

6330074

64251

PD-784-274

BOTSWANA AGRICULTURAL COLLEGE
EXPANSION PROJECT

(633-0074)

PROJECT ASSISTANCE COMPLETION REPORT

Prepared by
K.B. Paul
REDSO/ESA

for

USAID/BOTSWANA
March 1989

PROJECT DATA SHEET:

Title: Botswana Agricultural College Expansion Project

Project Number: 633-0074

Project Location: Sebele, Botswana

Years: 1978-1986

Project Assistance Original: April 1984
Completion Date (PACD): Final: July 1986*

Funding: U.S. \$ 8,430,000**
GOB 2,912,700
Other 2,150,000
Total \$13,492,700

(**Of this, \$395,000 was deobligated in July 1986)

Project Design & Implementation South Dakota State University, Brookings, SD

Mid-term Evaluation Date: April 1981

Final Evaluation Date: November 1983

Report Prepared by: REDSO/ESA; March 1989

*After July 1986, USAID/Botswana contracted the services of the Academy for Educational Development, Inc., for additional technical assistance and the coordination of Participant Training Activities.

LIST OF ACRONYMS

AD	Agricultural Demonstrator
AH	Animal Health
AID	See USAID
BAC	Botswana Agricultural College
BACEP	Botswana Agricultural College Expansion Project
DAFS	Department of Agricultural Field Services
GOB	Government of Botswana
MOA	Ministry of Agriculture
PACD	Project Assistance Completion Date
PP	Project Paper
SDSU	South Dakota State University
USAID	United States Agency for International Development
USAID/B	United States Agency for International Development in Botswana
VA	Veterinary Assistant

-1'

I. INTRODUCTION

A. The Purpose of This Report

According to AID regulations (AID Handbook 3, September 30, 1982), the "Project Assistance Completion Report" should be prepared within six months after the PACD. All the inputs to this project were delivered by mid-1984, and some residual project activities continued through January 1986.

Since a considerable time has elapsed from the PACD, it would be futile to try to follow the recommended format for the preparation of this Project Assistance Completion Report. Rather an attempt will be made to highlight the project accomplishments and failures, if any. Irrespective of project outcome, it is always a fruitful exercise to summarize the lessons learned. These lessons may be beneficial to those designing and/or implementing a similar project in the future.

Achievements of projected outputs indicate only the beginning of a successful project. All these outputs should come together to generate larger benefits on a continued basis. This occasion provides us an excellent opportunity to examine the functioning of activities started by the project at this post-project period.

B. The Country

Botswana is a land-locked country of 570,000 square kilometers, about the size of Texas, surrounded by the Republic of South Africa, Namibia, Zimbabwe and Zambia. The country has a semi-arid climate and an erratic rainfall pattern, the rainfall averaging only about 250mm annually in the southwest to about 650mm in the northwest. Less than 8% of Botswana's total land area is suitable for farming, the remainder being desert, although some areas of this are utilized for extensive livestock farming.

Although agricultural sector provides only about 10% of the GDP, almost 83% of the country's one million population depend on agriculture for their livelihood. Livestock production dominates the economy of this sector, accounting for about 80% of the agricultural output. Only 7% of the Batswana¹ control more than 50% of the country's estimated 2.8 million animals. For the majority of the Batswana who are outside the mineral and cattle dominated economy, subsistence farming is the only means of existence. Under the country's prevailing climatic conditions arable farming is very risky. In best of years Batswana farmers could produce only about 30% of national food grain requirements.

The GOB is genuinely concerned in improving the lives of the rural Batswana. It feels that given the limited income potential for small herders and lack of employment opportunities in rural areas, arable agriculture should be looked into as a potential income source. The tribal land grazing policy, which is also geared toward increasing incomes of the rural population, is designed to improve range management practices through more formal land allocation.

C. The Problem

Botswana is experiencing a manpower shortage in nearly all sectors of its expanding economy. Particularly acute is the shortage of lower and middle-level personnel in agriculture and animal health to serve the agricultural sector. These people are necessary for successful implementation of GOB's new arable agriculture and tribal land grazing programs. The GOB, therefore, sought assistance from USAID to solve this particular problem.

¹More than one citizen of Botswana.

D. The Project

The Botswana Agricultural College Expansion Project (BACEP) made its debut in 1978, with the awarding of a contract to South Dakota State University (SDSU) to design the Project Paper (PP). In April of 1979, the same university was awarded the project implementation contract. SDSU was able to field a team in only two weeks.

The project was designed to meet Botswana's need for lower and middle-level agricultural extension personnel by improving the training of these cadres. The training was to be accomplished at the Botswana Agricultural College (BAC) located at Sebele, about 10 kilometers north of the capital city of Gaborone. This is the country's only facility for providing training in agriculture. As there existed a serious shortage of trained agricultural personnel in Botswana, the project plan proposed that the capacity of the college be expanded to double the intake of students in its agriculture and animal health certificate programs. To provide mid-level training, the plan also called for establishing diploma level programs in the two above mentioned areas.

II. METHODOLOGY USED TO COMPILE THIS REPORT

All available project-related documents were reviewed; however, the major share of information was derived from the BACEP PP, the two external Project Evaluation Reports (Atherton, J. et al. April, 1981; and November 1983), and the Project's Final Report (Everrett, D. June 1984). Several individuals who are/were connected with BAC at one time or another, or persons having any knowledge about BACEP were interviewed (see Attachment I). The BAC facilities were visited twice to assess its present operational status.

III. MAJOR FINDINGS

1. Despite some minor criticism, the Botswana Agricultural College Expansion Project could be termed as very successful. This was possible as all the parties involved, including GOB, the staff members at BAC, SDSU and the technical assistance team members and the local USAID Mission staff, worked together to achieve the project objectives. They all deserve commendation.
2. The outputs listed in the PP are as follows:
 - Staff trained
 - Facilities completed and equipped
 - Teaching materials developed
 - Curricula improved for certificate level
 - Curricula developed for diploma level
 - Administrative procedures improved.

All available verifiable means indicate that the above outputs have been fully achieved. This points to the fact that the project design was quite realistic, and that there was a high degree of commitment and collaboration from all the parties concerned.

The goal of this project was to "Improve the Welfare of Botswana's Small-scale Farmers and Herders". This project could and has partially contributed towards achieving the goal. There are many other factors, outside the scope of this project, which must be addressed in order to achieve the stated goal. The project purpose to "Establish within BAC a largely localized training institution capable of serving rural sector needs" was accomplished.

3. SDSU provided a total of nine long-term personnel (259 person-months), and 23 short-term consultants (44 person-months) to this project. Almost all of them were SDSU faculty members. This is indeed quite a record. One individual, the team leader, was involved from the design stage up to the end of the project life. This provided continuity, and was definitely a major factor contributing to the project's success.

Other agencies such as the Peace Corps, ODA (U.K.), the UN, the Netherlands, the Baptist Church, and other USAID projects also contributed an additional 251 person-months of technical assistance to this project. These efforts were all well-coordinated to achieve the project purpose.

4. During the life of the project, 19 BAC staff were sent to the U.S. for long-term training (15 B.S., 5 M.S. and 1 DVM; 2 students received 2 degrees each). Except for the DVM degree holder, who was assigned to another Department within MOA, all the others have returned to BAC.

Using the residual project funds, and through the services of the Academy for Educational Development, Inc., USAID/B was able to train 10 additional MOA staff members in the U.S. The last of these students returned to Botswana in May 1987.

In addition, GOB financed 15 other BAC staff members for diploma training in Swaziland. Of these, eight returned to BAC.

Through the use of project and non-project funds, five BAC staff received short-term training one in the U.S. and in Kenya; one in the U.K.*; one in the Netherlands*; and two in the U.S.; (*were sent by other donor funds).

5. Seventy percent of the trainees were sent to SDSU, the contractor's home institution. Arguments could be made on either side for sending so many of them to a single University. The participants however appeared to have received excellent training.

The number of participants and the area in which they received training are as follows:

<u>Disciplines</u>	<u>No. of Participants</u>
Animal Science	7
Crops/Soils/Plant Science	4
Range Management	2
Agricultural Economics	2

<u>Disciplines</u>	<u>No. of Participants</u>
Agricultural Communication	1
Agricultural Extension	1
General Agric. Science	1
General Science	1
Veterinary Medicine	1

It is apparent that the participant training program was not well-balanced; it was skewed towards animal science training. A review of the diploma level curricula at BAC will show that, in addition to crop and livestock production, students must also take courses in Socio-economic Sciences, Genetics and Biometry, and Agricultural Engineering. Yet no one was trained with emphasis in these areas.

6. Most of the major project inputs were provided in a timely manner and in appropriate quality and quantity. A few exceptions to this general statement are listed below:

a. There was a slight delay in the construction of physical facilities; however, all of these were completed by October 1982.

b. Some problems were encountered with commodity procurement primarily because of suppliers' failure to follow specifications.

c. Several pieces of equipment have no operating manuals, and hence are sitting idle, or are not being properly utilized. No one seems to know what has happened to these manuals, if at all these were shipped with the equipment.

d. The expensive air-conditioning unit in the animal health center is gathering dust. If it were ever operational, it is not now. The BAC staff do not know where they can get help.

7. The number of students enrolled in the two certificate programs, as shown in Table 1, reveals several interesting facts.

Table 1: Intake of Students in the Two Certificate Programs at BAC (1978 - 1988)

<u>Year</u>	<u>Sex</u>	<u>Agriculture</u>	<u>Animal Health</u>
1978	M	22	35
	F	8	0
1979	M	32	36
	F	0	0
1980	M	41	55
	F	11	0
1981	M	40	59
	F	11	2
1982	M	55	67
	F	22	5
1983	M	46	76
	F	31	4
1984	M	48	56
	F	31	6
1985	M&F	40	30
1988	M&F	45	25

Enrollment in both programs steadily increased up to 1982 and remained at that high level until 1984. From 1978 to 1982, the intake of students were more than doubled, which was one of the proposed project goals. The project had also made a deliberate effort, with the support of GOB, and succeeded in increasing women's enrollment in agriculture. In Botswana, animal fields are dominated by men, while women play dominant roles in crop production areas. This may explain the lower number of women in the animal health area.

Beginning 1985, however, the number of student intakes dropped in both the areas because of directives issued by the GOB. The reason being that the government did not have enough slots to absorb the increased number of graduates. From now on,

the enrollment will be limited to 60 for agriculture and 35 for the animal health certificate program (see Attachment II). Whether or not this is a prudent government policy deserves deliberation.

The PP assumed an attrition rate of 10%, but over the last five years the number appears to be at least twice that (data not presented here). The attrition rate is higher for female (33%) than for the male students (19%). (Pregnancy has been reported to be a major reason for higher dropout of female students.)

There is a general consensus that the students coming out through the new curricula are much better trained than those graduated under the old program.

8. As a direct outcome of BACEP, a large number of Agricultural Demonstrators (ADs) and Veterinary Assistants (VAs) are being made available to the Department of Agricultural Field Services (DAFS). However, it is estimated that depending on seasonal demands, only about 20 to 50% of their time may be devoted to technical aspects, such as dissemination of appropriate technologies to the farmers. The rest of their time is spent on various other government developmental programs. Other factors that stand in the way of ADs from discharging their duties are as follows:

- a. A limited number of technology and information are available for dissemination to the farmers. More information is being generated through research, which should be passed on to DAFS for dissemination.
- b. The linkage and communication between research and extension is at best very weak. This needs to be strengthened (USAID funded ATIP could play a major role here).
- c. Field-level extension workers need better logistical support and some incentives. Their benefits should be up-graded to match other government employees with similar level of training.

9. The BAC campus looks quite attractive and functional. Despite some initial problems, the library is now well organized and offers a favorable environment for studies. The library now has 16,000 volumes of books (almost 1000 different titles), but only a few periodicals. BAC is yet to put its own trained librarian (the present librarian is on loan from the Botswana National Library). Considering the long library hours, three assistants should be added to assist the librarian.

IV. LESSONS LEARNED

1. The choice of a Title XII University to design and implement a project of this nature was quite appropriate. The project related services performed here by the SDSU staff members were the natural extension of their day-to-day work at the home institution. These people did not have to learn on-the-job what they had come here to do.
2. SDSU was able to put together an excellent technical assistance team chosen from its large body of faculty members. This was particularly helpful as each member's traits and capabilities were known to the campus coordinator, as opposed to picking people "off the street" so to say. It was no wonder that each member served their full-term with commitment before returning to his/her home base.
3. Although USAID was the single largest donor to BAC's overall expansion and improvements, other agencies such as ODA (U.K.), the U.N., the Netherlands, the Baptist Church, Peace Corps had also contributed significantly to this project. This is a perfect example of donor collaboration and coordination to accomplish specified objectives.
4. Construction of physical facilities and procurement of commodities generally pose certain problems (timeliness, quality, etc.), and this project was no exception. These activities deserve more careful attention by the project design and implementation teams (construction schedule, cost overruns, equipment quality, spare parts, servicing, etc).

5. All AID-funded long and short-term trainees were sent to the U.S. The wisdom of sending all participants to the U.S., especially those for under-graduate and short-term training, is questionable.

Future AID-funded projects should explore the possibility of sending some undergraduate students and short-term trainees to selected third-country institutions. A lot of these countries offer excellent training programs in agriculture (India, Kenya, Zimbabwe, for example). For short-term training, International Agricultural Research Centers (IARCs) should be considered. The potential benefits, among others, could be as follows:

- lower cost
- more relevant training
- less culture shock and adjustment problems

6. Before deobligating project funds, careful consideration should be given to see if monies could be well spent to address any unforeseen yet important activity. A little input at this stage may leave the project in a healthier state, thus generating more benefits in the long run.

7. The Project plan should have included the following, or at least these should have been pointed out by the two evaluation teams and corrected:

- a. One crops/soils laboratory. A classroom in one of the old buildings is now serving this purpose.
- b. One small college farm which could have been used by both agriculture and animal health faculty and students. Fortunately, a plan for building an animal farm close to the campus, which will remain under BAC control, has been approved by MOA.
- c. Training a person in library science to assume the librarian's position.

d. Training a mechanical person for the repair and maintenance of equipment and small machinery.

There were enough funds left in the project (\$395,000 was deobligated) to finance the above activities.

V. RECOMMENDATIONS

1. USAID has invested a large sum of money to expand and to upgrade the Botswana Agricultural College. Its strengthened foundation and increased capabilities has allowed GOB to open degree programs in the same facility. Soon it will become a part of the University of Botswana (BAC's name will be changed to Botswana College of Agriculture or BCA). At this juncture, additional aid in various forms will be needed. Considering GOB's support and commitment to BACEP, AID should, within its general strategy, respond favorably to any request for assistance to this college.

2. It is not too often that one hears about AID's success stories (project failures are usually amplified). Now, here is one - USAID/B has an obligation to let others know about the successes of the BAC Expansion Project.

ATTACHMENT INAMES OF PERSONS CONTACTED

Benedetti, David E.	Field Coordinator Botswana Workforce & Skills Training Project
Hill, Bob	Research/Extension Liaison Officer ATIP Gaborone
Isa, John F.W.	Veterinarian, Course Coordinator, Animal Health, BAC
Kemsley, Ed	Principal BAC
Larsen, John	Senior Agricultural Economist MOA
Merinar, Cal	Lecturer in Livestock BAC
Mogotsi, Khok K.	Course Coordinator Agriculture, BAC
Mrema, Geoffrey C.	Dean, BAC
Ramore, Lesego (Ms)	Librarian, BAC
<u>Resource Person:</u> Daly, Paul	Agricultural Development Officer USAID/Botswana

ATTACHMENT IIItinerary of K.B. PaulFebruary 20, 1989

08:00 Depart Nairobi
20:00 Arrive Gaborone

February 21, 1989

08:00 Report to USAID/Botswana - Meet ADO
08:30 Meet with Director and Assistant Director
10:00 Take inventory of all available project documents

February 22 and 23, 1989

Read project documents
16:00 Meet with Bob Hill, RELO ATIP

February 24, 1989

09:00 Meet with David Benedetti, AED
10:30 Meet with Cal Merinar
14:30 Visit BAC at Sebele
Meet with Principal and Dean, BAC
16:00 Drive through research farm

February 25, 1989

Write up

February 26, 1989

Open day

February 27, 1989

08:00 Meet with John Larsen
10:00 Visit BAC - Meet with Course Coordinators
11:00 Tour campus facilities
14:00 Write up and revision

February 28, 1989

08:00 Complete first draft
11:00 Review draft with ADO
14:00 Revise draft

March 1, 1989

08:00 Exit interview with Mission Director
Submit a copy of first draft

09:30 Leave for airport
23:00 Arrive Nairobi