MID-PROJECT EVALUATION
AGRICULTURAL HUMAN RESOURCES
DEVELOPMENT PROJECT

UPPER VOLTA

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EXECUTIVE SUMMARY

The AID/Upper Volta Agricultural Human Resources Development Project aims at improving farm productivity and farmers' welfare by developing a system for training people to work in Upper Volta's agricultural extension organization. There are two schools within the project's area of activity: the Institut Superieur Polytechnique (ISP) in Ouagadougou, a university-level institution which trains top leadership; and the Matourkou/Centre Agricole Polyvalent (CAP) near Bobo Dioulasso, a high school-level institution which trains middle-level leadership.

The Southeast Consortium for International Development (SECID), headquartered in Chapel Hill, North Carolina, is the contractor for the five-year project which is now at mid-point. Technical assistance supplied by SECID provides for advisors-instructors-institution builders: four at ISP and one at CAP. The hours they spend instructing students in these schools constitute important contributions to the schools' operation. Far more significant, particularly for long-term considerations, is their contribution to institution building, improving the curriculum, for example, developing practical work on school farms, etc.

The project has its strengths and its weaknesses. The ISP component is well managed and organized. The curriculum is improving and the school farm is developing very well. The five ISP graduates who are participant trainees in the SECID region are considered to be successful graduate students. This reflects
admirably on ISP's quality of training. However, the quantity of ISP's output is low. The Project Paper provided that there would be 20 participants, and no where near this number are going to be found. The Paper anticipated graduating 25 students annually but only 12 graduated this year, and there is little hope that numbers will increase. Of the 60 or so students who commence ISP's five-year program, 80 percent will fail, most of them during the first year. There are no textbooks and few materials in the library. Despite these shortcomings, ISP looks pretty good as a college.

The CAP at Matourkou, near Bobo Dioulasso, also has its strengths and weaknesses. On paper, its training program is well designed. The physical plant, including some items under construction, is adequate. Practical experiences, not counting cereal crops, are well organized and productive. The staff for practical experience is competent.

However, weaknesses do exist. CAP/Matourkou has no staff for academic instruction and must make do with hourly-paid part-time instructors. About a quarter of the classes cannot be taught because instructors cannot be found. Management and maintenance are very poor. There are no textbooks nor lesson plans, except material provided by the SECID advisor/instructor. The wells run dry in season and the field crops are not productive. The school trains just under half of the numbers anticipated in the Project Paper.
Specific recommendations (detailed in Chapter V) derive their basis from and are grounded in the following precepts:

. Developmental opportunities at ISP and CAP/Matourkou should be treated separately. That is, opportunities at ISP should not be jeopardized by the fact that opportunities at CAP/Matourkou are limited.

. Future investments in technical assistance and in participant training should concentrate on consolidating progress made to this date in curriculum development and other facets of progress prior to initiating change in other areas.

. USAID, SECID and the GOUV (Government of Upper Volta) should recognize that specific instruction in the process or art of agricultural extension is central to improving training at ISP and CAP/Matourkou.

. CAP/Matourkou is basically a holding action until such time as a Statut de Personnel Enseignant, which will establish full civil service pay and allowances, is extended to that institution, and until administration/management is improved.

. AID/SECID contributions to Voltaique development must concentrate on institution development. Emphasis upon quantity and numbers, while important, is secondary. This is a change from the Project Paper's emphasis.
More candidates for participation must be found, broadening the pool from which they are drawn.

Communication between AID, SECID, and the GOUV must be improved.
I. INTRODUCTION

OBJECTIVES OF THE EVALUATION

This report represents a mid-term evaluation of the AID/Upper Volta's Agricultural Human Resources Development Project (AHRD), Project No. 686-0221. The project was designed by a SECID team which worked in Upper Volta for six weeks beginning October 1977. The Project Paper was submitted to AID/Washington (AID/W) in December 1977. SECID was granted the project implementation contract, January 1979 (AID/afr-c-1488). Implementation of the project began with the first SECID technician's arrival in Ouagadougou, Upper Volta, February 1979.

AID/W's evaluation contract with Ronco included, of course, a scope of work. Objectives of the evaluation are:

1. Evaluation of the extent to which the intended purposes of the AHRD Project (10/77-4/81), as reflected in the Project Paper, have been accomplished, and

2. Development of recommendations for revision of the project, and if necessary, revision of the Project Paper.

Achievement of these evaluation objectives was further guided and focused by a statement in the Project Paper;

"This project is designed to strengthen and expand the capacity of the Government of Upper Volta (GOUV) to train agricultural personnel at all levels of the agricultural extension system with emphasis on professional and middle level training."

I. 1
After a preliminary review of project operations, the evaluation team phrased the following criterion to guide its efforts:

To what extent has AID/SECID succeeded in developing Upper Volta's agricultural education institutions which without outside help can meet the GOUV's needs for practically trained agricultural personnel?

As would be expected, as soon as the evaluation team dug into project operations and began to collect information, it found that there were two distinct aspects of the project: quantity and quality. For example, the Project Paper provided that numbers of students trained annually at CAP/Matourkou would increase to 150, that an additional 60 students would be trained annually at a new CAP at Bogande, and that 25 students would be trained annually at the ISP. As it happens, there is little reason to believe that these quantity objectives will be met by project's end.

It became apparent that despite the importance of numbers, quality has a greater long-term importance. Thus, evaluation objectives could be achieved only if the evaluation team examined SECID's contribution to institution building. Was SECID working toward improving the curriculum, toward improving study resources (such as a library, for example) for students and instructors, toward improving administrative management, etc.?

The evaluation team recognized, of course, that sometimes numbers and quantity are outside the control of a contractor, but not always. The evaluation process, then had to deal with
quantity and quality, and tried to identify those which were interrelated as well as those offering an opportunity for SECID technical assistance.

One of the objectives of an evaluation - a side-effect so to speak - is to focus attention on a project. All parties concerned pause, step back, and try to take an objective look at the project, its strengths, its weaknesses, its potential, and its promise. This usually means, also, that people at the scene of the project who may have been too busy to get together to review progress are persuaded by the evaluation process to take some time to get together and discuss the project, exchange views, and if necessary, resolve misunderstandings.

The evaluation team sincerely believes that attention was indeed focused on the project, under the circumstances that attention needed to be focused. The team identified improved inter-communication among all parties as an essential element for the future progress of the project. The team hopes, but is simply not sure, that all parties concerned recognized the importance of continued inter-communication and consultation.

**CONSTRAINTS TO THE EVALUATION**

The following constraints on evaluation were encountered:

1. The evaluation took place while the ISP was closed for the summer vacation and while students at Matourkou were widely scattered on various field assignments. Thus, the evaluation team was not
able to see the institutions in normal operation, nor observe classroom procedures, nor interview more than a few students or instructors.

2. The evaluation team had expected to work with Voltaique counterparts. They would have contributed to the evaluation as well as being exposed to the process. However, they were not named until the three-week evaluation period was half over, and the one counterpart, Dr. Digma, who agreed to work with us, did not begin that work until the last of those three weeks. He was from the Ministry of Higher Education. The nominee from the Ministry of Rural Development met once with one of the members of the evaluation team. He explained that he did not want to initiate participation at so late a date. The Rector of the University of Ouagadougou was the third counterpart, but his busy schedule - his position in the University is not his only governmental responsibility - made it impossible to do more than meet once with the evaluation team. The contribution Dr. Digma made to the evaluation process demonstrated how useful it would have been to have had counterparts from the beginning.
3. A key project personnel decision was made shortly before the evaluation. It seemed to the evaluation team that this decision should not have pre-dated the data collection phase of the evaluation.

STATEMENT OF WORK

AID/W's evaluation contract with Ronco included a comprehensive work guide in its Statement of Work. The evaluation team did indeed use this Statement as a work guide, though the team did not limit itself to it. This would have eliminated the opportunity to take advantage of chance, or of following interesting leads, or to do that quality of investigation that is possible when one is at the scene of the action.

However, when the evaluation team wrote its report, it did not use the Statement as an outline. For example, the Statement proposes a review of project documentation. The information gathered from that review will be seen in many places in the report. In some cases, the document itself was not as significant as the direction it provided for additional data collection.

The tasks written in the Statement of Work are listed below, accompanied by a reference to a chapter listed in the Table of Contents.

1. Visit SECID headquarters in Chapel Hill, North Carolina to obtain information relevant to the evaluation. The visit may take place before or after the contractor's tour in Upper Volta or
both, but shall not exceed eight man days. (This visit was made after returning from Upper Volta.)

2. Thoroughly review project documentation and background so as to understand the scope and intent of the project. (See Chapter II, Scope of the Project, Overview and Analysis; also Chapter III, Process Analysis, Project History; and Chapter IV, Analysis of Project Logic, LogFrame.)

3. Study the implementation of the project, including the performance of SECID, the GOUV and USAID/Upper Volta. (See Chapter II, Farm Concept and Analysis of Expenditures; also Chapter III, History and Accomplishments, as well as Recommendations.)

4. Examine the project LogFrame considering the validity of assumptions and the anticipated effects of input and output linkages on project goals and purposes. (See Chapter IV, Analysis of Project Logic.)

5. Assess the impact of the project on the GOUV recipient, the ISP faculty, the CAP faculty, students and other beneficiaries at the local level. (Comments are found throughout Chapter II, Scope of the Project, and Chapter III, Process Analysis.)
6. Identify discrepancies between the project as planned and the project as it now stands. In this regard, special attention shall be given to:

a. the impact of the project on the agricultural manpower gap, (See Chapter II, Institution Building, Chapter III, Accomplishments, and Chapter IV.)

b. the project's participant training program, (See Chapter III, Participant Training.)

c. the need for an additional CAP and three satellite training stations in Gampela, (See Chapter II, Farm Concept and Chapter V, Recommendations.)

d. the level of technical assistance, (See Chapter V, Recommendations and Future Staffing Proposals.)

e. the contribution of the technical assistance team toward reorienting curriculum away from the theoretical and toward applied research, and (See Chapter II, Institution Building.)

f. the problem of equivalence of U.S. and French degrees and its effects on U.S.-trained participants. (See Chapter III, Participant Training.)
The evaluation process brought the evaluation team members into contact with many people, to be sure, and several places. They are listed by office or location in Evaluation Procedures, Annex B.

In the section immediately following, we present an overview of the project - "the big picture" - as we perceive it, of the project and the evaluation. Then in Section III we detail our analysis of the project, its history, accomplishments, problems, etc. This is followed by a section devoted to an analysis of project logic, focusing on the original logical framework and a new project LogFrame that is presented for consideration. Finally, in Section V, we present our specific recommendations for the project and justifications for them.
II. SCOPE OF THE PROJECT

OVERVIEW OF THE PROJECT

Design of the Project

The main thrust of USAID programs is towards aiding the rural poor. Upper Volta, with a 1979 per capita income of $159, and 91 percent of its population in the rural areas, undoubtedly qualifies for a major USAID effort.

The AHRD Project design team identified one of the constraints to agricultural development of Upper Volta to be the lack of trained manpower at all levels of the Government's agricultural development organizations, from the university and administrative level down through the extension staff.

The design team proposed the strengthening of two levels of agricultural training as a way to produce the needed manpower. The first level is found at the University of Ouagadougou, or more specifically at the Institut Superieur Polytechnique, which teaches courses leading to the degree "Ingenieur de Developpement Rurale" (equivalent to the French "Ingenieur Agricole"). The university graduates will provide the future administrators, research scientists, and regional development organization managers, as well as teachers in Upper Volta's agricultural education schools.

The second level is found at the agricultural vocational school (CAP) at Matourkou near Upper Volta's second major city, Bobo Dioulasso. The training in this establishment is aimed at producing mid-level technicians and extensionists and, in contrast to the university-level ISP, is a high school-level institution.
In addition to identifying a shortage of manpower in numerical terms, the design team sought to remedy the excessively theoretical bias of the agricultural education in both establishments. They felt that the U.S.'s long history of linking education, research, and extension in its land grant colleges provided an appropriate alternative model.

The design team proposed that an increase in both quantity and an alteration in quality of agricultural graduates could be achieved via an institution-building effort at both institutions including: provision of physical infrastructure, teacher training, and curriculum development. An experimental farm and three experimental stations were included as part of the university-level package, and village demonstration facilities were also included as part of the agricultural vocational school package.

**Progress and Obstacles to Progress**

As the analysis presented in the rest of this report will show, the execution of the project at the university (ISP) level has been, by and large, a success. In fact, in certain institution building areas, quite surprising progress has been made, especially given the natural conservatism of universities not only in Upper Volta but worldwide. Areas where institutional development progress has been made include: introduction of an agricultural extension course as a universal requirement; curriculum and textbooks tailored to Upper Volta in animal husbandry, agronomy, and forestry; important alterations in the relationships between
teachers and students; a 1,100 book agricultural library accessible to all students; and launching of an experimental farm for use by students in all the agricultural disciplines.

Problems encountered at ISP are: inability of the GOUV to cover some recurrent costs which it agreed to cover; and difficulties in finding ISP graduates willing and able to go to the United States for masters degrees. Obstacles to finding the "participant trainees" are: that they cannot be spared from jobs awaiting them in various GOUV ministries; a severe attrition rate so that graduates are few; lack of official recognition of the equivalence of U.S. degrees to French degrees; and students' reluctance to obligate themselves to become university professors.

Progress at CAP/Matourkou has been less rapid and less complete than at the ISP. Reasons for a disappointingly slow rate of progress are discussed in detail in a section appearing later in this chapter. Briefly they include the fact that the administration/management of the school is less than efficient. Second, and more importantly, there is no permanent, full-time staff of academic instructors; part-time instructors come in for a couple of hours a day. Instructors cannot afford to accept assignments at the CAP because the civil service pay and allowances system is not applicable to the school. The project design team recognized this as a serious problem. The team included application of the civil service system to the school as a condition precedent in the project design. However, the project was begun without the GOUV having taken action in this respect. In August 1980, the AID Mission informed
the GOUV that further funding for the entire project was blocked because of the lack of civil service status at the CAP. Before the end of 1981 funds will run out unless AID or the GOUV finds a solution. As a point of history, this problem is long standing and was partly responsible for FAO's pulling out of the CAP in 1977.

Presumably, the GOUV has not solved this pay and allowances problem simply because there is a shortage of money in the country. If the pay and allowances problem was solved for the CAP/Matourkou, it would also have to apply to several other similar schools. The shortage of funds to support recurrent costs of institutions which are expanded or created by donors' projects is not new, but it is serious. The AID Mission's Program Office has proposed a study of the problem of recurrent costs. It has suggested that even if funds for new projects were to be decreased by diverting some money to cover recurrent costs, AID may still have to offer the GOUV some assistance. The subject is being discussed.

A Look Backward

It appears now, with the luxury of hindsight, that the project should have concentrated on the production of practically trained administrators, research workers, and regional development organization managers during the first phase. That is, the project should have begun with a concentration at ISP while the "Statut de Personnel" problem was sorted out. Also, institutional change at universities is a long process, and probably needs a head start
over curriculum improvement at the vocational high school level, if graduates at the two levels are to arrive at their jobs more or less simultaneously. Practically trained extension agents working for theoretically trained administrators will not have much leverage for reorienting the entire system, which is the intention of the project.

Recommendations for the Future

Specific recommendations and their justifications are accorded their own chapter at the end of this report; however, several general principles to follow deserve mention here.

First, solid institutional development progress at ISP should not be jeopardized by what has turned out to be an artificial link with CAP, at least in terms of timing. Every formal and informal effort should be made to obtain the personnel statute for CAP/Matourkou, but the lack of such a statute should not effect future funding of technical assistance to ISP.

Second, future investments in technical assistance and participant training in the U.S. should be in consolidating curriculum progress to date, and not in initiating change in new areas.

Third, USAID and SECID project administrators must recognize that the recent introduction of agricultural extension curriculum at ISP (teaching future mid- and high-level administrators how to deliver information, technology, and resources to farmers) has huge potential for the AHRD project.

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Considering that fact, it would be wise to continue the contract of the SECID team leader who introduced the concept and content of Agricultural Extension instruction, or find a replacement for him. Finding a replacement may not be easy. First, the Voltaique school officials find that a technical advisor needs about six months of experience in Upper Volta to become useful. Second, the next school year begins early in October, and that is the date when the innovative Agricultural Extension instruction is to begin in ISP's five-year program and begin its second year in the three-year program.

Further, it is important that a capable Voltaique individual be selected as early as possible for participant training in Agricultural Extension instruction.

Finally, continued contribution to CAP/Matourkou might be considered as a holding action until such time as civil service pay and allowances are extended to its personnel. However, it is not as simple as that. First, the school could become vastly more effective if its administration/management was to improve. Thus, within current constraints, improvements could be made. Second, having civil service pay and allowances does not promise automatically that a permanent, full-time, qualified academic staff can be found.

The following is a cause-effect diagram summarizing the objectives, components, and problems of the AHRD Project.
INCREASED AGRICULTURAL PRODUCTION

INCREASED FARMING METHODS/PRACTICES

QUANTITY OF GOUV AG PERSONNEL

QUALITY OF GOUV AG PERSONNEL

AG AND DEV. PROJECTS BY AID AND OTHER DONORS

AG AND DEV. PROJECTS BY GOUV

CDSS

FILIERE COURTE SHOULD DOUBLE NUMBER OF GRADS

ISP CAPABLE WITHOUT OUTSIDE HELP OF MEETING GOUV'S NEEDS FOR QUALITY AG PERSONNEL

SECID

HOLDING ACTION UNTIL UNDP/FAO/WB DECIDE WHETHER TO BRING IN VOLTAIQUE FACULTY

ISP INSTITUTION BUILDING PROJECT

PROBLEMS

ORD SENTIMENT AGAINST CENTRALIZATION

LACK OF PERSONNEL STATUTE

DELAYS IN COMMODITY ARRIVAL

DIFFICULTIES ATTRACTING PARTICIPATION TRAINEES.

SECID/AID PERSONNEL ACTIONS

ARTIFICIAL FUNDING LINK BETWEEN ISP AND CAP

TA/PARTICIPANT TRAINING

LACK OF FUNDS TO PAY RECURRENT COSTS
THE PROJECT VIEWED AS
   INSTITUTION BUILDING

The Project Paper for USAID/Upper Volta's and SECID's AHRD Project says:

"This project is designed to strengthen and expand the capacity of the GOUV to train agricultural personnel."

In other words the project is meant to develop GOUV institutions which turn out trained personnel, rather than to train the personnel directly. In this section of the project's mid-term evaluation, we will consider the project as an institutional development effort.

What is an Institution?

Before we try to measure whether an institution is being built, we need to do some thinking about what an institution is. An institution is above all a group of people who share a set of beliefs, talents, and capacities for action. An institution is not just a building, or a conglomeration of concrete things, although concrete things can certainly be part of an institution's capacity for action.

Types of action include solving problems and exploiting opportunities. In the case of an educational institution, the problems and opportunities are in the area of supplying trained manpower. In the case of the ISP and the CAP, the problems and opportunities are in the area of supplying practically trained agricultural manpower for the GOUV and its agricultural extension system.

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Components of Institutions

Milton Esman of Cornell University developed for AID a set of concepts for guiding the design and evaluation of institutional development projects. The concepts describe the components of those institutions which can solve problems and exploit opportunities without outside help. The components of such "viable" institutions are: doctrine, leadership, programs, internal structure, and linkages. In the following paragraphs, we will define the concepts (the definitions are the writer's not Esman's), and assess the project's progress at producing viable Upper Voltan agricultural training institutions.

**Doctrine:** Doctrine is the set of beliefs or principles on which an institution is based. It is the "genetic code" of the institution from which its choice of problems to solve and its approach to solving the problems are derived.

The doctrine which the AHRD project brings to Upper Volta's agricultural training institutions seems to be that:

1. agricultural training should be practical as well as theoretical; and
2. agricultural teaching, research, and extension should be linked to one another.

It is too early to tell whether the above doctrine has been or will be accepted by Upper Volta's agricultural training institutions. Future evidences of it would be:
official statements of it in brochures or curricula published by the institutions;
consensus among teachers, students, and outsiders that the above principles are (perhaps among other things) what the institution "stands for";
development by the institutions after the departure of SECID's project of new programs (courses, labs, field trips, testing criteria) that put the "practical" doctrine into practice; and
official policy declaring that graduates of ISP can, should, or must serve as professors at the GOUV agricultural extension school at Matourkou.

Leadership: Leadership refers to a critical mass of persons within an institution who believe in the doctrine, and who are capable of putting it into concrete practice.
SECID's efforts to create the above "critical mass" are as follows:

. Each year SECID sends ISP graduates (who will become ISP professors) to the United States for two years of masters degree training which emphasizes the "practical" approach.

. SECID staff led a group, including the Rector of the University of Ouagadougou and the Directors of ISP and CAP/Matourkou, on a tour of several U.S. agricultural colleges where the doctrine of linking teaching,
research, and extension is professed and practiced. The Rector, for one, states the doctrine spontaneously and convincingly. He says that teaching agricultural extension as a formal discipline at the university level is the key to the project - its central innovation.

The pending, urgent leadership development task is to select and to send to the U.S. a participant trainee in Agricultural Extension and Rural Sociology. As is explained elsewhere, there are reasons to consider introduction of Agricultural Extension at ISP as the heart of the AHRD project. Not to leave behind a permanent Voltaique advocate of the project's central notion would have to be considered a major failing.

Programs: Programs are the concrete manifestations of an institution's doctrine. They refer to the institution's choice of problems to solve, and its approach to solving them. SECID efforts at programs which demonstrate, explain, and (we hope) prove the value of the "practical agriculture training" doctrine include:

- quantum increases in the number of hours spent in the field or in lab as compared to hours spent in class;

- introduction of a course for the "filiere courte" (this year) and for the "filiere longue" (next year)
in how to do agricultural extension work, which would teach how to transfer information, resources, and technology to Voltaique farmers;

- introduction of entire curricula in Animal Husbandry, Agronomy, and Forestry;

- SECID professors' claim to have a more "practical" style (as opposed to a theoretical style) of teaching than do their French and Voltaique colleagues, which is strongly substantiated by comments by ISP students; and

- a "program" that one would hope to see in the future such as: ISP graduates teaching at the GOUV agricultural extension school at Matourkou.

**Internal Structure**: Internal structure refers to the relationships among the individual members of an institution. Types of relationships among members are: authority, responsibility, communication, and exchange of resources.

SECID's attempts at jostling Voltaique agricultural training institutions' internal structure have focused on improving communications between teachers and students, and among teachers and include the following:

- As a result of the new experimental farm at Gampelta, of the availability of SECID vehicles for professors' travel, and of lobbying the SECID team, ISP professors
are now authorized to advise the "memoire" (thesis) work of fifth-year students. At present, six memoires are being supervised by ISP faculty. Before Gampela, all memoire work was done under the direction of researchers at Upper Volta's various agricultural research facilities. Evidence that the SECID approach works is that for two years running SECID-supervised students have been judged by faculty as having written the best memoires, and they have therefore graduated at the top of their class.

Due to SECID lobbying, a "curriculum seminar" including ISP faculty is planned for September 1981. Apparently, the group planning session is an innovation for ISP, and should serve as a good forum for explaining and debating doctrine, and translating doctrine into programs.

The SECID team member who teaches forestry at ISP has begun a non-credit but obligatory refresher course in statistics. It may represent a copiable precedent.

Most SECID team members are preparing "textbooks" based on their lectures, which should vastly improve information exchange. Presently, students have no textbooks and must rely on their notes.
During the summer rainy months when many ISP students are on field trips of various sorts, and the French and Voltaique ISP faculty are on vacation, SECID staff visit each of the students at least once to make sure he or she is profiting from his field experience.

**Linkages**: Linkages are relationships between an institution and other institutions and individuals. Types of linkages are: with sources of resources, information, and technology; and with receivers of resources, information and technology (an organization's clients).

SECID efforts at changing the relationship of Voltaique agricultural training institutions with their environment are:

- Establishment at ISP of an 1,100 book agricultural library, which could put the students and teachers in contact with agricultural information from the entire world. ISP previously had a warehouse of books, but it was not accessible to students. SECID's library contribution to ISP is temporarily at SECID's Ouagadougou office (accessible to students), but will be transferred to ISP's new campus which is being built by the French.

- ISP memoire students are now placed in a wider range of international agricultural research institutes, located in Upper Volta. This should result in a
two-way flow of knowledge between the centers and ISP.

On various occasions, and with mild success, SECID staff have brought to ISP administration attention the sensitive subject of cooperation between ISP and CAP/Matourkou (the vocational school where agricultural extension workers are trained). UNDP may be lobbying in the same direction.

In the "linkage" area, the American official community has a substantive role to play, especially on ceremonial occasions. At the ISP graduation ceremony, the French, German, and South Korean Ambassadors were there to hand out diplomas, but the U.S. Embassy and USAID were conspicuously absent.

APPLICATION OF THE UNIVERSITY FARM CONCEPT - GAMPELA

The project design team realized that a project which would be aimed at increasing farm production and thereby improving the local farmers' conditions, would require a vast improvement of the GOUV's planning, administration, and implementation of agricultural extension activities. The design team members and Voltaique officials agreed that training programs for personnel assigned to agricultural extension work was needed to add a practical facet to the academic.
Earlier, there had been field trips for trainees in the agricultural extension training program and required training in rural development centers (ORD's). However, since the ISP had no control of what might be encountered during field trips nor control over training offered by the ORD's, it seemed best that a demonstration/experimental farm be established as a part of ISP operations. The farm at Gampela, not far from ISP, offers great promise as an instructional device.

**Gampela Experimental Farm**

Some 430 hectares of land have been allocated for the development of an experimental/demonstration farm situated about 18 kilometers from the ISP in Ouagadougou.

From a piece of practically inaccessible underdeveloped land has been constructed the nucleus of a vital and productive University farm, typical of those with which we are familiar, establishing a real link with the teachings of its parent institution. The creation of this farm has been the result of joint funding, with French input in the form of a main teaching/administrative building and a workshop/storage barn, and the provision of a truck through German assistance. USAID has fitted out the main buildings with laboratories and classroom fittings and furnishings. The access road, perimeter fencing, water supplies to farm buildings and to fields, poultry housing, and other auxiliary buildings have been provided by USAID also.
There are plans for further extension of the present modest poultry unit, the construction of a cattle barn, a sheep barn, a house for the farm manager, and a number of other facilities to widen the scope of the farm's capability.

This describes, however, only the physical achievements which are, of course, important and represent a considerable investment - some $600,000 to date, with a future $190,000 in the pipeline. (It should be noted here that receipts from the sale of poultry, eggs, and farm crops that result from the trials are plowed back into the research station.)

It does not describe the energy and enthusiasm devoted to this development, not only by the project staff but by the ISP farm director and an increasing number of faculty members who are beginning to utilize the facilities appropriate to their discipline, as they become available.

The Role of the Experimental Farm

Research is a very wide and nonspecific term, and concern has been expressed that the facility being created at Gampela will duplicate the work of existing institutions, and thus waste resources.

Clearly, the use of the Gampela experimental farm by particular faculty members will be the subject of agreement between the ISP director and his faculty members. At present, however, the list of activities (Annex C and D) clearly demonstrates the appropriateness of their aims. Those aims are:

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. to enable students to participate in the agricultural activity associated with their art;

. to learn research methodology and apply it to practical farm problems and subsequently use the results to reinforce classroom teaching and create future indigenous research staff; and

. to enable faculty members to pursue lines of investigation of particular interest to them and of direct application in Upper Volta.

Farm Management

The French farm manager is unusually capable and energetic. However, he will be leaving after a couple more years. He should be replaced by a Voltaique farm manager. Currently, there are plans to name an Assistant de Travaux Agricoles (ATA) to this position. This would be a mistake. The academic level of an ATA, and therefore his prestige and status, is far too low for him to be effective. A graduate of ISP's full university program is needed, and preferably with some participant training in farm management. A graduate of the ISP's three-year program has been proposed, but this too is probably a mistake, unless it turns out that the individual chosen is particularly dynamic. One must remember that the quality of personality can overcome academic
status. This is to say that the farm manager should be able to command the respect and attention of ISP staff and students when they are there. The best choice would be a graduate of ISP's full five-year course who is well chosen for the job.

The Satellite Stations

The project design team conceived the University's experimental/demonstration farm needs as being much wider than those which Gampela can offer. They visualized the University reaching out to the various ecological zones as well as having backward and forward linkages with the regional developmental bodies. The proposal made in the SECID site visit report of January 1981 that the CAP program be transferred to ISP, thus enabling CAP/Matourkou to serve as one of ISP's satellite stations, is not very practical in the present circumstances. First, the two institutions are under the aegis of two different ministries; second, the Statut du Personnel issue still presents a problem at the CAP.

The Rector of the University of Ouagadougou still clings strongly to the belief that the practical outreach which these satellite stations would provide is essential. This outreach, in his view and in the view of the project design team, would provide practical training sites to complement Gampela in various
ecological zones. This on-site training of students would also sensitize them to the rural environment with which many of them are unfamiliar.

A possible solution might be that Markoye be refurbished, as suggested in the Project Paper. This would very well serve the livestock and forestry options, since it is in the arid north.

To be sure, in the long run, ISP should have demonstration/experimental farms in each of the ecological regions of Upper Volta, but until the Gampela farm is firmly established, it would be folly to attempt to establish others. The establishment of three satellite stations should be postponed. This was discussed with the Rector of the University who is keenly interested in adding the satellite stations. The evaluation team pointed out that money for construction had been shifted from the satellite stations to Gampela, and, as a consequence, Gampela is being established as a well-organized University farm. He listened carefully and agreed that it is best to complete Gampela before proceeding to the satellite stations.

Residential Role of Gampela

In addition to the use of Gampela for farm class visits and on-farm demonstrations which can be completed within a single
day (ISP has a bus), there are the longer-term student projects to be considered. Already at Gampela there are three fifth-year students who are preparing their memoires based on trials which they are currently preparing. This involves their physical presence over a period of ten months. Traveling back and forth to Ouagadougou is obviously impractical due to cost and work-need considerations. In the Project Paper, dormitories were envisaged for the satellite stations, but not for Gampela.

The opinion of the evaluation team is that it is highly desirable that accommodations at Gampela be made sufficiently comfortable so as to enable students to work efficiently there for nine or ten months in the case of "filliere longue" fifth-year students, or four months in the case of "filliere courte" students during their "stage" at the farm between second and third year, or overnight or week-long visits by students.

**Water Provision at Gampela**

USAID has funded two wells and irrigation and pumping equipment for the Gampela farm. This currently provides water for people, livestock and the agrostological museum plots. However, the increased demands from livestock and an increasing population as more people reside on the farm call into question the capacity of these wells.

In addition, future development of horticulture, rice cultivation and pisciculture is desirable.
Various attempts have been made to resolve this problem during the life of the project, ranging from one very elaborate dam which would have inundated 30 hectares with a high evaporation loss due to the surface area, to an earth bank dam which would be less costly but might not achieve the hoped-for result.

In discussion with the Director and Director of Studies of ISP, it was resolved that the best solution was to mount a small feasibility study with REDSO staff (an agronomist, engineer, and economist) to determine needs and a possible solution.

With this addition, Gampela would be a very complete facility as, in addition to the possibilities offered by a dam and the arable land available, there is a classified forest and bas-fond (valley swampland) on the property.

**ANALYSIS OF EXPENDITURES**

The present situation of the project funding is that the total commitment on commodities, construction, and other costs (that is all except technical assistance and training) amounts to $1,259,555.40. Of this sum, $628,639.66 is committed for ISP and $630,915.74 for CAP/Matourkou.

In addition to the above commitments, the immediate planned expenditures for ISP are estimated at $190,000 (see attached list) and $96,000 for the provision of an adequate water supply at CAP/Matourkou. On the first item, a letter has been written
to the University authorities setting out the proposals for the project expenditure. Virtually all these items are intended to reinforce the capacity of the University farm at Gampela and their provision is endorsed by the evaluation team.

The $96,000 proposed for the CAP/Matourkou water supply provision is an estimate of what piping water from Bobo Dioulasso might cost. This would seem to be a last resort solution if other possibilities fail, but no member of the evaluation team was qualified to make this judgment. It is agreed, however, that it is complementary to the investment by USAID at Matourkou and should be completed.

The total of the proposed (and virtually promised) expenditures is some $286,000, which exceed the unearmarked total at June 30, 1981, by $33,225.

**Technical Assistance**

The request from ISP for continuing technical assistance and the need identified by the SECID site visit team (December 1980) for an Extension Methods Specialist at CAP/Matourkou in addition to the Agricultural Education Specialist who is there implies approximately 198 person months of technical assistance.

The funding earmarked for technical assistance amounts to $857,564.87, which, given the past rate of expenditure of some $12,000 per person month, pays for some 71.5 person months.

**Participant Training**

It was envisaged that 20 students would go to the U.S.
for post-graduate training during the life of the Project. In fact, it appears unlikely that this number could be found given the other factors influencing available members (member in graduation class, other in-country demands, alternative country scholarships), but currently there is only sufficient money earmarked ($107,400) for three students for 2.5 years, and no more thereafter.

Implications

AID informed the GOUV in August 1980 that further funding from FY 1980 money had been blocked. In each of the main funding headings then, the blocking of funds is going to have its effect in the near future.

The evaluation team feels that AID risks crippling the entire Project and sacrificing the positive results achieved at ISP for the sake of a condition precedent relating to CAP/Matourkou, which, if satisfied, has nothing whatever to do with the ISP. Whereas the original intention seemed to be to distinguish between the separate institutions and funding for construction only was mentioned, the situation now is that all funding is blocked on both CAP and ISP and over the entire range of activities. The ISP obtained the Statut du Personnel some 18 months ago and thus satisfied the condition precedent.

It is interesting to consider the development of this situation from its first mention in the Project Paper, through the action memorandum for the Assistant Administrator for Africa,
the Project Authorization, the draft Project Description, the Project Agreement itself, and finally the letter from the Charge d'Affaires to the Voltaïque government.

Initially the Project Paper stated that the GOUV will institute Personnel Benefit programs for ISP and both CAP's no later than March 1979.

In the Action Memorandum, there appeared to be the intention that the matter be dealt with on a case-by-case basis and funds blocked for construction at any school for which there is no incentive plan.

Similarly the draft of the project agreement left room for separate treatment of the funding for the various institutions.

The Project Authorization has it that AID funds shall not be delegated for this Project from FY 1980 funds until Statut du Personnel shall be approved and effected by the Cooperating Country, providing teachers at the ISP and at the CAP/Matourkou separate privileges and benefits equivalent to other civil servants of comparable risk.

The Project Agreement also has this wording.

The letter of August 20, 1980 from the U.S. Charge d'Affaires to the Ministry of Rural Development, with a copy to the Ministry of Plan and Cooperation, but not to the Ministry of Higher Education, under whose aegis the University falls, agrees that the conditions of service at the ISP are satisfactory but goes on nevertheless to block all funding to the project as a whole.

II. 25
The team can only recommend that AID/Ouagadougou and AID/Washington reexamine the present position and attempt to separate the two halves of the project, reinstate funding to the University and permit the progress there to continue.

This could, however, still leave a problem to resolve at Matourkou since the evaluation team recommends that the present technical assistance there be continued. This person must, however, have an operating budget and means should be found to provide this, or terminate his contract.

ITEMS PROPOSED FOR GAMPELA ESTABLISHMENT

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock feeds, also for poultry and vet. drugs</td>
<td>$8,000</td>
</tr>
<tr>
<td>Fertilizer, manure purchase</td>
<td>$4,000</td>
</tr>
<tr>
<td>Livestock purchases</td>
<td>$10,000</td>
</tr>
<tr>
<td>Poultry Annex buildings</td>
<td>$4,000</td>
</tr>
<tr>
<td>Cattle barn</td>
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<td>Sheep barn</td>
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</tr>
<tr>
<td>House for farm manager</td>
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<tr>
<td>Dormitory for students</td>
<td>$55,000</td>
</tr>
<tr>
<td>Guardian hut</td>
<td>$3,000</td>
</tr>
<tr>
<td>Threshing/drying yard</td>
<td>$5,000</td>
</tr>
<tr>
<td>Silo, grain storage</td>
<td>$3,000</td>
</tr>
<tr>
<td>Cattle vaccination chute</td>
<td>$4,000</td>
</tr>
<tr>
<td>Storage for feed</td>
<td>$5,000</td>
</tr>
<tr>
<td>Farm tools and hand implements (purchases)</td>
<td>$2,000</td>
</tr>
<tr>
<td>Laboratory equipment facilities, electrical gas outlets</td>
<td>$9,000</td>
</tr>
<tr>
<td>and water drains, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$190,000</td>
</tr>
</tbody>
</table>
The above is an attachment to a letter to the Rector of the University of Ouagadougou dated March 2, 1981, containing a list of items which are not yet committed.

**Participant Training:** The project provides that five participants will go to the United States during the first year of the project, ten during the second, and five during the third. They are to be chosen from among ISP graduates. Inasmuch as they have completed a five-year university-level program, they are accepted for graduate study by the SECID-affiliated universities without question. They spend six months studying English and then enter a two-year masters degree program. Original funding for participant training provided for 20 participants during the life of the project, three years each. Apparently, it has been found that two and a half years are enough.

Participants are chosen by ISP with SECID's concurrence. They are chosen from a list of applicants for such training. Only those who show promise of becoming successful instructors in ISP are chosen. Further, it is expected that upon their return from the training, they will accept appointments as members of the ISP staff.

Five participants are now in the United States. They will return to Upper Volta in time to take up instructional responsibilities in ISP for the school year beginning October 1982. The participants study, of course, within the field of agriculture, but the specialities they pursue do not entirely agree with the
Project Paper's original plan. This poses no problem. Selection of specialities (Animal Husbandry, for example, or Forestry) depends partly upon the student's preference, partly upon the student's records of achievement in ISP, and partly upon anticipated needs ISP may have for instructors. Thus, they are being prepared to fit into ISP's staff.

The evaluation team visited SECID headquarters in Chapel Hill, North Carolina. While there, they discussed participant trainees' experiences and degree of success with SECID staff members responsible for the participant training program, and by telephone with participants and advisors. They are scattered near and far in the large area covered by SECID-affiliated universities.

The evaluation team concluded that the participants are succeeding, academically and otherwise. They are maintaining good grades, the advisors speak well of their progress, and they are comfortable in their conditions and circumstances. The participants mentioned, particularly, the fact that they enjoy the practical side of their studies, be it in the laboratory or the field. They have made friends at their universities. They plan to return to Upper Volta and expect to teach at ISP.

To be sure, one can surmise that they would prefer to be returning to Upper Volta with a French degree. That degree has greater prestige in all the French-speaking countries, whether African or Asian. The evaluation team has no recommendations herein. It is a wide-ranging problem and something AID must deal
with in many places. People everywhere forget that individuals make contributions by making good use of what they have learned, and it does not matter where they learned whatever is necessary. In America, for example, employers and governments often prefer Harvard degree holders to Michigan degree holders. American professors sneer at French degrees and French professors sneer at American degrees. The British sneer at them both. And so it goes. It is understandable that an official in Upper Volta who studied in France will consider that his degree is superior to any other, and will prefer to hire and promote Voltaique personnel who have shared in his French experience. If the various AID projects in Upper Volta, which provide for participant training in the United States, result in the accumulation of a "critical mass" of American-educated personnel, if the American education enables the participants to perform successfully, and if some of them climb to high positions, then respect for the American degree will rise. Of course, for the foreseeable future the official language and the language of higher education in Upper Volta will continue to be French.

It should be noted, in this respect, that the ISP students interviewed by the evaluation team in Upper Volta expressed keen respect for SECID's (and thus the American) approach to education. They appreciated the SECID instructor's interest in them as individuals and enjoyed the emphasis upon practical application of knowledge to the soil, including when it meant that a student and instructor got their hands covered with the pink-tan Voltaique soil.
Problems and Limitations: A major element to the project's success is the supply of candidates for participant training. During the first year of the project, no participants were chosen because of a strike among university students. The supply of candidates for participant training is small. Only 12 students graduated from ISP in June 1981. That is the time when it was planned (in the Project Paper) that ten participants would be chosen. The small number of graduates is a consequence of the heavy attrition rate among students. This problem is discussed in the section on attrition. Further, students are not always eager to go to the United States for training. Trainees are chosen from those who apply for participant training in the United States. First, they would much prefer to study in France. Second, not all ISP graduates want to become instructors in ISP.

The evaluation team was informed, when it arrived in Upper Volta, that three participants (in contrast to the Project Paper's plan for ten participants) would be chosen. The evaluation team learned prior to its departure that only one ISP graduate had applied for the training.

ISP's Director told the evaluation team that it planned to select participants next summer (1982) from among graduates of the three-year program. The ISP has two programs. One, entitled Filiere Longue, is a five-year program. The other, entitled Filiere Courte, is a three-year program, which contains a larger proportion of concentration on practical experiences. Students who do not quite succeed in passing the Filiere Longue's end-
of-the-first-year examinations need not leave ISP. They can transfer to Filiere Courte. A year from now (1982), the first graduates will complete this three-year program.

When the evaluation team told SECID/Chapel Hill of ISP's plan to select participants from graduates of the three-year program, as well as from the five-year program, problems were seen. SECID/Chapel Hill officials said, briefly, that graduates of ISP's three-year program would probably need two years (plus six months for training in English) to finish the AB degree. In contrast, graduates of the five-year program are able to complete the MA within those two years.

So far as a supply of participant trainees is concerned, remembering that from them will come future instructors for the ISP, and perhaps also for the CAP/Matourkou, the evaluation team could not resist leading conversations into a search for alternate sources of candidates for participant training. These possibilities were presented. Perhaps sociology students or economics students in the University of Ouagadougou could be trained, via participant training, to become rural sociologists, or agricultural economists. Perhaps participants could be found from among the 15 or so Voltaique instructors at ISP.

Another source proposed was to increase the numbers graduating from ISP by decreasing attrition. This is discussed further in the section on attrition.
III. PROCESS ANALYSIS

PROJECT HISTORY

SECID was invited by AID to send a six-man team to Upper Volta to design the project and report its findings in a Project Paper. The team represented the various specialities within agriculture - agricultural educators, agriculture economists, rural sociologists, and the like. This team spent six weeks in Upper Volta, beginning in late October and ending in mid-December 1977. The Project Review Paper prepared earlier by AID/Upper Volta was considered by the design team as constituting a fully adequate description of conditions: objectives of the project, guidance for project implementation, and analysis of Upper Volta's conditions and resources.

The team completed a rough draft prior to departure and discussed it with AID's Program Office and the AID Mission Director. A final report was completed when the team returned to the United States.

The team learned that it would be difficult, if not impossible, to recruit Voltaique staff at the training center at Matourkou unless the right to full civil service reimbursement for work was extended to that Center. The team met with the Director General of Rural Development (next in line to the Minister) and with the Civil Service Commission (Function Publique) and the Minister of Finance. These offices, particularly the Director General of Rural Development, assured the team that civil service reimbursement would indeed be extended to Matourkou. Thus, AID was assured that implementation of the project could begin.
The project implementation contract between SECID and AID was signed during January 1979, and the first member of the SECID team arrived early in February. The team leader was sent immediately to language training in Washington and arrived in Upper Volta August 1979. The remaining team members arrived in April and November 1979 and February 1980.

During the period prior to the team leader's arrival, there was one team member at ISP and another at Matourkou. The former had been a member of the design team. He was able, during the six months while the team leader was in language training, to begin work. This included: establish contact with Voltaique personnel, teach classes, initiate procurement of commodities, open the central office, and work with the AID Project Manager.

Finding housing for team members, through AID's assistance and that of the ISP, presented, generally, no serious problems. The longest period of stay in a guest house was four months. ISP rented a building and furnished it so that the team could get to work without delay. The building includes space for work, for conferences, and for the library SECID has supplied.

Ordering commodities went swiftly, and included vehicles for the team and for transportation of students to field work. Generally, two years were required for delivering commodities to the SECID team. The impact of slow delivery on project activities include the following:
Transport

First, the team was without transport, whether for team activities or for carrying students to field work. Understandably, this caused intense frustration. Borrowing from AID was cumbersome—partly because the AID Mission was short of vehicles and partly because the team members were required to find an AID employee to sign requests for transportation. Three of the team members purchased personal vehicles in-country and one purchased a motorcycle, but, of course, these were not large enough to carry students to field work. ISP's single bus could carry students, but considering that there are three major departments within ISP (Animal Husbandry, Forestry, and Agronomy) and remembering that field work for one of these departments was not at the same location as for the others, the bus never solved more than a portion of the transportation problem. ISP also has a pickup, but it is used by the French manager of the demonstration farm at Gampela. AID loaned a vehicle to the farm. It helped, but it was old and tired and lasted only six months.

A TDY visitor from AID/W proposed a waiver for purchase of a vehicle in April 1980. Paperwork required a certain amount of time, but by November 1980, the SECID team acquired a 12-passenger mini-bus.

During January 1981, vehicles began to arrive. And as of June 1981, the team has two jeeps, one pickup, and of course, the mini-bus. One Volks personnel carrier is also in-country but, inasmuch
as it arrived with a punctured radiator, with no spare parts, it is not yet in use.

Currently, the team members use personal vehicles for business trips within Ouagadougou and receive a mileage reimbursement.

It may be noted that the purchase of vehicles was handled by the AID Mission.

Commodities

All commodities, except for vehicles, were ordered by the SECID team through the Afro-American Purchasing Center in New York, an AID-established procurement center to facilitate procurement throughout Africa. Delivery usually required about two years, and as a consequence, commodities arrived only recently, during the past two or three months.

Team members regretted the delivery delay, for example, of laboratory equipment, because it reduced the amount of time available for training Voltaique personnel in the installation and use of the equipment. One of the team members is near the end of his tour and thus his opportunity for training Voltaique personnel has been reduced nearly to zero.

In general terms, 90 percent of commodities have been ordered. About 80 percent of them have arrived. However, with the exception of the tractor, none of the motorized (tractor-drawn) farm equipment has arrived.

A representative of the SECID/US center was here during January 1981. During his visit, it was decided that SECID/Upper
Volta would henceforth order commodities from sources without going through the Afro-American Purchasing Center in New York. Commodities arrive now within a period of two to four months.

**Participant Training**

The first group of five participant trainees left Upper Volta for the United States in March 1980. Participants would have left a year earlier except for a strike in the University. They are located thus:

1. Virginia Polytechnic Institute, Blacksburg, Virginia - Forestry;
2. Tuskegee University, Tuskegee, Alabama - Animal Husbandry;
3. Alabama A & M University, Huntsville, Alabama - Animal Husbandry;
4. University of Georgia, Athens, Georgia - Plant Pathology; and
5. Auburn University, Auburn, Alabama - Fisheries.

The training director for the SECID center in the United States is responsible for placement of participant trainees, for orientation, and for monitoring their progress. The SECID team leader in Upper Volta receives reports on participants frequently, which is to say several times a year. To date, the participants' progress has been satisfactory; only one student has received a C in a course.

It is hoped that ISP will choose, with concurrence of SECID, three participants in late June or early July of this year. It should be noted that SECID places participants trainees at the III. S
home campus of their specific technical advisor, thereby allowing for an overlap between the students completion of studies and the return of the advisor from Upper Volta.

**Progress in General**

Despite a year's delay in initiating the project via a contract with SECID and despite delayed arrival of commodities, the project has made good progress under the circumstances. SECID has been able to find team members who are capable of working here. The team leader has been particularly adept in gaining the respect and cooperation of his team and of Voltaique personnel, at high and low levels. The contacts he has made among the Voltaique leaders and educators, and among other donors, research centers, etc. range broadly. Progress in working with Voltaique staff to broaden the training curriculum, particularly at ISP, is notable for its reasoned speed.

During the fifth year of the ISP program, a student does independent study, writes a paper (memoire) describing the study, and defends his thesis before a faculty committee. A student's standing in the list of graduates depends upon the quality of the memoire. Last year and this year, the students whose memoires won them first place were students who worked with a SECID team member. The Voltaiques considered this fact to be significant. Contrary to earlier practice, ISP staff members will be allowed to monitor memoire writing. Also, students will be allowed to pursue studies at the University farm, Gampela. Previously,
students could pursue studies only at one or another of research stations in Upper Volta, many of them international. The quality and amount of guidance they received varied greatly. The students may continue to use these research stations as a base for their independent study, but also they may work at Gampela.

The SECID team deserves a good deal of credit for progress made. Details of progress are found elsewhere in this report. In general terms, much progress has been made in institution building at the ISP. For example, that school's administration and faculty agreed that it should have a full-dress review - a seminar - of the curriculum. This review is scheduled for September 1981. The very fact that all parties concerned are willing to accept the need to look at the curriculum is very encouraging. It can be hoped that an AID/SECID decision to terminate the contract of the SECID team leader, who managed to organize this seminar, will not derail plans for the seminar.

The SECID team deserves credit also for advances made in practical experience opportunities (not including field crops) at CAP/Matourkou. Considering the circumstances, just keeping this institution alive is something. The technical advisor at the CAP has concentrated on livestock and has done a good job. Now, it appears that he is going to expand his activities into school administration/management. Much improvement is required therein, and nothing is going to improve the effectiveness of the school unless administration improves.

III. 7
The present circumstances for the SECID team are best described by the word uncertain. A capable and talented member of the team (he was also a member of the design team) must return to his American university. SECID/US just received a cable informing it that the team member assigned to CAP/Matourkou will probably have to be evacuated for medical reasons. The team leader who is much respected by fellow team members and by Voltaique personnel is being replaced. The fact that AID/SECID did not consult with Voltaique officials when deciding to replace him has caused a storm of protest. His replacement will have much to overcome.

The evaluation team did feel that there was some SECID uncertainty and hesitancy in planning and recruiting replacement staff. The SECID specialist in Animal Husbandry is leaving this summer (1981). It would have been advantageous if his replacement (probably a specialist in Appropriate Technology) had arrived prior to the former's departure. The Animal Husbandry specialist, who had also been a member of the project design team and was the first to arrive when SECID began its implementation contract, could have passed on invaluable information to the Appropriate Technology Specialist. He could have explained the conditions, introduced him to people, and in many ways helped him to settle-in.

The evaluation team must admit that it was not able to ascertain why this opportunity was missed, whether the delay can be attributed to SECID/Upper Volta, SECID/US, USAID, or the GOUV;
however, it is important that recruitment of SECID staff be improved in this respect.

TANGIBLE, COUNTABLE ACCOMPLISHMENTS

The following chart shows that implementation of the project has not produced the results anticipated in the Project Paper. Indeed, the shortfall is substantial. However, the shortfall is mostly a consequence of a need to match the progress of project implementation to the reality of circumstances in Upper Volta.

Number of Graduates from ISP

The incredibly high attrition rate within ISP means that as many as 60 students may enter the program and as few as a dozen may graduate. Because the SECID team leader and team members understand the significance of improving the efficiency of the instructional program (or the selection of beginning students), as part of its institution building process, SECID is working with ISP toward solutions. However, it cannot be anticipated that in the near future ISP will improve either its selection process or its retention capability.

The Future for Returning Participants

Difficulty of Teaching in ISP: It is not easy to teach in ISP. The returning participant will have had no teacher training either in ISP or the United States. Yet, if ISP's program is to produce the agricultural experts needed in this country, expert instruction is required in ISP.

It would be useful if there were an overlap of SECID technical advisors' tours and the return of participants. The former could

III. 9
help the latter get started. Working together they could begin to plan the new instructor's lecturing, remembering that the current practice is that the instructor lectures, and the student fills a notebook for reviewing prior to examinations. The technical advisor could discuss with the new instructor the strengths and weaknesses of his lecturing. The overlap period would amount to no more than a few weeks and not more than three months. So far, the project implementation schedule has not allowed for such overlap.

**Contrast - U.S. Universities and ISP:** The participants will be returning from American universities which place heavy emphasis upon practical work on experimental farms. Participants will not find it easy to make the transition from that to the ISP program. Happily, SECID has made substantial progress toward developing the experimental/demonstration farm at Gampela. Student experience under instructors' guidance is steadily increasing. Practical experience within the ISP curriculum is increasing. Also, opportunities for laboratory work are improving steadily. These developments will enable a returning participant to translate a larger percentage of his American training into practice.

**Recurrent Costs:** It is obvious that whenever a Voltaique instructor replaces a French or American instructor, the GOUV's financial burden will increase. The capacity of the GOUV to assume this responsibility, as projects are completed and as Upper Volta must take over, is the subject of an AID Mission study. It has been proposed, as a possibility, that AID might have to share some of this burden, to assure that projects' accomplishments are not lost, even if this reduces funds for new projects.
### TANGIBLE, COUNTABLE ACCOMPLISHMENTS

<table>
<thead>
<tr>
<th>Item</th>
<th>Actual Progress June 1981</th>
<th>End-of-Project Progress Anticipated for January 1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISP graduates</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>Matourkou graduates</td>
<td>36</td>
<td>130</td>
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<tr>
<td>ATA</td>
<td>28</td>
<td>80</td>
</tr>
<tr>
<td>CTA</td>
<td></td>
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<tr>
<td>Participants</td>
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<td></td>
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<tr>
<td>In training</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Foreseen for training</td>
<td>3</td>
<td>-</td>
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<tr>
<td>Construction</td>
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<tr>
<td>Matourkou</td>
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<tr>
<td>2 classrooms</td>
<td>Under construction</td>
<td>Completed</td>
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<tr>
<td>2 dormitories</td>
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<td>Completed</td>
</tr>
<tr>
<td>1 dining hall</td>
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<tr>
<td>1 library</td>
<td>Under construction</td>
<td>Completed</td>
</tr>
<tr>
<td>6 staff houses</td>
<td>4 under construction</td>
<td>Completed</td>
</tr>
<tr>
<td>Bogande</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 dormitories</td>
<td>Not begun</td>
<td>Completed</td>
</tr>
<tr>
<td>4 classrooms</td>
<td>Not begun</td>
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</tr>
<tr>
<td>1 administration bldg.</td>
<td>Not begun</td>
<td>Completed</td>
</tr>
<tr>
<td>1 dining hall</td>
<td>Not begun</td>
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</tr>
<tr>
<td>3 laboratories</td>
<td>Not begun</td>
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</tr>
<tr>
<td>17 staff houses</td>
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<tr>
<td>1 library</td>
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<td>Completed</td>
</tr>
<tr>
<td>5 misc. agricultural sheds</td>
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<td>Completed</td>
</tr>
<tr>
<td>ISP/Gampela (demonstration farm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 farm pond/reservoir</td>
<td>Not begun</td>
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</tr>
<tr>
<td>1 well for livestock</td>
<td>Completed</td>
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</tr>
<tr>
<td>1 well and water system for buildings</td>
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</tr>
<tr>
<td>Commodities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISP</td>
<td>90% ordered</td>
<td>Received</td>
</tr>
<tr>
<td>Matourkou</td>
<td>80% received</td>
<td>Received</td>
</tr>
<tr>
<td>Bogande</td>
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<tr>
<td>3 regional field stations</td>
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<td>Received</td>
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III. 11
### TA STAFF AND PARTICIPANTS

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<thead>
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<th>Year</th>
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<td>Team Leader/Extension</td>
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<tr>
<td>Agronomist</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td></td>
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<td>CAP Katoa-kou</td>
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<td></td>
</tr>
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<td>CAP Bogande (2 yrs. planned)</td>
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<tr>
<td>Reg'1 stations (5 yrs. planned)</td>
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<td><strong>Participants</strong></td>
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<td>Animal Husbandry</td>
<td></td>
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<td>Animal Husbandry</td>
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<tr>
<td>Agronomy</td>
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<td></td>
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<td>Fisheries</td>
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<td></td>
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<td>Home Economics</td>
<td></td>
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<td>Agricultural Engineering</td>
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<tr>
<td>Extension Methods</td>
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<tr>
<td>Rural Sociology</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

(Plant pathology was chosen)

**Note:** Three participants, subject of study unknown. Will depart Sept. '81. Fowl Range Management have priority in consideration.
Number of Graduates from Matourkou

That training center, as now constituted cannot possibly increase the numbers it is training. Although attrition is not a problem, the limited supply of instructors limits the numbers of students who can be trained. This shortage will not be solved until the Government of Upper Volta extends full civil service pay status to instructors stationed there.

Participants

Selection of the first five participants was delayed one year by a strike within the university. At best three, rather than ten, were foreseen recently because ISP decided that only three of the dozen graduates showed promise of becoming successful professors in ISP upon their return from training. The situation probably will not improve. Also, apparently most graduates cannot be spared by the ministries where jobs await them.

Construction

This aspect of the project is proceeding quite well at Matourkou. Establishment of another training center at Bogande has been postponed until such time as Matourkou arrives at a state of being well organized. The evaluation team agrees with this decision.

The farm pond/reservoir at the central field station, Gampela, is the subject of study by AID, and no decision has been made. At one time, an elaborate cement dam was envisioned, but at the present time, an earthen dam is being discussed. AID will make the final decision.
Commodities

Earlier in the project implementation, the arrival of commodities was discouragingly slow but as time went along most of the commodities arrived. As mentioned earlier, these were ordered through the Afro-American Purchasing Center in New York. Now SECID orders directly from sources.

The establishment of a training center at Bogande has been delayed and therefore commodities were not ordered. The same applies to the three regional field stations. Their establishment awaits completion of organization of activities at the central field station at Gampela. When Gampela has its feet firmly on the ground, then a decision will be made about the other field stations.

ATTRITION

The attrition among students at the ISP is a serious problem. Four-fifths of the students who are accepted, after graduation from a lycee, do not complete the five-year course. As a consequence, space and staff time are wasted on students who, because they do not complete their studies, do not contribute to Upper Volta's supply of trained manpower. There are a number of reasons for this attrition.

The ISP does not have an entry examination to screen out applicants who have little promise. If an individual graduates from a lycee, he has a right to enter the University. There has been some discussion within the ISP of the desirability of establishing an examination which would select ISP students from among applicants. Whether or not such an entry examination is desirable, it has not been put in place. One must consider, of course, the possi-
bility that if a young person can survive the lycee process, that he/she is not indeed without academic talent. Only a tiny percentage of young people in Upper Volta can manage to complete lycee studies. Those who do constitute the best educated young people in the country and the richest resources for further training.

In respect to selection of beginning students for the various institutes (departments) within the University, including the ISP of course, there is a Commission of Orientation which reviews students' lycee records. The purpose of this review is to place lycee graduates in the institute where, on the basis of their academic strengths and weaknesses, they seem to have the best chance of success. For example, the ISP curriculum requires that a student spend a substantial amount of time in studies of science, and a review of applicants' lycee records is aimed at placing students in academic areas where they have shown strengths.

ISP has no textbooks for the students. Learning, and success, depends upon listening to lectures and writing notes for later study. A student whose attention wanders, who hears poorly, who is absent for one reason or another, is simply out of luck. If the students lived together in a dormitory one would presume that they would get together to exchange notes, to refine understanding, to discuss the significance of this or that lecture, to prepare together for examinations. In this respect, it must be remembered that the end-of-the-year examinations determine whether the student is to continue his studies.
There is no dormitory at ISP and, considering the expense of such an operation, perhaps there should be none. Students live in various places in Ouagadougou: at home, in rented rooms, or in relatives' homes. Thus, at the end of the school day each goes his own way. Many homes do not have electricity. Just before examination time, one sees many students studying their notes under street lights. Further, for one reason or another, each student studies alone. At least, one does not see groups of students discussing and sharing.

The school day follows this schedule: 7:00-12:00 and 3:00-6:00. This means that students and instructors are in class during those hours. The small libraries follow this same schedule. Thursday afternoon there are no classes, but students are expected to take part in the sports program. Thus, the student has little opportunity to study in the library. Also, the library's resources (except for some material in a library developed by SECID) contains no material useful after the class requirements of the first year of ISP's five-year program.

Instructors in the ISP, one half of whom are French, the remainder being Voltaique or American (SECID), may want to give assistance to individual students. However, there is no time for this. The instructor and the student are together within the classroom and when the day is finished, there remains no opportunity for offering assistance nor evaluating needs. Further, tradition has built a wall between instructor and student. On one side is the busy instructor and on the other is the timid student.

III. 16
### AMOUNT OF ATTRITION IN THE FIVE-YEAR PROGRAM

<table>
<thead>
<tr>
<th></th>
<th>Number of students who started school year in October 1980</th>
<th>Number of students who passed final examinations June 1981</th>
<th>Number of students who will transfer to 3-year program</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st yr. stu.</td>
<td>55</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>2nd yr. stu.</td>
<td>27</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3rd yr. stu.</td>
<td>19</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>4th yr. stu.</td>
<td>23</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>5th yr. stu.</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**

Students who fail June end-of-year examinations may try again in September.

Transfer to the three-year program is possible only for those students who come close to passing the examination at the end of the first year of the five-year program. Thus the three-year program consists of the first year of the five-year program, followed by two years of the shorter program.

ISP administrators anticipate, considering that participant trainees can be chosen from among graduates of either the five-year or the three-year program, that numbers of students available for participant training will increase next year when the first graduates of the three-year program become available.
During the first and crucial year of the program, classes are large. An instructor may deal with a class of sixty students. Even when it is possible to divide this number into half or thirds, it is still difficult for the instructor to establish an atmosphere wherein more than one or two students ask questions or request further information. In brief, the instructor does not have time to follow up upon his instruction to identify the student who is not learning. Further, the system does not allow for the student who might learn very well, but slowly, nor for the student who learns better via reading than by listening to a professor, nor for the student who finds a gap in his notes of lectures and needs to fill it up.

Upper Volta cannot afford to continue to waste resources in such fashion; no country can. An attrition rate of 80 percent is simply too high. So, what is the solution?

Proposals for Reducing the Attrition Rate

The first proposal is based on the notion that all people do not learn in the same fashion. This is to say that some people can learn from lectures and can write notes which will remind them of the requisite facts in time for an examination. These are ear-oriented students. There are also eye-oriented students. They need to read in order to learn. They will learn at least as much as the ear-oriented people, but not unless they have materials they can read.

The evaluation team proposes in this respect that the library SECID has established be expanded, that the hours when the library

III. 18
is open be adjusted so as to allow students to study when they are not in classes, and that instructors' lectures be printed, with copies placed in the library.

The production of instructors' lectures in print, not without precedent in Europe, does have its problems. In Europe the student purchases the printed lectures. The student in Upper Volta would not have the money for that. Nevertheless, for many of ISP's students, access to the instructors' lectures would make a great difference. The SECID technical advisors/ instructors have been producing such materials. The evaluation team believes that the possibility of printing copies of instructors' lectures should be explored. Perhaps the lectures can be recorded and then typed.

The second proposal concerns professor/student interaction. The present class schedule does not allow time for giving individual attention to students. Generally, no one knows until examination time if a student is falling behind. The highest attrition rate is during the first year of the program. That is when individual tutoring and counseling would be most useful. Considering that there are about 60 students in the first-year class and that there are 33 full-time instructors, if each instructor worked with two students, the entire class would be covered. If each instructor gave only an hour per week to each student, adding only two hours to his weekly schedule of work, many students could be saved from failure.

A discussion of attrition and of its solutions must recognize that if more students survive the first year of the program and
continue, the government will be obliged to spend money on their scholarships. Students receive a stipend sufficient for living costs. The fact that ISP has opened another program, discussed below, to which students who almost succeed can transfer, suggests that sufficient funds are available for scholarships.

Reducing attrition rates would ultimately increase the number of ISP graduates. This year (1981), there were 12. Does Upper Volta have jobs for more than twelve? To be sure, there are the jobs, but is there money to pay the salaries? The evaluation team recognizes the seriousness of shortage of money, but it believes that in the long run a shortage of trained personnel will be even more serious.

The ISP has developed a system to reduce the impact of attrition. The regular program lasts five years, and as of October 1980, a three-year program was initiated. Thus, ISP now has a Filiere Longue and a Filiere Courte program. The latter has been designed so as to contain a larger proportion of practical training for working as agricultural extension agents. To be sure, they will have less time for studying basic or theoretical subjects. They will be assigned to work in field stations called Organism Regional de Developpement (ORD).

The student body of this shorter program consists of those students who almost, but not quite, passed the end-of-year examination of the longer course's initial year. In addition, a few students in the longer program choose to shift over to the shorter one. The three-year program, thus, includes the first year in the longer program and two years in the shorter.
This training program had 23 students when it began a year ago. Twenty-one of these passed their year-end examinations in June 1981. Two students failed, but can take the examination once more in September 1981. Thus, this program will have either 23 or 21 students. There may be more. Some students who have been studying similar studies in Togoland are expected to return this summer to Upper Volta. Some or all of them will join the 21 or 23 students.

**CAP/Matourkou**

Attrition at the CAP/Matourkou is not a serious problem. Out of the total number there during the school year 1980-1981, 268, 25 were expelled either for disciplinary or academic reasons. Thus, in comparison to ISP's loss of 80 percent, Matourkou's loss of less than ten percent is not serious. The Ministry of Rural Development has directed the school to review the dismissal of these students - individual interviews with those who were disciplinary problems and retesting for the others.

One would presume that there is a reason for the difference between ISP's experience and that of Matourkou. Neither provides textbooks for the students. Library reference materials are in short supply, though the ISP does indeed have a limited amount and Matourkou has none at all. There is no reason to believe that there is a great difference in quality of candidates for each school. The only difference between the schools is that half of the instructors at the ISP are expatriate (mostly French) and
only one of the instructors at Matourkou is an expatriate, the American technical advisor.

TEACHING LOADS

The following figures will provide some notion of the teaching load carried by SECID team members. References to innovations introduced by them are included.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours in Class</th>
<th>Hours in Field Practice</th>
<th>Total</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics</td>
<td>24</td>
<td>(24)</td>
<td>48</td>
<td>22</td>
</tr>
<tr>
<td>Agro-climatology (filiere courte)</td>
<td>24</td>
<td>16</td>
<td>40</td>
<td>22</td>
</tr>
<tr>
<td>Agro-climatology (filiere longue)</td>
<td>24</td>
<td>16</td>
<td>40</td>
<td>20</td>
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<tr>
<td>Horticulture (4th year)</td>
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<td></td>
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<tr>
<td>Vegetables</td>
<td>36</td>
<td>36</td>
<td>72</td>
<td>10</td>
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<tr>
<td>Fruit</td>
<td>36</td>
<td>36</td>
<td>72</td>
<td>10</td>
</tr>
<tr>
<td>Agronomic experimentation</td>
<td>72</td>
<td>16</td>
<td>88</td>
<td>20</td>
</tr>
</tbody>
</table>

Innovation: teaching vegetables and fruits separately during the appropriate season for them.

No climatology status for lab, but there will be one at Gampela.

Hours spent on agricultural experimentation still not enough.

A participant trainee in first group.

III. 22
AGRICULTURAL EXTENSION

### Present

<table>
<thead>
<tr>
<th>Filiere courte</th>
<th>Hours in Class</th>
<th>Hours for Practice</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd year</td>
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<td>32</td>
<td>23</td>
</tr>
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</table>

### Proposed

<table>
<thead>
<tr>
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<th>Hours in Class</th>
<th>Hours for Practice</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd year*</td>
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<td>23</td>
</tr>
<tr>
<td>Filiere longue</td>
<td>30</td>
<td>32</td>
<td>23-30</td>
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</table>

*Rural Sociology (communications and innovation discussion)*

- General Sociology is now being taught for 25 hours per year.
- The proposal already accepted is for it to be replaced by Rural Sociology taught by a SECID team member.
- A Voltaique from the above "filiere courte" has expressed interest in participant training. He is an older fellow, and a Matourkou graduate. He is short on hours but long on (1) student coverage and (2) importance.

III. 23
### FORESTRY

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours in Class</th>
<th>Hours in Lab</th>
<th>Total</th>
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</thead>
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<td>10</td>
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<td>Management*</td>
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<td>4</td>
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<td>Engineering*</td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>4</td>
</tr>
<tr>
<td>Fisheries*</td>
<td>-</td>
<td>10</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Statistics* **</td>
<td>7.5</td>
<td>7.5</td>
<td>15</td>
<td>4</td>
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</table>

(Third Year)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours in Class</th>
<th>Hours in Lab</th>
<th>Total</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fisheries*</td>
<td>12</td>
<td>3</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>Silviculture*</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

*Supervised memoires considered the best for graduating class of 1981.

**Non-credit

Firewood was covered as well as construction wood.

There was no Forestry Department before the SECID team members arrived, although courses in it were taught occasionally.

One of the participant trainees in the U.S. is specializing in forestry. He will return to take up a position at ISP in September 1982.

The pending SECID technical assistance proposal would have the SECID Forestry professor stay until December 1982. An overlap of three months.
CAP/MATOURKOU

The Centre Agricole Polyvalent (CAP) at Matourkou trains middle-level leaders of agricultural extension work. That is, it provides a four-year course for the Conducteur Agricole and a three-year course for the Agent Technique. Now and then the school organizes a nine-month course for the agent who actually works in the village and among the farmers, the Encadreur. Top level leaders, the Ingenieur, are trained at the Institut Superieur Polytechnique (ISP) in a five-year program. It should be noted that the CAP program is a high school-level program, and that ISP's program is at the university level, the ISP being one of several colleges or institutes in the University of Ouagadougou.

The CAP at Matourkou operates within the Ministry of Rural Development. The ISP is within the Ministry of Higher Education. Matourkou's thousand hectare area and its buildings are located about ten kilometers from Bobo Dioulasso, a substantial city in southwest Upper Volta. This region, with its trees, bushes, grass, and cultivated fields, is just a bit greener than the region around Ouagadougou a month into the rainy season, but except for some low-lying mountains in the distance near Bobo, the areas are not greatly different.

Matourkou's training design

Candidates for this school must take an entry examination prepared and conducted by the Ministry of Rural Development, and oriented to students who have completed the eighth grade.
The training program, as described on paper, appears entirely adequate to the task of preparing extension agents. The Government does not intend to turn out rural development agents to work in all aspects of work. That would be spreading resources too thinly and be asking too much of the CAP's graduates.

About 10-25 percent of any class are women, who specialize in home economics in its broadest and best sense. Students begin with general background classes in math, biology, etc., move into an introduction to specializations - soils, livestock, etc. - and finally they specialize. Assignments to specializations depend partly upon a student's preference, partly upon faculty advice, and partly upon availability of space and resources within specializations.

The physical plant is adequate. Four additional dormitories (to house 80 students), a library, and four staff residences are under construction. A Voltaic biology teacher who has been studying laboratory installation and management in the United States is arriving in July, accompanied by his American professor with whom he has been working. They will work together for three months installing the equipment and getting the laboratory organized.

The training program includes instruction related to current agricultural practices in Upper Volta but also includes experiences with new methods with which a few farmers are experimenting. Thus, the training aims at preparing the extension agents to help farmers increase productivity without greatly changing methodology, but also prepares the agents in new, appropriate technology. New methodology ranges widely, of course, and will include such

III. 26
as the following: using an oxen-pulled plow instead of a hoe for preparing a field for planting; using improved seeds and fertilizer; using a tiny walking tractor for traction, etc. Thus, training has one foot in current methodology and the other in tomorrow's methodology. This approach seems justified by what the evaluation team saw in the countryside. Most farmers the team saw were chopping at the ground with a hoe. Occasionally, however, oxen were pulling a plow. More rarely, of course, tractors were seen.

**History**

Matourkou originated as a FAO project funded by UNDP. It operated thus from 1963-1976, and there were as many as 22 FAO experts on the job at one time. Much machinery was imported and used. Now, to be sure, most of the machines are not operative. UNDP had several reasons for cutting off its financial support, but the prime reason was that so far as staffing and day-to-day operations were concerned, it was an FAO activity and not an Upper Volta activity. Voltaique technicians do not or cannot work in Matourkou because the pay is insufficient. Matourkou is one of several institutions in the country whose personnel are not entitled to complete reimbursement given to fully certified civil servants. Full reimbursement includes a salary, a house or a housing allowance, a vehicle (sometimes this is a tiny motorized bicycle) or an allowance to support a vehicle, and a bonus scaled to responsibilities or administration or leadership.

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The fact that Matourkou was not certified for full civil service reimbursement was a problem during FAO days and remains a problem to this day. The evaluation team noted that every discussion of Matourkou included reference to that problem. There is a shortage of trained technicians in this country, and they simply cannot afford to work at Matourkou.

Problems and Shortcomings

The problems and shortcomings at Matourkou begin with the fact that employment there does not allow one to be paid as a fully-qualified civil servant. Matourkou's administration has attempted to operate despite that handicap, and the school has indeed survived. After the UNDP/FAO pullout, AID stepped in with its current project in 1979.

The administration of Matourkou operates this way. Almost all academic classes are taught by part-time teachers who have full-time jobs in various offices, research centers, factories or cooperatives in Bobo Dioulasso. They are paid for the time they actually spend in the classroom, and if a scheduling mistake results in an empty classroom, they are not paid for the visit. They are not paid for time spent discussing the program with staff members who are responsible for practical training, and thus, they cannot share in total planning of training. It has been impossible to find such part-time teachers for about a quarter of the subjects in the curriculum.
The center has a staff for practical work, whether it consists of working with livestock or in the fields on the production of cereals. There are problems. There is no contact between these leaders of practical work and the part-time teachers, nor has anyone prepared class lessons or instructional outlines which would enable part-time teachers and practical-work staff to communicate. Neither knows what the other is doing, nor what the other should do, to assure that training includes what it should.

The competence of staff members responsible for the practical work varies. The Voltaique staff member responsible for livestock was trained in Ouagadougou and Niger and appears to be very competent and hard working. The man in charge of poultry appears equally competent, as does the man responsible for teaching about the use of machinery and its maintenance and repair.

It appears that the others, appointed after completing training at Matourkou, are not equally able. For example, an American agricultural expert who surveyed the condition of crops in the fields said that production levels and productivity were not better, or as good, than one might find in the average farmer's field.

The project provides for one SECID Technical Advisor working full time at Matourkou, dividing his time between instruction and technical service. This advisor, who is just now beginning his second two-year tour, is capable, hard working, and dedicated to the success of the project. However, a review of his services raises some questions.
It is understandable that he devote himself to a full teaching load. Otherwise, the subjects would not be taught. However, this does reduce the time left for advisory services, for example, in the area of school administration. Advising school administrations is never simple nor easy, and the evaluation team is not sure how much could be accomplished herein. A new Director arrived in April of this year, and new opportunities may be available.

Further, the Advisor has concentrated on livestock to the exclusion of providing advisory services in soils, plant protection, and the like. One could support this concentration on the grounds that it is best to show, in one area of specialization, what is possible. One could also say that other specializations deserve equal attention. This report's recommendations will address themselves to that subject. In this respect, it should be noted that the Voltaique livestock man is exceptionally competent, but one cannot be sure that his competence resulted from advice given by the technical advisor, or whether he brought his competence with him.

There is evidence that the administration of the training center has not been as efficient as it might be. This evaluation report's comments herein are based only upon observable facts. It must be remembered that perhaps some of the situations cited below were beyond the control of Matourkou's administration. At any rate, the first year students of the academic year 1980-1981 had only about three or four months at the school out of the

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nine-month program. They entered late because entry examinations were administered late. The death of the former director of the center is cited as causing this delay. However, he was succeeded by an acting director who has been working at the center for most of the years since 1963.

The academic year was also cut a month short by the lack of part-time instructors and by a shortage of water. Thus, none of the students, but most particularly the first-year students, were there for the full nine months (May-January).

The classrooms are in deplorable condition. There are no teachers' desks. There are not enough tables nor chairs for the typical class of 25 students, and half the chairs are without backs. The rooms are dusty and dirty, and one finds termite sawdust on the tables. Yet, the center has a carpenter, a welder, and a cabinet maker. The laboratory is empty, though this problem will presumably be solved by the returning biology teacher who ordered equipment while on his short-term participant training experience and by the short-term technical advisor who will accompany him - arrival in July of this year. Students must stand while eating in the dining room because there are not enough chairs and too few tables.

The fact that there are no lesson plans (except as supplied by the SECID advisor) nor teachers' guides which could bridge the gap between part-time academic instructors and leaders of practical work, as mentioned earlier, reflects upon the quality of administration.
Thus, the new Director has an opportunity to improve the training center's organization and operation.

The fact that there are no textbooks nor library reference materials is not the fault of the center's administration; it is a nationwide problem at the technical training and university levels. A library is being built, but a decision has not been made about supplying books for that building. Of course, it is not easy to find suitable books in French-speaking countries for all the agricultural subjects, including forestry, conservation, and the like. For one thing, books written at the highest and most specialized level are not particularly useful to beginning students. University-level books would not be useful. Attention to and exploration of possibilities are needed.

The Project Paper reports that Matourkou had requested that three village training centers be established. However, these would require additional capital investment, and worse yet, would add to the burden (already overwhelming) of recurrent costs to be born by the Government of Upper Volta. Also, it would spread the meager resources of Matourkou even thinner. Presently, Matourkou uses nearby villages to provide students with practical experience in the process of extension contact with villagers. To be sure, these villagers have had experiences with personnel from Matourkou for a decade or so. Thus, they are familiar with the process and contacts. Perhaps this is not all bad. To be sure, the ease of entry is unrealistic for the student. The villager knows all too well what the relationship is all about.
However, it is probably better that the student try out his approach, while he is learning, in a place where receptiveness is no problem. Further, he can observe what can be accomplished. For example, in the village visited by the evaluation team, there were several farmers using animals for pulling the plows. According to the Agent Technique assigned and living there, nearly a third of the farm families are using animal traction. Considering the government's interest in this methodology, it should encourage students to learn that the extension service can actually produce results.

The Project Paper provides for an increase in the number of graduates to 150 annually. The number of graduates of the current class will be about 30 conducteurs (three-year training) and about 35 Agents Technique (four-year training). Thus, the present annual product is about 65, not allowing for attrition, but attrition at Matourkou is not great. It is unrealistic to expect that numbers of students will increase. First, the evaluation team agrees with a recent (January 1981) World Bank opinion that, at this stage, it is highly desirable that emphasis be placed upon improving the quality of training, rather than the quantity. Further, until the government extends full civil service reimbursement to Matourkou's full-time staff, that center will be lucky indeed to hold its own and remain operative. Conditions of employment have been a problem for many years, since the days when the FAO was at that center. It was described as a condition precedent for this project. No change has been made.
From time to time, it has been proposed that more encadreurs (the most numerous of extension agents and those who are in most frequent contact with farmers) be trained at Matourkou. However, before such training is expanded, Matourkou needs to improve its handling of its present responsibility for training. Short-term retraining for encadreurs (three weeks, for example) is considered to be important. However, the World Bank has funded a center for such training. The physical plant is new and completely adequate, including audiovisual equipment to make up partially for the absence of textbooks. This center is staffed and operative. The rationale for establishing this center, in addition to providing retraining, was to establish a center that would be relevant to local geographical circumstances which control farming methodology - soil characteristics, rainfall, etc. Interestingly enough, the center was established in Bobo Dioulasso rather than elsewhere. This center has had 550 encadreurs as students during the past three years.

The graduates from Matourkou's training are mostly assigned to ORD's. These are the regional centers for rural development managed by graduates from the ISP and those from Matourkou. A minority of Matourkou graduates are assigned to work at Matourkou itself; at the present time there are half a dozen.

There is one final problem at Matourkou - a shortage of water. The school year 1980-1981 came to an end a month early, not only because of shortage of instructional staff, but also because of the shortage of water. The center has two wells, both of which
run dry in season. AID and others have considered two possible solutions. One possibility is to pipe water, an expensive undertaking, from Bobo Dioulasso. However, Bobo Dioulasso has its own shortage. A month after the beginning of the rainy season, the evaluation team learned that if a shower is to be enjoyed in the morning, one must rise well before six a.m.

An AID hydrologist has proposed, as an alternate solution, drilling a well at a distant edge of Matourkou's site. It would be silly for the evaluation team to simply recommend that this problem be solved. Shortage of water is a problem in most of Upper Volta. Yet, steps toward a solution ought to proceed beyond the conversational level. The shortage of water is not a shortage of irrigation water. It is a shortage of water to keep the center running.

INSTITUT SUPERIEUR POLYTECHNIQUE (ISP)

The ISP, founded in 1973, is one of several colleges or institutes in the University of Ouagadougou. Thus, it is controlled by the Ministry of Higher Education. Its five-year program produces Ingenieurs who are at the top level of administrators of agricultural extension stations and programs. An Ingenieur might also become an ISP instructor if he is able to earn a masters degree in France or the United States.

ISP's curriculum is admirably oriented to turning out well-trained agriculturists. That is, the students begin with studies of various sciences - biology, chemistry, math, geology, biochemistry,
and the like - and then begin studies of agricultural sciences. Thus, they accumulate a background in sciences, then move into agriculture, and finally come to specialize in one or another aspect of agriculture. The fifth year of their program is devoted to an individual study or investigation. The student writes a "memoire," which we would call a thesis, based on his study/investigation, which he must defend before a faculty committee.

One way to test the efficiency of the instructional program is to evaluate the performance of ISP's graduates in graduate levels of participant studies. The five participants who are now in American universities are doing very well, in the opinion of American advisors who monitor their work, in the opinion of the participants themselves, and in the light of the grades they are earning. To date, the participants have earned satisfactory grades. Only one of them has received a C grade in one subject and then only once. All other grades have been B or above. These students knew little, if any, English upon arrival in the U.S. They were allowed six months of English language training.

Physical Plant

ISP is in a transitional stage so far as physical plant is concerned. It has been housed in buildings borrowed from the University's Normal School, and it hopes not to be forced out of these in the near future. Expansion of plant includes a former police station. AID funds were used to turn a medium-sized building containing many small offices into a building containing
fewer but larger rooms. Presently, the building has about a dozen classrooms, and these will be used for the three-year program.

It should be noted that as of a year ago, 1980, the ISP had two programs, a five-year program turning out Ingenieurs Grade A, and a three-year program turning out Ingenieurs Grade B. Students who do not quite manage to pass the end-of-the-year examinations at the end of the first academic year can transfer to the shorter program which has a larger proportion of practical work and a lesser concentration on academic studies.

Returning to the subject of physical plant, a new building, containing classrooms, offices, a library, and laboratories, is being built with French funding. It should have been completed by October 1981, but it will probably be completed by December 1981 or later. There was a delay between its funding and its construction which allowed inflation to make its mark. Rather than rendering its design more simple so as to allow for inflated costs, the dimensions of each space - offices, library, classrooms, laboratories - were made smaller. This will cause problems. Nevertheless, it will be an impressive building and has ample space around it for sports fields and future development. Nearby there is a simple but adequate building which will provide for the three-year program as needed, or perhaps for expansion of the five-year program.

**Demonstration/Experimental Farm**

An agricultural college must have a farm where students can observe, experiment, and get their hands dirty. The farm at
Gampela, less than 20 kilometers from ISP, is well established and operational. Currently, three fifth-year students are conducting their studies there. They live in small round houses which represent village architecture and either cook for themselves or buy meals from peddlers. This is the first time that the farm has been used by fifth-year students, so it is too early to know how it will work out, but all parties concerned with this are optimistic. It is anticipated that dormitory buildings will be built there so that ISP students can go there for several days at a time, that is, those students who have not arrived at the fifth year of study. The latter might well spend the entire school year there.

There has been some amount of disputation between AID and the Rector of the University as to the design of these dormitories, and the related cooking facilities. This can be worked out if AID and the Rector reestablish communication on a working level. The evaluation team found the Rector, though busy, to be open minded, ready to listen, and willing to express his feelings frankly.

What is needed in this case are very simple dormitories, supplemented by very simple cooking facilities. Students often cook for themselves, and therefore, a permanent cooking staff would not be necessary. Also, the peddlers often bring fairly good food. If the schedule of visits is arranged so that women students come one time and male students another, it will not be necessary to construct dormitories for women and for men, separately.

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Gampela is short of water and this condition is not rare in Upper Volta. The AID Mission is keenly interested in this situation and will, in time, come up with a solution, assuming that a solution is possible. There is enough water for human consumption and for the few animals which are there. There is a question as to whether the farm can or should move into irrigation, and larger numbers of animals.

ISP Strengths and Weaknesses

The first strength to be noted is the fact that the school's graduates do well in graduate studies. This was discussed earlier.

Second, the school is administered in such fashion as to open its door to innovation. Instructors, be they French, Voltaique, or American, discuss improvements and present them to the administration. These proposals are not always accepted, but the very fact that there is discussion and presentation is encouraging. These discussions have lead to two developments. First, two innovative courses have been accepted, rural sociology and agricultural extension. Second, there is to be a seminar in September to discuss curricular improvements. It can be hoped that an AID/SECID decision to replace the SECID team leader will not change these plans.

Third, ISP's administration has been effective in the management of the school's operations. The physical plant is kept in good condition. The laboratories are in good condition. The classrooms are neat and tidy, ready for maximum use. There has been
a rapid replacement of administrators during recent years. The evaluation team cannot comment on this fact except to say that the current ISP Director and the Director of Studies are obviously very competent people.

Weaknesses

As would be expected, ISP does have its weaknesses. The requirements of the curriculum mean that there must be, including administrators, as many as 33 staff members. On the other hand, there are no more than 150 students. That means that there is a staff member for each 4.5 students. That is a luxury that few countries can afford. Considering that many of the first-year students fail, this means that often enough when a student arrives at the fourth year of studies, when he is specializing, he may be the only student in the class. Imagine a class of one professor and one student! The evaluation team proposes elsewhere that individual counseling for students of the first year of the program might result in the retention of a greater percentage of students.

Second, ISP has no textbooks for its students except for the limited amount of materials SECID instructors have been able to provide. An American can hardly imagine a situation wherein he must depend upon notes written from a professor's lectures. He needs the textbook. What about gaps when he was ill and could not write his notes?

Third, the library, as limited as its material may be, is open during the same hours as the student is in class. The
library does have some materials relating to the first year of study, and the SECID library has materials related to later studies. However, if the library opens when the student must be in class and closes when he leaves the class, there is not much opportunity for the student to study in the library.

In respect to the absence of textbooks, it may be noted that UNDP is supporting a program for writing textbooks for elementary grades in school. Perhaps that agency will, one of these days, interest itself in textbooks at the university level.

In general terms, therefore, it seems that the ISP is operating quite well, except that a loss of 80 percent of students in the five-year program is not acceptable.

FUTURE STAFFING PROPOSALS

In a letter dated June 11, 1981, from the Rector of the University of Ouagadougou to the Director of SECID, the wishes of the University for staff needs through the end of the Project were set out. The position of Team Leader/Agricultural Extension Specialist is clearly the key position to the entire thrust of this project. The purpose of the project was that there be a more practical approach to agricultural graduate teaching and that teaching of extension be introduced. The staff qualifications required that the Team Leader "advise in agricultural institution building and management, coordinate and supervise the efforts of contract technicians, teach a limited number of courses at ISP in his/her speciality, and be the primary liaison between the contract technicians and the direct hire project managers, and
he/she will assist the Project Manager in the overall implementation of the project." It was understood in the beginning that the Team Leader would serve for four years, at least. He could supply essential continuity. However, recent developments appear likely to prevent this.

In the opinion of the project evaluation team, and in the view of representatives of the University authorities, great progress has been made in all the areas pertaining to the introduction of the practical approach. A course in extension methodology was introduced last year in the "filiere courte" program, and in the coming year, the course will be taught to the "filiere longue." This means that no Voltaique graduate will emerge from the ISP in the future without some extension training.

Furthermore, from next year, it was accepted that the course in sociology would be replaced by a course in rural sociology, also taught by the Team Leader/Extension Specialist.

These changes in the curriculum represent a considerable achievement on the part of the project in the context of a university which tends always to conservatism and resistance to change.

Course context change has been accompanied by development of the University farm of Gampela which has been designed to complement classroom teaching and reinforce the practice approach.

A further development is the model extension unit being introduced in the neighboring village of Gampela in order to demonstrate and monitor extension effects. This has been designed particularly to encourage the participation of all the other
faculties of ISP. Developments of this type stimulate great hope that the aims of the project can be achieved, given that other obstacles to this can be resolved.

ISP, in its letter, specifically asked for a continuation of the Animal Husbandry courses initiated by Dr. Suchet L. Louis. There is an ISP graduate currently studying in the U.S. who will occupy this position in due course, but he will not return until the 1982-1983 academic year, and in any case, would benefit from an overlap period. This position is under consideration by SECID with a view to contracting a suitable person. Both the Agronomist and the Forestry Specialist are due to terminate their contracts at the end of 1981. However, both these positions should be extended at the least to complete the 1981-1982 academic year, but in the view of ISP and the evaluation team, it would be preferable if they could extend until the end of the first term of the 1982-1983 academic year. This would allow an overlap with their replacements. In the case of the Agronomist, the replacement will be a Voltaique presently training in the U.S. Unfortunately, he is majoring in plant pathology and his minor subject is agronomy, therefore, there will not be a direct correlation between his training and Dr. Mahotiere's, thus reinforcing the desirability of overlap.

The position of Farm Manager at Gampela is one which the evaluation team feels should not be filled at this time. There is currently a very capable and dynamic French farm director who expects to be there for the next three years. It would not seem
necessary, or practical in terms of human relationships, to appoint a SECID farm manager.

The team would emphasize the need to find a sufficiently qualified Voltaique to train as manager.

The final ISP request is for an Agricultural Engineering Specialist whose speciality is appropriate technology. This the Rector of the University of Ouagadougou particularly stresses, because he believes strongly that the ISP graduates should not only be aware of the need for extension work in agricultural techniques but also the ancillary activities which enable the whole community to develop together - farmers, blacksmiths, carpenters, etc.

Therefore, the evaluation team endorses the ISP requests, by and large. The team's chief concern is that what has been gained should not be lost, and that overlapping project staff with returning trainees will enable these future faculty members to continue to train the students in the same practically oriented manner. The view is passionately endorsed by the Rector of the University of Ouagadougou who is desparately anxious to see his graduates take their knowledge to the people of Upper Volta.

The final technical assistance proposal is for CAP/Matourkou. During the SECID site visit in December 1980, the need for an Extension Methods Specialist was identified. It was clear that, with his increasing teaching load, the Team Leader/Agricultural Extension Specialist could not undertake this function at Matourkou. However, in view of the evaluation team's recommendation that no
further development be undertaken at Matourkou at the present time, this position would not be filled.

Similarly the short-term technical assistance proposed for Matourkou would not be pursued with the exception of the person already engaged to help install the laboratory equipment. The management at Matourkou does not regard short-term aid as having any value for them. The recently appointed Director did, however, express a keen interest in having expatriate technical assistance when, or if, the conditions permit the development of this school.
IV. ANALYSIS OF PROJECT LOGIC

The Evaluation Scope of Work includes the task: "Examine the project LogFrame considering the validity of assumptions and the anticipated effects of input and output linkages on project goals and purposes." (The LogFrame is a tool used by AID to simplify the design, description, and evaluation of projects.)

In this chapter we will do the above task, but in addition, we will present a new, revised LogFrame in line with the changes in orientation mentioned in Chapter II of this report (less emphasis on quantity of graduates, more emphasis on institution building). Topic headings are as follows:

- The Original Logical Framework;
- A Revised Logical Framework; and
- Analysis of Project Assumptions.

This chapter is not undertaken only to meet a Scope of Work requirement. We believe that examination of a project's logic is at least as important to evaluation as measurement of progress. We hope that at the end of this chapter, readers have the understanding and "feel" for the project which is necessary for managing it well. Moreover, you will note that analysis of a project's "assumptions" is a source for powerful recommendations for increasing that project's probability of success.

THE ORIGINAL LOGICAL FRAMEWORK

The Project Paper Goal

The project Goal as stated in the Project Paper is as follows (including the Indicators and Means of Verification):

IV. 1
<table>
<thead>
<tr>
<th>Summary</th>
<th>Objectively Verifiable Indicators</th>
<th>Means of Verification</th>
</tr>
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<tbody>
<tr>
<td>To accelerate the development of the agricultural sector through the efficient combination of factors of production in order to attain food crop self-sufficiency at an improved level of nutrition while increasing agricultural export.</td>
<td>1. Total agricultural output increased faster than growth in population</td>
<td>1. Per Capita agricultural production.</td>
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<td></td>
<td>2. Nutritional intake and availability improved</td>
<td>2. Per Capita production of basic cereals.</td>
</tr>
<tr>
<td></td>
<td>3. Agricultural export of grains, cash crops and livestock increased over previous years.</td>
<td>3. Per Capita production of livestock.</td>
</tr>
<tr>
<td></td>
<td>4. Exports of food crops and livestock.</td>
<td>4. Exports of food crops and livestock.</td>
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</tbody>
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The Goal continues to be appropriate to the project, although it mixes three levels of abstraction (production, sales, and consumption), which is not the intent of the LogFrame. It is far too early to measure impact at the Goal level because the first graduates who studied under SECID assistance are just entering the job market and certainly have had no time to influence agricultural production, sales, or consumption. More to the point, students have not begun to study under teachers trained by SECID.

**Project Paper Purpose**

Summary, Indicators, and Means of Verification for the Project Purpose, as stated in the Project Paper, are as follows:
### B.1. Purpose:

To improve the GOVU planning, administration, and implementation capability for rural development projects in Upper Volta through the expansion/creation of training centers for middle and upper level agricultural technicians and extension agents at ISP and CAP's.

### B.2. End of Project Status

1. Provide MDR with 25 graduates per year from ISP.
2. Provide MDR with 130 ATA level and 80 CTA level graduates per year trained at CAP's (Matourkou and Bogande).
3. Graduates of ISP and CAP's have increased capability to provide practical knowledge to Voltaic farmers through MDR.

### B.3. Means of Verification

1. Annual number of graduates from ISP and CAP's.
2. Reduction of number of unfilled positions within MDR.
3. Interviews with enrollees to ascertain practical knowledge of middle and upper level staff.
4. Project evaluation.

The summary statement on the left continues to be generally appropriate, although once again levels of abstraction are mixed (improved planning and implementation, expansion/creation of training centers).

The above comment is trivial; it refers to form not substance. However, weaknesses in the center column, the indicators of project success, have serious implications for evaluation and perhaps for management of the project. The weaknesses are of two types (which should look familiar to readers):

- emphasis on quantities of graduates; and

- omission of the institution building notion which to our minds and to most people who know the project, is the essence of the project.

The first weakness probably stems from an actual change in project focus as it has evolved (most projects change focus as they evolve). The second weakness most likely stems from uncertainty on how to measure progress at institution building.
(It certainly is not just buildings, equipment, and lab facilities, but what is it?) An entire chapter of this report is devoted to solving the second of the above weaknesses (Chapter II. 8).

Progress on the above, original indicators of project progress and success is as follows as of June 1981.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>25 graduates per year from ISP</td>
<td></td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>210 graduates per year from CAP's</td>
<td></td>
<td>-</td>
<td>64</td>
</tr>
<tr>
<td>Increased knowledge and capability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A standardized test of practical knowledge</td>
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As you can see, ISP and CAP are not doing well relative to the quantity indicators. However, the "short-fall" is in no way we can imagine attributable to the SECID project. In the first place, as we have already pointed out, SECID is not focusing on increasing the number of students admitted or on reducing the number who drop out (see Chapter III. for an analysis), which are the ways to increase quantity of graduates.

**Project Paper Outputs**

According to the Project Paper, project Outputs are as follows:

IV. 4
It is here that the Project Paper LogFrame most directly addresses institution building, a concept which also occurs (properly we think) at the Purpose level (expansion and creation of training centers). Unraveling the overlap would be an exercise in the Talmudics of logframing, and of no substantive use. Suffice it to say that the LogFrame is meant to separate levels of abstraction and clarify, which is what we have tried to do in the revised, partial LogFrame presented next.

A REVISED LOGICAL FRAMEWORK

In the above discussion of the Project Paper Logical Framework, we have made two general criticisms. First, there is a serious mixing of levels of abstraction, so that the theory on which the project is based is not clear. Second, there is only a rough correspondence between the project objectives, as listed in the "Summary" column and the "Indicator" column. We have made one specific criticism: that institution building, which is the focus of the project, is treated inadequately. A revised Logical Framework follows.

IV. 5
Comments on the Revised Logical Framework

Project Purpose: The project's focus, that is its Purpose, is building agricultural education institutions at ISP and CAP which are: "capable without outside help of meeting the GOUV's needs for practically trained agricultural personnel." According to our analysis, the project will have succeeded if, after the SECID team leaves Upper Volta, the following components of institutions are in place: Doctrine, Leadership, Programs, Internal Structure, and Linkages. Definitions of the institutional components, and what they mean in the context of USAID/Upper Volta's Agricultural Human Resources Project are presented in Chapter II. We feel that the project would profit from periodic monitoring at the Purpose level. To what extent are changes in Doctrine, Leadership, etc. being transferred to Voltaiques in permanent form? A true evaluation of how well SECID is succeeding at institution building would have to wait until the SECID team has left. A year after their departure would seem an appropriate time for a "summative" evaluation.

Levels of Impact: Both Purpose and Goal have been divided in half, and there are therefore four impact levels. The reason for the proliferation of impact levels is that the project is at once an education project and an institution building project. Both types of projects, in their own right, are separated from ultimate benefit (increased production and income) by long cause-effect chains, and therefore many LogFrame levels. We have
Agricultural education institutions capable without outside help for agricultural personnel.

Indicators

- Increased production of crops and livestock in Upper Volta.
- Improved farm practices and methods used by Voltaique farmers.
- GOUV needs met for practically trained personnel at all levels of the agriculture system.
- Agricultural education institutions capable of meeting GOUV's needs for practically trained agricultural personnel.

After SECID leaves, the following will be in place:

1. Increased practice/lecture ratios throughout ISP and CAP.
2. New curricula by Voltaiques which correspond to the doctrine.
3. Increased practical approach in ISP and CAP publications.
4. Publications oriented for practical farmers.
5. New varieties and breeds.
6. Mechanization, transport, marketing.
7. Official statements of practical, farmer-oriented approach in ISP and CAP publications and pronouncements, consensus among teachers, students and outsiders on what ISP and CAP "stand for." Official policy saying that ISP students can, should, or must teach at CAP.
8. Leadership: 1 American-trained Voltaique teaching at ISP. 14 American-trained Voltaiques teaching at ISP. 1 American-trained Voltaique teaching at CAP. New varieties and breeds.
9. Programs: Increased practice/lecture ratios throughout ISP and CAP. New curricula by Voltaiques which correspond to the doctrine.

Assumptions

GOUV and external donors will continue to provide financial assistance to programs which support cultural sector development. This includes funds for capital works such as agricultural extension, technical assistance, and research. GOUV and external donors will also provide incentives to producers.
OUTPUTS

Curriculum
- Curriculum developed by SECID staff.
- Curriculum transferred to Voltaique staff.

Personnel
- Future ISP staff trained in the U.S.
- Future CAP staff trained at ISP.
- TA/Voltaique overlaps upon Voltaique return to Upper Volta.

Slot Filling
- Positions filled by SECID while Voltaiques in the U.S.
- Students and courses taught while Voltaiques in the U.S.

Lab and Field Facilities
- Gampela Experimental Farm.
- Nutrition lab.

INPUTS

USAID:
- Technical advisor in vocational agriculture placed at CAP Matourkou.
- Technical advisors in agricultural education, range management and agronomy/extension placed at CAP Bogande.
- Technical advisors in forestry, agronomy and livestock placed at ISP.
- Short-term technical consultants as needed.
- Buildings, equipment, livestock and operating funds.
- Training of Voltaique staff and counterparts.

GOUV:
- Personnel.
- Land.
- Buildings, equipment, livestock, operating costs.

INDICATORS

Internal Structure
- Voltaique professors follow the American example and publish lecture notes as texts.
- Yearly curriculum meetings for faculty and consumers of graduates.
- Memoires supervised by professors.

Linkages
- ISP graduates teaching at CAP.
- Library use by students (link to expertise outside Upper Volta).
- Memoires conducted at research institutes.

ASSUMPTIONS

- Incentives and conditions of employment will be attractive enough to recruit and retain necessary GOUV staff at ISP and CAP's.
- The existing institutional agricultural training infrastructure can be expanded without exerting undue stresses on the fiscal and human management elements of the GOUV.
- Appropriate candidates for training will be identified and made available.
- Voltaique students are willing to go to the U.S. to study.
- Students will adapt to the U.S. sufficiently to allow them to complete their studies.
- Voltaique students will return to Upper Volta following their studies in the U.S.
- GOUV will respect U.S. degrees, and hire participant trainees at a level equivalent to holders of French degrees.

Manhours, Materials Budget

<table>
<thead>
<tr>
<th>Year</th>
<th>Budget</th>
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<tbody>
<tr>
<td>FY 1978</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>FY 1979</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>FY 1980</td>
<td>$3,300,000</td>
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<tr>
<td>FY 1981</td>
<td>$2,157,000</td>
</tr>
<tr>
<td>Total</td>
<td>$9,457,000</td>
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experimented with streamlining the LogFrame by leaving out one or another of the impact levels, but have concluded that all are necessary to convey the "sense" of the project.

**Impact Indicators:** Indicators at the Goal and Sub-Goal levels are not as specific as they should be. Specification awaits knowledge of the types of projects in which the agricultural school granduates will be participating.

**ANALYSIS OF PROJECT ASSUMPTIONS**

In the following paragraphs, we will test the validity of the project assumptions, statements about factors outside the control of USAID/SECID's Agricultural Human Resource Project on which the project's success and progress depends.

The Project Paper lists 16 project assumptions. If the project's success really depended on 16 major factors outside its control, it would fail for sure. Good projects and project designs have few, not many, assumptions. In our consideration of the assumptions, we have eliminated from the Project Paper list those which are either within the control of the project proper or which describe intended benefits of the project. ("Non-assumptions" of the above types, and an explanation of why they are not assumptions, are included in a later section of this chapter.)

Crucial assumptions, or factors outside the control of the project on which the project's success and progress depends, appear to be of three types:
1. the will and ability of the GOUV and other donors to invest in Upper Volta's agricultural sector;

2. the GOUV's ability to cover recurring costs left behind by the project; and

3. uncertainties regarding the GOUV's and Voltaique students' reaction to studying in the U.S. and to U.S. degrees.

In addition, in our analysis of assumptions, we will explain why some of the Project Paper assumptions have been eliminated from consideration.

Assumption 1: Future Investments in Upper Volta's Agricultural Sector

Assumptions of number 1, the will and ability of the GOUV and other donors to invest in Upper Volta's agricultural sector are as follows:

- the GOUV and external donors will continue to provide financial and technical assistance to programs which support agricultural sector development; and

- the GOUV will maintain an agricultural pricing policy that provides incentives to producers.

The above assumptions raise questions about the LogFrame hypothesis that "meeting the GOUV's needs for trained agricultural
manpower" will lead to "improved farm practices" and "increased production" (the Purpose to Goal link). Improved/increased government manpower, if they are not given resources, can influence farm practices and production only trivially.

In the Annexes are descriptions of efforts by external donors in the GOUV's agricultural sector. Donors include USAID, FAO, UNDP, the World Bank, and the French government. Assessing the GOUV's intentions and plans is more difficult. It seems probable that graduates of USAID/Upper Volta's Agricultural Human Resources Project will staff other projects and programs funded by USAID and other international donors. Therefore, USAID's investment in ISP and CAP might be thought of as a way to improve other AID projects.

OFNACER, a GOUV agency, controls producer (farm gate) prices and consumer prices of grain. They put a floor under producer prices and a ceiling on consumer prices. The effect of OFNACER's activities on production and parallel markets, etc. is complex, disputed, and under study by USAID/Upper Volta. (Ronco's consultant, Warren Enger, now working in Upper Volta, will have drawn some conclusions on this issue by August 1981.)

Our analysis of number 1 assumptions reminds us that AID has other projects which include participant training components. Included among such projects is one entitled: Management and Technical Skills - FY 1982-1987.

Communication among AID-SECID-GOUV representatives would identify participant training activities which might have a potential

IV. 11
for contributing to the objectives of the Agricultural Human Resources Project. Ideally, technical assistance related to ISP and CAP/Matourkou might find opportunities for these institutions' training programs to provide trained manpower for future GOUV, USAID, World Bank, and UNDP/FAO agricultural developmental projects. Ultimately, means might be found to focus future agricultural sector investments around manpower trained by the Agricultural Human Resources Project. These are idealistic possibilities. Actually, while such possibilities should not be avoided, ISP and CAP/Matourkou will do very well to achieve the more limited objectives within the project.

Assumption 2: GOUV Coverage of Recurring Educational Costs

Assumptions of number 2, the GOUV's ability to cover recurrent costs left behind by the project are:

. The existing institutional agricultural training infrastructure can be expanded without exerting undue stresses on the fiscal and human management elements of the GOUV.

. Incentives and conditions of employment will be attractive enough to recruit and retain necessary GOUV staff at ISP and CAP's.

The above assumptions raise questions about the LogFrame hypothesis that "curriculum development, teacher training, and lab and field facilities" will lead to "agricultural education IV. 12
institutions capable without outside help of meeting GOUV manpower needs" (the Outputs to Purpose link). Without GOUV coverage of post-project recurring educational costs, investments in institution building will be wasted.

Both of the above assumptions appear at present to be at least partially false. The first assumption, regarding recurrent costs accrued by infrastructure (electricity, water, maintenance, etc.) appears false because the GOUV has already reneged (at ISP) on recurrent costs amounting to $60,000.

The second of the above assumptions, regarding the recurrent cost of employing people trained by the project is at present partially false.

. In the GOUV ministries, the assumption is true, since to date virtually all ISP and CAP graduates receive jobs of one kind or another.

. At ISP, the assumption is untested, since no participant trainees have returned looking for jobs.

. At CAP, the assumption is at present patently false. As has been explained elsewhere, the "Personnel Statute" guaranteeing benefits and security to teachers has not been implemented. At UNDP and FAO, however, there is some optimism that the situation will change by the end of this year.
Our analysis of number 2 assumptions, concerning GOUV capacity for covering recurring costs of staff or infrastructure created by projects, merely reminds us how slender are GOUV resources. It is a problem nationwide. The GOUV needs to establish civil service pay and allowances for CAP/Matourkou, but that will cost money. AID is reviewing its policy in this regard. Can AID provide assistance herein?

Ideally, CAP/Matourkou's staff would be greatly upgraded if ISP graduates were assigned there. However, this would require money to extend civil service pay and allowances to that school. Inasmuch as ISP is within the Ministry of Higher Education and CAP/Matourkou is controlled by the Ministry of Rural Development, an agreement between these two ministries would be essential.

Assumption 3: Voltaique Reaction to U.S. Education

Assumptions of number 3, uncertainties regarding students' reaction to studying in the U.S. and GOUV reactions to U.S. degrees are as follows:

. Appropriate candidates for training will be identified and made available.

. Voltaique students are willing to go to the U.S. to study.

. Students will adapt to the U.S. sufficiently to allow them to complete their studies there.
Voltaique students will return to Upper Volta following their studies in the U.S.

The GOUV will respect U.S. degrees and hire participant trainees at a level equivalent to holder of French degrees.

The above assumptions raise questions about the LogFrame hypothesis that offering teacher training in the U.S. will indeed result in trained teachers (the Inputs to Outputs link). For U.S.-trained Voltaique faculty to result, Voltaique students must accept, adapt to, and succeed at studying in the U.S. The above assumptions are, of course, interrelated. Identification of appropriate candidates depends on their being willing to go to the U.S. to study. In addition, their being willing to go to the U.S. depends on the GOUV's respect for U.S. degrees, etc.

The first assumption has proved very shaky. This year, only three students were identified as qualified to go to the U.S. for study. The second assumption has also proved false. Only one student, so far, has volunteered to go to the U.S. for study. The reasons why these assumptions are false are:

1. At present, U.S. degrees are officially considered inferior to French degrees and even Russian degrees (see last assumption). The feeling is that the only way U.S. degrees will become equal to French degrees is for some U.S.-educated Voltaiques to reach positions of power.
Most ISP students do not want to be university professors, or at least they do not want to be required to be university professors.

It is possible to get scholarships to France and to the U.S. through various Upper Voltan ministries.

Participant trainee grades, phone conversations with participants, and phone conversations with their advisors lead us to conclude that the third assumption is true (Voltaique students will adapt to the U.S. sufficiently to allow them to complete their studies there). The above conversations also lead us to conclude that the two and one-half year stay in the U.S. should not be shortened. In general, it takes a student about a year (six months language training plus one or two quarters) to master English at a level where he can take full advantage of educational opportunities.

Project Paper Assumptions Which Have Been Eliminated from Consideration

The Project Paper lists 16 project assumptions. In our view there are too many. In our consideration of the assumptions, first we eliminated from the Project Paper list those which are either within the control of the project proper or which describe the intended benefits of the project. "Non-assumptions" of this type (within control of the project proper) are:
USAID/SECID can provide personnel with necessary technical and practical skills to implement the project.

Needed managerial and professional technical manpower to staff the expanded training system is either available or obtainable through external assistance programs.

Appropriate U.S. and third-country training for ISP and CAP staff can be located and arranged. This training will be applicable to rural development in Upper Volta.

"Non-assumptions" of the second type (descriptions of intended benefits of the project) are:

Existing research and education coordination will promote feedback from different levels within the agricultural system.

Existing organizational structures within the GOUV for supervision, administration, and coordination of the agricultural system will be maintained and strengthened.

The GOUV will translate its national commitment to agricultural development into action programs that are relevant and responsive to the change.
potential of the existing agricultural-ecological environment.

The commitment to reach and improve the productive capacity of the individual producers will be translated into action programs that reach all of the Voltaique citizenry irrespective of ethnic affiliation or sex.

The above do not describe factors external to the project, but rather they describe characteristics of the agricultural extension system one would expect if the project succeeds.

We have also eliminated from consideration assumptions which are partially within control of the project.

An effective rural development, planning, and extension service coupled with the provision of factors of production (e.g., agricultural credit, improved seed, fertilizer farm practices, etc.) can, within the cultural framework of Upper Volta, lead to increased agricultural production.

The land resources of the country will sustain increased and expanded agricultural production on a long-term basis.

The above are important, difficult questions; however, they are partially under the control of the project because they describe problems the project was meant to solve. The job of the project, and especially its graduates, is to figure out how
to make agriculture productive within the cultural and geographical constraints imposed by Upper Volta.
## V. RECOMMENDATIONS

<table>
<thead>
<tr>
<th>RECOMMENDATION</th>
<th>JUSTIFICATION</th>
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<tbody>
<tr>
<td>1. Retain the current SECID Chief of Party.</td>
<td>This will provide for continuity and will maintain momentum of improvements. The Chief of Party knows the situation, is widely acquainted, and widely respected. Most importantly, he understands, and is effective in, working toward institution building. He would be teaching the new course, Agricultural Extension Procedures.</td>
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<tr>
<td>2. If it is impossible to retain the Chief of Party, a replacement must be named immediately who first will be competent in institution building, and second, a specialist in agricultural extension.</td>
<td>The Voltaique educators say that about six months is required for a new technical advisor to become well enough adjusted to be useful. A capacity for institution building is essential. The hours a technical advisor spends teaching affects only a few students. Improvements in the way the institutions organize themselves, curriculum improvements, solutions of a high attrition rate, improved maintenance of physical plant, etc. have a potential for</td>
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permanent change. Teaching agricultural extension is important too because the Voltaique staff considers it to be a major curriculum improvement, which it is.

3. Continue technical assistance for CAP/Matourkou and complete construction, but begin no more new construction.

Improvements at CAP/Matourkou are difficult to foresee until such time as civil service status solves the pay and allowances problem, until a full-time staff is recruited, and until administration/management improves.

4. Recruit a SECID Agricultural Engineer, whose speciality is in Appropriate Technology.

This position has been recommended by the Rector of the University.

5. Postpone establishment of CAP/Bogande, three regional field stations, and three village training centers indefinitely.

A time may come when these should be installed, but at this time, it is more important to concentrate on ISP and its central field station, Gampela, and CAP/Matourkou. When these are operating smoothly, attention can be turned to the other items.
6. Broaden the source for participant trainees. Possibilities include: reduce attrition rate at ISP, accept candidates from among economists, sociologists, etc. to become agricultural economists or sociologists via participant training. Select from among ISP staff members, or from other ministries, Ministry of Rural Development, for example. Remove the requirement that all participant trainees become future ISP instructors, or allow returning participants to accept joint appointments wherein they work part-time for a ministry and part-time for ISP. Recruitment, if

Recommendaion

By July, 1981, only one of a dozen recent ISP graduates had applied for participant training. The Project Paper planned for ten. Participant training so as to produce instructors in agriculture is a central and key aspect of the project. The five participants who are now in American universities are succeeding and expect to become ISP instructors.
begun immediately, might find participants for the current school year. There is no good reason to wait another year.

7. Establish a committee representing AID, GOUV, and SECID which will meet regularly to plan and review. Meet once a week for several meetings, then on alternate weeks, and never less frequently than monthly. The communication pattern has been that SECID worked regularly with the GOUV, and AID met with the GOUV only when there was a problem - changing the GOUV's accounting procedures so as to satisfy AID's needs or to exercise an AID veto of construction or style. Considering that AID staff members are busy, and that AID would prefer that SECID be self-sufficient, this communication style can be justified. However, it isn't working, the GOUV's frustrations, misunderstandings, and criticisms have accumulated to an almost explosive level. This hinders project progress and colors exchanges. Inasmuch as AID desires to or needs to retain its veto privilege, it cannot, for the
RECOMMENDATION

sake of project implementation, confine its contacts with the GOUV to crises. Regularly scheduled meetings will make it possible to reduce huge problems to working, discussion size. The evaluation team found members of the GOUV to be ready to listen, frank in their own expressions, and reasonable. The Rector is very active in the government and, therefore, his appointment book is full, and occasionally, he is called to meetings he had not planned. However, he does find time for concerns of this project.

It must be remembered that this project concerns two GOUV ministries and each needs to be involved.

8. Means to reduce the rate of attrition at ISP must be sought. Possibilities include: a system of providing individual counseling which would lead to An attrition rate of 80 percent within ISP's five-year university-level program is too wasteful of physical plant, instructors' time, and students' potential. It simply cannot be assumed that because
RECOMMENDATION

assistance when a student begins to falter, increasing the amount of lecture material which is on paper and available to students, and adjusting library hours so as to make it available when students are not in class.

9. Means for improving administration/management at CAP/Matourkou should be found. That institution has a new director as of this April. Now is the time for SECID to turn its attention in this direction.

JUSTIFICATION

students survive the lycee that they have learned how to study at the university level.

CAP/Matourkou will not, of course, become fully effective until civil service pay and allowances status makes it possible to name a staff of full-time teachers for academic studies. But even if a full-time staff could be found (assuming that candidates exist) little progress would be possible unless administration/management is improved. Even without a full-time staff, operations could be improved. The problem is discussed in detail in the section in the report about CAP/Matourkou.
10. A Voltaique farm manager is needed at Gampela, preferably a graduate of ISP. The farm manager would need that status in order to be effective.

The able and energetic French farm manager, who is working at Gampela now will be there for two more years. During that time, a Voltaique farm manager can learn how to operate the farm.

11. Each participant trainee should spend several weeks with a SECID team member who is teaching or has taught that subject at ISP, that is, the participant's speciality. This opportunity to exchange ideas and prepare the participant's lectures will give the participant a head start in his teaching career. An alternate would be to assign such counseling responsibilities to one of the SECID team members. He would work with all participant returnees.

It would be best if this contact was scheduled so that the participant and the SECID team member could work together in Ouagadougou. This is not always possible, and in such cases, they can work together in the U.S. just prior to the participant's return to Upper Volta. It is not easy to teach in Upper Volta. Library resources are slender, there are no textbooks, and the instructor must lecture, day after day.
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<th><strong>RECOMMENDATION</strong></th>
<th><strong>JUSTIFICATION</strong></th>
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<tr>
<td>12. Funds for this project have been</td>
<td>ISP staff does enjoy full civil service</td>
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<td>blocked because the GOUV has not</td>
<td>status.</td>
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<td>extended civil service pay schedules</td>
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<td>to CAP/Matourkou. The AID Mission</td>
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<td>recognizes that the project contains</td>
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<td>two distinct institutions and an</td>
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<td>attempt to solve a problem in one of</td>
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<td>them should not hinder supporting</td>
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<td>the other.</td>
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<td>13. Shortage of water at CAP/Matourkou</td>
<td>ISP staff does enjoy full civil service</td>
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<td>and Gampela is a problem. The</td>
<td>status.</td>
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<td>evaluation team is not competent to do</td>
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<td>more than hope that AID, where final</td>
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<td>decisions will be made, can find a</td>
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<td>solution.</td>
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<td>14. Begin immediately to seek a</td>
<td>These courses have been added to ISP</td>
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<td>participant trainee for studying in</td>
<td>curriculum by SECID.</td>
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<td>the area of rural sociology and</td>
<td>School authorities are keenly interested.</td>
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<td></td>
<td>Indeed, several</td>
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V. 8
RECOMMENDATION

and agricultural extension. GOUV ministries are interested in agricultural extension. For example, just now the UNDP is working with the Ministry of Agriculture to develop a service center which will be supportive of extension work.

JUSTIFICATION
ANNEX A - PHASE TWO OF PROJECT

At this time, when implementation of the project is only half-way through its five-year period, it is too early to make specific recommendations for the possibility of extending the project beyond its present terms. For one thing, it would seem that another formal evaluation would be required aimed specifically at collecting information required for such a decision. That evaluation would best be scheduled at the end of year four of the project.

However, the subject of extension is too relevant to conditions in the country and the Purpose/Goal objectives of this project to be ignored by the current evaluation.

First, this project is aimed at establishing training which will produce a sufficient number of extension agents and their supervisors, to have a significant impact on farmers' productivity and income. The quality and magnitude of those objectives simply cannot be accomplished within five years, though progress toward realization can begin.

Second, conditions in Upper Volta — shortage of trained manpower and of funds for supporting recurrent costs — mean that progress can be expected to be gradual.

In general terms, if there is to be an extension of the project, its design should be guided by these principles. These would be stated clearly and precisely in the ProAg.
STRENGTHS OF THE CURRENT PROJECT

The design should base activities upon strengths within the present project's accomplishments. For example, ISP is developing quite well. Its major weakness is that too few of beginning students are completing the five-year program. However, institution building is taking place. The number of Voltaique instructors is growing. Curriculum improvements are influencing the quality of instruction. At Matourkou, the practical side of training, including experience at the site and in surrounding villages, is going rather well. ISP's demonstration/experimental farm is coming along and, among other accomplishments, is making progress toward establishing the principle of the significance and importance of such a farm in training agricultural extension agents, be they supervisors of agents in contact with the farmer or serving as agents.

SEQUENCE OF ACTIVITIES WITHIN PHASE TWO

The second principle to guide design of Phase Two is this. No activity should be initiated until a proceeding or contributing activity had been completed to the point of full operation. The current program design listed quite a number of activities foreseen as being completed within the five-year period. For example, it planned that, in addition to the Centre Agricole Polyvalent at Matourkou, a second CAP would be established at Bogande. The latter is in a different ecological area and thus would offer
training suitable to agricultural opportunities/practices in that area. Various conditions and circumstances made it apparent that the project should be scaled back, that the CAP would not be installed. The reason for the scale-back, in this case, was that it did not make sense to install the CAP at Bogande until Matourkou was fully operational, well staffed with permanent Voltaique personnel, construction completed, etc.

That was a wise decision, but any time a project is scaled down, there will be misunderstandings and disappointments. Using the CAP's as an illustration, a new ProAg should clearly state that the second CAP would not, under any circumstances, be started until the first one is fully operational. Details of what comprises "operational" would be listed, described, and specified.

To be sure, planning AID's funding of sequential development would challenge the ingenuity of a Program Office, but the results would justify the effort.

COMMODITIES

Delays in the delivery of commodities for this project caused enough problems for it to be mentioned in conversations with parties at low and high levels (including on the Voltaique side). Delays did indeed cause frustration and lowered efficiency.

Commodities were delivered two or more years after orders were placed. A new ProAg should take into consideration the track record of various methods or agents of procurement and adjust accordingly. Scheduling for technical assistance should be geared
to commodity delivery. This is to say that it is better if commodities arrived a few weeks or months prior to expensive technical advisors rather than scheduling the arrival of technical assistance with no regard to the availability of essential commodities.

PARTICIPANT TRAINING

This aspect of a project should continue. For one thing, the fact that in West Africa the French degree is respected more than the American causes some problems. Some candidates for participant training in the United States are reluctant to accept the training, particularly if they can manage to be sent instead to France. However, as the numbers of participants with American degrees accumulate, and as the quality of their training makes itself known through the quality of their contribution to institution building and national development, the seriousness of this problem will diminish.

INSTITUTION BUILDING VERSUS INSTRUCTION

Use of technical advisors for instruction in agricultural training centers does contribute a small amount to development in a short-term and limited sense. In comparison to the long-term benefits accruing from institution building, hours spent in instruction can hardly be justified. To be sure, an instructor can often contribute to institutional building via his instructional activity, but only if the long-time significance of institution building has been well understood and organized. For one thing,
scheduling technical assistance should provide for an overlap with the return of participants who are to become instructors in ISP. This overlap would enable the technical advisor to guide that participant toward successful performance in his new instructional role.

Sometimes a technical advisor can, through instruction, introduce an improvement in the curriculum. For example, the SECID team leader was able to introduce, and gain acceptance of, rural sociology and specific training for the extension agent role by introducing the course into the curriculum, with concurrence, of course, of ISP authorities, and then teaching it. This demonstration showed the course's usefulness. However, the prime contribution was not in the teaching but in the addition of the course to the curriculum.
ANNEX B - EVALUATION PROCEDURES

The evaluation team consisted of a specialist in administration and institution building, an educator, and an agricultural economist/extensionist. The first of these was designated as team leader. The team spent three weeks in Upper Volta, beginning June 13 and leaving July 6. This schedule allowed for writing a rough draft of the evaluation report in Upper Volta and reviewing it with responsible officials. A few days were left within the contract for visiting SECID headquarters in Chapel Hill, N. Ca., and for writing the final report in Washington. This report will be distributed as follows: USAID, Ouagadougou, the Government of Upper Volta, AID/Washington, the SECID team in Upper Volta, and the SECID headquarters in the United States.

Evaluation procedures including the following: Interviews, and in many cases, repeated interviews with all parties concerned; visits to sites of activity and interviews with personnel stationed there; and examination of files and reports, most, but not all, of these being in AID offices or SECID offices.

The evaluation team had anticipated working with counterparts from Upper Volta. Ideal working conditions, however, were not possible for these reasons. The request to the Government of Upper Volta to name counterparts was received quite late in the game. Two counterparts were named when the evaluation team was more than half way through its time schedule. The other, the Rector of the University, was simply too busy and too highly placed in the government to serve in the usual capacity as a counterpart of an evaluation team.
The Project Paper included copies of surveys of students at the ISP and at Matourkou. The survey was made during the time the SECID project design team was working there. The evaluation team planned to survey the students once more using the same questionnaires. However, the evaluation team's schedule was such that the team arrived in Ouagadougou at the end of the school year, and students were not available. The students at Matourkou were scattered in field projects and were not available either. Evaluation, in a certain, non-formal, sense is continuous, of course, and it might be useful if the SECID team surveyed students at a suitable time in the near future.

The team organized its information seeking in this fashion. First, the team sometimes conducted interviews or visits as a trio. Other times, the individual members interviewed separately, or two members went here while the third went elsewhere. Decisions as to who did what were made partly on the basis of what might be the most effective approach and partly on the basis of what seemed the best application of specialized skills of team members.

Second, team members' efforts, whether information seeking or preparing material for the evaluation report, were organized in keeping with the specializations of team members.

Third, each member kept other members completely informed as to progress in information collection, drawing of conclusions, summaries of total and detailed views, and plans for tomorrow's activities. Continuous communication within the team was possible because the members lived in the same apartment complex, lunched
and dined together, and gathered to discuss the evaluation procedure before and after each day's work. Early in the evaluation process, the team leader assigned areas of work to each member, including himself, reminding each member that some areas of work would require joint efforts.
ANNEX C - A MODEL AGRICULTURAL EXTENSION PROGRAM AT GAMPELA

Programme Modèle de Vulgarisation Agricole pour la Station Expérimentale de Gampela

Le but de ce programme de vulgarisation est double. Premièrement, fournir des opportunités aux étudiants de l'ISP de travailler avec les fermiers et de développer leurs aptitudes de communication nécessaire à la diffusion des techniques améliorées. Deuxièmement, fournir un mécanisme aux chercheurs de l'ISP pour évaluer la technologie et les découvertes scientifiques au niveau de l'exploitation.

Voici les composants du programme-modèle. Au cours de l'année qui vient, les activités suivants, au moins, seraient conduites chez les fermiers du village de Gampela.

1. Démonstration de Cultures
   a. Sorgho (E-35 développé à Kamboinsé)
   b. Maïs sucré pour utilisation commerciale (avec Mahotière)
   c. Riz (culture pluviale) pour les bas-fond inondées (Do Gao Thien, professeur de l'ISP).

Méthodologie:
   a,b: démonstration des résultats dans les champs des fermiers, et visites des fermiers aux démonstrations.
   c: démonstrations sur la ferme de Gampela et visites des fermiers.

2. Introduction de pratiques améliorées en élevage
   a. Poulaillers améliorés: deux unités de poulaillers améliorés (conçus par Suchet Louis) seraient mis en place avec les fermiers participants.
   b. Distribution de races coqs améliorés et suivi de leur rendement dans des conditions de logement traditionnelle.
c. Visites de fermiers à la SEG dans le but d'observer des techniques d'alimentation et de surveillance des animaux telles que la préparation d'ensilage en utilisant des fourrages naturels.

Méthodologie: 1. Démonstration
2. Visites à la Station Expérimentale de Gampela
3. Discussions

3. Culture Attelée

a. Gestion (alimentation, logement, et soins aux animaux de trait).

b. Entraînement des animaux de trait.

c. Utilisation et entretien de l'équipement de culture attelée.

Méthodologie: 1. Démonstration à la ferme de Gampela
2. Discussions

Le Programme-modèle proposé est destiné mettre en action la liason de vulgarisation entre l'enseignement et les recherches à l'ISP afin de completer le circuit. Il reste à espérer qu'à l'avenir, lorsque les ressources de l'ISP s'accroîtront, un petit nombre de villages avoisinants s'ajouteront au programme de vulgarisation.
### Examples of Student Training and/or Faculty Participation

**Campela Experimental Farm**  
Institut Supérieur Polytechnique, Université de Ouagadougou

<table>
<thead>
<tr>
<th>Operation/Activity</th>
<th>Area of Training</th>
<th>Faculty/Res. Organization</th>
<th>Student Involvement</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate Trials</td>
<td>Agronomy</td>
<td>Mahotiere (S)</td>
<td>5th/Yr. Memoire (1)</td>
<td>Locally available rock phosphate. Effect on sweet corn, field corn, peanuts.</td>
</tr>
<tr>
<td>Fruit growing</td>
<td>Horticulture</td>
<td>Mahotiere (S)</td>
<td>3rd/4th Yr. Student (Practical Training)</td>
<td>Mango, Papaya and coconut plants were established. Students were involved in layout design, planting and pot planting operations.</td>
</tr>
<tr>
<td>Sorghum Varietal</td>
<td>Agronomy</td>
<td>Zhongo Didier (V)</td>
<td>3rd Yr. Students (2) stage</td>
<td>Making observations on sorghum varieties for desirable characteristics.</td>
</tr>
<tr>
<td>Observations</td>
<td>Agronomy</td>
<td>Grandmange (F)</td>
<td>5th Yr. Student (1) memoire</td>
<td>Study the performance of sorghum under different tillage conditions.</td>
</tr>
<tr>
<td>Tillage bachées</td>
<td>Agronomy</td>
<td></td>
<td></td>
<td>Soil structure studies</td>
</tr>
<tr>
<td>Soil studies</td>
<td>Soils</td>
<td>Paré (V)</td>
<td></td>
<td>Observations on rise and fall of water table.</td>
</tr>
<tr>
<td>Hydrology studies</td>
<td>Hydrology</td>
<td>Sawadogo Allain (V)</td>
<td></td>
<td>Layout being prepared for training students in vegetable crop production during Oct-March period</td>
</tr>
<tr>
<td>Culture Horticêtre</td>
<td>Agronomy</td>
<td>Mahotiere (S)</td>
<td></td>
<td>Effect of phosphate on crop production. No project resources spent on this activity.</td>
</tr>
<tr>
<td>Phosphate trials</td>
<td>Agronomy</td>
<td>Project Phosphate</td>
<td></td>
<td>Objective of forest nursery is to train students in nursery management practices.</td>
</tr>
<tr>
<td>Forest Nursery</td>
<td>Forestry</td>
<td>Grosenick (S)</td>
<td>Student training 3rd/4th year</td>
<td>Planting of forage species for observing forage production rates under different cutting regimes.</td>
</tr>
<tr>
<td>Forest Plantation</td>
<td>Forestry</td>
<td>Grosenick (S)</td>
<td>2nd Yr. students (1)</td>
<td>Area of farm with severe soil erosion is selected. Planted with different types of trees and grasses and observations on natural recovery are made.</td>
</tr>
<tr>
<td>Soil erosion</td>
<td>Forestry</td>
<td>Grosenick (S)</td>
<td>2nd Yr. student (1)</td>
<td></td>
</tr>
<tr>
<td>Operation/Activity</td>
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</tr>
<tr>
<td>Agrostological Garden</td>
<td>Animal Husbandry</td>
<td>Gwinko (V) Louis (S)</td>
<td>--</td>
<td>Agrostological garden is established with a number of forage plants. This unit would serve as a museum plot for training students. This would be a permanent and continuous affair.</td>
</tr>
<tr>
<td>Pasture lands</td>
<td>Animal Husbandry</td>
<td>Louis (S)</td>
<td>--</td>
<td>Pasture available in the fenced area of cattle/goat/sheep facility will serve as a training plot for growth and other factors.</td>
</tr>
<tr>
<td>Poultry</td>
<td>Animal Husbandry</td>
<td>Louis (S)</td>
<td>5th/Yr. Memoire Training of 3rd and 4th Yr. Animal Husbandry students</td>
<td>By far the most comprehensive practical training program under the Project. Involves several major aspects of poultry management focused on local adaptation. Students participate in various operations.</td>
</tr>
<tr>
<td>a) Management</td>
<td></td>
<td>Bicaba (V)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Nutrition</td>
<td></td>
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<tr>
<td>c) Housing</td>
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<tr>
<td>d) Egg Production</td>
<td></td>
<td></td>
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<tr>
<td>e) Broiler production</td>
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<tr>
<td>f) Feed preparation</td>
<td></td>
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<tr>
<td>g) Cross breeding</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>h) Chick production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silage Preparation</td>
<td>Animal Husbandry</td>
<td>Louis (S)</td>
<td>Training of 3rd/4th Yr. students</td>
<td>Students are trained in the preparation of silage using locally available and grown plant material such as crop residues and local grasses.</td>
</tr>
<tr>
<td>Animal Traction</td>
<td>Culture Attelée</td>
<td>Reddy (S) Grandjumpe (F)</td>
<td>Mainly for student training and demonstration purposes</td>
<td>Introduce as GES on May 15, 1981. (2 Pairs of cattle with equipment).</td>
</tr>
<tr>
<td>Use of field Lab</td>
<td>Animal Husbandry</td>
<td>Macon (F) Mercy (F)</td>
<td>Training of 3rd/4th Yr. animal husbandry students</td>
<td>Field lab at Gampela is used for student practical training in animal pathology, dissection of animals, etc.</td>
</tr>
<tr>
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<td>Area of Training</td>
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</tr>
<tr>
<td>Model Extension Program</td>
<td>Ag Extension</td>
<td>Reddy (S)</td>
<td>Training of 2nd Yr (FIC) and 3rd Yr. (F.L.) students</td>
<td>Model extension program is being implemented at Gampela village from May, 1981. The objective is to provide the students with experiences of interacting with farmers and communicating new and improved practices. The practices used in the program are those recommended either by Voltaic extension organization or those developed at GES (in the case of poultry).</td>
</tr>
<tr>
<td>a) Sorghum demonstration</td>
<td></td>
<td>Janelle (F)</td>
<td></td>
<td></td>
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<tr>
<td>b) Rain fed Rice demo.</td>
<td></td>
<td>Mahotiere (S)</td>
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<tr>
<td>c) Improved coops and poultry housing</td>
<td></td>
<td>Louis (S)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Culture attelés</td>
<td></td>
<td>Dr. Cao Thien (F)</td>
<td></td>
<td></td>
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<tr>
<td>e) Field days and farm visits</td>
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<td></td>
</tr>
</tbody>
</table>

(V) - Voltaic faculty
(F) - French faculty
(S) - SECID faculty
(1), (2) - number of students for memoire/stage
ANNEX E - TERMS OF REFERENCE FOR A UNDP STUDY OF AGRICULTURAL MANPOWER NEEDS AND TRAINING IN UPPER VOLTA

Mission d'étude des besoins en formation des cadres agricoles en Haute Volta

(JPV/80/005)

Spécialiste en enseignement et formation agricoles (agro-formateur)

Termes de Mandat

Le spécialiste, en collaboration avec les Services centraux du Ministère du Développement Rural, et les responsables des organismes de développement du pays, ainsi que les organismes de coopération, exécutera les tâches suivantes:

1. Identification de la capacité de formation théorique et pratique des institutions de formation agricole existantes en analysant la méthodologie de formation et en suggérant des propositions portant sur l'harmonisation et la coordination de l'enseignement des différentes institutions dans les domaines de l'agriculture, l'élevage, les forêts, l'économie familiale, le génie rural etc....

2. En collaboration avec le spécialiste de la planification de main d'oeuvre agricole, formuler les besoins de la Haute Volta en personnel d'encadrement dans les secteurs de la vulgarisation, de la recherche, de la formation des formateurs, nécessaires pour l'exécution de l'ensemble des projets et programmes de développement rural, en précisant:
   - le mode de formation des cadres
   - les besoins en personnel pédagogique
   - les méthodes pédagogiques et didactiques à appliquer
   - le contenu des programmes de formation
   - les moyens à mettre en œuvre.

3. Définition d'un plan d'action pour la création au niveau national d'une section chargée de l'enseignement et de la formation agricoles.
4. Définition d'une stratégie de formation permanente et de recyclage pour les cadres déjà en service, particulièrement et parallèlement pour les cadres des services de vulgarisation et d'autres services de développement rural.

5. En collaboration avec le spécialiste en planification de main d'oeuvre agricole, déterminer les incidences techniques et financières des solutions proposées pour l'élaboration au plan-cadre.
ANNEX F - OTHER AID ACTIVITIES
IN UPPER VOLTA

There are other AID projects in Upper Volta which can contribute in one way or another to this project's implementation. They develop a service or a product which can be useful in Upper Volta's development of human resources for the improvement of agriculture. This is not a complete list, of course, of AID's projects. However, the ISP and the CAP/Matourkou activities should maintain communication with these so as to be able to take advantage of opportunities for exchanges when the time is right.

Eastern Regional Organization for Development (ORD) Integrated Rural Development, FY 1975-1981: The project's basic approach is to develop an agricultural technical package - animal traction, agricultural credit, lowland development and involvement in economic investment.

Seed Multiplication, FY 1975-1981: To promote an organizational framework for promoting a system of seed production and control. A National Seed Service is functioning.


Bazega Fish Farm, FY 1977-1980: Fishing and fish farming.


Foundation Seed Production Project, FY 1981-1986: Expand the National Seed Service's capabilities to assure a constant source of improved seed to the farm operator.
Eastern Region Food Production, FY 1981-1985: Increase production of food in several sectors of eastern Upper Volta: animal traction, extension services, animal health services.
ANNEX G - OTHER DONOR ACTIVITIES

The UNDP, FAO, and the World Bank are as interested in the objectives of this project as is AID and SECID. The FAO was heavily involved in CAP/Matourkou from 1963 until its withdrawal in 1977. That agency had as many as 23 expatriate experts on the job at one time. UNDP withdrew its financial support in 1977 for several reasons, one of them being that the GOUV had not been able to extend full civil service pay and allowances to Voltaique staff members. AID/SECID came to CAP/Matourkou in 1979, but that does not mean that UNDP or FAO or the World Bank have lost interest.

Peter Malt, ResRep for UNDP in Ouagadougou, and a World Bank report of January 1981, propose that there is in Upper Volta a critical need for trained personnel at the middle level of agricultural extension operations. It is not difficult to agree with these conclusions. Reference to CAP/Matourkou is obvious considering that it is the only operating institution in Upper Volta which prepares personnel for that middle level.

UNDP, FAO, and the World Bank expect to begin a study in the near future, the results of which will describe precisely what kind of training is needed at this middle level, and what kind of candidate should be chosen for the training. The study will also try to find earlier graduates of ISP and CAP/Matourkou. Mr. Malt believes that there are trained Voltaique personnel here and there, and if found could be assigned to training responsibilities.
Inasmuch as this study will propose UNDP/FAO/World Bank activities in the area of training extension agents, Mr. Malt assumes that the problem posed by the conditions of civil service will be solved. Certainly, he said, a solution will be a condition precedent to further activity. Further, he said, he will be proposing that ISP graduates will be assigned to teach at Matourkou in the future.

UNDP plans to develop an information dissemination service for the Ministry of Agriculture. This Department of Agricultural Services will be aimed at developing a system and means of distributing information which would be useful in the whole area of agricultural extension work. UNDP plans also to develop what it calls a "permanent system" of retraining encadreurs. These are the extension agents who are in direct contact with farmers.
ANNEX H - FRENCH CONTRIBUTION

France's contribution to Upper Volta is, of course, considerable. It ranges broadly, from maintaining the Voltaique franc as hard currency by pegging it to the French franc (1/50), to providing French university professors. Ten of the latter are full-time instructors at the ISP and one is the manager of the experimental farm at Gampela.

French scholarships for graduates' studies are available to University of Ouagadougou graduates. This year, however, none are available for ISP graduates. The French university degree is highly respected. Possession of that degree assures more opportunities for employment and promotion than does the American degree.

The new building for ISP, containing space for offices, library, laboratories, and classrooms, was paid for by the French. There is room enough there for ISP's five-year program. The three-year program will be located elsewhere. Construction plans provided for the building's completion by the beginning of the next school year (October 1981), but it is apparent that it will not be completed until well into the school year.

The very fact that French is the official language and that schooling is in French, often beginning with primary school, eases relations between Upper Volta and France.
ANNEX I - RURAL SOCIOLOGY: PART OF THE AGRICULTURAL EXTENSION CURRICULUM INNOVATION

Rural Sociology
(Communication and Acceptance of Technological Change)

A. Understanding Rural Society
1. Nature of farming in developing countries
2. Peasant Societies: characteristics
3. Nature of Social Organization in rural areas
4. Sociocultural and economic factors influencing rural societies
5. Social change

B. Communication and Acceptance of Technological Change
1. Elements in the diffusion of innovations
2. Innovation decision process
3. Characteristics of innovations and rate of adoption
4. Adoption categories
5. Role of opinion leadership in technological change

C. Promoting technological change
1. The change agent - role and function
2. Organizations - role and function
3. Consequences of innovations
ANNEX J - AGRICULTURAL Extension:
 A CURRICULUM INNOVATION AT ISP

Description de Cours
Vulgarisation Agricole

1. Introduction
   a. Qu'est-ce que la vulgarisation?
   b. Pourquoi la vulgarisation?
   c. Définition de la vulgarisation.
   d. Importance de l'étude de vulgarisation.
   e. Caractéristiques distinctives de la vulgarisation.

2. Nature du travail de vulgarisation
   a. La clientèle: Qui sont-ils? Quelles sont leurs caractéristiques?
      Implications pour le travail de vulgarisation.

3. Principes de la vulgarisation

4. Le processus de l'éducation
   a. Qu'est-ce que l'éducation?
   b. Eléments essentiels de l'éducation des adultes.
   c. Étapes dans l'enseignement.
   d. Communication, diffusion et l'adoption des techniques. Eléments
      essentiels de communication. Le processus de l'adoption.

5. Méthodes d'enseignement par la vulgarisation
   a. Classement des méthodes de vulgarisation.
   b. Facteurs influençants la sélection des méthodes de vulgarisation.

6. Méthodes basées sur les contacts individuels
   a. Visites d'exploitation et de foyers
   b. Visites au bureau de vulgarisation
   c. La démonstration de résultats
   d. Autres: (appels téléphoniques, correspondances)

7. Méthodes basées sur les contacts par groupes
   a. La démonstration de méthodes
   b. Réunions générales
   c. Réunions sur les lieux de démonstration de résultats (field days)

8. Méthodes basées sur les moyens de grande information
   a. Radio
   b. Expositions
   c. Télévisions
   d. Lettres circulaires
   e. Publications (bulletins, brochures, circulaires et imprimés)

9. Des Aides Audio-visuels
   a. Diapositives, films fixes, photographies
   b. Cinéma
   c. Graphiques et cartes
Mission d'étude des besoins en formation des cadres agricoles en Haute Volta (UPV/80/005)

Spécialiste en organisation, évaluation et planification de main d'œuvre agricole (Chef de mission)

Termes de Mandat

Le spécialiste, en consultation avec le Ministère du Plan, et le Ministère du Développement Rural exécutera les tâches suivantes:

1. Préparation d'un rapport de synthèse sur tous les services agricoles, y compris les services de la pêche, forêts, et de la production azimale, qui employent du personnel formé et offrent une assistance aux producteurs. Ce document comprendra, en outre, des données et statistiques détaillées sur le personnel en service classifié par catégorie et qualification professionnelles à tous les niveaux (universitaire, moyen et inférieur) ainsi que sa distribution régionale actuelle.

2. Identification des réformes structurelles des services agricoles (et autres) et leur expansion éventuelle, qui s'avéraient nécessaires pour atteindre les objectifs du développement national à long-terme. À cet effet, des prévisions de besoins en cadres par catégorie seront faites pour chacun des secteurs et sous-secteurs de l'agriculture, ainsi que des estimations en personnel agricole qualifié pour le secteur privé (objectif 2000).

3. Définition d'une stratégie de la demande globale et effective en cadres agricoles pour les vingt prochaines années, la répartition de la demande par étape, et une estimation du coût annuel à prévoir par le budget de l'État.

4. Sur la base des données et informations recueillies par le spécialiste agroformateur, faire une estimation quantitative de la capacité supplémentaire nécessaire pour satisfaire les besoins effectifs prêts.
5. En collaboration avec le spécialiste en enseignement et formation agricoles (agro-formateur), définir les grandes lignes du plan-cadre et établir les différentes étapes d'une stratégie de formation agricole à long-terme.
ANNEX K - INTERVIEWS AND SITE VISITS

U.S. EMBASSY/ AID

- Charge d'Affaires
- AID Director
- Program Office
- Controller
- Advisor - Human Resources Development
- Project Manager
- Examination of AID files

GOVERNMENT OF UPPER VOLTA

- Ministry of Rural Development - Planning Office
- Ministry of Higher Education

  Rector of University of Ouagadougou
  Director of Research
  Assistant for Research
  Assistant for Research
  Director of ISP
  Director of Studies - ISP
  Chief of Administration - ISP
  Students - ISP
  French Instructor - ISP

SECID

- Team Leader
- Team as a unit
- Team as individuals
- Staff in Chapel Hill headquarters

UNDP

- Resident Representative

FAO

- Director

ISP

- Physical plant, including new building
- School farm at Gampela
- French farm manager

SECID

- Headquarters at Ouagadougou
CAP/MATOURKOU

- Director
- Director of Studies
- SECID Advisor
- Voltaique managers of practical experience

TRAINING CENTER FOR ENCADREURS (Bobo Dioulasso:)

- Staff