BOTSWANA AGRICULTURAL COLLEGE

by

Mary B. Anderson
Edna McBreen

U.S. Agency for International Development
Bureau of Policy and Program Coordination
Center for Development Information and Evaluation

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DRAFT FOR DISCUSSION ONLY

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EXECUTIVE SUMMARY

The effectiveness of the Botswana Agricultural College Expansion Project in integrating women was evaluated at two levels: First the extent to which women were integrated into the institution itself as faculty, students, or in curriculum design; second, the impact which female inclusion or exclusion at the institutional level has had on the productivity and well-being of Botswana's female farmers.

Findings include:

-- The College has increased both its male and female faculty as a result of the expansion project. The ratio of female to male faculty at the professional level has remained at 1:3. At the technical level, Botswana faculty increased from 2 to 23, but only one of these was a woman.

-- In the participant training component of the project, women were underrepresented: 24 men and 5 women received training. The majority of degrees received by participant trainees were in animal health related studies (15) rather than in crop related studies (8), though 10 were in general fields equally applicable to animals or crops. These figures show that the effort to strengthen the College's staff was biased toward the animal fields which are dominated by men in Botswana as compared with crop areas in which women play the predominant role.

-- An increasing number and proportion of women have been admitted to BAC as students in all four training categories. Women increased from 20 percent of graduates in the Agricultural Certificate program in 1979 to 39 percent in 1984; from 0 percent in the Animal Health Certificate program in 1979 to 6 percent in 1984; from 0 percent in the Agricultural Diploma program in 1982 (first year) to 33 percent in 1984; from 0 percent in the Animal Health Diploma program in 1981 to 21 percent in 1984. However, the attrition rate for women students over this time period was 33 percent as compared to 19 percent for men students.

-- Women students tended to concentrate in the agricultural areas while men predominated in the animal health areas, reflecting the general division of labor among Botswana's agricultural population.

-- A quota has been established limiting the number of female students admitted to the Agricultural Certificate program to 15. The reason given for this quota is that placement of women as agricultural demonstrators in remote areas is difficult; there is, however, disagreement as to the validity of this reasoning.

-- There is little concrete evidence that women and men differ in effectiveness as agricultural demonstrators (ADs) though the extension services in general, is criticized for ineffectiveness. However, several issues did arise that bear further investigation. These include:

  - Women ADs who are pregnant are not expected to travel or work in the same way as male ADs and non-pregnant female ADs. During pregnancy and nursing, they lose nine to twelve months of active work time and, therefore, serve their client farmers less well. There are no figures on female ADs who became pregnant or on actual time lost to the job as a result of pregnancies.

  - Male ADs suffer a relatively high degree of alcoholism and of days lost on the job due to drinking. Figures on the numbers of days lost, have not been compiled.

-- In light of the above findings, six recommendations are made:

  - A strong birth-control education program, medical advice and contraceptive devices should be provided to female students throughout training and employment as ADs for those who wish it.

  - The study of gender roles in agriculture in the different regions of Botswana and among different family types should be included in the curriculum.

  - Extension packages designed specifically to meet the food needs of families from household plots should also be offered in the curriculum.

  - Gender aspects of AD work should be investigated in terms of special considerations for female ADs and of reaching male and female farmer groups.

- Quotas that limit female enrollment at BAC should be dropped as these are not based on a careful assessment of the relative effectiveness of female/male ADs. Rather administrative measures that support all ADs in remote assignments should be adopted (these could be developed by looking at arrangements that support other government extension workers in health, social services and literacy).

GLOSSARY

AD	Agricultural Demonstrator (used interchangeably with AED)
AED	Agricultural Extension Demonstrator (used interchangeably with AD)
ALDEP	Arable Lands Development Program
ATIP	Agricultural Technology Improvement Project
BAC	Botswana Agricultural College
DAFS	Department of Agricultural Field Services
DAO	District Agricultural Officer
DVH	Department of Veterinary Health/MOA
MOA	Ministry of Agriculture
MHA	Ministry of Home Affairs
PES	Project Evaluation Summary
PP	Project Paper
RAO	Regional Agricultural Officer
SDSU	South Dakota State University
WAU	Women's Affairs Unit, MHA

PROJECT DATA SHEET

Title: Botswana Agricultural College Expansion

Project No: 633-0074

Location: Sebele, Botswana

Years: 1978-86

Purpose: To improve the welfare of Botswana's small-scale farmers and herders.

Funding: USAID $7,149,300 (PP 78-83) or PES $8,430,000
GOB $1,017,400
Other Donor $2,150,000

1. INTRODUCTION

The Botswana Agricultural College Expansion Project was designed to address the specific needs of small-scale farmers and herders within Botswana's agricultural sector. It was chosen for this study as an example of an institution-building project that included in its design an explicit consideration of gender roles and because it allows a fuller analysis of the ways in which a project design for an institution may or may not affect women in the ultimate target population (small-scale farmers and herders).

1.1 USAID/Botswana

USAID/Botswana's portfolio focuses on Education and Human Resource Development and Agriculture and Rural Development. The major constraint to development which the portfolio addresses is the lack of trained human resources. The AID development strategy includes the following major objectives:

-- To strengthen selected Government of Botswana (GOB) institutions which are directly responsible for increasing agricultural and off-farm productivity and incomes in rural areas;

-- To improve the quality and efficiency of the primary and post primary education systems to better meet projected work force requirements; and

-- To provide advanced training for administrators and technical personnel to help increase and diversify employment opportunities.

The AID program during FY 1984-1985 includes the following projects aimed at attaining these objectives:

-- The Botswana Agricultural College Expansion Project, which underwent final evaluation in FY 1984 and is phasing out with only a few Americans left on the faculty.

-- The Primary Education Improvement Project, which provides assistance in pre-service and in-service training for teacher trainers, primary school head teachers and inspectors. The project is also helping to establish undergraduate programs at the bachelors and diploma level in primary education.

-- The Botswana Workforce and Skills Training Project, which provides training for selected government employees and representatives of small scale, private sector enterprises.

-- The Agricultural Technology Improvement Project, which promotes technology development and transfer.

-- The Rural Sector Grant, which focuses on strengthening institutional systems for generating off-farm employment activities.

-- The Small Enterprises Development Project, an operational program grant which provides business advisory services to small-scale entrepreneurs.

In addition to the above, the Junior Secondary Education Improvement Project is in the design stage with implementation planned to begin in 1985.

Usually, the Mission understands "WID" as integrated into its general work so that the majority of the Mission's projects incorporate women into the mainstream project focus. However, smaller efforts focusing directly on women and their needs in development are evident. An example is the publication "The Woman's Guide to the Law, an Outline of How the Law Affects Every Women and Her Family in Botswana" which was funded by USAID and prepared for the Women's Affairs Unit of the Ministry of Home Affairs. The publication is excellent and is being used by the GOB in a series of "training of trainers" sessions for women.

1.2 Project Setting

The Botswana Agricultural College (BAC) is responsible to the Ministry of Agriculture administratively and for placement of its graduates. Thus, the policies and decisions of the MOA have had a strong impact upon the project to expand the college. Having surveyed its needs for manpower to fulfill its goals in regard to the poorest farmers and herders, the MOA foresees a shortfall of about 600 staff by 1988 unless indigenous training is greatly increased. The BAC Expansion Project is an important aspect of the strategy to increase trained manpower in agricultural extension.

Several aspects of Botswana's general economic and political context also have affected the BAC project.

The agricultural sector provides a livelihood for the 83 percent of Botswana's one million people who live in rural areas. That sector provides only about 10 percent of the GDP

(mining provides 27 percent), but it accounts for nearly 50 percent of all employment in Botswana. Livestock (mostly cattle) production, predominantly controlled and maintained by men, accounts for 80 percent of the sector's share of the GDP. Ownership of livestock, however, is highly skewed with only 6.7 percent of rural households controlling 54 percent of the national herd estimated at 2.8 million heads. Most households are primarily dependent upon raising crops which is mostly the responsibility of women. Arable farming is difficult and risky under prevailing climatic and ecological conditions. In years of moderate rainfall, annual food grain production averages only 30 percent of national requirements.

Botswana is known for its political stability. The country has an excellent human rights record and the rule of law prevails. The multi-party parliamentary system of government is an outstanding example of democracy. Botswana has been a moderating influence in attempts to work out peaceful solutions to problems of achieving majority rule in other parts of Southern Africa, particularly in Zimbabwe and Namibia.

Botswana's economy is strongly linked to and dominated by the neighboring Republic of South Africa. Botswana's membership in the Southern Africa Customs Union generates 32 to 40 percent of the GOB's annual revenues and South Africa accounts for 88 percent of Botswana's imports and 15 percent of exports. Approximately 20,000 Botswana are employed in South Africa, primarily in the mining industry. The South African companies of DeBeers and Anglo-American hold significant equity and have managerial influence in Botswana's diamond, coal and copper-nickel production.

The physical characteristics of Botswana present a challenge to any agricultural project. It has a continental and semi-arid climate with highly erratic rainfall averaging only 450mm annually, but varying from less than 250mm in the southwest to more than 650mm in the northwest. Over 80 percent of the country is covered by the Kalahari Desert and only about 6 percent of the land is suitable for farming. The Lempopo Valley Region on the eastern side of the country has nearly 80 percent of the population, relatively good soil, and generally just sufficient rainfall for some dry-land crops and cattle.

Agricultural production in Botswana has suffered greatly from current drought conditions. All measures of planting, harvesting and production have declined drastically. Table 8 summarizes agricultural statistics from the 1979/1980 farming season through the 1982/1983 season with some estimates of the 1983/1984 season (See Appendices). Three consecutive years of drought have reduced Botswana's output to 5 percent of its requirements. Fifty-five percent of Batswana have received some food aid in 1985.

The influence of gender on agricultural labor and production in Botswana is characterized by extensive variations from location to location, tribe to tribe and family to family. The ADO, Dr. Anita Mackie, described the variation in Botswana as the greatest she has seen in her work in about 40 African countries.

Traditionally, however, agricultural production in Botswana is a complex system of gender-assigned responsibilities which have an impact upon production. At the macro level the gender based division of labor is based on men with livestock and women with crops. Clearing land and ploughing with oxen are men's work.

The actual delineation of work based on gender has been affected by variations in family form with approximately 40 percent of families female headed. In addition to single women and widows, that figure includes the sizeable number of married women whose husbands are absent. Thus, strict gender and task delineations appear to be breaking down. (Table 9, Attitudes to Men's and Women's Work, is more indicative of the traditional division of labor than is Table 10, Time Spent by Men and Women on Different Activities.)

The data on persons carrying out crop and livestock activities (see Tables 11 and 12) show that women are the actors in 47.7 percent of all crop activities, but absent from livestock activities (excluding poultry). However, the data on persons responsible for crop and livestock operations (see Tables 13 and 14 show that women are responsible for 57.7 percent of all crop activities and 12.1 percent of all livestock activities.

Especially in female headed households, the traditional division of labor results in a problem of women's access to resources. Most women rely on men as a source of draught animals for ploughing. This often means hiring someone to do that job and the constraint on access to draught animals quickly becomes a resource constraint touching on both labor and economic resources. Because women tend to be among the smallest holders with the most marginal operations, this constraint cannot easily be overcome by them.

1.3 Botswana's Focus on Gender

The Government has established a Women's Affairs Unit within of the Ministry of Home Affairs. This Unit has the following goals:

-- to coordinate women's activities in Botswana at local, national and international levels;

-- to disseminate information;

-- to conduct research on the situation of women in Botswana;

-- to interact with different government departments on issues related to women.

The role of the Unit is to work in conjunction with other Ministries using a cooperative approach aimed at integrating women into the Ministries' planning and ongoing work. The Unit acts as a resource to other Ministries rather than as an advocate for women's rights.

The Ministry of Agriculture's Director of Field Services, stressed that the approach of his Ministry has been to attempt to integrate women into the larger system both as staff and as project beneficiaries. The Ministry of Agriculture has directed some programs at women and, in fact, had a Women's Unit until 1984 when it was phased out.

1.4 Availability of Gender Related Data

Extensive gender related data on agriculture and extension in Botswana as well as data directly describing BAC are available. In addition to some gender disaggregated census data and government records, a number of studies based on interviews, field observations and national statistics have been written about women in agriculture, intra-household management, and the extension service's outreach to women farmers (see, especially, papers by Bond, Bettles, Peters, Fortman and Horn and Nkambule-Kangima listed in bibliography). There is, however, at least one area of research, directly related to BAC and its inclusion of women as faculty and students, that is lacking. There are no data available for determining the success of female as compared to male ADs and their ultimate impact as agricultural extension agents. Data showing whether women farmers are reached are also scant.

2. PROJECT DESCRIPTION

2.1 Project Design

From 1978 to 1983, AID provided a $7,149,300 grant to the Government of Botswana to support the expansion of the BAC. The objective of the project was to improve the welfare of Botswana's small-scale farmers and herders. In the Project Paper, purpose, inputs and outputs were specified as follows:

Data on persons performing crop and livestock activities show that women are the major participants in 47.7 percent of all crop activities but do not take part in livestock activities, excluding those involving poultry. However, the data on persons responsible for crop and livestock operations show that women are responsible for 57.7 percent of all crop activities and 12.1 percent of all livestock activities.

The traditional division of labor severely limits the female-headed households' access to resources. Most women rely on men for plowing with draft animals, so female heads of households must often hire someone to do this job. The constraint on access to draft animals, therefore, quickly becomes a resource constraint affecting both labor and economic resources. Because women tend to be among the smallest landholders with the most marginal operations, they cannot easily overcome this constraint.

1.3 Project Design, Implementation and Results, and Gender Issues

1.3.1 Project Design

A.I.D. provided a grant of $7,149,300 to the Government of Botswana to support the expansion of the Botswana Agricultural College between 1978 and 1983. The objective of the project was to improve the welfare of Botswana's small-scale farmers and herders. As defined in the Project Paper, the project purpose was to establish within the college a largely localized training institution capable of serving rural sector needs. The project inputs were specified as follows:

- Long-term technical assistance in vocational and educational administration, extension, animal health, range management, agricultural communication, agronomy, and general science
- Short-term technical assistance in animal breeding, horticulture, rural sociology, and extension
- Construction of dormitories, classrooms, administration and faculty offices, and other buildings; and new and expanded facilities for several departments, a library, and dining hall
- Long-term participant training in the United States for college staff and administrators to earn bachelor's and master's degrees in agricultural economics, range

-- Project purpose: to establish within the BAC a largely localized training institution capable of serving rural sector needs.

-- Inputs:

- Long-term technical assistance (19.5 person years) in vocational and educational administration, extension, animal health, range management, agricultural communication, agronomy and general science.

- Short-term technical assistance (80 person months) in animal breeding, horticulture, rural sociology and extension.

- Construction of three dormitories to house 180 students; seven new classrooms; new and expanded facilities for science, animal health, engineering, library, dining; administration and faculty offices; houses for long-term technical assistants and for other staff members.

- Long-term Participant Training (41.5 person years) in the U.S. for BAC staff and administrators at the Bachelors and Masters levels in agricultural economics, range management, horticulture, agronomy, veterinary medicine and educational administration.

- Equipment and commodities including vehicles, laboratories, and furnishings for classrooms, dormitories, dining hall and kitchen, library and offices.

-- Outputs:

- 14 BAC staff trained at Bachelors or Masters level.

- Completed facilities.

- Improved curriculum for certificate level.

- Introduction of diploma level training with new curriculum.

- Improved administrative facilities.

The project was designed to address an existing and projected shortfall in agricultural personnel by doubling BAC's capacity from 60 to 120 certificate-level students admitted

each year (increasing expected graduates from 54 to 108 yearly) and by introducing a diploma-level program for 30 students each year (27 graduates per year expected).

Graduates from BAC serve primarily as Agricultural Extension Demonstrators (AEDs or ADs) and as Veterinary Assistants (VAs). ADs are assigned to the Ministry of Agriculture's Department of Agricultural Field Services (MOA/DAFS) and VAs are assigned to the MOAs Department of Veterinary Health. Both provide the key link between the MOA and rural Botswana's agricultural and livestock activity.

Potential project beneficiaries were identified as:

Primary:

-- Staff who were to receive participant training. (14)

-- BAC students receiving certificate and diploma training. (135 graduates/year)

Secondary:

-- Rural Batswana who benefit from improved AED and VA services.

At the time the project was designed there were five women serving as ADs and six women enrolled in the agricultural program. The project intended to improve admission procedures to increase the number of women students at BAC, but no specific targets for women were set. This approach--noting that women should be included without specifying numbers or procedures--is in keeping with GOB and USAID/Gabarone stated intention of "integrating" women into mainstream projects. It also reflects the GOB and MOA awareness of the importance of women's roles in agricultural development set forth in 1976/1981 National Development Plan. The project's design documents, therefore, included discussion of gender roles in agriculture but did not relate these in any way to the design for BAC expansion.

2.2 Project Implementation

The project was authorized in 1978 and began implementation in 1979 under a contract with South Dakota State University (SDSU). On the whole it proceeded smoothly, but with some construction problems resulting from inflation as well as some delays in commodity provisions and staffing by other donors Project Evaluation Summary (See PES, 1984-1985). The number of participant trainees was raised from 14 to 20, and the technical assistance component was extended with SDSU to ensure continuity until all Batswana returned from training (1986 projected).

Table 1. General Project Results

ANTICIPATED OUTPUTS	PROBLEMS/MEASURE OF ATTAINMENT
Staff Trained	Predominantly achieved with all training to be completed and staff returned to BAC during or before 1986.
Facilities Completed and Equipped	Achieved with initial delays which caused overcrowding and inconvenience at the midpoint of the project. All related problems have been overcome.
Teaching Materials Developed	Substantially achieved with current involvement of Batswana in continuous upgrading of materials.
Curricula Improved for Certificate Level	Achieved with revisions completed in cooperation with the GOB resulting in practical relevance to country needs and Government policies. Program and course descriptions recently published in course catalogue.
Curricula Created for Diploma Level	Achieved with approximately 30 students graduating annually. Program and course description recently published in course catalogue.
Administrative Procedures Improved	Predominantly achieved with appropriate changes in systems and procedures.

Major source: Botswana Agricultural College Expansion, Project Evaluation Summary, 11/83; with update by authors.

2.3 General Project Results

The project's attainment of objectives was summarized in the November 1983 project evaluation. Several of the "unresolved issues" noted in that evaluation have been resolved in the interim (see Table 1).

In general, the project is considered very successful--having achieved all its intended outputs. In addition, the number of women admitted as students to BAC has risen. In the sections that follow, the overall success of the integration of women into the project is evaluated in more detail.

3. ANALYTICAL FRAMEWORK

This study addressed the following key issue:

> Was the project more/less effective in achieving its overall objectives because women were/were not integrated into its design and implementation?

That is, we wanted to find out whether the well-being and productivity of small-scale farmers and herders in Botswana were any more or less effectively improved (the project objective) because the BAC Expansion Project did/did not integrate women in its design and implementation.

The linkage between the project and the GOB goal of improving the welfare of small-scale farmers and herders involves reaching herders and farmers and helping improve their productivity. Table 2 depicts this linkage.

Table 2. Analytical Framework:
The Project's Relationship to Rural Botswana

The Project:	BAC Expansion (to increase trained agricultural manpower for extension)
Rural Botswana:	Small-Scale farmers and herders need to be reached by agricultural extension agents with appropriate extension packages so productivity rises

The task was to discover if and how consideration of gender in the BAC expansion made any difference to the effectiveness in serving rural Botswana's productivity needs.

The primary focus of our study was the integration of women into the BAC. Three principal components of the BAC where gender considerations may be important were identified as:

-- Faculty
  - Hiring
  - Training

-- Students
  - Applications/Admissions
  - Retention/Performance
  - Placement

-- Curriculum
  - Content, breadth, priorities; relation to the real situation in agriculture in terms of appropriateness of technologies, gender divisions-of-labor, cultural practices, etc.

  - Relation to agricultural research efforts: degree to which research findings are incorporated into curriculum and experience of students helps shape research priorities.

  - Adaptation of methods for reaching farmers and herders according to nature of target group.

Second, we tried to assess the importance of gender to the broader objectives to which the project was linked. The following questions were basic to this analysis.

-- Who are farmers and herders?

  - By crop types? (which varies by household types, decision-making patterns, tribe and land types)

  - By stages in crop production? (plowing, planting, weeding, harvest, etc.)

  - By animals? (cattle, goats, poultry)

  - How frequent is contact by ADs and VAs? How good is it? (relates to BAC curriculum and research)

-- Who are the ADs and VAs?

  - Ideal characteristics for work? Any relative advantages or disadvantages for male or female ADs or VAs?

-- What is impact on productivity?

  - Does BAC training, transmitted to farmers, contribute to changes in productivity?
  - By farmer-type?
  - By crop type or point in cycle?
  - By animal type?

Evaluation Methodology

Some of the circumstances encountered in this study deserve special note because of their effects on the analysis and recommendations.

Research on gender roles in agriculture and prior evaluations of BAC had already been done. In many ways, this was a real advantage given the high quality of most of that work and the brevity of our time. However, there also were two distinct disadvantages that affected our work. First, a number of people were reluctant to meet with us or set up additional meetings for us because they felt that BAC had already been adequately evaluated. They felt this evaluation was not necessary and that our requests were impositions. Second, at least one previous researcher on women's roles had antagonized several people, making them extremely wary with us.

Almost without fail, the gender focus of this evaluation elicited standard responses of three sorts: a) hostility b) recitations of numbers, or c) stereotypical reporting of male/female roles and attributes. In most cases we had to spend some time just getting people to consider the questions we were actually asking (i.e., whether gender matters in the areas under discussion) as opposed to whether women should be or had been trained at BAC.

Because our questions were new to most people, it took longer to get relevant information. In some cases, several interviews would have been necessary to get to the issues that concerned us and in a number of cases this was not possible. Thus this study represents a beginning of a new approach to explore where, when and whether gender issues matter in project design--not a conclusive study of the degree to which they did matter in the BAC Expansion Project.

4. FINDINGS - PART I

Findings are reported in two parts, corresponding to the analytical framework discussed above. PART I treats the project itself and the integration of women into specific components of the BAC--personnel and curriculum.

4.1 Personnel

Table 3 shows the figures for BAC faculty in 1979 at the beginning of the project and currently in March 1985.

Table 3.

	1979		1985	
	Male	Female	Male	Female
Professional	11	4	21	7
Expatriate	7	2	8	1
Local	4	2	13	6
Technical	10	1	22	1
Expatriate	9	-	-	-
Local	1	1	22	1

While the number of local staff increased markedly in both the professional and technical categories, the number of women relative to men remained at approximately one-half in the professional category but fell behind in the technical category.

The BAC Expansion Project allowed for significant participant training, primarily in the U.S. but also in Swaziland. Table 4 analyzes the faculty who received long-term training in the U.S. including trainees who received diplomas in Swaziland, 29 persons received 33 degrees. Of these, eight were in crop-related areas, fifteen in animal health and ten in general areas related to both crop and animal production.

Of the 29 people receiving training, five (17 percent) were women--somewhat below current female faculty representation. Of the five women, two concentrated on crop

related courses and three in general courses. None received a degree in animal health. The greater number of degrees on animal sciences indicates an implicit, if not explicit, priority placed on developing the competence of BAC staff in the livestock and other animal health courses. This emphasis is directly counter to MOAs stated priority of increasing food production; and it reinforces the existing bias towards male dominated, livestock production.

Table 4. Long-Term Trainees

GENDER	INSTITUTION	FOCUS OF STUDY	LENGTH	DEGREE
F	Texas Tech	Crops	79-83	BSc.
M	SDSU/Tuskegee	Animal	79-85	BSc/DVM
M	SDSU	Animal	79-82	BSc.
M	SDSU	Animal	79-82	BSc.
M	SDSU	General	79-82	BSc.
F	SDSU	General	79-83	BSc.
M	SDSU	General	80-82	MSc.
M	SDSU	Animal	81-	BSc.
M	SDSU	Animal	79-86	DVM
F	SDSU	General	81-82	MSc.
M	Western Ill	Crops	81-	BSc.+
M	SDSU	Animal	80-82	BSc.
F	SDSU	Crops	81-83	MSc.
M	U. Arizona	General	82-85	BSc.
M	SDSU	Crops	82-85	BSc.
M	SDSU	General	82-84	BSc.
M	Kansas St.	Crops	82-85	BSc.
M	U. Wyoming	Animal	84-	MSc.+
M	U. Nebraska	Crops	85-	BSc.+
M	Michigan St	Animal	85-	MSc.+
F	Kansas St.	General	85-	BSc.+
M	U. Arizona	Crops	85-	BSc.+
M	NC A&T	Crops	85-	BSc.+
<u>To Swaziland for Diploma Training</u>				
M		Animal	79-81	
M		General	79-81	
M		Animal	79-81	
M*		General	79-81	
M		Animal	79-81	
M*		General	80-82	

Table 4. Continued

GENDER	INSTITUTION	FOCUS OF STUDY	LENGTH	DEGREE
M*		Animal	80-82	
M*		Animal	80-82	
M*		Animal	80-82	

Degrees in: Crops: 8
Animal: 15
General: 10

Total Persons: 29 Total Degrees: 33

*Did not return to BAC
+Expected

General includes Agricultural Education, Extension Education, Agricultural Communications, Science, Laboratory Techniques

Source: PES 1984/85 pp. 21, 23. List prepared by D. Dambe, Training Officer, USAID March 1985

All three of the additional faculty who received short-term training were men; two received general training and one focused in a crop-related area.

Between 1973 and 1980, BAC graduated 390 students of whom 16 were women (Bettles, Women's Access to Agricultural Extension Services in Botswana, p. 18). With the expansion of its program, the numbers of both male and female enrollments and graduates increased and the percentage of women increased as well. Table 5 summarizes enrollments and graduations from 1978-1984 in the four programs supported by the project.

There are relatively more women in the two agricultural programs than in those concerning animal health. This reflects the gross division of labor by gender in the countryside where men deal more with livestock and women more with crops.

Table 5. Enrollment & Graduation of Men and Women Students 1979-1984

	Year Accepted	No.	%	Year Graduated	No.	%
Agriculture Certificate						
Men	1978	22	73	1979	20	80
Women		8	27		5	20
Men	1979	32	100	1980	23	100
Women		0	0		0	0
Men	1980	41	79	1981	38	80
Women		11	21		9	20
Men	1981	40	78	1982	32	82
Women		11	22		7	18
Men	1982	55	71	1983	36	67
Women		22	29		17	33
Men	1983	46	63	1984	29	61
Women		31	37		18	39
Animal Health Certificate						
Men	1978	35	100	1979	26	100
Women		0	0		0	0
Men	1979	36	100	1980	31	100
Women		0	0		0	0
Men	1980	55	100	1981	54	100
Women		0	0		0	0
Men	1981	59	97	1982	49	98
Women		2	3		1	2
Men	1982	67	93	1983	48	89
Women		5	7		6	11
Men	1983	72	95	1984	61	94
Women		4	5		4	6
Agriculture Diploma						
Men	1981	19	100	1982	18	100
Women		0	0		0	0
Men	1982	16	88	1983	13	93
Women		2	22		1	7

Women		8	38			6	33
Animal Health Diploma							
Men	1981	19	100		1982	16	100
Women		0	0			0	0
Men	1982	16	100		1983	13	100
Women		0	0			0	0
Men	1983	20	91		1984	17	89
Women				2	9	2	11

Source: PES 11/83 updated by figures supplied by BAC Principal's Office, March 1985. This year there were a total of 47 students admitted so women were 24 percent of the total. However, additional admissions were occuring even as the term began in March 1985.

However, the proportion of female to male students at BAC underrepresents women both in the rural population in general and in the populations engaged in crop or animal-related activities. During the life of the project, enrollments and graduations of women showed an increasing trend. In the discussion below on placements of graduates, however, we shall note the present possibility of a declining trend.

Table 5A shows that the attrition rate for students in the Agriculture Certificate Program. Male/female comparisons are not meaningful in the Animal Health Certificate program as numbers are low; the Diploma Program is just four years old, is significantly higher than the 10 percent estimated by the Project Paper. The drop-out rate is 22 percent--19 percent for men and 33 percent for women.

The higher drop out rate for women (33 percent) than men (19 percent) is partially explained by the fact that women who become pregnant leave the school for one year (See Table 5A). They are, however readmitted without penalty. (Records on re-entry of such students are not available but this accounts for the fact that one woman graduated in 1980 though no women were admitted in 1979.)

Every person we interviewed who was connected to BAC noted that, academically, female students perform as well or better than male students. They noted that the second highest graduating student in 1983 and the first in 1984 were women.

In 1981, the DAPS assured the Permanent Secretary of the MOA that all women trained at BAC would be employed. However, interviews with the BAC Administration revealed that the MOA has limited in writing the number of women who can now be admitted to the Agriculture Certificate program to 15. A similar oral limit was placed on female admissions to the Animal Health Certificate program, but applications from women did not exceed the limit. The reason given for these limitations was the difficulty of placing women in the field, particularly in remote areas.

Table 6 shows the placement of all women graduates from the Agriculture Certificate Program for whom information was available as of 1984. Women who graduate from BAC are hired by MOA and placed in appropriate positions. Their placements are equal to those of their male counterparts except, occasionally, when women receive favorable treatment by being placed in the less remote and somewhat easier AD assignments for "health reasons."

Table 5A. Student Drop Out at the Botswana Agricultural College 1973-1983

ATTRITION						
YEAR	DROP OUT MALE	DROP OUT FEMALE	TOTAL DROP OUT	% DROP OUT	MALE DROP OUT AS % OF MALE INTAKE	FEMALE DROP OUT AS % OF FEMALE INTAKE
73-74	3	1	4	26	23	50
74-75	14	6	20	47	42	60
75-76	8	1	9	19	18	33
76-77	1	2	3	12	5	66
77-78	2	0	2	7	7	0
78-79	2	2	4	13	9	25
79-80	9	-	9	28	28	-
80-81	3	2	5	10	7	7
81-82	8	4	12	24	20	36
82-83	15	9	24	31	27	41
TOTALS	65	27	92	22	19	33

Source: Bettles, F. M., Ten Years After: A Look at Female Agricultural Demonstrators in the Development of Agricultural Field Services, DAFS, MOA, March 1984, p. 26

Table 6. Location of all Women Agriculture Certificate Graduates From BAC (1984)

Department of Agricultural Field Services		
ADs	26	
Dairy AD	1	
Land Utilization	2	
Agricultural Information	2	(both hold Diplomas now)
Botswana Agriculture College		
Lecturer	1	(now holds a degree)
Diploma Students	7	
Department of Agricultural Research		
Research Staff	7	
Left the MOA	1	
	47	

Source: Bettles, P.M. Ten Years After, p. 27

4.2 Curriculum

In the desk review of AID supported education projects, it became clear that one area in which gender analysis could significantly affect project design is curriculum. If curriculum content addresses female productive roles, its relevance to girls'/women's lives provides a strong incentive for them to be involved. Similarly, when curriculum is intended to train people who will train others, as at BAC, the explicit inclusion of women's roles will help these students make their instruction relevant to the people they teach.

Since the final evaluation of the BAC Expansion Project, the college has published a course catalogue for the Certificate and Diploma levels. The course descriptions are thorough and the sequencing of courses reflects the broad range of agricultural and animal health activities in Botswana. There is no apparent bias in favor of either subsistence farming or livestock production. Where it is appropriate, course descriptions refer to regional differences including

variations in soil and climate types as well as cultural and traditional patterns of farming. Here and in courses on extension, communications methods and rural sociology, gender differences in labor and resource bases could be included in the curriculum. We were unable to meet with the instructor in rural sociology and extension to discover whether he actually does deal explicitly with gender.

In interviews, as we explored the ways in which BAC courses prepare BAC graduates to work with women farmers, we were told "if they go to the fields, they will work with the farmers they find there--in many cases, or most cases, women." In other words, students are instructed in field work methodologies but with little or no explicit consideration of women.

We concluded that the comprehensiveness of the curriculum might well constitute a good example of a "gender-blind" approach that educated about agricultural practices in an inclusive and "integrated" way. However, gender awareness in course descriptions could add an additional assurance that gender issues will be addressed. It might also increase the sensitivity of BAC graduates to ways in which gender-related patterns of production might affect their work priorities as ADs.

5. FINDINGS - PART II

Findings on the importance of the integration of women to the achievement of greater productivity and well-being for small farmers and herders are discussed in the contents of agricultural production and the agricultural extension system.

It is impossible to determine the impact of an agricultural education institution on production without a complex long term study. Undoubtedly, the influence of the drought and resultant declining production has negated any positive BAC impact. However, there is a need for greater understanding of the relative success of graduates in their various roles as ADs, researchers, ministry personnel, etc. A follow-up study of BAC graduates, planned for the near future, should begin to fill this need.

Having learned about gender related roles in agriculture, we examined the agricultural extension system to see whether gender was a factor in either staffing or effectiveness of delivery--i.e., in affecting farmer productivity.

A study done by Ramolemana and Hobbs in 1983 surveyed 213 people concerned with extension to determine what factors were considered to have the greatest influence on extension

effectiveness and on crop production improvement. Identified as the five problems most affecting extension worker effectiveness (p.8) were:

-- Inadequate housing for ADs;

-- Inadequate performance review and promotion procedures for ADs, DAOs and RAOs;

-- Failures in the supplies of seed varieties when needed;

-- Difficulties of transportation in the field;

-- Inadequate opportunities for in-service training.

These issues also arose repeatedly in our interviews but none, with the possible exception of difficulties in transportation, is specifically a problem for men or women. Transportation, particularly the difficulty of riding bicycles on sandy roads, was sometimes cited as a greater problem for female than male ADs, something which Bettles also identified as particularly important to women. The use of motorbikes instead of bicycles to ease the problem worked to the disadvantage of female ADs as women traditionally have not ridden motorbikes. In our interviews, however, we found widespread agreement that transportation was a problem for both male and female ADs and that the use of motorbikes, if there were enough, would prove a good option for both.

A sixth problem facing all ADs was identified by E.J. Kemsley Principal of BAC, as the relatively poor image of agricultural extension workers compared to community development, literacy and health extension agents. He blamed government policies toward agriculture for this image. For him the question of whether women could be good ADs was a diversion from the more important issue of how government promotion and support of all ADs could enable them to be more effective. He pointed out that programs in Social and Community Development, Health and Education/Literacy all use women effectively as extension agents and post them to remote regions without unusual problems.

There has been a great deal of discussion and several studies to determine whether women are or can be as effective ADs as men. Bond (1974, pp 53ff) and Bettles (1984), both found little or no prejudice against female ADs, though Bond found reluctance on the part of a small number of crop farmers to trust the knowledge of women in cattle matters (See Table C-8). Bettle's findings were more mixed but, indicated that most groups she questioned, except male ADs, believe that women can be effective ADs (See Table 7). The male ADs reasons for their sense that women could not do extension work included

transportation problems, lack of strength, fears of traveling in the forests, and difficulties working with livestock (p.8 Bettles 1984).

Because these studies had been done, we took a slightly different approach in our interviews. First, we asked people to describe the characteristics that they considered of greatest importance in an effective AD and then we asked whether women or men had any special advantages or disadvantages in light of these characteristics.

There was a great deal of agreement among those we interviewed in terms of the qualities they named as important for ADs. These included:

-- willingness to go into the field, work with people and work long hours;
-- patience;
-- good communications techniques;
-- appropriate knowledge

Most interviewees felt that these qualities had little or nothing to do with gender.

However three gender-related issues--pregnancy, alcoholism and location--did repeatedly arise and do influence AD effectiveness.

Pregnancy. A high proportion (unknown) of female ADs become pregnant and both they and their supervisors and colleagues agree that they lose about nine months to a year of active extension work during pregnancy and nursing. They are not expected to travel to the fields or to do strenuous work for much of this time. There was very little disagreement about this, explained to us by one woman as reflecting a common agreement that educated women (as female ADs are) do not want to live as women farmers do "who must work even when they are pregnant and nursing."

Alcoholism. A high proportion (unknown) of male ADs are frequently drunk and, as a result, do not visit farmers regularly. This was repeatedly cited to us as a male problem and some people speculated that more job time is lost because of alcoholism than pregnancy. One person noted that alcoholism seems to be higher among male ADs than among male extension agents in other Ministries and he suggested this was because of the unfavorable working conditions for ADs in general. Bettles' survey of DAOs and RAOs also notes these two problems (see Table 7).

"Location" also had gender connotations.

Location. When Kgotlas (traditional community-based decision-making meetings) are used to transmit information to farmers, it is less acceptable for female ADs than male ADs to make presentations. When AD work should be done at cattle posts, which are often an overnight journey away from villages, it is more difficult and less acceptable for a woman to make the trip and to stay overnight.

Table 7. Survey of Dao's and Rao's

	DAO's/RAO's
What are the most common problems you experience with your female ADs?	Transportation Pregnancy Health Weakness
What are the most common problems you experience with your male ADs?	Drinking Laziness Absenteeism Incompetence Poor discipline

Bettles, March 1984, p.22

In our interviews, people frequently commented that female ADs had easier access to women farmers while male ADs could work more easily with male farmers. While this is widely assumed to be true, the evidence that women farmers in Botswana are better served by female than by male ADs, (and/or whether male farmers are served less well by female than by male ADs) is less clear. Bettles (1984) shows that both female and male ADs spent more time with men farmers than with women and that male ADs' estimates of time spent with women were higher than those of female ADs while female ADs' estimates of time spent with men were higher than those of male ADs. (See Table 8.)

Table 8. Survey of Male ADs and Female ADs

	Female ADs	Male ADs	Ex-Female ADs
Can you estimate how much time you spend working with female farmers?	90 - 10 Mainly Men 45 Mainly Women 15 50:50 30	92 - 8 Mainly Men 40 Mainly Women 20 50:50 40	75 - 25 50:50 100
Do you find it difficult working with male farmers?	10 90 -		
Do you find it difficult working with female farmers?	31 69		

In our interviews, especially with ADs, regional and district AOs, we could not substantiate greater access of women to women or of men to men. People did comment frequently that 1) youth was a liability that all ADs had to overcome by proving themselves to the farmers and 2) women farmers in general were more open to working with and learning from ADs than were men farmers.

The issue raised above about lack of access by female ADs to male farmers at Kgotla meetings and at cattle posts does affect extension delivery. But the timing and location of AD/farmer contacts are possibly more important determinants of which farmers are reached and how well. Women farmers have far more demands on their time than men (see sections on production) and are less free to attend meetings. Thus, to reach women, ADs must go to the locations where women carry out their domestic tasks in close proximity to each other. Another way ADs could effectively reach women farmers is by living in village areas with demonstration homestead plots, water catchment, chickens, etc., where this is feasible, or conversely, by training villagers as demonstration farmers. Because much of women's work is done in and near villages, the impact on their activities is likely to be great.

Finally, the "package" or technology promoted by ADs influences the decision about with whom to work. If early ploughing, for example, is chosen as a strategy for effecting increases in productivity, then the AD should know who decides when to plough and who does the actual ploughing. There are in Botswana areas where the chief or headman still decides when to plough and farmers will only begin when he gives the word. There are other areas where men decide when to plough and do the ploughing; areas where men decide but women plough; and areas where women decide when to plough and do the ploughing. Advice to men to do early ploughing has been ineffective in areas where they follow the headmans' lead where women are expected to plough but have other major time constraints.

6. FINDINGS AND RECOMMENDATIONS

6.1 Summary of Findings

The BAC Expansion Project made a serious and, for the most part, effective effort to integrate women into the faculty and student body of the College. However, the ratio of approximately one-third female professional faculty has remained, even as the BAC expanded and the proportion of female technical faculty has dropped significantly. Recruitment of female students represents the area of greatest attention and project success in integrating women. The project was less successful in promoting female involvement in traditionally male-dominated animal sciences; most female students remain concentrated in the agricultural science areas.

The curriculum redesign is broad, inclusive and, apparently, gender-blind. However, because we suspect that "gender-blindness" is not synonymous with integrated attention to the roles women play in Botswana's agriculture and agricultural development, we suggest explicit attention to gender issues in BAC courses (see below).

Project design and implementation gave little attention to the relationship between BAC expansion and the impact on agriculture in general and on women farmers in particular. No data exist on the impact of BAC graduates on agricultural productivity or on the relative effectiveness of male and female ADs. As discussed above, there are indications of some differences in access to farmers and in days spent effectively on the job.

6.2 Recommendations

1) A program for the prevention of unwanted pregnancy should be initiated at BAC and maintained for ADs.

The impact of pregnancy on time spent on the job was the only clearly gender specific issue which limited the effectiveness of female ADs. It is our impression from our interviews that a large number of these pregnancies are unplanned and/or unwanted. A comprehensive family planning program is in order and could be easily and inexpensively implemented. Such a program should include the following:

-- Provision of family planning information, a medical examination and appropriate supplies upon entry to BAC and throughout the course of study. Introducing such a program at the very beginning of BAC studies will have the added advantage of lowering the pregnancy related drop-out rate of women.

-- Routine and continued provision of free information, supplies and medical services to female ADs by the department of Agricultural Field Services.

2) The comprehensive and gender-blind approach to agricultural education curriculum at BAC suggests two additions to that package to insure explicit attention to the smallest subsistence farmers, many of whom are women.

-- Explicit mention of the gender-based divisions of labor and related gender issues (e.g. time, location and labor constraints) in descriptions of courses in rural sociology and/or extension. Course descriptions as currently written lend themselves to treatment of gender issues but explicit mention in the course catalogue would ensure inclusion. It would also increase students' awareness of gender issues and their importance to AD field work.

-- An increased number of courses related to homestead/compound vegetable gardening. Such an emphasis could have two advantages: first, it places farming within the time, labor and location constraints of many female farmers in Botswana; second, increased vegetable consumption would lower vitamin deficiencies resulting from lack of vegetables in the diet.

3) To assess the effectiveness of both male and female ADs in reaching male and female farmers, the pending follow-up study on BAC graduates should collect the following data:

-- AD - Farmer Visits (or farmer contacts) by:

  - Gender of AD
  - Gender of Farmer
  - Type of household (long-term absent husband; single F; widowed F; divorced F; M/F farming together; male)

-- Location of AD/Farmer Contact with analysis of gender access to location

-- Timing of AD/Farmer Contact with analysis of gender access to that location

-- Timing of AD/Farmer Contact with analysis of gender implications

-- Extension Package Content and Priorities and implications for who is contacted; where and when and gender implications

-- Number of Days Lost to Job Due to Pregnancy

-- Number of Days Lost to Job Due to other factors, including Drinking/Alcoholism, by gender

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APPENDIX B

INTERVIEWS:

Dr. Anita Mackie, ADO, USAID, Botswana.

Paul Guedet, Mission Director, USAID, Botswana.

Mr. Patrick Sinombe, Vice-Principal, Botswana Agricultural College.

Lucretia Taylor, Program Officer (with WID responsibilities) USAID, Botswana.

Ron Thaden, Instructor, Agronomy Botswana Agricultural College, South Dakota State University team.

Mr. Tom Taukabong, Director, Department of Agricultural Field Services, Ministry of Agriculture.

Ms. K. Mogotsi, Course Director, Agriculture, Botswana Agricultural College (former DAO)

Ms. Elsie Alexander, Women's Affairs Unit, Ministry of Home Affairs.

Ms. Dorothy Dambe, Training Officer,, USAID, Botswana.

Mr. Doyle Baker, Agricultural Economist, Mahalapye, ATIP, MOA, Kansas State University.

Dr. Jay Siebert, Agronomist, Mahalapye, ATIP, MOA, Kansas State University.

Ms. Chada Tibone, Agricultural Economist, Mahalapye, ATIP, MOA.

Mr. Sono, Regional Agricultural Officer, Francistown.

Ms. Omphile Seopane, Agricultural Demonstrator, Dairy, Francistown.

Ms. Wameotsile Matlho, Animal Scientist, Francistown, ATIP, MOA.

Dr. Beryl Koch, Animal Scientist, Francistown, ATIP, MOA, Kansas State University.

Mr. E.J. Kemsley, Principal, Botswana Agricultural College.

Ms. Floura Fladi, Instructor, Agricultural Communications, BAC (former AD).

Ms. Thabsile Balowle, Instructor, Range Management, BAC.

Dr. David Gollifer, Director of Research, Agricultural Research Center, Sebele, MOA.

Ms. Dollina Solomon, Plant Nutritionist, Agricultural Research Center, Sebele, MOA.

Ms. Phoebe Ditshipi, Plant Pathologist, Agricultural Research Center, Sebele, MOA (former AD).

Ms. Sentleeng Maoto, AD, Tswidi Camp. Lobotse District.

APPENDIX C

TABLES

Table C-1. Agricultural Production Statistics
1979-1983

EXTRACTS FROM AGRICULTURAL STATISTICS

SEASON:	1979/ 1980	1980/ 1981	1981/ 1982	1982/ 1983	1983/ 1984 (estd)
Households with land	70,240	70,800	71,000	60,900	--
Households planting	65,735	68,650	57,000	48,200	--
Households harvesting	54,630	57,454	23,400	11,230	--
Basic crop production (tonnes)	44,800	54,285	17,220	14,425	6,700
Income from Production (Pm): Average prices received**	14.95	18.85	8.02	4.08	2.01
Family Labor used	186,700	188,400	163,000	139,200	--
Labor hired	60,200	74,700	52,100	47,550	--

(** calculated by the writer)

Table C-1. Continued

FOOD AVAILABILITY

YEAR:	1980	1981	1982	1983	1984	1985
Cereal Imports (mt)	109,288	79,423	111,020	175,000++	158,000	n.a.
of which:						
Food Aid (mt)	13,462	9,248	4,906	24,278	31,237 (estd)	43,245 (estd)
plus: Crop production less 10% allowance for seed, waste etc. (mt)	40,300	48,860	15,500	12,980	6,030	n.a.
Total available (mt)	149,588	128,283	126,520	165,980++	164,030	
Total available in kg per head	164	136	130	165	158	n.a.
Food aid per head	15	10	5	24	30	40

++22,000 tonnes of sorghum imported during 1983 are still in store and thus not counted as "available" for consumption.

Table C-2. Attitudes to Men's and Women's Work

	Work considered suitable for:					
	Men		Women		Both Men and Women	
	%	(No.)	%	(No.)	%	(No.)
Clearing land	87,3	(178)	4,9	(10)	7,8	(16)
Ploughing	81,6	(160)		(0)	18,4	(46)
Planting	69,6	(142)	10,3	(21)	20,6	(42)
Weeding & Bird Scaring		(0)	77,5	(158)	22,6	(46)
Harvesting and Threshing		(0)	63,3	(129)	36,3	(74)
Vegetable growing	20,1	(40)	59,8	(122)	20,1	(41)
Poultry Keeping	2,9	(6)	82,8	(169)	14,2	(29)
Small stock	93,8	(181)	4,2	(8)	2,1	(4)
Cattle care and milking	100,0	(204)		(0)		(0)
Calving help	95,1	(194)		(0)	4,9	(10)
Castration	100,0	(204)		(0)		(0)
Dehorning	95,6	(195)		(0)	4,4	(9)
Preparing food		(0)	97,6	(199)	2,5	(5)
Washing Clothes		(0)	94,7	(179)	5,3	(10)
Stamping Corn		(0)	97,6	(99)	2,5	(5)
Fetching water	1,6	(3)	95,2	(179)	3,2	(6)
Collecting wood	44,6	(91)	24,0	(49)	31,9	(65)
Gathering wild fruits	2,6	(5)	83,0	(161)	33,0	(64)
Beer brewing		(0)	100,0	(199)		(0)
Shopping	3,9	(8)	59,3	(121)	36,8	(75)
House building	12,3	(25)	75,5	(154)	13,3	(27)
Thatching roofs	18,0	(35)	62,6	(122)	19,5	(38)
Dam building	92,7	(189)		(0)	6,9	(14)
Kraal building	98,0	(194)		(0)	2,0	(4)
Selling crops	16,2	(33)	60,8	(124)	22,0	(45)
Knitting and sewing		(0)	73,0	(149)	27,0	(55)

Source: Bond, C.A., "Women's Involvement in Agriculture in Botswana," November 1974.

Table C-3. Time Spent by Men and Women on Different Activities (%)

		Men	Women
Crops	Destumping	95,1	4,9
	Land clearing	78,1	21,9
	Ploughing	73,5	26,5
	Planting	64,7	35,3
	Weeding	12,9	87,1
	Bird Scaring	17,7	82,3
	Harvesting	15,6	84,4
	Threshing	10,9	89,1
	Storage and selling	13,5	86,5
	Transporting	36,3	63,7
Total Crops		26,4	73,6
Livestock	Herding	89,1	10,8
	Vetinerary Operations	89,3	10,7
	Moving cattle, buying/selling	83,4	16,6
Total Livestock		89,2	10,8
Household	Domestic	29,6	70,4
	Beer brewing and selling	3,0	96,9
	Hunting and gathering	42,4	57,6
	House building	50,0	50,0
Total Household		30,1	69,9
	Other Agricultural Work	45,2	54,8
	Other	47,2	52,8

Source: Bond, C.A., "Women's Involvement in Agriculture in Botswana", November 1974

Table C-4. Main Person Carrying out Livestock Activities

		Poultry	Small Stock Care	Cattle Care	Dehorning	Castration	All Activities Less Poultry Av. %
Total Respondents		204	204	204	204	204	204
No. of Responses	%	100,0	100,0	100,0	100,0	100,0	100,0
	(No.)	(126)	(130)	(130)	(41)	(116)	
Women	%	79,4					-
	(No.)	(100)	(0)	(0)	(0)	(0)	
Men	%	4,8	30,0	39,8	48,8	31,0	37,4
	(No.)	(6)	(39)	(53)	(20)	(36)	
Young Women	%	12,7					-
	(No.)	(16)	(0)	(0)	(0)	(0)	
Young Men	%		36,2	15,0			9,9
	(No.)	(0)	(32)	(20)	(0)	(0)	
Sons	%	1,6	9,2	32,3	19,5	6,9	23,7
	(No.)	(2)	(47)	(43)	(8)	(8)	
Hired Men	%			8,3		11,2	13,9
	(No.)	(0)	(0)	(11)	(0)	(13)	
VA and AD	%				9,8	30,2	7,7
	(No.)	(0)	(0)	(0)	(4)	(35)	
Other	%	1,6	9,2	6,0	19,5	20,7	10,0
	(No.)	(2)	(12)	(8)	(8)	(24)	

Source: Bond, C.A., "Women's Involvement in Agriculture in Botswana," November 1974

Table C-5. Person Responsible for Crop Operations

		Land Clearing	Ploughing	Planting	Weeding and Bird Scaring	Harvesting and Threshing	All Activities Av. %
Total Respondents		204	204	204	204	204	204
No. of Responses	%	100,0	100,0	100,0	100,0	100,0	100,0
	(No.)	(196)	(196)	(196)	(196)	(196)	
Women	%	29,6	29,1	36,2	90,8	90,8	55,3
	(No.)	(58)	(57)	(71)	(178)	(178)	
Men	%	68,9	59,7	52,6	4,1	7,1	38,5
	(No.)	(135)	(117)	(103)	(8)	(14)	
Young Women	%	0,5		7,7	2,0	2,0	2,4
	(No.)	(1)	(0)	(15)	(4)	(4)	
Young Men	%		6,6				1,3
	(No.)	(0)	(13)	(0)	(0)	(0)	
Husband and Wife	%		2,6	2,6	2,6		1,4
	(No.)	(0)	(5)	(5)	(5)	(0)	
Other	%	0,5	2,0	0,5			0,6
	(No.)	(1)	(4)	(1)	(0)	(0)	

Source: Bond, C.A., "Women's Involvement in Agriculture in Botswana," November 1974

Table C-6. Person Responsible for Livestock Activities

		Poultry	Small Stock Care	Cattle Care	Dehorning	Castration	All Activities Less Poultry Av. %
Total Respondents		204	204	204	204	204	204
No. of Responses	%	100,0	100,0	100,0	100,0	100,0	100,0
	(No.)	(126)	(130)	(133)	(41)	(116)	
Women	%	81,1	32,3	5,3	7,3	3,4	12,1
	(No.)	(111)	(42)	(7)	(3)	(4)	
Men	%	4,8	58,5	72,9	73,2	81,0	71,4
	(No.)	(6)	(76)	(97)	(30)	(94)	
Young Women	%	4.0					-
	(No.)	(5)	(0)	(0)	(0)	(0)	
Young Men (mainly sons)	%	1,6	9,2	21,1	19,5	15,5	16,2
	(No.)	(2)	(12)	(28)	(8)	(18)	
Other	%	1,6		0,8			0,2
	(No.)	(2)	(0)	(1)	(0)	(0)	

Source: Bond, C.A., "Women's Involvement in Agriculture in Botswana," November 1974

Table C-7. Attitudes to Women being Agricultural Demonstrators (ADs)

		Total	Single Women	Widows	Married Women Husband Absent	Married Women	Men Alone	Married Men
Total Respondents		204	12	44	30	55	8	55
No. of Responses	%	100,0	100,0	100,0	100,0	100,0	100,0	100,0
	(No.)	(73)	(6)	(16)	(6)	(20)	(1)	(24)
Total PROVISO								
Women can be ADs	%	75,3	83,3	100,0	100,0	75,0	100,0	50,0
	(No.)	(55)	(5)	(16)	(6)	(15)	(1)	(12)
Just Advising	%	31,5	33,3			75,0		25,0
	(No.)	(5)	(2)	(0)	(3)	(0)	(0)	(0)
If they train	%	31,5	33,3			75,0		25,0
	(No.)	(23)	(2)	(0)	(0)	(15)	(0)	(6)
Other	%	37,0	16,7	100,0	50,0		100,0	25,0
	(No.)	(27)	(1)	(16)	(3)	(0)	(1)	(6)
Total REASON								
Women cannot be ADs	%	24,7	16,1			25,0		50,0
	(No.)	(18)	(1)	(0)	(0)	(5)	(0)	(12)
Job too heavy	%	9,6	16,1					25,0
	(No.)	(7)	(1)	(0)	(0)	(0)	(0)	(6)
There are no Women ADs	%	15,1				25,0		25,0
	(No.)	(11)	(0)	(0)	(0)	(5)	(0)	(6)

Source: Bond, C.A., "Women's Involvement in Agriculture in Botswana," November 1974, GOB, Gaborone