

Agricultural Entrepreneur Education

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Abstract

The article describes an innovation in curriculum at Lesotho Agricultural College. The changes altered the institution from producing agricultural civil servants to one that produces individuals capable of succeeding in agricultural industry.

The Basotho adapted a US learning system based on the principles of experiential learning to their situation. The curriculum changed from a theoretical to one that resembles commercial agriculture in Lesotho.

As a result a new type of agriculturalist is being produced. The new agriculturalist has a more informed concept of commercial agriculture in Africa and how they can perform to improve life for themselves and their countrymen.

Introduction

Agricultural education adapted to local conditions is producing encouraging results at Lesotho Agricultural College (LAC) in southern Africa. LAC has developed a career-oriented, agribusiness training curriculum that provides students with hands-on production, marketing and financial skills called the Student Enterprise Program (SEP). Upon graduation, it enables them to be self-employed entrepreneurs. It also allows them to gain the taste of profit and leave the college with project earnings for launching their own businesses. LAC's enterprise program is a unique training approach for countries in Africa. Lesotho is a small mountainous kingdom completely surrounded by the Republic of South Africa (RSA). It's elevation ranges from 1500 to 3000 meters giving it the distinction of being the country with the highest minimum elevation. Although about one-half of the country's laborers earn their living as migrant workers in neighboring South African gold mines, Lesotho is primarily an agricultural country. Farming is a risky endeavor in Lesotho. The country's altitude and geography produce a climate in which extremes are the norm. All zones of the country are annually faced with frost and hail. Droughts, even before the southern African drought of 1991-92, are not uncommon. When rains do come, they often fall in torrents in the lowlands, as sleet in the foothills or as heavy snows in the highlands. Terrain is exceptionally rough over 80% of the country, with fragile, tree-less soils. In Lesotho, there is no strong tradition of intensive, commercial agriculture. Most farmers have limited entrepreneurial skills.

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Many Basotho miners in the Republic of South Africa have returned to Lesotho after losing their jobs. In response commercial agriculture has been given a new mandate in providing employment and developing the economy of the country. To reach this goal the Government of Lesotho (GOL) has fostered development of more intensive agricultural enterprises.

LAC'S Role In Training Students

Lesotho Agricultural College (LAC) was formally established in 1955 to be the only post-secondary agricultural science training institution in Lesotho¹. During the first thirty years, the primary focus was to train a workforce for the Ministry of Agriculture (MOA). Graduates became MOA extension agents, research technicians and subject matter specialists.

In the mid-1980's budgetary constraints arose as a result of the GOL's structural adjustment program. The International Monetary Fund directed program froze the hiring of new government employees. At the same time, the private and parastatal agricultural production initiatives developed a need for well-trained agricultural entrepreneurs. The MOA directed LAC to change its training from producing students for employment in the MOA, to that of preparing students for self-employment in the private sector.

To fulfill this mandate, LAC faced a number of problems. Not only was the institution inadequately prepared to train students in skills that lead to self-employment, but the type of students entering the college were not inclined to be entrepreneurs. LAC students were those who had successfully negotiated the primary and secondary educational system in Lesotho. Their goal for post-secondary education was to train for careers as government employees, a career option that was no longer available. The system guaranteed that most LAC applicants were individuals with little real experience in agriculture nor ambition to work in production agriculture.

The Inception of SEP

In 1986 the United States Agency for International Development (USAID) entered into an agreement with Lesotho to provide help in improving agriculture in the country through the Lesotho Agriculture Production and Institutional Support Project (LAPIS). USAID contracted with American Ag International and the Consortium for International Development, to conduct a bilateral assistance project with the MOA.

The Agricultural Education Component (AEC) of the project was created to help the college make the changes

deemed important. As an initial step in changing the curriculum, the AEC helped the college expand the Diploma in Agriculture (DIA) program in 1986 from two to three years. The new curriculum added the opportunity for students to request assignment to the individual enterprise projects option in their third and final year.

Program Description

SEP was conceived to expand the parameters of training for students at the College. Few students entering the program have significant agricultural experience, and most of this experience has been with extensive, traditional agriculture in home villages. The new SEP program has been an attempt to immerse these students in training that mirrored the total milieu surrounding commercial farming in Lesotho. SEP has aimed to teach agricultural skills, but also to instill entrepreneurship. The specific purposes of the LAC SEP Program have been:

1. Improve the acquisition of technical agricultural knowledge and skills
2. Improve the acquisition of entrepreneurial knowledge and skills
3. Develop a good credit history
4. Acquire capital

Establishment of the SEP Trust

Students who take SEP projects must lease production facilities at the college at commercial rates and pay for all production and marketing costs. Most LAC students come from families of modest financial resources. A mechanism was needed to help students gain capital for their micro-enterprises. In 1990 the SEP Trust Fund was established.

The Trust is now well secured and has been working since 1990. It provides loans to SEP students to operate their projects. It had an initial capitalization of US \$65,000 from the project. Interest income on loans and investments are retained by the Trust for future use.

The Trust is administered by a Board of Trustees that oversees the funds. It is composed of seven trustees: one trustee representing MOA headquarters, the LAC Principal and Director of Studies, the SEP staff Coordinator, the Chief Loan Officer from the Lesotho Agricultural Development Bank, a representative from the National University of Lesotho, and two persons from agribusiness. The Board approves student project loan requests after review by individual SEP supervisors and the SEP Committee. The Trust determines the annual interest rate on SEP student loans, decides where unloaned monies in the Trust should be invested, and makes recommendations on the long-term sustainability and development of the SEP program.

The SEP Trust was one of the major steps in helping the SEP concept to be sustained. It provides continuity of funds for SEP projects for years into the future.

Adminstrating SEP

While the SEP Board of Trustees has overall financial control of the SEP Trust fund, the SEP Committee administers the implementation of the SEP program. All SEP supervisors and a representative SEP student are the members of the SEP Committee. The Committee determines

everyday policy and procedures for the SEP program during bi-monthly meetings.

Key LAC staff attending to SEP are the coordinator, bookkeeper, and project supervisors. The coordinator oversees all aspects of the program. He is also responsible for holding an annual pre-SEP project short-course for new students, conducting SEP agribusiness classes and serving as secretary on the Trust Board. The SEP bookkeeper is responsible for daily financial aspects of student projects and the project supervisors work with individual students.

Project Selection

Students are assigned projects during the middle of their second year at LAC. Those who elect SEP are given a list of current projects offered. They then interview with potential staff supervisors and department heads to see if they are qualified for the program.

Initial development of student enterprise options and facilities included an analysis of the country's agricultural sector. Enterprises initially offered were: irrigated vegetable and tree fruits, greenhouse seedlings, dairy, beef fattening, swine, laying hens, broilers, and cottage industries (sewing and baking). Lamb fattening and Angora rabbits were added later. Projects developed were those which could be conducted in a minimum of nine to ten months, and were expected to be profitable both at LAC and throughout the country. An attempt was made to develop facilities and introduce technologies that could be replicated by students after graduation.

Conducting Projects

Projects begin in June and are closed by the following April in time for all financial aspects of the project to be completed, inventory to be liquidated and project sites to be cleaned.² For students to qualify for final exams and thus graduation, they must complete their SEP project satisfactorily.

The SEP supervisor serves as a mentor in helping the student to carry out the project. Tasks of the supervisor include providing technical advice and monitoring progress. A close instructional relationship evolves between staff and student.

Student actions determine project success or failure. They are entirely responsible for project implementation. New SEP students prepare a Project Budget and Loan Contract. This document is the outline and financial basis for projects. Its approval provides a line of project operating credit from the SEP Trust.

Project Finances

The student is responsible for getting the inputs for the implementation of the project, including purchasing items from local suppliers and hiring labor. He or she is also obligated to pay the college for use of services such as transport and plowing, and for facilities such as cattle pens and irrigated fields at the yearly commercial rates. These "LAC Charges" are used to maintain SEP related infrastructure.

Students purchase inputs with funds obtained from the SEP bookkeeper. This amount is debited against their loan credit line. Mandatory financial records and various production records required by each project are maintained.

These provide a valuable chronological history of project activities for the student and are used by the supervisor in assessing the project. For sales of project commodities, students locate their own markets. Revenues are submitted to the SEP bookkeeper during the week it is received as loan repayment.

At the end of each week students attend the SEP Accounting and Management Class for help in updating financial records and to learn general business management skills. All expenses incurred for production and marketing activities, and revenues collected from sales are accounted for. Individual student handwritten records are checked against computer spreadsheet records kept by the Bookkeeper, with students given quick feedback on the accuracy of their records. The net worth of projects are calculated monthly. After project loans are completely repaid, additional deposits are credited to accounts that receive interest on surplus earnings.

Project Completion

Closing projects involves termination of all production and marketing activities, liquidation of inventory and completion of records. In addition to financial and production records, a narrative report on each project is required.

After the final net worth of each project is calculated, profit checks are written by the SEP Bookkeeper. These checks are deposited in individual student savings accounts at the Agricultural Development Bank.

SEP Project Results

Enrollment and Finances

Only six students conducted SEP projects in the first year, 1987-88. However, as the data in Table 1 shows, the enrollment grew steadily until the 1992-93 year. In 1992 a cap on the number of projects was started to keep the number of SEP students at a manageable level.

Through their SEP experiences, students have reassessed the value of commercial agriculture as an engaging and profitable profession. In the past, graduation from LAC had been a ticket to a government position. In the contemporary environment in Lesotho public sector employment is an unlikely option. SEP exposed students to a more realistic view of the problems as well as to possible opportunities in agribusiness. The amount of income that can be generated from SEP projects has inspired both students and staff. The data in Table 2 shows that students can make profits. Profits have ranged as high as M14,152 for a vegetable production project. Out of the 90 projects completed through 1992, all but three have made a profit. Profits earned by some students were at a higher level than they could expect in a beginning post as a civil servant.

Table 1. Annual SEP Enrollment.

Year	Enrollment
1987-88	6
1988-89	18
1989-90	19
1990-91	21
1991-92	27
1992-93	19

Table 2. SEP Gross Receipts.

Year	Gross Receipts *M
1987-88	61,329
1988-89	148,426
1989-90	213,052
1990-91	284,454
1991-92	442,075

*1 Loti=\$0.36 in 1992

The SEP program has contributed to a change in career planning. Students no longer consider farming as beneath their status level. The brightest students now leave school with an entrepreneurial drive. They use their SEP earnings to begin financing post-graduate enterprises in small-scale commercial agriculture or cottage industry ventures. The first to launch enterprises after leaving school were dairy students. After repaying their SEP Trust loans, graduates took home their two SEP project Holstein cows as the nucleus of a dairy herd they intended to establish.

Students believe SEP taught them valuable technical agriculture skills and techniques in operating an agricultural business.³ An annual study of graduates shows that more than 96% feel SEP was a good to excellent agricultural training program. An additional benefit of the program is that a significant level of production from the SEP projects enters the food distribution system in Lesotho. The data in Table 2 shows that students have produced an increasing amount of agricultural product. The six students in 1987-88 sold products valued at M148,426. This amount has grown over the years until in 1991-92 students marketed M442,075 of agricultural product. During the first four years of the SEP program student have raised and marketed products worth M1,149,336 that added to the nations food supply.

The SEP program was established to be a sustainable part of Lesotho Agricultural College's curriculum. Too often developmental activities appear successful during the project's implementation stage but falter when financial and technical resources of the donor are withdrawn. SEP generates funds, "LAC Charges", from projects for maintaining infrastructure and services used throughout the year. e.g. for rental of college land, cattle pens, transport, tillage, etc. Rates are updated yearly to reflect commercial rates.

The data in Table 3 provides insight into the amount of funds that students have paid to the college for the use of facilities and services. The funds have grown each year with M11,631 paid to the college in 1992. These funds are assigned to the college departments from which they were generated. They are deposited with the SEP Bookkeeper and are used by departments with approval of the college principal.

Table 3. SEP Rent Costs.

Year	Rents Paid *M
1988	1,002
1989	2,911
1990	4,936
1991	6,885
1992	11,631

*1 Loti=\$0.36 in 1992

Table 4. SEP Interest Paid.

Year	Interest Paid
1988	*M 1,502
1989	2,664
1990	3,477
1991	3,562
1992	3,966

*1 Loti=\$0.36 in 1992

Very little additional costs must be taken on by Government to sustain the SEP facilities. This is essential as only limited Government funds are budgeted for the college. In addition to rents students pay interest on the borrowed Trust funds for running SEP projects. Funds are loaned to students at commercial rates that were 21.5% from 1990-92.

The data in table 4 show that students are paying an increasing amount annually in total interest. During the first year of the program only M1,502 was collected from students. In 1992 the amount had grown to M3,966. These figures are the net amounts of interest retained by the Trust. Students are paid interest, at the rate of 14.5% in 1991-92, on project revenues held by the Trust after their loans were completely paid off.

Overall Impacts

SEP graduates are sought by agricultural schemes throughout the country, both private and parastatal. The Agricultural Development Bank employed five SEP graduates because of the agricultural, financial and technical training they received at LAC.

The SEP curriculum has made a major impact on the institution. It has changed the image of LAC both internally and externally. The college is viewed as innovative and responsive to the needs of agricultural development in the country. It can successfully train students for private sector employment and self-employment. LAC staff, most of whom are involved in one way or another with SEP, are proud of the program and the recognition it has brought the college. And, through their exposure to enterprise projects, they have also become more effective and up to date teachers.

Because the SEP curriculum embraces the whole cycle of a commercial farming system, new or strengthened linkages with agribusiness firms in Lesotho and the RSA from input purchases and product sales has resulted. The college's SEP graduate follow-up efforts have created strong ties with financial institutions, most notably the Agricultural Development Bank.

SEP Model: Conclusions

The success of the Lesotho project has been the result of a number of factors including the following:

1. Student loans have been made available through the SEP Trust Fund.
2. College lecturers have been committed to supervising students.
3. Those designing LAC's new curriculum realized that entrepreneurial skills could best be imparted to students through an applied, intensive class while bolstered by appropriate agribusiness classes.

4. The college was able to establish the policy that enterprise profits be kept by students with the intent that these profits serve as seed money for enterprises after graduation.
5. The college, with support from USAID, has been able to provide appropriate facilities and equipment necessary for conducting individual projects.
6. The self-sustaining nature of the program does not ask the College to contribute extra money to maintain SEP facilities.
7. The important educational principle has been followed which states that for learning to be most effective it must be taught in an environment that is as close to what the student is expected to work in after graduation as possible. SEP continues to evolve in this direction.
8. The Government of Lesotho and Lesotho Agricultural College have been committed to trying a radically different method of agricultural education.
9. The SEP program is voluntary to students.
10. SEP started small and gave the institution and staff time to develop necessary operating procedures in a relatively stress free environment.

The use of Supervised Occupational Experience has been successfully transferred from the U.S. to Lesotho. In the process the staff at Lesotho Agricultural College have refined the program in a way that many schools, colleges and universities in the U.S. could examine to improve their own educational programs in agriculture. The country and the students are receiving a training program they consider valuable and one that should contribute to improved commercial agriculture in Lesotho.

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