REPUBLIC OF MALI

DIVISION OF TECHNICAL
AGRICULTURAL EDUCATION
AND PROFESSIONAL TRAINING

STUDY ON THE EMPLOYMENT OF CAA GRADUATES

C.A.A. PROJECT
USAID / SECID
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PART I

INTRODUCTION

I. BACKGROUND

In Mali, the training of junior-level agricultural extension agents or "moniteurs d'agriculture" takes place in the agricultural schools called "Centres d'Apprentissage Agricole" (CAA). The CAAs are under the supervision of the Division of Technical Agricultural Education and Professional Training ("Direction de l'Enseignement Technique Agricole et de la Formation Professionnelle" (DETA-FP)), that is placed within the Ministry of Agriculture.

The instructional program consists of three years of theoretical and practical training. During the first two years, the students receive their basic training in agriculture and general education (French, mathematics, physics and chemistry) in the CAAs. After the satisfactory completion of the CAA program, they spend their third year of practical training either in a Specialization Center or in an agricultural service related to production or research. At the end of their third year, the students have to pass the exam called "Certificat d'Aptitude Professionnelle Agricole" (CAPA) in order to become moniteurs officially. At present, there are three CAAs located separately at M'Pessoba, Samanko and Samé, and three Specialization Centers established at three different locations: Baguineda, Dioro and Kita.

In 1980, responding to the increased need of Mali for moniteurs that was estimated at 203 persons per year (Bingen's Report, 1976), the United States Agency for International Development (USAID) joined with the World Bank in financing the Agricultural Officers'Training Project known as the CAA Project, the objective of which is to increase the capacity of

the CAA to graduate 160 well-trained moniteurs a year. As a result of this assistance, the three existing CAAs have been able to receive a total of 175 students annually since 1982.

Before 1984, all CAA graduates were employed by the government. However, starting from 1984, with the implementation of national economic reforms and administrative restructuration, the government has no longer assured the automatic employment of graduates from most professional schools including the CAAs. Consequently, concerns over CAA graduates' employment have been expressed by some authorities. It was suggested that the CAA admission policies and training program should be changed according to the new situation. In fact, the DETA-FP has implemented some appropriate measures. It has reduced the number of students admitted yearly to the CAAs from 175 to 125, beginning in the school year 1985-1986. Reforms of the training program at the specialized schools have been planned and a decision was made that all third year students will be enrolled in those schools in 1987. The objective is that future CAA graduates will be able to work not only in the public sector, but also in the private sector or as self-employed farmers.

In order to obtain reliable information necessary for the making of decisions on the reforms of the CAAs, the DETA-FP has carried out several studies including this one that is concerned with CAA graduates' employment and the relevance of the CAA training program to moniteurs' functions in the field.

II. PURPOSE OF THE STUDY

The principal purpose of the study is 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.

More specifically, the study attempted to answer the following questions :

1. What has happened to the CAA graduates after their graduation?

2. In what kinds of jobs have the CAA graduates been employed?

3. Is the CAA training program relevant to the professional functions performed in the field by the graduates?

III. METHODOLOGY

The study was limited to moniteurs who graduated from the CAAs in 1982 and 1983. The reason for this selection was that after 1983, CAA graduates are required by the government to complete two years of military services before being employed.

A preliminary survey was conducted to locate the moniteurs targetted by this study. Based upon the lists of 1982 and 1983 graduates, contacts were made with the Civil Service Personnel Office, Operations, research services and other agricultural organizations to obtain their places of employment. A questionnaire was then sent to each of them for necessary information.

The questionnaire used in this study consists of 37 questions which are grouped into four main parts as follows:

Part 1 : Basic Information, concerned with personal background such as age, birth place, parents' profession, residence, ethnic group, level of general education, farming experience before admission to the CAAs...

Part 2 : Professional Training, including questions related to the CAAs the graduates attended, place of third year training, year of graduation, assessment of training program...

Part 3 : Professional functions, concerning employer organization, place of work, duration of employment, principal job duties, job-related problems...

Part 4 : Career choice and professional attitudes.

Only the data of the first three parts were used for this study.

There were 105 questionnaires completed and returned by the CAA graduates to the DETA-FP office, that consisted of 47 from 1982 graduates and 58 from 1983 graduates.

Responses to the questionnaire were coded, tabulated and stored on computer disks with the use of an Apple IIe computer. The data were processed and analyzed by means of the software "MSTAT" developed by the Michigan State University. When appropriate, a Chi-square test of significance was employed.

IV. DEFINITION OF IMPORTANT TERMS

Moniteur d'Agriculture: "Moniteur d' Agriculture" or simply "Moniteur" is the French words for junior-level agricultural extension agent who holds the Certificate of Agricultural Professional Aptitude. The moniteur usually works with farmers at the village level.

Centre d'Apprentissage Agricole: This French term, abbreviated as CAA, refers to the school in which the moniteurs spend their first two years of training.

Division of Technical Agricultural Education and Professional Training: This is the translation of the French words "Direction de l'Enseignement Technique Agricole et de la Formation Professionnelle", abbreviated as DETA-FP. The Division is a Service of the Ministry of Agriculture and responsible primarily for the training of moniteurs in Mali.

Specialization Center: This is an agricultural school that provides practical training to the moniteurs in their third year. There are presently three specialization centers in Mali. The Bagulneda Center is specialized in vegetable and fruit

crops, the Dioro Center in rice culture and the Kita Center in peanut and other grain crops.

Operation: This French word refers to a government service that supervises the production of specific crops and rural development in a particular region. The Operation may also have a specific activity such as production of improved seed or crop protectio.

C.M.D.T.: This is the abbreviation of the name of a semi-private company "Compagnie Malienne pour le Developpement des Textiles", that can be translated as "the Malian Company for Textile Development". The C.M.D.T. is a joint venture of the Malian government and French business and it is concerned mainly with coton production.

PART II

THE FINDINGS

I. THE EMPLOYMENT OF MONITEURS GRADUATED IN 1982 AND 1983

The numbers of moniteurs graduated from the CAAs in 1982 and 1983 are 91 and 110, respectively. The result of the preliminary survey indicated that all of the graduates except 2 of the 1982 class and 3 of the 1983 class, were employed in 20 agricultural services located in different regions of Mali, as presented in Table 1. Consequently, the employment rate in the public sector is 97.8 percent for those graduated in 1982 and 97.3 percent for those graduated in 1983, with the combined percentage of 97.5 . No information was obtained on the five graduates who were not accounted for. It can be assumed that they have found employment in other sectors.

As expected, the majority of the graduates (72 percent) worked in different Operations or services that are directly related to agricultural production; 19 percent were employed in research services and 9 percent in other services such as Regional Agricultural Offices and National Rural Engineering Office. These figures can be summarized by year of graduation as follows:

	Year of Graduation		
Services	1982	1983	Total
- Operations	37%	50%	44%
- C.M.D.T.	18%	36%	28%
- Research	33%	8%	19%
- Other services	12%	6%	9%

It is interesting to note that C.M.D.T. is the biggest single organization which employed more than one-fourth of all the graduates. Due to its special status of a semi-private

TABLE 1

DISTRIBUTION OF MONITEURS GRADUATED IN 1982 AND 1983
BY THEIR EMPLOYER SERVICES

SERVICES	YEAR OF GRADUATION 1982	1983	TOTAL
1. Action Blé - Diré (AB-DIRE)	0	3	3
2. Action Riz Sorgho - Gao (ARS-GAO)	5	7	12
3. Compagnie Malienne pour le Développement des Textiles (CMDT)	16	38	54
4. Opération de Développement Intégré de Baguineda (ODIB)	1	0	1
5. Opération de Développement Intégré du Kaarta (ODIK)	10	7	17
6. Office de Développement Intégré de la Production Arachidière et Céréalière (ODIPAC)	7	2	9
7. Opération Haute Vallée (OHV)	1	0	1
8. Opération Mils - Mopti (OMM)	0	10	10
9. Office du Niger (ON)	3	15	18
10. Opération de Protection des Semences et Récoltes (OPSR)	0	6	6
11. Opération de Production des Semences Sélectionnées (OPSS)	2	0	2
12. Opération Riz-Mopti (ORM)	1	2	3
13. Opération Riz - Ségou (ORS)	3	2	5
14. Direction Régionale de l'Agriculture - Ségou (DRA-SEGOU)	0	2	2
15. Direction Régionale de l'Agriculture - Tombouctou (DRA-TOMBOUCTOU)	10	2	12
16. Direction Nationale du Génie Rural (DNGR)	1	2	3
17. Section de Recherches sur le Coton et les Fibres Jutières (SRCFJ)	1	2	3
18. Section de Recherches sur les Cultures Vivrières et Oléagineuses (SRCVO)	26	5	31
19. Section de Recherches Fruitières et Mara^ichères (SRFM)	0	1	1
20. Section de Recherches sur le Tabac et les Plantes Nouvelles (SRTPN)	2	1	3
TOTAL	89	107	196

company, C.M.D.T. is considered separately from other Operations which are entirely government services.

II. BASIC CHARACTERISTICS OF THE RESPONDENTS

Although the questionnaire was sent to each of the 196 moniteurs identified in the preliminary survey, only 105 returned the questionnaire after they had completed it. The distribution of these respondents by employer services is presented in Table 2. The basic characteristics of the respondents are summarized in Table 3 and can be described briefly below:

1. Age

The ages of the respondents ranged from 22 to 29 with 49 percent between 26 and 27, and 30 percent beween 24 and 25.

2. Parents' Profession

Farming is the primary occupation of the fathers of 67 percent of the respondents and the secondary occupation of 15 percent. Two-thirds of the mothers were primarily housewives and only 34 percent were engaged in farming.

3. Residence

More than one-half of the respondents had resided in villages or small towns during the school year or during vacation periods.

4. Ethnic Groups

The respondents belonged to more than 10 ethnic groups with the Sonrhai being the largest (19 percent) followed by the Bambaras (13 percent) and the Dogons (13 percent).

5. Level of General Education

Seventy-three percent of the respondents had completed 10 years or more of fundamental education before they entered the CAAs. Most had attended fundamental schools in villages.

TABLE 2

DISTRIBUTION OF RESPONDENTS GRADUATED IN 1982 AND 1983 BY THEIR EMPLOYER SERVICES

SERVICES	YEAR OF GRADUATION		TOTAL
	1982	1983	
1. Action Blé - Diré (AB-DIRE)	0	2	2
2. Compagnie Malienne pour le Développement des Textiles (CMDT)	3	24	27
3. Opération de Développement Intégré du Kaarta (ODIK)	5	2	7
4. Office de Développement Intégré de la Production Arachidière et Céréalière (ODIPAC)	4	2	6
5. Office du Niger (ON)	3	11	14
6. Operation de Protection des Semences et Récoltes (OPSR)	2	4	6
7. Opération de Production des Semences Sélectionnées (OPSS)	2	0	2
8. Opération Riz-Mopti (ORM)	1	2	3
9. Opération Riz - Ségou (ORS)	3	2	5
10. Direction Régionale de l'Agriculture - Ségou (DRA-SEGOU)	0	2	2
11. Direction Nationale du Génie Rural (DNGR)	1	2	3
12. Section de Recherches sur le Coton et les Fibres Jutières (SRCFJ)	1	1	2
13. Section de Recherches sur les Cultures Vivrières et Oléagineuses (SRCVO)	21	2	23
14. Section de Recherches Fruitières et Maraichères (SRFM)	0	1	1
15. Section de Recherches sur le Tabac et les Plantes Nouvelles (SRTPN)	1	1	2
TOTAL	47	58	105

TABLE 3

GENERAL CHARACTERISTICS OF MONITEURS RESPONDING TO QUESTIONNAIRE

Items	Number	Percentage
Age		
- 22 to 23 years	10	10
- 24 to 25 years	32	30
- 26 to 27 years	51	49
- 28 to 29 years	12	11
Father's principal occupation		
- Farmer	70	67
- Merchant	5	5
- Government employee	22	21
- Craftsman	5	5
- Other	3	3
Father's secondary occupation		
- Farmer	16	15
- Merchant	14	13
- Government employee	0	0
- Craftsman	11	10
- Other	4	4
- None	60	57
Mother's principal occupation		
- Farmer	34	32
- Merchant	2	2
- Government employee	0	0
- Craftsman	7	7
- Other	62	59
Mother's secondary occupation		
- Farmer	5	5
- Merchant	8	8
- Government employee	0	0
- Craftsman	0	0
- Other	1	1
- None	91	87

TABLE 3 (continued)

GENERAL CHARACTERISTICS OF MONITEURS RESPONDING TO QUESTIONNAIRE

Items	Number	Percentage
Residence during school year		
- In the village	47	45
- In a small town	11	10
- In the city	47	45
Residence during vacations		
- In the village	56	53
- In a small town	9	9
- In the city	40	38
Ethnic groups		
- Bambara	14	13
- Bobo	1	1
- Dogon	14	13
- Dyula	0	0
- Dakolo	0	0
- Malinké	9	9
- Marka	10	10
- Minianka	11	10
- Mossi	0	0
- Peulh	10	10
- Sénoufo	5	5
- Sonrhai	20	19
- Other	11	10
Years of education before entering the CAA		
- 9 years	32	30
- 10 years	50	48
- Over 10 years	23	22
Place of fundamental school attended		
- In the village of origin	44	42
- In another village or small town	21	20
- In the city	39	37
- Other	1	1

TABLE 3 (continued)

GENERAL CHARACTERISTICS OF MONITEURS RESPONDING TO QUESTIONNAIRE

Items	Number	Percentage
Having previous farming experience		
- Never	22	21
- Yes	83	79
CAA attended		
- M'Pessoba	27	26
- Samanko	45	43
- Samé	33	31
Place of Third Year Training		
- Specialization Center of Dioro	20	19
- Specialization Center of Baguineda	7	7
- Specialization Center of Kita	23	22
- Centre d'Animation Rurale (CAR)	4	4
- Research Services	5	5
- Operations including CMDT	37	35
- Centre de Machinisme Agricole	9	9
Year of Graduation		
- 1982	47	45
- 1983	58	55

6. Pre-CAA Farming Experiences

Seventy-nine percent had done some farm works before their admission to the CAAs.

7. CAA Attended and Year of Graduation

Forty-three percent of the respondents attended the CAA at Samanko, thirty-three went to Same and twenty-seven to M'Pessoba. Forty-five percent of the respondents graduated in 1982 and fifty-five percent in 1983.

8. Place of Third Year Training

Forty-eight percent of the respondents received their third year training in the specialized centers : nineteen percent in the Dioro Center, seven percent in the Baguineda Center and Twenty-two percent in Kita Center. Another thirty-five percent spent their third year of training in one of the Operations. The rest was distributed among the Centre de Machinisme Agricole, Centre d'Animation Rurale (CAR) and research services.

III. DUTIES PERFORMED BY MONITEURS

It was found that the moniteurs performed a variety of duties that can be grouped into 14 categories:

1. Extension

This is the principal duty performed by the largest number of moniteurs with the overall percentage of 74. A close look at the figures in Table 4 shows that, with the exception of those associated with research services, almost 100 percent of the moniteurs employed in the Operations, the CMDT and other services were engaged in extension activities. These moniteurs worked directly and closely with farmers to teach the latter approved farming techniques through demonstration in the field. They also followed up the farmers to ensure that their advices were correctly applied by regularly visiting their clients and

TABLE 4

DUTIES OF MONITEURS BY SERVICES OF EMPLOYMENT

DUTIES	SERVICES OF EMPLOYMENT				
	Operations	C.M.D.T.	Research	Others	TOTAL
	N1=45	N2=27	N3=28	N4=5	N=105
	(Figures expressed in percentages)				
1. Extension	96	100	11	100	74
2. Administration	40	48	11	40	34
3. Research works	2	15	96	0	30
4. Production	36	52	4	0	30
5. Farmer organization	29	4	0	0	13
6. Credit management	9	30	0	0	11
7. Marketing	11	22	0	0	10
8. Input distribution	9	15	0	0	8
9. Livestock management	9	11	4	0	8
10. Socio-economic survey	13	4	0	0	7
11. Functional literacy	7	7	0	0	5
12. Equipment maintenance	4	7	4	0	5
13. Labor supervision	4	0	11	0	5
14. Teaching	0	0	0	40	2

helped the latter solve their specific problems in time. In short, the moniteurs carried out their extension duty by maintaining a close working contact with the farmers through out the year and assisted them adopt approved cultural techniques and overcome other technical difficulties in order to improve the production.

2. Administration

The next most important duty of the moniteurs was related to administration. This duty was performed by 34 percent of the moniteurs and concerned with the preparation of various administrative reports, bookkeeping, accounting, material inventory. It was found that moniteurs working in the Operations and C.M.D.T. had more administrative activities than those in research services. This may be due to the fact that the former were assigned to more complex tasks than the latter.

3. Agricultural Research

This is the principal duty of the moniteurs working in various research services (96 percent). They were responsible for implementing experiment designs, establishing test plots, supervising land preparation, planting and havesting, making field observations, recording data for analysis, writing progress reports on the experiments. Only small percentages of Operation moniteurs were involved in agricultural research.

4. Production

Thirty percent of the moniteurs took an active part in various technical aspects of crop production. They prepared the land with tractors or by means of animal traction. They also participated in the seeding, planting, pest control and havesting of the crops. Fifty-two percent of the C.M.D.T. respondents and 36 percent of the Operation respondents were involved in production activities as compared to 4 percent of those in research services.

5. Farmer Organization

This duty was cited only by respondents employed in the Operations and C.M.D.T.. The respective percentages were 29 and 4. The moniteurs helped organize farmers and other villagers into groups of special interests. They acted as a link between local government and villagers in matters related to agriculture, education, public health.

6. Agricultural Credit Management

Nine percent of the Operation respondents and 30 percent of the C.M.D.T. respondents assumed also the role of credit manager. They were responsible for the management of the credits that their services provided to farmers so that the latter could produce crops. Their work concerned mainly the distribution and recovery of credits.

7. Marketing of Farm Products

In the Operations and C.M.D.T., some moniteurs assisted their client farmers in the harvest, transportation and marketing of farm products. Again, the C.M.D.T. assigned this duty to more moniteurs than the Operations (22 percent against 11 percent). This might be due to the fact that the C.M.D.T. was well organized and had better credit program.

8. Procurement and Distribution of Production Inputs

Again, this duty concerned the moniteurs in the Operations (9 percent) and C.M.D.T. (15 percent) only. The moniteurs were in charge of the procurement,transportation and distribution to farmers of production inputs such as seed, fertilizers, pesticides ...

9. Livestock Management

Eight percent of the respondents, mostly in the Operations and C.M.D.T., had duties related to livestock management. They worked with farmers in the use of animal traction, cattle selection and raising, better feeding and cares. . .

10. Socio-economic Survey

Thirteen percent of the Operation respondents and 4 percent of the C.M.D.T. respondents participated in socio-economic surveys conducted by their services on the local populations.

11. Functional Literacy

Seven percent of the respondents in the Operations and C.M.D.T. took part in the functional literacy program the objective of which is to improve the literacy level of villagers.

12. Equipment Maintenance

Only 5 percent of the respondents indicated that they were involved in the repair and maintenance of farm equipment operated by their services.

13. Labor Supervision

Small percentages of moniteurs in the Operations and research services supervised laborers who were employed for such activities as land preparation, seeding, planting, harvesting ...

14. Teaching

This task was performed only by two moniteurs who worked as instructors in the Centre de Machinisme Agricole. They taught short courses in farm equipment for personnel sent to the Center by other services, especially those from the Operations.

As indicated in Table 4, the very large majority of moniteurs working in the Operations and C.M.D.T. were engaged primarily in extension work. They also performed more duties than those associated with research services. As a result, they are required to possess a broad range of knowledges and skills and to put out a lot of effort in order to succeed in their work.

IV. PROBLEMS ENCOUNTERED BY MONITEURS

When asked to name the major problems that they had encountered in their work, a few moniteurs indicated none while others cited several problems (Table 5). These problems can be differentiated in 7 principal categories as follows:

1. Difficulty in Relations with Farmers

About two-thirds of the respondents mentioned that they had encountered some serious problems in their relations with the farmers. These problems were confined mostly to those moniteurs working in the Operations and C.M.D.T.. The problems that were most cited are:

- the mistrust of the farmers;
- farmers' resistance to changes;
- lack of active participation of the farmers;
- the recovery of credits provided to the farmers.

2. Lack of Means

Twenty-one percent of the respondents complained that they had not been adequately provided with necessary means to carry out their work. Mentioned were materials such as office supplies, land survey tools and equipment, production inputs. This problem seemed to be more serious with moniteurs working in the Operations than with those employed by the C.M.D.T. or research services.

3. Transportation

This problem was cited by 19 percent of all the respondents and concerned 37 percent of C.M.D.T. respondents. According to them, they did not have adequate means of transportation to help them maintain regular contacts with farmers in consideration of the vast distance between their work office and villages. It has been known that a moniteur in the Operations might be assigned to work with more than a hundred farmers in different villages.

TABLE 5

PROBLEMS ENCOUNTERS BY MONITEURS BY SERVICES OF EMPLOYMENT

DUTIES	SERVICES OF EMPLOYMENT				
	Operations	C.D.M.T.	Research	Others	TOTAL
	N1=45	N2=27	N3=28	N4=5	N=105
	(Figures expressed in percentages)				
1. Relation with farmers	47	41	4	20	32
2. Lack of means	29	11	11	60	21
3. Transportation	7	37	7	100	19
4. Farming techniques	13	4	36	40	18
5. Salary & Housing	9	7	11	20	10
6. Language	4	19	4	40	10
7. Administration	4	11	7	40	9

4. Techniques and Technology

Eighteen percent of the respondents reported that they had encountered some technical problems. They had difficulty in adapting what they had learned at the CAAs to the real situation in their work. In addition, there were some techniques that they had not learned or did not learn enough at the school. This problem concerned particularly a large percentage of moniteurs working in research services (36 percent). Frequently mentioned was the lack of knowledge and skills in the implementation of experimental designs, in topography, in the operation and repair of farm equipment, and in insect identification.

5. Salary and Housing

The problem of low salary and inadequate housing was cited by 10 percent of the respondents.

6. Language

Being unable to communicate with local farmers in their own languages is another problem encountered by 10 percent of the respondents. This might happen when the moniteur was assigned to work in an area where farmers belonged to ethnic groups different from his.

7. Administration

Nine percent of the respondents mentioned the lack of effective communication and support from the administration of their services. Moreover, some complained that they had been required to perform too many duties.

IV. STRENGTHS AND WEAKNESSES OF THE CAA TRAINING

A. STRENGTHS OF THE CAA TRAINING

The moniteurs were asked to indicate the subject matters of the CAA program in which they were best trained with respect to their work. As shown in Table 6, twelve subject matters were

TABLE 6A

STRENGTHS OF THE CAA TRAINING PROGRAM AS INDICATED BY MONITEURS BY C.A.A. ATTENDED

Subject Matters	C.A.A. M'Pessoba N1 = 27	C.A.A. Samanko N2 = 45	C.A.A. Samé N3 = 33	All C.A.A.s N = 105
	(Figures expressed in percentages)			
1. Extension	70	78	70	73
2. Specialized Agronomy	63	73	76	71
3. General Agronomy	63	47	42	50
4. Animal Sciences	26	36	39	34
5. Economics	37	36	18	30
6. Farm Mechanization	37	18	27	26
7. Crop Protection	11	22	12	16
8. Shop Works	4	16	3	9
9. Practical Farm Works	4	4	9	6
10. Botany	11	0	3	4
11. Math	0	0	3	1
12. French	0	2	0	1
13. Physics & Chemistry	0	0	0	0
14. Topography	0	0	0	0

TABLE 6B

STRENGTHS OF CAA TRAINING PROGRAM AS INDICATED BY MONITEURS BY SERVICES OF EMPLOYMENT

Subject Matters	SERVICES OF EMPLOYMENT				
	Operations	C.M.D.T.	Research	Others	TOTAL
	N1=45	N2=27	N3=28	N4=5	N=105
	(Figures expressed in percentages)				
1. Extension	69	78	79	60	73
2. Specialized Agronomy	71	81	64	60	71
3. General Agronomy	60	44	46	0	50
4. Animal Sciences	49	11	32	40	34
5. Economics	33	22	32	40	30
6. Farm Mechanization	27	30	18	40	26
7. Crop Protection	16	15	18	20	16
8. Shop Works	4	4	21	0	9
9. Practical Farm Works	11	0	4	0	6
10. Botany	4	0	4	20	4
11. Math	2	0	0	0	1
12. French	0	0	4	0	1
13. Physics & Chemistry	0	0	0	0	0
14. Topography	0	0	0	0	0

TABLE 6C

STRENGTHS OF THE CAA TRAINING PROGRAM AS INDICATED BY MONITEURS BY YEAR OF GRADUATION

Subject Matters	Year of Graduation		TOTAL
	1982	1983	
	N1 = 47	N2 = 58	N = 105
	(Figures expressed in percentages)		
1. Extension	68	78	73
2. Specialized Agronomy	72	71	71
3. General Agronomy	64	38	50
4. Animal Sciences	40	29	34
5. Economics	26	34	30
6. Farm Mechanization	28	24	26
7. Crop Protection	15	17	16
8. Shop Works	11	7	9
9. Practical Farm Works	6	5	6
10. Botany	2	5	4
11. Math	2	0	1
12. French	0	2	1
13. Physics & Chemistry	0	0	0
14. Topography	0	0	0

named; however only seven of them were mentioned by more than 10 percent of the respondents. They are:

- Agricultural Extension (73%);
- Specialized Agronomy (71%);
- General Agronomy (50%);
- Animal Sciences (34%);
- Agricultural Economics (30%);
- Farm Mechanization (26%);
- Crop Protection (16%).

In general, about three-fourths of the respondents reported that the CAAs had given them the best training in Agricultural Extension and Specialized Agronomy. Fifty percent cited General Agronomy and about one-third named Animal Sciences, Agricultural Economics and Farm Mechanization.

There were variations in the moniteurs' responses when the data were controlled for the CAAs attended (Table 6A). The magnitudes of the responses for Agricultural Extension varied from 70 percent for M'Pessoba and Samé to 78 percent for Samanko. Significant differences among the three CAAs were also found with other subject matters, particularly Specialized Agronomy, General Agronomy, Animal Sciences and Economics. This seems to indicate that the professional preparation in the CAAs was not homogeneous. These variations might be attributed to the difference in program emphasis, in the availability of adequate instructional materials and facilities, and in the competence of teaching personnel.

There were also variations by services of employment (Table 6B), especially in certain subject matters such as General Agronomy, Specialized Agronomy, Animal Sciences and Agricultural Extension. Sixty percent of the Operation respondents considered that they were well trained in General Agronomy as compared to 44 percent of the C.M.D.T. respondents and 40 percent of those working in researches services. Eighty-one percent of the C.M.D.T. respondents named Specialized Agronomy as one of the greatest strengths of the

CAA training, as compared to 71 percent and 64 percent of respondents in the Operations and in research services, respectively. Forty-nine percent of the Operation respondents cited Animal Sciences against 11 percent of the C.M.D.T. respondents and 32 percent of research service respondents.

When controlled for the year of graduation, some interesting variations were recognized (Table 6C). Although practically the same percentages of graduates in 1982 and 1983 considered Specialized Agronomy to be of great value to them, they differred in their views with respect to some other subject matters. Sixty-four percent of 1982 graduates indicated that they were best trained in General Agronomy as compared with 38 percent of 1983 graduates. The respective percentages for Animal Sciences were 40 and 29. On the other hand, the second group had larger proportions than the first group in naming Agricultural Extension and Economics as the strengths of the CAA training. These variations might be the result of the changes in subject matter emphasis or in instructional quality.

B. WEAKNESSES OF THE CAA TRAINING

The moniteurs were asked to indicate the subject matters they considered as the major weaknesses of the CAA training program. Fourteen subject matters were mentioned but only eight of them concerned more than 10 percent of the respondents (Table 7). They are the following:

- Mathematics (39%);
- Physics and Chemistry (33%);
- Crop Protection (27%);
- Botany (23%);
- Topograhy (22%);
- Animal Sciences (21%);
- French (20%);
- Economics (16%).

Thus, according to about one-third of the respondents, they had received poor training in Mathematics, Physics and

TABLE 7A

WEAKNESSES OF THE CAA TRAINING PROGRAM AS INDICATED BY MONITEURS BY C.A.A. ATTENDED

Subject Matters	C.A.A. M'Pessoba N1 = 27	C.A.A. Samanko N2 = 45	C.A.A. Samé N3 = 33	All C.A.A.s N = 105
	(Figures expressed in percentages)			
1. Math	48	40	30	39
2. Physics & Chemistry	37	31	33	33
3. Crop Protection	7	31	36	27
4. Botany	7	38	15	23
5. Topography	15	22	27	22
6. Animal Sciences	7	27	24	21
7. French	30	13	21	20
8. Economics	11	13	24	16
9. Farm Mechanization	11	7	9	9
10. General Agronomy	0	9	9	7
11. Extension	0	7	6	5
12. Shop Works	4	7	3	5
13. Specialized Agronomy	4	4	0	3
14. Practical Farm Works	0	2	0	1

TABLE 7B

WEAKNESSES OF CAA TRAINING PROGRAM AS INDICATED
BY MONITEURS BY SERVICES OF EMPLOYMENT

Subject Matters	SERVICES OF EMPLOYMENT				
	Operations	C.M.D.T.	Research	Others	TOTAL
	N1=45	N2=27	N3=28	N4=5	N=105
	(Figures expressed in percentages)				
1. Math	42	26	46	40	39
2. Physics & Chemistry	33	22	43	40	33
3. Crop Protection	31	37	7	40	27
4. Botany	22	30	18	20	23
5. Topography	6	30	25	20	21
6. Animal Sciences	9	41	18	20	20
7. French	16	15	36	0	20
8. Economics	16	19	14	20	16
9. Farm Mechanization	9	7	11	0	9
10. General Agronomy	9	4	0	40	7
11. Extension	9	4	0	0	5
12. Shop Works	4	7	0	20	5
13. Specialized Agronomy	2	0	4	20	3
14. Practical Farm Works	2	0	0	0	1

TABLE 7C

WEAKNESSES OF THE CAA TRAINING PROGRAM AS INDICATED BY MONITEURS BY YEAR OF GRADUATION

Subject Matters	Year of Graduation		TOTAL
	1982	1983	
	N1 = 47	N2 = 58	N = 105
	(Figures expressed in percentages)		
1. Math	36	41	39
2. Physics & Chemistry	34	33	33
3. Crop Protection	23	29	27
4. Botany	15	29	23
5. Topography	23	21	22
6. Animal Sciences	19	22	21
7. French	13	26	20
8. Economics	19	14	16
9. Farm Mechanization	11	7	9
10. General Agronomy	2	10	7
11. Extension	4	5	5
12. Shop Works	4	5	5
13. Specialized Agronomy	2	3	3
14. Practical Farm Works	0	2	1

Chemistry. This can be attributed to the lack of qualified instructors for these subject matters. In addition, there are no adequate facilities such as laboratories for the teaching of physical and chemical sciences. The same observations can be made in regard to Crop Protection, Botany, Topography and Animal Sciences. French and Economics have been known to be difficult subject matters for a number of CAA students whose educational level is low.

As indicated by Table 7A, there were some significant variations when the data were controlled by the CAA attended. For the M'Pessoba CAA, the major weaknesses were mainly Mathematics, Physics, Chemistry and French. For the other two CAAs, the majors weaknesses were not only these general education subjects but also Crop Protection, Topography and Animal Sciences. For example, seven percent of M'Pessoba graduates considered Crop Protection as a major weakness, as compared to 31 percent of Samanko graduates and 36 percent of Samé graduates.

Variations in moniteurs' responses occurred also when controlled by services of employment (Table 7B). These variations might be due to the difference in the nature of the tasks performed by the moniteurs in various services. Six percent of the Operations' moniteurs reported that they were poorly trained in Topography, as compared with 30 percent of the C.M.D.T. moniteurs and 25 percent of those employed in research services. It seems that the moniteurs working for the C.M.D.T. and research services were involved in topographic works such as land survey, leveling, establishment of field plots... more often than those of the Operations. Crop Protection was considered as a major weakness by 7 percent of respondents in research services, 31 percent in the Operations and 37 percent in the C.M.D.T.. Thus, it appears that moniteurs of the first group needed less knowledges and skills in crop protection than thoses of the other groups.

When year of graduation was used as a control factor, significant variations were found associated only with Botany

and French (Table 7C). The 1983 graduates named these subject matters as major weaknesses of the CAA training more often than the 1982 graduates.

V. STRENGTHS AND WEAKNESSES OF THE THIRD YEAR TRAINING

A. STRENGTHS OF THE THIRD YEAR TRAINING

The moniteurs were asked to cite major strengths of the third year training they had received. The summary of their responses is presented in Table 8. Although a large number of responses were supplied, only six of them were mentioned by more than 20 percent of the respondents. They are listed below:

- Specialized Agronomy (67%);
- Extension training and activities (63%);
- Practical farm works (34%);
- Learning of management and accounting (25%);
- Work with farm equipment (23%);
- General Agronomy (20%).

Thus, according to about two-thirds of the respondents, the greatest strengths of their third-year training were Specialized Agronomy and extension training. Specialized agronomy included the learning and working with specific crops. Extension training provided the students the opportunity to have direct contact with farmers and practice extension methods.

When controlled by location of third-year training, there were some significant variations in the responses (Table 8A). Moniteurs who had spent their third year of training in a Specialization Center or in an Operation named knowledge of specific crops and extension training more commonly than those assigned to other services. It must be noted that, during their third year, most students work with specific crops such as rice, cotton, sorghum, millet, corn, vegetables ... As a result, they gain a lot of practical experiences working with these crops. Special emphasis is also placed on extension

TABLE 8A

STRENGTHS OF THIRD-YEAR TRAINING PROGRAM AS INDICATED BY MONITEURS BY PLACE OF THIRD-YEAR TRAINING

Strong Points	Place of Third-Year Training					
	Special. Centers	C.A.R.	Research Services	Operat-ions	Machinis-me Agric.	TOTAL
	N1=50	N2=4	N3=5	N4=3	N5=9	N=105
	(Figures expressed in percentages)					
1. Specialized Agronomy	80	50	60	65	11	67
2. Extension	70	25	20	76	11	63
3. Practical Farm Works	26	75	0	41	56	34
4. Management	34	25	20	19	0	25
5. Farm Mechanization	30	0	20	5	89	25
6. General Agronomy	20	25	20	19	22	20
7. Topography	18	0	40	5	0	12
8. Crop Protection	2	0	20	22	22	11
9. Animal Sciences	0	0	20	11	11	6

TABLE 8B

STRENGTHS OF THIRD-YEAR TRAINING PROGRAM AS INDICATED BY MONITEURS BY SERVICES OF EMPLOYMENT

Strong Points	SERVICES OF EMPLOYMENT				
	Operations	C.M.D.T.	Research	Others	TOTAL
	N1=45	N2=27	N3=28	N4=5	N=105
	(Figures expressed in percentages)				
1. Specialized Agronomy	67	67	71	40	67
2. Extension	53	85	61	40	63
3. Practical Farm Works	31	33	32	80	34
4. Management	20	33	29	0	25
5. Farm Mechanization	18	30	21	80	25
6. General Agronomy	20	30	14	0	20
7. Topography	13	4	21	0	12
8. Crop Protection	9	11	14	20	11
9. Animal Sciences	9	7	0	0	6

TABLE 8C

STRENGTHS OF THIRD-YEAR TRAINING PROGRAM AS INDICATED BY MONITEURS BY YEAR OF GRADUATION

Strong Points	Year of Graduation		TOTAL
	1982	1983	
	N1 = 47	N2 = 58	N = 105
	(Figures expressed in percentages)		
1. Specialized Agronomy	68	66	67
2. Extension	64	62	63
3. Practical Farm Works	34	34	34
4. Management	23	26	25
5. Farm Mechanization	26	24	25
6. General Agronomy	17	22	20
7. Topography	17	9	12
8. Crop Protection	17	7	11
9. Animal Sciences	2	9	6

training. At the beginning of the school year, students in the Specialization Centers have to spend three months in a village, working daily in the field with farmers. Students who are assigned to the Operations have even more contacts with farmers in their extension work because they do not have to attend regular classes and because they work with farmers in all phases of crop production.

In comparison with other locations of training, the Specialization Centers seemed to provide better training in management and accounting, farm mechanization and topography. This might result from the fact that the Specialization Centers had a well defined program which provides their students the skills and knowledge in those areas. On the other hand, they were behind other services in practical farm works. Probably, students in the Centers spent less time on practical work because they had to attend regular classes.

The responses also varied with the service of employment (Table 8B). The most significant difference was related to Extension work, that was named as the greatest strength of the third-year training by 85 percent of the moniteurs in the C.M.D.T., as compared with 53 percent in the Operations and 61 percent in research services.

As indicated in Table 8C, the year of graduation appeared to cause very little variations in the responses.

B. WEAKNESSES OF THE THIRD-YEAR TRAINING

When the moniteurs were asked to name the major weaknesses of their third-year training, they supplied a large number of responses (Table 9). The two most common responses were Topography and Physics & Chemistry; yet they were given by only 20 percent of the respondents, indicating a great variability in the moniteurs' responses. In other words, the major weaknesses of the third-year training seemed to be rather a personal perception than a common matter.

TABLE 9A

WEAKNESSES OF THIRD-YEAR TRAINING PROGRAM AS INDICATED BY MONITEURS BY PLACE OF THIRD-YEAR TRAINING

Weak Points	Place of Third-Year Training					
	Special. Centers	C.A.R.	Research Services	Operat-ions	Machinis-me Agric.	TOTAL
	N1=50	N2=4	N3=5	N4=3	N5=9	N=105
	(Figures expressed in percentages)					
1. Topography	30	0	0	14	11	20
2. Physics & Chemistry	14	0	20	30	22	20
3. Math	16	25	20	19	33	19
4. Management	12	25	0	22	0	14
5. French	10	25	0	22	0	13
6. Crop Protection	4	25	20	19	11	11
7. Animal Sciences	8	25	0	11	11	10
8. Practical Farm Works	4	25	0	5	33	8
9. Extension	6	25	0	0	0	4
10. General Agronomy	0	25	20	0	0	2
11. Specialized Agronomy	0	25	20	0	0	2
12. Farm Mechanization	4	0	0	0	0	2

TABLE 9B

WEAKNESSES OF THIRD-YEAR TRAINING PROGRAM AS INDICATED BY MONITEURS BY SERVICES OF EMPLOYMENT

Weak Points	SERVICES OF EMPLOYMENT				
	Operations	C.M.D.T.	Research	Others	TOTAL
	N1=45	N2=27	N3=28	N4=5	N=105
	(Figures expressed in percentages)				
1. Topography	16	33	18	0	20
2. Physics & Chemistry	20	22	18	20	20
3. Math	22	11	21	20	19
4. Management	16	19	11	0	14
5. French	16	11	14	0	13
6. Crop Protection	7	22	4	40	11
7. Animal Sciences	4	26	4	0	10
8. Practical Farm Works	9	4	7	20	8
9. Extension	2	7	4	0	4
10. General Agronomy	2	4	0	0	2
11. Specialized Agronomy	4	0	0	0	2
12. Farm Mechanization	0	7	0	0	2

TABLE 9C

STRENGTHS OF THIRD-YEAR TRAINING PROGRAM AS INDICATED BY MONITEURS BY YEAR OF GRADUATION

Weak Points	Year of Graduation		
	1982	1983	TOTAL
	N1 = 47	N2 = 58	N = 105
	(Figures expressed in percentages)		
1. Topography	17	22	20
2. Physics & Chemistry	21	19	20
3. Math	21	17	19
4. Management	17	12	14
5. French	15	12	13
6. Crop Protection	4	17	11
7. Animal Sciences	6	12	10
8. Practical Farm Works	4	2	3
9. Extension	4	3	4
10. General Agronomy	2	2	2
11. Specialized Agronomy	2	2	2
12. Farm Mechanization	0	3	2

There were some variations in the responses when controlled by location of the third-year training. For example, about one-third of the moniteurs who had attended the Specialization Centers reported Topography as a major weakness, as compared to 14 percent of the Operations' moniteurs. On the other hand, Crop Protection, French, Physics & Chemistry, Management and Accounting were named more commonly by the second group than by the first group (Table 9A).

When the control factor was the service of employment, some variations were found in responses regarding Topography, Animal Sciences and Crop Protection. These weaknesses were reported more often by the C.M.D.T. respondents than by other groups (Table 9B).

Little variation in responses was found between 1982 graduates and 1983 graduates (Table 9C).

VI. EVALUATION OF CAA CURRICULUM AND TRAINING

The moniteurs were given a list of the subject matters taught in the CAAs and asked to indicate the degree of importance of each course to their work and then to evaluate the quality of the instruction they had received in these courses. The general summary of the moniteurs' responses is presented in Table 10. Table 11 summarizes the responses controlled by each of the three factors, namely the CAA attended, the service of employment and the year of graduation.

As found in Table 10, Extension and Specialized Agronomy were the two courses which were rated of great importance by 91 and 90 percent of the respondents, respectively. These courses were followed by General Agronomy (83%), Practical Farm Works (80%), Shop Works (66%), Crop Protection (61%) and Economics (58%). Mathematics and Physics & Chemistry received the lowest ratings for importance. In fact, 60 percent of the respondents felt that Physics and Chemistry had little value or none at all. The corresponding figure for Mathematics was 54 percent.

TABLE 10

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
N = 105
(Figures expressed in percentages)

SUBJECT MATTER	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. General Agronomy	83	10	4	0	3	37	32	12	1	18
2. Specialized Agronomy	90	7	0	0	3	41	31	10	0	18
3. Animal Sciences	36	42	16	3	3	18	32	31	1	18
4. Botany	35	38	21	3	3	12	20	41	7	20
5. Crop Protection	61	27	10	0	2	19	25	30	9	17
6. Math	11	30	38	16	5	6	10	32	32	20
7. French	23	40	30	3	4	4	23	28	25	20
8. Physics & Chemistry	9	27	33	27	4	4	10	28	37	21
9. Economics	58	30	7	2	3	24	40	16	2	18
10. Extension	91	3	1	1	4	51	24	5	2	18
11. Practical Farm Works	80	13	3	1	3	39	32	10	2	17
12. Shop Works	66	20	7	4	3	30	27	23	2	18

As for the quality of the instruction given in these subject matters, about three-fourths of the respondents rated the quality of Extension, Specialized Agronomy and Practical Farm Works, as excellent or good. These were followed by General Agronomy (69%), Economics (64%), Shop Works (57%), Animal Sciences (51%) and Crop Protection (44%). Botany was not rated highly by the respondents. Mathematics and Physics & Chemistry received the lowest ratings. The proportion of respondents who rated the quality of instruction as excellent or good was 27 percent for French, 16 percent for Mathematics and 14 percent for Physics & Chemistry. On the other hand, about one-third of the respondents felt that the instruction of Mathematics and Physics & Chemistry was poor. Twenty-five percent gave French a low rating.

As shown in Table 11A, when the data were controlled for the CAA attended, there was one statistically significant variation between groups in the rating of subject importance and that concerned Physics and Chemistry. Seventy-four percent of M'Pessoba graduates reported that Physics and Chemistry were of little or no importance to their work, as compared with 51 percent of graduates from Samanko and 60 percent from Samé. Only 18 percent of the first group rated the importance of the same subject as great or average, while the respective proportions for the other two groups were 47 percent and 33 percent. On the other hand, several significant variations between groups were found in the respondents' evaluation of instruction quality. Graduates from M'Pessoba and Samanko CAAs gave higher ratings than those from Samé to General Agronomy and Specialized Agronomy. The instruction of Shop Works in Samanko was not evaluated as highly as that in Samé and M'Pessoba. Samé seemed to be relatively better than the other schools in Botany and Mathematics.

From the above observations, it appears that the quality of instruction varied according to the CAA attended and the subject matter of concern. A CAA might be relatively strong in one subject but weak in another. On the other hand, graduates

from the three schools were not significantly different in their perception of the importance of subject matters to their work.

When the service of employment was the control variable, significant variations between groups were observed only in the rating of the importance of Physics & Chemistry, and Shop Works. (Table 11B). Fifty-two percent of the respondents in the C.M.D.T. rated Physics and Chemistry as important to their work, as compared to 27 percent in the Operations, 33 percent in research services and 40 percent in other services. The C.M.D.T. also displayed the highest percentage of respondents who felt that this subject was not great important at all. The subject of Shop Works was rated of great important by 89 percent of the respondents in the C.M.D.T., 53 percent in the Operations, 64 percent in research services and 60 percent in other services. In general, the results indicated that service of employment had very little effect on the moniteurs' rating of the importance and instruction quality of subject matters.

No statistically significant differences between groups were found associated with the year of graduation (Table 11C). In other words, the relative importance and the quality of subject matters were perceived almost the same by the graduates in 1982 and in 1983.

TABLE 11A.1

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
GRADUATED FROM DIFFERENT CAAs
N = 105
(Figures expressed in percentages)

1. GENERAL AGRONOMY

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	81	11	0	0	8	33	44	0	0	23
2. SAMANKO (N2 = 45)	84	11	4	0	1	42	38	11	2	7
3. SAME (N3 = 33)	82	6	6	0	6	33	15	24	0	28
All C.A.A.	83	10	4	0	3	37	32	12	1	18
	CHI-SQUARE = 5.20 DF = 6 P > 0.50					CHI-SQUARE = 18.91 DF = 8 P < 0.025				

2. SPECIALIZED AGRONOMY

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	93	4	0	0	3	44	33	0	0	23
2. SAMANKO (N2 = 45)	93	4	0	0	3	40	40	11	0	9
3. SAME (N3 = 33)	82	12	0	0	6	39	18	15	0	28
All C.A.A.	90	7	0	0	3	41	31	10	0	18
	CHI-SQUARE = 3.21 DF = 4 P > 0.50					CHI-SQUARE = 10.72 DF = 6 P = 0.10				

TABLE 11A.2

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
GRADUATED FROM DIFFERENT CAAs
N = 105
(Figures expressed in percentages)

3. ANIMAL SCIENCES

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	41	37	11	7	4	15	33	30	0	22
2. SAMANKO (N2 = 45)	42	44	13	0	1	22	38	31	0	9
3. SAME (N3 = 33)	24	42	24	3	7	15	24	33	3	25
All C.A.A.	36	42	16	3	3	18	32	31	1	18
	CHI-SQUARE = 9.92 DF = 8 P > 0.25					CHI-SQUARE = 7.29 DF = 8 P > 0.50				

4. BOTANY

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	33	44	19	0	4	4	19	52	0	25
2. SAMANKO (N2 = 45)	33	36	29	2	0	13	16	51	11	9
3. SAME (N3 = 33)	39	36	12	6	7	18	27	18	6	31
All C.A.A.	35	38	21	3	3	12	20	41	7	20
	CHI-SQUARE = 7.86 DF = 8 P > 0.25					CHI-SQUARE = 18.16 DF = 8 P < 0.025				

TABLE 11A.3

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
GRADUATED FROM DIFFERENT CAAs
N = 105
(Figures expressed in percentages)

5. CROP PROTECTION

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	63	26	7	0	4	19	26	33	0	22
2. SAMANKO (N2 = 45)	62	24	13	0	1	22	18	38	16	6
3. SAME (N3 = 33)	58	30	6	0	6	15	33	15	6	31
All C.A.A.	61	27	10	0	2	19	25	30	9	17
	CHI-SQUARE = 4.12 DF = 6 P > 0.50					CHI-SQUARE = 17.19 DF = 8 P < 0.05				

6. MATH

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	4	41	44	7	4	7	7	41	22	23
2. SAMANKO (N2 = 45)	13	29	36	20	2	4	13	31	36	16
3. SAME (N3 = 33)	15	24	36	18	7	6	6	27	36	25
All C.A.A.	11	30	38	16	5	6	10	32	32	20
	CHI-SQUARE = 6.23 DF = 8 P > 0.50					CHI-SQUARE = 4.33 DF = 8 P > 0.75				

TABLE 11A.4

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
GRADUATED FROM DIFFERENT CAAs
N = 105
(Figures expressed in percentages)

7. FRENCH

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	26	37	33	0	4	4	30	26	19	21
2. SAMANKO (N2 = 45)	24	38	33	2	3	2	20	27	36	15
3. SAME (N3 = 33)	18	45	24	6	7	6	21	30	15	28
All C.A.A.	23	40	30	3	4	4	23	28	25	20
	CHI-SQUARE = 4.21 DF = 8 P > 0.75					CHI-SQUARE = 6.66 DF = 8 P > 0.50				

8. PHYSICS & CHEMISTRY

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	7	11	59	15	8	4	0	44	26	26
2. SAMANKO (N2 = 45)	9	38	27	24	2	2	20	20	42	16
3. SAME (N3 = 33)	9	24	21	39	7	6	3	24	39	28
All C.A.A.	9	27	33	27	4	4	10	28	37	21
	CHI-SQUARE = 16.79 DF = 8 P < 0.05					CHI-SQUARE = 16.51 DF = 8 P < 0.05				

TABLE 11A.5

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
GRADUATED FROM DIFFERENT CAAs
N = 105
(Figures expressed in percentages)

9. ECONOMICS

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	59	26	7	4	4	26	30	22	0	22
2. SAMANKO (N2 = 45)	62	33	4	0	1	27	51	9	2	11
3. SAME (N3 = 33)	52	30	9	3	6	18	33	21	3	25
All C.A.A.	58	30	7	2	3	24	40	16	2	18
	CHI-SQUARE = 5.44 DF = 8 P > 0.50					CHI-SQUARE = 8.64 DF = 8 P > 0.25				

10. EXTENSION

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	89	7	0	0	4	48	30	0	0	22
2. SAMANKO (N2 = 45)	96	2	0	0	2	60	20	7	2	11
3. SAME (N3 = 33)	88	0	3	3	6	42	24	6	3	25
All C.A.A.	91	3	1	1	4	51	24	5	2	18
	CHI-SQUARE = 8.30 DF = 8 P > 0.25					CHI-SQUARE = 6.54 DF = 8 P > 0.50				

TABLE 11A.6

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
GRADUATED FROM DIFFERENT CAAs
N = 105
(Figures expressed in percentages)

11. PRACTICAL FARM WORKS

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	78	15	4	0	3	37	26	15	0	22
2. SAMANKO (N2 = 45)	87	11	2	0	0	47	38	2	4	9
3. SAME (N3 = 33)	73	15	3	3	6	30	30	15	0	25
All C.A.A.	80	13	3	1	3	39	32	10	2	17
	CHI-SQUARE = 5.70 DF = 8 P > 0.50					CHI-SQUARE = 12.37 DF = 8 P > 0.10				

12. SHOP WORKS

C.A.A.	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. M'PESSOBA (N1 = 27)	59	26	7	4	4	22	15	41	0	22
2. SAMANKO (N2 = 45)	80	11	4	2	3	40	33	11	4	12
3. SAME (N3 = 33)	52	27	9	6	6	24	27	24	0	25
All C.A.A.	66	20	7	4	3	30	27	23	2	18
	CHI-SQUARE = 7.81 DF = 8 P > 0.25					CHI-SQUARE = 15.88 DF = 8 P < 0.05				

TABLE 11B.1

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
IN DIFFERENT SERVICES
N = 105
(Figures expressed in percentages)

1. GENERAL AGRONOMY

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	76	13	2	0	9	38	33	13	0	16
2. C.M.D.T. (N2 = 27)	81	11	7	0	1	33	30	19	4	14
3. Research (N3 = 28)	96	4	0	0	0	46	32	4	0	18
4. Other (N4 = 5)	80	0	20	0	0	0	40	20	0	40
All Services	83	10	4	0	3	37	32	12	1	18
	CHI-SQUARE = 14.29 DF = 9 P > 0.10					CHI-SQUARE = 10.16 DF = 12 P > 0.50				

2. SPECIALIZED AGRONOMY

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	80	11	0	0	9	42	31	9	0	18
2. C.M.D.T. (N2 = 27)	100	0	0	0	0	33	37	15	0	15
3. Research (N3 = 28)	93	7	0	0	0	50	29	4	0	17
4. Other (N4 = 5)	100	0	0	0	0	20	20	20	0	40
All Services	90	7	0	0	3	41	31	10	0	18
	CHI-SQUARE = 9.71 DF = 6 P > 0.10					CHI-SQUARE = 5.98 DF = 9 P > 0.50				

TABLE 11B.2

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
IN DIFFERENT SERVICES
N = 105
(Figures expressed in percentages)

3. ANIMAL SCIENCES

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	38	47	9	0	6	18	33	31	0	18
2. C.M.D.T. (N2 = 27)	33	41	22	4	0	7	37	41	4	11
3. Research (N3 = 28)	36	32	25	7	0	25	29	29	0	17
4. Other (N4 = 5)	40	60	0	0	0	40	20	0	0	40
All Services	36	42	16	3	3	18	32	31	1	18
	CHI-SQUARE = 12.91 DF = 12 P > 0.25					CHI-SQUARE = 11.69 DF = 12 P > 0.25				

4. BOTANY

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	29	36	29	0	6	16	13	42	9	20
2. C.M.D.T. (N2 = 27)	26	44	22	7	1	4	22	48	7	19
3. Research (N3 = 28)	50	39	7	4	0	18	25	36	4	17
4. Other (N4 = 5)	60	20	20	0	0	0	40	20	0	40
All Services	35	38	21	3	3	12	20	41	7	20
	CHI-SQUARE = 15.92 DF = 12 P > 0.10					CHI-SQUARE = 8.99 DF = 12 P > 0.50				

TABLE 11B.3

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
IN DIFFERENT SERVICES
N = 105
(Figures expressed in percentages)

5. CROP PROTECTION

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	60	18	16	0	6	20	29	22	13	16
2. C.M.D.T. (N2 = 27)	56	37	7	0	0	7	22	41	11	19
3. Research (N3 = 28)	64	32	4	0	0	32	18	32	0	18
4. Other (N4 = 5)	80	20	0	0	0	0	40	20	0	40
All Services	61	27	10	0	2	19	25	30	9	17
	CHI-SQUARE = 10.64 DF = 9 P > 0.25					CHI-SQUARE = 14.72 DF = 12 P > 0.25				

6. MATH

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	7	29	44	11	9	9	11	31	27	22
2. C.M.D.T. (N2 = 27)	22	37	22	19	0	4	15	37	33	11
3. Research (N3 = 28)	11	29	43	18	0	4	4	29	43	20
4. Other (N4 = 5)	0	20	40	40	0	0	0	40	20	40
All Services	11	30	38	16	5	6	10	32	32	20
	CHI-SQUARE = 15.24 DF = 12 P > 0.10					CHI-SQUARE = 8.21 DF = 12 P > 0.75				

TABLE 11B.4

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
IN DIFFERENT SERVICES
N = 105
(Figures expressed in percentages)

7. FRENCH

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	20	36	33	2	9	4	29	29	16	22
2. C.M.D.T. (N2 = 27)	19	48	33	0	0	4	26	19	37	14
3. Research (N3 = 28)	32	39	21	7	1	4	14	32	29	21
4. Other (N4 = 5)	20	40	40	0	0	0	0	40	20	40
All Services	23	40	30	3	4	4	23	28	25	20
	CHI-SQUARE = 11.36 DF = 12 P > 0.25					CHI-SQUARE = 9.21 DF = 12 P > 0.50				

8. PHYSICS & CHEMISTRY

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	9	18	44	18	11	4	11	36	24	25
2. C.M.D.T. (N2 = 27)	15	37	7	41	0	4	19	15	48	14
3. Research (N3 = 28)	4	29	36	32	0	4	0	29	46	21
4. Other (N4 = 5)	0	40	60	0	0	0	0	20	40	40
All Services	9	27	33	27	4	4	10	28	37	21
	CHI-SQUARE = 25.17 DF = 12 P < 0.025					CHI-SQUARE = 13.53 DF = 12 P > 0.25				

TABLE 11B.5

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
IN DIFFERENT SERVICES
N = 105
(Figures expressed in percentages)

9. ECONOMICS

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	47	42	4	0	7	22	42	13	2	21
2. C.M.D.T. (N2 = 27)	67	26	7	0	0	19	41	26	4	10
3. Research (N3 = 28)	64	18	11	7	0	32	36	14	0	18
4. Other (N4 = 5)	80	20	0	0	0	20	40	0	0	40
All Services	58	30	7	2	3	24	40	16	2	18
	CHI-SQUARE = 16.71 DF = 12 P > 0.10					CHI-SQUARE = 7.37 DF = 12 P > 0.75				

10. EXTENSION

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	89	2	2	0	7	51	22	9	0	18
2. C.M.D.T. (N2 = 27)	96	0	0	0	4	48	26	4	7	15
3. Research (N3 = 28)	89	7	0	1	3	57	25	0	0	18
4. Other (N4 = 5)	100	0	0	0	0	40	20	0	0	40
All Services	91	3	1	1	4	51	24	5	2	18
	CHI-SQUARE = 9.21 DF = 12 P > 0.50					CHI-SQUARE = 11.11 DF = 12 P > 0.50				

TABLE 11B.6

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
IN DIFFERENT SERVICES
N = 105
(Figures expressed in percentages)

11. PRACTICAL FARM WORKS

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	71	16	7	0	6	38	33	9	2	18
2. C.M.D.T. (N2 = 27)	89	11	0	4	0	44	37	7	0	12
3. Research (N3 = 28)	86	11	0	0	3	43	25	14	0	18
4. Other (N4 = 5)	60	20	0	0	20	0	40	0	20	40
All Services	79	13	3	1	4	39	32	10	2	17
	CHI-SQUARE = 7.57 DF = 9 P > 0.50					CHI-SQUARE = 15.59 DF = 12 P > 0.10				

12. SHOP WORKS

SERVICES	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1. Operations (N1 = 45)	53	27	9	2	9	29	20	27	4	20
2. C.M.D.T. (N2 = 27)	89	7	4	0	0	33	37	19	0	11
3. Research (N3 = 28)	64	21	4	11	0	36	29	18	0	17
4. Other (N4 = 5)	60	20	20	0	0	0	20	40	0	40
All Services	66	20	7	4	3	30	27	23	2	18
	CHI-SQUARE = 19.27 DF = 12 P < 0.10					CHI-SQUARE = 10.12 DF = 12 P > 0.50				

TABLE 11C.1

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
GRADUATED IN DIFFERENT YEARS
N = 105
(Figures expressed in percentages)

1. GENERAL AGRONOMY

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	89	9	0	0	2	40	36	9	0	15
1983 (N2 = 58)	78	10	7	0	5	34	29	16	2	19
	CHI-SQUARE = 4.40 DF = 3 P > 0.10					CHI-SQUARE = 2.72 DF = 4 P > 0.50				

2. SPECIALIZED AGRONOMY

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	87	11	0	0	2	36	40	9	0	15
1983 (N2 = 58)	91	3	0	0	6	45	24	10	0	21
	CHI-SQUARE = 2.70 DF = 2 P > 0.25					CHI-SQUARE = 3.24 DF = 3 P > 0.25				

3. ANIMAL SCIENCES

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	32	47	15	4	2	23	26	32	2	17
1983 (N2 = 58)	40	38	17	2	3	14	38	31	0	17
	CHI-SQUARE = 1.75 DF = 4 P > 0.75					CHI-SQUARE = 3.79 DF = 4 P > 0.25				

TABLE 11C.2

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
GRADUATED IN DIFFERENT YEARS
N = 105
(Figures expressed in percentages)

4. BOTANY

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	38	43	17	0	2	13	21	40	6	20
1983 (N2 = 58)	33	34	24	5	4	12	19	41	7	21
	CHI-SQUARE = 3.88 DF = 4 P > 0.25					CHI-SQUARE = 0.13 DF = 4 P > 0.995				

5. CROP PROTECTION

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	64	23	11	0	2	21	23	32	9	15
1983 (N2 = 58)	59	29	9	0	3	17	26	28	9	20
	CHI-SQUARE = 0.72 DF = 3 P > 0.75					CHI-SQUARE = 0.93 DF = 4 P > 0.90				

6. MATH

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	11	26	45	15	3	6	9	30	32	23
1983 (N2 = 58)	12	34	33	17	4	5	10	34	33	18
	CHI-SQUARE = 1.83 DF = 4 P > 0.75					CHI-SQUARE = 0.83 DF = 4 P > 0.90				

TABLE 11C.3

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
GRADUATED IN DIFFERENT YEARS
N = 105
(Figures expressed in percentages)

7. FRENCH

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	26	43	26	2	3	4	17	28	28	23
1983 (N2 = 58)	21	38	34	3	4	3	28	28	22	19
	CHI-SQUARE = 1.29 DF = 4 P > 0.75					CHI-SQUARE = 1.84 DF = 4 P > 0.75				

8. PHYSICS & CHEMISTRY

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	2	28	38	26	6	2	4	30	38	26
1983 (N2 = 58)	14	26	29	28	3	5	14	26	36	19
	CHI-SQUARE = 5.29 DF = 4 P > 0.25					CHI-SQUARE = 3.80 DF = 4 P > 0.25				

9. ECONOMICS

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	51	34	9	4	2	19	38	21	2	20
1983 (N2 = 58)	64	28	5	0	3	28	41	12	2	17
	CHI-SQUARE = 4.12 DF = 4 P > 0.25					CHI-SQUARE = 2.27 DF = 4 P > 0.50				

TABLE 11C.4

EVALUATION OF CAA CURRICULUM AND TRAINING BY MONITEURS
GRADUATED IN DIFFERENT YEARS
N = 105
(Figures expressed in percentages)

10. EXTENSION

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	91	4	0	2	3	51	28	4	0	17
1983 (N2 = 58)	91	2	2	0	5	52	21	5	3	19
	CHI-SQUARE = 3.26 DF = 4 P > 0.50					CHI-SQUARE = 2.27 DF = 4 P > 0.50				

11. PRACTICAL FARM WORKS

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	85	9	2	2	2	40	34	9	0	17
1983 (N2 = 58)	76	17	3	0	4	38	31	10	3	18
	CHI-SQUARE = 3.30 DF = 4 P > 0.50					CHI-SQUARE = 1.84 DF = 4 P > 0.75				

12. SHOP WORKS

YEAR OF GRADUATION	IMPORTANCE					EVALUATION				
	Great	Average	Little	Nil	No response	Excellent	Good	Average	Poor	No response
1982 (N1 = 47)	66	17	6	6	5	32	26	23	0	19
1983 (N2 = 58)	66	22	7	2	3	29	28	22	3	18
	CHI-SQUARE = 1.91 DF = 4 P = 0.75					CHI-SQUARE = 1.80 DF = 4 P > 0.75				

PART III

SUMMARY, DISCUSSION AND RECOMMENDATIONS

I. SUMMARY OF THE FINDINGS

The study was conducted by the Division of Technical Agricultural Education and Professional Training (DETA-FP) in order to find out the employment opportunities for CAA graduates and to verify the relevancy of the CAA training program to the nature of their professional functions. The population selected for the study was the moniteurs who graduated from the CAAs in 1982 and 1983. The summary of the findings is presented here:

A. EMPLOYMENT OF THE GRADUATES

In 1982 and 1983, the CAAs graduated a total of 201 moniteurs. It was found that 97.5 percent of the graduates were employed by the government in 20 different agriculture-related services.

Forty-five percent of the graduates worked in 12 Operations, 26 percent in the C.M.D.T., 28 percent in various research services and 5 percent in other services. With the exception of the C.M.D.T. which is a semi-private company, all services of employment are entirely administered by the government.

B. DUTIES PERFORMED BY MONITEURS

The moniteurs involved in the survey performed a variety of duties that require special skills and knowledge. These duties can be differentiated into 14 principal groups as follows:

1. Extension;
2. Administration;
3. Agricultural research;

4. Production;
5. Farmer organization
6. Agricultural credit management;
7. Marketing;
8. Procurement and distribution of production inputs;
9. Livestock management;
10. Socio-economic survey;
11. Functional literacy;
12. Equipment maintenance;
13. Labor supervision;
14. Teaching.

Three-fourths of the moniteurs had extension as their most important duty. About one-third were involved in the 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.

C. PROBLEMS ENCOUNTERED BY MONITEURS

In their work, the moniteurs encountered the following principal problems that are presented in the order of decreasing importance:

1. Difficulty in creating and maintaining a good relationship and mutual trust with farmers;
2. Lack of means (supplies, equipment, tools ...) necessary for the satisfactory performance of their work;
3. Inadequate means of transportation for regular visits to scattered villages;
4. Deficiencies of some technical knowledges and skills in certain areas such as agricultural experimentation, topography, farm equipment, insect identification;

5. Low salary and poor housing;

6. Difficulty in communicating with local farmers in their ethnic languages;

7. Lack of effective communication and support from the service administration.

D. STRENGTHS OF THE CAA TRAINING

The greatest strengths of the training in the CAAs seemed to be Agricultural Extension and Specialized Agronomy. About three-fourths of the respondents' reported that they were best trained in these two subject matters. Fifty percent mentioned General Agronomy. Other subject matters were cited by less than 35 percent of the respondents.

The data indicated that the professional preparation in the three CAAs was not homogeneous. Significant differences between the schools were found with Agricultural Extension, Specialized Agronomy and to a lesser degree some other subjects.

There were also some significant variations in the moniteurs' perception of the strengths of the CAA training when either the service of employment or the year of graduation was used as control variable . .

E. WEAKNESSES OF THE CAA TRAINING

The majority of the respondents failed to agree on the weaknesses of the CAA training. The weakness reported by the highest percentage was Mathematics. Yet the figure was 39 percent only. It was followed by Physics ans Chemistry with 33 percent and crop protection with 27 percent.

There were some significant variations when the data were controlled by the CAA attended. The CAAs at Samanko and Samé were much weaker than M'Pessoba CAA in some technical subjects such as Crop Protection, Botany, Topography and

Animal Sciences. On the other hand, they led the latter in general education subjects.

The perception of weaknesses of the CAA training varied according to the service of employment. The moniteurs in the C.M.D.T. seemed to be concerned with Topography , Botany and Crop Protection more than those in the Operations or in research services.

There was little variation between the graduates in 1982 and those in 1983.

F. STRENGTHS OF THIRD-YEAR TRAINING

According to two-thirds of the respondents, Specialized Agronomy and Extension were the greatest strengths of their third-year training. They were followed by Practical Works (34%), Management and Accounting (25%), and Farm Mechanization.

The responses varied with the place of third-year training. The Specialization Centers and the Operations provided better training in specific crops and extension methods. The Centers also led in Management, Accounting, Farm Mechanization and Topography. They were however behind other training locations in Practical Farm Works.

There were a few variations associated with the service of employment. Eighty-five percent of moniteurs in the C.M.D.T. considered extension as the greatest strength, as compared with 53 percent in the Operations and 61 percent in research services.

The year of graduation appeared to cause very little variation in the responses.

G. WEAKNESSES OF THIRD-YEAR TRAINING

There was a great variability in the moniteurs' responses concerning the major weaknesses of the third-year training.

The two most common responses were Topography and Physics & Chemistry; yet they were given by about 20 percent of the respondents.

There were a few variations due to the training location and the service of employment. Little difference was found between the graduates in 1982 and in 1983.

H. EVALUATION OF CAA CURRICULUM

According to 90 percent of the respondents, Extension and Specialized Agronomy were very important to their work. Other important subject matters were General Agronomy (83%), Practical Farm Work (80%), Shop Work (66%), Crop Protection (61%) and Economics (58%). Mathematics, Physics and Chemistry received the lowest ratings. They were considered to be of no or little value by more than half of the moniteurs.

About seventy-five percent of the respondents rated the quality of the instruction of Extension, Specialized Agronomy and Practical Farm Work, as excellent or good. These were followed by General Agronomy (69%), Economics (64%), Shop Work (57%) and Animal Sciences (51%). General education subjects were not rated highly for the quality of their instruction.

II. DISCUSSION OF THE FINDINGS

As mentioned earlier in Part I of the report, the employment of CAA graduates had been assured by the government until 1984 when that assurance was abolished due to national budgetary constraints. That does not mean that the need for moniteurs no longer exists. In fact, most of the graduates who failed to get a job with the civil services 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 because the need for these junior-level extension agents is always there.

It is also interesting to note that many employment opportunities have been opened to the CAA graduates in the private sectors. Several moniteurs have been employed by non-governmental organizations such as CARE of Mali, Africare ... The feedbacks received by the Division of Technical Agricultural Education and Professional Training from these employers indicated that the performance on the job of the graduates were satisfactory. As a matter of fact, these organizations preferred the moniteurs to the graduates from the higher agricultural education institution. According to them, the CAA graduates interacted better with the farmers, adapted more easily to the rural life and working conditions, and possessed desirable technical competencies.

In view of the fact that about 80 percent of the CAA graduates come from farming families and have experiences in agricultural production, the chance that they will be engaged in farming with their family or by themselves, will be fairly high. The Malian government 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.

Thus, it is evident that the employment opportunities of the CAA graduates are not limited to the public sector. The question is how to explore other sectors and how to help the graduates find these opportunities.

In general, 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. There is a need to make the instruction of these general education subjects more functional and interesting. Another problem was that variations

in program emphasis and instructional quality existed among the three CAAs. This might be attributed to differences in teaching competence and learning facilities as well as in the implementation of the curriculum. The in-service training of administrative and teaching personnel and the revision of the CAA curriculum which have been effected by the CAA Project will certainly help improve the situation.

The third-year training is very important to the professional preparation of the moniteurs. It is the phase in which the students learn to apply what they have learned in the CAAs and to prepare for their chosen career. Results of the survey indicated that the Specialization Centers provided better training than other services. However, they were weaker in practical training. Since the Specialization Centers have a well defined program and better supervision, it is desirable to place all third-year students in these institutions. To do so, it is necessary to expand and improve the Centers' facilities. Again, the CAA Project has provided assistance in this respect.

There is also a need to supply CAA graduates with knowledges and skills that will help them succeed in the private sectors. Training in management, accounting and communications is very important and must be emphasized. The CAAs and Specialization Centers have organized their students into small groups. Each group was given a small plot of land in which they plant and care for the crops. The students were responsible for the management of their group plot. In this way, they learned managerial skills in addition to technical practices. This training method is very desirable and the effort of the DETA-FP to implement it must be commended.

III. RECOMMENDATIONS

In light of the findings in the study, the following recommendations are presented:

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 carry out the following functions:

   - To act as a lien between the Division and possible employers of CAA graduates;

   - To provide career guidance and counseling to CAA students before and after their graduation;

   - To search for job opportunities existing in all sectors of the economy and place the CAA graduates on these jobs;

   - To inform the graduates about job openings and assist them contact prospective employers and prepare for job interview;

   - To assist those graduates who want to start their own farming business, obtain necessary credits and land from appropriate government agencies;

   - To provide technical advices to newly employed graduates or beginning farmers so that they can have a good start toward a successful career;

   - To implement an effective follow-up of CAA graduates;

   - To advise the Division and schools on making necessary adjustment of curriculum and training activities in response to changes in agricultural technology and in skill requirements consequently imposed by the job market.

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.

A N N E X E S

ANNEX 1

QUESTIONNAIRE POUR LES MONITEURS

Service :

I. DONNES DE BASE

1. Nom :

2. Age :

3. Né à ..... Région de .....

4. Profession du père :

a. Profession principale	**b. Profession secondaire**
_____ (1) Cultivateur	_____ (1) Cultivateur
_____ (2) Commerçant	_____ (2) Commerçant
_____ (3) Fonctionnaire	_____ (3) Fonctionnaire
_____ (4) Artisan	_____ (4) Artisan
_____ (5) Autre (Spécifiez)	_____ (5) Autre (Spécifiez)

5. Profession de la mère

a. Profession principale	**b. Profession secondaire**
_____ (1) Cultivateur	_____ (1) Cultivateur
_____ (2) Commerçant	_____ (2) Commerçant
_____ (3) Fonctionnaire	_____ (3) Fonctionnaire
_____ (4) Artisan	_____ (4) Artisan
_____ (5) Autre (Spécifiez)	_____ (5) Autre (Spécifiez)

6. Où avez-vous habité avant votre rentrée dans le CAA ?

a. Pendant l'année scolaire	**b. Pendant les vacances**
_____ (1) Au village	_____ (1) Au village
_____ (2) Dans un petit centre	_____ (2) Dans un petit centre
_____ (3) En ville	_____ (3) En ville

7. Vous appartenez à quelle ethnie ?

_____ (1) Bambara _____ (6) Malinké _____ (11) Sénoufo

_____ (2) Bobo _____ (7) Marka _____ (12) Sonrhaï

_____ (3) Dogon _____ (8) Minianka _____ (13) Autre. Laquelle ? _____

_____ (4) Dyula _____ (9) Mossi

_____ (5) Dakola _____ (10) Peulh

8. Avant votre rentrée dans le CAA, vous avez complété combien d'années d'études fondamentales ?

_____ (1) 9 ans

_____ (2) 10 ans

_____ (3) plus de 10 ans

9. Vous avez fréquenté quelle école fondamentale ?

_____ (1) Au village d'origine

_____ (2) Dans un autre village ou petit centre voisin

_____ (3) En ville. Laquelle ? _____

_____ (4) Autre (Spécifiez ?) _____

10. Avant votre rentrée dans le CAA, avez-vous effectué des travaux agro-pastoraux ?

_____ (1) Jamais

_____ (2) Oui (Combien d'années ?) _____

II. FORMATION PROFESSIONNELLE

11. Vous avez fréquenté quel CAA ?

_____ (1) M'Pessoba

_____ (2) Samanko

_____ (3) Samé

12. Vous avez passé l'examen du CAPA en quelle année ?

_____ (1) 1982

_____ (2) 1983

13. Où avez-vous fait votre 3e année d'étude ?

_____ (1) CSR de Dioro

_____ (2) CSM de Baguineda

_____ (3) CSPVA de Kita

_____ (4) Centre d'Animation Rurale (CAR)

_____ (5) Service de Recherche

_____ (6) Opération. Laquelle ? _____

_____ (7) Centre de Machinisme Agricole

_____ (8) Autre (Spécifiez) : _____

14. Maintenant, en tant que moniteur, à votre avis, dans quelles matières enseignées au CAA, aviez-vous été le mieux préparé ?

_____

_____

_____

15. Dans quelles matières enseignées au CAA, aviez-vous été le moins préparé ?

_____

_____

_____

16. Voici la liste des matières enseignées au CAA. On voudrait savoir si vous pensez que ces matières sont avérées importantes dans votre métier de moniteur. En plus, on voudrait savoir votre évaluation de la qualité de l'enseignement que vous avez reçu en ce qui concerne ces matières :

	Impontance				Evaluation			
	Grande	Moyenne	Petite	Nulle	Excellente	Bonne	Moyenne	Mauvaise
(1) Agriculture Générale								
(2) Agriculture Spéciale								
(3) Zootechnie - Elevage								
(4) Botanique								
(5) Protection des Végétaux								
(6) Math								
(7) Français								
(8) Physique - Chimie								
(9) Economie Rurale								
(10) Vulgarisation								
(11) Travaux Pratiques								
(12) Travaux Ruraux								

17. Indiquez les points forts de votre 3e année de formation ?

_____

_____

_____

18. Indiquez les points faibles de votre 3e année de formation ?

_____

_____

_____

III. FONCTIONS DU MONITEUR

19. Depuis combien de temps êtes-vous moniteur ?

_____ (1) Moins d'un an

_____ (2) 1 an

_____ (3) 2 ans

_____ (4) 3 ans

20. Pour quel service, travaillez-vous actuellement ?

_____ (1) Une opération. Laquelle ? _____

_____ (2) Autre (Spécifiez) : _____

21. Où travaillez-vous principalement ?

_____ (1) Dans un village ?

_____ (2) Au bureau d'une opération

_____ (3) Dans une station de recherche

_____ (4) Autre (Spécifiez) : _____

22. Depuis quand êtes-vous affecté au présent poste ?

_____ (1) Moins d'un an

_____ (2) 1 an

_____ (3) 2 ans

_____ (4) 3 ans

23. Listez vos principales tâches en tant que moniteur :

_____

_____

_____

_____

_____

_____

24. Dans votre travail, quels ont été les problèmes majeurs rencontrés ?

_____

_____

_____

_____

_____

_____

IV. ATTITUDES ENVERS LA PROFESSION ET LA VIE RURALE

25. Avant votre rentrée dans le CAA, quels étaient, dans l'ordre, vos trois premiers choix de métiers ?

(1) Premier choix : _____

(2) Deuxième choix : _____

(3) Troisième choix : _____

26. Qu'est-ce qui vous a décidé d'entrer au CAA ?

_____ (1) Je voulais devenir moniteur agricole

_____ (2) Celà représentait la meilleure possibilité pour moi de devenir fonctionnaire d'Etat.

_____ (3) Il y avait de bourses dans les CAA

_____ (4) Autre chose (Spécifiez) _____

27. Si l'on vous avait accordé une place dans une école préparant à une profession, l'auriez-vous préféré au CAA ?

_____ (1) Oui. Laquelle ? _____

_____ (2) Non. J'aurais choisi le CAA

28. Les membres de votre famille (parents, épouse) sont-ils fiers de vous parce que vous êtes moniteur ?

_____ (1) Oui

_____ (2) Non

29. Croyez-vous que les moniteurs doivent être fiers de leur profession en vue de leur contribution importante au développement du pays.

(1) Oui

(2) Non

30. Si vous aviez été affecté dans un village, auriez-vous quitté la profession de moniteur tout de suite pour accepter un poste en ville de même salaire ou un peu moins ?

(1) Oui

(2) Non

31. Malgré le manque de confort dans le village, croyez-vous que l'on pourrait y trouvez pas mal de satisfactions en travaillant avec les paysans pour améliorer la production agricole ?

_____ (1) Oui

_____ (2) Non

32. Aimez-vous plus ou moins la profession de moniteur actuellement qu'avant la sortie du CAA ?

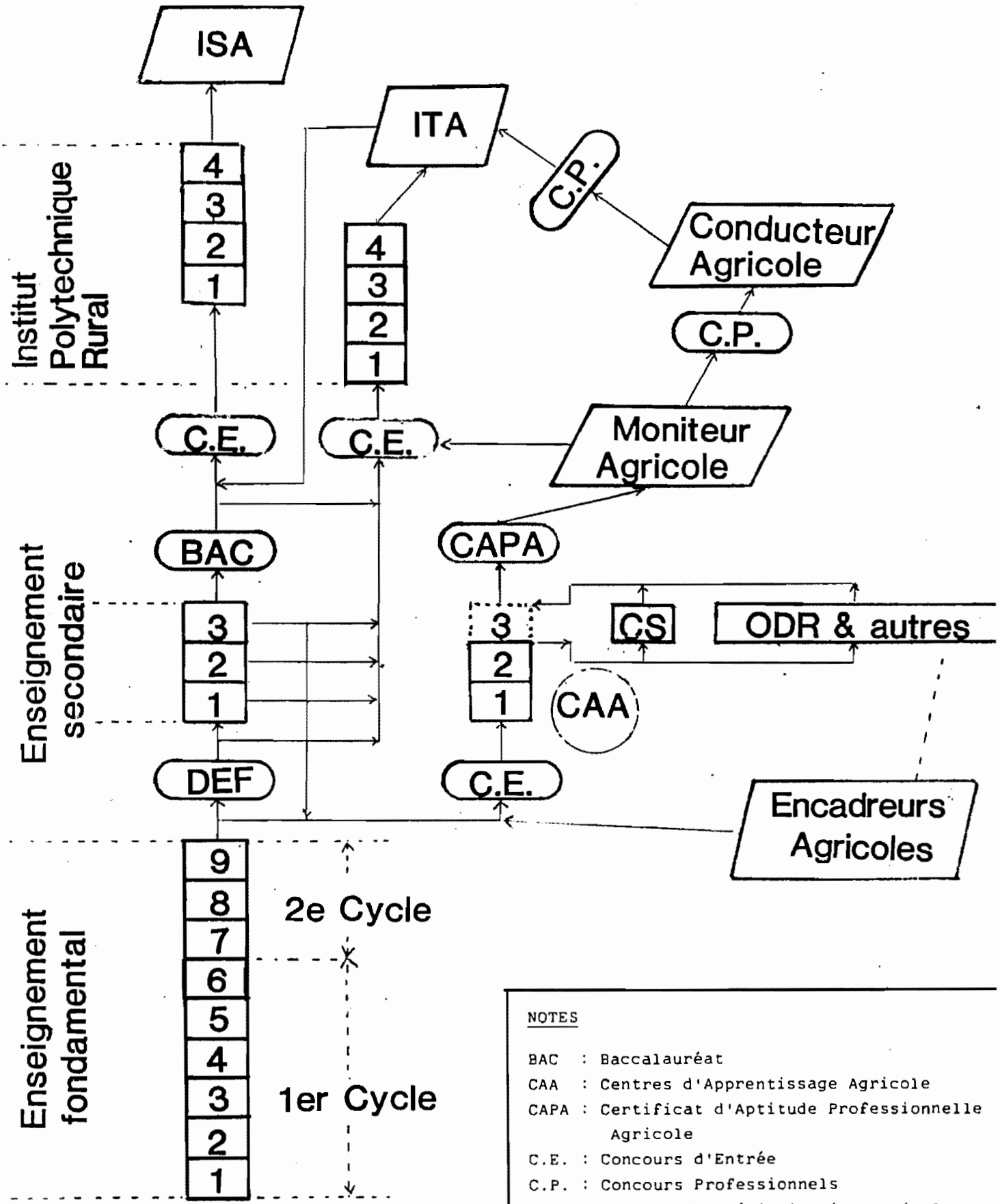
_____ (1) Plus

_____ (2) Moins

_____ (3) Sans changement

ANNEX 2

LES CAA DANS LE SYSTEME D'ENSEIGNEMENT MALIEN



NOTES

BAC : Baccalauréat
CAA : Centres d'Apprentissage Agricole
CAPA : Certificat d'Aptitude Professionnelle Agricole
C.E. : Concours d'Entrée
C.P. : Concours Professionnels
CS : Centres de Spécialisation Agricole
DEF : Diplôme d'Etude Fondamentale
ISA : Ingénieur des Sciences Appliquées
ITA : Ingénieur des Travaux Agricoles
ODR : Opérations du Développement Rural