THE PERCEPTIONS OF EGERTON UNIVERSITY AGRICULTURAL EDUCATION GRADUATES ON THE RELEVANCE OF THEIR PRE-SERVICE TRAINING TO THEIR JOB PERFORMANCE: A CASE STUDY OF NAKURU DISTRICT, KENYA.

BY

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DECLARATION

This thesis is my original work and has not been presented for a Degree or Diploma in any other University or College.

Signed _____ 22/4/04

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RECOMMENDATION

This thesis has been submitted for examination with my approval as University supervisor.

Signed _____ 22nd April, 2004

Prof. N. J. KATHURI. Date

DEDICATION

Dedicated to my children Uchi, Fundi & Mzungu, the constants under all circumstances, and to my late husband Mwadiga, for his support.

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ABSTRACT

Egerton University is one the institutions that train Agriculture teachers in Kenya, through the programme of Agriculture Education and Extension. Such an exercise is, therefore, necessary to reveal the adequacy of the Agricultural Education and Extension curriculum that prepares these teachers for teaching agriculture in secondary schools. The purpose of this study was to determine the relevance of the B.Sc. Agricultural Education and Extension Pre-service Training Programme to Job Performance of the graduates from Egerton University. An ex post facto research design was used. A sample size of 110 agriculture education graduates was to be used in the study, which was selected using multistage cluster sampling procedures from four divisions among 15 administrative divisions of Nakuru District. These graduate teachers were to be selected from 55 secondary schools distributed in four administrative divisions. However, only 13 teachers were found to meet the Agriculture Teacher characteristic, out of which only 11 were used. The researcher used questionnaires and observation schedules, as the key data collection tools. The questionnaire was pre-tested in 11 schools found in Mombasa, Kilifi and Kwale districts of Coast Province. The questionnaire was self- administered. Observations were made during the first or second visit to the schools. The collected data and information was analyzed using descriptive statistics. Findings of the study indicated a lack of balance between agriculture and biology in the training programme, which was said to be inclined more towards agriculture than biology. Some courses were deemed irrelevant towards teaching of agriculture and biology in secondary schools. Areas of importance such as HIV/AIDS were found wanting in the programme. Thus, it was recommended that the whole curriculum of the training programme be reviewed in line with the findings.

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1.0 INTRODUCTION

1.1 Background Information

Agriculture teachers are some of the key disseminators of agricultural knowledge and skills to the national population. It is, therefore, necessary to investigate the relevance of the Pre-service Training Programme of Agricultural Education and Extension to job performance of the graduates. The Government of Kenya has continuously placed emphasis on agriculture through various ways, one of which is to supply trained manpower to ensure increased food production (Government of Kenya, 1986). Through the supply of a well trained work force, which disseminate appropriate agricultural knowledge and skills to the youth in secondary schools, agricultural education curriculum forms the main conduit through which new technology is passed on to the future farmers of Kenya.

It is assumed that expansion of the agricultural sector will ultimately result in enhanced national development (Ministry of Education, 1992). One way, through which agricultural expansion and hence national development can be achieved, is by the provision of education and training in agriculture through schools, colleges, universities, and agricultural extension, including the youth clubs (Mosher, 1971). The 8-4-4 system of education in Kenya emphasizes teaching and learning of agriculture in schools, with a major objective of providing to the learners, the practical knowledge and skills necessary for improved agricultural production (Ministry of Education, 1992). However, increased productivity depends largely on a population that is well equipped with the appropriate knowledge and skills, relevant to the time. This in turn depends on the quality of the curriculum content used during the training process.

Since approximately 80% of the total Kenyan population lives on income from the land (Government of Kenya, 1997), it is evident that agricultural education is vital for these citizens to enable them to produce enough food for their basic needs. This is only possible if appropriate

media for disseminating information on agriculture exists. Teaching of agriculture in secondary schools forms one way through which agricultural information is disseminated. Therefore, teachers must be competent in their job in order to act as effective disseminators of this valuable knowledge. It is, therefore, the objective of Egerton University to train personnel who can effectively communicate agricultural knowledge and skills to the target group (Ong'ondo, 1976).

In today's ever changing and increasingly demanding job market, the single most significant challenge for all organizations is on how to improve performance (Baguley, 1994). Stakeholders are concerned with positive performance, which will provide the opportunity for those who work for these organizations to have choices about bigger, more significant, and even radical changes in the ways in which their work is carried out. However, there is a technology lag. Whilst our appetites for modern goods and services are only too conspicuous, most of our industries are dazzled by the phenomenal technological growth and chances around them (Ministry of Education, 1995). They no longer address the needs of the modern society and the fast moving industrial sectors. It is, therefore, clearly evident that this study was necessary to address this technological lag. This was achieved through a study of the perceptions of B.Sc. Agricultural Education and Extension graduates of Egerton University, with regard to the relevance of their pre-service training towards their job performance.

A job is a collection of tasks performed in support of organizational objectives, while performance is viewed as an overall rating of how well the firm is doing (Huber & Glick, 1995). Perception on the other hand, is the process by which individuals organize and interpret their sensory impressions in order to give meaning to their environment (Nzuve, 1999). It is a fact that the standard performance of a teacher is a reflection of the standard of training in the college the teacher went through. Therefore, teacher-training institutions must provide a conducive environment, which a teacher may try to recreate in the school where he/she is posted to teach (Ministry of Education 1995). This is only possible through establishment of a relevant curriculum, which encompasses all aspects of teacher preparation towards job performance. The only way to achieve such a curriculum was by review of the same, based on empirical data

collected from practicing graduate teachers who have first hand information on the relevance of their training to their job requirements. Through this, agricultural education curriculum would be harmonized with the demands of the consumers of the agricultural knowledge, aimed at achieving national development.

Teachers constitute one of the most important groups of people whose services are required for the achievement of education goals. Without teachers, very little learning may take place. They are crucial in the implementation of Education for All, at all stages and all cycles (Karim, 1995). The government programmes on teacher education therefore, aim at providing qualified teachers and are, therefore, central to ensuring the provision, expansion and maintenance of quality and relevant Education. The quality of education in any country is the manifestation of the quality of those who prepare and provide it (Ministry of Education, 1995). The role of training institutions, therefore, is crucial in nurturing and shaping those who implement education programmes. Egerton University is one of such institutions.

Performance of any job depends jointly upon employees' ability and motivation. According to the contingency approach to performance effectiveness, effective performance depends upon the proper match between the individual and the job (Mitchel & Larson, Jr., 1987). To accomplish this in agriculture teaching, the agricultural education pre-service training programme must be carefully analyzed so that its requirements are thoroughly understood. All this is geared towards a satisfactory preparation of the agriculture teacher, who is a change agent.

1.2 Statement of the Problem

Due to the importance of agriculture to the national economy, there is need to evaluate the agricultural education and extension pre-service training programme at Egerton University, so as to determine the relevance of the programme to teaching of agriculture and/or biology in secondary schools, a task which graduates of the programme are prepared to perform on completion of their training. Since the inception of the B.Sc. programme in Agricultural Education and Extension in 1986, at Egerton University, more and more agriculture teachers

have been trained, with several internal reviews of the training curriculum, but none of these reviews took into account the graduate teachers' views about the relevance of the programme to their work. Several studies related to the curricula have also been done. However, such studies lacked in first hand information about the relevance of the pre-service degree training programme to job performance of the graduates. There was, therefore, a pressing need to investigate the perceptions of the graduate teachers in the field, so as to determine the relevance of the training programme (curriculum) to their teaching of agriculture in secondary schools (Job performance). This was necessitated by the fact that agriculture teachers come into contact with a large portion of the national population in a dynamic economic sector, through their progressive years of employment; hence their views cannot be overlooked.

1.3 Purpose of the Study

The purpose of the study was to investigate the perceptions of B.Sc. Agricultural Education and Extension graduates of Egerton University about the relevance of their pre-service training programme to their job performance. The second purpose was to make recommendations on future curriculum reviews, relevant towards the graduate teachers' job performance, hence national development.

1.4 Objectives of the Study

So as to be able to achieve the purpose of the study, the following objectives were formulated:

a) To determine whether the general curriculum content of the Pre-service Agricultural Education and Extension training programme is relevant to teaching of agriculture in secondary schools.

b) To determine whether the instructional methods used by the trainers adequately prepare the trainees towards proper job performance.

c) To determine whether there are any problems faced by the graduates at work, and whether these problems are in any way related to their pre-service training programme.

d) To determine whether all areas of the pre-service training programme of the graduates are relevant to their job performance.

e) To make recommendations for future curriculum reviews in order to improve the job performance for agricultural education graduates.

1.5 Research Questions

a) Is the general curriculum content of the pre-service Agricultural Education and Extension training programme relevant to the teaching of agriculture in secondary schools?

b) Do the instructional methods used by the trainers during the pre-service training, adequately prepare the graduate teachers towards proper job performance?

c) Are there any problems faced by the graduate teachers at work, which arise from their training orientation?

d) Are all areas of the pre-service training programme of the graduate teachers relevant to their job performance?

1.6 Significance of the Study

The successful development of an effective programme of Agricultural Education is facilitated by the use of advisory councils and committees, and by development of written policies (Phipps, 1966). The findings of this study were hoped to provide documented information which could provide a basis for reviewing agricultural education and extension training programme at Egerton University. These findings would provide a baseline for future curriculum reviews both at Egerton University and all other institutions charged with the responsibility of training agricultural education teachers. Such a curriculum review would be geared towards the realization of equipping the trainees with the appropriate technical and professional knowledge, skills and attitudes in both agriculture and extension that would enable them to: (1) Teach agriculture and biology related subjects in secondary schools, teacher training colleges, agricultural institutions and other similar institutions of learning. (2) Carry out research and conduct training in agriculture, agricultural education and related fields (Egerton University, 1999).

1.7 Assumptions of the Study

The researcher assumed the following during the study: -

a) That a reasonable number, if not all, agricultural education and extension graduates of Egerton University become secondary school agriculture teachers.

b) That all respondents who formed the study sample responded correctly to the questionnaire items as required.

1.8 Limitations of the Study

The researcher only studied a selected sample of teachers from which generalizations about the total population of graduate teachers from Egerton University's Agricultural Education and Extension training programme were made. This was due to the limitations of time of study and resource availability.

It is also evident that automatic teacher employment in Kenya was frozen in 1997 and hence some graduates of the programme may have secured employment in non-teaching sectors, but the researcher took care of this limitation by studying only graduates of the years 1992 – 1996 only. The University did not graduate teachers in 1991 and 1997. Despite the above limitations, the researcher used a representative sample of the target population in order to achieve both internal and external validity. Although the Bachelor of Science degree in Agricultural Education and Extension was initiated in 1986, only the 1992 – 1996 graduates were studied because this group of graduates had common characteristics, and also they were seen to have been in the field long enough as to make concrete recommendations about the programme in which they were trained. The group before 1992 were left out since the programme was considered not to have stabilized, as they were the pioneers of the newly established programme.

1.9 Definition of Terms

The following are terms that are commonly used in the thesis, and have been operationalised for the purpose of this study.

a) **Agricultural Education**

Refers to an institutionalized teaching of agriculture with a systematically organized, predetermined curriculum to be implemented mainly through classroom instruction and laboratory practice, within a specified time (Kathuri, 1990). This definition does not include extension education.

b) **Agricultural Education Graduate**

Refers to anyone who enrolled and successfully completed the B.Sc. Agricultural Education and Extension programme at Egerton University, there after being deployed as an Agriculture and Biology teacher in secondary school.

c) **Agricultural Educational Programme**

Refers to all the formal and informal learning the graduate goes through during his or her formal training as an Agriculture and Biology teacher, towards the award of the first degree.

d) **Pre-service Training**

Refers to programmes mounted for persons prior to being hired as teachers at different cycles of education (Ministry of Education, 1995 pp. 109). In this study, this term is used to refer to the programme undertaken by the trainee towards the award of the first degree.

e) **Job Performance**

Cascio (1992) defined job performance as an employee's accomplishment of the assigned tasks. It is the observable aspects people do that are relevant for the goals of the organization (Campbell et al., 1990). In this study, the term is used to refer to the observable things and accomplishments of the assigned tasks by the Agriculture and Biology teachers, which are relevant to both the school and the nation.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

Kenya is fully committed to the provision of well-trained teaching personnel with an ultimate goal of achieving quality education at all levels of education. This calls for the utilization of innovative and relevant instructional practices, coupled with a relevant curriculum in teacher education. Over the years, Teacher Education Programmes (T.E.P) have clung to the traditional modes of instruction such as lecture method, among others (Ministry of Education, 1995). Due to poor economy coupled with mass enrollment trends in the recent past, training institutions have focused much on the lecture methods of teaching. This has progressively led to rote learning and decline in achievement of practical knowledge and skills. Looking at the general performance of the agricultural sector, such an approach may be blamed for slow or stagnant growth of the sector. If this problem was to be stemmed, so as to allow for practical knowledge and skills that are relevant to the time, we could have a positive growth of the agricultural sector, effected through release of well trained teachers who act as major change agents of the greater youthful population of Kenya. Such a strategy is possible through curriculum review of the training programmes.

Mills, (1977) identified three components of job performance as understanding the job, performing it with efficiency, and achieving satisfaction from the job. He observed that the task of instructors/trainers is not merely to instruct, but also to help people to acquire skills, attitudes, habits of thought, and qualities of character that will enable them to understand their jobs and perform them efficiently and with satisfaction. This concurred with the need for this study to establish whether the Agricultural Education and Extension training programme is achieving those attributes. When the graduate teachers acquire such attributes, they would give them an increasing sense of responsibility in their profession and generally fit them well for their part in the world of competitive industry. Job performance is multidimensional (Cascio, 1998), in the

sense that several behaviours constitute performance. These behaviours can be scaled in terms of the level of performance from the outcomes of performance, which comprise effectiveness (Campbell, Dunnette, Lawler, & Weick, 1970). The full domain of performance includes everything that ultimately defines success on the job. This can be described well by the term **ultimate criterion**. Thorndike (1949) describes ultimate criterion as a construct that is strictly conceptual in nature. It is ultimate in the sense that one cannot look beyond it for any further standard by which to judge the outcomes of performance.

As developments in science and technology occur, they bring to industry new materials, new processes, new principles and new machines. These change the actual jobs that have to be done. In order to meet this very variable situation, basic training must be broadly based (Mills, 1977). In the modern world, the wealth of a country depends on its capacity to produce, and that in turn depends on its processing a labour force, which is highly skilled and very flexible. Raising the level of operator skill and improving flexibility is a pre-requisite of increased production, and for this, we need relevant education and training. Sound training imparts not only a way of doing, but also a way of thinking, so that a trained man confronted with a situation, acts wisely and quickly (Mills, 1977). Therefore, there is a need to assess whether the Agricultural Education and Extension training programme addresses these facets. Evaluation is a growing concern in education. University researchers are seeking to increase information about effective programmes or teaching strategies (Sergiovanni, et al, 1993). This study was therefore, handy in providing information for evaluation of the pre-service training programme so as to increase its effectiveness in school agriculture teaching, and ultimately, in national development. The major performance expectations for which teachers should be accountable include: Teachers know-how to perform their job and keep abreast with major developments, and the teachers are also expected to put their knowledge to work. Therefore, these teachers need to be equipped with knowledge and skills relevant to the time.

2.2 Agricultural Education Training in Kenya

The central role of agriculture in supplying basic food as well as income for the Kenyan population requires full appreciation of the development of agricultural resources as a basis for the improvement of the standards of living of the population (Egerton University, 1999). Kenya was a British colony until 1963. Under the department of Agriculture headed by Alexander Whyte as its first Director, Agricultural Development was initiated in Kenya, mainly in the white settlers' farms (Cone and Lipscomb, 1972). The government policy in Kenya, way back in 1922, indicated the need to train indigenous people as agricultural instructors. To this effect Scott and Bukura Agricultural Training centres were opened in 1922, as demonstration and seed distribution centers (FAO, 1977).

The agricultural sector expanded rapidly after independence (Government of Kenya, 1970), and hence the training facilities also expanded to cater for the great demand of personnel (Weir, 1967). This saw the expansion of existing training centres and opening of new centres such as Kilifi Institute in 1982. Egerton, which was opened in 1939 for European farmers, admitted the first African trainees in 1961 (Egerton University, 1992). However, it was not until 1968 that the Diploma programme in Agricultural Education and Extension, aimed at training teachers and extension officers, was introduced. Other colleges like Kagumo, Siriba, Kisii and Moi (Eldoret) later trained diploma teachers (Ngumy, 1984). However, these teacher-training colleges later phased out diploma teacher training, leaving only Kagumo that trains a few agriculture teachers at diploma level. The Bachelors degree in Agricultural Education and Extension was established at Egerton University in 1986, when Egerton College was made a constituent college of Nairobi University. However, it was granted full university status by an act of parliament in 1987 (Egerton University, 1999). The first graduate teachers trained at Egerton University in Agricultural Education and Extension were released into the teaching profession in 1990. Despite the positive growth trend in training, the agricultural sector has been faced with several problems, the main one being stagnant growth in production. The maintenance of technological superiority, social harmony among diverse work groups, and organizational survival, depend critically on the ability to confront and adapt to change (Cascio, 1992). As an instrument for

change, the potential of the training and development enterprise is awesome. In practice, however, this change rarely occurs. The major reason is that often we have emphasized on hardware and techniques rather than defining what is to be learned and what the substantive content of training and development should be. Over the years, training curricula have been reviewed in the training institutions without focusing on the real requirements of the agriculture sector, based on first hand information from the change agents, some of them being the agriculture teachers.

2.3.0 B.Sc. Agricultural Education and Extension Curriculum

The B.Sc. Agricultural Education and Extension programme has been going on since 1986. However, not many studies have been done to establish whether there is a relationship between the training programme and job performance of its product. It has not been clearly determined whether the curriculum content is relevant in relation to the teaching of agriculture, whether the instructional methods and professional training are relevant to the job performance of the graduate. The Agricultural Education and Extension programme covers psychological, philosophical, and sociological concepts on the theory and practice of education, agriculture, and extension. According to Lopokoiyit (1995), technical courses in agriculture provide the teacher with the competence in the content of agriculture while the professional courses provide the trainees with pedagogical skills to direct the learning process. However, Shiundu and Omulando (1992) wonder whether there should be more professional content or more academic content in the teacher training programmes. This study was, therefore, handy in answering this question.

2.3.1 B.Sc. Agricultural Education and Extension Curriculum Content

Ong'ondo, (1976) observed that the role of the Agricultural Education and Extension department is to satisfy the manpower needs in the areas of agricultural education and extension. The training in the same is, therefore, supposed to be vocational in approach, whereby the trainees acquire the necessary skills, knowledge and attitudes towards agriculture. This would help them to initiate effective professional and technical innovations and leadership in agricultural development in secondary schools, agricultural institutions, and colleges of technology and in

agricultural establishments. Duke, (1990) defined curriculum as all the learning experiences planned and directed by the schools to attain its educational goals. In this respect, the Agricultural Education and Extension training curriculum encompasses all the learning experiences planned and directed by the trainers to attain its goals. The Department of Agricultural Education and Extension at Egerton University aimed at equipping the trainees with appropriate technical and professional knowledge, skills and attitude in both agricultural education and extension that will enable them to "teach Agriculture and Biology as well as related subjects in secondary schools, teacher training colleges, agricultural institutions and similar institutions of learning" (Egerton University, 1999).

It is evident that a teacher should possess knowledge of the subject matter, which will subsequently help him/her work with confidence (Commonwealth Sectretariat, 1973), hence enhance learning and ultimately, contribute to the students' academic achievement (Hanushek & Ralph, 1992). It is, therefore, equally important for the institution that trains this teacher to come up with an appropriate and relevant curriculum to prepare the teacher to teach. According to Ischumi (1976), the goodness of a school (institution) is dependent upon a good curriculum. Lindel (1990) further observes that a good curriculum is as good as teachers who implement it. The Gachathi Committee (1976) noted that mastery of subject matter was an important component of good job performance. It is, therefore, evident that the curriculum content should be relevant to what the teacher is going to teach in the classroom or any institution of learning. This is especially so, since mastery of the relevant content will improve efficiency in job performance. It is very difficult for a teacher to teach aspects of a curriculum that were not learnt (Drawbaugh & Hull, 1971). This thus concurs with the Gachathi Committee on mastery of subject matter. It is equally difficult for the same teacher to make use of any aspects of the curriculum content acquired during training when teaching in a level where the consumers of this knowledge don't require it, or where the curriculum of these consumers has not been programmed for utilization of the same. Such content becomes irrelevant to the teacher in relation to his/her job performance, as it remains unutilized. This is evidenced by Bloom's Taxonomy of Educational Objectives, which shows a comprehensive classification scheme of all

the cognitive objectives that schools might try to achieve in their efforts to produce educated citizens (Biehler, 1982). This taxonomy consists of six hierarchically ordered levels of instructional outcomes: Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation. The taxonomy is described as a hierarchy because comprehension relies on prior mastery of knowledge or facts, application depends on comprehension of relevant ideas, and so are the subsequent levels.

In this regard then, Arnon (1989) recommended that a teacher of agriculture must receive general, scientific, and agricultural knowledge. This is because agriculture is a complex subject that cuts across many scientific, social, and practical disciplines (Drawbaugh & Hull, 1971). However, Ongo'ondo (1976) was quick to report that some specific courses in various departments of the then Egerton College were not very useful and others were irrelevant to the graduates. This is in line with his findings on *The Occupational Follow-up Study of Egerton College Diplomates working in the Ministry of Agriculture in Kenya*, which was carried out in 1976. In a related study done in 1990, Kiame found out that most teachers felt inadequate and incompetent to handle subjects that they were not trained to teach. Equally, it is expected that the same teachers would behave so if faced with a situation whereby they were asked to teach subject areas they were not trained in. It is, therefore, vital for any curriculum to balance its focus on every aspect to ensure that it is in harmony with needs of the customer.

It has been observed that attitude formation of teachers is linked to their institutions of training (Legrade, 1970). According to Dale (1992), a poorly trained teacher lacks the task-oriented behaviour that has a great influence on performance effectiveness. It is, therefore, the role of training institutions to give appropriate training to their trainees. This is only possible when curriculum content is reviewed regularly to prevent obsolescence and irrelevance with respect to a dynamic market. As Kathuri (1990) observed, a well-trained professional teacher is able to cover all topics in a balanced manner whether there are adequate resources or not. He also found some topics in the secondary school curriculum unsuitable. In this respect, teachers found it difficult to teach such topics. In order to have correct curriculum content for B.Sc. in

Agricultural Education and Extension, there is need to have relevance which should be based on identifying and defining clearly the knowledge and skills needed by the graduate teachers in the field. This is in congruence with what Ong'ondo (1973) found in his study about some factors affecting curriculum improvement of Agricultural Education programmes in Kenya secondary schools.

In 1995 the Ministry of Education noted that the curriculum is the one that determines the kind of individuals that are being produced from schools. The quality of such curriculum is, therefore, quite crucial and should be based on how efficiently and effectively it is developed. Thus, the implementation of the B.Sc. Agricultural Education and Extension curriculum, like any other, can only be efficient if it produces a desired product relevant to the time, and effective if only it has the ability to instill in the teacher trainees, the ability to bring about the result intended at any time. Curriculum content is partly a key determinant of the type of curriculum as it contains the courses that build up both the professionalism and technical aspects of the teacher. Lack of any one part renders the respective curriculum inefficient and ineffective. The two aspects should be addressed appropriately, to create a balance. Leaning too much on one aspect will create a deficiency in the other. Findings of the study provided a baseline for review of the curriculum content of the programme.

2.3.2 B.Sc. Agricultural Education and Extension Instructional Methods during Training

Teaching of Agricultural Education and Extension in training institutions is aimed at preparing the teacher trainee to teach agriculture at the secondary school level, or any other agricultural institutions. The trained teacher should be able to utilize the skills acquired in college to teach the students in a democratic manner and to instill knowledge and skills. Teaching methods used in training teachers, therefore, should be appropriate to help these teachers utilize the methods in teaching agriculture at secondary schools.

In a study carried out by Kathuri (1990), it was revealed that the use of lecture method alone in teaching agriculture was ineffective since this jeopardizes the purpose of developing practical skills vital for self-confidence, self-employment and self-reliance. At the level of teacher

training, lecture method alone will also give rise to teachers who are lacking in proper knowledge of practical skills vital for teaching agriculture, which would enhance mediocrity in the discipline. Such teachers lack confidence because theoretical teaching is less convincing hence leads to a slow process of changing the learners' attitude towards agriculture.

The traditional instructional methods and practices are based on deep-rooted notions about the teachers' role, the nature of the child, the learning process and about discipline (Ministry of Education, 1995). This notion in part assumes that learning depends only on teaching and that other factors such as motivation, interest, ability, and age, which are important, do not come into play. The teacher trainee, like any other learner, needs to be motivated by use of interesting instructional approaches. Instructors should always consider the trainees' age and ability. Interaction between the trainer and trainee through modern instructional and practical approaches are necessary. The Ministry of Education (1995) gave the main reason for persistence of traditional instructional methods in teacher training institutions as economic set backs and lack of facilities which curtails the implementation of modern methods. Mass enrolments in the public universities have seen a major shift of instructional methods from practical or research oriented methods to lecture and lecture notes, which are often backed up by assignments. Such an instructional approach is questionable in imparting practical skills that are deemed vital in achieving industrialization in any developing nation. Besides, the same are likely to continue being used because teacher training colleges and their curriculum and curricula materials are remote from the realities of schools since information about real conditions and real problems appear incomplete. Student teachers are prepared for what should be rather that what is. This called for a follow-up study of the trained graduates at their place of work to establish the real conditions and problems, so as to be able to harmonize the Secondary School Agriculture Curriculum with Agricultural Education and Extension training programme. The traditional methods may also persist because the curriculum in the training institution is overloaded with course units, some of which are of doubtful value to the teacher in his/her classroom work (Ministry of Education, 1995). Ultimately, professional content is undervalued or lost in the jungle of academic subjects. The teacher loses the chance to develop skills necessary for one to

survive in the changing educational world. This study thus sought to reveal any such course units of doubtful value, and those that required deeper coverage.

Sitima (Chief Inspector of Schools, 1995), in his speech during the Third Teacher Education Conference held in 1995, cited one major weakness in the university teacher education programme was the adoption of the "unit system" in major teaching subjects. This system does not take into consideration the secondary school curriculum. Teacher trainees need to have a wider component of academic training to enable them implement secondary school curriculum. This can only be possible if the trainees are exposed to various instructional methods that are relevant to implementing the secondary school agriculture curriculum.

In a related study, Kathuri (1990) observed that discussion, project work, and lecture methods, were used mostly in teaching agriculture in secondary schools. The other methods such as field trips, demonstrations, and museums, which are relevant to teaching agriculture, received little focus. This can be explained partly by the fact that teacher trainees are mostly exposed to the three commonly used methods during their training. Probably this can partly be justified by the fact that these methods are economically convenient for both teachers' training and secondary school teaching.

2.3.3 Problems Facing the B.Sc. Agricultural Education and Extension Graduates at Work

Drawing from studies on Agricultural Certificate Curriculum, it was observed that there are problems that act as barriers to efficient extension services in Kenya (Odhingo, 1996). Similarly, related studies on Implementation of the Secondary School Agriculture Curriculum indicated that there were various problems such as broadness of curriculum, lack of resources, inconsistence of topics, inadequate time, room congestion, and very complex content, all of which hampered proper acquisition of knowledge and skills (Ministry of Education, 1990). Research needs to be done to find out whether the graduates of B.Sc. Agricultural Education and Extension programme face any problems at work, and whether these problems are in any way

related to their training. There is thus a need to get first hand information from the graduates themselves, to be able to review the curriculum and this study sought to meet this need.

Nunan (1989) notes that learners must be responsible for their own learning and developing autonomy and skills in learning how to teach. Hammond (1970) also observes that students must be allowed to practice after the teachers' demonstration to allow for the manipulative skills to be acquired. However, the major drawbacks in most training institutions are the mass enrolments and lack of facilities for student teachers to interact with appropriately and satisfactorily (Alcorn, Kinder & Schunert, 1970). While the teacher training curriculum should allow for practical and manipulative skills to be developed by the teacher trainees through resource and trainee interaction, most institutions are defeated to match the large number of students with the limited available resources. The result is theoretical learning through lecture methods and lecture notes, hence poorly developed creativity. This is because the use of existing resources such as farms and museums, and interactive instructional methods during training, is presumed to achieve involvement and positivism in the trainees, hence a challenge to discover the unknown world around them. Such an achievement progressively cultivates creativity.

Ong'ondo (1976), in his follow up study on Egerton University (then Egerton College) diplomates working in the Ministry of Agriculture in Kenya, found that some courses offered to the diplomates were not relevant to their job in the field. Such courses were given equal attention during training, to the relevant courses, the result being that less time was devoted to the latter. The effect was wastage of time and resources that could be utilized in a relevant area. Some courses rated as irrelevant were such as fabrication and physical chemistry. In the same study, it was revealed that some problems facing diplomates at their jobs were linked to training received. The study thus recommended intensification in practicals, especially in relation to the animal production and veterinary division. However, this study did not focus much on Agricultural Education and Extension diplomates, and especially those in the Ministry of Education. The study reported here was meant to reveal the problems of the curriculum as viewed by the graduate teachers. Based on the findings of the diplomates in the training division, where most of

the Agricultural Education and Extension diplomates could possibly fall, it was observed that most farmers failed to adopt new techniques due to resource limitations (Ong'ondo, 1976).

Resource limitations, as has been cited in various other studies such as Kathuri (1990), could be a major problem in the curriculum implementation at all cycles. Ong'ondo (1976) recommended a periodic follow up study by each of the Egerton departments to determine the needs of the diplomates in their areas of work, so as to harmonize them with the departmental objectives, for effective job performance. This study aimed at meeting that need.

2.3.4 Relevance of Agricultural Education and Extension Pre-service Training Programme to Teaching of Agriculture in Secondary Schools (Job Performance).

Relevance implies that there are clear links between standards for a particular job and an organization's goals. It also means clear links between the critical job elements identified through a job analysis and the dimensions to be rated on an appraisal form (Cascio, 1992). In short, relevance is determined by answering the question "what really makes the difference between success and failure on the particular job?" Success of training institutions is partly determined by the quality of graduates, while the success of the school is determined by the examination results obtained. Ultimately, success of agricultural education and extension training programme may partly be determined by its impact on agricultural growth. Slow agricultural development is a concern for all stakeholders, which calls for the review of the curriculum that prepares the change agents, as this could partly be a cause for the observed trend of slow agricultural growth. Based on report by the Ministry of Education (1995), there are two components of relevance: national and student benefits. Relevance in this sense is measured based on benefits accrued by both the consumer of the knowledge and also the nation at large.

Poor training and teaching facilities in science teaching and the obsolescence of most equipment undermine the quality of education at the tertiary level (Government of Kenya, 1997). Like other public universities in Kenya, Egerton University suffers from limited facilities. Lack of physical facilities has been found to affect the implementation of agricultural certificate curriculum

(Kiame, 1990 & Kathuri, 1990). Use of obsolete teaching facilities, coupled with lack of modern or any form of teaching facilities in both the training institutions and the secondary school level hamper practical implementation of the agricultural education curriculum. Teacher trainees are instructed using old books and machinery/equipment. Even if they are exposed to relevant facilities and information, at secondary school level, agriculture shifts from being mainly practical to becoming theoretical. There was thus a need for a study to find out the relevance of the teacher-training curriculum to job performance of the agriculture teacher.

According to the Ministry of Education (1995), the practical dimension of relevance of a curriculum can be said to operate at the level of two key beneficiaries of the educational system, mainly the learners and the nation. For the learners, relevance is assessed on the bases of the extent to which the curriculum prepares the secondary school graduates for: - further education and training in the next cycle, immediate employment after graduation from the cycle, spiritual needs and satisfaction of the individual, and self reliance which is broader than ability for self-employment. Going by this concept, the curriculum that prepares the teachers to teach at secondary schools should be geared towards initiating these abilities in the trainees, so as to be able to achieve the same during job performance. It is thus evident that the training curriculum should seek to prepare the graduate teacher to achieve the same, so that he/she can extend these aspects of relevance to the learners at secondary schools level. For the nation, a relevant curriculum should seek to satisfy social needs and socio-economic needs. Societal needs also include the political dimension, and can be stated in terms of social harmony and cohesion and patriotism. The socio-economic level relates to issues of national economic development. Hence the training programmes should seek to achieve practical dimension of relevance on the national level, so as to achieve national development.

Based on the findings of the Formative Evaluation of the Secondary Education Curriculum by the Ministry of Education (1990), most of the objectives are unattainable due to lack of time, resources, congested rooms, complex topics that are too advanced for learners and complicated technical interpretations. If the objectives of any syllabus are not achieved, then it loses

relevance. It is therefore, important for curricula to be reviewed to make their content relevant and their objectives achievable. This calls for a study on the perceptions of the graduate teachers who handle the secondary school curriculum so as to harmonise the secondary school agriculture curriculum with the agricultural education and extension training curriculum. In this way, the objectives of both the training institutions and those of the secondary school agriculture will be achieved, and hence those of the nation.

2.4 Conceptual Framework

Job performance of the graduate teacher (the dependent variable of the study) is variedly affected by the independent variables. The independent variables of the study that affect job performance are: curriculum content, instructional methods, problems faced by the graduates and the general relevance of the programme to job performance. Each in turn contributes to the standard and level of performance. Determining the effect of each on the dependent variable will give a clear picture of the relevance of the whole training programme to the actual job of the graduate. This is because the standard performance of a teacher is a reflection of the standard of training in the institution he/she attended. This standard of training in turn heavily depends on the scope of the curriculum content, instructional methods, relevance of the programme towards the ultimate job of the graduate, and these in turn, determine partly the problems faced by the graduate, while discharging his/her duties. Though only four independent variables were studied, other variables as shown in **Fig. 1** affect job performance of the teacher. These are the control and intervening variables. Their effects were taken care of to ensure that their influence on job performance is neutralized.

The control variable (period in which the graduates graduated from college) was taken care of by studying only graduates of particular cohorts, that is 1992-1996 groups. These cohorts were presumed to have been trained using one similar curriculum (the previous and latter groups had different curricula). Also the time span of graduation was relatively of a close range, hence more homogenous characteristics. They were also presumed to have worked long enough as to give reasonable views on the relevance of the curriculum, either holistically or in part. On the other hand, the first intervening variable (motivation) was taken care of by choice of the named

cohorts who, together went through the Agricultural Education and Extension programme without changing to alternative programmes. The fact that they went through the four-year programme successfully, and took up the job of teaching agriculture, indicates that they were equally motivated. It is also known that agriculture is in the special subject cluster; hence these teachers receive special subject allowance, which can be viewed as a source of motivation. On academic performance, the employer of the graduate teacher, Teachers' Service Commission (T.S.C.) does not deploy teachers on bases of merit, rather, all graduates irrespective of whether they have first or second-class honors, are posted as graduate teachers. Equally, promotion is based on performance in the field, and number of years of service. It is not pegged on academic performance on graduation.

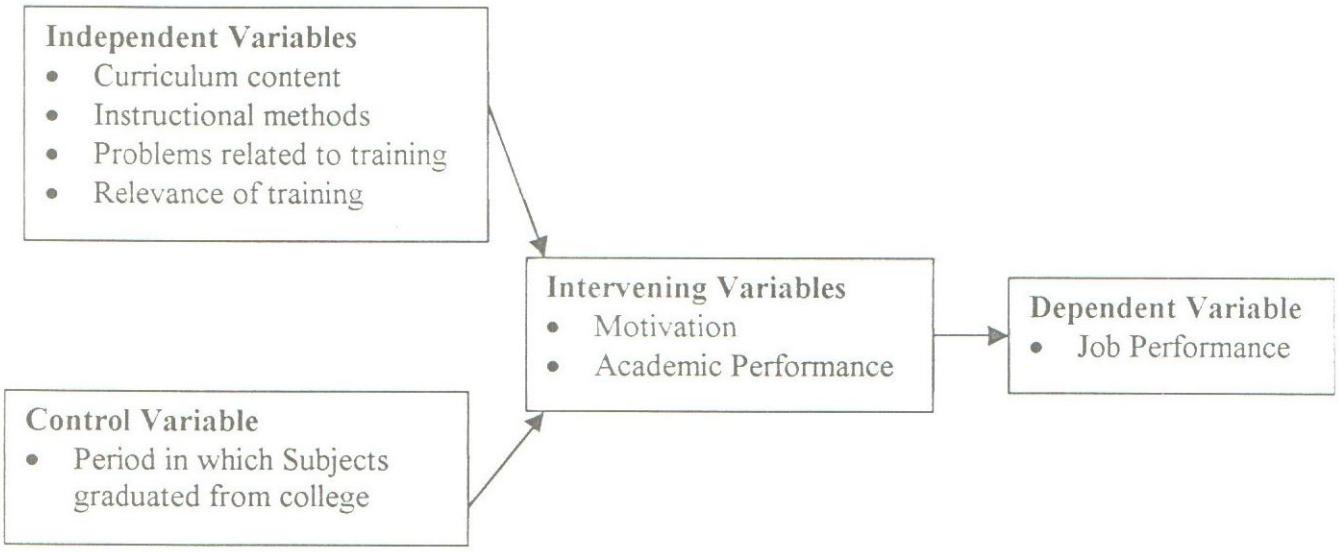

Fig. 1: The Interaction between the Independent, Dependent, Control, and Intervening Variable

2.5 Summary

Despite the importance of Agriculture to the national economy, the relevance of pre-service training to job performance has been given little focus. Most related studies have mainly focused on the certificate and diploma programmes, while the degree programme has not been given much attention. Findings of a study on the Agricultural Certificate Curriculum, recommended that agricultural training institutes should sequence and incorporate the views of all the different categories of agricultural extension staff during curriculum reviews to ensure a broader scope of the courses in order to satisfy the agricultural needs of the society. The same can be achieved in the education sector through follow up studies of the graduates working for the department of education. This study was therefore, necessary to reveal the relevance of the B.Sc. Agricultural Education and Extension Pre-service training programme to teaching of agriculture in secondary schools. This study was therefore, necessary to reveal the relevance of the B.Sc. Agricultural Education and Extension Pre-service training programme to teaching of agriculture in secondary schools. This information should be handy in assessing the relevance of Agricultural Education and Extension curriculum towards the agriculture sector, and hence national economy at large. Such an achievement is bound to keep the university abreast with a society that is dynamic in its needs and requirements.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Research Design

The study assumed an ex post facto research design because it dealt with naturally occurring phenomena. Ex post facto refers to an investigation in which the researcher, rather than creating his /her own treatment, examines the effects of a naturally occurring treatment after it has occurred (Tuckman, 1978 and Kathuri & Pals, 1993). In this study, the researcher intended to determine the relevance of the Agricultural Education and Extension pre-service training programme to the graduate teachers' job performance.

3.2 Location of the Study

The study was carried out in Nakuru District, which is in Rift Valley Province of Kenya. This district covers 7,200km^2 with an estimated population of 1,234,430. It generally lies 1,800m above sea level with temperatures fluctuating between 15°C and 26°C. The annual average rainfall received in this area is 1000mm. Most geographical features are as a result of faulting and volcanic activity.

This district was chosen for the study because of accessibility, familiarity, and also, it is in this district where there is a relatively large number of the Egerton University Agricultural Education and Extension graduates, distributed in various secondary schools. Being in the central agricultural production zone of the country, and where most agricultural activities take place, the district has experienced a lot of changes in agricultural development. This provides a rich agricultural exposure to the agriculture teachers deployed here.

3.3 Population of the Study

The target population of the study consisted of all Agricultural Education and Extension B.Sc. graduates of Egerton University who graduated in the years 1992 to 1996. Certain curriculum reviews have since taken place from the inception of the programme in 1986, and the researcher

studied this group of graduates because these were seen to have common characteristics. The researcher left out all 1990 graduates because at this time, it is assumed that the Agricultural Education and Extension Department, which offers this programme, had not completely stabilized and was still growing. The same groups also had a different curriculum. There were no graduates released into the teaching profession in both 1991 and 1997. Those in the subsequent years were also trained using a reviewed curriculum.

According to information obtained from the District Education Office (DEO) Nakuru, there were 134 secondary schools, out of which 122 schools offered agriculture up to form four level. However, the researcher was only able to access the list of schools, which officially registered and sat for agriculture KCSE examinations in 1999. Going by this list, there were 96 secondary schools that sat the examination; all distributed over 15 administrative divisions in the District. It is from these schools that agriculture teachers were sampled out. The list of schools and their distribution in various administrative divisions of Nakuru District is shown in **Appendix A.**

3.4 Sampling Procedures

The researcher used multistage cluster sampling technique to come up with the desired sample size. This is a type of sampling procedure that consists of two or more cycles of listing and sampling (Kathuri & Pals, 1993). It was used because the targeted population of study was scattered over a large geographical area. According to Borg & Gall, (1983), and Kathuri & Pals, (1993), a minimum sample size of 30 subjects is recommended for any corelational study. Kathuri & Pals (1993) also recommend a minimum sample size of 76 cases for any population of 95 cases. This was worked out based on the formula for estimating the sample size needed, relative to a population of known size and at a specified confidence level of 95%, as found in Krejcie and Morgan (1970). **Appendix E** shows the required size for a randomly chosen sample. Based on this information, the appropriate number of schools for this study would be 76 out of 96 schools. Each school was estimated to have two agriculture teachers on the average, with some large schools having up to four teachers. Seventy Six schools were too many to study, given the time and resource limitations mentioned earlier in section 1.8; hence the researcher

used 55 schools. This number was well above 50% of the target school population (96) of the study locale. The 55 schools were selected purposefully. According to Kathuri & Pals (1993), purposive sampling technique is a non-probability sampling technique, which is judgmental in nature. It aims at selecting subjects that are typical of the target population being studied, using various judgmental reasons. The schools were distributed in four divisions. These were Nakuru Municipality, Rongai, Bahati, and Njoro. Together, these divisions contained the target number of schools. They were also closely located and hence accessible. All schools falling in this location formed the sample of study, as shown in **Appendix B.**

3.5 Sample Size

From each of these 55 sampled schools, the researcher targeted two Agriculture teachers. In a case where there was to be found more than two and all from Egerton University, the researcher would use simple balloting to eliminate the rest. The estimated sample size of respondents was thus 110 teachers if each school would be found to have two teachers.

However, the field conditions did not allow for this proposed sample size. The researcher only managed to find 12 schools with agriculture teachers who had the Agricultural Education and Extension degree, and graduated within the defined time bracket of 1992-1996. This, therefore, brought down the studied sample size to 13 teachers, since one school was found to have two teachers, who met the agriculture teacher criteria.

3.6 Instrumentation

The researcher used two measuring tools in this study. The first measuring tool, which was also the key data collection instrument, was a questionnaire for the B.Sc. Agricultural Education and Extension graduates of Egerton University, who were then teaching in the sampled schools. The items in this questionnaire were developed such that they contained items intended to achieve the research objectives outlined in chapter one of the proposal. Questionnaire construction was based on guiding principles as outlined by Oppeinheim (1968). The items focused on the five

objectives, specifically addressing various areas of the curriculum as highlighted by the objectives of study.

The second measuring tool consisted of observation schedules. In an observation schedule, the observer notes and records what is occurring in some situation (Kathuri & Pals, 1993). In the study, the researcher looked at the general characteristics of the teacher, where necessary, and also if he/she was using the existing school farm appropriately. **Appendix C** is a Questionnaire sample for the teachers, while **Appendix D** is a sample of the observation schedule.

Content validity of the questionnaire was determined by giving a sample questionnaire to qualified personnel in the department of Agricultural Education and Extension, who read through it and provided the necessary guidance, while reliability of the items was determined by pre-testing the questionnaire in nine schools found in Kwale, Kilifi, and Mombasa Districts of Coast Province. The pilot study was initially planned to take place in Kwale District of Coast Province. Secondary School teachers are randomly deployed in Kenya, and the students in these schools are basically of the same age group, hence similar conditions were expected all over Kenya. However, the researcher failed to get the minimum number of respondents required for a pilot study in Kwale. This therefore caused the researcher to move in to the neighboring districts of Mombasa and Kilifi. The pre-tested questionnaire was analyzed by use of Cronbach's Coefficient Alpha reliability to determine the reliability. This is a general formula for assessing the internal consistency of the instrument. The reliability coefficient was calculated based on the four sections of the questionnaire, which addressed different objectives. Reliability coefficients of the four sections were found to be 0.988, 0.947, 0.810, and 0.903 respectively. The overall reliability coefficient was calculated as 0.912, and rounded off to $\alpha = 0.9$. The questionnaire was then revised accordingly. According to Mugenda and Mugenda (1999), a reliability coefficient of 0.8 or more implies that there is a high degree of reliability of the data. Borg and Gall (1983) also said that a high reliability coefficient was important for consistency of research results. Therefore, the reliability coefficient of 0.9 was very acceptable.

3.7 Data Collection Procedures

The researcher obtained a research permit and a letter of authority from the Ministry of Education, Science and Technology. A copy of the letter of authority from the Ministry was deposited in the District Education Office. Each school selected for the study was visited twice. The first visit was to inform the school authority about the intended research. At the same time the researcher sought to know whether the desired respondent existed in the school, and if yes, a questionnaire was left for the respondent for self-administration. The researcher collected the questionnaire from the respondents during the second visit. Observations were made either during the first or second visits. Recording of observational data was done soon after the observations. This meant that the observation schedules were non-participant in nature.

3.8 Variables of the Study

The independent variables were:

(a) Curriculum Content of the Agricultural Education and Extension degree programme.

(b) Instructional methods used in training the graduate.

(c) Problems facing graduate teachers, in relation to training programme.

(d) Relevance of the programme to job performance.

The dependent variable was Job Performance of the Agricultural Education and Extension graduate.

3.9 Data Analysis

Though the researcher had earlier on proposed to use both descriptive and inferential statistics for data analysis, only descriptive statistics were finally used. This was because the researcher, after going to the field, failed to find the proposed sample size. The result was a very low number of filled questionnaires due to the very sparse distribution of the desired respondents in the country. Only eleven teachers were found in ten schools, hence this low figure failed to meet the minimum number of cases expected. Such data was not enough to be analysed inferentially. The researcher thus used only descriptive statistics to analyse her data, as this was the most appropriate. The sparse distribution was attributed to the fact that only Egerton University

graduates such teachers on yearly bases, and also due to high turnover to other better paying sectors. Although Egerton University graduates teachers yearly, the Teachers Service Commission (T.S.C.) deploys these teachers randomly all over the country. It was however, noted that the distribution of the sample was a reflection of the then population of the Agricultural Education teachers all over the country, hence the adequacy of the sample size obtained in Nakuru District. In descriptive analysis, the data is presented in form of texts, materials, or photographs. The study was thus considered more qualitative than quantitative, whose reality is dynamic, since it is what people perceive it to be (Mugenda & Mugenda, 1999). It is an insider viewpoint. Descriptive statistics involves means, percentages, standard deviations and distribution tables.

CHAPTER FOUR

4.0 DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This study brings into the limelight the relevance to job performance of the B.Sc. Agricultural Education and Extension training programme at Egerton University, as perceived by the graduate teachers in the field. A total sample size of 110 respondents was targeted from 55 secondary schools, in which case each school was expected to have two agriculture teachers. However, only 12 schools met the agriculture teacher criteria (Agricultural Education Graduate from Egerton University, who graduated in the time bracket of 1992-1996), hence 13 teachers were studied, since one school was found to have two teachers. However, only 11 questionnaires were used for data analysis and interpretation, since two were rejected at the initial stage of questionnaire examination for completeness. Therefore, 84.62% of the total distributed questionnaires were returned.

A visit to individual schools, and a brief discussion with the schools' administration to confirm the presence of a respondent was done. The researcher opted to give a brief explanation of the purpose and objectives of the study to the respective respondents and the school administration rather than a transmittal letter, as she delivered the questionnaires by hand. The questionnaire was self-administered. Observation schedules were brief and done with ease, especially so since they were non-participatory in approach. The findings of the study were reported in frequencies, percentages, and distribution tables, as the main descriptive statistics.

4.2 Background Information

The background information consisted of preliminary information on the respondents. Analysis of their ages revealed that most of the respondents were in their early 30's. This was evidenced by the fact that the highest age frequency was 31 years, followed by 34 years. Also, 81.8% of all cases were below 40 years of age. From this trend, it could be deduced that as the teachers

mature or advance in age, they seek alternative employment or are promoted within the Ministry. With respect to gender, there were more females than males as evidenced by the distribution table 1(b). Females comprised 63.6% while males were 36.4%. Drawing from past studies and from the current admission trends in public universities, there are more males than there are females. This trend is also true about the B.Sc. Agricultural Education and Extension programme, as evidenced by the records on admissions of students in the years 1995-2001, at Egerton University. **Appendix H** shows the records of admissions in Egerton University, in all the faculties; in the years 1995-2001.The reversed trends of respondents could be attributed to the fact that females remain in the teaching profession while males opt out to seek employment in other sectors, which may be more satisfying economically.

From Table 1(c), most of the respondents (45.5%) graduated in 1996. This result could be because the Department of Agricultural Education and Extension had progressively grown; hence more trainees had been admitted in this group than in the previous groups. Since teacher employment terms were reviewed in 1997, it could also be assumed that most of the respondents who graduated in earlier years had moved to more lucrative jobs at the time of this study, while those who graduated as from 1997were attracted to the job by the better terms of employment, hence chose to remain in teaching. Most of the teachers studied indicated that there had not been a lot of transfers from one school to another since deployment. Many had only taught in one or two schools suggesting that the graduates were socially and professionally acceptable in their respective institutions. This implies that such teachers were socially acceptable in the communities they worked with. It also implies that their services are valued. This implication is drawn from the fact that the head teacher has the authority to make transfer recommendations, based on performance and social relationships of the teacher, as he/she is the immediate supervisor of the teachers in the school. It also implies that replacements of these teachers are not readily available. Most teachers were found to be teaching Agriculture and Biology, with only 18.2% teaching only Agriculture. Among the eleven cases studied, 81.1% were found to be teaching both Agriculture and Biology. This implies that the graduates were assigned roles they were prepared for. With respect to responsibilities, the highest numbers of teachers studied were

club patrons of young farmers' clubs or environmental education clubs. Only one was a Deputy Headmaster. This also confirms that they were performing the tasks that they were trained for, in congruence with the findings of Drawbaugh & Hull (1971) that teachers should teach subjects they were trained to teach. Generally, all the teachers had other responsibilities apart from that of teaching. These findings agreed with what Egerton University (1999) cited as one of the key goals of the Department of Agricultural Education and Extension: to equip the trainees with appropriate technical and professional knowledge, skills, and attitudes, both in agriculture and extension, so as to enable them teach Agriculture and Biology as well as related subjects in secondary schools, teacher training colleges, agricultural institutions, and similar institutions of learning. Ong'ondo (1976) also observed that the training in Agricultural Education and Extension was to impart in the trainees necessary skills, knowledge, and attitudes towards agriculture so as to enable them to initiate effective professional and technical innovations, and leadership in agricultural development in secondary schools, colleges of technology, agricultural institutions and other related agricultural establishments. It was also observed that most teachers did not participate actively in school farm management. Most teachers did not use the school farms in teaching agriculture. Most school farms were in poor state and abandoned, giving the impression that the teachers rarely used them for teaching. Dale (1992) said that a poorly trained teacher lacked in the task-oriented behaviour that has a great influence on performance effectiveness. In line with this finding, it was clearly evident that the B.Sc. Agricultural Education and Extension training programme was lacking in the area of resource use and management hence had poorly developed task-oriented behaviour necessary to utilize the existing school farm. They could also be lacking in self-drive, implying lack of motivation. From the observations made, all the cases studied were well groomed, implying that they were responsible.

Table 1: Background Information of the Respondents

a) Age

Years	Frequency	Percent	Cumulative%
28	1	9.1	9.1
29	1	9.1	18.2
30	1	9.1	27.3
31	3	27.3	54.5
34	2	18.2	72.7
36	1	9.1	81.8
40	1	9.1	90.9
43	1	9.1	100.0
Total	**11**	**100.0**	

b) Gender

Sex	Frequency	Percent	Cumulative %
Male	4	36.4	36.4
Female	7	63.6	100.0
Total	**11**	**100.0**	

c) Year of Graduation

Year	Frequency	Percent	Cumulative %
1993	2	18.2	18.2
1994	2	18.2	36.4
1995	2	18.2	54.5
1996	5	45.5	100.0
Total	**11**	**100**	

d) No. Of Schools Taught after Graduating

No. Of schools	Frequency	Percent	Cumulative %
1	4	36.4	36.4
2	5	45.5	81.4
3	2	18.2	100.0
Total	**11**	**100.0**	

f) Other Subjects taught, other than Agriculture

Subject	Frequency	Percent	Cumulative %
Biology	9	81.8	81.8
None	2	18.2	100.0
Total	**11**	**100.0**	

g) Other Responsibilities

Responsibility	Frequency	Percent	Cumulative %
Club Patron only	5	45.5	45.4
Club Patron, Subject head, In charge of Lunch Programme	1	9.1	54.6
Head of Department, In charge of Lunch Programme, Examination Moderator	1	9.1	63.7
Deputy Head, Subject head	1	9.1	72.8
Head of Department, Subject head	1	9.1	81.9
Class teacher, Subject head	1	9.1	91.0
Missing score	1	9.1	100.0
Total	**11**	**100.0**	

4.3 Relevance of the Curriculum Content of the B.Sc. Agricultural Education and Extension Pre-service Training to Job Performance

The respondents were asked to give their perceptions about relevance of training to their job. These responses were rated on a three-point Likert-scale. Perceptions were based on usefulness and depth of coverage of the courses, whereby usefulness was equated to relevance. The results of the analysis are shown in Tables 2 and 3. Percent not covered at all was considered as very superficial content coverage or negligible coverage. From Table 2, it was found that some courses were not useful in varying percentages, while some were fairly useful, and others very useful. Table 3 also reveals the same about the scope of coverage. The researcher used 50% as the indicator, in making any conclusive remarks. In Table 2, Principles of Adult Education had the highest rating (54.5%) of not being useful. The same course had a similar score in scope of coverage as depicted in Table 3, in the column of not covered at all. As perceived by the teachers, the course may be irrelevant to them in their job. This is especially so, since no score was entered in the column for very useful and that for satisfactorily covered. Mastery of relevant content was cited by Gachathi (1976) as a key factor in efficient job performance. Such material that is not used by the teachers in their job is, therefore, irrelevant as it does not enhance performance. Based on this finding, the University could be advised to review the curriculum, so as to address the area of course units covered by the trainees. Alternatively, the course could be made optional during training so that only those who exclusively wish to enter the extension field can select it, while those who wish to join teaching alone can opt against it. Course units with more than 50% fairly usefulness included: Technical Writing and Reporting (63.6%), Health and Physical Education (54.5%), Basic Organic Chemistry (54.5%), Ecology and Environmental Science (72.7%), Basic Biochemistry (63.6%), and General Physics (54.5%). These courses also had similar scores in their columns of sketchy coverage in Table 3.

However, looking at these courses, they are key components of Biology and Agriculture hence should in actual sense be useful as they are the teaching subjects the teachers are trained to teach. Improving scope of coverage could possibly improve usefulness as it would improve chances of the teachers making more use of the material during teaching.

Table 2: Ratings of Courses in Terms of Usefulness as Perceived by the Graduate Teachers

Course Title	N	% Not Useful	N	%Fairly Useful	N	%Very Useful	Total N	Cumm. %
Introduction to Language and Communication	-	-	6	54.5	5	45.5	11	100.0
Technical Writing & Reporting	3	27.3	2	18.2	6	54.5	11	100.0
History of Education	3	27.3	7	63.6	1	9.1	11	100.0
Philosophy of Education	1	9.1	4	36.4	5	45.5	10	91.0
Soil Fertility & Plant Nutrition	-	-	1	9.1	10	90.9	11	100.0
Measurement & Evaluation	1	9.1	1	9.1	9	81.8	11	100.0
Farm Records	-	-	2	18.2	9	81.8	11	100.0
Group Dynamics	-	-	3	27.3	7	63.6	10	90.9
Extension Education	2	18.2	4	36.4	4	36.4	10	91.0
School Organization & Management	-	-	4	36.4	6	54.5	10	90.9
Developmental Psychology	-	-	2	18.2	8	72.7	10	90.9
Psychology of Learning	-	-	3	27.3	6	54.5	9	81.8
Education Commun. & Technology	1	9.1	2	18.2	8	72.7	11	100.0
Field Attachment	2	18.2	5	45.5	3	27.3	10	91.0
Special Methods Agriculture	-	-	1	9.1	10	90.9	11	100.0
Special Methods Biology	1	9.1	1	9.1	9	81.8	11	100.0
Agricultural Education Seminars	2	18.2	5	45.5	3	27.3	10	91.0
Principles of Adult Education	6	54.5	2	18.2	-	-	8	72.7
Teaching Practice	-	-	1	9.1	10	90.9	11	100.0
Projects	1	9.1	4	36.4	5	45.5	10	91.0
Health & Physical Education	4	36.4	6	54.5	1	9.1	11	100.0
Rural sociology	4	36.4	5	45.5	1	9.1	10	91.0
Zoology	1	9.1	4	36.4	6	54.5	11	100.0

Course Title	N	% Not Useful	N	%Fairly Useful	N	%Very Useful	Total N	Cumm. %
Agricultural Botany	-	-	4	36.4	7	63.6	11	100.0
Genetics	-	-	3	27.3	8	72.7	11	100.0
Principles of Crop Production	-	-	-	-	11	100.0	11	100.0
Perennial Crops	-	-	-	-	11	100.0	11	100.0
Agronomic Practices	-	-	-	-	9	81.8	9	81.8
General Vegetable Growing	-	-	2	18.2	7	63.6	9	81.8
Pasture and Forage Crops	-	-	-	-	11	100.0	11	100.0
Annual Crops	-	-	2	18.2	9	81.8	11	100.0
Parasitology	-	-	1	9.1	10	90.9	11	100.0
Entomology	-	-	4	36.4	7	63.6	11	100.0
Developmental Economics	2	18.2	5	45.5	4	36.4	11	100.0
Basic Organic Chemistry	1	9.1	6	54.4	4	36.4	11	100.0
Physical and Inorganic Chemistry	1	9.1	5	45.5	4	36.4	10	91.0
Ecology and Environmental Science	2	18.2	8	72.7	2	18.2	11	100.0
Basic Biochemistry	-	-	7	63.6	4	36.4	11	100.0
Family Life Studies	3	27.3	3	27.3	3	27.3	9	81.9
General Physics	3	27.3	6	54.5	1	9.1	10	90.9
Agroforestry	-	-	4	36.4	6	54.5	10	90.9
Animal Breeding	-	-	-	-	10	90.9	10	90.9
Introduction to Animal Diseases	-	-	-	-	11	100.0	11	100.0
Routine Livestock Practices	-	-	1	9.1	10	90.9	11	100.0
Non Ruminant Nutrition	-	-	-	-	11	100.0	11	100.0
Ruminant Husbandry	-	-	-	-	11	100.0	11	100.0
Animal Nutrition	-	-	-	-	11	100.0	11	100.0
Vertebrate Anatomy and Physiology	-	-	3	27.3	8	72.7	11	100.0
Microbiology	-	-	4	36.4	5	45.5	9	81.9

Course Title	N	% Not Useful	N	%Fairly Useful	N	%Very Useful	Total N	Cumm. %
Introduction to Agricultural Economics	-	-	3	27.3	8	72.7	11	100.0
Agricultural Marketing	-	-	3	27.3	8	72.7	11	100.0
Production Economics	-	-	2	18.2	9	81.8	11	100.0
Soil & Water Conservation	-	-	1	9.1	10	90.9	11	100.0
Principles of Farm management	-	-	3	27.3	8	72.7	11	100.0
Technical Drawing	4	36.4	6	54.5	1	9.1	11	100.0
Workshop Technology	1	9.1	7	63.6	2	18.2	10	90.9
Farm Structures	-	-	4	36.4	7	63.6	11	100.0
Introduction to Farm Power & Machinery	-	-	3	27.3	8	72.7	11	100.0
Tractor Servicing, Maintenance & Operation	-	-	5	45.5	5	45.5	10	91.0
Elementary Surveying	4	36.4	6	54.5	1	9.1	11	100.0
Water Supply and Irrigation	1	9.1	2	18.2	8	72.7	11	100.0
Agricultural Field Trips	1	9.1	2	18.2	8	72.7	11	100.0
Cell Biology	3	27.3	-	-	6	54.5	9	81.8
Research Methods	2	18.2	4	36.4	4	36.4	10	91.0
Sociology of Education	1	9.1	4	36.4	6	54.5	11	100.0

Table 3: Ratings of Courses in Terms of Scope of Coverage as Perceived by the Graduate Teachers

Course Title	N	%Not Covered At all	N	%Sketchy Coverage	N	% Satisfactory Coverage	Total N	Cumm. Percent
Introduction to Language and Communication	-	-	6	54.5	5	45.5	11	100.0
Technical Writing & Reporting	3	27.3	2	18.2	6	54.5	11	100.0
History of Education	3	27.3	7	63.6	1	9.1	11	100.0
Philosophy of Education	1	9.1	4	36.4	5	45.5	10	91.0
Soil Fertility & Plant Nutrition	-	-	1	9.1	10	90.9	11	100.0
Measurement & Evaluation	1	9.1	1	9.1	9	81.8	11	100.0
Farm Records	-	-	2	18.2	9	81.8	11	100.0
Group Dynamics	-	-	3	27.3	7	63.6	10	90.9
Extension Education	2	18.2	4	36.4	4	36.4	10	91.0
School Organization & Management	-	-	4	36.4	6	54.5	10	90.9
Developmental Psychology	-	-	2	18.2	8	72.7	10	90.9
Psychology of Learning	-	-	3	27.3	6	54.5	9	81.8
Education Commun. & Technology	1	9.1	2	18.2	8	72.7	11	100.0
Field Attachment	2	18.2	5	45.5	3	27.3	10	91.0
Special Methods Agriculture	-	-	1	9.1	10	90.9	11	100.0
Special Methods Biology	1	9.1	1	9.1	9	81.8	11	100.0
Agricultural Education Seminars	2	18.2	5	45.5	3	27.3	10	91.0
Principles of Adult Education	6	54.5	2	18.2	-	-	8	72.7
Teaching Practice	-	-	1	9.1	10	90.9	11	100.0
Projects	1	9.1	4	36.4	5	45.5	10	91.0
Health & Physical Education	4	36.4	6	54.5	1	9.1	11	100.0
Rural sociology	4	36.4	5	45.5	1	9.1	10	91.0

Course Title	N	%Not Covered At all	N	%Sketchy Coverage	N	% Satisfactory Coverage	Total N	Cumm. Percent
Plant Pathology	-	-	4	36.4	7	63.6	11	100.0
Agricultural Botany	-	-	4	36.4	7	63.6	11	100.0
Genetics	-	-	3	27.3	8	72.7	11	100.0
Principles of Crop Production	-	-	-	-	11	100.0	11	100.0
Perennial Crops	-	-	-	-	11	100.0	11	100.0
Agronomic Practices	-	-	-	-	9	81.8	9	81.8
General Vegetable Growing	-	-	2	18.2	7	63.6	9	81.8
Pasture and Forage Crops	-	-	-	-	11	100.0	11	100.0
Annual Crops	-	-	2	18.2	9	81.8	11	100.0
Parasitology	-	-	1	9.1	10	90.9	11	100.0
Entomology	-	-	4	36.4	7	63.6	11	100.0
Developmental Economics	2	18.2	5	45.5	4	36.4	11	100.0
Basic Organic Chemistry	1	9.1	6	54.4	4	36.4	11	100.0
Physical and Inorganic Chemistry	1	9.1	5	45.5	4	36.4	10	91.0
Ecology and Environmental Science	2	18.2	8	72.7	2	18.2	11	100.0
Basic Biochemistry	-	-	7	63.6	4	36.4	11	100.0
Family Life Studies	3	27.3	3	27.3	3	27.3	9	81.9
General Physics	3	27.3	6	54.5	1	9.1	10	90.9
Agroforestry	-	-	4	36.4	6	54.5	10	90.9
Animal Breeding	-	-	-	-	10	90.0	10	90.9
Introduction to Animal Diseases	-	-	-	-	11	100.0	11	100.0
Routine Livestock Practices	-	-	1	9.1	10	90.9	11	100.0
Non Ruminant Nutrition	-	-	-	-	11	100.0	11	100.0
Ruminant Husbandry	-	-	-	-	11	100.0	11	100.0
Animal Nutrition	-	-	-	-	11	100.0	11	100.0

Course Title	N	%Not Covered At all	N	%Sketchy Coverage	N	% Satisfactory Coverage	Total N	Cumm. Percent
Microbiology	-	-	4	36.4	5	45.5	9	81.9
Introduction to Agricultural Economics	-	-	3	27.3	8	72.7	11	100.0
Agricultural Marketing	-	-	3	27.3	8	72.7	11	100.0
Production Economics	-	-	2	18.2	9	81.8	11	100.0
Soil & Water Conservation	-	-	1	9.1	10	90.9	11	100.0
Principles of Farm management	-	-	3	27.3	8	72.7	11	100.0
Technical Drawing	4	36.4	6	54.5	1	9.1	11	100.0
Workshop Technology	1	9.1	7	63.6	2	18.2	10	90.9
Farm Structures	-	-	4	36.4	7	63.6	11	100.0
Introduction to Farm Power & Machinery	-	-	3	27.3	8	72.7	11	100.0
Tractor Servicing, Maintenance & Operation	-	-	5	45.5	5	45.5	10	91.0
Elementary Surveying	4	36.4	6	54.5	1	9.1	11	100.0
Water Supply and Irrigation	1	9.1	2	18.2	8	72.7	11	100.0
Agricultural Field Trips	1	9.1	2	18.2	8	72.7	11	100.0
Cell Biology	3	27.3	-	-	6	54.5	9	81.8
Research Methods	2	18.2	4	36.4	4	36.4	10	91.0
Sociology of Education	1	9.1	4	36.4	6	54.5	11	100.0

The rest of the courses forming the curriculum were very useful and satisfactorily covered, as depicted by the results in Tables 2 and 3 and therefore, should be retained and if need be, polished to make them better towards job performance of the graduates. This, therefore, implies that a total of seven courses need a thorough review. Such a review could mean improving the quality and scope of content coverage, or complete removal from the training curriculum. All the courses with less than 50% score in their respective columns may only need to have their coverage improved in terms of quality and methodology to make them very useful, in turn, improving the relevance of the training programme. Reviewing the pedagogy to include more practical, hence allow more participation by the trainees may raise the score of both usefulness and scope of coverage as perceived by the teachers themselves. There were 29 courses generally rated as not being useful in varying percentages and also not covered at all in similar percentages. This gives a total 43.3% of the total number of course covered during training, a considerable ratio to warrant curriculum review. A review will generate extra time, which can be re-allocated to the courses requiring improved coverage; hence achieve the desired objectives.

From the findings on methodology, the courses could have been rated so because emphasis was not placed on them since the type of methodology used was not correct. As a result not much was grasped. In turn the same teachers could not make use of the content in their job. Such findings tally with those of the Ministry of Education (1995) which revealed that teacher training colleges and their curriculum and curricula materials were remote from the realities of schools due to lack of concrete information about the real conditions and problems in the field. From various opinions of the teachers about their training programme, 72.7% of the teachers rated the course units as being too many, 27.3% rated some of them as being irrelevant, while 9.1% said the units were too many, hence more time was required. Some 36.4% requested for emphasis on practical, demonstrations, and completion of syllabus, since some lecturers were reported to teach only the examination as cited by 18.2% of the cases studied. A considerable percentage (63.6%) also said the training was too theoretical. It is thus evident that the curriculum needs a review in line with the findings so as to improve on relevance. Since a good curriculum is as good as the teachers who implement it (Lindel,1990), it is only fair if the same is overhauled to make its products good with respect to job performance. Such findings confirm what Ong'ondo

foundation to these topics. Such topics included Agricultural Economics, Farm Machinery, Genetics, Classification, Livestock Diseases, Farm Structures and Soils. The reasons given for such difficulties were: poor background of the learners, unfamiliar content, abstract terminologies and lack of teaching resources. From this information, it implies that the trainees are not independent in their selection of teaching methods and content to be taught. They may be applying what they learned in holistic manner rather than digesting and sorting out the information so as to apply it to the relevant group of learners in terms of content and methodology. Such an approach thus creates difficulty in comprehension by their learners.

However, Kathuri (1990) observed that a well trained professional teacher should be able to cover all topics in a balanced manner whether there are adequate resources or not. The fact that the teachers were not able to easily teach these subjects could imply they were lacking in their training. However, information about effective progammes or teaching strategies could help ease such problems. These findings are, therefore, handy in providing the information. Lack of harmony between the training institutions and the secondary school syllabus could be a hitch in the proper dissemination of skills and knowledge. Hence, the training institutions should link their training to what is taught in the secondary school level, for purposes of harmonizing the two areas of learning to create relevance. This could be achieved through teaching the teachers how to apply learned material to the relevant areas and groups of students at relevant times. The training programmes, especially the B.Sc. Agricultural Education and Extension one, should aim at equipping the trainees with the skills of selecting the appropriate teaching methods and also the relevant content with respect to student levels. This means that the correct knowledge and skills should be fed to the correct level of learners, using the most appropriate methodology. Such an approach will improve relevance of the training programmes towards the job to be performed. The respondents in their view suggested removal of some courses such as Technical Drawing, Philosophy of Education, Physics, Rural Sociology and Principles of Adult Education, from the curriculum, as shown in Table 5. This suggestion could have been based on the results in Tables 2 and 3, which revealed that these courses were either not useful or were fairly useful, due to poor or sketchy coverage respectively, during training. They also suggested review of some course units such as Genetics, Education Communication and Technology, and Health and Physical Education to make them more useful towards the teaching of Agriculture and/or

Biology. However, complete removal of these courses could reduce marketability of the graduates with respect to the non-teaching sectors; hence limit them only to classroom teaching. Besides, removal of some course units such as Health and Physical Education will reduce relevance of the of the programme to the, as teachers need to be well equipped with health tips in the present world to be able to deliver their services well and also to be able to cope with the societal needs.

Table 4: Opinions of the Graduate Teachers about the Training Programme

Opinion	Frequency	Percent
Instructional approach was too theoretical	6	63.6
Training should be student centred	1	9.1
Practical not well covered	5	54.5
Classes too large	2	18.2
Courses related to Extension and Rural Sociology rarely applied in teaching	2	18.2
Inappropriate methodology for training	3	27.3
Emphasize on practical, demonstrations, and cover the whole syllabus	4	36.4
Some lecturers teach only the examination material, leaving out the rest of the course content	2	18.2
Lecture method not appropriate for Biology and Agriculture	2	18.2
Superficial and hasty due to congestion of the syllabus	8	72.7
Some courses were irrelevant since they are rarely/never used in secondary school teaching of Agriculture & Biology	3	27.3
Increase the period of training	1	9.1

Table 5: Course Units to be Reviewed/Removed /Included in the Curriculum Content

Removed	Reviewed	Included
Technical Drawing	Genetics	Guidance & Counseling
Economics	Education Communication and Technology	HIV/AIDS.
Farm structures	Include more trips to Field Visits	-
Physics	-	-
Philosophy of Education	-	-

Arnon (1989) recommended that a teacher of Agriculture must receive general, scientific, and agricultural knowledge. This concurs with what Drawbaugh and Hull said about Agriculture being a complex subject that cuts across many disciplines. Therefore, it would be senseless to remove the said courses blindly without further consideration. After all, only healthy persons can deliver the required services effectively and efficiently. Probably the methodology of respective courses should be checked to make them more practical in approach, since the highest amount of learning and retention occurs by seeing and doing. Technical Drawing is important in such areas as Farm Structures, hence should be reviewed instead of being excluded from the curriculum. Generally, review of content and methodology to suit present times, could be the best approach to improving relevance of the training programme rather than excluding some courses wholesome. Courses that were thought vital in today's performance yet were lacking are HIV/AIDS, and more details on Guidance and Counseling, which should thus be included in the curriculum. The respondents also requested a balance between Agriculture and Biology related courses, raising the issue that the course was so much inclined to Agriculture and inadequate in Biology as shown in Table 4. They, therefore, suggested more Biology related subjects to be included and taught in deep scope to meet the deficit. Mills (1977) revealed that as developments in Science and Technology occur, they bring to industry new materials, new processes, new principles and new machines, which in turn change the actual jobs that have to be done. He thus suggested that basic training should be broadly based in order to meet the variable situations. A balance between Agriculture and Biology courses will establish effective training as a result of creating adequacy and competency to handle teaching subjects at work, as cited by Kiame

(1990). Cascio (1992) also said that relevance implies a clear link between the critical job elements identified through job analysis and the dimensions to be rated on the appraisal form. Review of the curriculum to address this area will thus achieve relevance. Equally, at the inception of the B.Sc. Agricultural Education and Extension programme in the University, such issues were not a concern. However, HIV/AIDS has become a pandemic in recent years and hence a national concern for all citizens. This has, therefore, necessitated the formation and adoption of strategies that are geared towards management of the pandemic, by all the stakeholders. The study, therefore, revealed that this was one area that should be included in the curriculum so as to improve on the relevance. Guidance and Counseling was also strongly suggested as an important component of the curriculum. This is especially so, because the discipline goes hand in hand with HIV/AIDS. That aside, it is also a vital aspect in handling the youth in terms of various issues that affect them, such as sex education.

The areas of HIV/AIDS, Guidance and Counseling and Environmental issues, have gained increasing significance today, and therefore need to be addressed. Removal of the unnecessary courses and review of the existing course units was seen as a way of making the course content more relevant towards teaching Agriculture and Biology. It was also mentioned that teaching practice should have more visits (at least five) to make it more meaningful.

4.4. Adequacy of Instructional Methods used by Trainers during Training

With respect to adequacy of instructional methods used in the University during training, the respondents had varied views. However, most of them had similar observations that could be conclusively summarized. The results of the analysis of the respondents' perceptions on pedagogy are shown in Table 6. From Table 6, lecture method is the most commonly used method of instruction during training with a frequency of 80%. This implies that lecture method was almost the sole method of instruction, revealing a weakness in the pedagogy of the curriculum. Kathuri (1990) found the use of lecture method alone in teaching agriculture was ineffective since it jeopardizes the purpose of developing practical skills vital for self-confidence, self-reliance, and self-employment. Other methods rated as either very highly or

highly used are assignments (60%), practical (63.7%), laboratory experiments (54.6%) and problem solving (54.6%). Computer lessons and seminars and workshops were rarely used or not used at all. The rest of the methods were used with low frequencies. The respondents mentioned that the use of lecture method most often made the training too theoretical and lecturer centered as depicted in Table 4. They also said that when the practical method was used it lacked details. Some 27.3% mentioned that most of the instructional methods were inadequate in preparing them towards proper job performance.

Table 6: Frequency of Use of Instructional Methods

Method	% Very high	% High	% Average	% Low	% Not useful
Lecture method & Lecture Notes	80	-	20	-	-
Discussion	11.1	11.1	44.4	11.1	22.2
Practical	36.4	27.3	27.3	-	9.1
Laboratory Experiments	27.3	27.3	36.4	9.1	-
Projects	9.1	18.2	18.2	36.4	18.2
Demonstration	18.2	36.4	18.2	18.2	9.1
Problem Solving	27.3	27.3	9.1	27.3	9.1
Assignments	10.0	50.0	30.0	10.0	-
Field Trips	18.2	18.2	45.5	18.2	-
Computer Lessons	-	-	10.0	10.0	80.0
Seminars and Workshops	-	10.0	20.0	50.0	20.0

It was also revealed by 18.2% of the teachers that some lecturers covered only examination content, leaving out course content material that was useful, but not set in the examinations. Whereas lecture method was found to be the most commonly used instructional approach, teachers felt it was inappropriate for preparing them to teach Agriculture and/or Biology subjects that were more practical oriented since they were sciences, than socially oriented. They recommended more use of practical approach in form of detailed practical, more involvement in

the same, demonstration, and the use of available resources such as farms and museums during training. Respondents recommended the use of existing resources in the university to teach the trainees more practically. Such resources include Horticulture, Tatton and Ngongongeri farms. However, 81.1% of the respondents said that all the instructional methods were appropriate, but suggested more interaction of the methods than use of solely one or only a few. It was also revealed that the instruction was hasty, and superficial due to the nature of the syllabus, which was termed as too congested. The researcher also found that farms and related resources such as livestock in the schools where the studied teachers taught were rarely or never used for teaching Agriculture. This implied that the same problem of dependence on one or a few instructional methods at the expense of some was perpetuated in the secondary school level. The farm is the agriculture laboratory, where almost all the teaching resources could be found or developed for use in teaching agriculture practically, and thus teaching of the same without it when it exists, beats commonsense. However, the Ministry of Education (1995) cited economic setbacks as one of the reasons for persistence of traditional methods, and hence lack of implementation of the modern ones. On the other hand, Dale (1992) said that poorly trained teachers lacked task-oriented behaviour that had a great influence on performance effectiveness. Equally, Kiame (1990) found that teachers felt inadequate and incompetent to handle subjects that they were not well prepared to. The researcher feels the same teachers were not well prepared in the area of resource utilization and management, especially with regard to the school farm. Proper training in this area could address the gap. This could probably be the same reason for lack of use of the school farm, probably due to lack of funds.

4.5: Problems Faced by the Graduates at Work, which are Related to Training

It was assumed that the respondents could have been facing problems in their job, some of which could be rooted in the training they received. Table 7(a) shows the source of problems and their seriousness, as rated by the teachers.

With reference to Table 7(a), it is evident that there was no serious problem in any area of training, that is, the teacher's problems at work were not seriously related to their training. However, 10% of the respondents experienced problems related to the area of lack of

professional competence in guidance and counseling. From Table 4, it was clearly stated that Guidance and Counseling was one of the course units that needed to be included in the curriculum content, and covered in detail. Problems related to basic sciences and Agricultural Engineering were also experienced as shown in Table7 (a). These were also the areas reported to have the topics found by the learners difficult to comprehend. It was, hence evident that teachers could not communicate well to their learners. This could be attributed to the fact that their coverage during training was superficial, and the secondary school teachers also had poor foundation on the subject areas. These were some of the training areas whose content the respondents rated as not useful. As such, there is need for the university to review this area, so as to make it more user (teacher) and recipient (learner) friendly. The fact that education and other theories did not record any serious problems, and this is where Principles of Adult Education are placed, raises another important issue. This could be a course unit that was not even actively remembered by the learners, probably because it was not covered at all, as rated by 75%, as it is not applied in the job at all. The course may be irrelevant in secondary school teaching where the youth dominate and not adults. This implies that the course is not being applied to teach the correct target group, as its title depicts. The department can therefore consider replacing it with another relevant Course unit, such as one of those cited as being relevant but missing in the curriculum, or making it an option for those trainees who wish to exclusively go into the extension field. This is especially so, since relevant subject matter is an important component for efficiency in any job performed, as cited by Gacathi (1976). From such a finding, it is evident that probably some courses are listed as part of the content to be covered, yet they are either not covered at all, or are so superficially covered such as to make no sense or to be of any relevance to the graduates' in their job. The teachers also reported other problems faced at work, other than those related to the defined areas of training as: -Job stagnation (9.1%), lack of support from administration (9.1%), extensive school syllabus, lack of teaching-learning resources, Under-employment (the teachers felt they were qualified to teach at higher levels than secondary school), and no linkage between training in crop science and the kind of crop science they taught. They thus suggested that the respective authorities look into these areas. However, Kathuri (1990) said that well trained teachers should be able to teach all subjects in a balanced manner even with limited resources. Therefore, teachers finding a problem in this area could have a deficit in their training. Graduate teachers thus suggested that channels be created for them to

advance in their job. One way they viewed as a ladder to their professional growth and development was through creation of short course training opportunities. With respect to underemployment, the teachers felt that they should be given a chance to teach in higher institutions of learning since they were underutilized in secondary school level. A review of the crop sciences offered in the programme was thought necessary so as to link it to that taught in secondary school level.

Table 7(a): Areas of Training Rated as being a Source of Problems faced at Work.

Area of Training	%Very Serious	% Serious	%Somehow Serious	%Not Serious	%Not applicable
Lack of theoretical knowledge in	-			54.5	27.3
a) Basic Sciences					
b) Animal Science	-	-	9.1	45.5	45.5
c) Engineering	-	10.0	20.0	70.0	-
d) Agricultural Econ.	-	-	18.2	54.5	27.3
e) Education and other Theories	-	-	9.1	45.5	45.5
Lack of Comm. Skills	-	-	9.1	45.5	45.5
Lack of Research Orientation & Project Management.	-	-	9.1	45.5	45.5
Inadequacy in Interpreting & Implementing the Curriculum	-	-	9.1	45.5	45.5
Lack of Professional competency in:	-	-	-	54.5	45.5
a) Planning &Instruction					
b) Teaching	-	-	-	54.5	45.5
c) Evaluating	-	-	10.0	50.0	40.0
d) Classroom Mgt & Discipline	-	-	10.0	50.0	40.0
e) Understanding Human Behaviour	-	-	10.0	60.0	30.0
f) School Community Relations	-	-	10.0	50.0	40.0
g) Guidance and Counseling	-	10.0	20.0	40.0	30.0
h) Mgt of Students Organizations	-	-	10.0	60.0	30.0
i) Administrative Boards	-	-	10.0	50.0	40.0
j) Professional Devt.	-	-	11.1	77.8	11.1

With respect to underemployment, the teachers felt that they should be given a chance to teach in higher institutions of learning since they were underutilized in secondary school level. A review of the crop sciences offered in the programme was thought necessary so as to link it to that taught in secondary school level.

Table 7(b): Other Problems Faced by the Graduates in their Job

Problem	N	%	Cumm. %
Job stagnation	1	9.1	9.1
Lack of teaching resources	1	9.1	18.2
Extensive syllabus denies time to implement project work for students	1	9.1	27.3
Lack of adequate machinery, tools, and equipment for practicals	1	9.1	36.4
Lack of enough skills and knowledge in Biology	1	9.1	45.5
Underemployment since training is so extensive while the job is not	1	9.1	54.6
Missing score	5	45.5	100.0
TOTAL	11	100.0	

4.6: What the Agricultural Education and Extension Department can do to help Teachers Develop professionally for more Productivity in their Job

Respondents were asked to give their views on what the Department of Agricultural Education & Extension can do to help them grow professionally. They had varying perceptions on this subject. Their responses were summarized and reported in Table 8. The teachers suggested that the university and their employer (T.S.C) upgrade them to technical teacher status rather than consider them as mere graduate teachers. This would boost the morale of the teachers hence improve their service output. The frequency of those who suggested that the department should offer post training to the practicing teachers was three (27.3%). This post training was to be in the form of postgraduate training and short courses in form of seminars and workshops.

Generally, all teachers suggested post training as one way of helping them grow professionally. Production of affordable teaching resources by the university to be used by the graduate teachers was seen as one way of dealing with the problem of lack of teaching-learning resources. On this view, secondary schools could then buy the affordable teaching resources from the university.

Table 8: What the Department can do to help the Graduate Teachers Develop Professionally in their Job

rception	Freq.	Percent (%)	Cumulative%
griculture Education Teachers to be nsidered as Technical Teachers, fer post training to the graduates.	1	9.1	9.1
fer post training.	3	27.3	36.4
fer post training & produce fordable teaching materials.	1	9.1	45.5
one	2	18.2	63.6
fer post training & involve the aduate teachers in research.	1	9.1	72.7
fer more course units in Biology to tch the Secondary School Syllabus.	1	9.1	81.8
fer post training & provide adequate ployment to avoid under-ployment.	1	9.1	90.9
view instructional methods, lower dent-teacher ratio, especially with spect to practical lessons.	1	9.1	100.0
OTAL	**11**	**100.0**	**100.0**

Such an activity would benefit both the university and the schools, besides helping discover and cultivate untapped talents from the trainees. It was also suggested that more Biology related courses be included in the curriculum content to enrich the programme. Reviewing the instruction methods to make them more learner (trainee) centered, and hence improve job

performance was also mentioned. Since the Agricultural Education and Extension class was usually bloated in size, it was also suggested that the student: lecturer ratio be reduced. The approach to this was mentioned as admission of fewer trainees. However, going by the sparse distribution of the 1992-1996 clusters, and drawing from the current employment trends, there was no saturation of such graduates. Therefore, reduction of numbers admitted would beat commonsense. The only logical way to approach the issue is by splitting the large classes into groups. Probably, utilization of the rich resourceful environment in the university to train split classes would address the issue of bloated classes and lecturer-centeredness in tutoring. For those who had graduated before, or after the defined period of study, it would be wise to recall them to the University for refresher courses, so as to improve on their job performance as well as boost their morale. This will be possible since during these refresher courses, only a few of them are admitted.

4.7 Summary

The researcher found that the training programme needed to be reviewed so as to address some issues of concern. Findings of the study revealed that the programme was not keeping abreast with the present demands. For instance, while such new and relevant issues like HIV/AIDS, Guidance and Counseling and Environmental concerns were deemed very important, the University had not considered including them in the training prograame. The products of the progamme thus would definitely be incompetent in managing such issues, hence denying them self-confidence when faced with the same. It was also evident that the courses needed to be reviewed so as to create a balance between Agriculture and Biology, and also to reallocate more time to some courses to improve on their scope of coverage, and hence their usefulness to job performance of the graduate. Still on course content, some courses were deemed not relevant to the job of the graduate. One such course was Principles of Adult Education. On instructional methods, graduate teachers requested a more interactive approach of the various teaching methods, and maximum utilization of the existing teaching resources in the University and its environs. This would improve the quality of the training, and hence its relevance to the job. Post training was seen as a way of helping the teachers in the field develop professionally for better job performance, and hence keep abreast with the ever-changing dynamic world.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

5.1 Summary

Kenya is fully committed to the provision of a well-trained teaching force with an ultimate goal of achieving quality education at all education levels. The purpose of this study was to establish the relevance of B.Sc. Agricultural Education and Extension pre-service training to job performance of the graduate teacher. The research objectives were:

1) To determine whether the general curriculum content of the Pre-service Agricultural Education and Extension training programme was relevant to teaching of agriculture in secondary schools.

2) To determine whether the instructional methods used by the trainers adequately prepared the trainees towards proper job performance.

3) To determine whether there were any problems faced by the graduates at work and were relevant to their job performance.

5) To make recommendations for future curriculum reviews in order to improve the relevance of the training towards job performance of the graduate teachers.

From the background information, the study revealed more females in the job than males. The implication here was that the males could be shifting to other sectors, which are more satisfying than teaching. This also implies that the B.Sc. Agricultural Education and Extension programme prepares the trainees to be all-round performers, hence making them marketable in various employment sectors. The fact that more males shift to other sectors than their female counterparts could mean that they are less stable in the job than females. Most teachers were in their early 30's. The teachers also had not been frequently transferred, with most having remained in the same school or only taught in two. It was also revealed that most of the teachers

were club patrons (young farmers and environmental science clubs). Such a finding indicates the increasing importance of new areas like environmental studies, which were not a concern when the programme was born, but now require to be addressed.

The study established an imbalance of the course content of Agriculture and Biology. It was revealed that the training was inclined more towards Agriculture at the expense of Biology. This was despite the fact that the graduate teachers are deployed to teach both Agriculture and Biology. Though this finding may be quite okay since Agriculture is the major teaching subject of the teachers, it is equally important that the same teachers should have sufficient training in Biology as they could be placed in a situation where they are required to teach Biology at all secondary school levels. Any lacking in the training area would thus create lack of confidence in the teacher, and thus interfere with the delivery of relevant content in the respective leaner level. It was also established that there were some course units that were not useful to the teachers in their job, such as Principles of Adult Education. A concern was also raised on course units that were thought very relevant to the teachers in their job yet they were sketchily covered during their training, or were lacking in the curriculum altogether. Such courses included Guidance and Counseling and HIV/AIDS.

The study also found that the problems related to area of training were mainly in Basic Sciences, Agricultural Economics and Guidance and Counseling. Apparently, these were also the areas in which irrelevant course units were found to fall, except for Guidance and Counseling which was found to be lacking in the curriculum. Teachers saw the frequent use of lecture method alone as one of the areas that should be addressed so as to make the programme more appropriate to their job. Whereas the method is good, it was not appropriate when used alone. They suggested the use of interactive teaching methods, which should include more practical oriented approaches since Agriculture and Biology are science-oriented subjects. Superficial coverage of the course content was attributed to congested syllabus of the training programme and also due to bloated numbers of the trainees in relation to the available teaching resources in the training institution. It was also revealed that besides the course units being too many, there was inadequate use of the available resources such as Tatton Farm. Generally, the study revealed that not all areas of the

training programme were relevant to the job of the graduates, and hence the curriculum content and pedagogy needed a review to address relevance. Graduates faced some problems at work, and they suggested sustainable solutions to these problems, which if adopted, relevance of the training progamme towards the job could be achieved. Therefore, the findings were used to make the recommendations for future curriculum reviews.

5.2 Conclusions

From the findings of the study, irrelevant course units, superficial coverage of course units and lack of enough time for coverage of the course units were the major areas to be addressed. Also, the pedagogy should be reviewed to make it relevant to the job of the graduate teachers. Addressing the issue of irrelevant courses and the lacking courses will create a balance in the professional and technical courses and hence create a balance between Agriculture and Biology as suggested by Lopokoyit (1995) and Shiundu & Omulando (1992). It was also evident that Education and Other Sciences were not a major problem, except the unit "Principles of Adult Education" which was seen as irrelevant to the job of the teacher at Secondary School level. Guidance and Counseling and HIV/AIDS were courses in the same area that were thought as very relevant yet missing in the curriculum.

There were more females than males in the location of study, yet more males were recruited in the training than females, as evidenced by the admission records of Egerton University. This indicated that females were more stable in their job than their male counterparts whose low number could imply a shift to other more satisfying areas of work. It also implied that the training prepared the graduates for other jobs than teaching alone. The fact that many were club patrons of either young farmers club or environmental science, suggested that the training prepared them for such responsibilities.

Job performance is greatly affected by the type of curriculum content and instructional methods. The kind of training in turn determines the problems to some extent, which are related to job performance. If the training is relevant towards the job to be performed, the graduate is likely not

to face any problems, and if any problems arise, he/she should be able to develop relevant coping mechanisms. The findings revealed that the training programme was lacking in some areas, such as a balance between the agriculture and biology courses, scope of coverage and usefulness of the courses, methodology with respect to use of practicals and existing teaching resources, and also inclusion of areas that were deemed relevant in today's' school learning curriculum such as HIV/AIDS and Guidance and Counseling.

5.3 Implications and Recommendations

While Kenya, as a developing country still places a lot of emphasis on the Agriculture sector as a backbone to its economy, there is a lot to be done to sustain this sector. One of the things to be done is by giving an ear to the views raised by those who implement the curriculum of the subject, who are part of the change agent system. The stakeholders need to address the problem from the point of view of those who felt the problem; some of who are these change agents. As it has been revealed, much needs to be done about the education section that addresses Agriculture, that is, the Agricultural Education in secondary schools and the training institutions that train the teachers of the respective subjects. The curriculum used in the training of teachers has to be reviewed to address the weaknesses raised to make it better. In order to improve performance, the loopholes in the pipeline of this performance must be addressed.

It has been clearly seen that those teachers studied, mainly fell in the age category of thirties. It is thus evident that there could be a drain of the graduates to other sectors, or promotions within the Ministry. Also, most of the cases were females, although during enrolment for training, males were usually more in number. The implication here was that the mobility mainly affects the male than their female counterparts. It also implied that females were more stable in their job than their male counterparts; hence their admission could be raised. One way to address this problem of shift to other sectors could be by responding to the issue raised by the teachers studied, that the B.Sc. Agricultural Education and Extension graduates be promoted to technical teacher status to give them more job satisfaction. However, for teachers to wear the technical teacher status hat, they should display certain qualities. Most important of all, they should teach agriculture as a vocational subject, which involves mainly the use of practicals. This requires commitment and

hard work. However, from the research findings, most of the teachers used mainly lecture method as the school farm was rarely used, though it is the most appropriate resource for teaching Agriculture. Most teachers did not show commitment in management of the existing agricultural resources such as the school farm. From the researcher's point of view, these teachers did not qualify to be categorized as technical teachers. From the results of other responsibilities, most teachers tended to be assigned extra responsibilities other than just teaching. The implication here was that the training prepares the graduates well for leadership roles, although lacking in the vocational aspect, as is required.

In addition, quite a number of courses were deemed irrelevant. Others were partially covered, or not covered at all. While some courses were very relevant to the time, they were lacking in the B.Sc. Agricultural Education and Extension training programme. The implication here is that the programme needs a review from the perceptions of the graduate teachers, to make it relevant to the job of the graduate teacher in the current dynamic world. The Agricultural Education and Extension Department, under the umbrella of the university, needs to form a curriculum review panel to address the gaps indicated. Since it was mentioned that the lecturers mainly teach areas that address examinations only due to congestion of the syllabus, there is a need to find means of either decongesting the syllabus or supervising teaching at the training institution to achieve effective training. The study also revealed poor practical method utilization in teaching. A better use of the existing resources in the university can be made. So as to address the crowded classes, they can be split in order to have alternate lessons so as to ensure better practical utilization, and deeper course content coverage. This approach would borrow from the current secondary school system of splitting the learners into various streams where they are too many to be taught together.

Lack of learning and teaching resources was one of the problems raised by the graduate teachers at their place of work. The study revealed that the teachers themselves had a solution, which could be sustainable. Production of teaching and learning resources by the department at affordable costs was the solution suggested. Therefore, the university, through the relevant department, could introduce a course unit that teaches the teacher trainees to prepare and/or

gather teaching aids. The trainees could also be taught how to store these teaching materials for sustainable use. When this area is addressed in training, the products of training could thus approach the teaching of Agriculture in a more vocational way, hence qualify to be technical teachers, as they desire. Besides, the problem of practical method and development of creativity would be addressed.

5.4 Suggestions for Future Research

a) A similar study should be done on a larger population of the graduates, preferably in the whole of Kenya, so as to be able to make better generalizations.

b) Research should be done in the other training progammes in Egerton University to establish their relevance to the jobs performed, hence guiding recommendations on curriculum reviews made for the respective Departments.

c) Research should be done to establish why there are more females in the location studied than males, yet the reverse is true on admission and graduation from the programme. The same study could be done to establish whether such a trend is true in other parts of Kenya, after which guiding recommendations on admission of trainees can be drawn.

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APPENDIX A

Distribution of Schools based on Divisions of Administration

Rongai

1. Moi High School Kabarak
2. Rongai Boys High School
3. A.I.C Morop Secondary
4. Banita Secondary
5. Mema Secondary
6. Mama Ngina Kenyatta Secondary
7. Athanai Secondary

Gilgil

1. Utumishi Academy High
2. Miti Mingi Secondary
3. Miriricua Secondary
4. Koelel Secondary
5. Gilgil Day Secondary
6. Mugaa Secondary
7. Kahuho Secondary
8. Gilgil High

Bahati

1. Moi Forces Acadeny
2. Jomo Kenyatta High School
3. Bavuni Secondary
4. Ndugiri Secondary
5. St. John's Bahati Secondary
6. Moi Deffo Secondary
7. Mereroni Secondary
8. Bahati PCEA Secondary
9. Kieni Girls High School
10. Kabazi Secondary
11. Green Hills Secondary
12. Solai High School
13. Arutani Secondary
14. Dundori Secondary
15. Muthaiti Secondary
16. Hyrax Secondary
17. Bahati Girls High School

Molo

1. Molo Academy
2. Njenga Karume Secondary
3. St. Joseph's Seminary – Molo
4. Molo Secondary
5. Kambala Secondary
6. Molo Township Secondary
7. Mugumu Secondary
8. R.V. Adventist Secondary

Kuresoi

1. Boran Secondary
2. St. Monica Secondary
3. Elc Kongoi Secondary

Njoro

1. Njoro Boys High School
2. Kirobon High School
3. Njoro Day Secondary
4. Njoro Girls High School
5. Kilimo Secondary
6. Cheptoroi Secondary
7. Larmudiac Secondary
8. Njoro Academy

Bauni

1. Lanet Secondary

Elburgon

1. Michinda Secondary
2. Mianzini Secondary
3. Elburgon Baptist Secondary

18. Kiamaina Secondary

Lare

1. St. Francis Lare Secondary
2. Naishi Secondary

Mbogoine

1. Subukia Secondary
2. Wei Secondary
3. St. Francis Subukia Secondary
4. Subukia Academy

Mau Narok

1. Kianjoya Secondary
2. Mau Narok Secondary

Nakuru Municipality

1. Nakuru High Shool
2. St. Xavier High School
3. Nakuru Day Secondary
4. Menengai High School
5. Langalanga Secondary
6. Loreto Nakuru High School
7. Moi Secondary
8. Kenyatta Secondary
9. Nakuru West Secondary
10. Christ The King High School
11. Flamingo Secondary
12. Lake Nakuru Secondary
13. New Elimu Secondary
14. Nakuru Girls High School
15. St. Columbus Secondary
16. Afraha Secondary
17. Nakuru Blankets Secondary
18. Mukuru Secondary
19. KhalsaSecondary
20. Jolly Jeddy Secondary
21. Lanet Secondary
22. Uhuru Secondary

Keringet

1. Sitoito Secondary
2. Keringet Secondary

Naivasha

1. Naivasha Day Secondary
2. Nyonjoro Secondary
3. St. Jones's Maela Secondary
4. Naivasha Mixed Day Secondary
5. Naivasha Mixed Boarding Sec.
6. D.N. Handa High School

Olenguruone

1. Cheptoech Secondary
2. Moi Secondary Amalo
3. Olenguruone Secondary

APPENDIX B

List of Schools selected for the Study

1. Moi High School Kabarak
2. Rongai Boys High School
3. A.I.C Morop Secondary
4. Banita Secondary
5. Mema Secondary
6. Mama Ngina Kenyatta Sec.
7. Athinai Secondary
8. Moi Forces Academy
9. Jomo Kenyatta High School
10. Bavuni Secondary
11. Ndungiri Secondary
12. St. Johns' Bahati Secondary
13. Moi Deffo Secondary
14. Mereroni Secondary
15. Bahati PCEA Secondary
16. Kieni Girls High School
17. Kabazi Secondary
18. Green Hills Secondary
19. Solai High School
20. Arutani Secondary
21. Dundori Secondary
22. Muthaiti Girls' Secondary
23. Hyrax Secondary
24. Njoro Boys High School
25. Kirobon Secondary
26. Njoro Day Secondary
27. Njoro Girls' Secondary
28. Kilimo Secondary
29. Cheptoroi Secondary
30. Larmudiac Secondary
31. Njoro Academy
32. Nakuru High School
33. St. Xaviers High School
34. Nakuru Day Secondary
35. Menengai High School
36. Langalanga Secondary
37. Loreto Nakuru High School
38. Moi Secondary
39. Kenyatta Secondary
40. Nakuru West Secondary
41. Christ The King High School
42. Flamingo Secondary
43. Lake Nakuru Secondary
44. New Elimu Secondary
45. Nakuru Girls High School
46. St. Columbus Secondary
47. Afraha Secondary
48. Nakuru Blankets Secondary
49. Mukuru Secondary
50. Khalsa Secondary
51. Jolly Jeddy Secondary
52. Kiamaina Secondary
53. Uhuru Secondary
54. Lanet Secondary
55. Bahati Girls High School

APPENDIX C

Questionnaire for Agriculture Teachers

Instructions

The questionnaire consists of two parts. Part A requires you to provide general information about yourself and your school. Part B requires you to provide information about your pre-service training programme. Your responses will be treated with confidentiality.

Part A: General Information

1. Name of your school _____
2. Your Age _____ Sex _____
3. Year of graduation _____
4. How many schools have you taught Agriculture since you graduated? _____
5. What other subject(s) do you teach, other than Agriculture? _____

   _____
6. What other responsibilities do you hold in your station of work, other than teaching?

   Head of department _____

   Club Patron _____

   Head Teacher _____

   Others (specify) _____

Part B: Information about training programme

1. Below is a table that contains various professional and technical courses offered to the B.Sc. Agricultural Education and Extension Trainee during the entire training period. Please check with a tick (✓) in the appropriate grid, the way you rate the courses, using the given key.

Key:

A. Usefulness of courses to teaching.

Category	Points
Very Useful	3
Fairly Useful	2
Not useful	1

B. State of Coverage during training

Category	Points
Satisfactorily covered	3
Sketchy coverage	2
Not covered at all	1

	A			B		
Courses	3	2	1	3	2	1
Introduction to Language and Communication						
Technical Writing and Reporting						
History of Education						
Philosophy of Education						
Soil Fertility and Plant Nutrition						
Measurement and Evaluation						
Farm Records and Accounts						
Group Dynamics						
Extension Education						
School Organization and Management						
Developmental Psychology						
Psychology of Learning						
Education Communication and Technology						
Field Attachment						
Special Methods of Teaching Agriculture						
Special Methods of Teaching Biology						
Agricultural Education Seminars						

Courses	3	2	1	3	2	1
Principles of Adult Education						
Teaching Practice						
Projects						
Health and Physical Education						
Rural Sociology						
Zoology						
Plant Pathology						
Agricultural Botany						
Genetics						
Principles of Crop Production						
Perennial Crops						
Agronomic Practices						
General Vegetable Growing						
Pasture and Forage Management						
Annual Crops						
Parasitology						
Entomology						
Economics						
Basic Organic Chemistry						
Physical and Inorganic Chemistry						
Ecology and Environmental Science						
General Mathematics						
Basic Biochemistry						
Family Life Studies						
General Physics						
AgroForestry						
Animal Breeding						
Introduction to Animal Diseases						

Courses	3	2	1	3	2	1
Routine Livestock Practices						
Non- Ruminant Nutrition						
Ruminant Husbandry						
Animal Nutrition						
Vertebrate Anatomy and Physiology						
Microbiology						
Introduction to Agricultural Economics						
Agricultural Marketing						
Production Economics						
Soil and Water Conservation						
Principles of Farm Management						
Technical Drawing						
Workshop Practices/Technology						
Farm Structures						
Introduction to Farm Power and Machinery						
Tractor Servicing, Maintenance and Operation						
Elementary Surveying						
Water Supply and Irrigation						
Agricultural Field Trips						
Cell Biology						
Research methods						
Sociology of Education						

Please list any other courses not included above and score each as above.

II. Below is a table showing various instructional methods that are appropriate for teaching any vocational and/or science oriented subjects. The key given explains the rating of their frequency of use during training. Please check in the appropriate grid, to indicate your rating during your training period.

1. **Key to Frequency of use of Instructional Method during Training.**

Category	**Points**
Very High	5
High	4
Average	3
Low	2
Very low/not used at all	1

	Instructional Method	**Frequency of use**				
		5	**4**	**3**	**2**	**1**
a).	Lecture Method and Lecture notes					
b).	Discussion					
c).	Practical					
d).	Laboratory experiments					
e).	Projects					
f).	Demonstrations					
g).	Problem solving					
h).	Assignments					
j).	Field Trips					
k).	Use of Computer Lessons					
l).	Seminars and Workshops					

III (a). In your own opinion, please check in the appropriate grid, the way you rate the problems you face at work, which you think are directly related to your training programme. A key is provided to guide you accordingly.

Key:

Category	**Points**
Very Serious	5
Serious	4
Somehow serious	3
Not serious	2
Not Applicable	1

	Problem	**5**	**4**	**3**	**2**	**1**
1	Lack of theoretical knowledge in: a) Basic Sciences _____ b) Animal Science _____ c) Agric. Engineering _____ d) Agricultural Economics_____ e) Education and other Social Sciences ____					
2	Lack of Communication Skills					
3	Lack of Research Orientation and Project Management					
4	Inadequacy in Interpreting and Implementing the Curriculum					

5	Lack of professional competences in: **a) Planning Instruction** (Schemes of Work, Lesson Planning, Acquisition and use of teaching resources, preparing a long range of project work for students, team work, selecting instructional methods that match students needs). **b) Teaching** (Employing the appropriate learning & teaching principles, appropriate use of instructional materials, appropriate use of relevant instructional methods to the topic in question, proper time management, employing clear motivation and communication skills, modifying plans to suit unexpected events/students responses).					

	c) Evaluation (Evaluating effectiveness of instructional methods, diagnosing learning difficulties, identifying topics requiring additional materials and time, evaluating effectiveness of curriculum in school, utilizing library resources, setting appropriate theory, practical, project examinations, scoring examinations and analyzing results, establishing an evaluation criteria, use of evaluation results to improve instruction, and appraising student performance). **d) Classroom Management and Discipline** (Recognition and management of truancy cases, organizing students into groups, developing communicating rules, managing behavioural problems and resolving interpersonal conflicts). **e) Understanding Human Behaviour** (Applying principles of motivation, diagnosing learners learning difficulties, determining effects of peer groups on learning, ability to influence people to accept change, and utilizing knowledge of interaction of people in groups). **f) School Community Relations** (Developing good working relations with administration, developing students working relationships with school personnel, development and maintenance of good rapport with students).					

	g) Guidance and Counseling (Identifying students who need guidance and counseling, helping students to evaluate their progress and make personal decisions). **h) Management of Student Organizations** (Establishing criteria for selecting club members, developing organizations annual progammes, coordinating organizations activities with other school programmes, using resource persons in advising club members, providing training for the members of the club). **I) Administrative Roles** (Processing knowledge of the objectives of agriculture, management of agricultural resources, developing leadership potential among students, delegating responsibility and authority to other teachers and students, purchasing appropriate materials and equipment, managing the school farm, making work consistent with resources and identifying policies specific to agriculture) **j) Professional Development** (Maintaining professional competency and participating in professional organizations and activities).					

IV In your own opinion, please describe the overall pre-service Agricultural Education and Extension training programme at Egerton University by responding to the statements below.

1. What is you opinion about the number of course units in relation to period of training?

2. What is your opinion about instruction during training?

3. Were the instructional methods used by the trainers/ Lecturers appropriate as to equip you well in teaching Agriculture and / or Biology? Yes_____ No_____

4. Give reasons for your answer above

5. Which topics do your learners find most difficult to comprehend?

6. What reasons would you give for this difficulty?

7. Which courses do you feel should be removed/ reviewed/ included in the B.Sc. Agricultural Education and Extension curriculum to make it more relevant to teaching Agriculture and /or Biology?

8. What problems other than those listed in **III** above, do you face in your job that you think are related to your training?

9. In which ways can the Department help you develop professionally so as to be more productive in your job performance?

APPENDIX D

Observation schedule

1) General grooming of the teacher.

   3. Well groomed

   2. Moderately groomed

   1. Poorly groomed

2) Existence of school farm. Yes _____ No_____

3) Type of enterprises in the farm.

   a) Livestock only (Specify)

   b) Crops only (Specify)

   c) Both (a) and (b) above.

4). Size/Acreage of farm and the distribution of the enterprises.

5) The state of maintenance of each of the enterprises listed above.

   5. Excellent

   4. Good

   3. Average

   2. Poor

   1. Farm not in use at all.

6) Were there students in the farm at the time of the researcher's visit? Yes_____ No____

7) Were these students on a lesson or on punishment?

APPENDIX E

Required Size for Randomly Chosen Sample

Table for determining needed size of a randomly chosen sample from a given finite population of N cases such that the sample proportion P will be within plus or minus .05 of the population proportion P with a 95 percent level of confidence.

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	241	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377

APPENDIX F

RESEARCH PERMIT

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THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss JANET JACKAY

MKANG'OMBE

of (Address) EGERTON UNIVERSITY

P.O. BOX 536, NJORO

has been permitted to conduct research in

Location,

NAKURU District,

RIFT VALLEY Province,

on the topic THE PERCEPTIONS OF EGERTON UNIVERSITY AGRICULTURE EDUCATION GRADUATES ON THE PERCEPTIONS OF THEIR PRESERVICE TRAINING TO THEIR JOB SATISFACTION

for a period ending 31st Dec, 19 2002

Applicant's Signature

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Research permit No. MOEST 13/001/320C 75

Date of issue 10th May, 2002

Fee received Shs 500

For: Permanent Secretary, Office of the President

MINISTRY OF EDUCATION

APPENDIX G

LETTER OF AUTHORISATION

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

Telegrams: "EDUCATION", Nairobi
Telephone: Nairobi 334411
When replying please quote
Ref. No. MOEST 13/001/32C 75/2
and date

JOGOO HOUSE "B"
HARAMBEE AVENUE
P.O. Box 30040
NAIROBI

10th May, 2002

Janet Jacknan Mkangombe
Egerton University
P.O. BOX 536
NJORO

Dear Madam

RE: RESEARCH AUTHORISATION

Please refer to your application for authority to conduct research on 'the perceptions of Egerton University Agricultural Education Graduates on the perceptions of their pre-service Training to their Job satisfaction, I am pleased to inform you that you have been authorised to conduct research in Nakuru District for a period ending 31st December, 2002.

You are advised to report to the District Commissioner and the District Education Officer, Nakuru District before embarking on your research project.

You are further advised to avail two copies of your research findings to this Office upon completion of your research project.

Yours faithfully

fw A. G. KAARIA
FOR: PERMANENT SECRETARY/EDUCATION

CC
The District Commissioner
Nakuru

The District Education Officer
Nakuru

APPENDIX H

EGERTON UNIVERSITY ADMISSION RECORDS FROM 1995 –2001

FACULTY	1995		1997		1998		1999		2000		2001		TOTAL	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1.EDUCATION & HUMAN RESOURCES														
B.Sc. (AGED)			108	45	71	31	78	12	52	24	68	230	377	135
B.Sc. (AGED)			14	21	20	10	31	4	9	3	31	4	105	42
B. Ed (ARTS) -L.C.C.			89	47	124	84	103	67	85	56	111	85	512	339
B. Ed (SCIENCE)			182	34	160	32	127	31	122	31	132	45	723	173
B. Sc. (CTID)					1	16	8	11	2	11	0	20	11	58
B. Sc. (FOND)					5	22	6	17	9	7	20	15	40	61
B. Ed. (AGHE)											17	7	17	7
Dip. (AGED)					143	75	183	67	137	66	50	32	513	240
TOTAL			**393**	**147**	**524**	**270**	**536**	**209**	**416**	**198**	**429**	**231**	**2298**	**1055**
2. ARTS & SOCIAL SC.														
B.A. (GENERAL)			80	50	103	35	167	93	74	35	165	96	589	309
B.A (HISTORY)							35	4	4	2	25	16	64	22
TOTAL			**80**	**50**	**103**	**35**	**202**	**97**	**78**	**37**	**190**	**112**	**653**	**331**
3. SCIENCE														
B.Sc.(GEN.)			183	49	101	19	98	22	76	9	75	43	533	142
B.Sc.(BIO-MED.)			16	7	20	8	21	5	25	9	24	12	106	41
B.Sc.(COMP.SC.)			26	1	22	1	7	16	32	2	29	5	116	25
B.Sc.(APP.AQ.SC.)							26	1	11	0	17	5	54	6
Dip (clinical med.)							22	10	27	9	23	15	72	34
TOTAL			**225**	**57**	**143**	**28**	**174**	**54**	**171**	**29**	**168**	**80**	**881**	**248**
4. AGRICULTURE														
B.Sc. (AGRIC.)			60	14	34	7	53	6	16	5	30	13	193	45
B.Sc. (ANPD)			63	14	47	2	37	3	14	4	27	10	188	33
B.Sc. (DAFT)			17	7	8	2	20	3	3	1	12	7	60	20
B.Sc (FOST)			14	7	15	6	19	4	23	3	17	8	88	28

B.Sc (Hort)			50	13	42	12	26	15	27	4	37	8	182	52
B.Sc (AGBM)			49	22	51	10	43	15	44	7	44	13	231	67
B.Sc (AGEC).			46	16	39	10	41	13	35	10	37	10	198	59
Dip. (AHE)					20	3	38	7	30	9	31	9	119	28
Dip. (D.T)					21	13	26	19	24	6	29	6	100	44
Dip. (HORT.)					25	16	22	18	39	15	26	10	112	59
Dip. (FMGT)					12	9	34	6	19	6	14	10		31
TOTAL			**299**	**93**	**314**	**90**	**359**	**109**	**274**	**70**	**304**	**104**	**1550**	**466**
5. ENGINEERING & TECH.														
B.Sc. (AGRIC. ENG)	25	9	37	4	22	3	26	2	22	1	21	3	153	22
B.Sc. (WEEN)							23	1	16	5	18	7	57	13
B.Sc. (MANUF. ENG)											23	0	23	0
B.Sc. (CONT. ENG.)											21	1	21	1
TOTAL	**25**	**9**	**37**	**4**	**22**	**3**	**49**	**3**	**38**	**6**	**83**	**11**	**254**	**36**
6. ENVIRON. SCI & NARE														
B.Sc. (NARE)			53	8	32	7	34	6	14	6	32	11	165	38
B.Sc. (ENV. SCIEN.)			21	4	15	2	13	7	7	1	26	12	82	26
TOTAL			**74**	**12**	**47**	**9**	**47**	**13**	**21**	**7**	**58**	**23**	**247**	**64**
7. COMMERCE														
BBM.											38	39	38	39
B.COM							41	32	48	26	24	11	113	69
TOTAL							**41**	**32**	**48**	**26**	**62**	**50**	**151**	**108**
8. SCHOOL OF CONT. EDUC. (MILITARY SC.)														
DIPLOMA							23	0	86	0	0	0	109	0
CERTIFICATE							213	0	153	0	0	0	366	0
TOTAL							**236**	**0**	**239**	**0**	**0**	**0**	**475**	**0**
9. POSTGRAD DIP (EDUC.)											23	17	23	17
GRAND TOTAL	**25**	**9**	**1108**	**363**	**1153**	**435**	**1644**	**517**	**1285**	**373**	**1317**	**628**	**6532**	**2325**