THE EFFECT OF FUNDING ON PRACTICAL TEACHING OF AGRICULTURE IN SELECTED SECONDARY SCHOOLS IN RAKAI DISTRICT

BY

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DECLARATION

I, JJEMBA NOORDIN WOOTOYITIDDE, declare that the work presented in this dissertation has not been submitted to any other university or institution of higher learning for any award.

Signed

Jjemba Noordin Wootoyitidde

Date

APPROVAL

This dissertation has been submitted with my approval as the supervisor.

Supervisor

Raphael Oryem.

Date

DEDICATION

This dissertation is dedicated to Asia Nakiwala. May you grow up and achieve more than I have done.

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ABSTRACT

The purpose of the study was to investigate how various aspects of funding affects the practical teaching of agriculture in selected secondary schools in Rakai district. The objectives of the study were to: assess the availability and adequacy of funds for agriculture practicals in secondary schools in Rakai district and establish whether funds for agriculture practical work are released in time whenever they are required.

A cross-sectional survey design was used. Twenty secondary schools were selected for the study which involved 20 head teachers and 20 heads of agriculture departments. Data was collected from head teachers and heads of departments using questionnaires and interviews.

The instruments were pre-tested and the necessary adjustments made to improve the validity and reliability. The study established that funds are generally not available for agriculture practicals. However in specific areas like crop production, schools have funds to conduct agriculture practicals. It was also found that where funds are available, they are not adequate for agriculture practicals. Also it was established that funds are not always released in time whenever they are required for practicals.

It was recommended that government should give special grants for practical subjects like agriculture. Also schools should start viable income generating activities to raise funds which in turn can be re-invested in agricultural production. Schools should establish small agriculture projects which do not require a lot of funds to train students in agricultural skills. The head teachers and heads of agriculture departments should cooperate and plan thoroughly so that funds are released in time for practicals. Finally it was recommended that school administrators should allocate adequate funds in their budgets for efficient organization of agricultural programmes in their schools.

CHAPTER ONE

INTRODUCTION

1.0 Background

Uganda's economy is primarily agricultural and supports close to 90% of the country's population which is rural (National Environmental Management Authority (NEMA) 1996). The Fintees Consultants (1996) also observed that the agriculture sector accounts for about 50% of GDP and over 90% of the exports, and employs about 80% of the employed household population. Agriculture is thus a very important sector in Uganda's economy.

The teaching of agriculture in Ugandan schools started as early as 1925 with the aim of relating educational activities to the community needs of the people (Ssekamwa, 1997). The Phelps-Stokes Commission which visited Uganda in the period 1924 – 25 criticised the missionaries' failure to relate education to the needs of the people by concentrating on literacy education and neglecting vocational subjects like agriculture. That is why the Education Policy Review Commission of 1989, emphasized vocationalisation of education, including agriculture from primary school right through secondary education. The idea was to provide continuity for vocational education which hitherto had been neglected. This was accepted by the Uganda Government. According to the White Paper on Education (Uganda Government, 1992), the education system should facilitate interpretation, application and translation of basic knowledge and understanding of fundamental facts and principles of scientific processes and techniques to be able to produce and use tools and labour saving devices for productive work.

This is not the first time the idea of vocationalisation of education has been floated in Uganda. It has been there since the colonial times as a deliberate effort by government to offer vocational education in all schools (Junge, 1991). The secondary school curriculum should achieve this aim. There is no doubt that the 'A' level agriculture syllabus aims to impart practical skills to the students. But in practice agriculture is taught theoretically in the classroom (Ssekamwa, 1997).

Agriculture as a practical subject requires facilities like land, equipment and a laboratory. These demand a lot of funds which may be difficult for many schools to secure in order to facilitate the practical teaching of the subject. In relation to this Lauglo and Norman (1987), while carrying out a study on diversified secondary education in Kenya, questioned the economics of offering pre-vocational subjects at secondary school which are more expensive, and which may not be fully facilitated in terms of equipment and managerial expertise. This had led to inadequate, and theoretical instruction in many schools. Similarly Ssekamwa (1997) observed that in the Uganda education system, the high running costs of practical education reduce effectiveness of conducting practical education in subjects like agriculture.

In Rakai district, secondary schools are poorly facilitated in terms of materials and equipment required for practical agriculture. The Danagro Adviser (1997), while reporting on agricultural education in the districts of Bundibugyo, Kabarole, Masaka, Pallisa, Tororo and Rakai, observed that neither the government nor the districts have so far been able to allocate sufficient funds for primary and secondary schools to rebuild the schools and equip them with education materials. The report recommended funding of schools to increase the amount of practical training in agriculture education. However, imparting practical skills to students can only be achieved when teachers demonstrate them and this is possible when schools have funds to buy the necessary facilities.

1.1 Statement of the problem

Many secondary schools in Uganda in general and school in Rakai district in particular lack facilities and funds for practical subjects like agriculture. Like other districts in Uganda, schools in Rakai district do lack funds. As pointed out by Ondia (1995), teachers do not adequately demonstrate agricultural skills in secondary schools due to lack of funds to buy the necessary tools, equipment and other materials. However the various aspects of funding that affect the practical teaching of agriculture in secondary schools in the district have not yet been assessed. It is therefore important to investigate the limitations brought about by lack of funds in the practical teaching of agriculture.

1.2 Purpose

The purpose of the study was to investigate the funding of the practical teaching of agriculture in selected secondary schools in Rakai District.

1.3 Objectives

The study was guided by the following objectives:

- To assess the availability and adequacy of funds for agriculture practicals in secondary schools in Rakai district.
- (iii) To establish whether funds for agriculture practical work are released in time whenever they are required.

1.4 Scope

The study was limited to 20 selected secondary schools in Rakai District. It focused on three aspects of funding. These included the availability of funds, the adequacy of funds, and the timeliness of release of funds whenever they are required for agriculture practicals.

1.5 Significance

The study findings are expected to be useful in the following ways:

Policy makers

Identifying problems related to funding will enable the policy makers to realize the need to allocate more funds to schools to support practical subjects like agriculture.

It will also influence the school administrators to give agriculture a priority.

School administrators

The findings of this study will make school administrators realize how various aspects of funding are important in conducting successful practical lessons in agriculture so that they can plan accordingly.

Agriculture teachers

The findings will help agriculture teachers to lay strategies for acquiring funds to purchase and organise materials to use in practical agriculture lessons in time.

Students

It is hoped that when policy makers and school administrators use the findings, the teaching of agriculture in schools will improve.

Researchers

The finding of this study will stimulate researchers to conduct more research on various aspects of funding the practical teaching of agriculture in secondary schools.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This study was aimed at investigating the effect of funding on the practical teaching of agriculture in secondary schools. The related literature was surveyed considering the need for practical education and the problems associated with funding the practical teaching of agriculture.

2.1 The Need for Practical Education

According to Suleiman and Barry (1997), the school agricultural science curriculum is structured around three major concepts namely production, protection and economics, that should be taught practically to make an impression on society.

Evans (1970) argues that society determines the rate, direction and application of scientific discoveries. He further observed that secondary school science should be organised around the real problems of mankind, such as pollution, food production and population. This can be done when practical education is provided which in turn can raise the contribution of agriculture to the economy.

The contribution of agriculture to the economy of Uganda shows that Uganda is able to advance economically when the rural population is attended to. This calls for provision of the necessary instruments and skills through skilled personnel like extension workers and properly trained students from schools that teach agriculture.

Introduction of agricultural education in Ugandan secondary schools was to equip the school leavers with the necessary skills and practices in agriculture. This is supported by UNEB (1991) which gives one of the main aims of teaching agriculture in secondary school as to impart practical skills to students of agriculture to enable them to be self reliant resourceful and with problem solving skills.

However, Ssekamwa (1979), pointed out that the real approach to the teaching of agriculture was discouraging. Agriculture is taught theoretically and has failed to make an impression on society.

Olaitan (1988) noted that many students from farming homes come to school with farming problems like weed control, which crops to grow and what fertilizers to apply. He advised that such problems can only be solved when students are exposed to these situations practically. This is supported by the Education Policy Review Commission (1989) which noted that Uganda Schools should teach practical skills, knowledge and values which will help school leavers to solve real life problems.

Most of the school drop outs in the Ugandan education system end up in rural areas. So they need to be equipped with the necessary skills needed for rural agricultural development. Thus practical education in schools has to be emphasised by imparting manipulative skills to the students to make them more useful to the society. This was emphasised by Odrumuru (1987) who said that agricultural education is an essential basis for increasing efficiency in agricultural production.

Practical agricultural education helps the learners to solve some common problems which cannot be solved theoretically. The use of instructional materials enables students to learn while doing. Sifuna (1974) observed that practical teaching helps students to learn by seeing and doing and to solve their problems with confidence.

There is need to develop appropriate technologies and manpower capable of developing the abundant natural resources in order to improve the quality of life. This is why the Education Policy Review Commission (MOES, 1989), stated that the aim of education should be to build an independent, integrated, self-sustaining national economy. This implies that education must be oriented to the development of productive skills and enhancement of knowledge through an exposure to new technologies and continuing life-long education. Practical education in agriculture is one way of achieving this aim.

2.2 Problems Associated with Funding Practical Teaching of Agriculture

2.2.1 Availability of Funds

Agriculture as a practical and vocational subject requires efficient instructional methods for imparting knowledge and practical skills to the learners. The teacher has to use materials to achieve the goal of why and how to do things. Epeju (1989) observed that the principle method of agricultural education in schools involves highly organised skill development and practice on school farms through demonstrations and project work.

According to Epeju (1989) a school farm should have a wide scope of enterprises which do adequately represent the farming in the community in which it is located. It should be of an economic size with a good scope of livestock and crop enterprises. It should have sufficient facilities, equipment, machinery and materials for its operation, and the working capital to run it should be sufficiently available.

Lack of funds prevents schools from developing their farms to such a status. This is supported by UNESCO (1999) which observed that lack of financial resources hindered the expansion of facilities which led to specific problems in vocational subjects like agriculture. This is one reason for the stagnated position of vocational education in Uganda. This is further emphasised by Omaren (1992) who stated that school farm managers blamed the failure to improve food production on lack of funds to meet the high initial costs required to open up viable agricultural programmes for efficient training in practical skills.

Most schools have no farms or have ill-equipped farms. Kyeyune (1999), noted that some schools which offer agriculture have adequate land as a resource. However, they fail to exploit it due to financial hardships. She recommended that the Ministry of Education and Sports should allocate special grants to schools offering vocational subjects like agriculture. This can help alleviate the problems faced by Headteachers, teachers and students in terms of inadequate facilities.

UNESCO (1983) observed that implementation of secondary agricultural programmes faces a number of difficulties. In some cases the courses apparently are largely limited to theoretical classroom presentation because of lack of farmland, but mostly because of shortage of simple hand tools, irrigation equipment and consumable such as fertilizers. All these require a lot of funds, without which it is not possible to build sound attitudes to farming since the practical aspect cannot be provided. Earlier UNESCO (1965), and the World Bank report of 1981 had revealed that technical/vocational subjects like agriculture are more expensive per unit cost than theoretical ones.

Money is an absolutely crucial input in an educational system. It provides the essential purchasing power with which education acquires its human and physical inputs. This is why Ssekamwa (1997) pointed out that the great expense involved in running a school along practical education discouraged school operators from being enthusiastic for this kind of education and consequently easily ran schools which were offering literacy courses. He further said that pioneers of private schools whose original aims were to provide practical education in their schools eventually failed and also began to run their schools along the literacy curriculum.

Schools are facing many constraints and generally the rural areas are facing more problems than urban areas (Danagro Adviser, 1997). Most of the problems are connected

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to lack of funds. The investment of funds in materials for agricultural education for secondary schools is thus crucial. It will help students to acquire practical skills which will enable them to carry out farming efficiently.

2.2.2 Adequacy of Funds

The teaching of practical subjects like agriculture has degenerated into a theoretical exercise with emphasis continuing to be placed on academic performance, (Government White Paper, 1992). This is because schools have inadequate funds to provide all the necessary materials for practical work. This is supported by Kalyango (1998) who said that financial constraints or budget cuts have effects on the performance of institutions due to inadequate materials and ill-equipped facilities like the library, laboratory and the farm.

It is essential for students to learn and practice skills in a good quality school farm. In most cases this is not possible because schools do not have good quality farms due to inadequate funds. Erongu (1995) noted that a good quality farm should have both crop and livestock enterprises with the necessary tools and farm structures allowing active practice of skills by students. The farm should also be of economic value. That is why Kato (1995) pointed out that it is essential for agricultural education programmes to put emphasis on agricultural technologies that increase yields per unit area or per unit animal and are scale neutral. These can be affordable by schools with low income and can be used to train students in agricultural skills.

2.2.3 Release of Funds

The success of all agricultural enterprises depends on how timely the operations are done. School agricultural education programmes in most cases fail because funds are insufficient and not received in time. It is important that operations like seedbed preparation, planting, spraying and weeding are done in time to avoid losses. Money has to be released in time to carry out such operations. There has been support by the World Food Programme through supplying educational institutions with food or non food aid for sometime. The aim was to assist the government in implementing its educational and agricultural policy of improving the teaching of agriculture.

Commenting on this programme, Omaren (1992) said that lack of funds to acquire educational facilities hindered the practical teaching of the subject and the stimulation of food production. This requires funding which is adequate and timely for efficient organisation of agricultural programmes. This is emphasised by Nyachwo (1991), who recommended that the Ministry of Education grant more financial assistance to schools purposely for agriculture as a subject so that agriculture operations are done in time.

Though agriculture programmes are costly to run, Headteachers show willingness to support them (Erongu, 1996). This agrees with what Ondia (1995), found out that Headteachers co-operate with their agriculture departments, but unfortunately funds are in short supply and untimely.

Financial resources are so meagre that the agricultural inputs that can be used in practical agriculture cannot be got in time. In order to ascertain the impact of funding on the practical teaching of agriculture in Rakai District, the following research questions were formulated.

2.3 Research questions

The study was guided by the following research questions:-

- (i) How do schools fund agriculture practicals?
- (ii) When are funds for agricultural practicals released?

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the research process. It includes the research design, subjects and sampling techniques, the instruments used, the testing of validity and reliability of questionnaire, the procedure followed and methods of data analysis.

3.1 Research design

A cross sectional survey design was used to collect information from a random sample that was drawn from a target population. This design was most appropriate because the data collection period was very short and sample attrition is not an issue.

3.2 Study sample

Twenty secondary schools in Rakai district were randomly selected for data collection. These included both government and private secondary schools. Participants for this study consisted of head teachers and heads of Agriculture departments .These groups of people are directly concerned with the planning of practical teaching of agriculture and its funding. So the information from them was valuable. Twenty head teachers and twenty heads of agriculture department from the sample schools were used. The total population was 40 subjects.

3.3 Instruments

The instrument s used in data collection includes questionnaire, observation checklists and interview guide.

Questionnaire

Two sets of questionnaires were used in data collection. The first set was for the head teachers (appendix D) and the second set was for the heads of agriculture department (appendix E). The questionnaire was designed with closed ended items intended to give clear answers that were easy to tabulate.

Interview Guide

Interview schedules (appendix F) were prepared and used to collect information both head teachers and heads of agriculture departments.

Observation checklist

The observation checklist (appendix G) was also used to capture and document the facilities and equipments used in the practical teaching of agriculture in the sampled schools. Both the interview and observation checklist were to enrich the information obtained using questionnaire and for triangulation purposes.

3.4 Testing validity and reliability of the questionnaires

The content validity of the questionnaire was achieved right from the start of their construction; they were given to course mates and lecturers for scrutiny. Adjustments were made and items which were relevant to the study were retained. The reliability of

the questionnaire was established by computing the internal consistency of the items after pre-testing them on a sample of 10 head teachers and 10 heads of agriculture departments. The result in appendix B shows the computed reliability using the SPSS package. The reliability value for head teachers was 0.69 while that for heads of agriculture department was 0.73. These figures were acceptable reliability levels.

3.5 Procedure

An introductory letter (appendix A) from the Dean of School of Education of Makerere University was presented to the head teachers, seeking permission to carry out research in their schools. The questionnaires were administered in each of the 20 schools by the researcher on the days convenient to the head teachers and the heads of agriculture departments. The questionnaires were received back on the same day they were administered.

Interviews were carried out with head teachers and heads of agriculture departments to enrich the information obtained by using questionnaires particularly on availability and adequacy of funds. These were always done after receiving back the questionnaires. Observations were also carried out during data collection to gather data on school farms, laboratories, workshops and animal projects. This was always made after administering questionnaire and interviews to triangulate the information got. Aspects observed were based on a checklist (appendix G)

Information was extracted from schools annual budgets to show the incomes and the amount of funds allocated to Agriculture department and particularly teaching. However,

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the researcher was able to look at only 13 school budgets instead of twenty because some head teachers did not want to release them.

3.6 Data analysis

The data obtained from the questionnaires were analyzed using descriptive statistics which gave frequency counts, percentages, mean and median. The data from interviews and observations was analysed in terms of percentages.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.0 Introduction

This chapter presents data collected using questionnaires and interviews with Headteachers and heads of agriculture departments and observations carried out on the facilities and equipments available in the teaching of agriculture. The key issues raised centred on the availability of funds, adequacy of funds and the timely released of funds.

4.1 Availability of funds for agriculture practicals

To obtain data required for this issue, views of head teachers and heads of agriculture department were sought using questionnaire item 4 for heads of agriculture departments and item 5 for Headteachers. The table below shows Headteachers' responses regarding availability of funds for agricultural instructional materials.

Item	Percentage (%)		
	Available	Not available	
Crop production	80	20	
Animal production	25	75	
Mechanization	25	75	
Field trips	40	60	
Demonstration plots	65	35	
Exhibitions	25	75	

Table 4.1: Headteachers'	responses regarding	availability of funds for	[.] agricultural
instructional materials.			

According to Table 4.1, 80% of the Headteachers indicated that their schools have funds for conducting agriculture practicals in crop production, while 20% indicated that they do not have funds. Only 25% of the Headteachers reported that they have funds to provide instructional materials for animal production, exhibitions and mechanization, while 75% indicated that their schools have no funds for animal production, mechanization and exhibitions. About 35% of the Headteachers reported that they have funds for field trips while 60% of the head teachers reported no funds for field trips. Sixty five percent of the head teachers indicated that they have money for demonstration plots, while 35% said that they have no funds.

 Table 4.2: Headteachers' responses regarding availability of funds for field trips and

 exhibitions.

Item	Percentage (%)		
	Yes	No	
Field trips	35	65	
Exhibitions	15	85	

Table 4.2 shows that 35% of the Headteachers said that they have funds to organize field trips while 65% said that they have no funds. Only 15% reported that they have funds for exhibitions while 85% said that they have no funds.

Data from the 20 heads of departments on availability of funds for agricultural instructional materials is presented in Table 4.3 below

Table 4.3: Heads of departments responses on availability of funds for c	rop
production.	

Item	Percentage (%)		
	Available	Not available	
Ное	100	0	
Rake	70	30	
Sickles	75	25	
Seeds	95	5	
Seeders	0	100	
Planters	0	100	
Pesticides	65	35	
Herbicides	70	30	
Fertilizers	45	55	
Fruning knife	70	30	
Dusters	45	55	
Wheel barrows	70	30	
Sprayers	40	60	
Spades	70	30	

Table 4.3 shows that for most of the items listed under crop production, more than half of the heads of departments indicated availability of funds for them. All heads of departments indicated unavailability of funds for planters and seeders, while less than half of them indicated availability of funds for fertilizers, dusters and sprayers.

Information from heads of departments on availability of funds for instructional materials under animal production is presented in Table 4.4

Item	Percentage (%)		
	Available	Not available	
Cattle	5	95	
Sheep	25	75	
Goats	20	80	
Pigs	20	80	
Chicken	30	70	
Milk chums	50	50	
Syringes	50	50	
Wire strainers	40	60	
Vet drugs	20	80	
Dip	5	95	
Burdizzo	20	60	

Table 4.4: Heads of departments' responses on availability of funds for animalproduction.

According to Table 4.4, less than half of the heads of departments indicated availability of funds for the items under animal production with exception of only milk churns and syringes where a half of the heads of departments indicated availability of funds. Only 5% of the heads of departments indicated availability of funds to manage cattle and for construction of a cattle dip. More than half of the heads of departments indicated that they have no funds for most of the items.

Information from heads of department on availability of funds for materials under mechanization is presented in Table 4.5.

Item	Percentage		
	Available	Not available	
Four wheel tractor	0	100	
Trailer	0	100	
Plough	0	100	
Secateurs	60	40	
Winnowers	0	100	
Ox-plough	10	90	
Ridgers	0	100	
Spades	65	35	
Old engine parts	50	50	

 Table 4.5: Heads of departments responses on availability of funds for

 mechanization

According to Table 4.5, all the heads of department indicated no funds for a four wheel tractor, plough, winnowers, trailers and ridgers. Ninety percent reported that they have no funds for ox-ploughs. More than half (60%) reported that they had funds for secateurs. Sixty five percent indicated that they had funds for spades, while a half reported that they had no funds. Half of the heads of departments said that they had funds for old engine parts while 35% reported no funds.

4.2 Adequacy of funds released for agriculture practicals

Information on adequacy of funds released for agriculture practicals was sought using questionnaire item 6 for heads of agriculture departments and for head teachers. The data obtained is presented in Table 4.6 below

Item	Percentage (%)	
	Adequate	Not Adequate
Tools,. Implements	25	75
machines		
Purchase of	0	100
animals		
Drugs for animals	10	90
Inputs for crops	45	55
Field trips	20	80
Demonstration	45	55
plots		

Table 4.6: Headteachers	' responses on	adequacy	of funds f	or agriculture	practicals.
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From the table 25% of the head teachers indicated that funds are adequate for tools, implements and machines while 75% reported that funds are not adequate. All head teachers said that funds are not adequate for purchase of animals. Only 10% reported that funds are adequate for animal drugs, while 90% reported that funds are inadequate. Forty

five percent said that funds are adequate for crop inputs, while 55% said that funds are inadequate. Eighty percent indicated that funds are inadequate for field trips. Forty five percent reported adequate funds for demonstration plots, while 55% reported that funds are inadequate. These results show that most schools do not have adequate funds for all the items listed.

The responses for heads of departments on adequacy of funds in Table 4.7 below;

 Table 4.7: Head of departments' responses on adequacy of funds for agriculture practicals.

Item	Percentage (%)				
	Adequate	Not Adequate			
Tools, implements & machines	5	95			
Purchase of animals	5	95			
Drugs for animal	5	95			
Inputs for crops	20	80			
Field trips	20	80			
Demonstration plots	25	75			

Table 4.7 shows that over 90% of the heads of departments indicated that they have inadequate funds for tools, implements and machines, purchase of animals and drugs for animals, while 5% indicated adequate funds for animal drugs and for tools, implements and machines.

Only 20 to 25% reported adequate funds for crop inputs, field trips and demonstration plots while 75 to 80% reported inadequate funds for these items. These results show that most of the schools do not have adequate funds for all the items listed.

Indeed the extracted information from the school annual budgets further confirms the facts that funds allocated to agriculture are not adequate. This is shown in Table 4.8 below.

School	Table budget	Allocation to	Percentage	Allocation to	Percentage
		agriculture		agriculture	
				practical	
А	48,712,500	800,000	1.64	160,000	20
В	46,200,000	500,000	1.08	-	-
С	37,074,240	200,000	0.54	-	-
D	38,813,442	1,500,000	3.86	570,000	38
Е	30,700,000	2,890,000	9.41	1,395,000	48.3
F	34,939,900	-	0	-	-
G	70,347,750	2,610,000	3.71	990,000	37.9
Н	65,000,000	1,000,000	1.84	280,000	28
Ι	39,480,000	400,000	1.01	-	-
J	52,255,828	400,000	0.96	120,000	24
K	28;864,500	283,000	0.98	-	-
L	62,318,225	200,000	0.32	-	-
М	41,762,700	519,700	1.24	-	-

Table 4.8: Extracts from school budgets showing allocation of funds to agricultureDepartments in selected secondary schools.

Table 4.8 shows that most schools allocate little funds to agriculture departments. It was only in 3 schools (D, E and G) where more than 3% of the total budget was allocated to agriculture departments. In school F nothing was allocated to the agriculture department.

Even out of the allocations made to the agriculture department, only 3 Schools (D, E and G) had more than 30% of the funds used specifically for agriculture practicals. Seven schools allocated no funds for agriculture practicals.

During interviews, heads of departments said that the small allocations are used for production of food for consumption.

4.3 Timely release of funds for agriculture practicals.

For timely release of funds for agriculture practicals, information was sought using questionnaire items 7,8,9 and 10 for heads of departments, and items 8,9,10,11 and 12 for Headteachers. Table 4.9,4,10 and 4.11 show the responses of heads of departments and Headteachers.

Table 4.9 shows the responses of head teachers on frequency of receiving requisitions and purchase of agriculture materials.

Table 4.9: Headteachers' response on frequency of receiving requisitions and purchasing agriculture materials.

Item	Percentage (%)									
	Daily	Weekly	Once a	Once a term	Never					
			month							
Frequency of	0	15	40	35	10					
receiving										
requisition										
Frequency of	0	20	35	40	5					
purchasing										

agriculture			
materials			

According to Table 4.9, 15% of the Headteachers receive requisitions weekly, 40% once a month, 35% once a term while 10% never receive requisitions. Only fifth of the Headteachers purchase agriculture materials weekly, 35% once a month, 40% once a term while 5% never purchase them.

The data in Table 4.10 below shows the headteachers response on the timely release of funds.

Item	Percent	tage (%)			
	One	One	One	One term	No
	day	week	month		release
Period taken to	0	15	35	50	0
release funds					
from the time of					
requisition					

 Table 4.10: Headteachers' response on the timeliness of release of funds

The release of funds after requisitioning would be timely when they are released with in a period of one day up to one week, while it would be untimely when released after a week. According to Table 4.10, 15% of the Headteachers release funds a week after receiving requisitions, 35% after a month while 50% release funds after a term. This indicates that

only 15% of the Headteachers release funds in time. In general funds for agriculture practicals are not released in time. Therefore agriculture materials are not purchased in time.

The table below presents data for heads of departments' responses on frequency of requisitioning for funds and the length of time it takes to receive the funds.

 Table 4.11: Heads of departments response on frequency of requisitioning for funds

 and the length of time it takes to receive funds.

Item	Percentage (%)									
	Daily	Weekly	Once a	Once a term	Never					
			month							
Frequency of	0	40	30	30	0					
requisitioning for										
funds.										
Length of time it	0	20	40	25	15					
takes to receive										
funds										

Table 4.11: shows that 40% of the heads of departments make requisitioned for within a week, 40% after a month, 25% after a term while 15% never receive funds. The requisition of agricultural materials on a daily and weekly basis after requisition would indicate that materials are received in time. So the results show that about 80% of the heads of departments do no receive funds in time. This agrees with the Headteachers responses on the period taken to release funds whereby about 85% do not release funds in time.

Interviews with both Headteachers and heads of department revealed that the delay in release of funds was mainly caused by the unavailability and inadequacy of funds. They also said that this makes schools not to have viable agriculture projects which can be used for agriculture practicals. Table 4.12 shows the percentages of schools which had materials observed basing on the checklist.

Item	Percentage (%)	
	Available	Not available
Garden tools	60	40
Machines	0	100
Demonstration plots	60	40
Preserved animal and crop pests	10	90
Carpentry workshop	0	100
Mechanical workshop	0	100
Cattle	15	85
Goats	10	90
Piggery	25	75
Poultry	10	90
Rabbits	5	95

 Table 4.12: Information on the available materials used in agriculture practicals

According to table 4.12, 60% of the schools had garden tools and demonstration plots. Over 70% of the schools had no most of the materials listed. None of the schools had machines, carpentry and mechanical workshops.

Information whether there are factors that delay the release of funds was obtained from Headteachers who responded to items 11 and 12 (appendix D). on procedure followed in securing funds for agriculture practicals, 5% of the Headteachers reported that the heads of department makes a budget an presents it to the Headteacher, 90% said that the head of departments budgets pass through a committee to the Headteacher, while 55 indicated that teachers request for any amount at a given time. Also 65% of the Headteachers reported that the final decision maker to release funds is the head teacher, while 35% reported that it is the board of governors. The results indicated a possible delay in the release of funds since 90% of the heads of departments budgets pass through a committee to the Headteacher, and in some cases the final decision maker to release funds is the board of governors.

4.4 Summary

Results from respondents reveal that funds are generally not available to provide instructional materials in all the different areas of agriculture. However, in some specific areas especially in crop production results show that schools have funds to conduct practicals in these areas. Funds are not available for most items listed under animal production and mechanization. In some cases where funds are available they are not adequate to provide the necessary materials required for agriculture practicals.

As regards the timely release of funds results show that Headteachers do not release funds in time. Heads of departments too do no receive agriculture materials requisitioned for in time.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter includes discussions, conclusions and recommendations. The findings are discussed under availability of funds, adequacy of funds and timely release of funds for agriculture practical work.

5.1 Availability of funds for agriculture practical

According to the findings of this study in general schools do not have funds to start and expand a wide variety of agriculture projects where practical skills can be demonstrated to students. The responses from the Headteachers on availability of funds presented in Table 4.1 indicated that only 15% of the schools had funds for animal production. This is also revealed by the heads of departments responses presented in table 4.4 which indicated that funds are not available for animal projects. This agrees with what UNESCO (1999) observed that lack of financial resources hindered the expansion of facilities which led to problems in vocational subjects like agriculture. This is emphasized by Kyeyune (1994) who noted that some schools have adequate land as resource but fail to exploit it due to financial hardships. Consequently the limited scope of agricultural experiences in place cannot build positive attitudes to farming since the practical aspects cannot be provided. This is in conformity with the observations of Epeju (1989), that agricultural education in schools should involve highly organized skills development and practice on school farm. This can be achieved through demonstrations and project work which require funds to carryout.

5.2 Adequacy of funds for agriculture practicals

The findings of this study indicated that schools do not have adequate funds to provide the necessary materials required for agriculture practicals. This is indicated by the results represented in Table 4.6 where less than half of the Headteachers said that schools have adequate funds for all the items listed. The heads of departments responses presented in Table 4.7 also indicated that less than 20% of the schools had adequate funds for all the items listed. Adequacy of funds directly affects the acquisition of enough instructional materials and others physical facilities like land and laboratories. This was also confirmed by responses of Headteachers and heads of departments during the interviews the researcher had with them.

Extracts from school budgets presented in table 4.8 also revealed that schools have low incomes and the amount of money allocated to agriculture departments is very little. The little funds allocated cannot be used to start and manage viable agricultural projects. It can only be used to buy simple tools like hoes and pangas. These observations support Kayanyo (1998) who noted that financial constraints or budget cuts have effect on performance of institutions due to inadequate materials and ill equipped facilities like laboratories and the farm. Observations carried out on school farms visited further confirms this, ninety percent of the school farms were in poor conditions with poorly managed projects and there were few equipment being used.

Interviews with heads of departments revealed that field trips to established farms could be organized for students to experience different farming practices. However as pointed out by 80% of the Headteachers, this is also limited by inadequate funds and mostly calls for contributions from students. It was also pointed out by Headteachers and heads of departments that when funds are inadequate agricultural practices are taught theoretically in the classroom. This is supported by the government white paper (1992), which noted that the teaching of practical subjects like agricultural degenerated into a theoretical exercise by putting more emphasis on academic performance. This agrees with Ssekamwa (1997) who said that the approach to the teaching of agriculture has failed to make an impression on the society because it lacked the practical aspect. According to the results inadequate funds leads to inadequate facilities and instructional materials which prevent the demonstration of practical skills to students.

The low funding as shown by data from school budgets indicates that schools cannot provides all the necessary materials for practical agriculture. This is supported by the ministry of education and sports (1989) which reported that low funding and the high costs of equipment and materials affect the quality of vocational courses like agriculture.

5.3 Timely release of funds for agriculture practicals.

The findings indicated that funds for agriculture practicals are not released in time, and therefore teachers do not receive materials requisitioned for in time. Results in Table 4.11 indicated that 80% of the heads of departments receives funds requisitioned for after a month. Also 85% of the Headteachers indicated that they do not release funds in time;

the heads of departments during interview revealed that demonstration of practical skills is dependent upon materials which are not purchased. Timely release of funds affects the frequency of demonstration of practical skills to students.

As Maren (1992), observed efficient organisation of agricultural programmes in schools requires funding which is adequate and timely.

It was also noted that 65% of the Headteachers are the decision makers of the release of funds and the final decision maker do not cause delays in the release of funds. It was unavailability of funds that caused the delays. This is in line with Ondia (1995) who stated that Headteachers cooperate with their agriculture departments with their agriculture departments but funds are in short supply and are not got in time. Therefore agricultural inputs that can be used in practical agriculture cannot be got in time.

On another note, personal qualities such as experience and qualifications of Headteachers and heads of department may be considered to affect the practical teaching of agriculture. However, the study established that all the Headteachers were qualified teachers and all of them had a working experience of three years and above, thus the insufficient practical teaching of agriculture cannot be attributed to personal qualities of Headteachers and teachers alone.

5.4 Conclusion

The following conclusions have been drawn from the study.

Schools in general do not have funds to carry out agriculture practicals and where funds are available, they are not adequate.

Funds for agriculture practicals are not released in time and this affects the frequency of demonstration of agricultural skills to students.

5.5 Recommendation

Based on the findings and conclusions of this study the following recommendations have been made.

- The government should give special grants for practical subjects like agriculture.
 This will enable schools to establish learning facilities and acquire equipment and other instructional materials for the practical teaching of the subject.
- Schools should start viable agricultural projects which can generate funds and such funds can be re-invested in agriculture and also used to buy more instructional materials in agriculture.
- School administrators should allocate adequate funds to agriculture departments in their budgets for efficient implementation of agriculture curriculum in the schools.

- iv) Agriculture departments in schools should establish small agriculture projects which do not require a lot of funds to be used to train students in agriculture skills.
- v) Heads of department of agriculture should requisition for funds well in advance to ensure timely organisation of agriculture practicals for students.
- vi) More research on funding practical teaching of agriculture should be conducted in other parts of the country in order to obtain a general picture of agriculture teaching in the whole country.

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APPENDICES

APPENDIX B

Head teachers

	Q1	Q2	Q3	Q4	Q6	Q8	Q9	Q10	Q11	Q12
1	1.00	4.00	4.00	3.00	2.00	5.00	4.00	4.00	2.00	4.00
2	1.00	4.00	3.00	2.00	2.00	4.00	3.00	1.00	2.00	2.00
3	1.00	4.00	4.00	3.00	2.00	4.00	4.00	1.00	2.00	3.00
4	1.00	4.00	3.00	2.00	2.00	4.00	4.00	1.00	2.00	3.00
5	1.00	4.00	3.00	3.00	2.00	3.00	3.00	1.00	2.00	3.00
6	1.00	4.00	4.00	2.00	2.00	3.00	4.00	2.00	2.00	4.00
7	1.00	4.00	3.00	2.00	2.00	3.00	3.00	1.00	2.00	3.00
8	1.00	4.00	3.00	2.00	2.00	3.00	3.00	1.00	2.00	4.00
9	1.00	4.00	3.00	2.00	2.00	3.00	3.00	3.00	2.00	3.00
10	1.00	4.00	4.00	2.00	2.00	4.00	4.00	4.00	2.00	4.00

Alpha value = 0.69922

Head of departments

	Q1	Q2	Q3	Q7	Q8	Q9	Q10	Q11
1	1.00	4.00	3.00	2.00	2.00	2.00	1.00	2.00
2	2.00	4.00	3.00	2.00	2.00	2.00	2.00	2.00
3	3.00	4.00	3.00	3.00	2.00	4.00	1.00	3.00
4	1.00	4.00	3.00	2.00	2.00	3.00	1.00	3.00
5	2.00	4.00	3.00	4.00	4.00	3.00	1.00	3.00
6	1.00	4.00	3.00	2.00	2.00	3.00	1.00	3.00
7	2.00	4.00	3.00	4.00	4.00	4.00	1.00	3.00
8	2.00	4.00	3.00	2.00	2.00	3.00	1.00	3.00
9	2.00	4.00	3.00	2.00	2.00	3.00	1.00	3.00
10	2.00	4.00	3.00	2.00	2.00	3.00	1.00	3.00

Alpha value = 0.7310

APPENDIX C

Head teacher response on availability of funds.

Score interval	Xmpt	Freq.	f.xmp	Cf	%
15-17	16	6	96	20	30
12-14	13	7	91	14	35
9-11	10	5	50	7	25
6-8	7	2	14	2	10

<u>Median</u>

Median = 1 + i (n-cfb) $\frac{(2)}{fw}$ = 11.5 + 3 (20-7) $\frac{(2)}{7}$ = 11.5 +9 7 = 11.5 + 1.285 = 12.785

Mean

Mean =
$$\underline{\sum fxmpt}$$

n
= (16x6) + (13x7) + (10x5) + (7x2)
20
= 96+91+50+14
20
= 251
20

= 12.55

Test of skewness

= mean – median = 12.55 – 12. 785 = -0.235

Headteachers department response on availability of funds for crop production

Score interval	Xmpt	Freq.	f.xmp	Cf	%
39-43	41	3	123	20	15
34-38	36	1	86	17	5
29-33	31	4	124	16	20
24-28	26	3	78	12	15
19-23	21	7	147	9	35
14-18	16	2	32	2	10

<u>Medium</u>

Medium

= 1 + I (n-cfb) (2)

 $\mathbf{f}\mathbf{w}$

$$= 23.5 + 5 (20 - 9)$$
$$\frac{(2)}{3}$$
$$= 23.5 + 5 (-)$$
$$= 23.5 + 5 (0.3)$$
$$= 23.5 + 1.5$$
$$= 25$$

Mean

Mean n = $\sum fxmpt$ = (41x3) + (36x1) + (31x4) + (26x3) +(21x7) +(16x2)

$$2 = 123+36+124+78+147+36$$

$$20 = 544 = 27.2$$

$$20$$

Test of skewness

$$=$$
 mean - median
 $= 27.2 - 25$
 $= 2.2 \ 0.235$

Head of departments' response on availability of funds for animal production

Score interval	Xmpt	Freq.	f.xmp	Cf	%
30-34	32	7	224	20	35
25-29	27	8	216	13	40
20-24	22	1	22	5	5
15-19	17	2	34	4	10
10-14	12	2	24	2	10

<u>Median</u>

Median

$$= 1 + I (n - cfb)$$

$$(2 ____)$$
fw
$$= 24.5 + 5 (20 - 5)$$

$$(2 ___)$$

$$= 24.5 + 5 (10 - 5)$$

$$= 24.5 + 5 (5)$$

$$= 24.5 + 5 (0.625)$$

$$= 24.5 + 3.125$$
$$= 27.625 + 27.63$$

Mean

Mean = $\sum fxmpt$ n = (32x7) + (27 x 8) + (2x*.1) + (17x2) +(12x2) 20 = 224 + 216 + 22 + 34 + 24 20 = 520 20 = 26

Test of skewness

= mean – median = 26 – 27.63 = -1.63

Heads of departments response on availability of funds for mechanization.

Score interval	Xmpt	Freq.	Fxmp	Cf	%
23-27	25	11	275	20	55
18-22	20	9	180	9	45
13-17	15				
8-12	10				

Median

Median

$$= 1 + i (n - cfb)$$

$$(2) fw$$

$$= 22.5 + 5 (20-9)$$

$$(2) fi$$

$$= 22.5 + 5 (10-9)$$

$$= 22.5 + 5 (10-9)$$

$$= 22.5 + 5 (10-9)$$

$$= 11$$

			= 22.5 + 5 11 = 22.5 + 5 (= 22.59	(1) (0.09)
<u>Mean</u>	Mean	n	∑fxmpt	
		11	=(25x11)	+ (20x9)
			20 = 275 + 18 20	0
			= 455	
				20
			=	22.75
Test of	f skewness			
			= mean $-$ m = 22.75 - = -0.2	nedian 22.95

Headteachers' responses on adequacy of funds for instructional materials

Score interval	Xmpt	Freq.	Fxmp	Cf	%
16-20	18	11	198	20	55
11-15	13	6	78	9	30
6-10	8	3	24	3	15

Median

Median =
$$1 + I (n - cfb)$$

(2)
fw
= $15.5 + 5 (20 - 9)$
11
= $15.5 + 5 (1)$
11

$$= 15.5 + 5 (0.09)$$
$$= 15.5 + 0.45$$
$$= 15.95$$

Mean

Mean

Test of skewness

Mean – Median

	$=\sum_{i=1}^{n} fx_{i}$	mpt
n		
	(18x1)	1) + (13x6) + (8x3)
		20
	= 198	+78 +24
		24
	=	300
		20
	=	15

```
= 15-15.95
```

= -0.95

Head of department response on adequacy of funds for instructional materials

Score interval	Xmpt	Freq.	Fxmp	Cf	%
16-20	18	16	288	20	80
11-15	13	4	52	4	20
6-10	8	0	0	0	0

<u>Median</u>

Median = l + i (n - cfb)

$$fw = 15.5 + 5 (20 - 4)$$

$$\frac{(2)}{16}$$

$$= 15.5 + 5 (10 - 4)$$

$$\frac{(2)}{16}$$

$$= 15.5 + 5 (6)$$

$$(16)$$

$$= 15.5 + 5 (0.375)$$

$$= 15.5 + 1.875$$

$$= 17.375$$

<u>Mean</u>

Mean	$=\sum fxmpt$
Mean	= ∑fxmpt

n

$$= (18x16) + (13x4) + (8x0)$$

$$= 288 + 52 + 0$$

$$= 288 + 52 + 0$$

$$= 340$$

$$= 17$$

$$= 20$$

Test of skewness

= mean – median = 17-17. 375 = -0.375

APPENDIX D

QUESTIONNAIRE FOR HEAD TEACHERS

Please, read the questions and respond to these items as accurately as possible.

A. Personal Data

Place a tick against your answers

1. Sex:

Male Female:

2. How long have you been in the teaching service?

- a) Below one year
- b) Between one year and three years
- c) Between three years and five years

d) Over five years

3. How long have you been headteacher in your present school?

- a) Below one year
- b) Between one year and three years
- c) Between three years and five years

d) Over five years

B A availability of Funds

4. What are the sources of funds for agriculture in your school?

- a) Special development funds
- b) Capitation grants and school fees
- c) P.T.A. funds

d) Others (Specify).....

5. Indicate, using a tick in the column to correspond to your response, the level of availability of funds to conduct agriculture practical.

Item	Available	Not available
crop production		
Animal production		
Mechanization		
Field trips		
Demonstration plots		
Exhibitions		

D. Release of funds

8. How often do you receive requisitions for funds to purchase agriculture materials?

- a) Daily
- b) Weekly
- c) Once a month
- d) Once a term
- e) Never

9. How often doe your school purchase materials for agriculture practicals?

- a) Daily
- b) Weekly
- c) Once a month
- d) Once a term
- e) Never

10. How often are funds released for materials for agriculture practicals

- a) Daily
- b) Weekly

c) Once a month

d) Once a term

e) Never

11. What procedure is followed in security funds for agriculture practices?

a) The teacher makes a budge and presents it to the Headteacher

b) The teacher's requisition passes through the committee to the Headteacher

c) Headteacher just releases funds to the agriculture department

d) The teacher requests for any amount required at a given time

e) Others (Specify).....

12. Who makes the final decision to release funds for agricultural practicals in the school?

a) The agriculture teacher

b) The farm manager

- c) The Headteacher
- d) The Board of Governors

APPENDIX E

QUESTIONNAIRE FOR HEADS OF AGRICULTURAL DEPARTMENTS

Please, kindly read the following questionnaire and respond to each and every item honestly.

A: Personal Data

Put a tick against your answer

- 1. What is your highest qualification as an agriculture teacher?
- a) Degree.....
- b) Diploma
- c) Certificate.....
- d) Others specify).....

2. How long have you taught agriculture since you qualified?

- a) Below one year
- b) Between one year and three years
- c) Between three years and five years
- d) Over five years
- 3. For how long have you taught agriculture in the present school?
- a) Below one year
- b) Between one year and three years
- c) Between three years and five years
- d) Over five years

B. Availability of Funds for Instructional Materials

4. Put a tick in the column to correspond to your response the availability of funds to purchase the following agriculture materials.

Item	Available	Not available
Hoes		
Rakes		
Sickles		
Seeds		
Seeders		
Planters		
Pesticides		
Herbicides		
Fertilizers		
Pruning knife		
Dusters		
Sprayers		
Wheel barrows		
Spades		

ii) Animal production

Item	Available	Not available
Cattle		
Sheep		
Goats		
Pigs		
Chicken		
Milk churns		
Syringes		
Wire strainer		
Vet. Drugs		
Dip		
Burdizzo		

iii) Farm mechanization

Item	Available	Not available
Four- wheel tractor		
Plough		
Trailer		
Secateurs		
Winnowers		
Ox-plough		
Riggers		
Spades		
Old engine parts		

c. Adequacy of funds for instructional materials.

5. Using a tick indicate the level of adequacy of funds to conduct agricultural practicals.

Item	Adequate	Not Adequate
Tools, implements and		
machines		
Purchase of animals		
Drugs for animals		
Inputs for crops		
Demonstration plots		
Field trips		

Release of Funds

6. How often do you demonstrate practical skills to students?

a) Daily

b) Weekly

c) Monthly

d) Once a term

e) Never

7. How often do you make requisitions for funds for agriculture materials?

a) Daily

b) Weekly

c) Monthly

d) Once a term

e) Never

8. How often do you acquire materials you requisition for agriculture practicals.

a) Daily

- b) Weekly
- c) Once a monthly
- d) Once a term
- e) Never

9. The time between requisition and the release of funds for agricultural practical teaching of agriculture.

- a) Strongly agree
- b) Agree
- c) Disagree
- d) Strongly disagree
- e) Undecided

10. What is the major reason for the inadequacy of materials for agriculture practicals?

a) Materials are expensive

b) Unfair allocation of funds within the school

c) Lack of funds

d) Distance from the source

APPENDIX F

INTERVIEW SCHEDULE FOR VIEWS OF HEADTEACHERS AND HEAD OF AGRICULTURE DEPARTMENTS FOR SELECTED SECONDARY SCHOOLS IN RAKAI DISTRICT

Information on the effects of funding on the practical teaching of agriculture in secondary schools in Rakai District

1. What are the sources of funds for instructional materials?

2. Is the agriculture department allocated funds to purchase materials for agriculture practicals?

3. If yes, who allocates the funds, and how often is this done?

4. In your opinion are the funds given to the agriculture department enough to conduct agriculture department in your school?

5. If no, what do you do for practicals which require funds?

6. Do you conduct practicals in all areas of agriculture?

7. If no, what areas of agriculture are practicals mainly done, and why?

8. What do you do for areas where you cannot perform practicals?

9. Do your school organise field trips and exhibitions?

10. If so, how are field trips and exhibitions funded?

11. Are funds for agriculture practicals released in time?

12. If no, what are the reasons for not releasing funds in time?

13. In your opinion what may be the major reason for the inadequacy of materials for agriculture practicals?

14. Do you think there are other problems preventing teachers from demonstrating agriculture practices and skills to students?

15. Is your agriculture department adequately facilitated? If no why?

APPENDIX G

Observation checklist for Agriculture materials in Secondary Schools in Rakai District

- 1. School gardens
- Types of crops grown
- Crop management practices
- Tools used
- 2. Laboratory
- Apparatus for soil experiments
- Preserved crop and animal pests
- 3. Workshops
- Carpentry
- Mechanical

4. Animal Projects

- Cattle
- Goats
- Piggery
- Poultry
- Rabbit
- Animal Handling layouts
- Tools used in animal management practicals