



THE MALI AGRICULTURAL OFFICERS' TRAINING PROJECT

FINAL EVALUATION REPORT

USAID / MALI * JANUARY 1987



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THE MALI AGRICULTURAL OFFICERS' TRAINING PROJECT
FINAL EVALUATION REPORT
Project No. 688-0207

EXECUTIVE SUMMARY

The evaluation team found that the CAA Project has achieved its purposes of strengthening the capacity of the Government of the Republic of Mali (GRM) to train sufficient number of well qualified agricultural extension agents (moniteurs) needed for the agricultural development of the country, and improving the quality and administration of the three-year agricultural education program for the moniteurs.

If one can assume that the improvement of the quality of agricultural extension agents will bring about the improvement of modern and appropriate technologies to the Malian rural population, which is a fair assumption, then the Project has achieved its goal with much success. This achievement was the result of a course of actions which included the complete revision of the school curriculum, the innovation of teaching-learning methods, the improvement of the administration and management in the Division and in the schools, the provision of adequate facilities, equipment, supplies and supplementary operating funds, and the implementation of short-term participant training for Division and school staffs and for moniteurs in the field.

Along with the above accomplishments has come a sense of purpose and professionalism in all Malians working in the Project. This positive attitude is having a favorable effect on the CAA system and should continue to do so in the years to come.

The excellent working relationship that has been maintained among the GRM, AID/MALI, SECID and World Bank personnel throughout the five-year technical assistance phase of the project is certainly commendable.

Restrictions imposed by the International Monetary Fund (IMF) on government hiring have adversely affected the employment of CAA graduates in the public sector. However, the Project has responded correctly to the situation by reducing the student enrollment in the CAAs and revising the third-year curriculum to enable the graduates to find employment not only in government services but also in the private sector, or to establish themselves as farmers. Thus, the CAA system will prepare its graduates for greater employment opportunities and at the same time better serve the manpower need of the country.

Of the eleven recommendations made by the 1984 evaluation team, all but one have been satisfactorily addressed. This particular recommendation called for the construction of two or three additional rooms at the Division office. There were not sufficient funds to do this because of the drop in the value of the dollar.

AID/W had expressed three concerns which included the request for a study of student selection process, a study of CAA graduates' employment, and efforts towards reducing the size of student groups during practical farm training. The two studies has been completed and recommendations therefrom are being considered by the GRM officials for possible implementation. Regarding farm plots, the schools have moved from large student groups to small groups of 10 students. In the future, it is hoped that the group size can be reduced to five students.

On the negative side, it was noted that the GRM financing in some areas were inadequate, the generator and water supply system at the Samé school have been a constant source of problems and expense for the school, and the bureaucratic delay by AID/W in providing fund for the project extension caused a loss of purchasing power when funds were finally made available because of the devaluation of the dollar.

To assure continued project success and improvement of the CAA system, the following recommendations are made:

1. That the GRM start, as soon as possible, an active search for financial support and technical assistance from other possible donors such as the World Bank, FAO, UNESCO....;
2. That the six schools make more efficient use of the school farm, facilities and equipment to generate incomes to supplement the existing operating budget without sacrificing the quality of student training;
3. That services employing moniteurs or sending their moniteurs to the schools for retraining be asked to share some of the schools' operating expenses;
4. That the GRM explore with AID the possibility of extending the resources from other AID-sponsored projects (the FSR-E Project, the Sahel Human Resources Development Project (SHRDP), for example) to the CAA system.

THE MALI AGRICULTURAL OFFICERS' TRAINING PROJECT

FINAL EVALUATION REPORT

Project No. 688-0207

I. BACKGROUND

The Mali Agricultural Officers' Training Project, usually referred to as the CAA Project, has had a ten-year life span, from April 1977 to April 1987. Implementation of the Project can be divided into two distinct phases:

- The first phase or the **physical expansion phase** from 1977 through 1981, the main concern of which was the building of the Samé center to increase the enrollment capacity of the CAA system;

- The second phase or the **technical assistance phase** from 1982 through April 1987, with the focus on the improvement of administration, curriculum, instruction and facilities.

II. PROJECT GOAL AND PURPOSE

A. PROJECT GOAL

As stated in the original Project Paper, the goal of the CAA Project is to improve the transmission of modern and appropriate agricultural technologies to the Malian rural population. This goal was based on the perception that the deficit of well trained mid-level agricultural extension agents (moniteurs) was one of the major constraints to increased agricultural production in Mali.

Project Paper Amendment No. 2 indicated that "the project goal of improving extension of agricultural technologies to farmers is to be achieved through:

- a. revising curriculum and improving instruction methods in agricultural extension training schools;
- b. improving administration and management of the training program;

- c. providing adequate facilities, equipment, supplies and operating costs to establish the improved program; and
- d. conducting short-term participant training at all levels (i.e., instructors, technical and administrative staffs) throughout the schools, GRM headquarters, and including agricultural extension agents in the field."

B. PROJECT PURPOSE

The project purpose as stated in the 1977 original Project Paper was "to increase the capacity of the GOM to provide up to 160 well-trained polyvalent junior-level agricultural technicians by February 1980".

Project Paper Amendment No. 1, authorized on June 5, 1980 stated that "the project was designed to train and graduate 160 field workers per year, to increase the percentage of women graduates up to 25%, to improve the centers management and administration, to develop more effective curriculum and teaching methods and to train the trainers in curriculum implementation throughout the three center system". The three center system referred to the CAAs at M'Pessoba, Samanko and Samé.

In recognizing that the three CAAs only accomplish the first two years of the three year training program and that the third year training in the Centers of Specialization (CS) and in other agricultural production and research organizations is equally important for the achievement of project goal, the Project Paper Amendment No. 2, authorized on June 24, 1985, revised the project purpose as follows:

"The project purpose is to strengthen the capacity of the GRM to improve the quality and the administration of the three year agricultural education program for extension agents conducted at the CAA, CS, selected rural development organizations and other GRM institutions in charge of agricultural research and development".

III. EVALUATION PURPOSE

A final evaluation is one of the basic end-of-project reporting requirements by AID (HBG) in comparing actual with anticipated project results. Accordingly, this internal evaluation was conducted collaboratively by USAID, GRM, SECID and REDSO to serve the following purposes:

- Assess overall project achievements toward project purpose and goal;
- Assess the extent to which previous evaluation recommendations have been addressed;
- Determine the extent to which AID/W specific concerns were addressed during the last project extension; and
- Make recommendations for sustaining appropriate project activities beyond PACD.

IV. EVALUATION METHODOLOGY

The evaluation team consisted of the following seven members representing USAID, GRM, SECID and REDSO:

- REDSO/WCA : James Washington (Team leader), Regional Human Resources Development Advisor.
- USAID/Mali: Gacoussou Traoré, Program/Evaluation, Mamadou Fofana, ADO.
- GRM : Salia Kanté, Head of Vulgarisation Section, Djibril Sangaré, Head of Program and Methodology Section.
- SECID : Son H. Nguyen, Agricultural Education Curriculum specialist,
Vinh An Tran, Agricultural Education Curriculum specialist.

Dr. A. J. Abshire, SECID Chief-of-Party, acted as the resource person for the team.

The entire team met for the first time on January 6, 1987 at the CAA project office in Bamako. After a brief meeting with certain project personnel to review the general schedule and scope of work, the team made its first site visit that morning by going to the CAA and the CS at Samanko. At the centers, the team met with the directors, deputy directors and a number of instructors to review training program and activities and project accomplishment. After the meeting, the team visited the centers' facilities and farms.

The following day January 7, the team continued the review of background materials, the scope of work and the remainder of the schedule to:

- 1) determine how the team should be divided to afford maximum effective and efficient geographic coverage of the six centers (Sub-group 1: Tran, Traoré and Kanté; Sub-group 2: Washington, Sangaré, Fofana and Nguyen),

- 2) formulate questions for topic areas to be covered during the site visits (interviews and observations), and

- 3) further divide the team according to sections/topics to be presented in the report (based on the evaluation outline) for which each sub-group will be responsible in the preparation of the first draft of the evaluation report.

In collecting evaluation data at the centers, the team used a very loosely structured interview format for interviewing the center core personnel (administration and management staff and instructors), including a sample of students. The team made observational examinations of teaching materials, facilities, equipment and demonstration farming plots at each center. The above methods were also used to collect project information from other sources (e.g: CAA Project office, USAID, World Bank, etc.).

It was suggested that the team should interview a sample of the users of the moniteurs as part of the data gathering process. However, considering the limited timeframe within which the team had to prepare the first draft of the report, plus the fact that such a study has already been done by SECID, it was decided that the team would make better use of its time by referring to the results of the SECID study.

Any report, the database of which depends on personal opinions and observations, is subject to potential problems of bias, and this evaluation is no exception. In view of the fact that this is an internal evaluation and most evaluators have been and still are associated with the project in varying degrees, attempts were made to gain a representative picture of the actual situation and a more qualitative insight into project activities by appointing the most disinterested team member (REDSO representative) as the team leader. Great care was taken to avoid having individuals reporting on their areas of project responsibility.

Between January 7 and 10, the team visited the remaining five centers to conduct interviews of the center personnel and students, and to observe the facilities and instructional materials utilized at these institutions.

During the total ten days of evaluation, the team met with diverse people who are interested in and knowledgeable of the project implementation. (See list of persons contacted in Annex 1).

V. FINDINGS AND DISCUSSION

A. CHANGES IN PROJECT DESIGN AND EXECUTION

The continuous proliferation of unforeseen circumstances and unpredictable events in developing countries often necessitate changes in project design and execution. Such was the case with this project.

Due to a gross underestimation of construction costs and to delays of project implementation, only one training center was built (the Samé CAA) instead of two centers as originally planned for the project.

The original project design referred to the "three center system" which included the CAAs at M'Pessoba, Samanko and Samé, although these three centers only accomplish the first two years of a three year training program. The third year training which takes place either at one of the three specialization schools or at one of the numerous agricultural production or research organizations, should be considered as an important integrated part of the complete moniteur training system. This consideration led to the modification of the project design to bring the three CSs into the project.

Originally, the project was designed to increase the number of students graduating each year to 160. By 1984, the annual number of graduates had been increased to 175. At the same time, the International Monetary Fund (IMF) imposed restrictions on GRM hiring and consequently, the GRM could no longer employ all graduates as moniteurs. In response to this situation, the GRM reduced the enrollment in the centers starting with the 1985-1986 school year so that henceforth there would be only 125 graduates per year.

With the reduction of the enrollment in the centers, it became possible to have all third year students attend the the CSs instead of having two-thirds of them receive the training in different governmental organizations, which was not uniform and often inferior as found in studies conducted by the Tuskegee Institute and by SECID. All work necessary to effect this change has been completed with the transfer of the Center at Baguineda to Samanko and the renovation of the other two Centers in Dioro and Kita. The change will become effective with the start of the 1987-1988 school year on May 2, 1987.

The GRM's inability to employ all graduates as moniteurs, even though their numbers have been reduced, created the need

to revamp the third year curriculum away from the specialization in a narrow area to a broader training program that will prepare graduates not only for employment in the governmental services, but also for employment in the private sector or to establish themselves as farmers. As a result, the CAA system will prepare its graduates for greater employment opportunities and at the same time serve the manpower needs of the country. The students interviewed by the evaluation team indicated that they had been aware of the new government policy of moniteur employment and that they were willing to undertake farming themselves if provided with sufficient land and credits to start the business. Some even said that they preferred becoming farmers to working as moniteurs for the government after their graduation. This change of student's attitude must be considered as a positive project impact.

The original Project Paper did not address an inservice training program for extension agents in the field. However, in light of the results of the Tuskegee Institute surveys conducted in 1979-1980, the Project Paper Supplement No. 1 provided that an in-service training system for the moniteurs was to be developed and implemented. This was included in the SECID-AID contract scope of work and has been accomplished.

B. USAID INPUTS AND OUTPUTS

In order to achieve project objectives, the USAID agreed to provide necessary inputs in addition to those coming from the Government of the Republic of Mali (GRM). This section is concerned with the evaluation of these inputs, of the resulting outputs, and of the processes by which inputs were delivered and utilized to produce desired outputs. The presentation will be focused on six main issues : finance, construction, personnel, commodities and services.

1. FINANCE

The project was originally authorized on April 12, 1977 for 3 years with a life-of-project (LOP) funding of \$5.0 million. Subsequent amendments increased the LOP funding to

\$9,930,000 and extended the project assistance completion date (PACD) to April 30, 1987.

The first amendment was to provide additional fund to the project and to reduce the number of training centers to be built from 2 to 1 because of a gross underestimation of construction costs. Later amendments provided additional fund for the achievement of all original project objectives and new objectives established by the expansion of the project scope of work.

The funding was found to be adequate, in general, for the attainment of most project objectives. The money was utilized in a rational and efficient way which maximized the benefits received by the target population. Results of regular financial auditing effected by AID/Washington and AID/Bamako indicated that the project had a good financial record keeping system and was operating under sound financial principles. (See Annex 2 for the summary of the project budget).

On the other hand, the evaluation team noted one serious problem related to funding: the delay in the transfer of money from AID/W to SECID for the 22-month extension of the project. The extension was authorized in August 1985 but SECID did not receive the needed fund until May 1986. To keep the project going without significant adverse interruptions, SECID had to advance more than \$500,000 from its own funds. Nevertheless, some planned project activities had to be postponed or canceled due to lack of funds. When the technical assistance team obtained the fund, the project had already lost over \$100,000 in purchasing power because of the fall of the dollar value against the French currency. Consequently, certain planned project activities had to be scaled down or completely eliminated and less vehicles and commodities were purchased for the project.

Although the delay in funding did not greatly affect the overall achievement of the project's objectives, better results

could have been obtained if that problem had been avoided through better project planning, budgeting and implementation.

It is therefore recommended that for future projects, budgeting be based on a more realistic and conservative cost estimation to avoid unnecessary amendments to the Project Paper and fund be transferred to the contractor in a timely manner so that project activities are not disrupted.

2. CONSTRUCTION

a. The Construction of Samé Center

The original project was designed for the construction of 2 training centers: one in Samé and one in M'Pessoba, each with the capacity to house 160 students. The purpose was to increase the number of students trained in the CAAs to meet the estimated need of the country for mid-level agricultural extension agents.

Due to the higher construction cost, only the Samé center was built at an actual cost that exceeded the estimated cost for constructing the two centers in the original Project Paper by \$2.0 million.

The evaluation team found that the Samé center was provided with minimum necessary facilities for its normal operation and the planned enrollment of 160 students. Office buildings, classrooms, faculty housings and student dormitories were adequately built and furnished. The living conditions at the center have been significantly improved as compared to those before the completion of the construction. Also the new facilities have contributed greatly to the quantitative and qualitative improvement of the training.

Although the project failed to build the M'Pessoba center as originally planned, the project goal to increase the capacity of the GRM to provide up to 160 well-trained moniteurs annually was attained through the increased enrollment at the

Samé center and the Samanko center. The latter was built and furnished by the World Bank.

The team noted certain flaws in facility design and equipment choice at the Samé school:

- The delay in the construction of the center. The construction began nearly 3 years after the initial project was authorized and was completed two and one-half years later in November 1982. This delay created many problems for the center which, in 1980, started increasing the first-year enrollment from 35 to 80 students as planned by the project.

- The installation of an inappropriate generator. Although the original Project Paper specified the supply of two 30 KVA generators, the center was furnished with a huge 90 KVA generator that supplies more power than needed and has a very high fuel consumption that the center's operating budget cannot afford.

- The installation of a too sophisticated water supply system. The center was furnished with an electronically controlled water supply system that is so complex and advanced that its maintenance and services require highly qualified specialist and are beyond the ability of the center. The system broke down very often, causing hardship for the center's personnel and students and incurring tremendous repair expenses for the project. In fact, during the visit to the center of the team, the water pump was out of service and could not be repaired locally or in Bamako, leaving the center without running water for cooking, drinking and sanitation.

- The lack of a functional laboratory and an adequate cattle stable. The construction did not provide for a laboratory furnished with running water and equipment necessary for the learning of students. Also, the existing stable was not improved satisfactorily.

In light of the above observations, the following recommendations are made:

(1) The water pump be repaired or replaced as soon as possible, or a more appropriate alternative water supply system be found ;

(2) The oversized generator be replaced by a smaller one that meets the center need adequately and more economically.

For future projects, it is important to (1) have better design of construction plans by taking into consideration local conditions and resources so that adequate facilities are built and appropriate equipment is installed, and (2) ensure that construction is carried out as closely to the planned schedules as possible.

b. Renovation of Other Centers

In the last extension of the project, fund was provided for the improvement and repair of existing facilities in the centers at Dioro, Kita and Samanko. The purpose was to increase the capacity of the centers of specialization (CS) to accept practically all third year students, starting from the school year 1987-1988.

The renovation of the facilities at the Samanko center, which was completed as planned, allowed the transfer of the Baguineda CS to Samanko. As a result, the CS has more land for practical learning and better instructional facilities. It is able to increase the enrollment from 10 to 20 students.

The work in the Kita CS and Dioro CS was also finished and these centers are ready to house and train more students in the next school year.

3. PERSONNEL

In November 1978, the Near East Foundation was contracted by the USAID to provide an agricultural education administration specialist and an agricultural education specialist. However the contract was subsequently terminated in October 1979 due to the GRM's dissatisfaction with the technicians' French language capacities and overall unsatisfactory performance.

This failure not only wasted project resource but also caused a loss of GRM's confidence in the ability of AID to provide qualified TA personnel.

It was not until January 1982 that the present TA contract was signed with SECID after a twenty-month search for a suitable team. The findings in the previous evaluation indicated that SECID technicians were competent professionals whose performance was satisfactory and highly appreciated by the Malian government and USAID/Mali.

So far the following technical assistance efforts have been provided to the project:

a. Long-term SECID technicians and personnel (292 man months):

- one agricultural education administration specialist (58 man months),
- one agricultural education curriculum specialist (56 man months),
- one agricultural education curriculum specialist (21 man months),
- one agricultural education instructor (27 man months),
- one agricultural education instructor (53 man months),
- one agricultural education instructor (21 man months),
- one administrative assistant (27 man months),
- one administrative assistant (29 man months).

b. Short-term consultants (8 man months):

- Media equipment and media center (2 man months),
- Women's integration in CAA program (2 months),
- Teaching methodology (1 month),
- Farm shop training (2 months),
- Procurement (1 month).

c. A mechanic instructor (24 man months).

Thus, without counting the service of the administrative assistants, the number of man months provided by SECID technicians almost doubled the figure called for in the original Project Paper. That increase in level of effort was found to be necessary due to the following factors:

(1) The expansion of project scope of work to include the three centers of specialization and the inservice training of extension agents:

(2) The time-consuming nature of curriculum revision process and the high number of courses to be revised:

As for the quality of technical assistance personnel, their professional competence and performance were highly rated by the Division officials, school administrators and teachers. There is no doubt that the TA team has brought desirable changes and significant improvements to the mid-level agricultural education system in Mali, in the areas of administration, training program, curriculum, teaching methodology and instructor's competencies. In other words, practically all project objectives related to technical assistance have been attained.

The failure of the first TA team and the success of the present team demonstrate the need for careful selection of technicians. The French language capability is very important. In fact, those who are involved in curriculum development should have adequate French writing skills in addition to reading and speaking skills.

As far as personnel is concerned, AID has provided the project an adequate number of competent professionals whose performances resulted in highly desirable outcomes. On the other hand, the difficulty in finding qualified personnel in the beginning of the project caused a delay in project implementation and made the extension of PACD necessary. Therefore, it is important to engage a suitable TA team for the project as early as possible and ensure that the technicians possess not only desired professional competencies but also the appropriate language capabilities.

4. VEHICLES AND COMMODITIES

In addition to technical assistance and construction, USAID provided the project vehicles and commodities necessary for the achievement of project objectives. The evaluation team found that the vehicles, equipment and other commodities bought for the project were generally adequate and adapted to the local conditions and needs.

a. Vehicles and Farm Machines

Vehicles are used for training and supervisory visits to schools of project personnel and for student field trips.

In the first phase of the project, the following vehicles were provided:

- to the Division in Bamako: 2 station wagons and 4 light pick-up trucks.
- to the M'Pessoba Center: 2 small buses, 1 light pick-up and 1 medium pick-up.
- to the Samé Center: 2 small buses, 1 land rover and 1 light pick-up.

The last amendment to the Project Paper authorizing the 22-month extension of the project called for the provision of the following vehicles and farm equipment:

- 2 passenger cars,
- 5 light pick-ups,
- 4 buses,
- 1 all terrain vehicle,
- 4 tractors and equipment,
- 1 boat with motor, and
- 80 mopylettes.

Due to the delay in funding for the extension and the fall of the dollar value, the project was able to make only some of the planned purchases: 2 passenger cars, 5 light

pick-ups, 1 all terrain vehicle, 4 tractors with equipment, 1 boat with motor and 60 mobylettes.

The all terrain vehicle and the boat are needed by the Samé Center to get supplies in Kaves which is located about 20 kilometers from the Center, because of the very bad road conditions, especially during the rainy season.

The mobylettes were sold on credits to the instructors at the 6 centers so that the instructors can visit the surrounding villages more often in order to enrich their knowledge about the rural environment, to prepare for student field trips and/or to supervise the third year students who are assigned to work with farmers as part of their practical training.

It was found that the vehicles, farm machines and equipment were used efficiently and were in good condition.

b. Other Commodities

The project supplied the Division and the six centers adequate materials and equipment needed for the school operation, teaching and learning.

(1) **The Media Center:** It is established at the Division headquarter in Bamako. Its primary function is the reproduction of revised courses, reference documents and other instructional materials. It acquires minimum machines and equipment for its operation: 2 photocopiers, 2 mimograph machines, 1 electronic stencil cutter, 1 big stapler, 1 laminating machine, 1 overhead projector, 1 slide projector and 1 opaque projector. These equipment and machines were found in good condition and used efficiently. However, the photocopiers are too small for the tremendous work load imposed by the project, it would have been better and more economical if the Center had obtained a bigger photocopier.

(2) **Instructional Materials and equipment:** The Division and school libraries were supplied with sufficient furnitures and materials for their operation. Over 2,000 books were bought for the libraries in addition to the revised course manuals and

reference documents reproduced by the Media Center. The evaluation team noted that the books in all libraries were well catalogued. With the exception of the Dioro Center, the library was visited frequently by large number of students and instructors.

The centers also received audio-visual equipment and materials such as projectors, slides, transparencies... as well as posters, charts, samples of seeds, insecticides, fertilizers, microscopes and laboratory materials. In considering the lack of electricity during the day at the centers, more emphasis should be placed on the development and utilization of teaching aids that do not require electricity.

Small farm materials and equipment (hand tools, animal traction equipment, pesticide sprayers, water pumps for irrigation...) were made available to the centers in sufficient quantities. This has certainly helped improve the practical training of the students.

(3) **Utility Equipment:** Generators to provide minimum needed electricity at night and pumps for water supply system were procured for a number of centers. Without that equipment, the living conditions at the centers would have been miserable and deplorable. The availability of electricity enabled limited uses of electrical audio-visual equipment for training.

5. SERVICES

USAID provided the project the following services:

- Monitoring the supervision of school construction by a REDSO engineer,
- Procurement of commodities by management of AID/Bamako,
- Monitoring project progress by AID project manager,
- Evaluation of the project,
- Financial auditing.

These services which were effected on a timely basis facilitated project implementation and helped the TA team work

more efficiently toward the project goal. A close and effective collaboration among the three concerned parties of the project (USAID-SECID-GRM) was observed by the evaluation team.

C. GRM INPUTS AND OUTPUTS

There was considerable discussion concerning the ability of the GRM to carry out its proposed obligations to the project. A series of covenants and conditions was stated in the Project Paper to assure timely GRM contribution and participation. The main issues discussed in this section will focus on finance, personnel, commodities and services, maintenance and construction, supervision, and cultivable land granted to the training centers.

1. FINANCE

In addition to USAID funding, the GRM contributed about 22 percent of the total cost. This necessitated a waiver of the standard 25 percent contribution requirement.

The GRM financial contributions included salaries of personnel working at the Division and the six centers, normal operating costs for these institutions, and students' boarding and educational expenditures.

The evaluation team noted the irregular payment of personnel salaries, the minimal operating budget, and the inadequate financial support to the students. The delay in salary payment and the inadequacy of the operating funds tend to discourage the long-term retention of qualified personnel and affect negatively the general operations of the Division and the centers.

The problem of personnel salaries is common to all "fonctionnaires" and can be solved only by the national government. On the other hand, the centers could make more efficient use of their farm, facilities and equipment to generate incomes to supplement the existing operating budget and student

allowances, without sacrificing the quality of student training.

2. PERSONNEL

The Division personnel was found to be adequate, consisting of the Director, four Section Heads, five technicians, one secretary, two typists, one mechanic and one chauffeur. The Director is a competent professional whose strong leadership and good administrative skills were reflected by the efficient personnel and financial management of the Division and the six centers. Other Division officials were capable in carrying out their functions. The evaluation team observed a close collaboration and mutual respect between the SECID team, their Malian counterparts and the World Bank technician, a phenomenon not common in a large number of international technical assistance projects.

It should be noted that the Division Director followed one of the recommendations in the 1984 evaluation report in appointing two instructors working with Dr. Nguyen: one in the Media Center and one involved in curriculum revision and development. A competent librarian was also assigned to work with Dr. Tran in improving the Division library and the libraries at the centers. A Division mechanic was working hand in hand with the Project mechanic, preparing to take over the maintenance of the Division vehicles after the project terminates.

There are 59 administrative and instructional personnel employed in the six centers. This personnel appears to be sufficient for the center operation. Most of the instructors graduated from the Rural Polytechnique Institute at Katibougou. They were found to be technically and pedagogically competent professionals and a strong asset in the achievement of project objectives.

The evaluation team, however, noted that at one center, the Director lacked initiative and supervision to assure the efficient management and operation of the center program and facilities. On the other hand, the center's newly appointed assistant director appeared to be a more capable leader. This

appointment reflected the effort of the Division director in taking leadership into consideration in the placement of personnel to important supervisory positions.

There was a lack of well qualified mechanics in most centers to assure better maintenance of vehicle, machines and equipment.

3. COMMODITIES AND EQUIPMENT

In addition to personnel, the GRM has also made contributions to the Project in the form of commodities: office supplies, instructional materials and small farm equipment and tools. However, because the operating budgets given by the government to the Division and the Centers are not sufficient, the Project has picked up most of expenses on commodities.

The fuel insufficiency and the lack of consistent electricity at the Centers do not allow the regular use of certain electrical audio-visual equipment during day time. The implication is that more emphasis should be placed on teaching aids which do not require consistent electricity to operate.

4. CULTIVABLE LAND

All the Centers are granted cultivable land essential for training activities and the generation of supplementary income to support the operating expenses.

In conclusion, the GRM has provided the project with qualified professionals who are dedicated to their work and receptive to the changes induced by the Project. On the other hand, its contribution to the operating budget has been inadequate and that has created some doubt about its ability to shoulder the recurrent cost burden after the termination of the Project in order to maintain the improvements that have been achieved so far.

The evaluation team believes that the present personnel of the Division and the Centers has received sufficient training to take over some of the responsibilities currently

assumed by the expatriates. However, additional financial support and technical assistance on a reduced scale will be needed after the PACD to maintain the growth of a sense of purpose and professionalism among the Malian personnel and the change in attitude, philosophy and methodology that have begun to take hold in the CAA system.

D. SECID INPUTS AND OUTPUTS

As the driving force in the the work toward the achievement of project goal, the SECID technical assistance team has focused its effort and resources on the improvement of the following areas:

- Administration and management of the Division and the Centers.
- Facilities,
- Participant Training,
- Training Program,
- Curriculum development and revision, and
- Instruction.

1. IMPROVEMENT OF ADMINISTRATION

To help improve the internal management and administration capacities of the Division and the Centers, the SECID team in collaboration with counterparts, has undertaken the following activities:

- Initiated monthly meetings of Division personnel which provided a continuous review of managerial activities relative to the administration of the moniteur training program.
- Established weekly meetings of faculty and staff at each Center to plan and review all activities involved in the successful operation of the school.
- Assisted the Division and the Centers define clearly

the functions of each administrative unit and the responsibilities of each personnel. Organizational charts were posted and kept current at these institutions.

- Developed student guides or manuals to help in orienting students to the school personnel, regulations, facilities and training program.

- Introduced the use of computers in the division office for personnel, financial and school administration and management.

- Transferred the Baguineda Center to Samanko where better facilities were available.

- Increased the number of third year students attending school instead of receiving on-the-job training in different governmental agencies, thus making the third year training more uniform and of higher quality.

- Conducted a study on the selection of students for the moniteur training program. Recommendations were made to make the selection process more reliable and relevant.

- Reviewed the process and procedures followed in placing first year students in the CAAs and made changes which reduced delays in these students reporting to school.

- Directed efforts resulting in better use of the school farms for practical training. Students were divided into small groups each of which was assigned to work on farm plots with complete responsibilities.

- Completed a study of the employment of CAAs' graduates and made recommendations for assisting the graduates find jobs in the private or non-governmental sector or to establish as farmers themselves.

- Encouraged a system of inventory record keeping for all non-expandable property in the Division office and in all schools. An annual physical inventory was put in effect.

- Provided formal and informal training in school management to all administrative personnel.

- Established a media center in the Division office to reproduce courses of instruction, administrative documents and teaching aids.

- Promoted closer supervision of school operations by Division supervisory personnel.

- Increased contact and feedback among Division and school personnel, students, moniteurs, farmers, employers of moniteurs and personnel from other agricultural agencies.

- Encouraged better financial planning and record keeping at the Division and in the schools.

During its visits to the Division office and the schools, the evaluation team observed that the administration was effected in a fairly efficient manner, even though the degree of efficiency varied from one institution to another, depending on the quality of the local leadership. The internal organization was logically designed, permitting effective flows of communications among different administrative units. The functions of each unit and the responsibilities of personnel were clearly defined.

According to the Division officials, school administrators, instructors and students interviewed by the team, the project has brought significant improvements to the administration of the CAA system. The improvement was reflected by the better utilization of facilities, activity planning and implementation, financial record keeping, material inventory and maintenance, personnel management and instructional supervision.

This evaluation team fully agrees with the following observation noted in the 1984 evaluation report : "Attempting to administer six different training sites, some fifty-odd staff, and approximately 400 students all within the context of a developing country's infrastructure is a task which requires

skill, patience, and creativity. Yet, even with these constraints, the administrative links within the CAA system appear to be operating amazingly well". Much credit for this accomplishment can be given to the three persons who are responsible for the administration of the project: the Malian Division Director, the SECID team leader and the AID project manager. Their professional competence, close collaboration and high quality leadership, to a large extent, have made this project a successful one.

There were some concerns about the ability of the Division and schools to preserve the administrative improvements and changes that the project has brought about. It is certain that these institutions cannot afford all necessary resources and certain expertises to keep their operations going at the current pace and with the same quality. It is therefore important that those involved in the CAA system should prepare to cope with the problems arising after the termination of the project. It is recommended that:

- a meeting be held as soon as possible with the participation of the SECID team and the Malian administrators of the Division and schools to identify the the problems resulting from the project termination and to find possible solutions to these problems:

- training personnel in the use of media center equipment and the computer be sped up to ensure the continued operation of these materials:

- the GRM start searching for possible sources of financial support and technical assistance such as USAID, the World Bank, FAO, UNESCO, etc..

2. IMPROVEMENT OF FACILITIES

Much effort was expended by the SECID team in bringing about needed repairs to the buildings at the Division office and the schools, and the procurement and maintenance of necessary equipment and materials for the successful operation of

the moniteur training program. Some of these efforts were as follows:

- Assisted the AID project manager in the supervision of the construction of the Samé school.
- Supervised the inventorying and shipment of furniture and equipment ordered by AID for the Samé and M'Pessoba schools.
- Procured vehicles, motobikes, motopumps, generators, tractors and farm implements for all schools.
- Purchased furniture, equipment, materials, and supplies as needed for the school farms, livestock herds, shops, laboratories, libraries, offices, classrooms, first aid stations, kitchens, dining rooms, dormitories, media center, and for recreational and athletic programs.
- Provided teaching aids and trained instructors in their proper use.
- Remodeled buildings at the Samanko and Dioro schools in order to accomodate more students.
- Made alterations to the Division office building to provide more offices for personnel, and built a large building to provide housing for the media center, warehouse and mechanic repair shop.
- Maintained all buildings in good condition by performing such work as replacing broken windows and doors, fixing leaking roofs, painting, renovating chalkboards, and repairing electric, fresh water and sewage systems.
- Trained mechanics to keep water pumps, vehicles, tractors and other equipment in operating condition and provided repair parts as needed.
- Constructed a small dam at the Samanko school to provide water for irrigation for crops on the school farm.

- Dug wells at the Baguineda school for crop irrigation and at the Dioro school to provide fresh water for staff and students.

- Cooperated with the Peace Corps in promoting the construction and use in the schools of improve stoves that require less wood in cooking, wood for cooking purposes in Mali being expensive and difficult to obtain.

It is evident that the the SECID team has brought many improvements in facilities and equipment to the Division office and particularly to the schools. Living conditions as well as training facilities and materials at the schools have been greatly improved thanks to project effort. This fact was acknowledged by school personnel and students interviewed by the evaluation team. However, the team made the following observations:

- With the exception of the M'Pessoba CAA, other schools need more animal traction equipment and materials: plows, oxen, tillers...

- At Samé, the sanitary facilities of the dormitories were in a deplorable condition (broken showers and faucets, no running water...) that endangered students' health. This situation might be attributed in part to the fact that the pump of the school water supply system has broken down and not been repaired for weeks. However, the root of the problem seems to be the lack of supervision by the school administration and the students' indifference to the maintenance of their living quarters. It should be made clear to the students that they have the responsibilities to keep the dormitories and facilities in good working order. As mentioned earlier, the water pump should be repaired or replaced as soon as possible. Also, the school should mobilize the students for the maintenance of the dormitories.

- At Dioro, the sanitary condition of the school personnel living quarter needs to be improved. There were some flaws in the construction of the school garages, warehouses,

dormitories, and classrooms that hinder the efficient use of these facilities. In addition, the generator was found to be inadequate for the electrical power need of the school.

- The warehouse and tool room at the Kita school were not secure enough to prevent stealing of equipment and tools. In considering the higher cost for replacing stolen objects, it is recommended that assistance be given to the school for increasing the security of these facilities.

- At the Division office, there was a need for more space to house the library that can also be used as a conference room.

3. STAFF AND MONITEUR IMPROVEMENT THROUGH PARTICIPANT TRAINING

The principal elements of the AID/African HRD strategy are to extend AID participation training programs in the United States and third countries, and to provide AID support for the development of national and regional training institutions within Africa.

Normally "Participant Training" refers to AID-sponsored training of selected individuals outside their home countries. On the other hand, "Development training" includes external training, in-country training activities and assistance for staff development within African training institutions. However, for the sake of simplicity and to be consistent with the components labeling of the Project Paper, the term "participant training" as used in this evaluation will include training in the U.S., third country, as well as training done in-country. This Section will discuss also the coordination of training activities supported by other AID projects, the GRM, and other donors such as the World Bank.

Since the beginning of the project in 1977, the participant training component assumed prominence among other components in the inputs/outputs sections of the original Project Paper and both Project Paper amendments. As of the date of this

evaluation, a total of 333.6 man-months of participant training has been provided since the arrival of the SECID team in March 1982. Because the realization of anticipated impact from human resource upgrading depends to a large extent on the quality of the participants and the training provided, attention is drawn to the discussion below of the training implementation process.

Both AID and World Bank assistance to the CAA project provided funds for participant training. These funds were utilized in a collaborative manner in order to obtain the maximum training possible and the specific training needed. For instance, the World Bank funds were used to send participants to excellent training centers in geographic areas other than the U.S. where AID requires waivers (Code 935); AID funds were used for training in Mali, the U.S. or developing countries. Assistance was also received from other donors such as UNESCO and from other AID/MALI projects (the FSR/E Project, for example).

No long-term training was undertaken in this Project. It was agreed by all concerned parties (SECID, GRM and AID/MALI) that the project training needs could better be met by providing short-term training to as many project personnel as possible instead of using available funds for long-term training of a few persons. Furthermore, the impact would be more immediate from short-term training compared to sending participants for a four-year degree program for a project that was originally scheduled to terminate in three years. The general education level of Division and school personnel was considered adequate. What was needed was pedagogic and technical training to upgrade their knowledge and skills in their areas of responsibilities.

Training was provided for two different groups of participants. The first group included Division and school personnel for whom seminars and workshops were conducted to improve their administrative, pedagogic and technical knowledge and skills. The training covered such areas as administration, teaching methods, course revision, record keeping, topography, animal traction, plant protection, welding and mechanics. All Division personnel, school directors, assistant directors, instructors,

financial managers, librarians and mechanics have been participants in the training provided.

Annex 3 shows the training provided to Division and school personnel to date. Additional training planned for this group during February-April 1987 includes an administrative workshop for Division personnel, school directors and assistant directors, a curriculum development workshop for third-year instructors, and three workshops in farm equipment operation and maintenance for school shop personnel, which should total five man-months of training.

The second group for whom training was provided consisted of moniteurs doing agricultural extension work with farmers in the rural areas. For these moniteurs, inservice workshops were planned to upgrade their extension methodology and expertise in modern farm practices. Their training needs were determined through questionnaires and interviews with moniteurs and their employers. This training was held at the schools during normal school vacation and holiday periods.

Annex 4 lists the training provided to the moniteurs to date. Additional training is planned for February, March and April 1987 in the following subject areas: Farmers' Associations, Crop Fertilization and Farm Management. Participation should total 72 man-months. About one half of the approximately 2,000 moniteurs and encadreurs currently working in the field will receive at least eight days of inservice training prior to the end of this project.

Participants were carefully selected for training that would prepare them to do a better job, thus having a favorable impact on the overall project goal. The training was conducted by well qualified professionals. At the end of each training seminar or workshop, the participants were asked to evaluate their training and the trainers' performance. After the training, the participants' job performance was evaluated by

their supervisors to determine if the training had been beneficial. The evaluations have been consistently favorable. Participants were eager for training and quick to apply their newly learned knowledge and skills. This fact was confirmed by the observations and interviews of concerned people that the evaluation team made during its visits to the Division and schools.

The original AID-SECID contract called for 78 man-months of participant training and the project extension authorized in June 1985 added 60 man-months, making a total of 138 man-months to be provided. So far, a total of 333.6 man-months of training has been accomplished, and it is estimated that additional 77 man-months will be realized by the end of the contract on April 30, 1987 for a final total of 410.6 man-months. It should be noted that all Division and school personnel who had received training in the U.S., in third countries or in Mali, are still working in the CAA system, holding the positions related to their training areas.

There is no doubt that the SECID team has done an outstanding job in regard to participant training. The training objective set by the Project was achieved not only in quantity but also with high quality. Credit must also be given to the Division personnel, the World Bank specialist and the officials in various agricultural production services (the "Operations"), whose cooperation was essential to the success.

4. IMPROVEMENT OF TRAINING PROGRAM, CURRICULUM AND INSTRUCTION IN THE FIRST TWO YEARS

a. TRAINING PROGRAM

In order to make the training program more relevant to the functions of the moniteurs in the field, the training program was changed as follows:

- More emphasis was put on Economics and Extension training. The number of hours assigned to these subject matters was doubled. In addition, Extension is now taught in both years.

- Teaching hours for Animal Sciences and General Education were reduced in proportion to the importance of other subjects.

- Topography and Agricultural Mechanization were taught as two separate courses in which students learn both theory and practice. (See Annex 5 for the current training program).

b. CURRICULUM IMPROVEMENT AND COURSE REVISION

(1) Approach to Course Revision

To bring about improvement in the curriculum, the TA team started with the analysis of tasks or functions performed by moniteurs in the field. To make such an analysis, the technical assistance team considered results of past studies made by several institutions and contacted various agriculture-related services that employ moniteurs. In addition, inputs were also obtained from teachers and students in the schools. Eight seminars and workshops were organized for this purpose.

After the moniteur's tasks had been identified, course objectives were developed in terms of student behavior. In other words, curriculum revision was based on the concept of competency based education which implies the development of behavioral or performance objectives and the application of active teaching methods. Emphasis was placed on problem-solving approach in teaching-learning, creative thinking, effective use of instructional materials and practical learning experiences.

Following the development of course objectives, the writing of the course was done by the SECID technicians with the collaboration of their Malian counterparts. Information for course content came from technical documents published by various agricultural production and research services in Mali as well as in other West African countries.

(2) Involvement of Instructors in Course Revision

Instructors were encouraged to participate actively in course revision. The objective was to make them feel that they were part of the team and that the revised courses were their products. Their participation was also an opportunity for them to receive in-service training and it facilitated the acceptance of new curriculum.

To achieve the above objective, the work on course revision was implemented in two phases:

Phase 1 : The technical assistance team revised a number of courses that would serve as models. These courses were also used to test the effectiveness and acceptance of the approach in course revision.

Phase 2 : The team technicians worked together with instructors to revise other courses after the latter have received adequate training in course revision. Six workshops were conducted for such purpose. It is hopeful that at the end of the project, the instructors will be able to assume the responsibility themselves.

(3) Result of Course Revision

As a result of project effort, all the technical courses taught in the CAAs were revised. They are listed below:

- Economie Générale et Rurale
- Vulgarisation I (Les Communications)
- Vulgarisation II (Etude du Milieu et Méthodes de Vulgarisation)
- Etude des Sols
- Travail et Aménagement des Sols
- Fertilisation des Sols
- Botanique I (Morphologie et Reproduction)
- Botanique II (Physiologie et Ecologie)
- Topographie
- Protection des Vegetaux I (Ravageurs des Cultures)

- Protection des Cultures II (Maladies, Mauvaises Herbes et Protection des Produits Stockés)
- Multiplication et Amélioration des Végétaux
- Conditionnement et Transformation des Produits agricoles
- Cultures Maraîchères
- Cultures Vivrières
- Cultures Fruitières
- Cultures Industrielles
- Zootechnie I (Anatomie Animale)
- Zootechnie II (Connaissance du Bétail)
- Zootechnie III (Élevage et Embouche)
- Zootechnie IV (Alimentation du Bétail)
- Zootechnie V (Hygiène Animale)
- Zootechnie VI (Produit d'Origine Animale)
- Machinisme Agricole

(4) Implementation of Revised Courses

Before a revised course was put into effect, the draft of its manual was shown to concerned instructors for review of its content and format. To facilitate the implementation of revised courses, the following actions were taken by the technical assistance team :

- Training instructors in new teaching methods, development and use of instructional materials;
- Making available to instructors all necessary reference materials;
- Improving school facilities by supplying needed equipment and materials;
- Providing instructors with necessary teaching aids;
- Assisting instructors develop lesson plans and teaching strategy.

As a result of this assistance, the schools are now in better condition and the instructors are well prepared for the

instruction of new courses. The Media Center at the Division has reproduced hundreds of copies of reference materials and teaching aids for the schools.

(5) Evaluation of Revised Courses

To evaluate the effectiveness of the revised courses, the technical assistance team employed a questionnaire and direct interview to get feedback from teachers regarding the application of the new courses. The teachers have given high marks for the new courses. This satisfaction with the revised courses was expressed to the evaluation team by instructors and school administrators.

c. IMPROVEMENT OF TEACHING AND LEARNING

(1) Situation before Project Implementation

Before the implementation of the project, almost all instructors used traditional teaching methods. The teacher was the center of all educational activities. He was an information giver with all the authority in the classroom. A great percentage of class time was used in the teacher's dictation of the lesson to students. Very little discussion or explanation took place in the classroom. Thus students were simply passive information receivers with no motivation or initiative. As a result, they became rote learners whose ability for creative thinking and problem solving was greatly suppressed.

Educational objectives were mostly expressed in terms of the teacher's action, not the student's behavior. That rendered teaching and learning less meaningful and coherent. It was also difficult to have an effective evaluation of students' learning. In fact, the instruments used to measure learning were not reliable. Tests were usually administered at the end of each trimester. There were few class quizzes to monitor the progress in students' learning. Most of the tests were of subjective essay type.

There was lack of coordination between theoretical and practical learning. Teachers tended to place much more emphasis on the theoretical aspect than on the practical one of the subject matter. Therefore little attention was given to the student's need for practical training.

Teaching evaluation and school inspection were not done systematically and effectively. As a result, little improvement took place in instruction year after year. Teachers saw no need for preparation of better lesson plans and application of innovative teaching methods. In fact, teachers received very little training in education.

(2) Actions taken by the Project and their Results

The application of revised courses has certainly contributed to the improvement of teaching and learning. However, the technical assistance team also undertook the following actions to promote better instruction :

- Providing in-service pedagogic training to instructors by organizing seminars and workshops. In addition, SECID technicians assigned to the schools conducted weekly training session for instructors and gave them individual assistance with lesson preparation;

- Developing an effective lesson plan that helps teachers to have better preparation for their teaching (Annex 6). All instructors now have well prepared lesson plans for their subject matters;

- Redesigning the instruction evaluation instrument (Annex 7) and giving assistance to the supervisor of instruction so that the evaluation becomes more effective and reliable. As a result, the schools have been inspected more regularly and teachers have paid more attention to their teaching performance;

- Supplying schools with necessary teaching aids to help make teaching and learning more interesting and effective;

- Encouraging better coordination of classroom teaching and practical training:

- Creating specialized classrooms that are oriented to major subject matters to facilitate teaching and learning:

- Training teachers in the development and use of objective tests to evaluate students' learning:

- Improving school libraries by supplying necessary furnitures, books and other reference materials. In-service training in library management was also provided to school librarians:

- Making practical farm works more interesting and effective by implementing the method by which plots of school farm were put under the management and initiative of small groups of students:

- Encouraging the schools to organize more field trips for students and to use guest speakers or other resource people outside the CAA system;

- Preparing a student guide for each CAA. The guide helps students understand better the training program and other school activities;

- Establishing the program of giving awards to good students at the end of the school year to motivate students in their learning. The program was highly appreciated by teachers and students.

The improvement in teaching and learning was confirmed by school administrators, instructors and students interviewed by the evaluation team. It was also reported by the instruction supervisor of the Division, who had made annual visits to schools for the past five years to evaluate teachers' performance. Many teaching aids developed by teachers (posters, charts ...) were displayed in classrooms at most schools. It is recommended that:

After examining the situation, the technical assistance team and counterparts developed a training guide ("Guide de stage") that is given to each third-year student before he/she goes to their training place (Annex B). The guide is intended to provide students with orientation and guidance about major aspects of their training: objectives, preparation, supervision, program and evaluation. It also helps students' supervisors in the Operations have better planning, supervision and evaluation of training activities.

Feedbacks from students in the past year indicated that there had been significant improvement in the third year training. Students became better prepared for their training. They understood what they had to do and how their performance would be evaluated. Furthermore, there was less variability in the training program and the evaluation became more objective and reliable. However, the Division cannot have sufficient control over the training in the Operations to ensure its quality. Therefore, it has been decided that, starting from the 1987-1988 school year, the CSs will admit all third-year students except a few who will receive their training in research services or the Center of Agricultural Mechanization.

b. TRAINING IN THE SPECIALIZATION SCHOOLS

The training in the three specialization schools was better than that in the Operations but it had some weaknesses. To overcome those weaknesses, the project took the following actions:

- Provided inservice training for instructors in teaching methods as well as in their technical specialties ;
- Supplied the schools with adequate instructional equipment and materials ;
- Redesigned the training program in the specialization schools.

Starting in 1984, with the implementation of national economic reforms and administrative restructuring, the government was no longer able to assure the automatic employment of all graduates. Consequently, a number of graduates could not get into the civil service system and had to look elsewhere for employment. Since the existing training program was oriented mainly toward the supply of agents for the government, it became necessary to make changes so that future graduates will be able to work not only in the public sector but also in the private sector or as self-employed farmers. In view of the fact that the first two years in the CAAs provide students with basic knowledge and skills in agriculture, it was logical to change the training in the third-year specialization schools to accommodate the new situation.

(1) Philosophy of the New Training Program

The new training program is based on the philosophy that the third-year schools should not be limited to the training of specialists for the government. Instead, they should provide their graduates with adequate professional preparation that will allow them to find employment in the public as well as in the private sector. Therefore, the training should become less specialized. To emphasize the new philosophy, it has been proposed to change the name of the third-year schools from "Centre de Spécialisation" to "Centre de Perfectionnement Professionnel Agricole" (CPPA)

The training is based primarily on cultural activities that take place on the school farm as well as on the farms located in the surrounding villages. The students' training is alternated between the CPPA and the farms in the villages. Emphasis is placed on active teaching-learning methods, solving of concrete problems, group interaction, human relations and verbal communication skills.

(2) Organization of the New Training Program

The training in the third year covers 9 months, from May through January, corresponding to a complete cropping season.

It is divided into 3 long periods associated with the 3 main phases in the cultural calendar for major crops.

The first period: May-July; the training is focused on land preparation, seeding and planting.

The second period: August-October; the training is concerned with crop care (weeding, soil fertilization, irrigation, pests and disease control ...)

The third period: November-January; the training is concerned with the harvesting and storage of harvested products.

In each training period, students in small groups are sent to the villages where they stay with farm families and work closely with them on the farm. In addition to the farming activities, the students are required to make a socio-technico-economic study in relation to their hosts. The student's stay with the farmer is called "**the stage**" and constitutes the central part of each three-month training period and is conceived as follows:

- **Preparation for the "stage":** Students are provided with the knowledge necessary for the attainment of the stage objectives.

- **Realization of the stage:** Students stay and work with farmers in the village. They carry out all required activities and tasks listed in the "Guide for the Stage" provided by the school.

- **Exploitation of the stage:** Students return to the school. Each group of students makes a verbal presentation about their stage (activities, findings of the study, problems ...) Teachers, in the role of advisors, help find solutions to the problems encountered by the students. They also identify the areas in which the students have not been adequately trained and give them additional training accordingly.

The new program is less specialized. It is intended to provide the graduates with knowledge and skills needed in both public and private sectors. Its objective is that, at the end of his training, the student will be able to:

- Master the production techniques for principal crops ;
- Manage efficiently a farm ;
- Act as an effective driving force in rural development.

The program is conceived in consideration of the knowledge and skills acquired by the students in the first two years in the CAAs. It consists of three aspects:

- **The technical aspect**, that is concerned with agronomy, hydrology, topography, farm mechanization and other agricultural production techniques.

- **The economical aspect**, that relates to farm management.

- **The sociological aspect**, that deals with human relations, particularly the relations between the development agent and the people he works with.

The improvement of the training program, curriculum and instruction is one of the primary goals of the CAA Project. It is time consuming and requires a lot of effort from the technical assistance team. Despite working with limited resources, the team has achieved practically all of the objectives set for the Project. This success is, to a large extent, the result of the close collaboration between the expatriates and their Malian counterparts.

On the other hand, the evaluation team believes that additional assistance is needed for the implementation of the innovated third-year program and teachers should receive more training in their technical fields.

E. PROJECT ACTIONS IN REGARD TO AID/WASHINGTON CONCERNS

In approving the last extension of the Project in June 1985, AID/W expressed three concerns arising from the 1984 Project Evaluation. These concerns are

- the improvement of CAA student selection process as recommended in the 1984 evaluation report,
- the employment of CAA graduates, and
- The application of individual plots for students' practical farm work.

This section will discuss the actions taken by the Project to address the Agency's concerns and their results.

1. STUDENT SELECTION CRITERIA AND PROCESS

Each year, students are selected to enter the first year of the CAAs through a competitive entrance exam administered nationally by the Division. The exam consists of four sixty-minute tests given in the same day: French dictation and comprehension, French composition, Mathematics, and Sciences. The tests are of essay types. The Division select one among several test questions proposed by the Ministry of Education for each subject matter.

The 1984 evaluation team questioned the reliability and the validity of this student selection process. It recommended that research be done to identify a set of selection criteria "which show some reliability in predicting whether or not a candidate will made a good extension agent". AID/W voiced the same concern and demanded that the Project study this issue.

The SECID team, in cooperation with the Division personnel, conducted a study the purpose of which was to identify those factors that might influence the academic performance and professional attitudes of the students in order to come up with a set of better student selection criteria. The factors selected were: entrance exam scores, principal occupation of

student's father, student's permanent residence, level of fundamental education, pre-CAA farming experience.

The population selected for the study consisted of all students enrolled in the three CAAs during the 1985-1986 school year. A questionnaire composed of 23 questions was used to collect information concerning students' personal background, occupational choice and vocational attitudes.

Some of the interesting findings of the study can be cited here:

- Fathers of 63 percent of students were either full-time or part-time farmers:

- Sixty-four percent of students had acquired some farming experience before entering the CAAs:

- The fundamental education level of the large majority of students was higher than the required minimum of 9 years:

- Moniteur was cited as the first occupational choice by 60 percent of second-year students and 37 percent of first-year students.

- Practically all students interviewed thought that their parents were proud of their being attending the CAAs; and 57 percent had chosen the CAAs because they wanted to be moniteurs, while only 34 percent saw their enrollment in these schools as the best opportunity to become government employees.

- There was very little correlation between the student's entrance exam scores and his academic performance, indicating therefore the lack of test reliability and validity.

- Although the principal occupation of the student's father, student's residence, level of fundamental education and pre-CAA farming experience had no significant effect on academic achievement in the CAA, it was noted that better performance and professional attitudes were generally associated with students whose fathers were farmers, who resided in the village, who had more years of fundamental education and/or who

had farming experience before entering the CAAs. Consequently, it would be reasonable to favor the selection of candidates from these groups.

In light of the findings, it was recommended that the process of test development and administration be reformed so that the tests measure effectively the professional aptitudes and motivation of the candidate and at the same time favor the selection of candidates coming from rural back ground, and that the the Division personnel be involved more in the selection process.

These recommendations have been studied at the Ministry level for possible implementation. Since about two-thirds of the students selected came from farming families, the existing selection process seems to be effective in choosing those candidates who have the potential to become better extension agents or to work in other jobs related to agricultural production. Considering the administrative and political structure of the GRM, the evaluation team agreed with the opinion expressed by the Malian project director that, instead of reducing the problems, the radical change of the present selection system might cause more problems. The best solution appears to be the improvement of test reliability and validity through development of better test questions and more objective grading procedures.

2. EMPLOYMENT OF CAA GRADUATES

In response to AID/W's concern about the employment of CAA graduates, the Project conducted a study in 1986, the purpose of which was to make a survey of CAA graduates' employment and to verify the relevancy of the CAA training program to the nature of their professional functions. The population selected for the study included the moniteurs who graduated in 1982 and 1983.

It was found that 97.5 percent of 201 moniteurs graduated

in 1982 and 1983 were employed in 20 different agriculture-related services. Of those employed, 72 percent worked in different Operations or services related directly to agricultural production, 19 percent in research services and 9 percent in other agencies.

The moniteurs involved in the survey performed a variety of duties that require special skills and knowledge. Three-fourths of them had extension as their most important duty. About one-third were involved in administration, research and production. Other duties were performed by smaller percentages. However, the moniteurs were often assigned to several duties in addition to their main one.

In their work, the moniteurs encountered some problems related to their relationship with farmers, material supplies, means of transportation, technical knowledge, salary and housing, and support from their home office.

Generally, the current training program in the CAAs seemed to provide the graduates with sufficient knowledge and skills, especially those concerning agricultural techniques and extension methods. The weakest points were related to mathematics, physics, chemistry and French.

In light of the findings in the study, the following recommendations were made:

- (1) The Division of Technical Agricultural Education and Professional Training should explore all possibilities for the employment of CAA graduates beyond the public sector;
- (2) An office of career guidance and job placement should be established within the Division to provide counseling and placement assistance to the graduates.
- (3) The training in the CAAs and the Specialization Centers should place more emphasis on the learning of important skills in farm management, accounting and communication along with technical competencies. General

education subjects should be rendered more functional and appropriate to the nature of the graduates' work:

(4) All third-year students should be placed in the Specialization Centers where there are better supervision and well defined training programs."

(5) "The newly tried approach to effective practical training by putting plots of school farm under the management and initiative of small groups of students should be encouraged and continued."

The Division has already implemented some of the recommendations: the innovation of the training program in the third year centers, the placement of nearly all third year students in these centers starting with the 1987-1988 school year, the continued emphasis on practical training by small groups of students. A section concerned with the vocational guidance and employment of graduates has been added to the proposed reorganization of the Division.

As pointed out in the study report, there is always a great need for moniteurs. In fact, most of the graduates who failed to get a job with the government in 1984, were employed by the C.M.D.T.. The authorities in many Operations have expressed their desire to hire more moniteurs if permitted.

The evaluation team noted that many employment opportunities have been opened to the CAA graduates in the private sectors. Several graduates have been employed by non-governmental organizations such as CARE of Mali, Africare, Plan International... . The feedback received by the Division from these employers indicated that the performance on the job of these graduates were satisfactory. According to them, the CAA graduates interacted well with farmers, had little problem in adapting to the rural life and working conditions, and possessed desirable technical competencies. The SECID team and Division personnel should be commended for their effort to place these graduates on the jobs.

Several students interviewed by the evaluation indicated that they were willing to take up the farming occupation after their graduation. Since a large majority of the CAA students come from farming families, the chance that they will be engaged in farming with their families or by themselves, will be fairly high. The GRM has encouraged young graduates to go back to the farm through a program of providing credits and land to those willing to start farming business on their own. As a result, the evaluation team believes that, with the adaptation of the training program to the new situation and with all the improvements brought about by the Project, the CAAs will play an important role in providing qualified manpower for the agricultural development of the country.

3. INDIVIDUAL PLOTS FOR STUDENTS' PRACTICAL TRAINING

The 1984 evaluation team recommended that "students be provided individual plots of land for both field crops and for garden crops. The students will be given management responsibility for their plot and evaluated on how well they care for these plots". This recommendation was discussed at the administration workshop held in March 1985, with the participation of the directors and assistant directors of all the six schools in addition to Division personnel and SECID team. The consensus was that the schools lacked the means for the implementation of individual plots and that it was more practical and efficient to use small group plots. The schools were to organize students in small groups and put under full responsibility of each group a plot of land to grow crops. This was done in the 1985-1986 school year.

Results at the end of that school year were disappointing. The failure was attributed to poor planning, insufficiency of materials (hand tools, seeds, fertilizers etc.), and lack of effective supervision and follow-up at the Division as well as the school level.

To prevent the same mistake from happening again, Dr. Tran of the T.A. team was assigned the task of finding the

solution to the problem. After a careful study of the situation, he prepared a blue print for the implementation of small group plots at the schools. The document that was presented at the administration workshop held in March 1986, covers all essential topics: coordination of activities, division of students into small groups, organization of group plots, material planning, operation procedures, supervision and evaluation of students' work.

At the beginning of the 1986-1987 school year, adequate materials were supplied to the schools and the implementation of small group plots for practical training started as planned. At each CAA, students were divided into groups of 10 or 11. Each group was given the full responsibility to manage a plot of 1.25 hectares. Each plot was partitioned in 4 subplots of equal size corresponding to four different crops planted. Thus, for each plot managed by a group of students, there was a rotation of four crops: corn, sorghum, cotton, peanut, for example. The students were provided with sufficient tools and materials needed for normal farming operations. SECID technicians and Division officials made several supervision and follow-up visits to the schools to motivate school personnel and students, and to ensure the correct implementation of the activities. At the end of the school year, prizes were given to the best student group in each school and to the best of the three CAAs.

The evaluation team found that school administrators, instructors and students were enthusiastic about the small group plots. For the students, it was the end of being used simply as labor for school farm production purpose and the beginning of learning by doing in a meaningful way. According to the reports of school directors, the students were highly motivated and they acquired many technical knowledge and skills (Work organization, cultural practices, utilization of animal traction equipment, group interaction, etc.). It is interesting to note that, in general, the crop yields obtained in these small group plots were relatively higher than those coming from the farmers' fields in the surrounding areas. Much credit for

this success can be given to the SECID team, all Malian officials and students involved in the Project.

To further improve the implementation of the small group plots, it is recommended that the schools be provided more work oxen and animal traction materials.

VI. CONCLUSIONS AND GENERAL RECOMMENDATIONS

The CAA project began in 1977 as what seemed then to be a neatly non-controversial three-year Agricultural Education project with a LOP funding of \$5 million. However, the project began experiencing early some severe input problems which lasted for almost half of its extended life. Despite its very rocky start, it ends ten years later as a successful project.

Since the project purposes are to strengthen the capacity of the GRM to train sufficient number of qualified moniteurs needed for its agricultural development and to improve the quality and administration of the three-year agricultural education program for the moniteurs, it can be said that the project has accomplished its purposes.

With the facilities of the existing six schools, the CAA system can produce up to 175 moniteurs a year. All administrative and teaching personnel at the Division and the schools have received adequate training to carry out efficiently their professional duties. All the technical courses taught in the first two years (the CAAs) have been revised and put into use. The third-year program has been innovated and reoriented to be more adapted to the changing job markets. The evaluation team observed evidences of improvements in the administration and management of the Division and the schools, in the implementation of the training program, in the instruction and learning. The improvement in the quality of the moniteurs was confirmed by feedback from employers of CAA graduates who had received the benefits of the project.

If one can assume that the improvement in the quality of agricultural extension agents will bring about the improvement of the transmission of modern and appropriate technologies to the rural population, which is certainly a fair assumption, then the project has attained its goal. In reality, it is difficult to measure the degree of goal attainment at this moment. For an educational project, it may be years before its terminal impacts can be reliably assessed. As a result, only the immediate impacts of the project will be cited:

- The CAA system is now better equipped in terms of personnel and facilities to provide the country with needed qualified agricultural extension agents.

- The Division and school personnel are more competent and carry out their functions in highly professional manner.

- The new pragmatic educational philosophy and the active instructional methodology have been adopted. Teaching is now done by behavioral objectives and learning is associated with well defined competencies.

- More contacts have been established between the CAA system and other national, regional or international agriculture-related organizations, thus bringing the CAA system out of the past isolation and strengthening its link with agricultural extension and research.

- The training program is no longer limited to the production of specialists for the government. Graduates from the CAA system can work also in the non-governmental sector or as farmers themselves. This is an important factor for the ultimate development of the Malian agriculture which necessitates an adequate supply of qualified manpower.

- The improvement of the living condition at the schools is a motivating force to keep competent instructors from leaving the system and to enhance their dedication to the teaching profession.

- In view of the production obtained from students' farm plots this year, the schools have proven that they could become pilot farms in their community.

Thus, the investment of AID fund in this project has been a success that is reflected by the tremendous progress made in the CAA system. The SECID team should be commended for the job well done and the Malian personnel in the Division and schools be praised for their unquestioned willingness, cooperation and effort to attain the project objectives. However, in talking with the evaluation team, people involved in the Project expressed concerns about the future of the CAA system after this project. The principal issue was how to sustain, or at least maintain, the progress that has been achieved so far.

It is true that the GRM will not be able to absorb all the recurrent costs presently borne by the project. Assistance will certainly be needed for the following areas:

- Inservice training of personnel, particularly technical training.
- Reproduction of instructional materials.
- Maintenance of equipment.
- Implementation of the newly developed training program in the third year schools.
- Development and evaluation of instructional materials for the third year training.
- Employment counseling and development for graduates.
- School farm management to help the school become at least partially self-sufficient.

The majority of the evaluation team members believe strongly that the project should be extended two more years to help the CAA system develop completely and become capable to take care of itself. On paper, the project is now in its tenth year, however, it has been fully implemented only in the last five

years after the arrival of the SECID team in 1982. Since it is definite that the project will terminate at the end of April due to lack of AID fund, the evaluation team recommends that:

- (1) The GRM start, as soon as possible, an active search for financial support and technical assistance from other possible donors such as the World Bank, FAO, UNESCO...;
- (2) The schools make more efficient use of the school farm, facilities and equipment to generate incomes to supplement the existing operating budget without sacrificing the quality of student training;
- (3) The services employing moniteurs or sending their moniteurs to the schools for retraining be asked to share with the school, some operating expenses;
- (4) The GRM explore with AID the possibility of extending the resources from other AID-sponsored projects (the FSR-E Project, the Sahel Human Resources Development Project, for example) to the CAA system.

A N N E X E S

ANNEX 1

LIST OF PEOPLE INTERVIEWED

DIVISION OF AGRICULTURAL EDUCATION IN BAMAKO

- Boubacar Amion Guindo , Director
- Jean Bataille , World Bank Technician

C.A.A. AT SAME

- Boubacar Cissé , Director
- Siné Sow , Assistant Director
- Salif Diallo , librarian
- Lamine Niambélé , instructor
- Badara Ali Coulibaly , instructor
- Karim Guindo , instructor
- Modibo Coulibaly , school shop supervisor
- Amadou Kamissogo , nurse
- Youssouf Sangaré , second-year student
- Adama Sidibé , second-year student
- Boubacar Haïdara , first-year student
- Mariam Diarra , first-year student

C.S. AT KITA

- Tiédiougou Sanago , Director
- Nama Billy Keita , Assistant Director
- Moussa Camara , bursar
- Sékou Baliandou , instructor
- Mamadou Diallo , instructor & librarian
- Koman Coulibaly , instructor
- Balia Dembélé , secretary
- Moussa Tangara , student
- Yaya Coulibaly , student
- Moustapha Thiam , student
- Abdoulaye Guindo , student
- Mamadou Karabinta , student

ANNEX 1 (continued)

LIST OF PEOPLE INTERVIEWED

C.A.A. AT SAMANKO

- Ousmane Sissoko , Director
- Ibrahim Dana Keita , Assistant Director
- Mariko Massaran Keita , librarian
- George Dioni , instructor
- Lassana Keita , instructor
- Boubacar Bolly , instructor

C.S. AT SAMANKO

- Moulaye Mariko , Director
- Mahamane Najim Haïdara , Assistant Director
- Modibo Traoré , instructor

C.A.A. AT M'PESSOBA

- Babert Nientao , Director
- Konimba Diarra , Assistant Director
- Daouda Traoré , instructor
- Sarayamou A. Cissé , instructor
- Cheick Hamalla Dembélé , instructor
- Baba Traoré , instructor

C.S. AT DIORO

- Adama Koné , Director
- N'Gou Goïta , Assistant Director
- Bassy Doucouré , instructor
- Cheick Oumar Diaby , instructor
- Mahamadou Cissé , instructor
- Kaba Konaté , instructor

ANNEX 2

PROJECT NO. 688-0207
 AGRICULTURAL OFFICERS TRAINING

PROJECT BUDGET SUMMARY
 AS OF FEBRUARY 28, 1987
 (in U.S. dollars)

PROJECT INPUTS	BUDGET	EARMARKING	COMMITMENT	EXPENDED COMMITMENT	UNEXPENDED COMMITMENT	BALANCE UNEARMARKED
	9,930,000.00	9,928,497.53	9,928,497.53	9,019,209.89	909,287.64	1,502.47
TECHNICAL ASSISTANCE	4,234,400.00	5,036,261.59	5,036,261.59	4,141,403.79	894,857.80	(801,861.59)
TRAINING	71,000.00	16,502.18	16,502.18	16,502.18	0.00	54,497.82
COMMODITIES	916,500.00	509,011.59	509,011.59	509,011.59	0.00	407,488.41
CONSTRUCTION	4,208,800.00	4,204,914.29	4,204,914.29	4,204,914.29	0.00	3,885.71
OPERATING COSTS	311,100.00	82,744.80	82,744.80	82,609.94	134.86	228,355.20
OTHER COSTS	55,500.00	55,500.00	55,500.00	41,205.02	14,294.98	0.00
EVALUATION	50,000.00	23,563.08	23,563.08	23,563.08	0.00	26,436.92
CONTINGENCY	55,400.00					55,400.00
INFLATION	27,300.00					27,300.00

SOURCE : USAID/MALI

ANNEX 3

Inservice Training Provided Division and School Personnel

Date of Training	Type of Training	Place	NO. of Participant	Man/Days
12/27/82-12/30/82	Workshop in School Administration	Bamako	20	80
3/22/83- 3/26/83	Pedagogic Workshop for all Instructors	Samé	92	460
3/27/83- 4/ 1/83	Workshop on Course Revision	Samé	30	150
3/28/83- 4/ 1/83	Workshop for Librarians	Bamako	15	75
4/18/83- 4/30/83	Topography Workshop	Bamako	11	132
4/18/83- 6/24/83	Farm Machinery Training	Paris	1	50
5/11/83- 5/13/83	Plant Protection Workshop	Bamako	6	18
5/16/83- 5/21/83	Plant Protection Workshop	Dakar	6	30
6/20/83- 6/24/83	Workshop for Librarians	Bamako	1	5
7/14/83- 8/30/83	Teaching Methods Workshop	Bamako	3	45
7/25/83- 8/ 4/83	Rural Development Workshop	Bamako	1	10
8/22/83-10/17/83	Training in Teaching Methods	Paris	2	78
9/ 5/83-10/ 3/83	Management	Paris	1	22
11/ 7/83-11/12/83	Welding Training	Bamako	2	18
12/12/83-12/20/83	Teaching Methods Workshop	Bamako	7	49
2/ 1/84- 2/ 3/84	Administrators Workshop	Bamako	20	60
3/ 5/84- 3/ 6/84	Curriculum for Female Students	Samanko	13	26
3/ 7/84- 3/ 8/84	Practical Training - Farms and Shops	Samanko	36	72
3/ 9/84- 3/10/84	Use of School Facilities	Samanko	29	58
3/10/84- 4/17/84	Agricultural Education and Extension	U.S	3	117
3/12/84- 3/14/84	Teaching Methods Workshop	Bamako	36	108
4/16/84- 4/20/84	Workshop for Librarians	Samanko	11	55
4/16/84- 4/20/84	Plant Protection Workshop	Dakar	3	15
7/15/84- 9/24/84	Agricultural Education	U.S	1	45
7/21/84- 7/25/84	Agricultural Education	Cameroun	2	10
9/20/84- 9/29/84	Animal Traction	Samanko	4	36
9/10/84-10/22/84	Pedagogic Training	Paris	5	140
10/ 8/84-10/20/84	Post Harvest Equipment	Samanko	6	72
3/ 4/85- 3/ 7/85	Mechanic Workshop	Samanko	11	44
3/ 6/85- 3/ 9/85	Administrators Workshop	Bamako	22	88
3/12/85- 3/23/85	Tractor Repair	Samanko	6	66
3/12/85- 4/27/85	Farm Machinery	Samanko	10	360
4/ 9/85- 4/13/85	Library Workshop	Baguineda	2	10
4/16/85- 4/20/85	Pedagogic Workshop	Samanko	48	225
4/22/85- 4/26/85	First + Second Year Program Revision	Samanko	38	190
9/10/85-10/22/85	Pedagogic Training	Paris	6	170
12/26/85-12/28/85	Third Year Program Revision	Bamako	41	123
1/22/86- 1/23/86	Pedagogic Training	Bamako	10	20
2/20/86- 2/21/86	Pedagogic Training	Bamako	7	14
3/10/86- 3/14/86	Course Revision Workshop	Bamako	8	32
3/14/86- 3/15/86	Course Revision Workshop	Bamako	7	14
3/17/86- 3/19/86	Administration Workshop	Bamako	29	87
3/17/86- 3/22/86	Library Workshop	Samé	12	60
3/20/86- 3/21/86	Pedagogic Training	Bamako	5	10
4/14/86- 5/18/86	Training for School Bursars	France	5	125
11/ 3/86-11/21/86	Ag Research and Extension	Bamako	1	18

Total number of man/days = 3692

Total number of man/months = 167.8

ANNEX 4

Inservice Training for Moniteurs

Date of Training	Kind of Training	Place	NO. of Participant	Man/Days
2/ 3/86-2/10/86	Topography and Animal Husbandry	Dioro	18	144
" "	" " " "	Kita	12	96
" "	" " " "	Samanko	10	80
2/12/86-2/19/86	" " " "	Dioro	14	112
" "	" " " "	Kita	12	96
" "	" " " "	Samanko	16	128
2/21/86-2/28/96	" " " "	Dioro	15	120
" "	" " " "	Kita	21	168
" "	" " " "	Samanko	14	112
3/ 3/86-3/10/86	Control of Plant Pests and Extension Methods	Dioro	14	112
" "	" " " " " "	Kita	11	88
" "	" " " " " "	Samanko	16	128
3/12/86-3/19/86	" " " " " "	Dioro	15	120
" "	" " " " " "	Kita	12	96
" "	" " " " " "	Samanko	17	136
3/21/86-3/28/86	" " " " " "	Dioro	16	128
" "	" " " " " "	Kita	11	88
" "	" " " " " "	Samanko	14	112
4/ 1/86-4/ 8/86	Animal Traction Equipment	Dioro	11	88
" "	" " " "	Kita	13	104
" "	" " " "	Samanko	21	168
4/10/86-4/17/86	" " " "	Dioro	14	112
" "	" " " "	Kita	17	136
" "	" " " "	Samanko	20	160
4/19/86-4/26/86	" " " "	Dioro	16	128
" "	" " " "	Kita	13	104
" "	" " " "	Samanko	16	128
7/21/86-7/28/86	Farmers' associations	Dioro	16	112
" "	" " " "	Kita	16	112
7/28/86-8/ 2/86	" " " "	Dioro	16	112
" "	" " " "	Kita	17	119

Number of moniteurs participating

464

Number of man/days of training

3648

Number of man/months of training

165.8

ANNEX 5 : CURRENT TRAINING PROGRAM IN THE CAAs

CENTRES D'APPRENTISSAGE AGRICOLE

REPARTITION DU PROGRAMME D'ENSEIGNEMENT ET DES ACTIVITES

MATIERES ENSEIGNEES ET ACTIVITES DIVERSES	PREMIERE Heures/ semaine	ANNEE Heures/ année	DEUXIEME Heures/ semaine	ANNEE Heures/ année
- Productions végétales	6	216	6	216
- Zootechnie	2	72	2	72
- Economie générale et rurale	2	72	2	72
- Vulgarisation agricole	2	72	2	72
- Topographie	1	36	1	36
- Machinisme agricole	1	36	1	36
- Enseignement général	3	108	3	108
- Travaux pratiques	18	648	18	648
- Etudes et Travaux individuels	5	180	5	180
- Etudes	4	144	4	144
- Sport	1	36	1	36
TOTAUX	45	1 620	45	1 620

ANNEX 6 : LESSON PLAN USED IN THE CAAs

CENTRE :

INSTRUCTEUR :

FICHE	PEDAGOGIQUE
-------	-------------

CLASSE :

COURS :

UNITE :

TITRE :

OBJECTIFS DE LA LECON :

QUESTIONS D'ETUDE :

DEROULEMENT DE LA LECON

RESSOURCES NECESSAIRES :

TEMPS A PREVOIR :

ACTIVITES DIDACTIQUES SUGGEREES :

TRAVAIL D'APPLICATION :

REFERENCES BIBLIOGRAPHIQUES :

ANNEX 6 : LESSON PLAN USED IN THE CAAs (page 2)

<u> </u> ICHE	<u> </u> PEDAGOGIQUE
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CENTRE :

INSTRUCTEUR :

COURS :

TITRE :

DATE :

HEURE :

		OBSERVATION PEDAGOGIQUE	
POINTS	CLES	TECHNIQUES	TEMPS

ANNEX 7 : INSTRUCTION EVALUATION FORM

MINISTERE DE L'AGRICULTURE

REPUBLIQUE DU MALI

DIRECTION NATIONALE DE L'AGRICULTURE

Un Peuple - Un But - Une Foi

DIRECTION DE L'ENSEIGNEMENT TECHNIQUE AGRICOLE
ET DE LA FORMATION PROFESSIONNELLE

SECTION METHODES ET PROGRAMMES

FICHE D'INSPECTION PEDAGOGIQUE

Instructeur inspecté: Centre de:

Fonction: Grade:

Date de la dernière inspection:

Motif de l'inspection:

Dans la classe de: Cours:

Titre de la leçon:

CRITERES A OBSERVER	!Excellent	!Très bien!	Bien	!Assez bien!	!Passable!
1. Etat de la classe					
2. Leçon préparée conformément à la fiche pédagogique					
3. Objectifs clairement définis					
4. Rappel des notions précédemment étudiées					
5. Evolution du cours (Progression, ton, rythme)					
6. Clarté de l'exposé (capacité d'expliquer)					
7. Adaptation du cours au niveau des élèves					
8. Aptitude à solliciter la participation des élèves					
9. Insertion des T.P. et observation dans le cours					
10. Appréciation sur le contenu technique de la leçon					
11. Usage auxiliaire audio-visuel					
12. Contrôle des acquisitions					
13. Observation des cahiers d'élèves					
14. Comportement et attitude de l'instructeur					
15. Fréquence et la manière du contrôle des acquisitions					
16. Compétence technique de l'instructeur					
CLASSEMENT TOTAL					

ANNEX 7 : INSTRUCTION EVALUATION FORM (page 2)

REMARQUES:
.....
.....
.....
.....

RECOMMANDATIONS:
.....
.....
.....
.....

INSPECTION EFFECTUEE PAR:

FONCTION:

ET PAR:

DATE ET SIGNATURE DE L'INSPECTEUR:

REMARQUES ET SIGNATURE DE L'INSPECTE:
.....
.....
.....

AVIS ET SIGNATURE DU CHEF D'ETABLISSEMENT:
.....
.....
.....

REPUBLIQUE DU MALI
DIRECTION DE L'ENSEIGNEMENT
TECHNIQUE AGRICOLE ET DE LA
FORMATION PROFESSIONNELLE

GUIDE DE STAGE

POUR

L'ELEVE-MONITEUR

PROJET C.A.A.

USAID / SECID
1985

GUIDE DE STAGE POUR L'ELEVE-MONITEUR

1. L'OBJECTIF DU STAGE

Le stage a pour but de préparer l'élève-moniteur pour une vie professionnelle et de lui apporter des connaissances techniques approfondies et des expériences pratiques que celui-ci n'a pas pu acquérir pendant les deux années dans les CAA.

Spécifiquement, à l'issue du stage, l'élève-moniteur doit être capable :

- de montrer les comportements professionnels désirables d'un moniteur ;
- de faire une étude sociologique, économique et écologique du milieu dans lequel il va être affecté ;
- d'effectuer une étude monographique d'un village ;
- de conduire une étude technico-économique d'une exploitation agricole ;
- de maîtriser les techniques culturales concernant les cultures spécifiques dans la zone de stage ;
- de maîtriser les techniques de vulgarisation et de gestion ;
- d'organiser et d'effectuer le travail d'un moniteur sur le terrain.

2. L'ORGANISATION DU STAGE

21. La Répartition des stagiaires

Après leur passage de la deuxième année dans les CAA, les élèves-moniteurs font un stage de la troisième année soit dans les CS, soit dans les ODR, soit dans d'autres services agricoles. La répartition des stagiaires se fait par une Décision du Ministre de l'Agriculture, qui définit aussi la date du stage. Normalement, le stage se déroule du début Mai à la fin Décembre.

22. La Préparation pour le stage

Dans la dernière semaine d'Avril, chaque stagiaire doit se présenter à la DETA-FP pour recevoir une copie de la Décision et les renseignements nécessaires pour le stage. Il faut bien garder la Décision parce que ce document est exigé pour l'obtention des moyens de transport au lieu de stage et du retour.

A l'arrivée au lieu de stage, le stagiaire prend contact immédiatement avec le chef de service pour compléter les formalités et discuter les problèmes de nourriture, de logement, et le programme du stage.

Il est nécessaire que le stagiaire apporte assez d'argent pour sa nourriture et son logement au moins dans les premiers jours. Les bourses seront envoyées au lieu du stage mais comme elles sont toujours en retard, il est suggéré que le stagiaire économise ses bourses de vacances dans ce but.

23. L'Encadrement du stage

Normalement, le chef de service ou l'un de ses adjoints agit en qualité de directeur de stage. Il est chargé d'élaborer le programme de stage, de superviser et d'évaluer le stagiaire. Le stagiaire doit lui rapporter tous les problèmes qui se poseront au cours de son stage.

3. LES RESPONSABILITES DU STAGIAIRE

31. Le Comportement

Un bon comportement est attendu du stagiaire. Celui-ci doit être ponctuel, honnête et consciencieux dans son travail. Il faut que le stagiaire démontre les caractères suivants :

- Le respect pour le règlements intérieurs et les propriétés du service d'accueil ;
- Une bonne attitude envers les agents du service et les paysans, et un esprit de collaboration avec eux ;
- La volonté d'accepter les responsabilités ;
- L'engagement chaleureux dans les activités de stage ;
- La patience et la persévérance dans le travail.

32. Les Etudes

Le stagiaire doit réaliser les études suivantes, qui feront partie de son rapport de stage :

- L'étude de l'organisme d'encadrement (structures administratives, fonction, objectifs, accomplissements, problèmes etc...)

- L'étude sociologique, économique et écologique en général du secteur où se fait le stage (situation géographique, démographie, climat, hydrologie, sols, végétation, cultures principaux, élevage...)

- L'étude monographique d'un village (sociologie, agriculture, élevage, économie).

- L'étude technico-économique d'une exploitation villageoise (système de production, intervention des facteurs de production, gestion, commercialisation...).

Pour chaque étude, il faut que le stagiaire porte un jugement personnel sur les réalités observées et fasse des propositions concrètes pour améliorer les situations existantes.

33. La Participation aux activités du service d'accueil

Le stagiaire doit activement participer à toutes les activités demandées par le service d'accueil : il s'agit des activités administratives, de production, de vulgarisation... Si le stagiaire est affecté à une ODR, il doit prendre part dans la planification, l'exécution et l'évaluation de la campagne de production. La description des activités menées, avec des commentaires et des interprétations, sera incluse dans le rapport de stage.

34. Le Carnet journal des activités

Le stagiaire doit tenir un carnet journal dans lequel il récapitule ses activités journalières menées pendant le stage. Ce carnet sera mensuellement contrôlé par le directeur de stage et devra lui être soumis à la fin du stage ; son format pourrait être comme suit :

Date	Recapitulation des activités	Remarques

35. Le Rapport de stage

A la fin du stage, le stagiaire doit fournir au directeur de stage un rapport qui porte sur les études personnelles, la campagne et les activités menées pendant le stage. Le plan du rapport pourrait être envisagé comme ci-dessous :

- I. Introduction
- II. Etude de l'organisme d'encadrement
- III. Etude du secteur de production
- IV. Etude monographique d'un village
- V. Etude technico-économique d'une exploitation
- VI. La campagne de production
- VII. Les activités importantes menées pendant le stage
- VIII. Impressions et suggestions
- IX. Conclusions

Il faut noter que tout ceci a valeur indicative. Le choix des points dépend principalement du lieu d'affectation et des conditions du stage.

36. La Fiche "feed-back"

La DETA-FP demande au stagiaire de compléter la fiche "feed-back" qui est en annexe 2, et de la donner au directeur du centre dans lequel il revient après le stage. Cette fiche a pour objet d'évaluer la formation dans les CAA, et le stage en troisième année.

La plupart des questions dans la fiche demande l'avis et le jugement personnel du stagiaire. On veut savoir ce que le stagiaire pense ou bien ce qu'il croit peut représenter le mieux son expérience. Les renseignements recueillis des fiches "feed-back" seront utilisés pour l'amélioration de la formation des moniteurs.

4. L'EVALUATION DU STAGE

L'évaluation du stage est affectée par le directeur de stage. Elle porte sur quatre grands points suivants :

- Le comportement du stagiaire,
- Les savoir et savoir-faire du stagiaire,
- Le rapport de stage,
- Le carnet journal des activités.

Avant de terminer son stage, le stagiaire doit présenter son rapport devant un jury pouvant être constitué par le directeur de stage et des responsables du service d'accueil. La note de stage découlera de la fiche de notation en annexe , qui sera remplie et renvoyée à la DETA-FP par le directeur de stage.

5. LA FIN DE STAGE ET LA PREPARATION POUR L'EXAMEN DU CAPA

Avant de quitter le lieu de stage, le stagiaire doit réclamer le certificat de non-endettement et le présenter à la direction de son CAA. Sans ce certificat, le stagiaire ne pourra pas obtenir ses bourses au niveau du centre.

Après son retour au centre, le stagiaire doit se préparer pour l'examen du CAPA qui a lieu au mois de Janvier.

SERVICE :

NOM DU STAGIAIRE :

FICHE DE NOTATION PEDAGOGIQUE

Eléments d'évaluation	Echelle de notes	Note donnée
1. Comportement (25 %)		
11. Ponctualité dans le travail	0 - 5	_____
12. Rapport avec les agents du service	0 - 5	_____
13. Rapport avec les paysans	0 - 5	_____
14. Engagement et dynamisme dans le travail	0 - 5	_____
15. Volonté d'accepter des responsabilités	0 - 5	_____
2. Savoir et savoir-faire techniques (40 %)		
21. Connaissances techniques	0 - 8	_____
22. Maîtrise des pratiques culturelles	0 - 8	_____
23. Maîtrise des techniques de vulgarisation	0 - 8	_____
24. Maîtrise des techniques de gestion et d'économie	0 - 8	_____
25. Maîtrise des techniques de communications	0 - 8	_____
3. Rapport de stage (30 %)		
31. Qualité technique		
311. Agencement et cohérence des idées	0 - 5	_____
312. Faculté d'observation et d'analyses	0 - 5	_____
313. Faculté de faire de synthèse et de jugement	0 - 5	_____
314. Faculté de faire des propositions	0 - 5	_____
32. Présentation orale	0 - 5	_____
33. Présentation écrite	0 - 5	_____
4. Carnet journal des activités (5 %)	0 - 5	_____
TOTAL SUR 100.....		/100
TOTAL SUR 20.....		/20

REMARQUES DU DIRECTEUR DE STAGE :

