

Range Management Education in Kenya

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Kenya is a land of contrast. It is about the size of Texas, covering 224,960 square miles. The southwestern 1/3 of the country is elevated to form plateaus, highlands, and mountains that rise as high as 5,200 m at Mt. Kenya. Arcing from the uplift are low plateaus and plains that decrease in elevation to sea level at the Indian Ocean on the East and less than 450 m at Lake Turkana on the North. Faulting and differential rock movements have formed the great Rift Valley, which is slowly dividing Kenya from Lake Turkana southward to Tanzania (Kaplan et al. 1976).

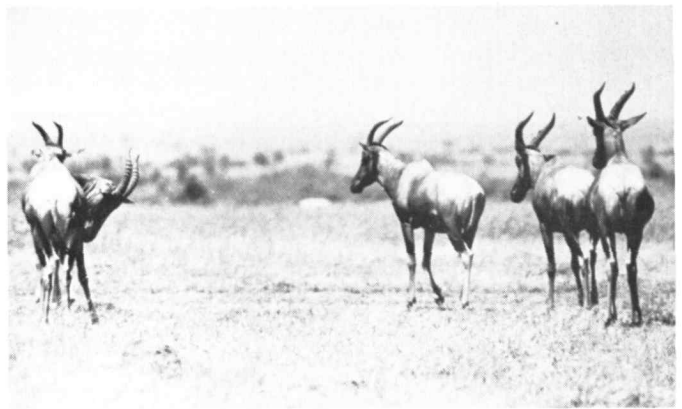
The vast and abrupt changes in topography, seasonal shifts of the northeast and southeast trade winds, and shifts in the equatorial low pressure belts produce great geographic variation in rainfall. Consequently, about 80% of Kenya is classified as rangeland. Much of this land is subject to severe grazing pressure during the frequent droughts and needs restoration (Pratt and Gwynne 1977).

Rapid increases in Kenya's population magnify the importance of the range resource. Rangelands will be increasingly taxed to meet the demands of a population that is projected to double its present 15 million people by year 2000. Red meat and other products of domestic animals are only part of the production from the rangelands of Kenya. The magnificent wildlife of Kenya is predominately on the rangelands, and Kenya's tourist industry, which is based on wildlife, accounts for a major part of the foreign exchange earned. The wise management of these resources is recognized by the government of Kenya.

Although research in range management in Kenya was established several years before Kenya's independence in 1963, formal education in range management began only 17 years ago. In 1966, the Government of Kenya assisted by the United States initiated a 3-year diploma program in range management at Egerton College at Njoro. The next year, a 2-year certificate program in range management was started at the Animal Health and Industry Training Institute (AHITI) at Kabete, and in 1980 the first students were accepted at the University of Nairobi for a 3-year degree program in range management. Thus, today, the 3 levels of training are certificate, diploma, and bachelor of science. The purpose of this article is to discuss the structure of these programs and the role that each has in the development of range management in Kenya.

Certificate Program

This educational program in range management is a 2-year program which trains range management assistants. Other programs are also offered in animal health and hides and skins improvements. Students are sponsored by the Division of Range Management within the Ministry of Livestock Development which also furnishes the faculty.



Topi on the Masi Mara Game Reserve, Kenya.

The range management department at AHITI selects approximately 46 students annually for the 2-year program. Selection of students is based on examinations and interviews and, as with other programs in higher education, competition for openings is keen. Two thousand or more applicants are interviewed annually for the 130 positions in the 3 programs at AHITI.

The curriculum in range management at AHITI is oriented toward practical field experience (practicals). Practical account for over 50% of the course hours, and over one half of these are extended field assignments at research stations and extension centers. Practical are emphasized because the range management assistants are expected to perform much of the field work in the districts to which they are assigned. More than one half of the 2-year curriculum consists of range management courses with the major share of the remainder being courses in animal science, management, and extension. One could conclude that the curriculum adequately addresses range management, but support courses are few since there is only one supporting department. In the field, AHITI students are recognized as being

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Cattle and herder on semi-arid rangeland near Machakos, Kenya.

well-trained range management assistants (Dwyer and Box 1978).

Upon completion of the certificate program, the graduates are posted primarily as range management assistants to district officers. Although duties and locations of assignment of these graduates may be similar to that of the graduates in range management from Egerton College, the graduates of AHITI are posted at a lower level and considerably less salary.

Faculty at AHITI are selected from field personnel positions within the Division of Range Management. Field experience is assured through this procedure, but the level of technical and academic training in range management is often low. The staff at present consists of 4 lecturers of which only 1 holds a B.S. degree and 3 demonstrators who teach practical exercises. The other 3 lecturers have diplomas from Egerton College and the demonstrators hold certificates from AHITI. It is evident that the qualifications of the staff need to be upgraded. With the new degree program at the University of Nairobi, staff improvement should be more easily accomplished than previously when all B.S. level training was overseas.

Diploma Program

Diplomas in range or ranch management are offered at Egerton College. Egerton is a 3-year agricultural college with diploma programs in 16 agricultural specializations. Although training in extension is emphasized, some of the students in ranch management will be employed as managers of government or private ranches.

The student enrollment at Egerton has increased from

approximately 700 in 1979 to 1,260 in 1982. As a result of an ongoing expansion program sponsored by the United States Agency for International Development and directed by the Southeastern Consortium for International Development an enrollment of 1,650 is projected for 1983-84. In range management the annual intake of students has increased from 30 to 60 students. Another program, ranch management, which began in 1980 will graduate around 20 diploma holders annually. This sharp increase in range and ranch managers will meet the plans of the Ministry of Livestock Development to upgrade lower level field positions and allow for loss of some personnel to the private sector and to foreign development projects.

Presently, 5 lecturers and 3 demonstrators are employed in the range and ranch management programs at Egerton. Of the 5, 1 has a Ph.D., 1 has a Master's degree, 1 is completing a M.S., and 2 have a B.S., all in range management. The demonstrators hold diplomas in range management. Staff qualifications are presently being upgraded with the U.S. AID support program, with the minimum requirements of a M.S. for lecturers and a B.S. for demonstrators by 1985. Thus, staffing is adequate for the expanded enrollment, and qualification requirements are good.

Students are selected for the range and ranch programs from all provinces in Kenya, although the majority are from pastoral regions. Selection is based on examination scores and interviews. Since Kenyans are acutely aware of the advantages of higher education, competition for the limited enrollment is very keen. About 10% of the enrollment at Egerton consists of students from African countries other

than Kenya. The Division of Range Management within the Ministry of Livestock Development sponsors each of the Kenyan students and requires 2 years employment after graduation. Foreign students are usually sponsored by a development program within their home country.

The 3-year curricula in both range and ranch management programs are rigid. There are no electives or other flexibilities, and all students of an incoming class will take the same courses for their respective program during the 3 year program. Like the program at AHITI, the program at Egerton emphasizes practical experience. More than twice as many hours are assigned to practicals as to lectures and this does not include the July-August field attachment in the second year. Otherwise, the curriculum is similar to that of the University of Nairobi or a typical range management program of a university in the United States.

The field attachment consists of range and ranch practices for 6 weeks in July and August at the end of the second year. Range management students are attached to district range officers who assign the students various duties to gain practical field experience. Ranch management students are assigned to ranches. Although guidelines are established and student evaluations are conducted by the staff of Egerton, the quality of the practical training largely depends upon the motivation and interest of the district range officers and ranch managers.

Upon graduation from Egerton, diplomats in range management are assigned as assistant range management officers in extension or planning. Periodically, a few graduates are placed with the National Range Research Station, Kiboko. Diplomats in ranch management are assigned as assistant ranch managers to ranches or to the extension service.

The young range managers face formidable problems. Most likely, the assignment is in a remote area where housing, schools, food, and water may be inadequate. Lack of security, different tribal customs, scarcity of equipment and fuel, and a host of other problems may severely limit new appointees in implementing needed range improvement programs.

Bachelor of Science Degree Program

The University of Nairobi will graduate its first B.S. in Range Management in 1983. In spite of the great need for range management throughout the continent, a B.S. program in range management did not previously exist in Africa. Previously, Kenyans were trained at the B.S. level overseas, in the United States, Canada, and Australia. Dwyer and Box (1978) stressed the need for a B.S. program in range management at the University of Nairobi, and their recommendations were implemented 2 years later with the enrollment in 1980 of the first range management class at the University.

The 4 faculty members of the Department of Range Management at the University of Nairobi are well trained. Three hold Ph.D's and 1 is in graduate school in the U.S. In addition, the department has 2 technicians who help with laboratory and field exercises. With a projected annual new enrollment of 20 students, the faculty-student ratio is quite good.

Students are chosen on the basis of examination scores and interviews. Each student in range management is sponsored by the Ministry of Higher Education. The 3-year curriculum is rigid with little opportunity for electives. Courses required in range management are similar to those at AHITI

and Egerton College and follow the recommendation of Dwyer and Box (1978). However, recent correspondence suggests that revisions are being considered. Requirements in supporting courses are also similar to those of Egerton College. The breadth and depth of supporting departments at the University, however, should produce range managers more broadly trained than the graduates of Egerton College. Practical applications and experiences in ranch practices are emphasized during a 9-week assignment to ranches or experiment stations. The 3-year curriculum is comprehensive and should meet the range management education needs of Kenya as well as other African countries.

Problems

Kenyan institutions do not accredit the courses of lesser degree programs than their own. AHITI graduates entering Egerton College, therefore, do not receive credit for course work completed at AHITI and, similarly, the University of Nairobi does not give credit to Egerton graduates. Most universities in the United States readily accredit Egerton graduates with 60 to 70 hours course work. Such repetition of training with the increase in time required does not seem to be in the best interest of a developing country.

Library facilities and textbooks for range management are inadequate at all 3 institutions. There is little variety in reference material and all books are difficult to obtain. Because of high demand, most textbooks are kept in the library with limited availability. At Egerton, the expansion program will improve library facilities, but the availability for textbooks will likely remain a problem for all institutions in Kenya.

Unity and purpose could be improved with a professional society (Dwyer and Box 1978). The once active East Africa Section of the Society for Range Management was discontinued in favor of an independent Kenyan association for range management, which has had difficulties in establishment.

Summary

Kenya has a strong and well-developed system for training range managers. Egerton College and AHITI have produced range managers at the diploma and certificate levels, respectively, for 17 years. Many of these graduates have completed degrees in range management in the United States, Canada, and Australia. Today, they fill many of the positions of leadership in African range management. The University of Nairobi has the capabilities to develop very strong B.S. and graduate programs in range management which, along with Egerton College and AHITI, will make Kenya the center of range management education in Africa. However, the problem at the University of Nairobi and Egerton College of not recognizing coursework of lesser degree programs than their own should be addressed and solved.

Literature Cited

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