of agents.

g. Training Farmers

(i) Description

Sixty farmers per year were to be trained on the village level in improved livestock production techniques.

(ii) Progress to Date

- Approximately 150 farmers have received some training in sound sheep husbandry techniques.
- Five village poultry raising associations, totaling approximately 140 villagers, have received training in poultry raising.

(iii) Findings

Because of the delay in the startup of the project, the entire villager exposure, education, and hands-on training sequence was delayed. Furthermore, because of the various weaknesses of the extension agent cadre (explained in the previous section), many villagers did not receive clear information of the objectives and elements of livestock activities and how they would be implemented. Early in the project's life, inadequate exposure led to low level villager interest.

This situation is being reversed through the efforts of the project livestock advisor who is getting the Bali-Bali sheep cross-breeding and fattening programs back on track toward objectives.

The quality and amount of villager exposure to poultry raising techniques has been enhanced with the introduction and "field testing" of pictorial/simple Mooré training materials on sound poultry raising techniques in 24 project area villages.

(iv) Recommendations

- The adoption of the recommendation to establish six "development centers" would serve to capitalize on the groundwork already carried out. The use of the development centers would expose more villagers to livestock activities, would provide in-service training for both project and ORD extension agents, and would be the vehicle to explain and engender interest in the process/requirements of forming village-level organizations for livestock and other project activities.
  
- The preparation of the pictorial training materials with simple Mooré captions on sheep raising, scheduled to be completed by November 1982, should be accelerated. This training material, for both sheep and poultry, is an excellent vehicle for exposure, as well as for training villagers and extension agents. It should include a pictorial representation of how credit works. It will be a valuable aid to the Voltaïque who is to be found and trained to replace the current project livestock advisor when his tour of duty ends.

h. Market Research/Market Development Plan

(i) Description

A long-range market development plan for livestock was to be prepared.

(ii) Progress to Date

- As of the date of the evaluation, no formal market research had been carried out.

(iii) Findings

This component called for research to be undertaken of the market potential for livestock/poultry by the economics section of the ORD. It was to include study of optimal timing for sheep fattening programs and poultry production, analysis of production costs to help put together the most effective extension package, and estimates of the present and future sizes of local and more distant markets. This research was to have been the basis on which a long-range market development plan was established.

To carry out research on optimal timing for livestock operations and analysis of production costs, of course, depends on sufficient component activity to generate useful data. The market research has been delayed because of the delay in start-up of the production activities, occasioned by the late start of the project.

(iv) Recommendation

- Market research activity should be scaled down to concentrate only on sheep for the following reasons:
  - (a) the limited time left before the completion of the project date;
  - (b) the high potential of the sheep programs;
  - (c) the problems inherent in the poultry production component.

i. Sheep Multiplication Center Proposal

In keeping with the idea of continuing the Bali-Bali cross-bred and fattening programs, it is felt that a local source of

pure-bred Bali-Bali sheep should be created. At present, all the Bali-Bali rams are imported from the Sahel area of Upper Volta, when needed.

A pure-bred multiplication center, breeding with selected animals, keep records, etc. would guarantee a controlled supply of superior breeding and fattening stock.

It is assumed that the center would be at the present livestock Center in Seguenega. There, a number of the facilities necessary are present, i.e., trained personnel, warehouse, medical supplies, etc.

In order to keep the costs to a minimum, the herds would be allowed to go out and graze daily. Cottonseed and feed supplements would be fed during the dry season once a day in feed bunks.

As few buildings and fencing as possible would be erected. Fencing would be used only to contain the sheep each night and protect them against dogs and other possible predators.

All animals would be identified with a numbered ear tag and records kept of sire and dam. Inbreeding and linebreeding would be avoided. Records would be kept of birth weights, weight gains, and rate of gains with the idea of allowing the animals which show the better economic factors and the best physiotype to have the greatest number of offspring.

(i) Assumptions

Rams per Ewes

It is assumed that one ram per 20 ewes will be sufficient to cover all. Later as the fertility of the rams is

learned and when individual sire and dam records are desired, the ratio can be extended to one ram per 50 ewes.

#### Conception Rate

Since fertility rates are currently unknown for both male and female Bali-Balis, we arbitrarily selected a 70 percent conception rate with one offspring per ewe yearly. Later, with the use of flushing and selection, the conception rate would improve.

#### Lamb Mortality

Again the estimate is a bit high when we use ten percent mortality. Mortality should decrease with the effect of concentrate feeding during the gestation period.

#### Age at First Lambing

Young ewes would be placed with breeding rams at the beginning of their second year of age. Thus, they should give birth at approximately two and a half to two and three-quarters of age.

In temperate climates, sheep breed on the descending sunlight, giving birth on the ascending sunlight. In the tropics, where the sunlight is about even all year round, sheep may lamb all year round. It is not expected that the difference in daylight hours, which is about 25 minutes in the tropics, will cause a seasonal effect on lambing.

#### Natural Percentage Mortality of Rams and Ewes

Projections are made on the assumption that no mortality of mature rams and ewes will occur.

This assumption is to allow for the 70 percent conception rate being extremely low and the 10 percent mortality rate of lambs being high.

Projected Herd Size

Beginning Year 1	Purchase 15 rams and 300 ewes
End Year 1	210 births with 10% mortality = 189 weaned = 95 rams, 94 ewes
End Year 2	15 rams X 300 ewes = 210 births = 189 weaned = 94 rams, 95 ewes
End Year 3	20 rams X 394 ewes = 276 births - 248 weaned = 124 rams, 124 ewes 70 rams could be sold for fattening and/or cross breeding
End year 4	25 rams X 489 ewes = 342 births = 308 weaned = 154 rams, 154 ewes 80 rams could be sold for fattening and/or cross breeding
End Year 5	30 rams X 613 ewes = 429 births = 386 males = 193 rams, 193 ewes 100 rams could be sold for fattening and/or cross breeding, leaving 48 nonbreeding rams at least 2 years of age in the center's herd.

At this point, the herd should level off. The number of breeding ewes should be such that approximately 500 births occur annually giving about 450 weaned sheep each year.

These 450 weaned animals should supply 200 breeding males, allow the females to be replaced on the basis of selection, and allow for the sale of 100 females/year.

The herd could be allowed to expand if it were felt necessary. By the sixth year, however, the Center should start regularly supplying breeding stock to farmers wanting to get into the breeding and fattening schemes. The objective would be to provide a continuing source of Bali-Bali sheep at a profit to the Center.

C. SUPPORT SERVICES

1. Water Resources

a. Construction

(i) Description

The water resources component aims at improving the quality and increasing the quantity of water for human consumption, as well as for agricultural purposes. It aims to provide year-round water sufficiency for villagers. This objective is to be achieved by the construction of 64 wide diameter wells.

(ii) Progress to Date

<u>WELLS</u>	<u>OBJECTIVE</u>	<u>PROGRESS</u>
Village	25	17 finished <sup>a/</sup> ; 8 in progress
Vegetable garden	24	13 finished <sup>b/</sup> ; 2 in progress
School garden	9	4 finished; 3 in progress
Dispensary	3	3 finished <sup>c/</sup>
Forestry nursery	2	1 in progress
Livestock center	1	1 finished

<sup>a/</sup> Of which 5 are being deepened.

<sup>b/</sup> All of which have insufficient water for full growing season usage.

<sup>c/</sup> The location of one must be changed, and a second requires work-over.

(iii) Findings

Although the BURGEAP study of water resources and needs of Yatenga (1975) was used, and the above table indicates that

wells have been constructed, the lack of an adequate water supply for the project activities still exists. Almost half of those wells already dug require either deepening or relocation. Other problems include lack of sufficient, timely village labor to dig wells, lack of trucks to remove the material dug out, equipment needs not planned for (e.g., casement mods, hard hats for well diggers), and the manually operated cranes, which were found to be unsuitable for wells of wide diameter construction.

Villagers stated that water is the number one priority. We repeatedly received requests to have wells deepened. Villager concerns may turn into resentment (especially where they have to pay for vegetable gardening wells) if the well situation is not rectified. The cost of deepening existing wells is estimated at 55,000 CFA/meter or approximately \$160/meter at current exchange rates.

(iv) Recommendations

- The immediate action required is to hire a water engineer and a public health engineer under short-terms contracts. They should be experienced in rural water supply, preferably in Africa, should re-evaluate the pertinent data of the BURGEAP study, collect and analyze current water resource information, evaluate the acceptability of those existing facilities constructed under the project, and recommend a written water resources plan for all project components, including, as appropriate, the necessary treatment facilities for individual and/or community supplies.
- From the water resources plan, project management must establish an implementation schedule for the

construction and maintenance of water resource facilities, if material and personnel needs are to be met and if operational plans are to be carried out.

Additional recommendations on water resources may be found in Section IV.A.2.b.iv., "Village Based Health Services - Health Post Facilities, Recommendations."

b. Training of Well Installation Crews

(i) Description

One of the necessary inputs for well construction is trained personnel. Accordingly, the project called for two masons, also skilled in the use of dynamite; two well equipment mechanics; a trained crew chief; and for those 25 village and nine school garden wells, villager capacity to maintain installed hand pumps.

(ii) Progress to Date

- While the training objective of the crews has been largely met, there have been losses of key personnel: the chief of the well crews left the project during the first quarter, 1982, and the one mason, who had demolition experience, died.
- Reportedly, villages maintenance training on hand pumps has been carried out.

(iii) Findings

There is no plan to insure both the availability of village labor to dig (or drill) wells and train well-personnel oversee the village labor on a timely basis.

The loss of key personnel and the lack of solid operational planning has delayed this activity.

The team was unable to determine the extent of training received on maintenance of hand pumps because the wells observed in villages visited did not yet have hand pumps installed.

(iv) Recommendations

- An effective operational plan is needed so that trained personnel, village workers, material, and supplies including spare parts all arrive at work sites on schedule, as indicated in the water resources section recommendation. In addition, a schedule for maintenance should be established, and the necessary training program instituted for appropriate personnel.
- Because this activity is one which requires some high-level skills, trained personnel needs must be anticipated. Trained personnel must be sought out, at the same time that project personnel are being trained, in order to provide depth in qualified personnel.
- It is recommended that after the wells have been constructed and are operative, consideration be given to the establishment of a maintenance fee schedule to be used to pay crews. Fees will be an incentive for villagers to keep their wells in good operating condition and for crews to develop their skills. Moreover, it will provide some livelihood for crews.

## 2. Road Improvements

### a. Road Construction

#### (i) Description

The objective is to establish a locally maintainable road structure permitting year-round contact with the majority of the Seguenega sector population by upgrading 106 kilometers of existing roads, thereby bringing 80 percent of the target population within access of the all-weather road network.

#### (ii) Progress to Date

- By the end of June 1982, 70 kilometers will have been completed out of the total 106 kilometers planned. By the beginning of July 1982, work will start on the Gambo-Kalsaka portion of the road network, a distance of 21 kilometers.

#### (iii) Findings

The road construction component of the project calls for the upgrading of much of the sector's current road system. These "roads" are essentially dirt tracks (pistes), which become impassable during the rainy season. Through a combination of grading and selectively eliminating the low-lying trouble spots which render the road impassable, communication and transportation will be improved, and a locally maintainable road network will be created.

The overall concept of a well built, easily maintained, and relatively unsophisticated road network appears sound. In particular, the use of "radiers" (fords or cross-washes) where there are natural depressions is appropriate, less costly than culverts, and subject to easy maintenance by villagers. A radier, or cross-

wash, is lateritic rock compacted with lateritic soil in a wide natural depression. In some cases, concrete footings and side concrete reinforcement are required. A radier allows water to flow over the road without washing it out. The use of radiers where possible in lieu of culverts, avoids many of the problems inherent with culverts in time of high flow-through of water, namely collapsing, side washout, and plugging up.

Development of villager experience in road building apparently is progressing satisfactorily, and the villagers understand the following benefits of a well constructed road network:

More frequent, timely access to villages by social services personnel, health teams, extension agents, teachers, etc. Without the road, it would have been virtually impossible for the 31 village health teams to be in place and to circulate. Before construction of the road, it took two hours to drive by mobylette from Seguenega to Konde-Tangaye; it now takes about 40 minutes.

Increased ability to evacuate the sick.

Increased frequency of contact between local villages, as well as with larger urban centers. Villagers feel that the road network is an indication the central government does, in fact, recognize that they exist.

Increased ability to move produce/animals to various markets: local, urban, and foreign (e.g., Ivory Coast, Togo). Increased number of local markets accessible to an individual village - this is important, for example, where the marketing of vegetables is concerned, because while a single, local market offers the opportunity to sell vegetables at a premium (relative to prices offered by the cooperative, URCOMAYA), that single, local market is limited by its own size as to the quantities it can absorb.

Increased ability to move merchandise, supplies, materials, and equipment into the area.

Less frequent need to repair vehicles of all sorts because of the good condition of the road network.

Use of longitudinal drainage ditches, interceptor, and miter ditches offers good protection for the road. Miter ditches, in some cases, are also used to channel run-off water to agricultural areas. In certain cases, these ditches have permitted the opening of new agricultural areas.

All equipment, except one dump truck (out of operation because of transmission problems) is operating on the Tiba-Gambo section of the road. The road crew appears capable, has an experienced supervisor\* on site on loan from the Ministry of Public Works,

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\*In addition, the senior road supervisor from Ouagadougou will also be joining the road portion of the SIRD project.

and a road grader operator with 20 years' operating experience in the Ivory Coast.

Maintenance is the one potential weak link. The Kossouka-Bouga portion (that which was first completed) of the road network is showing signs of beginning to need maintenance - especially cleaning the accumulated silt out of the drainage ditches.

(iv) Recommendations

- Road maintenance is the key recommendation. Because of the likely low volume of heavy vehicles as well as the participatory nature of the SIRD project, basic road maintenance can be done manually with rakes. This entails monitoring the road surface for the beginnings of corrugation (washboard). Corrugation must be stopped before traffic hardens it and then requires a grader to remove it. Additional minimum maintenance is grading at the end of the rainy season. Preferably, grading should be done at both the beginning and the end of the rainy season. Grading on a low volume road is required more by environmental degradation than by that of vehicular traffic. Finally, recharging the road surface with lateritic gravel should take place at five-year intervals.

- Maintenance should be started immediately on not only the Kossouka-Bouga portion of the road system, but also on the remainder of the network. It is important not only to clear the drainage ditches, and prevent corruption, but also to inculcate a "maintenance ethic" among villagers. This may entail some sort of modest remuneration not only to clear the ditches themselves, but also to inculcate a "maintenance ethic" among the villagers. This may entail some sort of modest remuneration to the villagers such as Food for Peace food which is currently distributed to those villagers helping build the road. If maintenance is not done, the roads will deteriorate at an increasing rate after the second full year of operation. By contrast to the Kossouka-Bouga portion, the Kalsaka-Berenga section of the road, which has seen only one full year of operation, is currently in very good condition.

It is suggested that some appropriate natural cover be established on the tops and sides of the drainage ditches to help control silting and erosion.

- After the project ends, the heavy equipment, CAT D4, grader, etc. will be turned over to the Yatenga ORD for its own use. Guarantees should be received for

the project road to have "access" to the use of this equipment from time to time for repair, maintenance, and road widening when beyond the capabilities of the villagers.

- To make the project road really viable, the National Route from Seguenega to Ouahigouya should be improved, and a southern link be opened either to the Kongoussi-Ouagadougou road or to the Yirou-Yako ("Canadian") road. A considerable savings in time and distance from the project network to Ouagadougou would result.

### 3. Reforestation and Soil Conservation

#### a. Area Planted

##### (i) Description

The physical reforestation objective is to plant 150 hectares with various types of trees in selected villages.

##### (ii) Progress to Date

- Sixty-seven and one half hectares have been planted.

##### (iii) Findings

Of the 67.5 hectares planted, it is estimated by project personnel that 40-60 percent of the trees have survived. The four physical problems which cause the low survival rate are: insufficient water for the transplants to become established,

insufficient protection from livestock, lack of safe pesticides to control diseases, and the use of extremely marginal land.

Additional reforestation problems encountered were those of getting villager agreement as to on whose land trees would be planted, and determination of who would own the trees once they reached maturity. Furthermore, there has been inadequate distribution of seedlings on a timely basis because of a lack of transportation.

A basic "philosophical" problem exists in that no guiding purpose for reforestation was ever set forth and communicated to the villagers.

Additionally, there is a lack of qualified technical personnel in this activity, which has resulted in only rudimentary training given to villagers and little follow-up on implementation.

(iv) Recommendations

See recommendations for the soil conservation unit below.

f. Tree Supply

(i) Description

To supply the reforestation effort, a tree nursery capable of producing and distributing up to 50,000 trees annually is to be established.

(ii) Progress to Date

● The nursery has been established, but, at present, its supply and distribution capability ranges between 17,000-20,000 trees per year.

(iii) Findings

The lack of a conservation unit charged with surveying the project area's needs and an incomplete infrastructure, including the lack of sufficient transportation to deliver trees to villages on a timely basis, has kept the nursery's supply and distribution capability below objective. Also, the level of supervision of labor at the nursery has been substandard.

(iv) Recommendations

See recommendations for the soil conservation unit below.

c. Soil Conservation Unit

(i) Description

A soil conservation unit, capable of carrying out soil, water, and vegetation conservation activities for local communities of farmers or herders is to be established.

(ii) Progress to Date

● At the time of evaluation, a conservation unit had not yet been established.

(iii) Findings

For the entire reforestation and soil conservation effort to have been carried out effectively, a soil conservation unit should have been established first. Once established, it would first have carried out a survey of the soil conservation and the reforestation needs of the project area. That survey would have determined the types of trees, vegetation, and other soil conservation measures needed to carry out a soil conservation and reforestation program.

The next step would have been to establish the infrastructure necessary to implement the program. An infrastructure in place, including a nursery, transportation facilities, equipment, and appropriate supervision and staff, would have permitted the surveyed needs to have been met.

(iv) Recommendations

- It is absolutely necessary that a soil conservation unit be established to organize both the reforestation and soil conservation activities of the project.
- The soil conservation unit, when established, should conduct a needs assessment survey of the project area, its villages, and project components facilities.
- Arrangements should be made to bring into Upper Volta a short-term consultant soil conservation specialist who can assist in establishing the soil conservation unit and conduct the survey.

4. Strengthening ORD Management Capability

a. Information System

(i) Description

In order to help strengthen ORD Yatenga's ability to plan, manage, and support rural development in Seguenega, the project called for an information system to be developed which would be used to collect, evaluate, and monitor development information from the Seguenega sector.

(ii) Progress to Date

- The project does have a system which collects and publishes data from each project activity, on a quarterly and annual basis.
- Project progress for activities is tracked on a chronological basis.

(iii) Findings

The project has not been planned with adequate capability and operational procedures to use this detailed information for improving activity implementation. An examination of the project paper, related documents, and project agreement did not contain specific job descriptions, qualifications, duties, and responsibilities of the Africare technical assistance team for the project. A complex, multi-disciplined, long-term project of this type was operating without project management personnel with adequate experience in managing. The lack of effective operational management is well known to be the most significant reason for the failure of integrated rural development projects. To have personnel trained in various professional disciplines does not mean they have management training and experience as well. The unfortunate result when a technician wears two hats is that both his management duties and technical input suffer.

Also, the project management unit does not have a "network" or similar device that on a continuous basis shows the sequence and interrelationships between activities with time and budget parameters in a chronological framework of the implementation plan. The lack of this mechanism reduces the ability to modify

activities, does not provide for an early warning system for potential problems, and does not make apparent the possibility for reallocation of resources within the project from one activity to another.

In summary, the use of the present data collection and progress tracking system can only place management in a reactive stance.

(iv) Recommendations

- It is recommended that the existing reports, both technical and financial, be evaluated, analyzed, and the data placed into a modified network format of activities, with timeframes and budgetary limitations. This network, properly designed, will have the capability for monitoring, modifying, and ensuring effective implementation.
- The project organization should reorganize its management unit in such a way that it assigns specific responsibility and authority to individual technical or support units for execution and supervision of implementation.
- Further, it is recommended that all of the above be reduced to a written "project control manual," that will serve as an operational procedure and that will make possible replication of a model project of this type elsewhere in Upper Volta. These recommendations will further insure the transfer of project management concepts for other purposes in Upper Volta programs.

b. Land/Resources Plan

(i) Description

An overall land use and resources employment plan was to be developed.

(ii) Progress to Date

- Certain parts of the land use and resources plan were developed and carried out before the completion of a land use survey started, notably the upgrading of the project area's existing roads, and the construction/renovation of a number of project facilities such as training centers, health posts, a nursery, etc.
- Effective soil and water resource planning, however, has not been totally carried out.

(iii) Findings

The Land/Resources Plan's purpose was to balance planned land use against existing resources and constraints, such as soil, water, manpower, etc. As such, it would take into consideration the needs of the farmers, location of facilities, development of markets, forestation and reforestation needs, soil conservation problems, and an optimum roads system location plan.

The early execution of a land use survey and the collection of existing geophysical data on the project area would have improved on the location of facilities and produced a more effective utilization plan for productive lands. The delay in the analysis and reformulation of Landsat data hampered an evaluation of

high potential areas for cultivated crops, controlled grazing, soil conservation, and reforestation.

Fortunately, the planning of the road network was well carried out in that it will give access to 80 percent of the Seguenega sector's population, and does effectively employ available village manpower on the construction of the road network. It also encompasses the major villages of the sector which are, of course, the major markets. Moreover, it has enhanced the delivery of social services, e.g., village health.

(iv) Recommendation

- It is recommended that the evaluation of the Landsat data be completed. This would make it possible to improve the existing vegetable production, expand into new production areas, aid in effective use of the re-evaluated hydrological data, the identification of possible new low lying rice growing locations, and produce an inventory of viable grazing areas.

c. Credit Recovery

(i) Description

The project called for credit recovery rates of 90 percent to be attained once the various revolving credit funds were in operation.

(ii) Progress to Date

- For those revolving credit funds which are in operation, the overall credit recovery rate is averaging 91

percent as of early May 1982. This average rate is heavily weighted by the 96 percent recovery rate of the mobylette (motorbike) revolving fund experienced through October 1981 and assumed to be continuing.

- Certain funds are experiencing recovery rates well below objective.

(iii) Findings

Following is a list of the various revolving credit funds and their status of operations. The table shows recovery rates for funds where the data was available. For the agricultural credit and livestock funds, credit data was available only for rice production and sheep fattening, respectively. For the vegetable gardening activity, loans apparently were made from two funds, "vegetable gardening" and "agricultural credit," with no indication of the amounts granted from each. On the basis of furnished reports and field interviews, adjustments have been made (and are explained) to give the clearest possible picture of credit recovery and explanation of why recovery rates have not yet risen to the objective of 90 percent.

Agricultural Credit - The bulk of the activity of this fund has been loans for seed and fertilizer to rice growing associations. The low recovery rate is due to crop failure in one village and low yields were caused by the uneven distribution of rainfall and the use of poor quality seed.

<u>Category of Funds</u>	<u>Proposal Amount - CFA</u>	<u>Loaned To Date*</u>	<u>% Credit Recovery Rate Experienced</u>
<u>Special</u>			
1. Agricultural Credit	5,300,000	2,703,120	48
2. Credit for Women	2,600,000	816,000 <sup>a/</sup>	-
3. "Self Help" for Small Village Projects	2,600,000	400,000 <sup>b/</sup>	-
<u>General</u>			
4. Vegetable Gardening	34,640,000		
Short-term		5,755,738	90
Medium-/long-term		7,949,643 <sup>c/</sup>	
5. Livestock Program	15,540,000	518,290	70
6. Village Pharmacies	600,000	630,000	21
7. Rural Craftsmen	1,000,000	-0- <sup>d/</sup>	-
<u>Other</u>			
8. Vaccines and Medicines	4,400,000	-0- <sup>e/</sup>	-
9. Young Farmers	2,940,000	-0- <sup>f/</sup>	-
10. Marketing	5,000,000	8,866,990	100
11. Mobylette	5,000,000	19,979,022	96

\*As of May 7, 1982.

<sup>a/</sup> First activity of fund - placement of mill at Konde-Tangaye; repayment not scheduled to begin until September 1982.

<sup>b/</sup> First activity of fund - grain storage facility at Seguenega; repayment not scheduled to begin until third quarter 1982.

<sup>c/</sup> Medium- and long-term loans for fencing and wells; repayment has not yet begun.

<sup>d/</sup> Fund established, but to date no loans have been made.

<sup>e/</sup> Fund established, but not currently operating. Medicines being held at Seguenega pending resolution of labeling and other problems.

<sup>f/</sup> Fund established, but to date no loans have been made.

Credit for Women - Activity in this fund just started in April 1982, with the credit sale of a mill to the women's association of Konde-Tangaye. Since repayment is not scheduled to start until September 1982, there is no credit recovery rate at this time. The amount of revenue generated during the first six weeks of operation of the mill indicates that there should be no problem in recovering the entire loan on time.

"Self Help" for Small Village Projects - This fund has just started operations with the approval of the Seguenega Village Development Committee's request for a loan of 800,000 CFA to build a grain bank. The first tranche of 400,000 CFA was made available during the first quarter of 1982. Since the first installment of the loan is not due until the third quarter 1982, there is no credit recovery rate at present. The delay in operation of this fund is due to the delay in classifying villages and getting the village development committees operational.

Vegetable Gardening - This fund has experienced a 90 percent recovery rate on its short-term activity. Short-term loans have been made largely for seed potatoes and are repaid after harvest and marketing. The recovery rate would have been higher, but for a glut of vegetables on the local markets (see recommendation regarding staggering production of vegetables

in Section IV.B.1.a.iv., "Vegetable Production - Establishing Village and School Gardens - Recommendations") and individual village losses of vegetables to spoilage because of ORCOMAYA's delay in picking them up.

Because medium- and long-term loans only started to be granted in 1981, and because there is a grace period of up to one year before repayment is required to begin, there is no credit recovery experience yet for these loans.

The expansion of credit in this area has been slow because of the delay in village classification and establishment of village development committees, as well as insufficient and inadequate exposure given to villagers about the terms and procedures of medium- and long-term loans for wells and fencing. This has resulted in confusion on the part of the villagers and delay in getting activities started. In general, short-term loans, repaid out of the proceeds of the harvest, are well understood because they are traditionally a part of Mossi agriculture.

Livestock - The principal activity of the livestock revolving credit fund has been its use in the purchase and subsequent sale/exchange of Bali-Bali sheep for

crossbreeding. Since this activity does not entail the extension of credit, there, of course, is no credit recovery rate. The sheep fattening program, however, has shown credit activity, and currently has a credit recovery rate of 70 percent. The recovery rate is lower than objective for two reasons: first, five of the initial 38 sheep distributed died from disease and accidents, thereby preventing repayment; second, at the time of sale of the fattened sheep, there was a glut on the livestock market, with resultant low prices, and therefore, some farmers were unable to meet repayment terms fully.

The livestock fund should become more active in 1982 with the expansion of the sheep fattening program.

Village Pharmacies - The low credit recovery rate experienced appears to be due to inadequate supervision of the revolving pharmacy funds at the village level, a lack of a well defined written operational procedure for the Village Health Teams to follow, and the lack of an effective overall management system of the central pharmacy-village pharmacy supply chain. This fundamental problem of a poorly defined and functioning system was noted in the Revolving Credit Funds Activity Report for the year 1981. As of the end of June 1982, a total of 131,345 CFA had been recovered.

Rural Craftsmen - No loans have been made from this fund, however, an initial needs assessment of interested villagers has been made. Therefore, there is no credit recovery rate to date.

Vaccines and Medicines - This fund is not currently operating for the following reasons: first, the decision was made not to carry out an immunization program on the grounds that other donor organizations were already immunizing villagers, and also because of the lack of refrigeration for vaccines in the project area; second, all the medicines bought under program auspices and located in the Seguenega Health Center are labeled in English. Consequently, the Health Center Director (who has little English language competency) refuses to dispense them to the village pharmacies.

Young Farmers - No loans have been made from this fund and, therefore, there is no credit recovery rate. At this time, a needs assessment of young farmer pre-associations and 4-C clubs is being completed. For further information see Section IV.A.4.a.iv., "Young Farmer Training - Revolving Credit Fund, Recommendations" regarding developing, implementing, and monitoring young farmer projects.

Marketing - The Marketing Revolving Fund entails short-term (about three months) loans to the regional cooperative, URCOMAYA, which permits it to purchase vegetables from

project area farmers for subsequent resale to major markets in Upper Volta. (See next section, IV.4.d., "Marketing Revolving Credit" for details.) See also Summary section for recommendations regarding establishing a cooperative union in Seguenega with cooperative societies evolving from the village development committees.

Mobylette - The mobylette fund has been the most successful of all, having loaned out almost 20 million CFA since 1979. It has experienced a credit recovery rate of 96 percent on the first group of individuals who borrowed and who have paid off their loans. Assuming the same degree of control is exercised, the credit recovery rate should remain in the 95 percent or better area. For further details, see Section IV.4, "Mobylette/Craftsmen Credit Funds."

In general, the basic credit granting procedures and criteria, as outlined in "Revolving Funds of the Seguenega Integrated Project: General Information," appear sound. With certain exceptions, monitoring and control of repayment appear satisfactory with the activity of the two project credit agents under close supervision of the credit advisor. The exceptions are in the areas of sheep fattening and rice production. In the former, there does not appear to be a firm policy of whether or not total/partial repayment of credit is required in the case of animal mortality, and in the latter, whether total/partial repayment is required when there are crop failures.

Low credit recovery rates have occurred mainly for reasons outside the scope of the credit function, e.g., uneven distribution of rainfall (rice production), inadequate study of the livestock market (sale of fattened sheep). The topics are covered in detail in the specific productive activities sections of this report.

(iv) Recommendations

- For the majority of those funds with little or no activity to date to become active, better and widespread villager exposure to what activities are available and what is required of them to obtain credit to undertake credit supported activities is necessary. Not only must the terms and conditions of credit be accurately spelled out to them, but also the organizational and planning requirements of credit supported activities must be clearly set forth.
- Following are abbreviated recommendations (from those made elsewhere in this report) which would also help increase recovery rates: (a) rice production - careful, slow expansion of this activity; (b) credit for women-mills - carry out "market" study of project area to determine in which village mills should be placed; (c) vegetable gardening - existing wells should be deepened to insure year-round water supply,

and the land use survey should be completed; and  
(d) livestock activities - carry out accurate assessment of markets and timing of sale of sheep in fattening program.

- For those large funds which may not reach full utilization of available monies, see recommendations in Section IV.C.4.e.iv., "Mobylette/Rural Craftsmen Funds."

d. Market Revolving Credit

(i) Description

In order to permit more timely intervention by ORD in the marketing of vegetables and cereal crops, a revolving credit fund (\$25,000-5,000,000 CFA) was to be established.

(ii) Progress to Date

- The revolving credit has been established and is operating satisfactorily.

(iii) Findings

Over the period mid-1980 to mid-1982, short-term loans totaling 8.9 million CFA have been made to URCOMAYA (Union Rurale des Cooperatives Maraicheres de Yatenga) to allow it to enter the vegetable market on a timely basis to purchase and resell potatoes, tomatoes, and small quantities of other vegetables.

The recovery rate (including interest of ten percent) has been 100 percent. The only problems encountered have been those of URCOMAYA's operation over the 1981-82 season, i.e., delays in collection of vegetables from villages, which caused some losses from

spoilage, and poor timing in marketing the vegetables (saturated markets), which led to delay in repayment of the loan and thereby delay in disbursement of income to the farmers.

(iv) Recommendations

- See Summary section for recommendations regarding establishing a cooperative union in Seguenega with societies evolving from the village development committees. See also Section IV.B.1.a.iv., "Vegetable Production - Establishing Village and School Gardens" for recommendations for crop production.

e. Mobylette/Craftsman Credit Funds

(i) Description

A special revolving credit fund (\$25,000-5,000,000CFA) for personnel involved in SIRD project activities to purchase mobylettes (motor bikes) and bicycles on credit was to be established. A revolving credit fund (\$5,000-1,000,000 CFA) for rural craftsmen to purchase tools and supplies was to be established.

(ii) Progress to Date

- The mobylette credit fund was established and became operational in 1979. As of May 1982, almost 20 million CFA had been loaned for the purchase of mobylettes and bicycles.
- No loans from the revolving credit fund for rural craftsmen have yet been made.

(iii) Findings

The mobylette fund has shown the most activity of all the revolving credit funds. Credit to purchase mobylettes and bicycles was granted first to individuals who work directly for the project. The conditions these individuals had to meet to be eligible for credit were:

- be an employee of the SIRD project;
- have no means of transportation to carry out duties;
- have a salary sufficient to make the necessary down payment and to be able to repay the loan in monthly installments;
- have no outstanding debts;
- be located in the Seguenega project area; and
- salary be under the control of the ORD.

The credit fund was then opened to those employees of the ORD who work indirectly with the project, and whose work contributes to the success of the project, e.g., those ORD extension agents who operate within the SIRD project area.

Most recently (June 1982), AID/Ouagadougou approved Africare's request to extend availability of mobylette credit to all ORD personnel whose salaries are controlled by the ORD. It is estimated that 80-90 percent of the remaining 230 ORD personnel will meet the appropriate criteria of eligibility for credit.

(iv) Recommendations

- As mentioned in Section IV.A.4.b.iii., "Young Farmer Training - Functioning Project, findings," one of the principal constraints to adequate exposure, training, and extension work is that field personnel have an inadequate fuel allowance. For their work to be more effective and for greater success of the expanded mobylette funds, the ORD should subsidize additional fuel allowances, until the cash throw-off of the fund permits it to take over fuel requirements.
- Analyze all projected program needs over the next one to two years for the vegetable gardening and livestock funds (the two largest funds) to determine future activities and credit needs. It is likely that these two funds, especially the livestock fund, will not be employed to capacity. The excess, unemployed funds could be consolidated as a pool of funds to increase the near-term availability of monies for mobylettes.

The current amount of mobylette monies available will not be sufficient to meet the credit demands of all the ORD personnel at once. The pooling of excess monies from other funds, as described above, will mean earlier, greater credit availability and more effective use of these monies both in terms of activity and in interest generated.

Even so, the current mobyette monies plus the pooled monies will not fully cover credit demands if expressed all at once, and therefore, a system of priorities will have to be established. For example, priority would be given to those who need transportation to carry out extension, training, or supervisory work in the field. The same strict criteria which apply currently would apply in the future.

- The pooling of funds would be the first step in establishing a cooperative credit union for the project area to be established in Seguenega as discussed earlier in this report. All credit funds would be brought under such an umbrella organization which would centralize and make more effective all of the activities necessary for a successful credit program.

f. and g. Ouahigouya ORD Headquarters Construction;  
Seguenega Training/Meeting Center

(i) Description

As part of the physical infrastructure required to support ORD's management activities, the project was to finance the construction of an Operations Center at the ORD headquarters in Ouahigouya, and the construction and equipping of a Training and Meeting Center in Seguenega.

(ii) Progress to Date

- Both facilities have been built as detailed above.

(iii) Findings

The Operations Center consists of a conference room/ planning center for ORD projects in general and for the SIRD project in particular, as well as offices for the ORD planning section, financial section, and for foreign technicians.

The Seguenega center was to be built with meeting rooms, offices, and a small dormitory, and used for training sessions, project and ORD meetings, and as office space for the project advisors in literacy, community development and agricultural activities.

In the opinion of the evaluation team, it would have been preferable, from both management and operational standpoints, to have had all project activities centralized in Seguenega. The one exception would have been repair facilities for vehicles and other equipment where electricity and heavy repair equipment is needed.

The problems due to the geographical separation of the project planning, financial, and management functions from Seguenega (i.e., they are located at ORD headquarters in Ouahigouya) were raised by the Subcommittee on Planning and Management in the 1981 project self-evaluation. The Subcommittee noted,

" . . . that the people in charge of the services in Ouahigouya show less and less interest in the project in Seguenega, since a person has been put in charge there."

" . . . (it) recommends that the people in charge in Ouahigouya integrate themselves and participate in the activities in Seguenega."

The Subcommittee also felt that the relationships between the different services were deteriorating because the various services did not participate in decision-making and in implementation of field activities.

This situation could have been obviated by initially locating the project headquarters with all its functions in the project area. Integrated rural development, as its name indicates, is just that - integrated - and integration applies to its activities and to all its management functions. The problems of managing from a distance are evident in the Subcommittee's findings. Management of an integrated rural development project requires both coordination and participation. Participation enhances monitoring and timely, ongoing evaluation of activities, leading to feedback of information which can be rapidly used to revise, expand or curtail levels of activities.

Management must be at the location where the development is taking place. In Africa, logistics, communications, and transportation are usually below effective standards, which lead to a lax, or "I'll go to the village next week" attitude. The villagers are also more inclined to be encouraged as they see staff personnel frequently active in the project area.

(iv) Recommendations

- Analysis should be made of those project personnel located in Ouahigouya and a determination of those priority management positions requiring relocation to Seguenega. At the very least, the project coordinator should be located in Seguenega.

- Analysis/inventory should be made of all project equipment for relocation to Seguenega and/or for procurement of new items as required by reorganization of the project.
- Consideration should be given to use of the office space freed up at the Ouahigouya ORD headquarters as a project management training center for both SIRD project and ORD management personnel.

## V. FINANCIAL ANALYSIS

### A. INTRODUCTION

Complete financial information was not available to the team in the field. This was so because there was no proper management information systems with controls which would have permitted the accurate tracking of operating and recurrent costs.

Furthermore, discussions were held with Africare and AID personnel in Washington to determine which of three budgets was the operative, approved budget. Finally, the format of the approved budget did not match the activities outlined in the project paper, and the Africare cost center reports did not match up with the budget. All of these inconsistencies required significant reallocation of budget and reported cost data to enable analysis of the operating and recurrent costs.

In any event, the team recommends that the AID contract office and Africare agree on a budgeting and reporting format that is consistent between the budget and quarterly expenditure reports, which allocates both direct and indirect costs rationally among the project's specific institutions, and which is sufficiently detailed to allow both careful monitoring and evaluation.

### B. OTHER DONOR AND GOVERNMENT CONTRIBUTION TO THE PROJECT

The evaluation team was unable to determine the complete extent of other donor and Government of Upper Volta contributions to the SIRD project. Moreover, both AID/Ouagadougou and Africare Washington are unable to determine the complete extent of donor participation.

This is in large part attributable to the fact that no one organization (AID, Africare, ORD) has a financial system and a project control capability designed to maintain accountability for all parts of the project.

This situation is highlighted in the April 4, 1982, memorandum from G. Bertolin, OPR/PDO to the Mission Director. On pages 3A and 4, U.S. Government, the Government of Upper Volta, and other donor inputs are outlined. The gist of this portion of the memorandum is the inability to quantify contributions, the uncertainty as to whether various contributions will ever materialize, and the fact that other donor contributions are far behind schedule. A brief, partial recap of progress to date, however, is possible:

<u>Per Project Paper Budget</u>	<u>Planned</u>	<u>Actual</u>
<u>Other Support</u>		
Peace Corps	\$295,000 (20 man years)	no \$ figures (2 man years)
Host Country		
Personnel	961,000	191,000
Training	40,700	*
Other	500,400	*
Other Donors		
Fed	93,200	-0-
Others	367,500	**
Africare	-0-	66,070***

\*Note: The SIRD has benefitted and benefits from the host country as follows: storage, garage, office, and logistical facilities; use of non-paid specialists in the training of extension agents and villagers; uses of ORD equipment and vehicles; fulltime, non-paid civil servants who work on the project; etc. We cannot, therefore, easily cost all these elements. The dollar amount given here under personnel costs are underestimates - Bertolin memorandum, p. 4.

\*\*In the health activity, Africare budgeted \$67,500 for other support. the Seguenega Health Center had received furniture from the ORD, a maternity table from UNICEF, and nutrition and recuperation equipment from the German Government sponsored health effort.

\*\*\*A mobile hospital.

The first recommendation made in Section C.4.a.iv., "Strengthening ORD Management Capability - Recommendations," applies. In brief, it calls for a modified network format of activities with timeframes and budgetary limitations which gives the capability to monitor, modify, and ensure effective project implementation.

C. Assessment of Operating Costs: Project Specifications

The analysis of the operating expenses of the SIRD project's specific institutions (activities) was based on a number of documents and factors.

- The latest approved (by AID) budget dated June 24, 1980, obtained from Africare, and verified to be in AID's core files for Upper Volta.
- The project paper (latest revision - July 26, 1978) budget - used in many instances to base allocations of budgeted and actual dollars spent, both direct and indirect, in each project activity.
- Africare's Cost Center allocation sheets entitled "History as of June 30, 1981 - Status as of December 31, 1981."

A great deal of reallocation of aggregated budget figures was required in order to arrive at a reasonable approximation of the overall budget and expenditures, broken down by specific project activities. Our reallocation enabled an analysis of the financial status of the project to be carried out.

Following is a summary table which recaps the financial status of each project specific institution.

ANALYSIS OF OPERATING COSTS OF  
PROJECT SPECIFIC INSTITUTIONS

<u>Project Specific Institutions</u>	<u>Africare Budget1/ 10/1/78- 9/30/83 (a)</u>	<u>Africare Budget1/ 10/1/78- 12/31/81 (b)</u>	<u>Reported Costs2/ 10/1/78- 12/31/81 (c)</u>	<u>Variance (b) - (c) (d)</u>	<u>Unexpended Balance at 12/31/81 (a) - (c) (e)</u>	<u>Africare Budget1/ 1/1/82- 9/30/83 (f)</u>	<u>Amount Remaining at 10/1/83 (e) - (f) (g)</u>
General Village Development	\$ 586,963	\$ 362,752	\$ 217,363	\$ 109,389	\$ 369,600	\$ 260,211	\$109,389
Health	814,336	603,335	438,352	164,983	375,984	211,001	164,983
Literacy	216,014	144,471	602,249	84,222	155,765	71,543	84,222
Young Farmer Training	39,826	27,625	3,191	24,434	36,635	12,201	24,434
Vegetable Gardening	225,966	164,124	164,783	( 659)	61,183	61,842	( 659)
Rice	2,633	1,597	1,174	423	1,459	1,036	423
4 Livestock	764,299	599,946	501,068	98,878	263,231	164,353	98,878
Water Resources	580,305	397,413	238,815	158,598	341,490	182,892	158,598
Roads	1,542,455	1,201,475	797,214	404,261	736,241	340,980	395,261
Reforestation	124,391	88,224	73,254	14,970	51,137	26,167	14,970
ORD	<u>1,057,507</u>	<u>743,576</u>	<u>1,009,293</u>	<u>( 265,717)</u>	<u>48,214</u>	<u>313,931</u>	<u>(265,717)</u>
Total	<u>\$5,954,695</u>	<u>\$4,298,538</u>	<u>\$3,504,756</u>	<u>\$ 793,782</u>	<u>\$2,440,939</u>	<u>\$1,656,157</u>	<u>\$784,782</u>

1/ Africare budget dated June 24, 1980, given to Ronco by Africare on August 25, 1982. Substantial reallocation of budget data to project specific institutions was necessary to facilitate analysis of operating costs. This budget was verified to be the same budget held by AID in their core files for Upper Volta, and discussed with the Contracts Office.

2/ Based on Africare's Cost Center reports. Complete reallocation of costs from Africare accounts 4812 "SIRD Africare Program Support," 4813 "Africare Direct Administration," and Africare's indirect costs for the project as a whole to the project specific institutions was necessary. The dollar amount necessary to reallocate as of 12/31/81 was \$1,540,611 or 44% of the actual costs reported incurred.

As is evident from column d, "Variance" of the above table, all the project specific institutions, with the exception of the ORD, were well within amounts budgeted for the period 10/1/78-12/31/81. The reason for ORD appearing to have exceeded budget, and correspondingly for the other project activities' costs appearing well below budget, is largely because of the reallocation of U.S. Hire personnel from Africare's cost center accounts 4812 and 4813 ("SIRD Africare Program Support" and "SIRD Africare Direct Administration," respectively) to those project activities which had salary and support components per the project paper budget. These U.S. Hire personnel salaries and fringe benefits amounted to \$621,157. In addition, indirect costs of \$462,214 had to be allocated to those same project activities in the same proportions. The ORD activity represented a sizeable fraction (36%) of all salaries and associated support costs.

With respect to salaries, it was learned that Africare does not require project personnel to prepare timesheets which allocate their time spent on individual project activities appropriately. As concerns project equipment and project supplies, the individual accounts in which costs are captured are too aggregated, e.g., Budget line item 551 - Cost Center line item 51, "Project Supplies I" includes supplies for Village Development, Literacy, and OR). These facts are indicative of why reallocation was necessary. These facts are also indicative of the need for a financial control system which will permit the accurate monitoring, control, and evaluation of project components.

If one were to reallocate the ORD "overage" across the remaining project activities, most of them would still be below budget. The principal reason for the activities being below budget is the late start of the project. In certain areas, it is clear that there will be sufficient funds left to meet project objectives.

1. Water Resources

Assuming even quarterly expenditures of the unexpended balance at 12/31/81, \$341,490, there should have been approximately \$250,000 left for this activity at the end of June 1982. At this time, the evaluation team estimated that a total of 620 meters of well digging/deepening had to be carried out to meet the objectives of 64 year-round wells. At a cost of 55,000 CFA per meter, these wells can be finished for a total amount of about \$115,000. An additional, \$10,000 will be required for the services of a water engineer to re-evaluate this component. Even assuming that, in addition to the above, ten new wells had to be dug at a total cost of \$55,000, there still will be sufficient funds to cover this activity.

2. Roads

Again, assuming even quarterly expenditures of the unexpended balance at 12/31/81, \$736,241, there should have been approximately \$525,000 left for this activity at the end of June 1982. At this time, there were 36 kilometers left of the project road to be built. Allocating all of the budgeted indirect and the fixed (equipment purchases) costs in addition to the direct costs on a per kilometer basis, \$1,542,455 divided by 106 kilometers, the remaining 36 kilometers would cost \$524,000, or just within budget.

In other areas, however, whether there will be sufficient funds to meet project objectives is not so clear.

For example, in General Village Development Infrastructure, there may be 45 Village Development Committees, but if many of them are not functioning properly or not even functioning at all, one may say, even if the activity is below budget, that the operating costs were high relative to what has been accomplished. Progress in the areas of General Village Development, Health, Literacy, and Young Farmer Training is highly qualitative in nature, difficult to quantify in money terms, and thus, make necessary judgments as to quality obtained. The same may be said of strengthening ORD management capability. Nonetheless, the findings of the team are that the operating costs have been high relative to accomplishments in these areas because of the late start, the lack of management skills and procedures and because of certain design inadequacies. To correct this situation, the evaluation team, in the next section - Recurrent Costs - has recommended that the project be partially redesigned, has costed out the redesign, and recommends that it be started very soon, i.e., at the beginning of the project's next fiscal year.

D. Proposed Budget Requirements To and After PACD

The following table incorporates the various recommendations suggested by the evaluation team for the last year of the project and for five years beyond the project assistance completion date. The team felt that the inclusion of the recommendations and their financial impact was the only meaningful way to address the question

of recurrent costs. To continue the project in its current configuration is to insure the failure of certain components and, therefore, the analysis of recurrent costs (given the current project configuration) would have little meaning.

In addition, those new investments which the team felt necessary to insure the success of the project are shown in the table. Following the table is a chart which describes the chronological flow of current, as well as suggested, modified and new project activities over the life of the project and five years beyond the project assistance completion date.

The evaluation team feels that it will take two years for the suggested facilities and infrastructure to be established and functioning effectively. It will only be at the end of the first year of Phase 2, FY-84, that significant progress will be evident.

SEGUENEGA INTEGRATED RURAL DEVELOPMENT PROJECT

PROJECTED COST TABLES

	Investment and Recurrent Costs						Total
	FY 83 10/1/82- 9/30/83	FY 84 10/1/83- 9/30/84	FY 85 10/1/84- 9/30/85	FY 86 10/1/85- 9/30/86	FY 87 10/1/86- 9/30/87	FY 88 10/1/87- 9/30/88	
<b>A. Social Services</b>							
<b>1. General Village Development Infrastructure</b>							
<b>(b) Seguenega Headquarters</b>							
(i) Relocation expenses	NR \$ 225	-	-	-	-	-	\$ 225
(ii) Housing (Build/Renovate)	NR 36,000	-	-	-	-	-	36,000
(iii) Furniture/appliances	NR 6,000	-	-	-	-	-	6,000
(iv) Salaries	130,600	130,600	133,500	33,500	38,000	38,000	504,200
(v) Credit Union/Cooperative Societies							
Expatriate salary	100,000	100,000	-	-	-	-	200,000
(vi) Transportation, repairs, etc.	28,350	31,800	29,700	32,900	37,200	41,500	201,450
<b>(b) Development Centers (6)</b>							
(i) Salaries (inc. fringes, T&A)	207,600	147,600	168,800	168,800	193,000	193,000	1,078,800
(ii) Transportation, repairs, etc.	12,400	13,900	15,600	17,400	19,600	21,900	100,800
(iii) Well construction (6) and well deepening (6)	NR 37,400	-	-	-	-	-	37,400
(iv) Land - donated in return for wells, fencing							
(v) Buildings/open pavillions (construct)	NR 15,000	-	-	-	-	-	15,000
(vi) Equipment	NR 47,430	-	-	-	-	-	47,430
(vii) Equipment operation (generators)	5,200	5,800	6,500	7,300	8,200	9,100	42,100
(viii) Supplies/Training and teaching materials	3,600	4,030	4,515	5,090	5,665	6,345	29,215
(ix) Farm implements/small tools	NR 3,000	-	-	2,100	-	-	5,100
(x) Poultry facilities and operation	NR 600	-	-	-	-	-	2,930
Operation	465	295	330	370	410	460	
(xi) Livestock facilities and operation	NR 1,000	(a)	(a)	(a)	(a)	(a)	1,000
(xii) Vegetable gardening plots	NR 12,510	(b)	(b)	(b)	(b)	(b)	12,510
Subtotal -NR Costs	\$ 159,165	\$434,025	\$358,945	\$267,430	\$302,075	\$310,305	\$2,120,160
Subtotal - Recurrent Costs	\$ 488,215						
<b>2. Village Based Health Services</b>							
<b>(a) Seguenega Health Center</b>							
(i) Salaries (including fringes, T&A)	4,800	4,800	5,400	5,400	6,050	6,050	32,500
(ii) Transportation	7,800	8,700	9,800	10,900	12,300	13,700	63,200
(iii) Equipment	NR 15,300	-	-	-	-	-	15,300
(iv) Equipment operating expenses	510	570	640	715	800	900	4,135
(v) Vaccines	2,000	2,240	2,510	2,810	3,150	3,530	16,240
<b>(b) Health Posts</b>							
(i) Equipment	NR 1,800	-	-	-	-	-	1,800
(ii) Equipment operating expenses	1,020	1,140	1,280	1,435	1,605	1,800	8,280
<b>(c) Village Health Teams (30)</b>							
(i) Salaries	7,200	8,100	(c)	(c)	(c)	(c)	15,300
<b>(d) Mobile Vaccination Service<sup>d/</sup></b>							
(i) Equipment	NR 2,400	-	-	-	-	-	2,400
(ii) Vaccines	8,000	4,360	10,335	11,240	12,590	14,100	64,225
Subtotal - NR Costs	NR 19,500						
Subtotal - Recurrent Costs	31,330	34,510	39,665	32,500	35,495	40,380	224,025

SEGUENEGA INTEGRATED RURAL DEVELOPMENT PROJECT

PROJECTED COST TABLES

Investment and Recurrent Costs

	<u>FY 83</u> <u>10/1/82-</u> <u>9/30/83</u>	<u>FY 84</u> <u>10/1/83-</u> <u>9/30/84</u>	<u>FY 85</u> <u>10/1/84-</u> <u>9/30/85</u>	<u>FY 86</u> <u>10/1/85-</u> <u>9/30/86</u>	<u>FY 87</u> <u>10/1/86-</u> <u>9/30/87</u>	<u>FY 88</u> <u>10/1/87-</u> <u>9/30/88</u>	<u>Total</u>
<b>3. Village Based Functional Adult Literacy</b>							
<b>(a) Adult Literacy Headquarters</b>							
(i) Salaries (including fringe, T&A)	\$ 8,000	\$ 8,000	\$ 8,800	\$ 8,800	\$ 9,900	\$ 9,900	\$ 53,400
(ii) Supplies/Training and teaching materials	600	675	750	840	945	1,060	4,870
(iii) Transportation	500	560	625	700	785	880	4,050
<b>(b) Satellite Villages (30)</b>							
(i) Furniture	NR 4,500	-	-	-	-	-	4,500
Subtotal - NR Costs	\$ 4,500	-	-	-	-	-	\$ 4,500
Subtotal - Recurrent costs	\$ 9,100	\$ 9,235	\$10,175	\$10,340	\$11,630	\$11,840	\$ 62,320
<b>4. Young Farmer Training<sup>a/</sup></b>							
<b>B. Farm/Animal Production</b>							
<b>1. Vegetable Production<sup>e/</sup></b>							
<b>2. Rice Production<sup>g/</sup></b>							
(a) Seed multiplication	NR 275	(h)	(h)	(h)	(h)	(h)	275
Subtotal - NR Costs	\$ 275	-	-	-	-	-	\$ 275
<b>3. Livestock and Poultry Production</b>							
<b>(a) Livestock Center - Seguenega</b>							
(i) Salaries (incl. fringe, T&A)	115,000	115,000	16,750	16,750	19,250	19,250	302,000
(ii) Transportation	1,000	1,170	1,255	1,405	1,575	1,760	8,115
(iii) Equipment	NR 2,000	-	-	-	-	-	2,000
<b>(b) Poultry Facilities</b>							
(i) Stock	400	450	(1)	(1)	(1)	(1)	850
(ii) Equipment	NR 1,565	-	-	-	-	-	1,565
(iii) Equipment operation	510	570	640	715	800	900	4,135
(iv) Feed/Supplements 1/	1,335	1,795	2,345	3,000	3,780	4,700	16,955
(v) Medicines, vaccine 1/	100	135	175	225	285	355	1,275
<b>(c) Bali-Bali Sheep Multiplication Center</b>							
(i) Initial stock	NR 10,400	-	-	-	-	-	10,400
(ii) Transportation to/from Sahel	NR 3,600	-	-	-	-	-	3,600
(iii) Equipment/supplies	NR 1,245	-	-	-	-	-	1,245
(iv) Feed/Supplements w/	2,260	3,290	5,385	7,535	11,470	17,000	46,940
(v) Medicine/vaccine w/	210	395	610	855	1,285	1,895	5,250
(vi) Sale of rams	-	-	-	( 2,620)	( 3,360)	( 4,700)	(10,680)
Subtotal - NR Costs	NR\$18,810	-	-	-	-	-	\$ 18,810
Subtotal - Recurrent Costs	\$120,815	\$122,755	\$27,160	\$27,865	\$35,085	\$41,160	\$ 374,840

SEGUENEGA INTEGRATED RURAL DEVELOPMENT PROJECT

PROJECTED COST TABLES

Investment and Recurrent Costs

	<u>FY 83</u> <u>10/1/82-</u> <u>9/30/83</u>	<u>FY 84</u> <u>10/1/83-</u> <u>9/30/84</u>	<u>FY 85</u> <u>10/1/84-</u> <u>9/30/85</u>	<u>FY 86</u> <u>10/1/85-</u> <u>9/30/86</u>	<u>FY 87</u> <u>10/1/86-</u> <u>9/30/87</u>	<u>FY 88</u> <u>10/1/87-</u> <u>9/30/88</u>	<u>Total</u>
<b>C. Support Services</b>							
<b>1. Water Resources</b>							
(a) Salaries (including fringe, T&A)	\$ 43,600	(1)	(1)	(1)	(1)	(1)	\$ 43,600
(b) Transportation	2,925	-	-	-	-	-	2,925
(c) Construction materials	NR 109,265	-	-	-	-	-	109,265
Subtotal - NR Costs	NR\$109,265	-	-	-	-	-	\$109,265
Subtotal - Recurrent Costs	\$ 46,525	-	-	-	-	-	\$ 46,525
<b>2. Road Improvements</b>							
<b>(a) Construction</b>							
(i) Finish project road	NR 75,600	-	-	-	-	-	75,600
(ii) Link project road with Canadian road	NR 36,000	-	-	-	-	-	36,000
<b>(b) Maintenance</b>							
(i) Salary	90	105	115	130	145	-	585
(ii) Equipment operation	550	615	690	775	865	-	3,495
(c) Recharge road surface	-	-	-	-	-	NR 441,570 <sup>m/</sup>	441,570
Subtotal - NR Costs	NR\$111,600	-	-	-	-	NR \$441,570	\$553,170
Subtotal - Recurrent Costs	\$ 640	\$ 720	\$ 805	\$ 905	\$ 1,010	-	4,080
<b>3. Reforestation and Soil Conservation</b>							
(a) Salaries (including fringe, T&A)	16,400	6,400	7,360	7,360	8,465	8,465	54,450
(b) Transportation	3,200	3,585	4,015	4,495	5,035	5,640	25,970
(c) Supplies and Equipment	4,000	4,480	5,015	5,620	6,295	7,050	32,460
Subtotal - Recurrent Costs	\$ 23,600	\$14,465	\$16,390	\$17,475	\$19,795	\$21,155	\$112,880
<b>4. Strengthening ORD Management Capabilities</b>							
<b>(a) Information System</b>							
(i) Salaries (incl. fringe, T&A)	20,000	-	-	-	-	-	20,000
<b>(b) Land/Resource Plan</b>							
(i) Salaries (incl. fringe, T&A)	10,000	-	-	-	-	-	10,000
Subtotal - Recurrent Costs	\$ 30,000	-	-	-	-	-	\$ 30,000

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ASSUMPTIONS AND FOOTNOTES FOR  
PROJECTED COST TABLES

GENERAL ASSUMPTIONS

1. Inflation rate = 12%/year.
2. Exchange rate = 300 CFA/\$. This lower (than current @ 350CFA/\$) exchange rate has been assumed to allow for probably future strengthening of French franc (CFA franc tied directly to FF) vis-a-vis U.S. dollar, as well as to present a conservative financial outlook for future (1983-88) project operations.
3. Costs of all equipment, goods, and materials of U.S. origin include 50% for freight, insurance, and spare parts where applicable.

FOOTNOTES

- (a) Pilot sheep fattening operations carried out on same credit basis as currently employed in project, and thus will incur no net recurrent costs to project.
- (b) Pilot vegetable gardening carried out on same credit basis as currently employed in project, and thus will incur no net recurrent costs to project.
- (c) Remuneration of village health teams covered by fees from sale of medicines and services.
- (d) Transportation included in A.2.a.ii.a.b. rec.; a total of 10,000 children per year will be given measles/DPT vaccinations: 8,000 by the mobile vaccination service and 2,000 at the Seguenega Health Center.
- (e) All personnel training, support, and equipment costs included in General Village Development Infrastructure - Development Centers, A.2.b.
- (f) All personnel, training, and support costs included in General Village Development Infrastructure - Development Centers, A.2.b. Current and future villager vegetable gardening operations carried out on credit basis, and thus will incur no net recurrent costs to project.
- (g) All personnel, training, and support costs included in General Village Development Infrastructure - Development Centers, A.2.b. Current and future villager rice production carried out on credit basis, and thus will incur no net recurrent costs to project.
- (h) Seed multiplication unit will become self-sufficient, and costs will be recovered by sale of seed to other villages.

- (i) Stock replenished through proceeds from sale of mature birds to villages.
- (j) Assumes initial center flock size of 500; flock grows at 100 birds/year.
- (k) Assumes sheep grown as follows:
 

end FY 83 - 315	end FY 86 - 871 (after sale of 70 rams)
end FY 84 - 504	end FY 87 - 1,169 (after sale of 80 rams)
end FY 85 - 693	end FY 88 - 1,535 (after sale of 100 rams)
- (l) Well crews operate on a fee-charged-to-villages basis, thus incur no recurrent costs to project.
- (m) Although recharging the road surface technically is a maintenance (recurring) cost, its characteristics, infrequency, and dollar size make it similar to a capital expenditure. Thus, we are classifying it as a non-recurrent cost.

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SEGUENEGA INTEGRATED RURAL DEVELOPMENT PROJECT

PROPOSED ACTIVITY IMPLEMENTATION GUIDE

— current activity  
 ..... modification of current activity  
 - - - new activity

FY 79-FY 82	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
<b>A. Social Services</b>						
<u>1. General Village Development Infrastructure</u>  Decentralized development: 45 operational VDC's, 24 extension agents in Type I villages, 240 resident villagers with special training (below objective)	..... Infrastructure, training, extension activities centralized into 6 Dev. Centers.					
<u>2. Village Based Health Services</u>  Seguenege Health Center, 4 health posts, and 30 resident village health teams (below objective; problems)	..... Center organized and strengthened with appropriate personnel and procedures Immunization program implemented at Center and by mobile vaccination service.					
<u>3. Village Based Functional Adult Literacy</u>  Decentralized program using 1/3 extension agents and 2/3 resident villagers in 30 villages (below objective)	..... Centralized into 6 Development Centers servicing satellite villages; strengthen existing literacy headquarters.					
<u>4. Young Farmer Training</u>  Projects to be established in various villages (below objective)	..... YFT to be based at Development Centers with field work in satellite villages.					
<b>B. Farm/Animal Production</b>						
<u>1. Vegetable Production of 16 Hectares</u>  Vegetable production on credit basis (close to objective)	..... Basic theories and demonstration to take place in Development Center with field work in villages.					
<u>2. Rice Production of 100 Hectares</u>  Rice production on credit basis (below objective, high risk activity)	..... To continue; slow expansion; seed multiplication area established.					
<u>3. Livestock and Poultry Production</u>  Sheep cross breeding and fattening according to village interest and poultry raising according to village interest (close to objective for sheep, far below objective for poultry; serious problems)	..... Seguenege poultry center facilities and operations upgraded. ..... Demonstration poultry facilities in Development Center established. ..... Demonstration sheep fattening operating in Development Centers. ..... Bali-Bali multiplication center established.					

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SEGUENEGA INTEGRATED RURAL DEVELOPMENT PROJECT

PROPOSED ACTIVITY IMPLEMENTATION GUIDE

FY 79-FY 82	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
<p><b>C. Support Services</b>  <b>1. Water Resources</b>                      64 wells for drinking and agricultural purposes; wells are below objective; problems.</p>	<p>Project area restudied, existing wells deepened - well digging project completed.                      Well crews operate on a fee-charged basis. . . . .</p>					
<p><b>2. Road Improvements</b>                      Construction of locally maintainable road network (will meet objective)</p>	<p>...Link to Canadian road.</p>					
<p><b>3. Reforestation and Soil Conservation</b>                      Nursery with capacity of 50,000 trees/year; plant 150 hectares of trees (below objective; problems)</p>	<p>Basic soil conservation unit findings; strengthen management and operation. . . . .                      - - - - - Establish soil conservation unit, survey village needs (use of short-term soil conservation specialist).</p>					
<p><b>4. Strengthening ORD Management Capability</b>                      Development of management information system, and land use/resources employment plan (partially developed)</p>	<p>Management information system set up by short-term specialist; land use survey completed by completion of evaluation of landsat data and field surveys.</p>					
<p>Establishment and operation of various revolving credit funds (some in operation, some not)</p>	<p>Shifting of underemployed funds to molyette revolving credit fund.                      All revolving credit funds shifted to credit union. . . . .</p>					

AFRICARE AND ORD PLANS  
TO COVER RECURRENT COSTS

Discussions with Africare Washington and project personnel at ORD headquarters (Ouahigouya) indicated a high level of uncertainty as to plans for continuation after the project assistance completion date.\* In the health area, in particular, it was felt that any future assistance was going to be minimal. Health activities in Upper Volta suffer from widespread lack of management expertise. A determined, effective effort on the part of the Ministry of Health, which would help the SIRD health component was not felt to be likely given the management infrastructure weakness.

The team also encountered a general feeling among the Voltaique project staff that the project was not likely to be continued, which, of course, has serious morale implications. The feeling of Africare Washington is one of uncertainty as to the Government's intentions regarding picking up the financial reins once the project assistance completion date arrives. Africare indicated verbally that it is waiting for this evaluation before they finalize any plans they may have for continuation. The consensus is that the future of the project is aligned very closely to the plans of the Government.

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\*Moreover, no official position was stated to the team regarding ORD's intentions, and the team was unable to obtain any written documents in this regard. No official position was evident from the Government, except for the Ministry of Health.