

6880207/62

PN-APP-183
15N-33183

TUSKEGEE INSTITUTE

Center for Rural Development
International Rural Development

SURVEY OF MALLAM FARMERS' VIEWS AND RECOMMENDATIONS
CONCERNING THE TRAINING OF MONITORS
IN THE CAAs



Prepared by John M. O'Sullivan, Ph.D.

With the Assistance of:

Ngolo Coulibaly
Glenn Howze, Ph.D.

A SURVEY OF MALIAN FARMERS' VIEWS AND RECOMMENDATIONS
CONCERNING THE TRAINING OF MONITEURS
IN THE CAAs

Best Available Document

Supported by Contract No. RID/ta-G-1452 and AID/Mali
Project No. 688-0207

PHASE V REPORT - July, 1979

TABLE OF CONTENTS

	Pages
Introduction	1
Methodology	6
Report and Proposals	9
Moniteur Professionalism	9
Agricultural Mechanics	12
Competence in the Cash Crops	14
Animal Traction	16
Field Surveying	17
Crop Storage in the Villages	18
Monitrices	19
Cost Benefit Analysis	23
Coordination of Moniteurs' Activity with Radio Mali Agricultural Programs	23
Conclusion	25
Appendix	27

Introduction

This report details the findings of a survey of Malian farmers conducted by a Tuskegee Institute team. Numerous villages supervised by CAA-trained moniteurs within the regions served by Operations Haute Vallée, Mils Mopti, Aménagement Baguinda, and CMDT were visited over a three-week period during June and July, 1979. Village farmers were interviewed concerning their perceptions of moniteurs; their activities in the villages, their competence, and the adequacy of their training. This survey is part of a larger Tuskegee Institute study which is designed to provide base-line data and recommendations for curricula development at the CAAs.

The GRM/USAID project to modernize and improve the Centres d'Apprentissage Agricole (CAAs) is now underway. This project involves not only the renovation and modernization of the physical facilities of the CAAs at Samé, Samanko, and M'Pessoba, but also the redesigning of the curricula in order to make the training more relevant for the moniteurs who work in the villages.

The findings and recommendations contained in this report are meant to be utilized in conjunction with those found in associated reports issued by the Tuskegee Institute team. In order to provide a comprehensive profile and critique of the current training system employed by the CAAs, the Tuskegee team has also:

1. surveyed moniteurs working in various Operations, asking them to critique their CAA training in terms of their current job assignments;

2. interviewed faculty members at the CAAs in order to assess the curricula and teaching techniques currently being employed at the CAAs;
3. questioned the students at the three CAAs concerning their attitudes toward the current training program and their suggestions for improving it;
4. studied various third-year training sites in order to describe the types of practical experience students are now receiving and to make suggestions for improvements.

Findings from the farmer survey are meant to add another dimension to the study. As the target population of the extension program, the farmers can provide a useful view of the training program in terms of how well it addresses the problems of village agriculture. Therefore, serious consideration should be given to the farmers' point of view. Without the active cooperation of farmers, any agricultural project is doomed to have little significant impact, and after all, the ultimate justifications for the CAA project are both increased agricultural output and improvement in the quality of Malian rural life.

An interesting and salient feature of much of our discussions with Malian farmers was how inadequate is the standard Western stereotypic notion of these farmers as passive peasants, suspicious of and resistant to change. This stereotype is often voiced by those seeking to explain the lack of success of extension programs among peasants. Generally speaking, the farmers we talked with exhibited marked interest in change, had a broad appreciation of technology, and frequently seemed to have both a more flexible attitude toward and a more realistic grasp of their problems than many of the monitors.

By the same token, it should be noted that the Malian farmers are not isolated and locked into unchanging local traditions, untouched by outside influences. They are aware of and receptive to changing methodologies in agriculture. Mass media--particularly Radio Mali (see below for a discussion of this)--are important sources of information to the farmers. Radio Mali broadcasts concerning agricultural topics are regularly listened to by the farmers, and the recommendations made in the programs are sometimes adopted. Furthermore, farmers leave their villages, traveling to such places as Bamako, Ivory Coast, and Senegal, especially during the dry season. In such places, they learn new ideas. Thus, they have many sources of outside information and seem to be genuinely interested in modern agricultural techniques.

Since DNFAR is still in the early planning stages for curriculum revision, the characteristics and character of the future extension training program and future extension service itself, are still unsettled. However, it is clear that the current system employed in Mali cannot be judged in terms of an American model. Rather than being a system characterized by local "grass-roots" initiatives, it is a centralized and hierarchical system directed by the parastatal agricultural Operations. Structurally, the system is designed to respond more to the production goals of the Operations than to the problems of village cultivators. While ideally the interests of the Operations and of the farmers should coincide, in many ways at present they are different. While the primary goal of the Operation is increased production of a cash crop, the farmer must balance his participation in such cash crop production with a

number of other factors, including rising fertilizer costs, relative prices for various crops, and the family food supply.

As a result, the time honored approach to American agricultural extension--the "adoption-diffusion" model is not totally relevant to the present Malian system as exemplified by the moniteurs. The moniteurs are only rarely innovators. The major successful crops of the Operations--cotton, peanuts, millet, and rice--have been cultivated in Mali for quite some time. To be sure, the moniteurs have encouraged and introduced such practices as planting in straight rows and increased use of chemical fertilizers. And it should be noted that the major deterrent to increased usage of fertilizers is not farmers' resistance, but rather availability and price. Moniteurs are ordinarily not being asked to teach farmers new approaches to agriculture nor are they delivering new technical packages. Neither are they teaching the farmers how to apply the findings of new agricultural research. Rather, they are monitoring the established system, making sure that the farmers get the inputs, that the crops are harvested, and that the marketed portion of the harvest proceeds through the designated channels.

Ideally, GRM endeavors to increase agricultural production will raise the standard of living of the village producers. The function of the moniteur may then change, and some version of the "adoption-diffusion" model might prove relevant. The moniteur might then provide the interface between scientific knowledge and village agriculture. It would be through him that the farmers would adopt scientific methods of production. Of course, the model would have to be adopted to the Malian situation and in the process would become a

Malian model. At that point, it will be relevant to the complex dynamic of changing Malian agriculture.

The results of the present survey were analyzed in terms of the author's knowledge of the present system of agricultural extension in Mali and the desire of the GRM both to increase agricultural production and the quality of rural life. The recommendations which emerge from this study are meant to provide guidance to the curriculum planners for the CAAs in their attempt to make the training program more responsive to the needs of the Malian farmer.

The author would like to express his appreciation to the many people who made this study possible and facilitated its completion. Special thanks are due to M. B. Guindo and M. . Diop for the authorization to conduct the study. The directors and other personnel of the various Operations whose approval made it possible to visit villages and interview farmers also deserve our thanks. USAID/Bamako was most helpful in arranging logistical support. Finally, a special thanks is due the villagers, the farmers who answered the questions and provided great insights into the problems facing Malian agriculture. While many contributed to the success of the project, the author remains solely responsible for the interpretations, conclusions, and recommendations.

Methodology

It was originally proposed that this aspect of the Tuskegee Institute endeavor be based on participant observation of the moniteur as the best method of obtaining information about his performance in the field. However, it was decided that practical constraints would nullify any of the theoretical advantages of this method. It would simply be impossible to obtain objective observations without major "Hawthorne effects" (the impact of the presence of the observer on the activity).

Therefore, as an alternative, a loosely structured interview format was designed. Between June 15 and July 6, 1979, a Tuskegee Institute team consisting of Dr. John M. O'Sullivan, a Malian rural sociologist acting as translator, and a USAID driver visited thirty villages in the areas around Bamako, Sikasso, Bougouni, and Mopti. Interviews were conducted in twenty-four of these villages. Typically, the people interviewed were the dugutigi (chief) and whatever elders happened to be around. Thus, the interviewers were in a certain way the officials of the village. They were not in all probability the wealthiest or the poorest in the village. And since our interviews were done in the beginning of the rainy season, they were not the young, active, farmers who ordinarily were out in the fields working. Some of the interviews involved 3 or 4 people, a few 10 or 20, and two involved 50 or 60 villagers. They were not

formal interviews in any strict sense of the term. Rather, they were general discussions by the villagers of their perceptions of the moniteurs' work in the extension program. The researchers were there to provide direction to the discussions.

The reason that interviews were not possible in 3 of the villages was because the dugutigis were absent and no one wanted to speak for him. We were invited to return to meet with the dugutigis but because of our schedule were not able to do so. In one case, the dugutigi was sick; in another he was working in the fields and said that since they had had a holiday the day before (Election Day), the farmers could not afford the time. In one village, a dugutigi said that he could not talk to us without gathering all the men of the village. One of the remaining interviews was not valid and was excluded from consideration because an Operation official insisted on being present during the interview and even brought the chief ZER and moniteur himself to participate in the interview in spite of our protests.

The major topics covered in the village discussions were:

- A. The technical competence of the moniteurs;
- B. The attitude of the moniteurs toward farmers and farming;
- C. The degree of professionalism of the moniteurs - how well do the moniteurs conform to the Agricultural Extension Officer Ideal;

- D. The value of the message the moniteurs were presenting - did the farmers think it was worthwhile?

In order to gather information on the topics mentioned above, the farmers were questioned about specific areas which are indicators of moniteurs' performance:

1. Message - moniteurs' competence
 - emphasis
 - relevancy to the village
 - delivery system (demonstration fields, etc.)
 - support and assistance from the moniteur for the farmers:
 - knowledge
 - supplies
 - credit
 - crop purchasing
2. Type of Contact - what do the moniteurs do in the village?
 - work contact
 - social contact
3. Farmers' attitudes - adopters - why?
 - resisters - why?
4. Other areas of interest/areas of rural life improvement:
 - alphabetization
 - mass media/Radio Mali
 - other crops (besides those emphasized by the Operations)
 - animal traction
 - well-being of animals
 - crop storage
 - monitrices
 - other

Interviews generally lasted 1-2 hours and covered the above areas of interest within the context of the farmers' responses. Fieldnotes were made throughout the interviews and were reviewed and discussed at the end of the day. Farmers were generally cooperative and willing to talk. Validity and reliability were checked in terms of internal consistency and with reference to

several of the interviews in which we could be sure we were getting good information because of family relationships of the translator with the interviewees.

All interviews were conducted in Bambara except in two Fulani villages where villagers translated for the dugutigis.

Report and Proposals

The farmers did not discuss the moniteurs or the extension service in abstract terms. Rather, their discussion centered on their specific agricultural problems and how the moniteurs either solved or failed to solve their problems. Their suggestions for improving the extension service were made largely in terms of their individual needs and not broad philosophical terms. They spoke in terms of bad seeds, crop losses, ignorance of proper fertilizer application, etc. They viewed the moniteurs as the people who should be able to help them solve these problems, as the people who should know the answers.

While there were numerous problems discussed by the farmers and suggestions offered, this report concerns itself only with those problems and suggestions relevant to improvements in the curricula of the CAA. These are explained and recommendations are made in terms of ten issues which emerged from our interviews.

1. Moniteur Professionalism

The first, most important and most difficult issue to raise is that of the professionalism of the moniteurs.

It is obviously very difficult to teach the orientation and commitment which is the heart of service and job rectitude, but it is equally obvious that serious consideration should be given to an agricultural extension course aimed in that direction. Now is the time to think in these terms since the CAA project will set the direction an enlarged moniteur system will take. Will the moniteurs remain merely field representatives of the Operations or will they become more of agricultural extension officers who have vital roles to play in the improvement of rural life?

Ordinarily, of course, the farmers did not criticize moniteurs for a lack of professionalism. Such direct criticisms are not part of polite discussions in villages. Yet, examples given in many of the villages indicated a wide ranging problem.

In one village, it was remarked that a moniteur only worked during office hours and could not be visited early in the morning before the farmers went to the fields. Farmers had to wait until 8:30 or 9:00 a.m. before they could see him. Another village mentioned that the young moniteur spent all his time drinking tea and conversing with his friends and was not available to the farmers. In a third village, the moniteur was seen as a city dandy. He had to be forced to return to his village by his supervisors since he had preferred to move to a nearby larger town and reside there. In another village, a moniteur was bea-

ten and driven out for committing adultery. He stayed in the village and played around with the women while the men he was supposed to be assisting were working in the fields. Another village claimed that their moniteur took their fertilizer and sold it to people in the nearby city. Several villagers questioned the integrity of the moniteur during the commercialization process. One village reported that the moniteur refused to allow any farmers to be present while he was weighing their crops. Other villagers claimed that the moniteur restricted access to credit, seeds, and fertilizers to his personal friends.

Obviously, a note of caution and scepticism is in order here. These are allegations for which no detailed investigation was made to verify their truth. Still, as such, they indicate a problem in the perception of the moniteurs by the farmers.

Part of the problem is, of course, the difficulty young men have in working in different village environments. Village life is ordinarily ruled by elders, and young men are less respected than elders. The moniteurs are not native to their assigned villages and are seen as strangers. Not infrequently, they dress like city folk and hence are criticized for "putting on airs". Sometimes, they are young, unmarried, looking for some fun. Others are trying to find any way possible out of the villages and back to the city. But these are real problems and a solution to them should be sought.

In 2 villages, we were told of moniteurs who met the ideal of young men helping and serving their communities. These moniteurs helped the farmers grow different crops, suggested new crops for the use of the village, showed them how to take better care of their animals and so on. A good agricultural extension course would challenge more students to think in these terms. The benefits to the whole system would be significant.

1. Recommendation: Develop a more challenging agricultural extension course. Esprit du corps, recognition of the possibilities of agricultural extension and an ideal of professional service should be the goal of such a course. It is recommended that the F.A.O. reference manual be considered as a basis for such a course (Agricultural Extension, A Reference Manual, by Addison H. Maunder, F.A.O., Rome, Italy: 1973). This book, through case studies and a problem solving approach to agricultural extension systems around the world, would be thought-provoking and would help instill in the students an awareness of the broad possibilities of agricultural extension.

2. Agricultural Mechanics

Let us now turn to a second issue. In all the villages we visited, farm machinery is being used more and more widely. The farmers are committed to and recognize the value of the use of machinery. The varie-

ties of machinery used seems fairly limited. Oxen-drawn plows, seeders, cultivators, donkey-drawn wagons, and sprayers are the machines used. The farmers need help in the use and especially the care and repair of these tools. Whether the moniteur can help the farmers use these expensive tools to their full advantage depends on his possessing a thorough knowledge himself of all aspects of these few tools.

It seems from our interviews in villages that farmers are ahead of moniteurs in their interest in intelligent exploitation of these intermediate technology farm machinery. They know where they can be used and where they cannot. Yet, in one village, the moniteur insisted that the farmers plow a rocky hillside. Villagers generally reported little assistance with the technical problems of these machines. Several villagers reported problems with sprayers. They said that they broke down before they were paid for. Others said that small parts wore out and they could not get spare parts. They tried to repair the problem themselves with local materials but so far were not successful.

Here is an area where a solid course in the agricultural machinery used by the farmers could help the moniteurs in their work. A combined theoretical and practical course in the intermediate technology agricultural machinery should be given serious consideration. Such a course should give the moniteurs actual

use experience with these machines in the fields at the CAAs. Workshops should allow the moniteurs to take the machines apart, clean them, sharpen parts or what have you so that they understand all aspects of these machines. As new machinery is introduced, a simple training seminar would acquaint the moniteurs with the new machinery and build on the base learned at the CAA.

2. Recommendation: Develop an Agricultural Mechanics course relevant to the level of technology in the villages. The moniteurs should be thoroughly versed in the use, care, repairs, and parts of the standard plows, sprayers, seeders, and multiculteurs being sold by the Operations to the farmers.

3. Competence in the Cash Crops

A third point can now be addressed. The issue here is the technical competence of the moniteurs in the cash crops being promoted by the Operations. Whether the moniteur can contribute to the maximization of output depends not just on his being a distributor of seeds and fertilizers, but more importantly on his knowledge of the whole cycle of the crop he is advocating.

The various Operations are promoting expansion of production of cash crops. Cotton, peanuts, millet, and rice are the principle crops, though moniteurs might find themselves working in areas where tobacco, toma-

toes and wheat are cash crops.

Farmers we interviewed cited numerous problems they had with their cash crops, which the moniteurs were not able to solve. Cotton is a complicated crop which requires a lot of attention and care. Some farmers mentioned that they asked moniteurs to help them keep track of the cycle of production and help them plan ahead to meet future problems, but the moniteur did not know the crop well enough to help them. Others remarked that they brought their problems in the fields to the attention of the moniteurs, but they just could not help.

Many villages reported insects in the seed peanuts stored from the previous harvest. They asked their moniteurs for advice but they could offer no help. By the same token, diseases in the tomato crops were shown to the moniteurs, but they could not help.

In the millet areas, it was generally evident that farmers knew quite a bit about the crop. Moniteurs were bringing fertilizer and advocating its use on a crop that the villagers were entirely familiar with.

All these cash crop cycles end with the commercialization of the crop and the payment by the farmer of any debts he has incurred in the process. This, too, is the responsibility of the moniteur and as can be imagined, it is a sore point in the relations between moniteurs and farmers. Here, mostly clearly, the moniteurs are seen not as agricultural extension officers but as agents of the Operations. All the villages commented on this problem. In light of the above, the following recommendation is proposed.

3. Recommendation: Since the moniteurs work largely with certain cash crops, they should have a thorough knowledge of these crops. Course work should provide theoretical and practical experience in seed preparation, plantings, and diseases of cotton, peanuts, and millet especially. Fields of each should belong to each of the CAAs and students should work through the whole cycle--including commercialization from the viewpoint of the producer. Ideally, the same should be done with rice and small plots of broadleaf tobacco, tomatoes, tea, and other potential cash crops, but again making sure that they see them from the producers point of view.

4. Animal Traction

The issue here is animal traction--the training, use, care, and feeding of the oxen and donkeys used to pull the various farm machines. Here again, the farmer does not have to be convinced of the utility of animal traction. They want work animals and many have them already. The moniteurs are encouraging them in this endeavor, but the farmers are far ahead of the moniteurs in this field. In nearly all the villages we visited, farmers have trained animals themselves and are trying to deal with the many problems of animal care. The farmers admit their problems in choosing animals for training, problems with animal health care, feeding problems (especially during the dry season), and use of animal wastes, but it seems as though this is a major area of deficiency in the training of moniteurs. Occasionally, farmers reported that their moniteurs were helping them to store food--

one even tried a silage project (it failed, and the food was rotten), composting, and other useful techniques. But overall, the moniteurs offer little help with the animals. It would seem that the moniteurs just do not have a base of familiarity or knowledge with this aspect of agriculture. Whether the moniteur is able to participate in the transition to animal traction in ways other than merely encouraging words depends on their sound training at the CAA in animals and their care.

At the same time, animal wastes are not used in most villages because of recognized problems (weed seed diffusion in the fields through raw manure application). A study of this problem at the CAAs and the application of basic composting methods could help alleviate the coming crises of further price hikes in the cost of chemical fertilizers.

4. Recommendation: The Agricultural Course should include a component to familiarize the students with oxen and donkeys. Their care, their health, and their training should all be taught. Part of the student preparation should deal with feeding animals during the dry season silage activities. Finally, use of animal waste and practical composting should complete this part of the program.

5. Field Surveying

This is not a major problem, and it seems to be an easy one to resolve. Farmers constantly mentioned the difficulty of getting moniteurs to survey their fields. The farmers said they needed this service so they would know the area they were putting fertilizer on. Certainly, there are practical problems - in fields which are hilled, in row spacing, etc., but could not a

course be designed in some sort of "quick and dirty" surveying method to help meet this problem? Frequently, moniteurs do not have the tools to do a highly accurate surveying job, but how accurate does it have to be? It seemed as though farmers are just beginning to be concerned with "hectares" and other specifically quantitative terms, so Naval Institute accuracy is not the issue. Whether the moniteur can perform a useful and important service needed by the farmers depends on his practical knowledge of simple surveying.

5. Recommendation: Practical aspects of basic surveying should be taught the moniteurs so that they can survey fields even if they do not have the necessary equipment to perform a highly accurate survey. Intermediate technology aspects of this problem should be explored.

6. Crop Storage in the Villages

This is an area of agriculture which does not seem to have been considered in moniteur training, but is a problem confronting village farmers. This is the problem of storage losses in the village storage facilities. As remarked above, seed peanuts were reported to have developed insect infestation. Problems were also reported in the storage of millet and rice. The farmers are not standing idly by. They reported that they fumigate granaries. One village even went and got some of the leaves to show us what they use in this process. In another village, farmers mentioned an experiment where they sealed peanuts in a jar. Another group of farmers explained how they covered their grain with dust which they had strained. Two villages said that they sprinkled piment

on the seeds in storage, and one village reported that they used DDT. They are trying to solve the problem. They have asked moniteurs for assistance with this problem without much success. Whether the moniteurs can help depends on his training in the CAAs. It would seem that intermediate technology (perhaps pursuing the lead of fumigation with local plants) might prove of real benefit to the farmers. Obviously, crops produced but lost in storage are a waste of effort.

6. Recommendation: Develop a focus on storage problems within the general agricultural course. Use low and intermediate technology, local materials, and standard local farm practices as the base for such a program. The study of this problem would be of use to both moniteurs and monitrices.

7. Monitrices

The last remark above brings up an important issue about which the CAA project paper does not seem entirely clear - that is, the formation of monitrices. Monitrices are referred to in the project paper, and dormitories are to be constructed for them at the refurbished CAAs. But, what are they supposed to do? Are they supposed to be sages femmes or animatrices rurales? But, a program for both these exists already. This must mean that they are supposed to do something different from either of the above and hence will be active in village agricultural life. This is entirely logical since women play an important role in agriculture in the villages.

Farmers were asked what they thought of having monitrices in their villages. The response, after some discussion, was over-

whelming positive. As could be expected, the original response was cautious but became more positive as they considered the implications. In one village, farmers remarked that they had already heard of the new program for monitrices.

The villagers remarked that monitrices should play an agricultural extension role with the women as well as helping improve the ways in which the women did their daily family work. Some of the villagers said that this should follow on consultation with the women themselves. This recommendation will be divided into 3 parts to cover the range of suggestions made and to indicate the broad areas in which the monitrices might work. Decisions about recommendations for curriculum formulation for monitrices depend on what role is decided upon for the monitrices.

It was reported that women play a very active role in village life. Their work involves providing water, gathering firewood, grinding grain, preparing and cooking meals, child care, and gardening. In certain regions, they gather Karite fruit and prepare ail from that fruit in a long process. They frequently participate in cultivation. In fact, their work load here is actually increasing as fields are enlarged with plows and animal traction. Their work in the fields is especially important at critical times of labor shortage and work bottlenecks. Farmers reported that in

their villages, women had certain crops all to themselves. This list just begins to indicate the role of women in Malian agriculture without providing detailed analysis of labor inputs. Some experts even claim that the female role in agriculture here exceeds the male role.

It should also be noted that during the dry season, many of the men leave the village. During that time, the role of women is even more important. Throughout the long dry season - anywhere from 150 to 300 days of the year, depending on the region - young men leave the villages to look for money-paying work elsewhere. Some reported that they go to Bamako. Others said that they go to Senegal, Ghana, or Ivory Coast. Thus, any effort to improve rural life during the dry season will of necessity focus on women's activities in the villages.

According to the opinion generally expressed in our discussions with farmers, the only way effective changes can be brought into women's lives is through other women. Because of traditional constraints (frequently reinforced by the continuing spread of Islam), a system of separation of men and women dooms any other approach. Yet any program to improve the quality of rural life must include women.

A program of forming nonitricies could be set up at the CAAs, which would address itself to the above issues. The following recommendations are proposed as guidelines for such a program. Beyond that, such a pro-

gram will have to exhibit a considerable degree of flexibility, especially since it will be a pilot program. This flexibility should not be too loose, however, as to confuse the monitrices about their roles in the villages. A high degree of professionalism and dedication to the ideal of agricultural extension will be expected of them, no less than from the moniteurs.

7. Recommendation: The monitrices should receive courses oriented toward the activities of women in the villages. Such courses should stress low and intermediate technology which would help women in their daily tasks. Such activities as karité preparation, charcoal making (to get around the increasingly serious firewood problem), grinding grain, gardening, and food storage are obvious areas of activity.

In the south, some villages reported that rice growing is the exclusive concern of women. Monitrices destined for work in that region should be trained in rice production.

In the area around Mopti, women do considerable work involving trees. This includes collecting firewood (see above) and leaves and fruits for sauces. With this in mind, part of a course could be developed oriented toward reforestation programs around villages with the aid of women. Trees valued by the women and produced locally would serve as a theme for such a program.

8. Cost Benefit Analysis

As suggested earlier, the commercialization of the crop is a problem which gives the farmer great concern. Farmers brought it up in all of the villages, though we did not ask about it as such. Moniteurs could make a real contribution to the farmers by helping them make their own rough cost/benefit analysis. Whether the moniteurs are going to help the farmers correctly assess the costs and benefits to themselves depends on their own understanding of the process. Such training will also facilitate the process of quantification of variables by the farmers, as mentioned earlier.

8. Recommendation: Farmers are asking serious questions about price policy. Basic concepts of cost/benefit analysis should be part of the moniteurs' math/accounting course so that they can explain the situation to the farmers (ultimately so they can pursue the logic themselves).

9. Coordination of Moniteurs' Activity with Radio Mali Agricultural Programs

The last recommendation grew out of frequent references by the farmers to Radio Mali agricultural programs. One farmer told how he first decided to try growing cotton because he heard about it on the radio. He then approached the moniteur. Another farmer remarked that he had heard about herbicides on the radio

and then inquired about them with the moniteur. In another village, a farmer said that he was following Radio Mali's suggestions about keeping his animals under control during the dry season rather than letting them wander around by themselves.

These and other examples indicate that Radio Mali is a valuable source of information to the farmer and as such is an important resource for the moniteur. On the other hand, if the moniteur is contradicted by the radio or is ignorant of topics discussed there, both he and the farmers stand to lose. Besides all that, many farmers did criticize the Radio Mali broadcasts as being too theoretical or too general - and hence not relevant to the specific needs of the village.

Here is a golden area of cooperation where an alert moniteur could take advantage of a source of knowledge already considered important by the farmers. If a moniteur is plugged into this system, he could find it very beneficial for all concerned. Whether the moniteur can make practical use of the Radio Mali broadcasts depends on his training in making the connection between such broadcasts and practical problems.

9. Recommendation: Students should listen to the Radio Mali agricultural programs at the CAAs. Discussion of those programs should then be part of the Agricultural Extension Course or the Rural Economy Course. Finally, ideally efforts would be made to put into practice ideas derived from such discussion.

Conclusion

It should be underlined that throughout this report, curriculum reformulation has been seen in terms of an educational approach based on problem-solving. It is this observer's observation that the principle flaw in the CAA is the compartmentalization and separation of theory and practice. Such an approach does little to prepare a student to deal with problems within the village context. Many of the recommendations are specific suggestions meant to deal with specific problems raised by the farmers.

One of the problems inherent in a report of this nature is that the overall impression given of farmer-moniteur relations tends to be negative. This is largely a false impression. The interview was designed to try to find trouble spots and to probe them. It did not really pursue the positive aspects of moniteur formation, nor did it inquire about many of the other aspects of moniteur-farmer relations which lay outside the scope of this study.

The farmers seemed to be very realistic about their situation and about advantages derived from having moniteurs available. The vast majority of villages said that they wanted to continue working with moniteurs. Since we chose to visit villages where moniteurs did not reside (in order to minimize any conflicts of inter-

est in the interview situation), it is significant to note that a majority of the villages asked that moniteurs be assigned to live in their villages rather than just to visit the village.

This indicates to me the essential soundness of the whole CAA improvement project. A major premise of the Project Paper was the increased demand for moniteurs and if the farmers have any say in it, there very definitely is a demand for more moniteurs. One group of farmers specifically noted the advantage of having moniteurs over encadreurs in that the former had less chance of family ties in the village and hence could be more objective and fair to all.

That last note should be emphasized in closing. The farmers were asked what kind of moniteur they wanted. They all had a very clear and positive picture of an ideal moniteur. They mentioned that he should be willing to work hard and to visit the fields and to help the farmers. They said he should know about the crops they grow and be able to help them with their farm machinery and their animals. They want him to be objective and fair in his distribution of fertilizer and seeds as well as at the end of the growing season during the commercialization process. They do not expect miracle workers. They know that their major problems, lack of capital and capricious rainfall, are beyond the power of any moniteur. But, at the same time, they hold up the ideal of a dedicated professional agricultural officer.

Appendix

Recommendations for Curricular Design Changes Based on
a Survey of Villagers as Discussed in this Report

1. A major problem is the farmers' perception of the moniteur as less than the ideal of a highly dedicated professional agricultural extension officer.

1. Recommendation: Develop a more challenging agricultural extension course. Esprit du corps, recognition of the possibilities of agricultural extension and an ideal of professional service should be the goal of such a course. It is recommended that the F.A.O. reference manual be considered as a basis for such a course (Agricultural Extension, A Reference Manual, by Addison H. Maunder, F.A.O., Rome, Italy: 1973). This book, through case studies and a problem-solving approach to agricultural extension systems around the world, would be thought-provoking and would help instill in the students an awareness of the broad possibilities of agricultural extension.

2. Farmers are moving rapidly in the direction of mechanized agriculture - using oxen-drawn plows, seeders, multiculturus, and other intermediate technology equipment, but they need help with the use, care, and repair of such equipment.

2. Recommendation: Develop an Agricultural Mechanics course relevant to the level of technology in the villages. The moniteurs should be thoroughly versed in

the use, care, repair, and parts of the standard plows, sprayers, seeders, and multiculteurs being sold by the Operations to the farmers.

3. Moniteurs are promoting certain cash crops in the villages. They should be able to help the farmers with those crops.

3. Recommendation: Since the moniteurs work largely with certain cash crops, they should have a thorough knowledge of these crops. Course work should provide theoretical and practical experience in seed preparation, planting, and crop diseases of cotton, peanuts, and millet especially. Fields of each should belong to each of the CAAs, and students should work through the whole cycle including commercialization from the point of view of the producer. Ideally, the same should be done with small plots of rice, broadleaf tobacco, tomatoes, tea, and other potential cash crops, but again making sure that they see them from the producers' point of view.

4. Animal traction is an important part of the farmer's efforts to modernize his productivity. He seems ahead of the moniteur in his interest in this area.

4. Recommendation: The Agriculture course should include a component to familiarize the students with oxen and donkeys. Their care, their health, and their training should all be taught. Part of the student preparation should deal with feeding the animals during the dry season - silage activities. Finally, use of animal

waste and practical composting should complete this part of the program.

5. Farmers need their fields surveyed, and moniteurs need to know how to do so expeditiously.

5. Recommendation: Practical aspects of basic surveying should be taught so that moniteurs can survey fields even if they do not have the necessary equipment to perform a highly accurate survey. Intermediate technology aspects of this problem should be explored.

6. Farmers report considerable crop loss in storage.

6. Recommendation: Develop a focus on storage problems within the general agricultural course. Use low and intermediate technology, local materials, and standard farm practices as the base for such a program. The study of the problem would be of use to both moniteurs and monitrices.

7. The formation of monitrices should be aimed at the role of women in village agriculture in a broad sense.

7. Recommendation: Monitrices should receive courses oriented toward the activities of women in the villages. Such courses should stress low and intermediate technology which would help women in their daily tasks. Such activities as preparation, charcoal making, grinding grain, gardening, and food storage are obvious areas of interest.

a. In the south, some villages reported that rice growing is the exclusive concern of women. Monitrices destined for work in that region should be trained in rice production.

Best Available Document

b. In the area around Mopti, women do considerable work involving trees. This includes collecting firewood and leaves and fruits for sauce. With this in mind, part of a course could be developed oriented toward reforestation programs around villages with the aid of women. Trees valued by the women and produced locally would serve as a base for such a program.

8. Farmers need help understanding basic quantification of their work.

8. Recommendation: Farmers are asking serious questions about price policy. Basic cost/benefit analysis should be part of the moniteurs' math/accounting course so that they can explain the situation to the farmers (ultimately so they can pursue the logic themselves).

9. Radio Mali is a valuable resource which should be exploited by the moniteurs.

9. Recommendation: Students should listen to the Radio Mali agricultural programs at the CAAs. Discussions of those programs should then be part of the Agricultural Extension course or the Rural Economy course. Finally, ideally, efforts would be made to put into practice ideas derived from such discussions.