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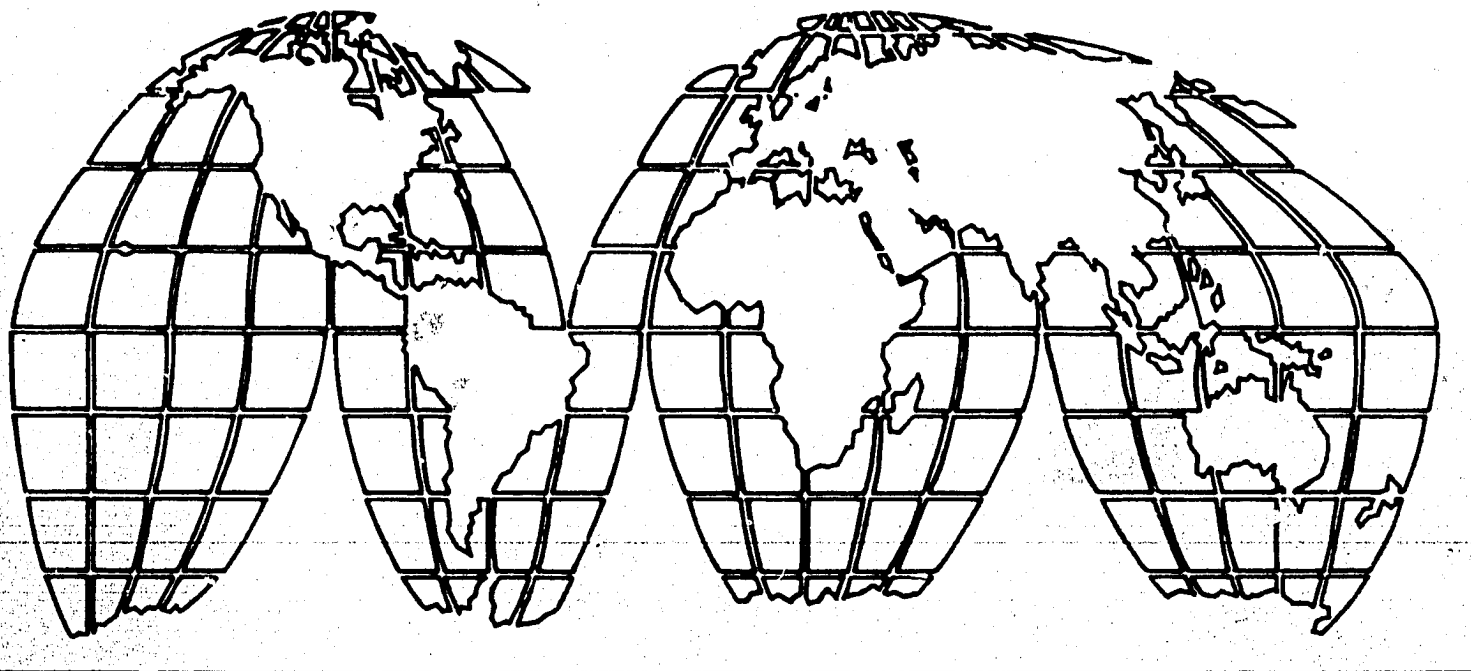
Development Management in Africa: The Case of the Egerton College Expansion Project in Kenya



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DEVELOPMENT MANAGEMENT IN AFRICA: THE CASE OF THE EGERTON COLLEGE EXPANSION PROJECT IN KENYA

AID EVALUATION SPECIAL STUDY NO. 35

by

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The views and interpretations expressed in this report are those of the authors and should not be attributed to the Agency for International Development.

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PREFACE

The limited management capacity of developing country personnel and institutions is a common problem affecting the success of development projects. Although this problem is often identified, there is little understanding of what "capacity to manage" means and what interventions are possible to enhance this capacity. The Center for Development Information and Evaluation (CDIE) of the Agency for International Development (AID) has undertaken a series of studies to better understand the nature of these development management problems and to assess the impact of management development interventions that AID and host country project managers have employed.

This series began in September 1984, when all team members attended a workshop on development management organized by CDIE and the AID Africa Bureau and held at Easton, Maryland. Six country studies on agricultural and rural development projects in Africa were carried out between September 1984 and March 1985. A workshop to review the findings of the study teams was held in May 1985 in Washington, D.C. Synthesis reports will summarize and analyze the results of the studies and workshops and relate them to program, policy, design, and implementation requirements. Irving Rosenthal has been the CDIE coordinator for the series. This study of the Egerton College Expansion Project in Kenya was conducted in October 1984 as part of the African phase of the special studies series on development management. Other African project studies were carried out in Zaire, Niger, Liberia, Lesotho, and Senegal.

SUMMARY

A shortage of trained agricultural extension agents was the major constraint addressed by the Agricultural Support Systems Project, of which the Egerton College expansion was a part. To assist in an assessment of growing needs, the Agency for International Development (AID) funded a comprehensive survey of professional and subprofessional agricultural manpower in Kenya. Based largely on this survey, the Government of Kenya formulated plans for expanding manpower training capability at three levels: degree-level training at the University of Nairobi; diploma-level training at Egerton College; and certificate-level training at various agricultural institutes (some to be established).

The major substantive finding of the team was that the Egerton expansion effort has been a success as measured by the various quantitative indicators included in the Project Paper:

-- Student enrollment has increased on schedule to a current level of 1,437, compared with a goal of 1,632 by 1986.

-- With minor exceptions, all faculty sent for training have returned to assume the responsibilities planned for them.

-- Expansion in enrollment has been achieved with no immediate impairment of Egerton's standards and the practical orientation of its training.

-- The construction program, involving US$23.6 million in loans, was well planned and completed ahead of schedule.

The major finding was that success was achieved without an explicit management enhancement effort. The simple and straightforward goal of physical expansion and the strong commitment by the Government of Kenya and Egerton College staff were key factors leading to successful project management. The fact that the College had autonomous status and operated during a period of fiscal surplus facilitated successful implementation.

Other lessons learned include the following:

-- It is important to keep a project within the management capabilities of the host institution.

-- The simpler and clearer the project goals, the easier it is to reach consensus on them, to discipline activity around them, and to provide objective criteria for resource allocation.

-- Management enhancement takes time--time to train the staff and develop the systems, time to adapt the systems to local needs, and time to become accustomed to them.

-- An environment of fiscal surplus permits resource and management flexibility and innovation. Project design should give more attention to how a surplus condition can be maintained long enough to consolidate management gains.

-- Management is an integrated system of supporting factors. Weak budgeting and financial management systems, for example, may be less of a constraint in small institutions with more personalistic or stronger management styles than is frequently assumed.

-- Parastatal status or other nongovernmental, semiprivate, or private institutional arrangements should be given greater attention in project design. By allowing greater management autonomy and greater fiscal flexibility, such institutions can provide an environment for management innovation and initiative.

PROJECT DATA SHEET

1. Country: Kenya

2. Project Title:

   Egerton College Expansion, a component of the Agricultural Support Systems Project

3. Project Number: 615-0169

4. Project Implementation:

   a. Physical expansion of the facilities through major construction and purchase of specialized equipment and materials
   b. Provision of additional training for Egerton staff at U.S. universities, and temporary substitution of U.S. faculty for Egerton faculty on training leave
   c. Increased operating support to the Government of Kenya to increase student enrollment from about 690 to 1,632

5. Funding Sources:

AID	
Grant	US$10,745,000
Loan	23,558,000
Kenyan Government	11,379,000
Total	45,682,000

6. Primary Contractor:

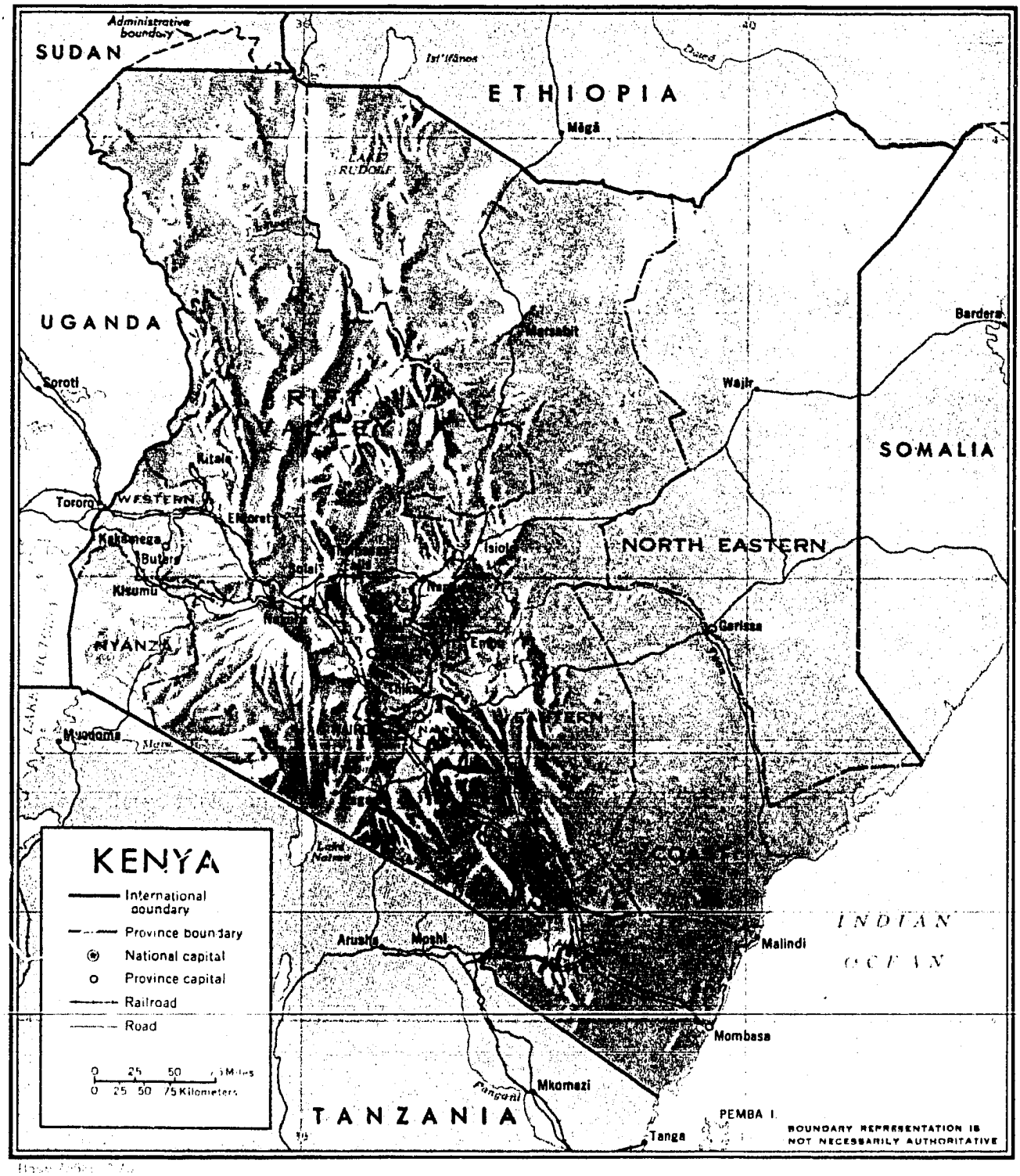
   South-East Consortium for International Development (SECID)

7. Host Country Currency:

   Kenyan shilling. US$1.00 = K Sh7.9 in 1978.

GLOSSARY OF ABBREVIATIONS

AFR	-	Bureau for Africa, AID
AID	-	U.S. Agency for International Development
ATAC	-	American Technical Assistance Corporation
BS, BSc	-	Bachelor of Science degree
CDIE	-	Center for Development Information and Evaluation, AID
CPA	-	Certified Public Accountant
FAO	-	Food and Agriculture Organization of the United Nations
FY	-	Fiscal year
GDP	-	Gross domestic product
IBRD	-	International Bank for Reconstruction and Development
K Sh	-	Kenyan shilling (currency)
£K	-	Kenyan pound (currency)
MA	-	Master of Arts degree
MSc	-	Master of Science degree
NCR	-	National Cash Register Corporation
PhD	-	Doctor of Philosophy degree
PPC	-	Bureau for Program and Policy Coordination, AID
PVO	-	Private voluntary organization
RONCO	-	U.S.-based private consulting firm
SECID	-	South-East Consortium for International Development
T & V	-	Teaching and visitation, a form of agricultural extension
UK	-	United Kingdom
USAID/Nairobi USAID	-	AID Mission in Nairobi


KENYA
International boundary
Province boundary
National capital
Province capital
Railroad
Road
0 25 50 Miles
0 25 50 75 Kilometers
SUDAN
ETHIOPIA
UGANDA
SOMALIA
TANZANIA
INDIAN OCEAN
NORTH EASTERN
NYANZA
WESTERN
COAST
LAKE RUDOLF
Administrative boundary
Isl'Ifanos
Dawa
Mägä
Marsabit
Wajir
Bardera
Soroti
Tororo
Kakamega
Butere
Kisumu
Eldoret
Ritale
Isiolo
Garissa
Embu
Muoroto
Arusha
Moshi
Malindi
Mombasa
Mkomazi
Pangani
Tanga
PEMBA I.
BOUNDARY REPRESENTATION IS NOT NECESSARILY AUTHORITATIVE

1. PROJECT SETTING

The Kenyan economy has grown rapidly since Independence: 6.6 percent annually during 1964-1973 and 4.6 percent during 1974-1983. Nevertheless, per capita gross domestic product (GDP) was only about $347 in 1982. Agriculture produces about one-third of GDP and inputs into manufacturing, employs formally or informally about two-thirds of the labor force, and provides the bulk of nonpetroleum exports. Between 1955 and 1977, agricultural GDP increased 2.2 times, making Kenya's agricultural system one of the most advanced in tropical Africa. Between 1977 and 2000, agriculture will have to increase by the same factor (2.2) to keep production constant in per capita terms. Kenya, therefore, is currently suffering from a precipitous reduction in growth and a serious financial crisis.

Kenya has been pursuing a policy of import substitution through industrialization, combined with "cheap food" for urban areas and high investment in social services. In effect, this has imposed a hidden tax on agriculture as producer prices were held down, farmers had to pay higher prices for the goods they purchased, and agricultural exports were hampered by the overvalued Kenyan currency. The Government of Kenya recently renounced the cheap food policy, acknowledging that pricing and other policies must encourage increased agricultural production. In short, it is suggested now by many within the Government that industrialization may be achieved best by less emphasis on protection and overt promotion of industry and a greater emphasis on agricultural development.

Smallholder production is the key to the future of Kenyan agriculture. Today, however, there is a crisis in smallholder production. Whereas during the period 1955-1977, maize and livestock production increases were almost equal to those of coffee and tea, in recent years food crop production has lagged badly. Production in these areas (marketed maize and livestock), which in 1955-1977 constituted 40 percent of the increase in total production, has virtually stagnated. The only significant increases in smallholder production in recent years have occurred in coffee, tea, and sugarcane. One of the central tasks ahead for Government policy, therefore, will be to accelerate smallholder food and animal production.

While the market in Kenya has increasingly become the central integrating feature of society, social and cultural conditions strongly affect the operation of the market. For example, the distribution of Government powers and the attitudes of Government administrative officers were strongly influenced by the authoritarian nature of the British colonial system. The breakup of traditional social organization has led to insecurity

and suspicion and the strengthening of tribal or clan ties. Growing social stratification and tribal associations among rich and poor are dividing the political system both horizontally and vertically.

In this context, the establishment of a technically qualified, professional agricultural extension cadre with a production and practical orientation may hold the key to Kenya's future. It was this need that the Egerton College expansion project was designed to address.

2. PROJECT DESCRIPTION

Shortage of trained agricultural manpower was the major constraint addressed by the Agricultural Support Systems Project, of which the Egerton College expansion was a part. To assist in an assessment of growing needs, the Agency for International Development (AID) funded a comprehensive survey of professional and subprofessional agricultural manpower in Kenya in 1978 (the American Technical Assistance Corporation Report). Based largely on this survey, the Kenyan Government formulated plans for expanding manpower training capability at three levels: degree-level training at the University of Nairobi; diploma-level training at Egerton College; and certificate-level training at various agricultural institutes (some to be established). These plans have been supported by various donors other than AID, including the World Bank, which incorporated agricultural manpower support into its Fifth Education Project in the Republic of Kenya (1981-1985).

Egerton College and Jomo Kenyatta College of Agriculture are the only agricultural institutes in Kenya that provide training in agriculture at the diploma level. Egerton was established in 1939 as a practical agriculture school. In the beginning, its mission was to train young men and women of European ancestry to become farmers in Kenya. In 1945 it included training of ex-servicemen migrating from the United Kingdom who were farming for the first time under Kenyan conditions; its strong emphasis was on practical skills. In the 1950s, Egerton's role was broadened to include training of personnel to staff research extension institutions. The status of the institution was changed in 1952 to that of a college offering a diploma in general agriculture. Annual enrollment increased from about 50 in the early 1950s to over 200 by the time of Independence in 1963. With this increase in enrollment came diploma courses in more specialized areas: animal husbandry and forestry, followed shortly by agricultural engineering. Today, Egerton College offers diploma courses in 16 areas.

Since its establishment in 1939, Egerton has expanded its role in the development of national agricultural resources. With national independence, it was recognized that the College needed to expand the range of programs and the number of students because more graduates would be needed to replace departing expatriates and because Kenya was also planning agricultural expansion. Kenyan students entering Egerton were funded by the Ministry of Agriculture and guaranteed a job after graduation with the agricultural extension service. Admissions of women increased significantly when a diploma in agricultural home economics was added in 1969.

The Agricultural Support Systems Project formulated three major objectives for the expansion and development of the College: (1) physical expansion of the facilities through major construction and purchase of specialized equipment and materials (accounting for all of the $23.6 million loan portion of the project); (2) provision of additional training for Egerton staff at U.S. universities, facilitated through the assignment of temporary faculty (both training and replacement faculty were provided through a contract with the South-East Consortium for International Development [SECID], a U.S. contractor); and (3) greater Government of Kenya operating support to increase student enrollment from about 690 to 1,632.

3. ANALYSIS AND FINDINGS

The Egerton College expansion project was a success. Targets were generally met or exceeded, and savings attained during project implementation permitted more training and construction than originally planned. This success can be attributed to effective management by the Ministry of Agriculture and Livestock Development,[1] Egerton College, and SECID.

Training targets were exceeded. Because of rapid completion of training, the project was able to train an additional nine persons. Of 57 persons trained, only 3 failed to complete their degrees.

Construction was finished on time, the quality was good, and a devaluation of the Kenyan shilling permitted additional, unplanned construction (i.e., the Agricultural Resources Center) because of the increased value of the dollar.

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[1]The Ministry of Agriculture merged with the Ministry of Livestock Development in 1983 to become the Ministry of Agriculture and Livestock Development. It will be referred to in this report simply as the Ministry of Agriculture.

Only limited short-term training was made available to individuals with management responsibilities. This neglect may be unfortunate. Although the management systems were adequate for the expansion task, the study team anticipates significant management problems in the future as the College begins to adapt to an expanded and more complex role within an environment of increasingly constrained resources.

The following sections describe some of the features of Egerton College management that contributed to project success.

3.1 Project Design and Management

3.1.1 Project Context

The timing of the expansion project was particularly favorable to its success.

The project was initiated in an atmosphere of fiscal optimism and rapid growth within Kenya. Even though the situation had changed dramatically by the end of the project in 1984, the College continued to benefit from financial support from the USAID project, income from its commercial farm, and strong support from the Government. Consequently, the College operated in an atmosphere of optimism and growth.

For the long term, economic prospects appear to be favorable. Aside from the recent drought and governmental budget problems, the Kenyan economy appears to have considerable growth potential.

The College benefited from the autonomy afforded by its parastatal status, which insulated it from the bureaucratic procedures associated with Government control. This autonomy was established in statute by the Egerton College Act of 1955 and was further strengthened by the status of the current Principal and the strong support he received from national leadership. The result has been that the College has been free to innovate, with little bureaucratic red tape and interference.

The College also benefited from the fact that, even before the expansion, it was an established institution with a guaranteed source of students (guaranteed by the Government), a guaranteed market for its students (in the extension service and school system), a reputation for producing highly qualified and motivated graduates valued by both the public and private sectors, and a high-quality, practical curriculum developed over a decade.

3.1.2 Project Design

Management problems encountered in project implementation are frequently engendered by the choices made at the design stage. This project was relatively straightforward and well within the management capacity of the College. On the Kenyan side there was considerable agreement on project goals. College management rigorously maintained its focus on physical expansion and limited other initiatives, such as curriculum reform. Faculty appear to have understood the demands of the project and accepted considerable pressure and discipline in their training, showing personal commitment to College expansion and returning quickly from training to make their contribution. The needs of the expansion also guided personnel decisions (participant selection, field of study, and extension of training) by providing an objective and generally accepted set of decision criteria.

Nevertheless, the project was somewhat disruptive to ongoing activities. More than half of the academic personnel of the College were away during the expansion. The faculty were replaced by Americans who were strangers to Kenya, unfamiliar with the curriculum and teaching style. Egerton faculty thought that the American staff had little appreciation of the practical rather than academic orientation that was the hallmark of the College. The U.S. team was probably overqualified (and thus more expensive than necessary) for the job to be done (i.e., replacing Kenyan faculty in the classroom). College management personnel never successfully integrated them socially within the College community.

The increase in students proceeded faster than the construction of new facilities and the recruitment of new faculty. In consequence, classes and dormitory facilities were crowded. Students enrolled at the time reported having difficulty studying with American professors unfamiliar with the Kenyan system. Student demonstrations followed complaints about the quality of food and led to the abolition of the student organization. College management complained of the strain of coping with large numbers of construction workers on campus. Faculty complained of the problems of dealing with teaching loads without a library (under construction) and books (on order) and with inadequate staff to handle the field practicums.

The contractual mechanism employed was a host country contract. This proved to be particularly effective because it provided College management with considerable control over the contractors and direct involvement in day-to-day management. Indeed, the weakest component of the project was the provision of equipment, for which USAID/Kenya bore major procurement responsibility.

Project analysis of fiscal capacity and College management capacity was clearly inadequate. No projection of maintenance costs was included in the Project Paper, for the Kenyan Government agreed to assume the recurrent costs associated with the expansion. Considering the excellent quality and high cost of the buildings and equipment provided, greater attention should have been paid to the deepening Kenyan fiscal crisis, which was already apparent in 1979.

Project design overstated the capacity of the College's management systems. Consequently, little attention was given to upgrading College management. The College has no budget system--either for fiscal projections or for analyzing program alternatives. Nonetheless, the College management proved equal to the challenge of managing the expansion project, so the Project Paper was essentially correct in its positive assessment of institutional capacity. This was undoubtedly the reason that no management enhancement component was included. Nevertheless, it is clear that the new and more complex role assumed by the College as a result of the expansion has already begun to strain the rather simple management systems now in place. The requirement for enhanced management capacity could have been anticipated and addressed.

3.1.3 Project Implementation

Project implementation was in general excellent and proceeded on schedule. Several practices contributed to project success.

Egerton College leadership decided early in the project to assert its role as an active manager of assistance rather than a passive recipient. Basic decisions regarding construction and equipment were made by the College with the full participation of department heads. While senior staff were in the United States, acting department heads, who were all Kenyans, supervised the American staff. The College leadership believed that they successfully resisted any tendency of the U.S. staff to enhance their role or the scope of the project. We were told that College management frequently reminded the American staff that they "worked for the College" and not for the U.S. contractor.

The maintenance of local control during the expansion positively affected the academic management of the College. Participation in planning the expansion gave faculty a sense of ownership of the project and resulted in a physical plant that met their requirements. The departure of many senior staff for

training provided opportunities for younger staff to gain experience in management positions and generally broadened faculty participation.

Annual visits were made by College leadership to U.S. institutions to maintain pressure on participants to complete their training on time. This level of scrutiny is uncommon in participant training programs. The result was impressive. The average length of time in training (BSc, MA, and PhD combined) was 3 years, and the close monitoring of performance produced sufficient savings to train nine additional individuals.

College performance on the project was enhanced by the addition of an expatriate Management Officer and a local College Planning Officer. These additions provided specially skilled staff to monitor procurement and contracting. The introduction of the new position of Planning Officer was an interesting management innovation, although this position remained ambiguous. The Management Officer, working directly with the Principal, appears to have been the central figure in construction planning and implementation, whereas key department heads reportedly dealt directly with the Principal on issues relating to the physical plant.

USAID/Kenya's neglect of management and fiscal issues during project design continued during implementation. The Kenyan Government was committed in the Project Agreement to contribute $18 million to the expansion effort. There appears to have been no attempt to monitor or document the Kenyan expenditures. We were told by a senior Government official that the new physical plants would be expensive to maintain and that the Government may be forced to renege on commitments to meet recurrent costs.

3.2 Resources Management

The management of financial resources at Egerton College presents a mixed picture. Project resources were employed effectively to ensure their maximum utility to the College. The same approach seems to be applied to fiscal management in general at the College. However, it is the commitment of the Principal to tight and centralized control that accounts for this sound management rather than the College's limited financial management systems.

The College has been operating in a fiscal surplus. The AID project brought new resources into the College. The College's commercial farm provides significant income, much of which has been invested over the years. In addition, the

Ministry of Agriculture provides a per capita grant to the College based on its enrollment capacity rather than its actual enrollment. Therefore, the College has not generally felt fiscal pressures.

The College has parastatal status and a high level of fiscal and management autonomy. The Government has retained minimal fiscal control over its grant to the College. Rather, fiscal control is exercised by the Governing Board. Until this year the College had not submitted a detailed budget to the Ministry of Agriculture or the Treasury. Recently, however, Ministry control has been increasing. Two years ago, the Government began to audit the College (previously the College had hired a private auditing firm). In the current fiscal year, the Ministry required for the first time a detailed line-item budget from the College.

In the opinion of the team, this fiscal autonomy and freedom from undue bureaucratic regulation have provided the College with the capacity to innovate and have contributed to College and project success. Egerton College is able to shift funds among line items, create or upgrade staff positions, and manage its endowment without Government interference. The financial cushion provided by the income from the commercial farm allows additional flexibility.

The College has no overall budget system. The existing fiscal management system is designed to monitor cash flows, not to assist planning or program and policy analysis. This has been adequate up to now. However, the College is soon likely to face increasing demands for resources (research, PhD programs), growing fiscal constraints, changing roles (e.g., extension), and the need to find new markets for students. These demands will require a better management system and the financial data to support it if planning is to be effective and informed tradeoffs are to be made among competing demands.

The financial management system could be improved. Reports were frequently not up-to-date. A lack of periodicity in the financial reports makes accountability and fiscal management difficult. Data cannot be compared across periods (e.g., deficits for various years) when books are not kept annually.

The project has left the College with an excellent but expensive physical plant for which recurrent maintenance costs will increase. Given the constrained Government recurrent budget, the Treasury will be hard pressed to meet these costs, much less the costs of new programs. It is unfortunate that USAID programming leaves the College with no follow-on support at this key transitional stage.

The team was instructed to assess what impact the expansion project had on the larger College management systems. Little was found to report. In fact, project management was consciously kept independent of the College systems. This was not a problem because the reports required by AID were essentially what the College financial management system was designed to produce--monitoring of cash flow. Although the team found weaknesses in the resource management systems, which the project did nothing to correct, these weaknesses did not prevent the College from doing its job well.

We have stressed resource management issues not to find "fault" with Egerton College management, but because elsewhere in the world similar weaknesses have been cited frequently as causes of project and institutional "failure." This was not the case at Egerton College. We wanted only to define the situation clearly so that we could determine (1) whether some aspects of management at Egerton College compensated for its rather simple fiscal management tools, and (2) whether too much emphasis had been placed on sophisticated financial management systems in developing countries when in fact the cause of "failure" may have been misdiagnosed.

3.3 Organizational Structure and Administrative Processes

Egerton College is a combination of several loosely coordinated "enterprises"--a teaching institution of 1,600 students, a commercial farm, two quasi-commercial enterprises (Tatton Farm and a dairy), and a small community of some 3,000 people with its own school, housing, and food supply. The central authority in all of these enterprises is the College Principal. On major issues including the budget, he answers to a Governing Board appointed by the Minister of Agriculture.

The instructional enterprise is characterized by highly centralized administrative and fiscal control and very decentralized academic program management. Management systems are generally highly informal, as one might expect in a small organization. The Principal is the key figure in major fiscal, personnel, and infrastructure decisions. On academic matters he is advised by the Academic Board, composed of department heads and the Deputy Principal. Administrative matters are channeled through the Registrar, and infrastructure matters through the Planning Officer. In fact, individuals frequently deal directly with the Principal, and the continuation of several key vacancies and individuals in "acting" positions has somewhat blurred the formal structure. For example, the roles of the Finance Officer and the Senior Executive Officers appear to have been substantially augmented during the expansion. Nevertheless,

Egerton College is small enough and communication good enough that little confusion exists concerning where responsibility lies.

There is a clear division within the College between academic concerns, headed by the Deputy Principal, and administrative concerns, headed by the Registrar. This division is reinforced by the high degree of centralization on the administrative side (finance, capital, and personnel decisions) and decentralization on the academic side, and by the lack of an effective faculty role in administrative matters. As a result, administrative matters remain a mystery to the faculty, who consider administrative decisions to be highly personalistic.

Academic matters, in contrast, are decentralized. Department heads determine how many students they can accept, and they handle faculty assignments and curriculum planning. They have a small budget but considerable discretion in its use. Departmental management appears to be highly collegial. (In fact, the Academic Board recently voted to recommend to the Governing Board that the position of department head be filled on a rotating basis.) The result is that faculty have a strong sense of participation and efficacy. Morale is very high.

Support for the institutional mission of Egerton College is quite high. It is widely shared, understood, and valued. Everyone we met stressed the importance of the technically trained and practically oriented graduates of Egerton College. In addition, the physical isolation of the College facilitates internal communication and a sense of identity.

The College has benefited from considerable continuity of administration and staff during the expansion. Of the current staff, 40 percent were employed by the College in 1978, and 36 percent of the 77 staff members hired since 1978 are Egerton graduates. All but one current department head held their positions before the expansion. Institutional norms, working relationships, procedures, and traditions have been retained throughout the expansion period. Faculty participation in the expansion process was extensive; one-third of the staff received training in the United States during the period, thus sharing directly in project benefits.

The Egerton College management style was particularly well suited to the expansion project, which was large and clearly required central coordination. The construction, in particular, required tight control, and this was achieved. In contrast, the success of the training effort and the long-term development of the College require high individual motivation and considerable initiative at the department level. Much of the success of Egerton College can be attributed to its ability to maintain the necessary balance between these two requirements.

3.4 Human Resources

Coincidental with the expansion project was a change in the composition of the student body at Egerton College. The typical student today is more qualified than in the 1970s and, with university status imminent, will expect to move into middlemanagement rather than lower level management positions. There is evidence, however, that graduates are dissatisfied with their actual career prospects in the extension service.

Two manpower studies were conducted in conjunction with the expansion project. Two facts stand out in both studies. First, departmental and program expansion has little relationship to projected national needs. For example, there were significant increases in student enrollment in agricultural education and engineering, neither of which were identified as a high priority for Kenya in the manpower assessments. Second, even though the manpower assessments attempted to incorporate fiscal realities in projecting demand for graduates, there evidently was a serious overestimation of the absorptive capacity of the extension service.

Not the least of the changes associated with the expansion may be the end of guaranteed employment for all Egerton graduates. The Government has indicated that it can no longer assure employment. If this proves to be the case, then the graduates will have to look increasingly to the private sector for jobs. For an institution that has trained almost exclusively for the public sector, this may require significant changes. One could anticipate a shift toward agrobusiness, engineering, and economics, and away from farm management, crops, and range management.

If the College loses its assured market, it will need to place greater emphasis on student advisory and job counseling services, areas that presently receive little attention. In such a market, the College may also face competition from other training institutions--engineering schools or the agriculture department at Nairobi University. In short, if the College loses its monopoly on its niche in the extension service, it will face a less secure future.

The expansion seems to have placed pressures on the College's teaching methods. The basic sciences are feeling the press of numbers, and most faculty we met believe that the practicums are suffering from the increased student loads and the expanding demands of the curriculum.

Under these pressures, the Egerton identity is certain to change. Its programs and products will become more diverse and more difficult to manage. The adjustment to the expansion has only begun.

4. FINDINGS

Egerton College had simple management systems at the time of the expansion project. Although stronger systems exist, even in Kenya, what stands out in the Egerton College case is that none of the Egerton College staff involved with the project had any formal management training, although several of the administrative staff were sent on short-term study tours. The project had no management enhancement component to rectify this situation. The success of the Egerton expansion project, therefore, did not depend on an enhancement of its formal management systems.

An enterprise as complex as Egerton College cannot continue to operate with the minimal record-keeping systems currently used. As activities increase, the College will need better data on the costs of different types of instruction, programs, and student mixes. But the project demonstrates that it is possible for highly motivated people to produce a major success without elaborate management systems.

Although the team found no evidence of formal strategies to enhance management at Egerton College, it did find evidence of informal management enhancement as a result of the AID project. The completion of construction plans occurred during the project, with broad participation by department heads who gained new experience in facilities planning and an enhanced role in academic management. Because expatriates were not used in management roles, the expansion produced considerable depth of management skill and experience by substituting junior staff for department heads who were receiving training. A similar practice was followed for administrative management at the College. Valuable lessons were also learned about managing training and technical assistance.

This unanticipated management enhancement occurred because the College maintained control of the project. Those involved were able to manage the project and to emerge from the expansion with a clear success and increased confidence and morale.

Factors contributing to project success are outlined below.

4.1 Project Management

-- The determination of College management not to allow the project to fall into the "active donor/passive recipient" model

-- The small size and stability of the staff at the College

-- The match between the management style at Egerton and the requirements of a diverse and decentralized system of multiple, parallel enterprises

-- The positive reinforcement of initiative provided by the incentive system within the College and freedom from Ministry of Agriculture interference

-- The capacity of top College management to inspire trust among faculty

4.2 Characteristics of the Project

-- Its simplicity

-- The widespread understanding of and agreement with project goals within the College

-- Extensive experience in the College with the basic activities/skills required for the project (e.g., construction contracting, procurement of equipment, academic performance)

4.3 Contextual Factors

-- The ample financial resources available in both the capital and recurrent budgets, augmented by the windfall provided by devaluation of the Kenyan shilling

-- Grant funding of the College budget by the Ministry of Agriculture, along with complete autonomy in using the funds and carrying over unexpended funds into the next fiscal year

-- Government guarantees for the supply of students and the demand for graduates

5. LESSONS LEARNED

5.1 Project Design and Management

1. The analysis suggests a relationship between simple, clear, quantifiable goals and project success. The simpler and

clearer the project goals, the easier it is to reach consensus on them, to discipline activity around them, and to provide objective criteria for resource allocation.

2. Management enhancement takes time--time to train the staff and develop the systems, time to adapt the systems to local needs, and time to become accustomed to them. If a project with an inadequate timeframe depends on such management enhancement efforts for its success, one of two outcomes is likely: either the project will not achieve its goals or it will have to be managed by expatriates. If a project must be completed within a short timeframe, the project should be kept simple to ensure that the host institution can apply its existing management systems, and the project should plan for quick, clear, and incremental successes.

3. Management success in rapidly changing circumstances has more to do with the quality of leadership, a general spirit of commitment on the part of its staff, and overall management style within the institution than with specific management reforms or management skills that a donor project might provide.

5.2 Resources Management

1. An environment of fiscal surplus permits resource and management flexibility and innovation. Project design should give more attention to how a surplus condition can be maintained long enough to consolidate management gains.

2. Budgeting and financial management systems are less of a constraint in smaller institutions with more personalistic and hierarchical management styles than might have been predicted. It is still possible to manage a small institution informally with direct personal involvement in most key management decisions. However, Egerton College may be close to a point in institutional growth when a transition to more formal management systems is essential. The expansion project could have included some management interventions, but it is not clear that the project suffered by its failure to do so.

3. Parastatal status or other nongovernmental, semiprivate, or private institutional arrangements should be given greater attention in project design.

5.3 Organizational Structure and Administrative Processes

1. Participation in planning by middle-level management and fostering a sense of ownership of the project can promote

high morale and higher efficacy. These attitudes are reinforced by a favorable resource environment and management and fiscal autonomy.

2. A shared institutional "doctrine" can help overcome potential problems associated with family, clan, or religious affiliations prevalent in developing countries.

3. Congruence of the interests and incentives of key actors in the project process contributed to rapid and efficient implementation. A difference in expectations or incentives between the host country managers and expatriate technical assistance personnel can create problems.

5.4 Human Resources Development

1. Educational institutions need to engage continually in analyses of demand for graduates. Efforts to simply increase the supply of graduates, without commensurate measures to ensure postgraduate employment, can lead to a frustrated work force.

APPENDIX A

CONTEXTUAL FACTORS

1. INTRODUCTION

This appendix describes the salient features of Kenyan society that affect the operations of its institutions, with particular reference to Egerton College. These features are the physical setting; economic development, with emphasis on agriculture; the social, cultural, political, and administrative milieu; and the implications of these factors for the College.

2. THE PHYSICAL SETTING

Kenya is about the size of Texas, with a population about equal to that of the State of New York. Although average population density is not high, the population density in relation to agricultural land is very high by sub-Saharan standards. Much of the interior, which contains the best agricultural land, has a temperate climate because of its high altitude (5,000 to 9,000 feet). This good land (good soils, adequate and reliable rainfall, relatively flat), however, constitutes less than 10 percent of the total. Another 5 percent is suitable for cropping, but because of uncertain rainfall, farmers are unwilling to assume much risk in farming it. About 60 percent is semidesert, with very low agricultural potential.

Some people have spoken of the "end of the frontier" in Kenya, evoking the familiar thesis of the American historian, Frederick Turner, as the explanation for an anticipated major shift in Kenyan culture and economy. All the best land is already used for crops or livestock. At current fertility levels and if mortality continues to decline along its historic path, there will be almost 40 million Kenyans by the year 2000, compared with 17.5 million in 1981. More than one-half of Kenya's population is under 16 years of age, so Kenya has one of the highest dependence ratios among developing countries. This ratio will rise by the year 2000 to levels unprecedented in developing countries. The central policy question facing this country is how to provide productive employment opportunities for this many people on this very limited land base.

3. THE ECONOMY AND AGRICULTURE

The Kenyan economy has grown rapidly since Independence: 6.6 percent annually during 1964-1973 and 4.6 percent during 1974-1983. It is considered one of the "success stories" of Africa. Nevertheless, per capita gross domestic product (GDP) was only about $347 in 1982, which is low by world standards. The Fifth Five-Year Plan (1984-1988) projects a 5-percent annual growth in GDP. The economy is dominated by agriculture, which produces about one-third of GDP and inputs into manufacturing, employs formally or informally about two-thirds of the labor force, and provides the bulk of nonpetroleum exports.

Between 1955 and 1977, agricultural GDP increased 2.2 times, making Kenya's agricultural system one of the most advanced in tropical Africa. However, between 1977 and 2000, agriculture will have to increase by the same factor (2.2) merely to keep production constant in per capita terms (based on increased population and an income elasticity of demand for food of 0.2). In employment terms, agriculture will have to provide employment for more than twice as many workers as it presently does.

Until the recent slowdown in growth, the officially recognized emphasis on equity was evidenced in the rapid growth of free public services. However, the Government of Kenya now recognizes the need for user charges if further expansion is to be guaranteed in the face of continuing, though declining, Government budget deficits. Nutrition levels remain above Food and Agriculture Organization/World Health Organization minimal recommendations, yet one-third of the rural population is at continual nutritional risk. In 1970 slightly more than half of the national income went to the top fifth of income recipients, with about 12 percent going to the lower fifth, a common pattern of inequality in developing countries. Education is thought by many to be a good indicator of social equity. Although there is universal primary education in Kenya, only 20 percent of the age group for boys and 2 percent for girls are in secondary school. Even the poorest parents invest relatively heavily in their children's education, yet the adult literacy rate in 1976-1979 was only 45 percent. Outside observers have suggested that the prevailing pattern of limited and differential access to education will become a matter of concern if it leads to rigid patterns of social stratification.

Kenya has pursued a policy of import-substitution through industrialization and a policy of "cheap food" for urban areas. In effect, this has imposed a hidden tax on agriculture as producer prices were held down, farmers had to pay higher prices for the goods they purchased, and agricultural exports were hampered by the overvalued Kenyan currency. A 1981 World Bank

report on Africa suggested four steps to improve agriculture in African countries: correct distorted prices, reduce the monopoly power of parastatals in marketing and supplying inputs, reduce the extraction of resources from the agricultural sector, and devalue inflated currencies. Kenya has begun to move in all four areas, but much remains to be done. The Kenyan Government has renounced the cheap food policy, acknowledging that pricing and other policies must encourage increased production and provide marketing incentives. In short, it is now suggested by many within the Government itself that industrialization may best be achieved by less emphasis on protection and overt promotion of industry and greater emphasis on agricultural development.

What is to be done? There are three possible courses of action:

1. Increase the supply of land through irrigation, drainage, or conversion of forests and pastures. Irrigation is proving to be very expensive ($25,000 per hectare in the 6,700-hectare Bura scheme) relative to other methods of increasing employment in agriculture, although it compares favorably with the cost per job created in manufacturing. The potential for drainage may be greater than for irrigation. Forest removal remains very controversial because of ecological impacts. Production on marginal lands (which support 25 percent of the population but constitute 80 percent of the land) is both risky and threatening to pastoralism. World Bank staff have concluded that in marginal areas the attempt must be to raise the living standards of the existing population rather than to try to expand production through immigration. This poses the central policy issue within agriculture: whether to intensify agriculture on the best land or to push for extensive use of marginal land. The issue is being debated within the Government, but World Bank staff appear to have concluded in favor of the former policy.

2. Carry out a shift in cropping patterns. For example, smallholder tea production provides four times as much employment per hectare and nearly twice as much value added as smallholder maize production. Common roadblocks to this shift, however, include land limitations for certain crops, product demand, farming systems (the imperative of growing food for home consumption, for example), and limited or inadequate supporting services (warehousing and cold storage). Because of the wide variety of crops that can be grown, farmers are very price responsive, and thus "getting the prices right" becomes an important element of agricultural policy.

3. Intensify land use through inputs that substitute for land, and substitute labor for machinery and chemicals. The Government estimates that average yields could be doubled

through the application of known, best-practice technology, yet in recent years yields have stabilized or fallen, especially among smallholders, because of low use of fertilizer. In effect, this demonstrates that innovations must be profitable. Failure to apply fertilizer reflects a rational choice in the face of distorted price structures, and there is recent Government recognition that this is indeed the case. Land redistribution would increase agricultural employment. World Bank staff suggest that substantial production increases are possible by changing cropping patterns and increasing yields through the application of known technology, but realization of such increases is largely dependent on Government policy and supporting institutions. It is difficult to imagine that Kenya could obtain the required increases in agricultural production without a steady increase in yields, but this will undoubtedly require additional improvements through research and not just the application of known techniques, some of which are simply uneconomic.

4. THE SOCIOPOLITICAL SETTING OF ADMINISTRATION

Although the market in Kenya has increasingly become the central integrating feature of society, social and cultural conditions strongly affect the operation of the market. The authoritarian nature of the British Colonial system was a major influence on the establishment of similar powers for post-Independence Kenyan Government administrative officers. The break-up of traditional social organization has caused insecurity and suspicion and the strengthening of tribal or clan ties. African elites are becoming allied with a relatively wider social network, resulting in large patronage requirements. In addition to universally experienced selfish motives, state officers sometimes use their positions for achieving personal goals. Growing social stratification and tribal associations are dividing the political system horizontally as well as vertically.

Pressures to expand the state sector are widespread in developing countries. Such expansion is difficult, however, under conditions of dual allegiance of the bureaucracy to the office and to tribe or clan, which exists in Kenya. A 1982 report by Philip Ndegwa, who later became chairman of the Central Bank of Kenya, concluded that the country's bureaucracy is too large, mishandles Government investments, and costs the country far more than it is worth. This overstaffed bureaucracy "seriously underemployed" lower ranking staff, understaffed mid-level technical and professional staffs and over-worked senior staff is unable to fulfill its responsibilities. The result is a generally weak, vacillating bureaucracy, with a poor sense of direction and an unwillingness to act independently.

Leadership in Kenya tends to be authoritarian, particularistic around certain issues or individuals, and exercised through hierarchical bureaucratic structures. This pattern has led to the emergence of a strong executive, a weak bureaucracy, and the allocation of "power" by a central authority.

5. THE ROLE OF EGERTON COLLEGE IN THE KENYAN AGRICULTURE SECTOR

Agriculture is the cornerstone of the Kenyan economy, but that sector today is faltering in the face of rapid population increases that demand maximum efficiency if the material conditions of life are not to worsen. Egerton College is one of two institutions devoted to diploma-level training in technical skills to further the efforts of agricultural extension and agricultural education. It may be for this reason that Egerton College has enjoyed a rather charmed existence, with generous budgets and great autonomy. Egerton College graduates are renowned throughout the public and private sectors for being well prepared for practical extension work. They enter and end service at the district level as assistants to the District Agricultural Officer of the Ministry of Agriculture. The AID-financed expansion of Egerton College was welcomed by the Ministry, which believed that it could employ all new graduates. The Ministry is beginning to reconsider its position, and, as a result, graduates increasingly are turning to the private sector for employment.

The incentive system in the Kenyan extension service, which seems to discourage staff development and initiative, becomes crucial to the effectiveness of Egerton graduates and the success of efforts to raise smallholder yields. The work ethic instilled at Egerton is severely tested by a personnel system that assigns graduates to low status jobs and keeps them there, with little change in pay over time.

Even more important than extension in increasing production levels is public policy. Extension efforts will be dulled or nullified by pricing policies or administrative actions that discourage efficient microeconomic decisions. For extension to be effective it must be accompanied by greater reliance on opportunity-cost pricing and simplification of marketing procedures (both of which have been announced by the Government) and a significantly improved incentive system in the extension service itself.

In the short-run, extension will still consist largely of the transmittal of existing knowledge and techniques. In the longer run, however, the transfer of known technology will

become less and less important. Public policy has already started to remedy price irregularities, and, in the mixed farming system of Kenya, the supply response to such changes should be quite elastic. However, beyond this obvious move lies the need to increase the output of products less traditional than maize and cereals. For example, any changes in the agriculture sector will be expected to provide for increased exports of farm products. World Bank studies indicate that the country's best prospects lie in high-value, low-volume products such as pulses, tropical beverages (coffee, tea), horticulturals (fruits, vegetables, and flowers), and livestock (other than beef). The "bad news" is that these products make intensive use of trained manpower for research, production units, and export promotion.

Although the evidence is mixed, it seems fair to state that there is a fundamental disjunction among research, the Egerton curriculum, and the work of Egerton graduates in the field. Perhaps in recognition of this need, the USAID-financed expansion program provided for the advanced technical training of Egerton faculty in the United States. This has in turn stimulated greater interest in research among the faculty. Beginning in 1984, 1 percent of the College operating budget has been devoted to faculty research. However, faculty research efforts are certain to be frustrated to some extent by the heavy teaching loads (15-20 hours a week of student contact hours is not uncommon). Pressure to reduce loads will come up against increasing financial pressures on the College as a result of economy-wide difficulties in meeting recurring costs in the Government budget.

U.S. assistance to Kenya, according to AID's Country Development Strategy Statement for 1982, emphasizes (1) increased rural production, employment, and income; (2) reduced population growth; and (3) efficient delivery of basic social services. It focuses specifically on small farmers with low incomes and on the rural landless. Together, these groups constitute more than four-fifths of Kenya's poor and one-quarter of the national population. The Egerton project, then, strongly supports AID's current strategy in Kenya. In a sense, however, the project ran somewhat counter to AID policy at the time of inception, for it was designed during the "new directions" policy emphasis on basic human needs and equity, which began in 1973. Little institutional development was being funded by AID at that time. The commitment to Egerton College was a recognition of the importance of institution building and agricultural development at a critical time in Kenya's history.

APPENDIX B

ORGANIZATIONAL AND INSTITUTIONAL STRUCTURE

1. INTRODUCTION

1.1 Formal Institutional Objectives

Egerton College was established in 1939 to train European farmers and their children. During its early period, the College offered short, practical courses directly to farmers. Because of the recognition by the Ministry of Agriculture of a need to train extension workers and staff, Egerton was elevated in 1952 to the level of an Agricultural College offering a 1-year certificate and a 2-year diploma in agriculture as well as short courses.

In 1955, "The Egerton Agricultural College Ordinance" was promulgated. The aims of the College, as stated therein, were the education of students in the science and art of agriculture and other ancillary subjects. The Egerton College prospectus states that the aim of the College is "to provide education and training facilities for middle grade level of skilled manpower in agriculture and related fields" through "(1) the training of extension workers and (2) research."[1]

1.2 Formal Project Objectives

The Egerton College expansion was part of a large ($49.8 million) Agricultural Systems Support Project whose "cornerstone" was the development of the rural areas of Kenya "with special emphasis on the development of the smallholder agriculture sector."[2] The Project Paper identified three constraints slowing development of the smallholder agricultural sector:

1. Insufficient trained agricultural manpower
2. Inadequate smallholder access to agricultural credit institutions, services, and infrastructure
3. Insufficient adaptive research

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[1]Egerton Agricultural College Prospectus, p. 2.

[2]Project Paper, p.2.

The expansion of Egerton College was intended to help alleviate the first constraint.

The original Project Paper clearly envisioned intervention for "bringing up the supply of trained manpower into long-term equilibrium with its project demand."[3] The program at Egerton College was seen as an effective way of providing highly technical and practical training to those engaged in front-line technical and administrative positions in the agricultural extension service, which was perceived to be redirecting its focus toward the smallholder farmer. Through the construction of new facilities, the training of College faculty members, and the provision of technical assistance during the expansion, the goal was to increase enrollment from 686 students to 1,632.

2. MANAGEMENT CONSIDERATIONS IN THE PROJECT PAPER

2.1 USAID/Kenya

The Project Paper contained a preliminary examination of the management capabilities of the staffs of USAID/Kenya and Egerton College. The Project Paper noted that the multifaceted Agricultural Support Systems Project "will not be easy to implement and manage." The USAID/Kenya staff believed that it could manage this project if it increased its local staff as follows by FY 1979:

- Three full- or part-time agricultural specialists in agricultural credit, cooperatives/storage/marketing, and agricultural manpower
- One full-time engineer
- One half-time agricultural research officer
- Substantial time of one economist, one capital development officer, and one training officer
- Substantial time of USAID senior staff, as required

The Project Paper envisioned that USAID/Kenya would appoint a committee representing a range of appropriate skills, chaired by a Project Manager who would be responsible for coordinating the work of the other staff.

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[3]Project Paper, p. 4, emphasis in the original

2.2 Egerton College

The Project Paper also addressed the management capabilities of Egerton College for handling the complex problems of designing and monitoring major new construction, keeping good financial records, and providing the necessary leadership during a time of major change. After a brief review of the formal structure of Egerton College that recognized that the daily operations of the College were independent of the Ministry of Agriculture, the Project Paper reports that several prior evaluations had already commented "on the solid leadership being provided Egerton College by both the administrative staff and the Board of Governors with particular references to the Principal's administrative capabilities."[4]

Among the signs of strong internal management skills, the Project Paper notes that the administration of the College had already "successfully undertaken" such activities as "regular curriculum reviews, the hiring and firing of staff, large-scale purchases by tenders of supplies, and the oversight of several construction activities."[5] The Project Paper envisioned that additional staff would be required to administer the procurement and to supervise the contracts let under this project. The project designers considered that Egerton already had a "solid nucleus of administrative and financial staff who have demonstrated an ability to manage the College's procurement in an efficient manner."[6]

Because this report focuses on the enhancement of management capabilities, the final two paragraphs of the Project Paper's evaluation of local administrative strengths at Egerton College are significant:

> From an evaluation of the College's administrative experience, therefore, it is considered likely that the College is capable of acting as the consignee for building materials and equipment, as the client for the final architectural services, as the administrator of the construction contract, and as the supervisor of the U.S. technical assistance contract. Expansion related responsibilities, including GOK (Government of Kenya) costs related thereto, have been discussed with the College and the College had indicated its willingness to undertake these responsibilities.

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[4]Project Paper, p. 174.
[5]Project Paper, p. 174.
[6]Project Paper, p. 175.

> Egerton College's financial management is considered first rate. A review of the annual budget, internal financial reports and an inspection of the Finance Division indicate that accurate record keeping and detailed "cost-center" accounting is providing management with a comprehensive picture of Egerton's financial position. An examination of the "Report of the Auditors to the Governing Body of Egerton Agricultural College, October 14, 1977" confirms that the accounts are a true and fair representation of the College's financial state of affairs.[7]

As will be clear from the discussion in Appendix D, our team feels that the strength of Egerton's management systems, although adequate, may have been greatly overstated. Management enhancement was not considered in the Project Paper. Only the addition of new staff was judged to be needed to manage this project.

3. THE ORGANIZATION OF EGERTON COLLEGE

3.1 The Governing Board

The Egerton Agricultural College Act establishes a 17-person Governing Board, appointed by the Minister of Agriculture from diverse communities of interest, including (1) the civil service, particularly the Ministry of Agriculture and Livestock Development, Ministry of Education, and Ministry of Natural Resources; (2) the faculties of agriculture, science, and veterinary medicine at the University of Nairobi; (3) agricultural parastatal organizations; (4) agricultural private industry; and (5) the farming community.

The College itself is represented on the Board by the Principal, who is the Chief Executive of the College responsible for its overall management. Three other College officials--the Registrar, the Finance Officer, and the Deputy Principal--attend meetings of the Governing Board and its committees. The Registrar is the secretary of the Board and its committees.

The Board meets three times each academic year to review and act on appointments and dismissals, the development of new academic programs, and policies related to student admissions, degree requirements, and other important policy matters. The

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[7]Project Paper, p. 175.

Board appoints a finance and general purposes committee to serve as an executive committee, meeting with the Principal and top administrators of the College on a monthly basis.

3.2 Key College Administrative Staff

3.2.1 The Principal

The Principal of Egerton College has the formal powers of a strong chief executive whose approval is necessary for action to be taken on almost any important policy issue within the College. He chairs several of the key academic and management committees. Although the day-to-day financial management is in the hands of department heads, the Principal is the key figure in all long-range financial planning, approving salary increases for faculty and senior staff, determining future directions for the College, and ruling on all major exceptions to the annual budget. The position of Deputy Principal has been vacant since early 1983 pending decision on Egerton College's future as a BS degree-granting institution. In the absence of the Deputy Principal, all departments making up the Academic Division of the College report directly to the Principal.

3.2.2 The Registrar

The position of Registrar at Egerton College is similar to that of the Dean of Faculties at an American college. The Registrar is the chief personnel officer for the faculty. The Registrar receives all applications for faculty positions, sits on all interview panels for academic appointments, chairs the research committee, and is the person to whom the General Administrative Division heads (finance, medical, transport, personnel, estates and maintenance, planning, security, and catering) report.

Below the Principal and Registrar are three key staff positions intimately tied into the management of the College as an ongoing institution and, in two cases, to the expansion program: the Curriculum Coordinator, the Planning Officer, and the Finance Officer.

3.2.3 Curriculum Coordinator

The Curriculum Coordinator is responsible for coordinating the schedule of classes for the three terms of the academic year in a way that ensures that the curriculum is followed. He must also allocate scarce lecture and classroom space and ensure that there are no conflicts in students' schedules.

3.2.4 Planning Officer

The project contracted with the South-East Consortium for International Development (SECID) to provide technical assistance. Its Procurement/Administrative Officer was to develop improved procurement and physical planning procedures for the College and to provide on-the-job training for Kenyan staff so that they could assume these responsibilities when the project ended in 1984. In 1982, a Planning Officer was recruited by the College to work with SECID's Procurement/ Administrative Officer. The Planning Officer was assigned the following duties:

- -- Identification of all physical facility, equipment, and personnel requirements of the College, in consultation with department heads and College administrative officers
- -- Coordination of design proposals for all new facilities and landscaping for the College
- -- Development of maintenance plans for College facilities and equipment
- -- Coordination of all College development proposals, including drafting and reporting to the granting agencies

3.3 The Departments in the Academic Division

The Academic Division of the College is composed of 12 teaching departments (see Table B-1), each managed by a department head appointed from among the faculty of the Department by the Principal and the Board of Governors and currently responsible (while the position of Deputy Principal is vacant) to the Principal. As stated in the catalog, each "Head of Department or section is fully responsible to the Principal for the day-to-day operations and personnel supervision of the

Department." The catalog also clearly states that major "financial and administrative decisions, however, are taken by the principal officers of the College."

Table B-1. Egerton College Staffing by Department and Administrative Areas and Level of Academic Training

Specialization	Qualifications				Vacancies
	PhD	MSc	BSc	Other	
Department					
Animal Health	1	4	0	3	-
Animal Husbandry	2	4	2	3+1	1
Biology	0	2+1	1	5	3
Chemistry	1	3	2	3+1	-
Crop Husbandry	0	4+1	2+1	6	3
Dairy Technology	1	2	4	3+1	1
Economics	2	4	1	0	-
Education & Extension	1	2+1	5	1+1	-
Engineering	1	5	5+1	7+4	3
Home Economics	0	4	1	1	2
Forestry	0	2	3	0	3
Range Management	1	3+1	4	6	-
Subtotal	11	39+4	30+2	38+8	16
Administration					
Executive	1	1+1	0	0	2
Library	0	4	+1	4+1	
Other Administrative	0	3	6	12	4
Subtotal	1	8+1	6+1	16+1	6
Grand Total	12	47+5	36+3	54+9	22

Note: Number after + indicates number on study leave.

The division of labor among the Principal and his staff, the Board of Governors, and department heads is quite clear. Most of the major discretionary decisions about the allocation of financial resources are made by the Principal or his staff, subject to the approval of the Board of Governors in many cases. Once the basic allocation decisions are made, the department heads operate their departments with considerable autonomy.

In addition to the teaching departments, three other departments report directly to the Principal. The Office of Student Affairs is currently headed by an Acting Dean of Students who is also the Student Counselor. It is a relatively small department, responsible for student records, student disciplinary actions, and counseling.

The library and the Tatton demonstration farm are the other two departments in this division. Both have considerable autonomy.

3.4. Departments in the Administrative Division

The other units on the Egerton College campus are in the General Administrative Division, and their heads report directly to the Registrar. These include (1) finance, (2) medical, (3) transport, (4) personnel, (5) estates and maintenance, (6) planning, (7) security, and (8) catering. The departments in the Administrative Division are primarily support units for those in the Academic Division. Consequently, although several departments--such as catering and medical--have considerable autonomy in their day-to-day affairs, many are effectively staff offices of the central administration.

4. EGERTON COLLEGE WITHIN THE GOVERNMENTAL STRUCTURE OF KENYA

Egerton College is a parastatal organization and, as such, operates with considerable autonomy from the Ministry of Agriculture. Whereas departments within the Ministry and research stations operating as part of the Ministry have to obtain permission before making even many routine decisions, Egerton College can make most operational decisions using its own internal procedures.

Egerton College obtains a major portion of its budget from the Ministry of Agriculture. In recent years, the Ministry and Egerton have agreed on a capitation fee to be paid by the Ministry and on the number of student positions for which the fee will be paid. Egerton College has not had much detailed scrutiny of its internal budget by the Ministry, a rare situation for any governmental or parastatal organization in Kenya.

Three major processes link Egerton College closely with the Ministry of Agriculture: the selection of students to be funded by the Ministry and sent to Egerton, the placement of Egerton

graduates (primarily in the Government Extension Service), and requests by the Ministry to change or add to the curriculum at Egerton College. These linkages are discussed in Appendix E.

5. CONCLUSIONS

1. The organization of Egerton College is relatively simple and straightforward. Although formal organization charts and position descriptions are not always available, the participants themselves clearly understand the lines of authority and the procedures to be followed to get things accomplished.

2. Much of the day-to-day management of Egerton College is decentralized to the departmental or enterprise level. Once budgets and positions are established centrally, departments handle decisions and problem solving in scheduling major tasks, assigning specific duties, making normal expenditures, and supervising personnel.

3. Most authority for making department-level decisions is vested in the department heads. Departments are, however, quite small, and most department heads involve their staff in the discretionary decision-making at the departmental level.

4. Given the considerable departmental autonomy, the curriculum of the College is the basic coordinating device for ensuring that all departments contribute to a common goal. The curriculum is an impersonal coordinating mechanism that departments can alter periodically as they evaluate how their joint activities affect the knowledge and skills of their students.

5. The organization of Egerton College has remained stable for some time. While the number of students, faculty, and staff has grown substantially, the number of departments and the formal administrative structure have remained relatively the same. The low turnover of senior personnel has probably added to this stability.

6. The position of the Principal as a strong chief executive involves him primarily in the major discretionary decisions of the College and not in day-to-day operational decision-making. The authority of the Principal is such that it permits the exercise of strong leadership. Further, the lack of involvement in operational decision-making allowed the Principal to direct attention to implementing the expansion, ensuring external support, and guiding the direction of the College itself.

7. The relative autonomy of Egerton College from the normal bureaucratic control of a government ministry has enabled the staff to operate more quickly and efficiently. The authority to fire incompetent staff not only enhances staff productivity but also avoids the demoralizing presence of incompetent staff when others are being encouraged to work to their highest potential.

APPENDIX C

ADMINISTRATIVE PROCESSES

1. INTRODUCTION

This appendix focuses on the management processes of Egerton College and the project. In analyzing these processes, it is important to examine the types of enterprise in which Egerton College is engaged. Different types of enterprises have different kinds of management problems that need to be solved and therefore require different management processes.

2. EGERTON COLLEGE AS A COMPLEX OF MULTIPLE ENTERPRISES

Four enterprises coexist in the corporate body called Egerton College:

1. An institution of higher education
2. Two large-scale, multiproduct farms, one of which is a commercial operation
3. A food processing enterprise
4. A small, residential community of about 3,000 adults and their children

The Principal at Egerton College is thus the equivalent of a chancellor of a small college, a farm manager, a chief executive of a food processing factory, and a mayor of a town. The educational enterprise is the College's raison d'etre and thus the most important enterprise that Egerton College must manage. We first examine some of the internal and external problems of managing that type of enterprise and then turn briefly to similar analyses of the other three types of enterprise.

2.1 An Institution of Higher Education

In an educational institution, students, whose skills and knowledge have been transformed, are the fundamental products. The transformation of students' skills and knowledge occurs through a series of parallel activities organized over time through the coordinating mechanism of a curriculum. In addition, those whose skills and knowledge are being transformed must

engage actively in the effort. Without active participation in the production of their own skills, no education occurs--even if students are provided with the best facilities and teachers. This coproduction of education occurs simultaneously in many separate locations: faculty and students interact in classrooms and practicals and students engage in their own study and skills practice in other locations (e.g., library, dorm rooms, garden plots). The basic "production units" are large numbers of small-scale interactive processes.

The internal problems of managing an institution of higher education requiring many different parallel, face-to-face, coproduction processes differ markedly from those of a serial, physical, production enterprise. The key problem is how to motivate different individuals to engage actively in the learning enterprise. Given the wide diversity of skills to be imparted, and the variety of settings in which different skills are imparted, no central manager can successfully undertake the direct management of these multitudinous processes. To deal with internal management problems, top management must impart a common set of values, instill the sense of personal worth necessary to invest heavily in a learning process, and coordinate all of these diverse activities into a sequentially ordered process for students.

The key external problems of managing an institution of higher learning relate to (1) obtaining sufficient financial resources to run the college at current or planned levels; (2) recruiting the brightest students whose fields of interest match those of the teaching facilities available; (3) recruiting, retaining, and developing as able a faculty as possible; and (4) working to maintain or open up career opportunities for graduates.

Maintaining the quality of the graduates is a delicate process affected by both internal and external pressures. Bright students placed in a relaxed environment may be self-motivated enough to obtain a high-quality education largely on their own. Students with somewhat fewer initial endowments may be motivated by a highly competitive internal and external environment to excel in acquiring advanced skills.

Keeping students and faculty motivated to focus on the educational process is not always easy. Even very bright students may fail to take advantage of their college experience and thus never achieve real enhancement of their skills. No single formula exists for the right combinations of inputs and of internal and external pressures that will lead faculty and students to seek excellence.

Egerton College leadership appears to understand these principles well, and much of the success of the College can be attributed to well-established institutional norms that are supportive of their goals.

2.2 The Farms

In addition to the central educational enterprise at Egerton College are two large farm enterprises. The farms are obviously very different enterprises than the educational institution. Farm enterprises involve tight scheduling of the work assignments of skilled and semiskilled labor, close monitoring of the timing and prices of input purchases, and finding appropriate markets for products.

Most internal problems can be well handled by the central manager who directs the day-to-day operations of the farm. Farm management is strongly affected by external factors: weather, markets for inputs, and markets for outputs. Although farm managers cannot change the weather, they can stay alert to changes in weather patterns that represent opportunities or constraints on farm operations. Effective purchasing and marketing require investment in new information and a willingness to experiment and take risks. A local centralized management system is well adapted to both the internal and external problems of managing a farm.

The Egerton commercial farm is run primarily to obtain the maximum revenue for the College. The goal of this enterprise is unambiguous. It is the closest thing to a "profit center" at the College.

The demonstration farm has two objectives with both complementary and conflicting elements: (1) to provide the different settings needed to teach students various aspects of farm production in Kenya and (2) to generate revenue to cover a proportion of the cost of providing these demonstration facilities. The successful management of such an enterprise requires information on the types of practicals that must be run and on the best times to plant, cultivate, breed, harvest, purchase inputs, and sell outputs for all the products involved. The revenue-generating capability of the demonstration farm has to be considered secondary to its teaching function, but it cannot be ignored.

A particular problem for the farms is that civil service regulations strictly apply to the employment and allocation of personnel. Although the flow of paperwork in an office may be easily accommodated in a regular 5-days-a-week, 8-hours-a-day

schedule, that is not the case for planting and harvesting, which require intensive labor at specific times. The use of civil service personnel on the Tatton Farm and Guilford Dairy is probably required by the external political environment, but such employment strategies entail considerable cost and increased management problems.

2.3 The Guilford Dairy Institute

The Guilford Dairy Institute has a different technology but the same two objectives as the demonstration farm: providing facilities for practicial training and producing revenue to pay for a significant portion of that training. Because it is important to the learning process that students make errors and see what happens to a final product when errors occur, the goals of teaching conflict at times with the objective of producing a salable product. Internal problems relate to scheduling work, keeping production processes flowing smoothly, and keeping equipment repaired. External problems relate to obtaining supplies and selling products.

2.4 A Small Residential Community

Because Egerton College is a residential institution located outside of a city, the College must house students, faculty, administrative staff, and even most of the nonskilled workers. Meals must be provided for students and occasionally the staff. Medical facilities must be staffed and run by the College. The education of the children of the staff is also a concern in this residential community; both nursery and primary school facilities are provided in the immediate vicinity.

Because of its rural location, the College must also provide its own water supply and sewage treatment facilities, build its own roads, provide street lighting, and maintain these public works. Given that the construction of such public works is an infrequent undertaking, the College does not need to maintain an in-house design and planning unit of substantial size, but it must be able to contract for top-notch architectural and engineering design and have the in-house capabilities to articulate its own needs and understand highly sophisticated design documents.

Maintenance of these public facilities, on the other hand, is a continuous process requiring well-designed programs for regular inspection and preventive maintenance and local

capabilities for the most frequently needed repairs. The security of this property, and of the persons living in the College community, is also a major and ongoing process.

3. THE MANAGEMENT CULTURE AT EGERTON COLLEGE

3.1 Management Style at Egerton College

Egerton College is a parastatal institution. In Kenya, however, this term covers a wide variety of relationships between an institution and the central Government. In some cases (e.g., some agricultural research stations), most aspects of the operation are controlled directly by the Ministry of Agriculture in Nairobi, including hiring, firing, expenditures, and the like. At Egerton, in contrast, there is such an extraordinary degree of autonomy that any serious decision can be made at the College level without the formal advice or consent of the Ministry.

In part, this independence derives from the Act of Parliament, as amended, which established the College and stipulated its rules of conduct, its principal leadership agents, and its goals, which are not subject to significant challenge. It is also evident that the Principal has skillfully led the College in ways that reinforce the good reputation of the College throughout Kenya and that encourage trust in the institution. The Ministry does appoint some members of the Board of Governors, and therefore Ministry interests are important in the direction of the College. Yet in the highly personalistic leadership style of Kenya, with its highly politicized bureaucracies, the role of the Principal may be reinforced in ways not directly tied to Ministry interests, although not necessarily at odds with those interests. This leadership transcends some of the more technical aspects of management; however, both will be essential if the College is to retain its autonomy and compete successfully for resources under conditions of slow economic growth (when one institution can gain resources only at the expense of another).

At Egerton College there is wide acceptance of the legitimacy of the strong role of the Principal. Although individual faculty might believe that it would be useful for them to share more widely in the knowledge underlying decisions made for the College, the team's impression is that nobody questions the arrangements whereby the leadership remains the unquestioned authority on all matters of importance. In the area closest to the faculty--departmental affairs--considerable decision-making authority has been assigned to department heads. However, there is absolute and rather tight central control over fiscal matters.

This may result in part from the need to centralize decisions in the absence of adequate budgeting systems that could permit decentralized decision-making that is responsive to management directives. That is, central control over fiscal matters might result from inadequacies of the system of accounts currently in place. More likely, it derives from the widely accepted desire of management to retain all fiscal prerogatives for itself so as to maximize centralized control. This desire might be reinforced by the desire to guard the fiscal autonomy currently enjoyed by Egerton on the assumption that tight fiscal control enhances the bargaining position of the College as it competes for outside funding.

3.2 Devolution Within a Hierarchic System

While some aspects of the management process at Egerton are centralized, many aspects are shared. Further, once major resources are allocated to a department, operational decisions about their use are made primarily at that level. The devolution within a centralized system can be illustrated by examining both the academic hiring process and the departmental-level budgetary process.

3.2.1 The Academic Employment Process

The decision-making process for hiring academic staff illustrates one aspect of the division of labor relatively well. The initial request for the creation of a new faculty position comes from a department head. Because the curriculum itself has remained relatively stable in recent times, most requests for new positions are in response to increased student demand created by the expansion program. The request and its justification are presented to the Principal. If he accepts the justification, he presents the request to the Board of Governors.

Once a new position is accepted, or if a vacancy occurs in an existing position, the opening is advertised. The Registrar receives all applications and forwards them to the department head for screening. The department head, sometimes in consultation with his staff, selects three individuals to be interviewed. The Registrar then organizes and convenes an interview panel composed of a member of the Board of Governors, the Principal, and the department head. At the interview, the department head is expected to take the lead in questioning applicants concerning their technical competence. Although the final selection is

genuinely a committee decision, considerable weight is given in the discussion to the views of the department head concerning the technical competence of the applicants.

The interview panel then recommends to the Principal which, if any, candidate should be offered a position and the approximate salary, based on the advertised range. Once the faculty member is hired, direct supervision falls to the department head. New lecturers are placed on probationary status for 1 year. If the department head is uncertain about their performance, he or she can recommend a further probationary period. At the end of this period, the department head must recommend whether the person should be confirmed and provide supporting evidence. These recommendations are given substantial credence by both the Principal and the Board of Governors. Once a faculty member is confirmed, the department head makes an annual assessment of performance, including any recommendation for a salary raise.

Because departments are relatively small, department heads work with their faculty members on a one-to-one basis, with many opportunities for interchange and advice. Department heads have considerable discretion in assigning work, using budgeted funds, and solving the problems that occur in running an academic department.

3.2.2 The Departmental-Level Budgeting Process

The budgeting process in the academic departments also illustrates how decentralized, day-to-day decision-making is separated from central management decision-making. The largest portion of the budget of any educational institution is allocated to personnel, and this portion can rarely be shifted. Once a faculty or staff member is hired, the funds for this position are relatively firmly allocated to this line of the budget.

The discretionary parts of the budget of an educational institution are those relating to purchase of supplies and equipment, employment of part-time or short-term staff, and support of faculty research and reporting activities (primarily the travel budget).

Each department at Egerton has its own system of internal budgeting. But the department heads with whom we talked all appeared to have some system that related their discretionary funds to the ongoing activities of their department. In the Home Economics Department, for example, many of the courses require the purchase of supplies throughout the term, so each

course is assigned a specific budget. The instructor is given the assigned funds at the beginning of a term and is held accountable for their use at the end of a term. Thus all members of this department can make direct adjustments in what they buy and when, according to market conditions. Further, they know directly what each of their courses cost and which courses have faced the tightest budgets in the past.

When budgets are prepared for future years, this direct knowledge and participation is used in preparing the departmental budget. The department head and faculty examine how the budget has been used in the past year to support their courses and how this pattern should be changed. The budget request transmitted to the Finance Officer is simply a list of requested budgetary items, without any dispersement detail. But members of the department know this detail and have participated in trying to make the most effective use of their discretionary funds.

Other departments do not face the need to cost out each course but have specific facilities--such as laboratories--that require particular attention. In the Agricultural Education and Extension Department, for example, the budget for the photographic and audiovisual laboratories is examined each year in the context of past experience to determine whether support for various courses has sufficed. In the Dairy Technology Department, the budget for the pilot food plant is kept separate from other instructionally related areas.

The internal budgets for the two farms are also related to their specific activities, and considerable discretion is given to the farm managers in establishing the most effective internal use of resources.

Most departments have two or three formal meetings per term. Minutes are frequently recorded, and recently efforts have been made to circulate them to other department heads to increase communication across departments. However, because most departments are small and the offices of the teaching staff are located in the same area, most of the operational decision-making at the departmental level occurs in informal discussions among the teaching staff as problems occur.

This informal, departmental-level style of operational decision-making works quite effectively because general agreement exists on the overall objectives of the College and on how each department fits into that overall scheme. Although few formal job descriptions or task flowcharts exist, a high level of agreement exists among the teaching staff about how things are handled and about the legitimacy of the way the College is run.

4. PROJECT MANAGEMENT SYSTEM

4.1 The Goals of Donor and Recipient

In many large-scale donor-financed interventions, project management is controlled largely by donor-employed project managers who, if they do an effective job, try to ensure that donor objectives are met. In the Egerton College expansion project, some project management responsibility was assigned to staff funded by USAID and employed either by the technical assistance contractor (South-East Consortium for International Development, or SECID) or by USAID/Kenya. The Chief of Party was directly involved in managing the technical assistance and participant training processes. The SECID Procurement/Administrative Officer was directly involved in a key aspect of the construction process until replaced by an Egerton College senior staff member, the Planning Officer. All others involved in the management of the project were permanent employees of Egerton College whose personal and institutional incentives motivated them to get the best designed and constructed facilities for the money available.

Top management at Egerton College had its own objectives for the management of this project:

-- They would be active participants in the project rather than passive recipients of donor funds.

-- The design of the expansion program would be well-tailored to their own long-term needs and aspirations.

-- The permanent staff of Egerton College would be the key decision-makers in the process.

USAID's objectives were also quite clear. USAID wanted to enhance the development of small-scale agriculture in Kenya by enlarging and enhancing the capacities of a college that was already considered to be doing a good job of training individuals to take positions as supervisors, secondary school teachers of agriculture, and, to a lesser extent, lower level managers in private industry. The ultimate objective of the project was to more than double the number of students graduating from Egerton College while retaining the training approach already established at the College. To achieve this objective, the project was intended to do the following:

-- Help finance the construction of new facilities and the purchase of new equipment for the College

-- Upgrade the educational training of College faculty

-- Temporarily replace the faculty receiving training with high-level technical assistants so that the ongoing educational enterprise could continue work until its staff returned

Both the donor's and the host institution's objectives for the project were met. The objectives of USAID and of the College were simple and clear-cut. The two sets of objectives were complementary rather than conflicting. The tasks involved in carrying out the project involved large, relatively complex, and nonrepetitive decision-making. But the clarity, simplicity, and consistency of both sets of objectives is one of the factors to which we attribute the probable success of this expansion project.

4.2 Project Organization

The project consisted of three principal elements: technical assistance, participant training, and physical expansion of the facilities of Egerton College. The physical expansion of facilities was executed through host country contracts managed by Egerton College with the assistance of a consulting architect; the technical assistance and participant training components were carried out through a host country contract between the Ministry of Agriculture and SECID.

The Deputy Director of Agriculture and Livestock was responsible for administering the technical assistance and participant training components of the project which were implemented through a host country contract with SECID. The SECID contract also provided for a Procurement/Administrative Officer to assist in administering the contract and to advise Egerton College on the expansion of the physical facilities.

The Deputy Director of Agriculture was responsible for ensuring that the Government's commitment to provide specified property and logistic support for the project was met, providing liaison with other Government officials, issuing change orders to the contract, and providing the borrower/grantee's "Certificate of Performance."

Egerton College was responsible for managing the expansion of the physical facilities under a host country contract. The contract with SECID, which was managed by the Ministry of Agriculture, provided the services of a Procurement/Administrative Officer for 4 years to work directly with the Principal of Egerton College in managing all contracting and procurement activities funded by the AID loan. Initially, the Procurement/

Administrative Officer was to report directly to the chairman of the building committee; this committee apparently never functioned.

USAID/Kenya, through its agricultural division, was responsible for overall management of the project, liaison with the Ministry and Egerton College, and, in particular, for oversight of the technical assistance and participant training components of the project. The Project Development Division of USAID was responsible for supervising all procurement and contracting activities, including approval of all design and contract documents.

4.3 Project Implementation

The project anticipated an increase in the professional staff of Egerton College from 42 to 76 by 1984 and an expansion of the physical plant to accommodate an enrollment increase from 690 to 1,630 by 1985. The strategy as described in the Project Paper envisioned training in the United States of Egerton College staff members at the graduate and undergraduate levels at a cost of $2.4 million. These staff members, while receiving training in the United States, would be replaced by 28 highly qualified U.S. college professors provided under the SECID contract at a cost of $7.9 million. Meanwhile, the physical expansion of the plant facilities, at a cost of $23,558,000, would be taking place. As of October 1984, 52 Egerton College faculty had been trained in the United States to a degree level, and others on a short-term basis (see Table C-1); 31 Americans served as replacements at Egerton College.

The SECID contract was funded by a $10.24 million grant. The contract provided for key personnel consisting of a Chief of Party, Procurement/ Administrative Officer, SECID Project Coordinator, Home Campus Coordinator, and an Associate Home Campus Coordinator. The Chief of Party was required to prepare a workplan within 30 days of his arrival in Kenya. During his 5 years on site beginning in 1979, he supervised the activities of the Procurement/Administrative Officer and carried out the field activities under the terms of the SECID contract. He reported directly to the Principal of Egerton College.

The training of Egerton College staff in the United States and provision for their replacement were arranged for by SECID through subcontracts with Virginia State University and Mississippi State University, respectively. The Principal of Egerton College selected the Egerton College staff for U.S. training and personally approved each U.S. replacement.

Table C-1. Egerton College Academic Participants in Training Program by Level of Training and Area of Specialization

Area of Specialization	BSc	MSc	PhD	Total[a]
Animal Science	1	6	1	8
Crops	2	5	3	10
Basic Sciences	1	2	1	4
Education	1	1	2	4
Economics	1	1	2	4
Engineering	4	4		8
Home Economics		3	1	4
Library	1	3		4
Food Technology	1	1		2
Administration	2	1	1	3
Total	14	27	11	52

[a]In addition to those listed, three people were sent for short-term training: one in education planning and two in administration (operations).

Although the project management system functioned fairly well and project objectives were generally achieved on schedule, there were some problems in the early stages of the project. The cost of the technical assistance component, for example, was unnecessarily high (approximately $200,000 for each trained Kenyan in the United States). Problems were encountered both in the training of Kenyans in the United States and in their replacement by U.S. staff. The contract with SECID did not clearly specify the role of the U.S. technicians at Egerton College or their organizational relationship with the College. In the view of the College, the U.S. technicians were temporary replacements. They were there primarily to teach courses and were not expected to revise the curriculum and or to act as department heads. In effect they were to be employees of the College, not of SECID. On the other hand, the U.S. staff were highly trained professionals who expected to do more than lecture diploma students. Consequently, the U.S. technicians were very frustrated.

A basic plan for the physical expansion of the College facilities was prepared as part of the project design process. Following approval of the project and authorization of funds, the Government of Kenya entered into a contract funded by

Egerton College with a team of Kenya-based consultants, headed by Mutiso Menezes, International, an architectural and engineering firm. The firm was to prepare all architectural and engineering design work, cost estimates, and construction bid documents and provide site supervision during the construction phase, including a resident engineer. The hiring of the architectural and engineering firm by the College was specified in the Project Implementation Letter. The physical facilities construction contracts were negotiated on a fixed-price basis. This process apparently worked smoothly, and construction, except in one instance, was performed as scheduled.

During 1982, the Kenya shilling was devalued in terms of the dollar, thereby making available substantial additional funds of about 5.2 million Kenya shillings. These funds are being used to finance the construction of additional facilities--an Agricultural Resources Center, two air-conditioned lecture theaters, and housing. The Agricultural Resources Center was not in the original project design plans.

The project also provided for acquisition of equipment and other materials to accompany the new facilities. The cost of this equipment was about $2.4 million, including $400,000 in local procurement. Purchase of this equipment was to follow AID procurement regulations, with the assistance of the Procurement/Administrative Officer. A contractor was hired to assist the department heads in determining their requirements. A detailed list of all equipment, including specifications and quantities, was prepared for procurement.

The assistance provided by the Procurement/Administrative Officer to Egerton College in coordinating the expansion of physical facilities and the requisition and purchase of necessary equipment using AID funds was not altogether successful. In several instances, equipment arrived either too early or too late. For example, construction of the library was completed in 1983 with a capacity of 25,000 books, but only a portion of the books had been delivered as of October 1984.

4.4 Commodity Procurement

Although our team heard almost exclusively enthusiastic reactions to the expansion program in general, we also heard repeatedly about the major problems relating to the purchase of books and equipment.

Given the size of the project, the amount of funds involved in the purchase of books and equipment was minor indeed. But

these were not insignificant items; a library is a central facility for a college campus and equipment is also integrally involved in the teaching enterprise.

After department heads prepared their lists of desired items, the book and equipment orders seemed to disappear into a black hole. The time taken to process straightforward book purchase orders and get payment for them was extraordinary. Because the staff at Egerton College never received any information about the book orders, the process led to confusion and even some suspicion that their choice of books was "censored" by the AID procurement processes.

Similar problems occurred in ordering equipment. The Home Economics Department had submitted a modest list of new sewing machines needed for their sewing labs that specified European manufacturers known to produce heavy-duty machines. Further, home economics graduates in the field would be working with European and not American-made machines. Training the trainees on different types of machines than they would use later would not serve the educational purposes of the equipment. Yet this order was rejected by AID because specific and non-American brands were specified. However, the department did not receive this information until just recently.

Similar problems with the "buy American" policies of the AID grant were experienced in biology and other departments purchasing equipment. The American models of microscopes that were delivered are different from those extension workers will use in the field. No spare parts were delivered for most of the equipment. Because department heads are unfamiliar with the equipment, they do not know what spare parts are most likely to be needed over the next 5 years. Manufacturers provide no more than a mailing address and are not prepared to maintain a service operation in Kenya. Much of this equipment may not operate for long because the technicians at Egerton College are unfamiliar with its operation and repair, and no one in Kenya can help them.

Given of the size of the grant, the funds for books and equipment were miniscule. But in terms of their impact on the College, these were important aspects of the expansion effort. Because the procurement process for books and equipment was located at USAID and <u>not</u> at the College, no one at the College received key information about these orders as they were processed. Because the sums involved were small and the work load at USAID was high, little attention seems to have been given to these orders. Placing responsibility for the procurement at Egerton College would have brought information closer to those who had a long-term stake in getting the most for their money.

The "buy American" policy of AID grants is understandable from a U.S. perspective. But it is unfortunate that AID does not require a U.S. firm to have an office with service technicians on contract before the firm is authorized to bid on technical equipment purchased for developing countries. The current policies as administered lead to waste and higher recurrent costs.

4.5. Financial Management

One weakness of the project was in project staffing--the lack of financial and management accounting skills. This has been manifested in several ways: failure to require submission of the initial quarterly financial reports; inadequate attention to the Government of Kenya budget process, budget deficits, and potential recurrent costs; inadequate attention to the budget process of Egerton College; and inadequate attention to the potential recurrent costs of the project.

The Government of Kenya agreed to provide local currency financing for 25 percent of the cost of the project. Apparently no reporting system was established to monitor this aspect of the project, and the College does not issue periodic financial reports. The July 1978 Project Paper stated that "Egerton College's financial management is considered first rate [and a] review of the annual budget, internal financial reports and an inspection of the Finance Division indicate that accurate record keeping and detailed 'cost center' accounting is providing management with a comprehensive picture of Egerton's financial position."[1] Our review indicated the Project Paper may have overstated somewhat the timeliness of the accounting system.

5. THE MATCH BETWEEN MANAGEMENT SYSTEMS AND THE EXPANSION PROJECT

5.1 The Construction Process

Department heads were directly involved in the initial design process for the construction component in specifying what they wanted in a new or remodeled building. Most of the department heads with whom we talked not only are proud of the new

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[1]Project Paper, p. 175.

facilities but they are generally satisfied with how the new or remodeled facilities operate. Enhanced confidence and pride pervade middle-level management at Egerton College.

Minor problems in translating real needs into final design did occur. The librarian's desire for a secure library to protect the book collection was not met. Instead of high, movable louvers or transom windows, low, permanently open, aluminum louvers were installed on the first floor through which students can easily slip books. Cold drafts sweep through the library at night. The College is now paying its own staff to board up most of the louver panels and to place heavy wire mesh over the others. But, given the large number of buildings involved and the inexperience of department heads with the design and construction of large buildings, the facilities obtained through the AID program are amazingly well matched to the operational needs of the College.

The monitoring of construction was very thorough and effective. The regular procedure of monthly site inspections, followed by written summaries of the findings, appears to have worked effectively. The project files indicate that considerable attention was paid to the timing and quality of work. Contractors were repeatedly called to account in writing for problems that were discovered and were expected to correct them. Contractors were pressed to complete buildings on time. Payment was occasionally withheld to reinforce demands for quality construction. The management of the construction aspects of the Egerton expansion projects seems to have been far more effective than that of many other AID-funded projects involving large-scale construction.

5.2 The Training Process

The Principal, other high-level officials at Egerton, and the Chief of Party focused extensively on the faculty training program. A clear strategy for selecting trainees was developed. The goal was to bring all lecturers up to a Master's degree level, all department heads up to doctoral level, and, where feasible, staff demonstrators who had worked for the College for a long time, up to a bachelor's degree level. This strategy was widely understood and agreed on, at least at the middle-management level. The timing of training was arranged so that department heads involved in the design of new construction remained at the College during the early period of the project, while those involved in remodeling current facilities went for early training.

Semester-by-semester reports were filed by each participant, outlining progress in some detail. Each year, the Principal, the Chief of Party, and a member of the Governing Board met in the United States with all teaching staff receiving training and carefully reviewed their programs. Faculty eager to begin work on another degree were encouraged to complete the initial (approved) degree first and then seek official permission to pursue a higher degree.

The close monitoring yielded a positive training record. Almost all participants completed the degree for which they were sent and did so in record time. Many of the participants took heavy academic loads (sometimes two or more courses per semester more than the normal load). More people were trained and more participants were able to pursue a second degree than originally planned.

Such close monitoring and pressure engendered some feelings of resentment--particularly toward the Chief of Party and the small living allowances allocated to participants receiving training in high cost areas. But given the strictness of the control, one is surprised to find how low the tensions were overall. Most of the teaching staff genuinely accepted the need to work at an accelerated pace so that their colleagues would have a chance to obtain further training.

5.3. Technical Assistance

The match between the management of the technical assistance aspects of the project and the tasks involved was not as effective as it was for the construction and training components. In the construction and training components the personal and short-run incentives of almost all participants were congruent with the more general and long-run objectives of the program. This was not the case with the technical assistance component.

Initial personnel selection was handled largely by SECID for Egerton College. Faculty and staff working for SECID would naturally try to select replacement staff from SECID institutions rather than other, perhaps more appropriate, institutions and to ensure that adequate funds were allocated to the technical assistance component of the contract. Accomplishing these goals would not necessarily best meet the needs of Egerton College.

As more and more experience was gained within Egerton College, the Principal and other permanent staff at Egerton exerted greater and greater control over the selection of U.S. faculty, and so the match between teaching capabilities and

Egerton's needs probably improved over time. However, the disjunction between what the U.S. faculty expected to accomplish and what they actually were asked to do continued throughout the project. All evaluation reports indicated that there were fundamental tensions and difficulties with the technical assistance aspect of the project.

Part of this tension was created by the project's design. No external observer has yet agreed with the Project Paper assumption that doctoral-level faculty from U.S. research institutions were needed to replace Egerton staff, most of whom were sent to the United States to obtain BS or MS degrees. A mixed strategy involving employment of other East African scholars, some U.S. research scholars, and some U.S. technicians with BS or MS degrees might have better served Egerton's need. Hiring exclusively U.S. faculty with doctoral degrees and providing them with special perquisites in effect established them as a separate class of faculty on the Egerton campus.

Part of the tension was a result of the system used for managing this aspect of the project. Although the Principal and others at Egerton College began to exert more and more control, technical assistance was the only project component (other than book and equipment purchases) in which substantial management was exercised by individuals without a long-term stake in Egerton College.

6. THE MATCH BETWEEN MANAGEMENT SYSTEMS AND THE ONGOING OPERATION OF THE COLLEGE

As discussed in Section 2.1, the external problems of an educational enterprise relate to obtaining sufficient resources to hire good faculty and build an effective plant, recruiting able students, and eventually placing these students in good positions. Egerton College has not faced major problems in these areas, in part because of the relatively benign environment in which it has operated for several decades:

-- Egerton College's budget from the Ministry of Agriculture has grown steadily over the last decade. Prior to the establishment of the capitation fee, any deficits from one fiscal year were not charged against the College during the next fiscal year--the equivalent of having an open line of credit from a public source of revenue. Since the establishment of the capitation fee, the College budget has risen each year directly with increases in estimated enrollment.

-- The AID project provided essential loan funds for the construction of buildings and grant funds for faculty training.

-- Egerton College has had many more students applying for admission than could be admitted. Over time, the quality of the students at the College has risen steadily.

-- Egerton has faced a good job market for its students. Most of the graduates have obtained jobs with the Ministry of Agriculture or other public agencies.

In this relatively benign setting, the management systems of the several enterprises at Egerton appear to have been very well matched to their needs. Daily operational decisions have involved largely the various departments, farms, and physical plants. The staff at these levels are highly motivated to work effectively. Detailed knowledge of their resources and of the specific problems they are trying to solve exists at the departmental level, enabling those with responsibility for making operational decisions to have relevant information at their fingertips.

The Principal and other staff associated with the central management of the College have devoted their primary energies to the success of the expansion program and to ensuring that the external environment of Egerton remains as benign as possible. This focus of attention and major energies on the large, irreversible impact of major construction and training opportunities has been invaluable to the success of the expansion program.

Prior to the expansion, general operating practices for managing the College on a daily basis had already been established. These changed little during the course of the expansion. Because these systems were relatively well adapted to the problems facing the College, continuing to use them enabled top management to focus on the expansion and on major financial and resource allocation problems.

However, one flaw of the management strategies selected at Egerton is the lack of effective management information and financial systems at the central level at the College. (This lack of effective financial records is discussed in detail in Appendix D.) So far, this lack of central information systems and ways of aggregating meaningful data for major long-term decision-making for top-level management has not had adverse consequences. Middle-level managers, who are responsible for the daily operation of the College, do have effective information about the problems they are trying to solve. However, as

external resources become more limited and as the market for Egerton graduates becomes less assured, Egerton's present management systems will no longer be adequate to deal with the problems encountered.

Based on the team's observations, it seems likely that both top and middle management at Egerton College will respond well to the probable changes in external conditions. Because the incentives for all these participants led them to invest heavily in making Egerton College work, one can assume that they will seek new ways of reporting and aggregating operational data to obtain a better overall sense of resource allocation to complement the already finely tuned departmental-level knowledge of resource allocation.

APPENDIX D

FINANCIAL MANAGEMENT

1. INTRODUCTION

During the life of the project, 1979-1985, AID was to provide loan funds of $23,558,000 to finance the expansion of physical facilities; grant funds of $10,744,600 would be provided to finance the training in the United States of Egerton College staff and their temporary replacement by U.S. professors. The Government of Kenya was to provide funds totaling $11,378,400, principally to cover incremental staff salaries ($3.5 million); architectural and engineering fees ($2.3 million); construction and equipment ($0.5 million); general maintenance ($0.5 million); and meals, water, and services ($1.5 million). In the absence of annual balance sheets and income expenditure reports on Egerton College, the amount and source of funds applied during this period is not readily available except for the AID-supplied funds.

As of September 30, 1984, the remaining available balance of the AID loan funds amounted to $1,227,624; the grant funds were fully committed. The AID funds, both loan and grant, were largely handled apart from the Egerton College financial and managerial accounting systems. This may have been fortuitous because, as a review of the College systems showed, the financial and management systems in operation both before and after the project were fairly elementary. In the following sections, we review the sources of income for the College; the financial and managerial systems; the organizational arrangements for controlling finances; the authority for decision-making, financial control, and audits; and finally financial issues based on a brief review of the project from a management viewpoint.

2. SOURCES OF INCOME

The College has several sources of income: the capitation fee; income from fee-paying students; income from earning units such as the Tatton Farm, the commerical farm, and the dairy; interest on its investments; contributions from the Government of Kenya's development budget; and treasury subvention to cover deficits. The capitation fee is paid by the Government of Kenya because most students are sponsored by the Government and are, in effect, Government employees.

The capitation fee per student was set at 850 Kenyan pounds (£K) in 1975. In 1981 it was raised to £K1,714 plus a student allowance of £K198 (later reduced to £K78). The capitation fee is paid by the Government of Kenya on the basis of projected student capacity, which was 1,550 for FY 1983/1984 and 1,650 for 1984/1985. The total capitation fee (£K3,045,100 for the current year), unadjusted for actual enrollment or fee-paying students is paid to the College (50 percent in October and the balance in February).

In addition to the Government-sponsored students, the College has paying students sponsored by other governments, international organizations, religious groups, commerical firms, and individuals. Currently there are about 15 to 20 fee-paying students. Income from this source is about £K100,000 annually.

In addition to its campus facilities, the College has Tatton Farm and a commerical farm and dairy. The latest available figures for Tatton Farm show a net surplus of £K4,201 for FY 1982/1983 and a surplus of £K91,325 for the commercial farm for calendar year 1982. Available figures for the dairy, which is being expanded with the assistance of DANIDA, the Danish aid agency, show an income of £K64,574 for 1982/1983 and expenditures of less than £K500. For FY 1984/1985 the College estimates gross expenditure of £K3,156,710, to be funded by capitation fees of £K3,025,000 and miscellaneous income of £K193,110.

3. THE FINANCE DEPARTMENT

The Finance Department has a current staff of 62, compared with 22 in 1978 when the project began. It is headed by the Finance Officer, who is one of the financial administrators of the College (the others are the Principal and the Acting Registrar). The Finance Officer reports to the Acting Registrar and is assisted by a Chief Accountant. There are two sections under the Chief Accountant, each headed by an accountant: section one deals with debtors, salaries, stores, and cash; section two with purchasing, stationery, student records, and the machine room.

4. ACCOUNTING RECORDS, REPORTS, AND AUDITS

The Finance Department is run largely on Kenyan Government-type accounting lines, with emphasis on recording cash receipts and disbursements. Three operating bank accounts, each with a

cash book, are maintained to control the three major sources of funding, namely: the Kenyan Government Development Fund Account, the USAID Expansion Project Fund Account, and the College Recurrent Expenditure Fund Account.

There are, in addition, three main ledgers: a creditors ledger, a debtors ledger, and an impersonal or general ledger. An assets ledger is maintained in the Transport Section. All accounting records are manually maintained, with the exception of the monthly payroll and the debtors ledger. In June 1983 the College installed a computer to prepare the monthly payroll. The debtors ledger was automated in January 1984 and is now fully operational. The computerization of the creditors and general ledgers is under development. In the meantime, the two ledgers are maintained on two NCR visible ledger card accounting machines.

According to a consulting CPA, most of the College's non-cash accounting work is in arrears. At the time of his review in October 1984, published accounts of the College for the fiscal years ending June 30, 1983 and 1984 had not yet been prepared. He was also informed that the accounts for FY 1980, 1981, and 1982 had been prepared only in late 1982. The NCR machine ledgers were posted up to April 1984, or 5 months in arrears. This was reported to be delaying the computerization program because opening balances could not be fed into the computer.

After approval of the annual budget, all financial reports revolve around control of cash receipts and disbursements by funding source. A report is tabled at each meeting of the finance and general purposes committee and/or the Board of Governors, which shows all receipts and disbursements from the last meeting of the Board to the latest working day fees were receivable from paying students. The period covered by this report does not coincide with any calendar or fiscal year end period, nor does it include any information on future income or expenditures.

The College has a five-person Internal Audit Section. Audit reports prepared by this section are directed to the Principal through the Finance Officer. The emphasis of the audits is on accountability, with very little attention given to systems.

The College is audited externally by the Kenyan Government through the Controller and Auditor General's Office in Nakuru. Up to 1979/1980 this external audit function had been contracted to a private audit firm, but the audits since then have been undertaken by the Government office.

5. MANAGEMENT INFORMATION SYSTEM AND USE OF FINANCIAL REPORTS

As indicated previously, a consulting CPA reviewed the financial management of the College. He concluded that the bookkeeping, with the exception of cash transactions, was in arrears and that there was little in the way of formalized management systems. Once the College budget (for 1 year in advance) is presented and approved by the Board of Directors, the only reporting thereafter to the Board is the cash income and expenditures report. Monthly or quarterly financial reports are not prepared; the latest fiscal year-end report was prepared as of June 1982.

Prior to the beginning of a new fiscal year, the academic department heads prepare an estimate of their requirements, excluding personnel costs, for the coming fiscal year. Once the budget is approved, the department heads are notified; no status reports are prepared showing actual expenditures compared to budgeted amounts.

6. FINANCIAL ISSUES

6.1 Maintenance and Recurrent Costs

An appraisal of the host country's capacity and budgeting system for financing recurrent costs for all projects should be an integral part of each Project Paper. In implementing the project, AID did not give sufficient attention to the potential problems of maintenance and recurrent costs. The Project Paper clearly recognized the increased operating and maintenance costs inherent in the expansion of the physical facilities of the College. In fact, it estimated that recurrent costs as a result of the project would increase by about $2.4 million (in 1978 dollars) compared with recurrent costs of approximately $1.7 million for FY 1977/1978, the fiscal year prior to the project. The project agreement, executed by the Government of Kenya, stated that the Government would provide funding on a timely basis to meet the recurrent costs of Egerton College, including maintenance of buildings, by means of a regular adjustment of the economic fee, a Government subvention, or such other means as the Government and AID may agree to. The potential problem of recurrent costs was also emphasized in the Project Implementation Letters. The Kenyan Government, by a letter of March 31, 1979, reaffirmed its commitment to meet recurrent expenses resulting from the expansion of the Egerton College student body and facilities. Attached to the letter

was a rough indication of flow of funds, which was inadequate to assess the capability of the Kenyan Government to supply the required funds.

Although the Project Paper foresaw the need to provide funding for the recurrent costs, it did not provide a solution to the problem beyond the Kenyan Government commitment referred to above. This commitment was relied on by AID although the Project Paper stated that the Kenyan budget deficit for FY 1977/1978 was about $543 million and was estimated to continue at about $250 million annually for the 1979-1983 period. Moreover, neither the Kenyan Government nor Egerton College had at the time a budget system providing financial information for more than 1 year in advance. In addition, as the project progressed, insufficient attention was given to recurrent costs for procurement and for financial planning. It would have been desirable to have included estimates of the recurrent costs as an integral part of the feasibility study for individual components prior to making a final decision. For example, the construction of the Agricultural Resource Center was added to the project without full consideration of all its financial implications. The Kenyan Government in September 1983 requested an additional $1,975,600, including $700,000 to finance extension, research materials, kitchen and dining room equipment, and vehicles to support the activities of the new Agricultural Resources Center.

Maintenance problems are now beginning to surface, and sufficient funds may not be available to deal with them. The potential problem of maintenance and recurrent costs has long been recognized, for example, in the Project Paper and in the 1982 mid-project evaluation by the U.S. Department of Agriculture/Development Projects Management Center which stated a need for increased attention to upgrading maintenance procedures and personnel. Egerton College is now recruiting an engineer to oversee maintenance and has requested AID to finance the services of a consulting engineer, at a cost of about $200,000, to establish a maintenance schedule. Whatever decision USAID/Kenya makes on this request, it should be remembered that the Government of Kenya has assumed responsibility for maintaining the AID-financed equipment and facilities.

6.2 The Budget and Academic Management at Egerton College

Management decisions must be based on substantive data. These data require various degrees of aggregation and structure, depending on the level of the decision-maker. A principal is not concerned with the number of pencils purchased; he will,

however, want data sufficiently aggregated and organized so that he can monitor and plan for the use of all resources in order to maximize achievement of college objectives.

Egerton College achieved its broad objectives to a substantial degree in the expansion program. The issue here is how the budget system and the management information system, particularly regarding academic expenditures, contributed to this success. Data collection and distribution on the academic side of the College changed very little during expansion. The Principal has available a line item budget, but it is not useful for making programmatic decisions. It begins with "personal emoluments" and ends with "maintenance of buildings." The estimates for 1984-1985, for example, contain 28 line items, which are not grouped in any analytically significant way. Essentially, the system is built on a cash flow rather than a budgeting basis. This is useful in a fiduciary sense, so that spending does not exceed income, but it does not permit the College to plan for its needs in a programmatic way. This appears not to have been a problem to date because of apparently generous funding from the Ministry of Agriculture--needs were covered automatically by Treasury subventions as they were identified (resulting in many years in "deficits"). In effect, hard choices in resource allocation within the College did not need to be made.

What does this mean for the academic management of the College? The central administration allocates funds by department on the basis of the planned objectives of the College as determined by the Principal and his officers. The creation of a new marketing program to meet changing needs in the economy is one such instance; the new program in food technology is another. Yet, at the same time, with the rapid growth of enrollment, outside observers and some faculty at Egerton think that the practical side of the educational program has been diminished. This is an important change, if true, yet the academic budgeting system does not permit an evaluation of the allocation of resources between academic and practical subjects. Another change is increasing recurring costs, which require a different kind of programmatic budget. Still another change is the rising expectations of the faculty. As is true of all academic administrations under these conditions, the central administration will be as hard-pressed to understand the financial implications of faculty demands as it will be to explain its decisions on budget allocations to the faculty. In the long run, budgeting systems will need to be established that permit systematic, programmatic examination of how resource use is balanced against resource availability.

6.3 Project Management System

Insufficient attention was given in the project to financial and management issues. This has been manifested in several ways: failure to require the technical assistance contractor to submit quarterly financial reports; inadequate attention to the Kenyan Government budget process, budget deficits, and potential recurrent costs; inadequate attention to the budget process of Egerton College; and inadequate attention to the potential recurrent costs of the project. The individuals largely responsible for management of the project, from design through implementation, had engineering backgrounds. It is not surprising, therefore, that the construction component, which was successful and largely completed on schedule, tended to dominate management of the project.

6.4 Devaluation of Local Currency

During the life of the project, the Kenyan shilling was devalued, thereby making available significant additional local funds. These funds are being used to finance the construction costs in local currency of additional facilities (the Agricultural Resources Center, two lecture halls, and housing). The Agricultural Resources Center was not in the original project design plans. At issue here is what AID's policy should be regarding the use of loan funds to finance local costs of a project in the event of devaluation of the local currency. Handbook III is not clear on this point.

7. CONCLUSIONS

1. Given the physical expansion of the College, did the financial and managerial accounting systems constrain or facilitate the achievement of project objectives? In addressing this issue, it should be remembered that the expansion program had minimal impact on the accounting and management systems of the College. The cash accounting system was modified to accommodate the requirements of the project. A separate bank account and cash book were established to monitor and control AID funds for the project. AID checks were received and paid in and out of this account without being mixed with either Kenyan Government development funds or the College's recurrent budget fund.

Under the project agreement, the College had to submit regular reports on the status of construction activities. However, this did not necessitate a change in the accounting procedures; an extra report was simply prepared from the available data. In other words, the accounting systems for the College and the expansion program were almost completely separate.

In the short run, this system was adequate for contracting for and procurement of equipment and construction of facilities; however, the system did not provide an instrument for forecasting recurrent costs for operating and maintaining new facilities. The absence of such information meant that the provision of funds for maintenance of the new facilities and for payment of increased personnel costs was not given adequate consideration.

2. Does Egerton College have an accounting information system that will enable it to cope with future problems? This issue has at least three facets: staffing, equipment, and systems. The team concludes that the present staff, without additional training and without changes in their systems and support equipment, will most likely not be able to cope with the demands of the expanded institution.

APPENDIX E

HUMAN RESOURCES

1. INTRODUCTION

The most important "product" of Egerton College is its graduates--destined mostly to serve in the lower levels of the national extension service or to teach agricultural education within the elementary or secondary school system. In comparison with an American agricultural college, Egerton has a remarkably simple mission: it is a teaching institution producing a uniform product. Egerton does not have to balance teaching, extension, and research responsibilities. Nor does the College yet have to produce for a complex and diverse market, for example, government service, agrobusiness, farm managers, or graduate students.

The expansion project in no way altered this perception of the College's role, although subsequent events may encourage the emergence of a significantly more complex and diverse institution. For this analysis the important fact is that the project was conceived and executed within this clearly constrained set of management responsibilities. The possibility of moving to university status and of adding a research/extension capability certainly did appear during the project period and may have contributed to staff motivation, but there was no change in the actual functions or management load over the 5-year period.

In a teaching institution, the key activities take place in the classroom, in the labs, and in the fields. The key interaction is between the instructor and the student. The central coordinating mechanism is the curriculum. Teaching is inherently a decentralized "production" process in which the key resources are human--the students and the faculty. In this section we will examine the character of those resources and how they are organized and managed.

2. STUDENTS

2.1 Student Backgrounds

No socioeconomic study of Egerton College students was available, and the team did not have time to conduct one. However, informal discussions disclosed several student characteristics that may be important.

Students generally did not come from farm families. Although many lived in rural areas, the primary and secondary educational process itself probably separated them from intimate association with farm life. This impression appears to be at variance with the Government of Kenya/USAID 1982 manpower follow-up survey that found that 90 percent of agricultural students were from "rural or farm" backgrounds. Prior to 1966, students were required to perform 6 months of preentry fieldwork on an operating farm. It is generally felt by outside observers and former students that this experience helped to weed out those who lacked commitment to Egerton College's goals and philosophy. In these circumstances, the traditional, practical orientation of the Egerton College curriculum has probably been essential in providing students with an exposure, however brief, to farming.

Students did not appear to have come from wealthy families; in fact, many seem to have come from poor families who have benefited from expanding primary and secondary education. Many of the students are among the first in their families to attend college. This is important, because students appear to see Egerton College as an opportunity for upward social mobility and have historically worked hard to achieve that mobility. Graduates have a reputation for being hard working and disciplined.

The academic qualifications of students have been steadily rising since the expansion. The minimal qualifications for students entering from secondary school is an "O" level certificate (i.e., 11th year of schooling). In 1980, nearly three-quarters of the entering class was "A" level (i.e., 13th year of schooling), implying an academically stronger student body than in the past. On the other hand, because an "A" level certificate is the minimum requirement for entrance to a BSc course at Nairobi University, this may also reflect a student body with much higher aspirations. This may be the beginning of the widely reported frustrations Egerton College graduates find with the limited career opportunities in the extension service.

It has been Government and Egerton College policy to recruit a geographically diverse student body--reflecting the ethnic diversity of Kenya. One may assume, therefore, that Egerton College students represent a microcosm of the general population. Given the high value afforded political integration by national leadership this strong College commitment undoubtedly strengthens political support.

2.2 Student Selection

Before expansion, student selection had been handled by the Dean of Students. After the expansion began in 1981 and the paperwork load increased, a new post of Admissions Officer was added.

For discussion, the selection procedure can be divided into three components--preservice, in-service, and fee-paying students.

2.2.1 Preservice

Early in the calendar year, the Egerton College Department of Personnel Management sends out notifications inviting letters of interest from applicants and specifying minimum requirements. The Admissions Officer compiles a list of qualified candidates to whom application forms are sent in May. Of the approximately 4,000 people who send application letters each year, between 2,000 and 3,000 actually apply. Approximately 500 are accepted.

The Admissions Office organizes the applications by geographic region (for example, administrative district) and then by academic qualifications and primary preference for a course of study (diploma). Actual selection is made by a selection panel chaired by a representative of the Department of Personnel Management, with members from the Ministry of Agriculture and the Public Services Commission. Egerton College is represented by the Principal and the Registrar. Although the primary task of the panel is to ensure adequate geographical distribution of students, within each district the panel must also assess the qualifications of the top candidates for the limited number of places available in each diploma track.

The number of entrants in each diploma track is established by the Academic Board on the basis of existing facilities, staff, and presumed demand for graduates. Facilities are the constraining factors for many tracks. Presumably the Principal has some leeway at the margin to increase the number in any particular diploma if panel deliberations indicate the need.

2.2.2 In-Service

For applicants already in Government service (for at least 2 years), the Ministry of Agriculture has simply provided the Admissions Officer a list--without any rankings or academic, service, or geographical data. Given that the Ministry list may include as many as 800 applicants, this has been awkward. Agreement has now been reached that the Admissions Officer will prepare a standard application form for Government service applicants that contains basically the same information as that provided for preservice students, but with the addition of relevant service records. In-service candidates are processed by the panel together with other applicants, except that there is an in-service quota of 10 percent of total enrollments.

2.2.3 Fee Paying

Students whose fees are paid by foreign governments, foreign donors, parastatals, private firms, or private individuals are generally accepted automatically if they meet entrance qualifications.

2.3 Student Retention

We do not have exact information on the dropout rate, but it appears to be no more than about 2 percent per class. Nearly all Ministry-sponsored students go into Government service after graduation, although positions are no longer guaranteed.

2.4 Student Management

2.4.1 Manpower Planning

Planning for the Egerton College expansion began with an agricultural manpower planning study conducted by American Technical Assistance Corporation (ATAC) in 1978. The study identified a shortage of trained technical manpower as a critical constraint, among others, on progress in Kenyan agriculture. The increase in Egerton College enrollments from a level of about 600 (with 200 graduates a year) to the current capacity of 1,600 (with 500 graduates a year), which was financed by the AID project, was based on this projected need. The projection assumed a small but steady loss of trained manpower from the Ministry of Agriculture to the private sector, and increased demand for extension services occasioned by increased attention to the needs of small farmers and the semiarid areas.

Although the increased enrollment at Egerton College is consistent with the ATAC report and has been on target, it is not clear how the distribution of students across areas of study is determined. One official indicated that this was not really a problem because there was sufficient demand for virtually all specializations. Nevertheless, it is evident that the expansion in specific diplomas is <u>not</u> consistent with the projections of the ATAC report (see Table E-1).

Table E-1. Comparison of ATAC Projected Need and Actual Enrollment Increase, by Diploma Field

Diploma	ATAC Projected Need	Actual Increase
Agriculture	+36%	+61%
Agricultural Education	-60%	+92%
Engineering	-78%	+133%
Animal Husbandry	+68%	+115%
Animal Health	+270%	+25%
Farm Management	+165%	+14%

Enrollment variations from the ATAC recommendations have occurred in several fields. Two examples are engineering and agricultural education--traditionally strong departments at Egerton College but areas in which the ATAC report anticipated surplus production of graduates even at the 1978 level. The College administration reports continuing strong demand in these areas.

The 1982 Government of Kenya/AID followup agricultural manpower study provides additional data on demand for diploma holders:

1. A large demand for generalist managers (i.e., technical officers at the district level)

2. A secondary demand for training in the animal-related fields (animal husbandry, range management, and animal health), occasioned by the continuing interest in small farmers and semiarid areas

3. A diverse demand for small numbers of subject-matter specialists (e.g., dairy, forestry)

However, fiscal constraints may well reduce Government demand for Egerton College graduates in the near future. Even without fiscal considerations, the Ministry of Agriculture estimates that the need for diploma holders from Egerton College <u>and</u> Jomo Kenyatta College together will be less than 300 per year between 1984-1987; Egerton College alone should produce at least 500 graduates a year during this period. It is not surprising, therefore, that the Kenyan Government has recently announced that it will not pay the full fees of students nor guarantee employment in the future.

2.4.2 Student Advisory Services

The position of Student Counselor was established after the expansion. The current Student Counselor is also the acting dean and thus must often handle counseling as an "extra" load. He deals mostly with the hard cases, such as pregnancy and disciplinary problems. He feels that there is not yet much general understanding of his function within the College. Counseling positions are a very recent development in Kenyan institutes of higher learning, so both students and faculty have little understanding of what a counselor might do. There is only one counselor for 1,500 students.

Within departments, counseling is handled in various ways. Career counseling is not a big problem because most graduates are hired by the Government extension service. Academic counseling is most commonly handled by department heads, who report that the pressure of numbers is getting heavy. In some departments project supervisors (for 2nd- and 3rd-year students) double as advisers. Both department heads and the Counselor appear to seek out students who are performing poorly to counsel them and assist them in improving study habits.

There seems to be little attempt at advising students on the most appropriate diploma track to follow. Students have little information on the program when they apply, and the interview process no longer provides a mechanism for filtering out students and exchanging information. Transfers among diploma tracks are seldom made after the first month.

2.5 Post-Egerton College Experience

The most salient fact about postgraduate experiences has been the lack of positive financial incentives and advancement opportunities for the vast majority of Egerton College graduates who enter the extension service. Graduates from Egerton College in the early 1960s achieved remarkable success. However, the inheritance of the British-style civil service, with rigid boundaries between classes of public employees based primarily on educational qualification, has severely limited the upward mobility of Egerton College graduates within the Ministry of Agriculture for many years.

In 1976, a faculty member of the Education and Extension Department at Egerton College, Wycliffe Nyanjong Ongondo, completed a study entitled An Occupational Follow-Up Study of Egerton College Diplomates Working in the Ministry of Agriculture, Kenya. Ongando found that a very high proportion of

Egerton College diploma holders evidenced considerable satisfaction with their work, their colleagues, and the supervision they received. Many, however, were extremely dissatisfied with their current situation and future prospects. Of the 74 respondents who had graduated between 1963 and 1968, 72 percent were dissatisfied with their salary and 80 percent with their promotion opportunities. Of the 85 respondents who graduated between 1969 and 1972, 82 percent were dissatisfied wih their salaries and 75 with their promotional opportunities.[1]

Among the reasons given by respondents for their dissatisfaction with their salaries were the following:

> "The gap between the starting salary of the Diplomates and the University Graduate is too wide. The salary is not proportional to the work requirement." (p. 35)

> "The salary is too low compared with what the diplomates are paid in statutory bodies." (p. 42)

> "Too much work for the money paid. Starting salary too low especially when compared with the BSc starting salary." (p. 44)

Among the reasons given for dissatisfaction with promotions were the following:

> "No opportunities for further studies." "No promotions unless one goes back to study, which is also difficult to get." (p. 37)

> "Promotion opportunities are non-existent. Many diplomates who were employed many years ago are still in the same grade. Opportunities for further studies are negligible and there is no promotion unless one goes for further studies to attain a degree." (p. 41)

> "Promotion on merit does not seem to be very effective at the moment. It appears as if promotion opportunities are non-existent." (p. 44)

An Egerton College graduate employed by the extension service starts at a "G" grade and may remain at that grade throughout his or her career. University of Nairobi graduates start at a "J" grade and are automatically promoted to a "K" grade after 3 years. With a BSc degree, civil servants can be promoted to even higher grades in the service. Further, most of the opportunities provided by the Ministry of Agriculture for continuing

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[1]Ongondo, compiled from Tables 11, 13, 15, 16, and 18.

education (with 80 percent of regular salary provided) are for employees pursuing a Master's degree. Egerton diploma holders work side by side with University of Nairobi graduates, who spent 1 more year in school and who have more opportunities to move up within the Ministry. A further obstacle for the Egerton College graduate is that the University of Nairobi has not been willing to give any credit for college courses already completed by the Egerton College graduate who wishes to attain a BSc degree within Kenya.

Pressure on recurrent costs is making the extension service increasingly ineffective because of restricted transportation budgets. The situation may be alleviated in teaching and visitation districts, were the World Bank is, in effect, supporting recurrent costs and getting extension workers out into the field. The teaching and visitation system also provides extension workers with an opportunity to upgrade their skills and to have regular contact with researchers. However, it has done nothing to directly improve incentives, although some improvement in morale and psychic rewards may result from the better supervision, reporting, and increasing effectiveness.

2.6 Private Sector Opportunities

Egerton College appears to have no problem with the possibility of moving to a private sector, fee-paying clientele. Whether such a clientele exists remains to be seen. Egerton College students are highly valued by the private sector, and there has been a steady flow of graduates into private sector jobs, often after a period of Government service. But, there is little evidence that either the College or the students have a good sense of the market or well-developed private sector contacts. The College deals mostly with parastatals and the larger, formal sector agroindustries in which the Government has substantial interest. In addition, the labor market in the sector is affected by ethnic control, which inhibits employment and entry. Thus, moving into the private sector will be far from easy.

3. FACULTY MANAGEMENT

The expansion program had a significant impact on Egerton College teaching staff. In 1978, 79 teaching positions were sanctioned, of which all but 3 were filled. There were 51 faculty members with a rank of Assistant Lecturer or above. By March 1984, the number of sanctioned positions had grown by 85 percent (to 146 positions) while student enrollment had

increased about 136 percent. However, the number of filled positions rose only from 76 to 127, or by 67 percent, and the number of filled positions of a faculty rank (Assistant Lecturer or above) rose from 51 to 84, or 65 percent. Thus, the faculty teaching load has increased considerably as a result of the expansion. As the sanctioned positions are filled, current faculty will gain some relief from this increased teaching load, but the growth in authorized positions is not as great as the growth in the student body.

A total of 52 members of the teaching staff received academic training in the United States: 11 to the PhD level, 27 to MSc, and 14 to BSc. The distribution of training by department is shown in Table E-2. The largest numbers were in crop husbandry (10), animal science (8), and engineering (8). Table E-2 also shows the growth of faculty by depart- ment. Two new departments were added during the period: Animal Health and Forestry. In addition, new programs were developed within existing departments: ranch management in the Range Management Department and food technology within the Dairy Department. Proportionately, the largest expansion came in range management. Numerically, engineering shows the largest growth, followed by crop husbandry, biology, and dairy (with the new food technology program).

Table E-2. Growth of Faculty at Egerton College: Sanctioned and Filled Positions by Department, 1978 and 1984

Department	1978	1984
Animal Health	-	9 (8/5)
Animal Husbandry	11 (11/7)[a]	12 (11/7)
Biology	6 (6/4)	12 (9/6)
Chemistry	5 (5/3)	10 (9/5)
Crop Husbandry	8 (7/6)	16 (13/8)
Dairy & Food Technology	9 (9/6)	12 (11/7)
Economics	5 (5/4)	7 (7/7)
Education & Extension	9 (9/7)	11 (11/9)
Engineering	17 (15/8)	26 (23/12)
Home Economics	5 (5/4)	8 (6/5)
Forestry	-	8 (4/4)
Range Management	4 (4/2)	15 (15/9)
	79 (76/51)	146 (127/84)

[a]The first number within parentheses is the total teaching staff actually employed; the second number is the number of employed staff who are Assistant Lecturers or above.

3.1 Teaching Load

No reports on the relative teaching loads over time and by department had been prepared at Egerton College. In our general meeting with department heads and in individual interviews, department heads reflected their concerns about the effect of the increased teaching loads on their staffs. In both the Agricultural Education and Extension and the Home Economics Departments, the number of students taking diplomas has doubled while the teaching staff has increased only by two new positions in each department. In both departments, the ratio of students to faculty (Assistant Lecturers or above) is approximately 20 to 1, which is somewhat higher than the College average of approximately 18 to 1.

Department heads indicated that faculty were in the classroom between 12 to 15 hours per week. This contrasts with typical classroom contact hours of between 6 and 8 per week for faculty teaching at major research-oriented and advanced degree granting institutions in the United States, but is consistent with teaching loads in predominantly teaching institutions; however, it does not include practicum supervision time. Department heads are not given released time for their administrative duties. When basic courses are covered, department heads may be able to assign themselves a somewhat reduced load. However, during and immediately after the expansion program, all faculty have had to take on even larger than normal loads during some semesters. When the curriculum requires particular courses to be taught and new staff have not yet been added, current teaching staff must take the extra load. Contact hours of up to 20 per week for some faculty members during difficult semesters were reported by department heads.

In coping with their increased loads, faculty members have had to change the way they approach examinations and written work. Prior to the expansion, faculty expected students to write reports on their practicals as well as on the field training; seminars were held midterm, and a final examination was given. Weekly quizzes have tended to disappear in recent times, and faculty do not assign as many written reports. Faculty are no longer able to attend each other's seminars and so have lost some of their in-depth knowledge of what is going on in parallel courses.

3.2 Turnover and Promotion of Faculty

Given the large number of new faculty hired and normal turnover, the teaching staff at Egerton College is remarkably stable. Of the teaching staff employed in 1978, 67 percent are

still employed by Egerton College (see Table E-3). Forty percent of the teaching staff employed in March 1984 had worked at Egerton in 1978. In half of the departments, almost 50 percent of the current teaching staff were employed prior to expansion.

Stability at the faculty level is increased by the lack of substantial turnover at the department head level. In all departments except forestry (which was created during the expansion), the current department heads were on the faculty prior to the expansion. Seven departments are headed today by the same individuals who headed them before the expansion.

Department heads are all quite young and provide vigorous leadership. The head of the Dairy Department, for example, has the second longest tenure at Egerton College among the faculty, and he has been employed 16 years. Most department heads and faculty are less than 45 years old.

Table E-3. Stability of Egerton College Teaching Staff

Department	Number of Teaching Staff in 1978	Percent Still Employed	Number of Teaching Staff in 1984	Percent Employed in 1978	Percent Who Are Egerton Graduates
Animal Health[a]	-	-	8	50	25
Animal Husbandry[a]	-	-	11	55	64
Animal Science[a]	11	82	-	-	-
Biology	6	50	9	33	11
Chemistry	5	60	9	33	0
Crop Husbandry	7	71	13	38	69
Dairy & Food Tech.	9	56	11	45	45
Economics	5	80	7	57	43
Educ. & Extension	9	44	11	36	27
Engineering	15	80	23	52	26
Home Economics	5	60	6	50	66
Forestry	-	-	4	0	0
Range Management	4	50	15	13	62
Total/Average	76	63	127	39	37

[a]The Animal Health and Animal Husbandry Departments were created from the Animal Science Department.

Sources: Egerton Agricultural College Catalog, 1978-1982.
Egerton College Staff List, March 1984.

The practice of employing some of the best Egerton College graduates as demonstrators (or as lecturers when they have obtained a higher degree) also adds stability to the teaching staff. Of the 77 new staff members added since 1978, 28 (36 percent) are Egerton College graduates.

Faculty who went to the United States for degrees were bonded, so their short-run mobility was restricted. All returned, with the exception of one who died and one who married another Kenyan in the United States. Of those who returned, only one did not complete the degree program for which he was sent.

We were told that every faculty member whose credentials were upgraded as a result of the USAID project received a raise in salary commensurate with his/her new credentials. In addition, a number of faculty demonstrators who secured their BSc degrees have been promoted to lecturers. The expansion of the College, including the addition of new departments and programs, has provided advancement opportunities for senior faculty who have secured advanced degrees and for some who served in management positions in an acting capacity during the expansion. All in all, then, opportunities have been plentiful.

4. SUPPORT STAFF

The College has a large support staff. In 1979, there were 854 middle- and subordinate-grade support staff. Between 1979 and 1984, 630 additional staff were added, an increase of about 75 percent. This increase appears to be consistent with the increased numbers of students and faculty and the expansion of the physical plant.

The most striking feature of the management of support staff is the decentralization of control. The Senior Executive Officer manages this side of the personnel system but appears to respond to departmental requests. Actual recruitment is channeled through a recruitment committee to the Registrar. There does not appear to be any systematic manpower planning or any comprehensive review of the staff costs of various operations. Departments control the day-to-day supervision of their staff, initiate personnel actions, and maintain their own stores of equipment.

The major management problems associated with the expansion seem to have been a shortage of housing (for the first time the College had to rent accommodations) and an increase in personal problems characteristic of a rapidly growing college community.

There seems to be a general feeling among College management that the College has been relatively free from outside interference in personnel decisions and that to date the College has been able to deal with its discipline problems and recruitment needs without responding to outside pressures.

5. CURRICULUM

The curriculum is established by a curriculum committee of the Academic Board, which meets intermittently--basically every 5 years as the curriculum is revised. Currently there are 16 diploma tracks. A diploma course is three 12-week terms over 3 years. Once in a diploma track, a students has no electives.

5.1 Curriculum Reform

The core curriculum has remained basically the same since before the expansion. The College has consciously resisted pressures for change. Department heads confirm this by reporting that it is very difficult to get the Academic Board to make any changes in curriculum. The opinion expressed by College management was that they had a good curriculum that served its clientele well and that it should be changed only gradually in response to demonstrated need. It should be noted that this was a point of contention with the U.S. technical assistants and was critically commented on in the final evaluation report. The U.S. staff believed that they should have had a greater role in curriculum development. The clear position of the College, however, was that the Americans were there to teach. Although they could determine the content of their own courses, within reason, and were expected to feed input into the curriculum development process, like any other faculty members they had no special role in this matter.

This discussion should not suggest that the curriculum was "stagnant." Several department heads pointed out that, as in any other institution, the content of the individual courses was constantly being revised with input from the departments, field visits, and feedback from the Ministry. Since 1978 there have been several minor changes--a few new courses have been added, and courses have been split or merged. In addition, several new diploma programs have been initiated. Currently, the addition of a BSc program has been proposed by the College, approved by the Academic Board, and is awaiting Government approval.

5.2 Textbooks

At one time, the Kenyan Government had provided Egerton College with a textbook allowance to establish a pool of texts that could be loaned to students on a rotational basis. This was abandoned for fiscal reasons unrelated to the expansion. It was anticipated, presumably, that the library expansion would permit the College to move to a library-based reading system. Unfortunately, the initial planning for the library did not include purchase of books (so far as we can tell), and when the decision was made to procure an extensive library, it was never intended that it would serve as a textbook repository (i.e., with multiple copies of textbooks). The result has been that much class time is taken up with dictating notes to compensate for the lack of textbooks. Through the years, the possibility of establishing a College bookstore where students could buy books has been consistently discussed. Originally planned to be included in the library, it is now under construction as a separate building. However, the costs are likely to be prohibitive for most students. This lack of textbooks represents a serious constraint on student learning and study efficiency.

5.3 Practicums

The practicum has been the most valued aspect of the Egerton College experience--or at least that aspect that differentiates Egerton College from alternative institutions. Although the Ministry of Agriculture, in which service is based on highly formal academic criteria, does not permit promotion of Egerton College diploma holders without further training, it is clear that supervisors in both the public and private sector value this practical orientation highly. But there is almost universal concern that the pressure of time and numbers (and perhaps an increasingly "academic" orientation) is gradually (but not dramatically) weakening this practical orientation.

The problems are many:

1. The practicums are very staff intensive, and many faculty feel that they simply do not have the time to do the job properly or that the burden of contact hours is excessive.

2. The pressure on faculty demonstrators is great. Many departments, having upgraded their existing demonstrators under the expansion program, must now use lectur-

ers for that purpose. This is not necessarily a drawback, but may not reflect current faculty aspirations.

3. The pressure on equipment is considerable. It appears to be most serious in the basic sciences, which serve all students. The increase in equipment in these departments may not have been sufficient to service the labs.

Not only are there problems with the practicums offered at Egerton, but the field attachment system is also under pressure. The field attachment comes between the second and third years, when students are sent to a district for 6 to 8 weeks to work with extension officers on a farm. They help with the management of a field office and write a report. Both department heads and the Student Counselor, who is responsible for aspects of the administration of the field attachment, indicated that it is difficult to place more than 400 students at one time. Faculty must also read more than double the number of field attachment reports, all submitted simultaneously.

At this stage, the departments appear to be coping, but it is important to remember that the College is still operating about 100 students below capacity. Further, about 20 staff positions are vacant and several faculty are still on study leave. When the College is fully staffed, that problem may be reduced, but it is evident that the departments will have to give increased attention to dealing adequately with the practicum problem and that they may require assistance from College management in doing so. College management reports that 60 percent of student/teaching time is still devoted to practicums and that adequate efforts have been made to maintain the effectiveness of the field training.

6. MANAGEMENT OF PARTICIPANT TRAINING

The management of the participant training was one of the strengths of the expansion effort. The following points are clear from the project evaluations and our own interviews.

-- The participants selected performed well and finished their degrees in near record time. This speaks well for the selection process, student supervision, and, above all, the students themselves.

-- Due to the high performance of participants, it was possible to send additional participants using the

savings on maintenance and tuition allowances. This shows evidence of tight management of the training process.

-- The key to the performance on participant training would appear to have been the quality of Egerton College management. Several practices contributed to the result: (1) training goals were clearly established and enforced, and participants and their American advisers were well informed about the tight time schedule; (2) students seem to have been exceptionally well motivated both to perform well and to return, and the College made a special effort to keep faculty informed and involved in College affairs during their training--including a regular newsletter; (3) the Principal and the Ministry of Agriculture Project Manager visited the U.S. campuses annually to meet with students and supervisors and to review progress and programs, which helped maintain Egerton College management control over the process.

7. MANAGEMENT OF TECHNICAL ASSISTANCE

7.1 Cost and Use of Technical Assistance

Both the mid-project evaluation and the final project evaluation were highly critical of the management of the technical assistance provided under the project. The major concerns expressed in the evaluations were the following:

-- Cost: It was argued that the cost of replacing Kenyan faculty with American staff, mostly at the PhD level, represented an unnecessary drain on project funds. This was particularly the case because the Americans often replaced lecturers who would not ordinarily have held advanced degrees.

-- Use: It was also suggested that because it was Egerton College policy to use U.S. faculty only for teaching, they were not used as fully as possible. The evaluations suggested that both the controller and Egerton College management failed to get the most out of the talent they brought over.

It is clear that the American staff had little impact on the College--whether in curriculum, management, or general orientation. The sense is that they were socially isolated and did not mix well. Part of the isolation of the technical

assistance staff may have resulted from AID recruitment policies. Housing units, which were specially built for the U.S. faculty members, were equipped with large, American-style electric appliances, which would not even be appropriate later (after the technical assistants return home) for use in the home economics laboratories. Because the American technical assistants received a hardship allowance as well as their regular American salaries and were allowed to bring their cars and other household items, they exhibited a level of wealth far above that of their Kenyan colleagues. Kenyan teaching staff felt restrained in inviting the American staff to their far more humble homes. Some of the American technical assistants were able to break out of this walled existence, but most of them lived in social, and to a large extent, intellectual isolation--a loss for the American technical assistants and for the teaching staff at Egerton College.

A highly placed Ministry of Agriculture official told us early in our trip that AID regulations themselves sometimes led to perverse consequences. Whereas sending Kenyan's to the United States for training was a very efficient and effective strategy, in this official's opinion bringing expatriates to Kenya was not. American funds were being used to pay Americans to serve in Kenya, and the cost was usually far greater than alternative ways of accomplishing the same objectives.

Some of the technical assistance staff had skills that were greatly prized by their Egerton College associates. One of the technical assistants planned the landscaping for the College, at a great savings over what a design architect would have charged. Further, his design involved local plants that could be grown in their permanent positions or in Egerton's horticultural fields. The beauty of the campus continuously lauds the success of this technical assistance.

At the other extreme, one of the technical assistants was brought over without a clear idea of what he would teach. He was finally assigned to teach nutrition in the Home Economics Department. The current department head returned from her own overseas training to find that he had devoted a large portion of a key course to the nutritional means of preventing heart disease--hardly a major concern in Kenya. The students who had been instructed by this technical assistant for 2 years were all given supplemental course work during their second or third year at Egerton College so that they would have the appropriate training to pass their comprehensive examinations and handle their initial work assignments as home economics officers in the field.

In general, the technical assistants were probably competent. But the match between the needs of the College and the expectations and skills of the technical assistants was not as great as it should have been.

The evaluation team was inclined to support Egerton College's management style. The College wished to avoid a major disruption during the expansion and chose to focus its attention on the physical expansion and the participant training. It seems unlikely that the College could have maintained its institutional integrity and management control if it had attempted any major academic reforms--leaving aside the question of whether such reforms were needed. In addition, by restricting the Americans' role, the College management provided management experience for its mid-level faculty who moved into acting management positions with the departure of their senior colleagues. This has produced a depth of management experience, a sense of confidence, and a level of participation in department management that is unusual in institutions in developing countries.

7.2 Management of Construction

U.S. assistance in planning and implementing construction appears to have been generally of high quality. Construction was finished on time, without the allegations of malfeasance one frequently finds in major construction efforts, and produced a high-quality product. However, the U.S. technical assistance on the physical side had little impact on the fiscal and management systems of the College. Basic procedures remained the same, and the U.S. engineer adopted a highly personal management style that got the job done but did little to institutionalize improved management practices.