PN-ABB-615

TUSKEGEE INSTITUTE

Center for Rural Development
International Rural Development

PN-ABB-615

Prepared by Brooke Schoepf, Ph.D.
With the Assistance of:
Glenn Howze
Cheickna Singaré

STUDY OF TEACHERS IN THE CAA IN THE REPUBLIC OF MALI

MAY, 1979

Supported by Contract #AID/ta-G-1452 and AID/Mali Project #688-0207

PHASE III REPORT
JUNE, 1979

TABLE OF CONTENTS

	Pages
Introduction	1
Teachers at the Agricultural Training Centers	3
Teaching loads	6
The Curriculum	7
Basic Subjects	7
General Studies	9
Travaux Pratiques	10
Fieldwork Placement for Third-Year Students	13
The Students As Seen By Their Teachers	15
The Students' Motivation	15
Training Women Extension Workers	17
Profile of the Desirable Qualities of Agricultural Moniteurs	21
Teaching Methods and Materials	24
The Process of Curriculum Revision	29
The Social Structure of the CAAs and Its Impact Upon Training	32
Recommendations	36
Orientation	36
The Practicum	37
Rural Economy	37
Extension	38
Courses in General	39
Teaching Methods	39
Communication	41
Postface	41
Annexe No. 1	43

Study of Teachers in the CAA in the Republic of Mali - May, 1979

I. Introduction

Increased agricultural production is one of the primary goals of Mali's development strategy. The contribution of village-level agricultural extension agents to the diffusion of new methods of cultivation is considered to be a key element in agricultural development. Thus, the Government of the Republic of Mali plans to increase the number of such extension agents (moniteurs) trained each year by the Centres d'Apprentissage Agricole (CAA), and to improve the quality of their training. These objectives will be realized through restructuring the educational program, improving the infrastructure and teaching materials of the Centers, and further teacher training. The project is being undertaken with assistance from USAID and the World Bank in collaboration with the National Department of Training and Extension (DNFAR), a division of the Ministry of Rural Development.

The study of teachers in the CAA's aims to produce base-line data necessary for the reformation of the curriculum, for the further training of teachers, and for the new teaching materials. This study constitutes the third stage of research begun in 1978 by a team of scientists from Tuskegee Institute (U.S.A.).

The Tuskegee team visited each Center in turn for two days each in May, 1979. At this time, the team also administered questionnaires to second-year students at the Centers. The analysis of these questionnaires will be presented in the fourth stage of the research.

In the fifth stage, the researchers will observe the agricultural moniteurs at work in several selected villages. Finally, questionnaires will be administered to third-year students during their fieldwork placements in various Opérations and special Training Centers.

The study of teachers in each CAA began by presenting the questionnaire to the Director of the Center (see Appendix 1). The Director (who had already been informed of the nature of our visit by the Department) then brought together the teachers and explained our objectives. The teachers already seemed to know what we were about and seemed receptive to our investigation. A group discussion followed, during which the major issues were debated, as well as the questionnaire itself and the study methods.

During the afternoon, the discussions continued, at lunch and over tea. These discussions were followed by private interviews with each of the staff members whom we found at the Center. Due to transfers then in progress, not all the teachers could be reached. We spoke with 6 people at Samé, 12 at M'Pessoba, and 6 at Samanko, for a total of 24 staff members.

The major subjects of interest were the curriculum and teaching materials, teaching methods, the academic background of the teachers, student motivation, the goals of training for agricultural moniteurs in the context of Mali's development, and working conditions at the Centers.

Since classes had not yet begun in the Centers, we were unable to observe either lessons or interaction between teachers and students. Such observation would have afforded a glimpse of the teaching styles

employed and would have helped to confirm or to rule out some ideas contained in this report which must remain at the stage of working hypotheses.

The teachers' cooperation was exemplary. We wish to extend our wholehearted thanks for their receptivity and their unstinting efforts. Although we were only able to spend two days at each Center, the teachers' goodwill and the seriousness with which they undertook the work of conceptualization required of them, as well as the support of the Directors, made these days extremely productive ones. The responsibles of DNFAR, Mr. DIOP and Mr. GUINDO, were extremely helpful in laying the groundwork for our visit.

By way of thanks, we wish to relay the request of our informants that copies of this report, to which they have contributed so much, be made available to them. The responsibility for the conclusions, however, is that of the principal author.

II. Teachers at the Agricultural Training Centers

The level of training attained by teachers in the CAA's varies. At the lowest level are the moniteurs, with the Certificat d'Aptitude Professionnel - Agriculture (CAPA), which is the level reached by CAA graduates. At the top are the Ingenieurs des Travaux Agricoles (ITA). Among the 24 persons who participated in this study, nine are classified as moniteurs or their equivalent. Some of them have a great deal of experience in teaching, and a few have been to short training courses without, however, reaching the next level. Four teachers are Conducteurs de Travaux Agricoles, and seven are classified as ITA's. Among this last group, only two have actually received full ITA training, and five are former teachers in the Centres

d'Orientation Professionnelle who acquired equivalency status when the CAA's were short-staffed.

Most of the teachers say that they desire to continue their training in order to strengthen their knowledge and to earn higher degrees and so move up in rank. In addition to formal studies, the teachers suggested that they should attend professional meetings on agronomic research and extension, as well as visiting the Opérations in charge of extension work. They believe that these activities would help to upgrade teaching in the CAA's. Here are some of their comments:

--We need to take trips, just as we did through the BIT program.

--We must familiarize ourselves with the new techniques being spread by extension workers, because the peasants are already way ahead of us.

--Sometimes the peasants' sons teach the teachers.

--I'd like to get specialty training ... in teaching the _____ course. I developed a liking for it. I go to seek information at the (nearby) Research Station.

Nearly all teachers suggested that they be invited to seminars and meetings. The teachers wish to improve their knowledge; often the phrase "continuous training" (formation permanente) was heard frequently. They are particularly interested in going abroad for training. One justified this by saying:

--That way you kill two birds with one stone. The teachers get a chance to improve their knowledge and it can motivate those who would otherwise try to go elsewhere to stay if they see that it's possible to go abroad for training.

What type of training would be helpful for teachers involved in the training of agricultural extension agents? At present, it seems that technology is rated more highly than teaching skills. As a result, the teachers attempt to form technicians (or rather, mini-tech-

nicians). Extension work requires more than technical knowledge, however, since the moniteur must both teach and discover solutions to the practical problems of peasant agriculture.

It would be desirable to help the teachers to make contact with both the research centers and the Opérations in order to learn from them. Recycling courses should be used to reward good teaching. Without these perspectives of improvement, teachers become discouraged, their level of knowledge drops, and their enthusiasm for work dwindles.

It is important to be sensitive to the hardships that educated people must endure when "lost" in the countryside. This not only applies to lack of amenities but especially due to the lack of intellectual stimulation. A well-stocked library containing both technical and general interest reading matter is indispensable for each Center. In addition, teachers spoke of their low salaries (they still feel disadvantaged in comparison with personnel in the Opérations) and difficulties in obtaining a means of transportation (for example, a mobylette) which they consider indispensable.

Although there may indeed be some rotten apples in the barrel who derive pleasure from exercising power over students and subordinates, and other teachers content to eke out their lives, we were favorably impressed by most of those whom we encountered. Their general level of knowledge, their ideas, and their critical faculties appear to be a good omen for restructuring the teaching program in the CAA's.

Teaching Loads

Teaching loads vary considerably from one person to another. They range from 6 to 18 hours of classroom teaching per week, in addition to administrative responsibilities for some. The number of hours devoted to practicum teaching also varies tremendously. Only one teacher found the load too heavy. This was a man who had to cover all classes, TP, and supervision of production in his specialty. In 1979-80, however, he will be relieved by a newly-arrived colleague.

Otherwise, no one complained of the work load. On the contrary several people mentioned "the plethora of staff" as a drawback. Some were of the opinion that:

--the productivity of work could be improved by increasing the teaching load.

Sociological research findings are in agreement on this point. It has been found that, in several organizational settings studied, the under-work of staff lowers the productivity of all.

At the same time, classes must be divided into small groups for laboratory exercises, especially since the number of students will be increased. In addition, if the recommendations pertaining to active teaching methods are followed, teachers will have to spend more time preparing lessons and reading for their own further training.

It might be wise for all staff to contribute as teachers to the training program. Can the Centers really afford the luxury of supporting a non-teaching administrative staff? This may be more a problem of orientation and organization, but its resolution could contribute to the development of group spirit which is lacking at present in the CAA's.

III. The Curriculum

The curriculum was designed by the ILO team and has served ever since with some minor modifications. It is divided into three types of subject matter: basic courses relating to agriculture, general studies, and practical work or travaux pratiques (T.P.). Overall supervision of subjects, course content, and the number of hours allotted to each is ensured by the Division Headquarters in Bamako.

At the CAA's, a weekly meeting takes place each Saturday morning, presided over by the Deputy Director of the Center. This meeting consigns to the minutes the class schedule actually followed over the past week and draws up a schedule of classes for the coming week. While the meeting's main purpose is to check on the progress of courses, other problems may also be discussed. For example, when teachers were drawing up detailed lesson plans for their courses, they shared these with their colleagues and received feedback on the themes they had chosen for emphasis.

The weekly meeting offers a vehicle for on-going problem-solving in the areas of pedagogy and other matters. It would be advisable for scheduled, regular monthly visits, or bi-weekly, by supervisory personnel from Bamako to coincide with staff meetings. His presence would facilitate two-way communication with respect to matters of general concern.

A. Basic Subjects

The basic subjects constitute the core of the curriculum. They are divided into three principal branches: agriculture, animal production, and agricultural economics-extension. According to the schedule, students take agriculture for 10 hours a week in their first

year (general ag. and botany); 4 hours of animal production, and 2 hours of economics. In their second year, they take 10 hours of agriculture (special crops and crop protection); 4 hours of animal production, and 3 hours of extension. The actual schedule is sometimes quite different from this schedule, but an attempt is made to complete the required number of hours in each subject each year.

In general, the subjects are considered to be appropriate to the training of extension workers. However, all teachers agree that the course content is too abstract and unrelated to practical applications:

--My subject is botany. It's quite abstract, and we haven't got teaching materials. So, it doesn't seem useful to the moniteur.

--The same thing is true in animal production, except that I also teach in the barn so I can show them: as I said in class...

--The Extension class should put pupils in direct contact with peasants in the neighborhood of the Center.

One Center is established in a zone where extension activity is on-going. In the two other Centers, teachers complain that "there are no peasants around here". One Center is surrounded by orchards belonging to urban dwellers, worked by hired labor imported from Bamako. This situation makes it difficult for students to enter into direct contact with peasant farms, but a solution must be found so that contact can be established in the first year of training and continued thereafter.

Professors resent it when their class hours are upset due to the demands of Travaux Pratiques, which are usually held in the morning:

--When students return from the fields, they're tired. It's difficult to hold their attention.

--The afternoon is worse yet. Especially when it's hot, the pupils fall asleep.

In the rainy season, the schedule is often revised in order to permit the students to work in the fields after the rain stops. But, it is impossible to hear the teacher speak under a metal roof in the driving rain, and the students may leave class. It is sometimes difficult to finish all the courses and subjects which are at the end of the course do not get taught.

(Pedagogy and teaching materials will be discussed in another section.)

B. General Studies

The curriculum includes a variety of general subjects, each taught for one hour per week each year. French is divided into spelling, composition, and reading. Mathematics includes algebra and geometry. Physics and chemistry are the sciences studied. These courses seem to be fairly scattered and especially unrelated to agriculture. When a shortage of class time occurs, reading seems to be dropped, and this is the subject most directly related to agriculture, and the teaching of positive attitudes. The number of hours devoted to general studies seems to vary between three and five hours per week.

The teachers note a general need for books in these areas of study and particularly for library books for the students, both to enhance their general knowledge and to foster the habit of reading for pleasure, essential to their continuing education. The two teachers of general subjects whom we met in the Centers had only recently been assigned there and were unable to offer detailed critiques of

course content. One of these teachers asked his Deputy Director for advice in integrating agriculture into his teaching of general subjects, and this would seem to us to be desirable.

C. Travaux Pratiques

Farm work is scheduled from seven to ten o'clock each morning except Sunday. The students are divided into three groups, each of which goes to crop production, animal husbandry, and the workshop, in turn. The three hours allocated to work in the school farm are not actual hours worked, since students must get to the fields, return, and wash up before going to their ten o'clock classes. Farm work is supervised by moniteurs who were themselves trained at the CAA.

People responsible for farm production told us that the schedule allocates insufficient time to farm work. In addition, it seems that students show little taste for manual labor and show little enthusiasm, especially in the fields, where much of the work consists of hoeing by hand. This general statement is particularly true of students who come from the cities:

--City folk don't do well at TP. They aren't used to the work.

--The city fellow goes to the field grudgingly. He goes only because he's got to and looks for all kinds of pretexts to get excused.

--The students are quite afraid of the animals since they're not used to them. After two years, they finally begin to learn to train the oxen. (This applies especially to students of urban origin.)

--The pupils drag their feet and we see lots of malingerers who try to get excused from TP.

Due to their negative experiences with students who come from the cities, the staff question these students' motivation and their ability to become good moniteurs in their work in the villages.

The teachers' major criticism of the TP is that they are poorly related to classroom teaching; this is so even when the teachers go to the work site themselves to lend a hand to the moniteurs. Those who teach the practical work were trained as teachers by the ILO team. Actually, in only one Center do the classroom teachers go to the fields regularly, and although most say they are prepared to go, several seem to find themselves "prevented" from going rather frequently.

In order to better relate practical work in agriculture to classroom teaching so that students can more profitably assimilate the lessons, lessons must follow the Malian agricultural calendar. This is not the case at present. The curriculum reform must resolve the problem of how to relate classroom to field teaching and what aspects would be best taught in the field. For example, one professor suggested that part of the Agricultural Specialties course, topography and agricultural mechanics could benefit from field teaching. The field experience must serve as a learning laboratory for the classrooms.

In all of the Centers, we were told that the school farms are lacking in the equipment found among the more advanced peasant farms:

--We are working with the hoe while the peasants use ox-drawn machinery (at Samé, the extreme case).

--We lack oxen; this year was wasted...

In another Center, we saw agricultural machines driven by hired workers, and everywhere heaps of rusted metal indicated that formerly mechanical cultivation had been practiced. If the farm is really to serve as an educational experience, the students must work with equipment

that is adapted to the possibilities of the small peasant holding. This equipment must be robust and easily repaired, and students should learn to repair it and even to make as many pieces as possible. At present, this is not the case in all the Centers.

Heavy farm equipment unsuitable for Malian agriculture at the present time constitutes a myth for most of the students and some professors, to the neglect of local adaptations discovered by generations of African cultivators, thus assuring the survival of their peoples and the flourishing of historic cultures. A spirit of dependency is created out of the myth of the big machines. The students arrive with this mythology and disdain manual labor. The Travaux Pratiques should try to alter this spirit which is counter-indicated for agricultural extension agents who must teach peasants to apply intermediate technology.

In each of the Centers the teachers recognize the value of guided visits to peasant farms. The obstacles to such trips are numerous: transportation; time; availability of village cultivators. Given the importance of these visits as a learning experience, however, ways must be found to institute them. If trips are taken in small groups, the means of transportation available at the CAA's would suffice. In this way, the students will be able to enter in contact with the reality of Malian agriculture.

If the objective of the school farm is to contribute to the training of <u>moniteurs</u> by affording practice with the crops and techniques that they will be teaching to the peasants, then students should cultivate their own plots and use the products as the pea-

sants would. Thus, part of the harvest should be allocated to the students' own tables. Since the students are demanding better food, this would do double duty and perhaps help to instill motivation, which is now lacking.

It appears that the staff of the CAA's do not cultivate their own plots either. Furthermore, their wives also are said to find gardening repugnant. This nonverbal lesson could scarcely go unnoticed by the students. As long as agricultural work remains something for others, for inferiors such as workers or students, to do, the extension agents will learn to give orders to the peasants while keeping their hands in their pockets. Attitudes are learned by observation of superiors' behavior rather than from preachments. All the staff, including those who do not teach, should serve as role models for the students.

D. Fieldwork Placement for Third-Year Students

In their third year of training, all students are placed in fieldwork situations for six months. They may go to the Operations, such as the Office du Niger or the CMDT, to a research station, or to some other specialized service. The objective of fieldwork is to familiarize students with the types of situations they will meet upon completion of their training. Most of the students will actually be hired by the organization that accepts them for their third year fieldwork.

At the end of fieldwork, each student presents a report to the CAA as a sort of senior term paper. At the end of the year, the students take a qualifying examination, and if they pass are rewarded with a Certificate of Professional Aptitude in Agriculture (CAP-A).

Fieldwork placements vary in quality, but according to the teachers, a general problem exists:

--We can't follow-up the students in their fieldwork. It would require travelling and that would cost money...

--We decided to send out a questionnaire to the extension agents in the field regarding the work of each student. Only a few people sent them back, so we decided to let it drop.

--The students are left to the Operations. It would be better to go and see for ourselves the relationship between our training and their needs.

The CAA staff point to a lack of communication between themselves and the Operations. Word has come back to the teachers that:

--They say that our training is not what's needed by the Operations.

--We don't meet in a seminar with the directors of the Operations. The ILO convened one, but they didn't come.

--Sometimes they have seminars, but we're not invited; only the Department.

--We'll never know what's needed if they don't speak their criticism outloud.

What gave rise to this evident lack of communication? People suggest that perhaps it is due to the Operations' wish to run their own training centers. Many of their staff are former CAA teachers. They receive a number of benefits not enjoyed by the CAA staff, such as travel and per diem. If they succeed in starting up training centers, they would take on still greater importance. So the reasoning goes. So there are in effect, problems, whatever their underlying causes. In any event, the teachers suggest that:

--The same questions should be asked of the users: How do they view the moniteurs' training?

--You should visit the third-year pupils during their fieldwork and judge for yourselves if it is worthwhile and if they are sufficiently prepared for it.

The fourth stage of this research will study the fieldwork placements in various organizations.

IV. The Students As Seen By Their Teachers

A. The Students' Motivation

Teachers view the students' motivation as the single most important factor in the success or failure of their training. They are fairly unanimous in agreeing that the students' level of academic preparation is sufficient, although a few said that this level has been diminishing over the past few years despite the rise in the number of years of schooling. None are of the opinion that students from rural backgrounds are less prepared than those from the cities.

On the contrary, in addition to their knowledge acquired in school, rural students have the advantage of familiarity with and positive attitudes toward farming. The teachers find that those from the rural areas are better students because of their experience. They agree that:

--the sons of peasants are used to the work; they have more taste for it and are more willing to do farm work.

While studies done by the Tuskegee team show that two-thirds of the second-year class, as well as the same proportion moniteurs in the 1978 sample come from rural areas, the teachers seem to believe that the majority of the present student body is of urban origin and

--do not want to work on the farm. To them, becoming a moniteur means becoming a bureaucrat, working in an office.

The present recruiting system, they say, leads students who do not have the calling to apply to the CAAs. Furthermore, these students do not develop this calling during their training.

> --Too many of them come here with no taste for the profession. The majority simply are seeking a civil service job.

Only one person interviewed mentioned that the Centers might influence the students' motivation, and this, through consciousness-raising.

> --You must study the first-year students in order to discover their reasons for coming here...and thus know what level of sensitivity needs to be given to them.

The conclusions of the majority of the staff agree with the findings of the study of moniteurs working in the Opérations, to the effect that it would be preferable to select CAA students from among candidates from the rural areas where 85 percent of Mali's people live. Research in the sociology of education shows that students who enter professional training without already having acquired the requisite motivation and attitudes, very rarely develop these values while in school. On the contrary, when a large section of the school's population adheres to norms other than the ones considered desirable for the profession, they tend to impose their own norms on the group, despite their formal learning. This may possibly be the case in the CAAs.

However, if it is impossible to recruit students with the highest chances of having the kinds of aptitude and experience needed to become good moniteurs, then an attempt must be made to structure the learning situation in order to build in the highest possible likelihood of developing the necessary attitudes in

school. Nevertheless, it would be preferable to insert questions which reveal the special attitudes and aptitudes necessary to become good agricultural extension workers among peasants into the entrance examination.

B. Training Women Extension Workers

The CAAs are destined to train young women, as well as men, as agricultural extension workers. How receptive are the staff who will be teaching them? A resumé of the heated discussions raised by questions on this subject can serve as a guide to preparing for the arrival of women students. First, it shows that the staff do not perceive the utility of training monitrices to work in agricultural extension:

> --Sure, they can do lab work, but not extension work; it's too hard. Go from village to village in the countryside trying to convince the peasants? No! They're going to shed alot of tears.

This notion of women as the weaker sex is accompanied by a stereotypic view of sex-typed roles and professions that are suited to women. A teacher of agriculture who said he was favorably inclined toward training women as extension agents said:

> --There are girl students at Katibougou, particularly in stock raising. That's closer to health. It's good for a woman; it's less difficult.

In any event, the teachers know that "the (Mali) government has decided to admit girls to the CAAs". Not all of them agree with the policy, but they say that since it has been decided, they accept the decision.

> --It's because of concern for the equality of women.
>
> --The Association of Malian Women wants it.
>
> --They will be here, so we'll train them.

During the discussions, some persons looked for a few positive aspects to the policy of training monitrices:

> --It could succeed if they work with women, if they concern themselves with the household work, if they teach cloth dyeing and sanitary matters.

Other people disputed this, pointing out that it would be wasteful to train agricultural monitrices since

> --This sort of thing is the job of community development workers. There's already the CNDC for that. It's not a job for the moniteurs whom we train.

Some discussion groups contained an advocate of integrated rural development. For example:

> --You can't ask the peasants simply to work harder to produce more if they themselves don't find any difference in their lives. You can't leave the women on the sidelines.

Don't the women of Mali work in agriculture? In one Center, this question was raised by the discussants, in two Centers by the researcher. Replies were divided:

> --Yes, she does. To the extent that she works with her husband, it's alright. But if each person goes off on his own, that's no good.

This normative response expresses a desire for male dominance rather than taking account of the realities of women's economic activities. But most of those who recognize that womens' activities are sometimes independent attribute little significance to their work:

> --The woman doesn't have fields!
>
> --Oh, yes she does. But it's (just) okra. Okra isn't profitable nowadays.
>
> --Will a woman make a field of rice or maize?
>
> --Hereabouts she does, but on small plots.

--She would if she had the wherewithall...

--Ah, but that's just it; she doesn't.

--You don't often see a woman with a field of sorghum or millet or maize. Women cultivate mainly things to make sauces: pea nuts, okra, peppers, etc.

--Of course men don't do all the work. If you look closely in the field, you'll see that women do more work than men.

What do Malian women do in the fields?

--The woman works under the supervision of her husband. She leads the oxen; she sows, she harvests. In cotton-growing, especially, the woman does everything after the plowing.

--In peanut-shelling, the man flails and the woman winnows. But, it's always the husband who decides.

--Yes, it's always the husband who tells his wife what to do. She works under his direction.

--The man directs everything.

Thus, it seems that most of the staff are unaware that Malian womens' roles in agricultural production and stock raising vary according to their ethnic groups, their family, and other circumstances. The teachers tend to reduce this variability to a single model. Unfortunately, this across-the-board generalization hides the reality and (serves to justify, acts as justification for) inflexible behavior which is not appropriate everywhere.

A few times, an opposing voice was raised, and a lively discussion ensued, as for example in this Center, where opinions were sharply divided:

--In the Gao Region (7th), the women raise livestock on their own account, as well as for their families.

--I have a hard time imagining women accepting new crops. That's very hard for women!

--Sure, but that's just it. That's why monitrices are needed; to work with the women.

--Yes, if you want to teach women, then it's better to have a

girl to do it, because the man won't have a moniteur coming near his wife.

--The monitrice must teach women. A man can't. The husband doesn't want him around his wife when he's not there.

--But what's that girl going to teach?

--In the second year, the monitrice students are going to specialize in gardening and truck-farming.

--I just don't quite see the role of the monitrice...dyeing, child care, health, all that is the role of the CMDC. No, they'll just work in project design, that's all.

--They'll be kept in the city, at headquarters.

--For the moment, they don't know what to do with the girls graduating from Matibougou.

--Yes they do. They will be coordinators between the headquarters and the Operations. They're bureaucrats.

--They work in the Veterinary Laboratory. They can do everything there; vaccinate, inseminate, everything.

Discussions regarding the role of women in agriculture touch upon problems central to the choice of a development strategy.

--Women are very active in agriculture, but their work isn't profitable.

--Yes, that's why we need to train monitrices.

--The objective is to raise the peasants' standard of living.

--When you increase agricultural production you automatically raise the peasants' standard of living.

--Really? That's a lovely theory, but do you really think that's what happens?

--Not necessarily. And still less the woman's standard of living. She may have more work to do.

In each Center, the majority of the staff remains unconvinced, either of the usefulness of training agricultural monitrices or of teaching Malian peasant women new crops and agricultural techniques. Thus, it will be necessary to prepare for the arrival of women students.

CAA staff must be educated about the roles the women of Mali do and might play in agricultural production and in the country's development. Pamphlets on the subject should be prepared; the ILO manuals have entirely neglected this entire area. Such information should be integrated into all subjects and illustrations should show visual images of Malian women at work.

At the same time, more than just information is needed; by itself, information is not likely to penetrate the emotional screen formed by prejudices. The subject of womens' roles should also be integrated into the training seminars, both for the Directors and for other members of the CAA staff. Without this advance consciousness-raising, the training of women as agricultural extension agents will run the risk of falling far short of its declared aims and expected results.

C. Profile of the Desirable Qualities of Agricultural Monitors

We did not inquire directly of the CAA staffs their opinion of the qualities a good agricultural extension agent should possess. Several persons volunteered their opinions on this subject:

--The moniteur should know the techniques he tries to teach the peasants.

--The moniteur shouldn't just direct the work; he should work side-by-side with the farmers. We see too much of that (directing) here.

--He should have a bent for agricultural work.

--The monitrice should not get up on her high heels.

--The moniteur has to know how to behave in the villages in order to be accepted.

These comments point to the fact that desirable qualities are a combination of technical and social skills. The role of the monitor is complex; the means at his disposal are limited. He or she will face

many difficult and unforeseen situations.

Some people view the moniteur as a mere instrument produced by the CAAs to carry out tasks assigned by the Operations. Others take a different view of the moniteur, who, if he mechanically diffuses the technical packages designed by the Operations, will be a poor extension agent. According to these informants, the moniteur's role should be to help the farmers to solve their production problems using the Operations' technical advice and his own training. At the same time, the CAA staff say that they do not know what sort of training the Operations want from them.

The extension worker's socialization into the behavioral norms of his profession takes place first at school and then through his experience on the job. This problem has already been discussed briefly in the section on Travaux Pratiques. When the school instills attitudes and values which cannot be acted upon in the real world of work, the new staff member often experiences a certain degree of alienation. Most people, however, soon learn to act according to the behavioral expectations of the organization that employs them.

The moniteur is responsible to his superiors up-the-line for increasing agricultural production, and this fact carries with it a number of regularly recurring and predictable consequences. In a number of countries where the peasants do not find it to be in their best interests to produce for a market whose terms of trade are markedly unfavorable, the extension workers are viewed much like tax collectors or policemen.

There are a number of ways in which a social system can be subverted to the needs of individuals operating within it--ways that are engendered by the system itself. For example, extension agents who cannot attain production levels high enough to satisfy their superiors have a tendency to inflate the statistics they report. Their chiefs, in turn, will do likewise to obtain promotions, and the system is brought to a standstill while the individual actors survive.

In a country where the moniteurs actually must deliver products to a state marketing board, they do not have this option. So naturally, they turn to the farmers most able to produce high crop yields in the shortest possible time. These are the better-off peasants with access to good land, with animals, and access to labor. They are the ones most likely to receive the inputs which the moniteur has at his disposal.

The extension worker finds that it is in his own interest to work with these peasants for a number of reasons. First of all, because their production will show that he has worked well. But also because the "big man" of the village can make his life easier in othe ways: he can offer food and lodgings; he can lend tools and labor. When social and economic factors reinforce one another, the moniteur is "naturally" more sensitively attuned to the needs of influential persons. This sometimes works to the detriment of the majority of farmers who thus remain marginal and fail to improve their productivity. Therefore, if a nation's development policy aims to reach this majority, this situation must be restructured.

This question was posed during the discussions at the CAAs. There was a tendency to dismiss it: since there are no large land-

owners in Mali, the problem does not arise. Then there was recognition that the model peasants (paysans pilotes), who were considered necessary to stimulate increased production in earlier years, could be viewed in this light. Staff agreed that the moniteurs are supposed to work with all peasants, and dropped the subject. By what means could this be insured? We found no answer to this question.

V. Teaching Methods and Materials

Nearly all the teachers pointed to a gap between theory and practice in current teaching at the CAAs. Actually, this is not a dichotomy between practice and theory properly so-called, since the classroom teaching is not organized around theoretical problems as such; nor does work in fields, barn, or shop teach much practical problem-solving. Classes seem rather to consist of lectures on abstract topics supplemented by the teacher calling upon students to answer questions to see if they can repeat what was said. The facts presented seldom seem to be united by a unifying problem-orientation, and this constitutes a major weakness. Furthermore, field demonstrations are only very remotely related to classroom teaching.

In order to discover the reasons for this situation, we asked teachers about their knowledge of teaching methods and studied some of the lesson plans that they had prepared. While some teachers are more skilled than others and while different levels of training exist, most agree that training has been insufficient. They would like more training:

> --We emerge as young technicians just hatched; we're thrown -plop- into teaching; sink or swim. We need more training in how to teach, but we also need further technical training to keep up with new developments.

--There are things that peasants use regularly but that the pupils and even we teachers don't know about.

--Especially in this region, the peasants are quite far along. They use the combined cultivator and even tractors. Extension is way ahead of us.

--We're way behind the extension services. We sow with the hoe while they use a planter, and (some) students have seen it at home.

--Some peasants are ahead of the extension service; they've reduced the holes in their planters in order to sow cotton mechanically.

--We teachers lack experience over the whole of Mali. There are crops (we teach) that even the teacher hasn't seen...sugar cane, for example, and oil-seed plants like sesame.

--These fellows took teacher training courses during their schooling, but I never had any, and I feel the lack.

--But you know we didn't get much out of those classes...

This brief discussion shows that teachers recognize the need for training in both areas. They link technical knowledge, pedagogical skills, and teaching materials into a whole. They view them as interpenetrating fields, all of which are impoverished by being separated.

The teachers seem to feel ill-at-ease at having to learn from their students or from the peasants, and one should be sensitive to their feelings. Still, there is pedagogical value in learning from one's students, and the training seminar should emphasize the validity of this process.

Basic training in teaching methods appears to stem from the ILO manuals, and those who participated in the original course evaluated it positively. They particularly mentioned the practice lessons they prepared and the criticism of the experts who observed their performance. It should be noted that the textbook on teaching prepared by the ILO team recommends active teaching methods, and states that these

require considerable effort on the part of teachers in preparation of lessons. However, the text does not offer examples of lesson plans, and thus the teacher is given no more than a list of definitions. Once learnt, he still must confront the empty page of his lesson plan.

CAA teachers who have become conversant with active teaching methods know that they must involve students in real-life experiences, interesting for their own sake, and that from such situations problems emerge. Problems then stimulate thinking which leads to problem-solving attempts, and these must then be tested by practical application. There is already a degree of awareness among the teachers which makes them favorably inclined toward training in the use of active methods in order to improve their teaching skills. At present, they do not know how to apply such methods, which is understandable since they have not been trained to do this.

The textbooks prepared by the ILO in all subjects remain the main, if not the only, text available to the teachers from which to prepare their classes. The teachers find them somewhat helpful and try to supplement them, but many gaps remain. Here is what they say:

--Before the ILO (arrived), there was no uniformity in the courses. The ILO's work made it possible to coordinate the program in the Centers. (Director)

--The texts are the background canvas for making up the courses. But the instructor needs additional, more up-to-date documentation. (Associate Director)

--The ILO courses are out-of-date now. I add the notes I have from courses I took and a few books that I have been able to buy. (Animal Production)

--These texts provide no directions on how to relate theory to practice. We have to do that on our own, and we're not sufficiently equipped to do so. (General Agriculture)

-The course is long since out-of-date. All the organizations have changed. And I have to close the book in order to talk to the pupils about farms in Mali, since the ILO text has nothing on this. (Rural Economy)

-In the Rural Workshop course, I add a unit on electrical starters (from a book purchased during a training period spent abroad). Everyone wants to know how to fix a mobylette, and so I grab them by their self-interest.

This teacher uses his own mobylette for demonstrations. In fact, several teachers have tried to fill the gaps with collections they have made themselves or with the students. One brought out a series of bottles containing a collection of worms that attack cotton plants in Mali. He had put it together with the help of a scientist at the research station which shares the grounds with the CAA. Another showed bottles containing chemical fertilizers and seeds of plants studied in class but not available on the farm. He also had some dried plants taped onto sheets of paper and labled with their Latin names. These and a box with pinned insects were collected by the students. A teacher of topography displayed the neat contour map he had drawn of a nearby village on tracing paper, carefully hoarded since the days of the ILO team. In addition, several teachers also brought their own books to show.

These efforts of the teachers to flesh out the teaching materials need to be supported through an exchange of ideas and provision of new materials. They desire and should benefit from further training in all areas, the first step being the training seminars. In the course of these seminars, the teachers should learn by themselves designing their future teaching program, its principles, its processes, and its materials.

The present program shows a tremendous gulf between the technical approach provided by the ILO texts and the level of the students'

learning abilities and needs. The course is a compendium, and a great deal of pedagogical effort would be required in order to render the information accessible to CAA students. This work is left to the teachers, who manage as best as they can, but they are insufficiently trained. While some have been able to devise imaginative lessons, most flounder. This criticism is not intended to reflect negatively upon the teachers but simply to point out the work that still needs to be done.

In general, teachers now relay a version of the technical training they once got instead of a program specially adapted to training extension agents. The goal is to train moniteurs capable of teaching peasants to adopt innovations proposed by the Operations rather than to train technicians. Thus, the new course texts must teach agriculture, stock raising, economics, and sociology in relation to extension. This goal must be maintained regardless of whether the students are capable of more abstract studies in agricultural sciences and technology. The entire program must be redirected toward this vocational objective.

The courses in the new program must constitute an inter-related whole in which lectures are always supported by demonstrations, leading the students to reflection and which underscore the theoretical principles. The practicals must always serve as exercises performed toward the end of grasping the principles embodied in problems set up for solution. In this manner, the program's vocational focus will be emphasized, since learning will be predominantly active and directed toward the solution of problems which the moniteurs will be called upon to solve once they are on the job in the field.

The problems or study units will be designed to ensure sequential learning of progressively more difficult concepts, moving on once the concepts of the previous unit have been grasped. Each of the learning blocks should include a well-conceived statement of problem and working hypotheses of solutions to test. Problems should be derived from real problems existing in agriculture or stock-raising in Mali. Beginning with the problem, students should explore together the possible solutions, setting forth the reasons for each one proposed. They must be able to carry on experiments which help in the choice of solutions by allowing them to compare the results. Finally, they should arrive at the discovery of a technique appropriate for solving the specific problem with which they began.

The problem units, arranged according to the agricultural calendar of Mali, should constitute a workbook, and the students' notes from fields, stable, and workshops, should be included. The students will be able to take these workbooks with them and use them to refer to once out in the field. The last section of this report contains detailed recommendations with respect to the teaching program.

The Process of Curriculum Revision

A number of teachers said they wish to take part in working seminars where they would have an opportunity to put forward their problems and, together with experts, work out possible solutions. They point to the need for flexibility in putting the new program into effect, adapting it to the specific needs of each Center. They are aware of the dangers of sweeping hastily instituted and inadequately tested reforms. They are wary of:

--the experts who often want to change everything without knowing in detail what already exists and what has already been attempted.

Here are a few more of their comments:

--The Division worries about the program's uniformity, and that's understandable. But without going to the extreme of anarchy, we must not lose all flexibility.

--We need to be able to make experiments in one Center without having to call for a major curriculum reform each time.

--In the present system, we can't try anything without trying it everywhere, and if the attempt fails then we have to go back again to the old system.

--Lack of flexibility is frustrating for teachers...you lose your sense of initiative. That can lead to stagnation and even to sliding downhill.

At the same time that the teachers are open to the idea of restructuring the curriculum, then, they are somewhat afraid that it will be at their expense; as one said:

--We mustn't be made into guinea pigs.

Perhaps this is the spirit in which the following comments should be taken, but as we shall see later, there is still more involved:

--The design of the Center, and particularly the curriculum design, should have begun with input from the teachers themselves instead of being worked out by experts foreign to the problems and conditions which we live with.

--In the days of the ILO term, there were Malians involved in the work of the foreign experts. It was good, but it wasn't good enough. Now we have more trained people. Once the experts have gone, the training work should still go on.

--We have to be taught curriculum evaluation ourselves by involving us in the design.

--Your visit is fine, but it would be better still if the expert entrusted with the task of restructuring the curriculum could spend an entire school year with us in order to understand our problems.

--That's right, a whole year would be required, because there's a time-gap between the theory taught in the classroom and the TP's which must follow the agricultural calendar.

--A knowledge of the regional agricultural calendar is essential in order to coordinate various phases of the teaching.

These comments underscore once again the interest of the teachers in curriculum reform. Several staff members suggested that construction of the new facilities should be completed before beginning to teach by the new program. This would enable the latter to benefit from enthusiasm expected to be generated by the material improvements.

Some teachers are aware of the usefulness of bringing students in on the design of lessons and preparation of teaching materials. This procedure should be taught during the training seminars, since it can only be learned in the process of doing it one's self as a member of a group. Thus, the workshop or training seminars must make a break with traditional teaching so that the teachers can whole heartedly adopt the new methods. They should become convinced of their usefulness out of their own positive personal experiences. They must come away from the workshop with a sense of having acquired the method and tools which will allow them to work well. This mastery is essential to their applying the new program.

All too often, apparently well-designed curriculum reforms fail because the teachers who are responsible for putting them into effect were not sufficiently sensitized beforehand to the need for reform and were not given an opportunity to become sufficiently experienced in the methods of applying the new strategy. In the case of the CAAs, this sensitizing is already partly accomplished, since the teachers have developed their own critique of the problems. The next step is for them to participate in finding solutions and to experience the validity of the methods. The process of curriculum development and course tests will be a key element in the program's success, particularly its success over the long haul.

It would be desirable to reinforce the [illegible]us nature of the work of revising the program by awarding a diploma to the teachers (and the directors). The diploma should mention the grade received by each workshop member, such as good, very good, or excellent.

VI. The Social Structure of the CAAs and Its Impact Upon Training

Aspects of the social structure of the CAAs have been touched upon throughout the earlier sections of this report. These elements influence the quality of the teaching program. Interviews with teachers and administrators reveal some more elements which they recognize as crucial, and this section will attempt to place them in a sociological perspective.

The CAAs are boarding schools, and as such, fall into a category of organizations that sociologists designate as "total institutions". In total institutions, the entire daily lives of both staff and students, and not simply their work-day, are spent in constant contact as members of a small community. Such communities develop norms of behavior, attitudes, and values of their own, although they are drawn from those of the larger national society.

Alongside the objectives and functions which the society calls upon the institution to fulfill, other norms develop out of individual goals and interests, and these supplement or compete with official norms. When conflicts of interest and hostile competition develop between subgroups and individuals, the undeclared, unofficial goals may take the upper hand. Behavioral norms different from norms officially considered desirable develop at the fringes. Eventually, they come to dominate and subvert the officially designated purposes of the institution.

Thus, while shared understanding between staff members is important to ensure the working of any organization, in a total institution, this becomes absolutely crucial. In the CAAs, as a number of our informants observed, misunderstanding gives rise to discouragement, low morale, and disengagement from role performance on the part of teachers. Furthermore, staff conflicts tend to have repercussions upon the students, since the latter are in constant contact with the staff who direct most of their lives. Thus, changes in social structure which can serve to minimize conflict and encourage all participants to work toward making the Centers work are desirable.

What are the chief complaints of the teachers, and what solutions do they propose to reduce the difficulties? They vary according to the place of each person within the social system. In general, those who have held administrative positions would like to see the authority of that position reinforced. They recommend that the division delegate more power downward and centralize then at whatever level they happen to be. For example, a Director challenged the usefulness of what he described as "bicephalous leadership", since he was obliged to accept decisions made by the Deputy Director also appointed by the Division. He would have preferred to appoint his own assistant, who would then be answerable to him and over whom he could exercise more control. On the other hand, teachers who had served as section heads, thought that their appointments should have come from the Division rather than from the Director in order to reinforce <u>their</u> authority. They were of the opinion that:

--It is difficult to wield authority over former classmates. We all studied at the same school...

--Competition is extremely strong between ourselves.

Appointments do not always appear to take account of leaders who emerge from the teachers groups themselves. When a colleague is chosen to exercise supervisory responsibilities, naturally the mates do not easily understand the selection criteria operating. The criteria are unclear to them. People whisper that he owes his appointment to personal relations or other extra-professional factors. In a larger organization, the management might send him elsewhere to exercise authority over people he does not know so intimately. Since this is impossible in the CAAs, other solutions must be found.

While administrators call for their powers and the scope of their activities to be reinforced, they wish to see other decisions which affect them decentralized. At present, many directives emanate from above, and the administrators would prefer to be associated in making these decisions. At the same time, each person spoke only of his own level. We also saw a middle-ranking staff member turn upon a teacher who asked him to explain a change that he had made in the teachers' program.

The Utopia envisioned by administrators is quite different from that of people who do nothing but teach. The latter would prefer that decision-making responsibilities be decentralized to the extent of including themselves and students in decisions that concern them. They would like to participate in formulating plans, managing the Centers, and designating budgetary priorities.

Money apparently is a key element in the conflicts. One hears both accusations and suggestions for conflict-resolution:

--I wanted to build a.... here for the students. The Director said there was no money available. Does anyone know what he does with the money he gets?

--They put procurement agents (economes) in the Centers to check on the director. And now who checks on the procurement agents?

--The receipts from farm produce are a mystery;..

--There are all sorts of suspicions; all sorts of irregularities. Why not have an executive committee to supervise the budget?

It would be too easy to designate a few "bad eggs" as the cause of the conflict. There are undoubtedly some difficult people in any organization, and while moving them around can bring a temporary calm, often this only recycles the problems. As persons foreign to the system, it is not our place to offer remedial prescriptions. We can only point toward the process of conflict resolution, which must be the business of all interested parties. In order to carry it out, it is necessary to establish lines of communication between the Division and all personnel--staff and students--in the Centers. A way must be found to institute genuine and regular recurring exchange of viewpoints.

Within each Center, as well, these exchanges should take place with accent on informal exchange outside of scheduled class time. We did not have an opportunity to observe interaction between teachers and students, and we can only convey our impressions drawn from general conversation. Some professors seemed to be more accessible to students than others. Informal teacher-student contact may possibly be discouraged at some Centers, and teachers do not have offices where students can consult them. Students might come to their homes, but...

--If students come to my home, they say that I am stirring up the students...

--Students can come to my house, but generally they don't... they prefer to ask questions before I begin the class.

Teachers' accessibility can influence the students' enthusiasm for their studies, as well as the degree to which teachers become role models for them. In an atmosphere of relaxed cooperation, many more activities can be developed to supplement the curriculum. Already, students put on their own plays. In addition, there could be discus-

sion groups, debates, and informal chats organized around many topics of special interest.

VII. Recommendations

Research among the CAA teachers aims to produce an analysis of the teaching program now in operation, to discover its strengths and weaknesses and to offer recommendations for restructuring the curriculum. The objective of this work is to improve the training of agricultural extension workers in Mali. The principal strengths encountered are found to reside in the teachers themselves. Their prior training, their experience, their professionalism, and desire to continue their education constitute the basis for program revision. ost of the recommendations that follow are based upon the teachers' suggestions.

A. Orientation

1. The CAA's mission is to train extension agents. Hence, the curriculum should be oriented toward extension work, starting with agricultural systems now extant in Mali. The present curriculum is too abstract.

2. Students must develop realistic expectations of situations they will encounter in the field. They need to learn about real problems, to evaluate real situations, and to propose solutions able to increase agricultural production among village cultivators. Extension work should be an integral part of all courses.

3. Class work must follow the agricultural calendar of Mali's regions in order to be related to field work. Fields must become a laboratory to test classroom learning. Coordination should help students assimilate concepts and develop an interest in manual labor on the farm and in the workshop.

4. Students should visit peasant villages to learn about the problems of small cultivators and discuss solutions with them. They should observe and grasp the concept of production systems.

5. Courses should be structured into units which act as building blocks in a structure of increasing complexity. This progressively more difficult acquisition of concepts should be combined with students' own initiatives in preparing teaching materials.

B. The Practicum

1. All travaux pratiques should be linked to classroom lessons so that they serve as a field laboratory in which problems are discovered and solutions tested. The practicum should be planned with specific teaching goals and procedures to follow. The results must be recorded.

2. Each group of students should record experiments in a journal. All students should learn to observe, note, and summarize the results.

3. The travaux pratiques should emphasize agrarian systems currently in existence in the villages, where crops, livestock, and craft production are interrelated.

4. Students should attempt to carry out the innovations recommended by the Opérations in order to observe their effects.

5. A model farm, closely patterned on a peasant holding typical of the area should be organized at each Center.

6. Systematic evaluation of the students' work should be made with them so that they, in turn, can learn to evaluate work performance.

C. Rural Economy

The rural economy course should teach techniques used in the study of agricultural practices. Extension agents should understand what is done before introducing change. Agents should study the consequences of change. Moniteurs should learn how to obtain answers to such questions as:

--What crops are planted and in what combinations?

--How much of each crop is planted on each unit?

--How much time is allotted to each crop?

--Who does what tasks and how long do they take?

--How much additional labor is available?

--What are the labor bottlenecks?

--How profitable is each crop and how do the peasants calculate value?

--What are the major problems as seen by the farmers?

--What are the major problems as seen by the moniteur?

--What is the social structure of the community?

--How does the social structure affect agricultural production?

--What is the nature of relations between the peasants and the world beyond the village?

And so on.

1. The course should teach how to collect and organize numerical data necessary for statistical analysis. The students should learn how to keep a journal in preparation for their work in the field. They should also learn elementary bookkeeping.

2. The course should teach preparation of farm plans and cost-benefit analysis of inputs which the Opérations advise the peasants to use.

3. Beginning with current market prices and costs of marketing, the students should learn about market systems and become familiar with the debates on development and underdevelopment.

4. Agricultural credit should be taught from actual cases and then move to the analysis of hypothetical models.

D. Extension

We were unable to consult the manual prepared by the ILO team for this course. According to the teachers, it is now out-of-date. They also note that the time allotted to this course--three hours a week in the second year--is insufficient. In our opinion, extension, that is, the practical application of agricultural and animal sciences to teaching about techniques which can increase village agricultural production, should be at the heart of the training program. Thus, once they have learned to analyze a real situation, students should then learn how to plan a strategy of agricultural development for a village community. This strategy should include both increased production and increased social well-being for the community.

1. Students should learn to read, understand, and use research reports and technical data in order to adapt them to extension work.

2. Students should learn to make teaching materials to use in the field.

3. The course should teach principles of community organization and how to use small group processes in extension work.

4. The course should instill in the students a sense of initiative and self-reliance, as they will need to draw heavily upon their own resources once they are out in the field.

E. Courses in General

Unable to devise specific recommendations for courses not in our special field, we shall simply underscore the need for a general orientation toward agriculture and stock-raising as practiced in Mali as the basis of the new program. This orientation is indispensable for the subjects that are grouped under the heading of general studies, as well as for the courses in the biology of agriculture. For example, mathematics problems should be explicitly drawn from actual field data, while readings can be drawn from the literature on development. The principles of chemistry and physics should also find application in village life, and so forth.

F. Teaching Methods

The following constitutes a brief summary of points made in Section V of this report:

1. The new curriculum must employ primarily active teaching methods in order to interrelate the subject matter of the various courses and to allow principles to be learned by doing.

2. Teachers should learn the method by applying it on themselves as they work together in seminars under the guidance of specialists.

3. Teachers should collaborate in the design of textbooks and teaching materials and learn to do this work together as a group.

4. Teachers should be encouraged to devise their own lessons using the texts as a reference but thinking up their own examples.

5. Students should be brought in to the preparation of lessons.

6. Within each course, the subject matter should be oriented toward the solution of real problems and the units should follow a model of increasing complexity.

7. The training workshop in teaching methods should end with a diploma showing the grade that each person has earned. The teachers should be evaluated on the basis of their demonstrated ability to work in groups, as well as the quality of the lessons they have prepared and the teaching materials they have designed and made.

8. Teachers must be assured that their teaching performance will be evaluated according to generally accepted norms, and that these evaluations will be used in selecting people for further training.

9. Continuing education for teachers should be envisaged. This should include lectures, professional meetings on research and extension, and training workshops.

10. A library stocked with recent books and periodicals should be developed for each Center at the levels of both teachers and students.

11. The teaching materials made available should be both sturdy and inexpensive. Emphasis should be placed on teaching teachers and students to make their own teaching materials from things available in the local environment. However, manufactured materials such as tools, magnifying glasses, etc., are also indispensable.

12. Teachers' meetings should make provision for consultation and discussion of both substantive and pedagogical topics.

13. Lesson units which teach about the roles that Malian women play in agricultural production and development should be inserted in all textbooks.

14. To prepare for the presence of women students, teachers and male students should be made aware of the usefulness of female extension workers for Mali's agricultural development.

15. Recruitment of male and female students who have the capacity to become good extension agents is extremely important. The entrance examination should include questions which test for the aptitudes necessary for this work and thus allow a better selection of candidates.

16. The maintenance of equipment and buildings should be an integral part of the training process and become everyone's business.

17. In order to make peasants aware of new agricultural methods, teams of second-year students should cultivate demonstration fields in villages near the Centers.

18. As a general rule, teachers should tell students what to do and why, show them what to do and see that they have carried out themselves what was demonstrated.

19. Farm work should be everyone's business, and staff should act as role models for the extension agents.

G. Communication

20. It is essential to plan regularly scheduled monthly or bi-weekly visits by a (or the) supervisor(s) from the Division to each Center. These visits should have as their goal making contact with the teaching staff in order to listen to their problems, as well as supervision of the work of the Centers. The exchange of viewpoints should be stressed.

21. The same as above with respect to students.

Postface

The raw materials of this report have been provided by the testimony of the CAA staff members. The conclusions presented here do not always agree with theirs--which are often contradictory in any case. This is to be expected since the report attempts to present a sociological perspective. We are not necessarily always correct, since we are insufficiently conversant with the situation which they experience each day, and we were unable to make direct observations of classrooms and field exercises. Furthermore, the much-sought-after scientific objectivity often escapes practitioners of the applied sciences.

Nevertheless, the recommendations from an integrated whole and their effects will be interrelated. This requires a word of caution, for so often recommendations are taken for a laundry list from which to pick and choose the easiest, the most painless-seeming measures to apply. However, the organization of the Centers and the training program are closely linked and thus, restructuring must begin with the basis of the problems, drawing upon the human resources embodied in the staff members.

Once again, we wish to extend our thanks to all those who have helped to shape this report.

TUSKEGEE INSTITUTE CENTER FOR RURAL DEVELOPMENT

HUNTINGTON HALL, ROOM 205
TUSKEGEE INSTITUTE
ALABAMA, 36088

LEWIS W. JONES, DIRECTOR
(205) 727-8535

INTERNATIONAL RURAL DEVELOPMEN
GLENN HOWZE, DIRECTOR
(205) 727-8413

L'ENEIGNEMENT DANS LES CENTRES D'APPRENTISSAGE AGRICOLE

CAA

__1. Sané
__2. Samanko
__3. M'Pessoba

I. Données de fond.

1. Formation (branche) _____

2. Etudié à _____

3. Diplôme _____

4. Année obtenue _____

5. Lieu d'origine _____

6. Région _____

7. Profession du Père
__1. Cultivateur
__2. Commerçant
__3. Fonctionnaire
__4. Autre _____

8. Ou habite votre père?
__1. village
__2. petit centre
__3. ville

9. Apartenance Ethnique

10. Langues Parlées

11. Experience Professionnelle Anterieur:

II.

12. Avez-vous fait un stage de vulgarisation vous-même?
Où? _____ Quand? __19____
Commentaire _____

13. Avez-vous travaillé dans une Opération?
Où? _____ Quand? __19____ En quelle Capacité? _____
Commentaire: _____

14. Vous enseignez quel(s) sujet(s)?

15. Quel est votre charge horaire?

16. Avez-vous un syllabus pour ce cours? Puis-je le voir s'il vous plait?

17. Le suivez-vous?
Commentaire: _____

18. Le syllabus contient-il des exemples basés sur l'agriculture malienne?

19. Avez-vous d'autre materiel didactique pour supplémenter remplacer le syllabus? Par exemple?

20. Qu'est-ce qui vous manque? De quoi avez-vous besoin?

21. Avez-vous su introduire des exemples maliens qui permettent les étudiants de saisir l'application concrete des principes enseignes?

22. Les etudiants, sontils assez prepares pour commencer et pour suivre les cours que vous dispensez?
___1. Oui
___2. Non

23. Les étudiants sont-ils travailleurs?
___1. Oui
___2. Non

24 Croyez-vous que les étudiants manquent de motivation?
___1. Oui: Pourquoi? _____
___2. Non

25. Nous sommes d'accord que beaucoup de choses manquent dans les CAA. A votre avis que faut-il pour que l'enseignement dispense ici devienne efficace et les moniteurs agricoles soient mient mieux prepares pour leur travail?

III. Voici quelques problèmes courants dans l'agriculture malienne actuelle. Dites-moi d'abord si vous traitez ces problèmes dans vos cours et si oui, quels sont les conseils que vous donnez sur chaque sujet:

26. La conservation des récoltes. (La lutte contre les insects, les rats et l'humidité.)

27. L'écoulement des produits sur le marché.

28. Les prix des denrées agricoles. (Surtout en comparison avec les entrants)

29. L'utilisation de la main d'oeuvre en saison seche.

30. Les goulots d'étranglement de main d'oeuvre en periode de pointe. (par ex. le sarclage).

31. La réforestation après la coupe des arbres par les cultivateurs.

32. Croyez-vous que la tendence qu'ont les moniteurs à travailler surtout avec les plus grands propriétaires soit une bonne chose pour l'agriculture malienne?

33. Disposez-vous d'un lieu et des heures pour que les étudiants puissent venir vous consulter individuellement?

34. Le font-ils?

ANNEXE No. 2

PROFIL DES CADRES CONTACTES AU CAA MAI 1979

SUJET	No.	%
CENTRES		
Samé	3	25
M'Pessoba	12	50
Samanko	6	25
APPARTENANCE ETHNIQUE		
Bambara	8	33
Peuhl	5	21
Marka	2	8
Bobo	1	4
Dogon	1	4
Malinké	1	4
Minianka	1	4
Ouolof	1	4
Inconnu	4	17
GRADE PROFESSIONNEL ATTEINT		
ITA - ITE	10	42
(dont anciens maîtres COP-5)		
(dont anciens TECH. SUP.-2)		
Conducteur TA	4	17
CAPA ou EQUIVALENT	6	25
CAP REDA ou BREVET	2	8
Inconnu	2	8
MILIEU D'ORIGINE		
Ville	10	42
Chef lieu cercle	9	38
Village	3	13
Inconnu	2	8

ANNEXE No.2

PROFIL DES CADRES CONTACTES AUX CAA MAI 1979 (suite)

PROFESSION DU PERE		
Fonctionnaire	12	50
Cultivateur	4	17
Artisan	2	8
Commercant	1	4
Inconnu	5	21
ANNEE DIPLOME RECU		
1955 - 59	1	4
1960 - 64	0	0
1965 - 69	11	42
1970 - 74	8	33
1975 - 79	1	4
Inconnu		
AGE		
20 - 24	1	4
25 - 29	4	17
30 - 34	8	33
35 - 39	2	8
40 - 44	2	8
Inconnu		
EXPERIENCE PROFESSIONNELLE		
Premier poste	1	4
Enseignement Agri.	12	50
Autre Ensg.	2	8
Pratique Agri.	3	13
Autre Pratique	1	4
Bureau	1	4
Inconnu	4	17