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A STUDY OF THE APPROPRIATE TEXTBOOKS FOR  
SECONDARY SCHOOLS AGRICULTURE.

BY

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A RESEARCH PROJECT REPORT SUBMITTED TO THE GRADUATE SCHOOL  
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DECLARATION

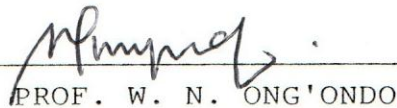
This is my original work and has not been presented for a degree or diploma in any other University.



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This Project report has been submitted for examination with my approval as University Supervisor.



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Secondly I thank the Agriculture teachers of schools involved in the study for their co-operation and understanding which facilitated the collection of data.

DEDICATION

To my wife Lydia and son Muthomi  
for their patience during the busy  
periods of the study.

## ABSTRACT

Agriculture is one of the subjects taught in secondary schools in Kenya. The Ministry of Education recommended seven general agriculture textbooks and fifty-five reference books covering specific areas at the inception of 8:4:4 System of Education in 1985. Many more agriculture textbooks have been released into the market since then. It is upon the agriculture teacher to select the appropriate ones for teaching.

The objectives of this study were to identify the textbooks used in teaching agriculture, rate their popularity and establish their appropriateness. The research method was a survey using a questionnaire. It was carried out in the four secondary schools in Keumbu Division of Kisii district.

The agriculture teachers in those secondary schools completed questionnaires that were analysed to achieve the above objectives. The data was analysed through descriptive statistics.

The findings of the study were that eight different textbooks were being used by different agriculture teachers. K.I.E. (1987). Secondary Agriculture Forms 1 to 4. Nairobi: KLB was found to be the most popular textbook. The textbooks were found appropriate in various areas and inappropriate in others.

The conclusions drawn from the study were that a variety of textbooks were being used in teaching agriculture and none was appropriate in all the four variable areas under consideration.

It was therefore recommended that a combination of at most three of the popular textbooks (tables 2 to 6) be used for teaching agriculture in secondary schools. Further, all the agriculture teachers should ensure that they have at least a copy of Cheruiyot, D. (1992). Top mark K.C.S.E. Revision Agriculture, Nairobi: KLB.

TABLE OF CONTENTS

	<u>Page</u>
Title Page .....	i
Declaration .....	ii
Acknowledgements .....	iii
Dedication .....	iv
Abstract .....	v
Table of Contents .....	vii
 CHAPTER ONE	
INTRODUCTION .....	1
Background Information .....	1
Statement of the Problem .....	3
Purpose of the Study .....	4
Objectives of the Study .....	4
Research Questions .....	5
Significance of the Study .....	6
Scope and Limitations .....	6
Definitions of Terms .....	7
 CHAPTER TWO	
REVIEW OF RELATED LITERATURE .....	9
 CHAPTER THREE	
RESEARCH METHODS AND PROCEDURES .....	14
Introduction .....	14
Population .....	14
Sampling .....	15
Development of Instruments .....	15
Data Collection Procedure .....	15
Data Analysis Procedure .....	16
 CHAPTER FOUR	
RESULTS AND DISCUSSION .....	18
Introduction .....	18
Results .....	19
Discussion .....	24

TABLE OF CONTENTS

Page

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS ... 27  
    Summary..... 27  
    Conclusions ..... 28  
    Recommendations ..... 30

BIBLIOGRAPHY ..... 32

APPENDIX

Questionnaire for Teachers ..... 35

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Textbooks Used in Teaching Agriculture and the Number and Percentages of Teachers Using the Books .....	19
2	Teachers' Responses on Cheruiyot D. (1992) <u>Top Mark KCSE Revision Agriculture</u> . Nairobi: KLB .....	21
3	Teachers' Responses on K.I.E. (1987). <u>Secondary Agriculture Forms 1 to 4</u> . Nairobi: KLB .....	22
4	Teachers' Responses on Muchiri S. G. (1987) <u>Agriculture for Secondary Schools - A Four Years Course</u> . Nairobi: Heinemann .....	23
5	Teachers' Responses on Ngugi D. N. (1978). <u>East African Agriculture</u> : Nairobi: Macmillan .....	24
6	Teachers' Responses on Sakira (1981) <u>"O" Level Agriculture</u> . Nairobi: Oxford University Press.	25

## CHAPTER I

### INTRODUCTION

#### Background Information

The 8:4:4 system of education (eight years in primary, four years in secondary and four years in the university) came into operation in 1985 when the first Kenya Certificate of Primary Education (K.C.P.E.) was offered by the Ministry of Education (1988). According to Kenya Institute of Education (K.I.E.) (1988) all students entering secondary school were required to study agriculture at least in forms 1 and 11.

At the inception of the 8:4:4 system of education the Ministry of Education recommended many general agriculture textbooks as well as reference books covering specific areas. The teachers were expected to select the most appropriate agriculture textbooks from a list of sixty-two, K.I.E. (1988). Some of the textbooks in the list were:

- (i) Ngugi, D. N. (1978), East African Agriculture.  
Nairobi: Macmillan.
- (ii) Ker, D. R. (1978), Agriculture in East Africa.  
London: Edward Arnold.
- (iii) Sakira (1981), "O" Level Agriculture. Nairobi:  
Oxford University Press.
- (iv) Ernerholm N. (1976), Agriculture for Schools.  
Nairobi: Heinemann.

(v) Barber J. (1976), Livestock Management for East Africa. London: Edward Arnold.

(vi) Ivens G. W. (1967), East African Weeds and Their Control. Nairobi: Oxford University Press.

Over the years more agriculture textbooks have been released into the market. Some of the recent publications not appearing in the original list include the following:

- (i) Njoroge L. (1989), Gold Medal Agriculture. Nairobi Macmillan.
- (ii) Musery R. et al (1988), Longman Secondary Agriculture Nairobi: Longman.
- (iii) Cheruiyot D. (1992), Top Mark K.C.S.E. Revision Agriculture, Nairobi: Kenya Literature Bureau.
- (iv) Muchiri S. G. (1987), Agriculture for Secondary Schools A four year course. Nairobi: Heinemann.
- (v) Akubinlo (1984), Certificate Practical Agricultural Science. Nairobi: Longman.

Due to this diversity the agriculture teacher has to identify the appropriate textbooks for teaching agriculture. The teacher has to advise the learners on the appropriate textbook(s) to buy. The Ministry of Education is expected to supplement the teacher's efforts by releasing a list of the approved books periodically. This can also go a long way in minimising the problem cited by the Sunday Standard

(1987) whereby a parent was made to buy several textbooks by different authors but for the same subject. This study was carried out to identify the appropriate textbooks for teaching agriculture in secondary schools.

### Statement of the Problem

The problem of agriculture teacher is to identify the appropriate textbooks for teaching agriculture in secondary schools. This is because textbooks of the same subject differ in many ways, Das (1992). In terms of content.

"Some information in the textbook(s) is usually out of date immediately they leave the printing machines." Kipkorir (1990)

Some textbooks do not illustrate points with diagrams, pictures and charts, Das (1992).

The textbooks differ in the level of language used, Das (1992). In some cases the language is not easy to comprehend. Science words may be used without prior definition.

The textbooks differ in their physical aspects Das (1992) notes that,

"The first look at the textbook creates an impression on minds of the learners which determines their desire to handle and study it."

Some of the textbooks have bold, distinct and attractive illustrations and diagrams.

The problem of the agriculture teacher is to balance all these variables and select the best textbook(s) for

teaching agriculture in secondary schools. There was need to carry out a study that will look into how agriculture teachers can combine the variables in order to come out with a guide that can be used in determining an effective agriculture textbook.

#### Purpose of the Study

The purpose of this study was to identify the appropriate textbooks for teaching agriculture in secondary schools. It was carried out in Keumbu division of Kisii district. Specifically the study focused on the depth and organization of content, language difficulty and the physical aspects of the agriculture textbooks.

#### Objectives of the Study

In view of the above research problem and purpose, the following research objectives were developed to guide the study.

- (a) To identify the various textbooks currently being used for teaching agriculture in secondary schools in Keumbu division of Kisii district and rate their popularity.
- (b) To establish the appropriateness of each book in terms of:
  - (i) Depth of content
  - (ii) Organization of content
  - (iii) Language difficulty

(iv) Physical aspects

Research Questions

Based on the above objectives the researcher intended to have the following questions answered:

- (a) Which books were being used for teaching agriculture in secondary schools in Keumbu division of Kisii district?
- (b) Did the content in those books address itself to the needs and interests of the students?
- (c) Did the books give local examples (from Kenya)?
- (d) Were the topics illustrated with diagrams, pictures and charts?
- (e) Was the subject matter organised in a psychological sequences (previous chapter helping in the understanding of next)?
- (f) Were chapters following the same order as in the syllabus?
- (g) Were science words and terms defined before use?
- (h) Were sentences simple and clear?
- (i) Were illustrations distinct and attractive?
- (j) Was the cover design appealing?

### Significance of the Study

- (a) The study was to help the schools in buying the appropriate textbooks for teaching agriculture therefore economize on scarce resources.
- (b) It was also meant to assist the Ministry of Education in recommending the appropriate textbooks for teaching agriculture in secondary schools.
- (c) The appropriate textbooks so identified were to serve as standards or yardsticks against which publishers and writers could compare their agriculture textbooks with before releasing them to the market.
- (d) The study was further meant to gather information that could be added onto the existing stock of knowledge on textbooks of teaching agriculture in secondary schools.

### Scope and Limitations of the Study

In carrying out the study the researcher assumed that respondents gave truthful information. There were financial limitations because the University had not set aside money for research. Further, no adequate time had been set aside to conduct the research. The study and the teaching practice were carried out simultaneously. Due to these factors the study was carried out in one division of Kisii district namely Keumbu. Therefore the findings were limited to that division. Further it was not possible to locate adequate

related literature for study because the campus is located far from the Main Campus.

### Definitions of Terms

- (a) **Appropriate textbook:** One that is suitable in terms of depth of content, organization of content, language and physical aspects.
- (b) **Depth of content:** A measure of whether information is suitable for a particular level of students and whether it conforms to the syllabus prescribed for that particular level.
- (c) **General agriculture textbooks:** Textbooks covering broad areas of knowledge in agriculture. Such areas include crop and animal production, farm tools and equipment and agriculture economics.
- (d) **K.I.E. agriculture textbooks:** The series of agriculture textbooks for form one to form four written by the Kenya Institute of Education.
- (e) **Language difficulty:** The ease of comprehending the message in the textbook. It is judge by how simple and clear the words are.

- (f) **Organisation of content:** Arrangement of information and chapters such that it is easy for the reader to understand the message in the book.
- (g) **Physical aspects:** Such characteristic of the textbook as the quality of print and paper, boldness and attractiveness of illustrations, size and the nature of the cover design.
- (h) **Reference books:** Textbooks used to supplement knowledge gained in the class and to provide new knowledge. Can also be used by teachers or students.
- (i) **School curriculum:** The aggregate of the syllabuses found in a school.

## CHAPTER 2

### REVIEW OF RELATED LITERATURE

Good academic performance is an opening for students to higher institutions of learning and well paying careers. An environment conducive to the best academic performance must therefore be provided in schools. Such environment includes provision of facilities and resources. These should be well selected to meet the desired learning outcomes. On this Omulando (1992) notes that:

"The teaching and learning process requires content or subject matter, methods, materials and facilities. These have to be selected." (Page 169)

These facilities include classrooms, libraries, laboratories and workshops especially for technical subjects like home science and agriculture. If these materials and facilities are lacking or limiting the academic performance is poor. Incidentally many schools lack adequate facilities and resources as observed by Ogula (1990).

The resources needed by a student range from human to non-human. The human resources are in form of qualified teachers. The efforts of the teachers need to be supplemented by the non-human resources. These include audio-visual aids, real objects, journals and textbooks among others. Among these, textbooks are the most important because according to Das (1992):

"They contain materials chosen according to a plan and with a specific purpose.  
(Page 140)

A textbook has been an unavoidable instrument in any teaching/learning process because next to the teacher's oral presentation, it is the most widely used instrument. It is useful to learners and teachers. This instrument must be carefully selected to ensure it is relevant and can help achieving the expected learning outcomes. It is with this in mind that Oluoch (1984) remarks that:

"The book must be relevant .....  
attractive and durable and content  
be of quality." (Page 43)

The relevance is in relation to the learners interests, needs, guiding the teachers and meeting syllabus requirements. It is the duty of the teachers to select the appropriate textbooks for teaching and for use by students. The textbook helps the teacher to determine the content and the approach of teaching. On this Das (1992) notes that:

"The textbook is considered almost synonymous to schooling. It is the most influential factor in determining the content and the approach of teaching. In fact, most of our science teachers will be at a loss without a textbook. A teacher entering the teaching profession cannot be expected to select science content and determine the approach like an experienced teacher."  
(Page 140)

The importance of textbooks in teaching/learning process is further emphasized by the remarks of Kamunge Report (1988).

"Textbooks are central to educational process and are different from other reading materials as they deliberately address themselves to particular areas and levels of the school curriculum."  
(Page 114)

Although textbooks are central to the educational process, they are meant to serve as learning guides rather than as source-book of information. A textbook however carefully prepared cannot be perfect and it is impossible to incorporate all the aspects demanded. Moreover a textbook is apt to get out-of-date if not revised regularly. This fact is especially so in case of a science textbook because scientific knowledge and its application to our life is increasing every day Da (1992).

Textbooks prepared by different authors on the same subject for students of the same academic level differ considerably in content and quality. One author may give importance to one type of knowledge than the other, whereas the other may do quite the opposite. One textbook may be successful in exposing certain topics, whereas another may vitalize some other topics. So a good textbook to provide the content and method of teaching should be selected. The teacher must also be familiar with the purpose and function of a textbook and the principles of selecting a good textbook as Da (1992) notes:

"The teacher must consider the following principles when selecting a textbook ... content ... language ... organisation ... physical aspects." (Page 143)

The details of any topic and relevant local examples may be lacking. Also it may not be possible to refer to all the local examples which vary from area to area. This is because the textbook has to be general in nature and is written on a state - wide or country-wide basis. Most of the textbooks do not provide useful, practical problems of our daily life graded according to the level of difficulty, Das (1992).

The teacher has therefore to carefully select a textbook that will facilitate teaching/learning process. For a good selection the teacher should be exposed to a variety of textbooks. That is why the appeal by Kenya Time (1989) to Kenyans to rise up and write books is most welcome.

Rowntree (1981) poses a question on who chooses the books and articles our students read. In Kenya the Ministry of Education is supposed to advise on the appropriate textbooks for various subjects. However sometimes there is a delay because of the period required to establish the appropriate ones. In such cases it is up to the class teacher to recommend the best books for their students according to how writers and publishers release them, Sunday Standard (1987). The Ministry of Education should say which books are fit for 8:4:4 system of education so that teachers and students can choose wisely, Standard (1990). The Ministry recommends the K.I.E. textbooks for teaching/learning process. But these books have met a lot of criticism because they are not up-to-standard. Daily Nation (1990).

Bearing this in mind the teachers have to identify textbooks that are up-to standard. Therefore the government should encourage an open market economy where the best books carry the day, Daily Nation (1990).

According to K.I.E. (1988):

"It is necessary that teachers and students read as many books as they can come across. This is a healthy way of learning, which helps to broaden one's knowledge."

Although reading many books is important teaching will be more effective if a few appropriate textbooks are identified for teaching agriculture. But as Das (1992) observes:

"It is true that neither the textbooks nor the teacher alone can be the best medium of instruction; but a good textbook and an experienced teacher can make the teaching/learning process effective." (Page 143).

## CHAPTER 3

### RESEARCH METHODS AND PROCEDURES

#### Introduction

The purpose of this study was to identify the appropriate textbooks for teaching agriculture in secondary schools. The research method was a survey using a questionnaire. It was carried out in the secondary schools in Keumbu Division of Kisii district. The division has four secondary schools, namely, Kegati Mixed Day, Amasago Mixed Day and Boarding, Riodong'a Mixed Day and Boarding and Gianchere Mixed Day.

The agriculture teachers in the four secondary schools completed questionnaires which had been hand-delivered by enumerators.

#### Population

Each of the above schools had two agriculture teachers. This gave a total population of eight teachers. The important characteristic that made them qualify to be respondents was that they were serving agriculture teachers. Their teaching experience varied from one to six years. One teacher in Amasago had taught for one year. Three teachers had taught for two years. One had taught for three. Two had taught for four years and one for six years. Due to this diversity of experience their responses were expected to be objective.

## Sampling

Since the population was small all the agriculture teachers in the schools studied served as respondents. The respondents were therefore eight.

## Development of Instrument

The research instrument used was a questionnaire. This was developed from the research questions. Ideas were sought from my research supervisors and my fellow students. They helped in compiling a questionnaire that reflected the main research questions. Question 1 and 2 were open ended while question 3 was a fixed alternative item. Question 4 was **Structured** and question 5 was a rating scale.

The use of the questionnaire was justified by inadequate financial support to allow the researcher to travel to interview the respondents directly. The respondents were in schools that were scattered over a wide area. The questionnaire also allowed the literate respondents a wider latitude to express themselves. Further there was insufficient time to travel to interview the respondents because the researcher was also doing teaching practice.

## Data Collection Procedure

The researcher used enumerators to administer the questionnaires. The enumerators were my fellow teachers on teaching practice. They hand-delivered the questionnaires to the agriculture teachers, explained to them the purpose of the study and guided them on how to complete them. The

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researcher used these teachers because they were readily available.

The study was carried out in February 1995 and all the agriculture teachers involved in the study completed the questionnaires. So the response was 100%.

#### Data analysis Procedure

The data was analysed using descriptive statistics. A table was drawn to show the various textbooks used for teaching agriculture in secondary schools in Keumbu division of Kisii district. Alongside each textbook the percentage of teachers using the textbook was shown. This was meant to reveal the popularity of the textbooks.

More tables were drawn to assess the appropriateness of the popular textbooks. The popular textbooks were the ones selected and rated by the teachers.

The various responses on the rating table were meant to establish the appropriateness of each textbook in terms of:

- (i) depth of content
- (ii) organization of content
- (iii) language difficulty
- (iv) physical aspects

Responses one to three were meant to rate depth of content. The proportions of 'yes' and 'no' responses in the three questions were compared to judge whether the

content was deep or not. Responses four to seven were to rate organization of content. The proportion of 'Yes' and 'No' responses in the three questions were compared to judge whether the content was organized or not. Responses eight and nine were to rate language difficulty while ten and eleven were to rate physical aspects. The proportions of 'Yes' and 'No' in each case were compared.

## CHAPTER 4

### RESULTS AND DISCUSSION

#### Introduction

The objectives of carrying out the study were:

- (a) To identify the various textbooks currently being used for teaching agriculture in secondary schools in Keumbu division of Kisii district and rate their popularity.
- (b) To establish the appropriateness of each book in terms of:
  - (i) Depth of content
  - (ii) Organization of content
  - (iii) Language difficulty
  - (iv) physical aspects

To achieve objective (a) above table 1 has been drawn. it shows the various agriculture textbooks used in the four secondary schools and the percentage of teachers using each book. The percentage helps in rating the popularity of each textbook.

Table two to six give a summary of teachers' responses on the textbooks they (teachers) rated. The rating by the teachers helps in achieving objective (b) above.

RESULTS

Table 1: Textbooks Used in Teaching Agriculture and the Number and Percentages of Teachers Using the Books

	Teachers Number	Percentage
1. Cheruiyot D. (1992). <u>Top Mark K.C.S.E. Revision Agriculture.</u> Nairobi: KLB.	4	50
2. <del>Iv</del> rens G. W. (1967). <u>East African Weeds and Their Control.</u> Nairobi: Cup.	2	25
3. K.I.E. (1987). <u>Secondary Agricul- ture Forms 1 to 4.</u> Nairobi: KLB.	8	100
4. Muchiri S. G. (1987). <u>Agriculture for Secondary Schools - A four year course.</u> Nairobi: Heinemann	3	37.5
5. Musery R. (1988). <u>Longman Secondary Agriculture.</u> Nairobi: Longman.	2	25
6. Ngugi D. N. (1979). <u>East African Agriculture.</u> Nairobi Macmillan.	5	62.5
7. Njoroge L. (1989). <u>Gold Medal Agriculture.</u> Nairobi: Macmillan.	1	12.5
8. Sakira (1961). <u>"O" Level Agriculture</u> Nairobi: Cup.	4	50

The above table reveals that a very high percentage (100%) of teachers use the K.I.E. (1987). Secondary agriculture Forms 1 to 4. Nairobi: KLB. This is the most popular textbook because the higher the percentage the higher the popularity.

The second most popular book is:

Ngugi D. N. (1978). East African Agriculture. Nairobi: Macmillan with a percentage of 62.5

Cheruiyot D. (1992). Top mark K.C.S.E. Revision Agriculture Nairobi: KLB and Sakira (1981) "O" level agriculture. Nairobi Cup are equally popular with a percentage of 50. Among the books in use the least popular is Njoroge L. (1989). Gold medal agriculture. Nairobi: Macmillan. It is used by 1% of the teachers.

There were eleven responses to rate the textbooks. Responses one to three were to rate depth of content, eight and nine were to rate physical aspects.

Teachers chose five agriculture textbooks for analysis. Tables 2 to 6 show the analysis of those textbooks.

Table 2: Teachers' Responses on Cheruiyot D. (1992). Top Mark KCSE Revision Agriculture. Nairobi: KLB.

	Number of Teachers		
	Yes	No	Total
1. Content understandable	4	0	4
2. Gives examples from Kenya	4	0	4
3. Illustrates most of the topics	1	3	4
4. Previous chapter helps in understanding the next.	2	2	4
5. Raises problems	4	0	4
6. Suggests projects	2	2	4
7. Organisation of chapter corresponds with syllabus organisation	1	3	4
8. Science terms defined before use	2	2	4
9. Sentences short and clear	3	1	4
10. Illustrations are attractive	0	4	4
11. Cover design is appealing	2	2	4

The appropriateness is judged on the proportion of 'Yes' and 'No' in each block of questions. On this basis the textbook is appropriate in depth of content, organisation of content and language difficulty. It is not appropriate in physical aspects.

Table 3: Teachers' Responses on K.I.E. (1987). Secondary Agriculture Forms 1 to 4. Nairobi: KLB

	Number of Teachers		
	Yes	No	Total
1. Content understandable	8	0	8
2. Gives examples from Kenya	8	0	8
3. Illustrates most of the topics	5	5	8
4. Previous chapter helps in understanding	2	6	8
5. Raises problems	1	7	8
6. Suggest projects	0	8	8
7. Organisation of chapter corresponds with syllabus organisation	6	2	8
8. Science terms defined before use	7	1	8
9. Sentences short and clear	8	0	8
10. Illustrations are attractive	0	8	8
11. Cover design is appealing	2	6	8

The textbook is appropriate in depth of content, and language difficulty. It is not appropriate in organization of content and physical aspects.

Table 4: Teachers' Responses on Muchiri S. G. (1987)  
Agriculture for Secondary Schools - A Four Year  
 Course. Nairobi: Heinemann

	Number of Teachers		
	Yes	No	Total
1. Content understandable	1	1	2
2. Gives examples of Kenya	2	0	2
3. Illustrates most of the topics	1	1	2
4. Previous chapter helps in understanding the next.	1	1	2
5. Raises problems	2	0	2
6. Suggests projects	0	2	2
7. Organisation of chapter corresponds with syllabus organisation	0	2	2
8. Science terms defined before use	1	1	2
9. Sentences short and clear	1	1	2
10. Illustrations are attractive	0	2	2
11. Cover design is appealing	2	0	2

The textbook is appropriate in depth of content. It is not appropriate in organisation of content. The data does not reveal whether the textbook is appropriate or inappropriate in language difficulty and physical aspects.

Table 5: Teachers' Responses on Ngugi D. N. (1978).

East African Agriculture: Nairobi: Macmillan

	Number of Teachers		
	Yes	No	Total
1. Content understandable	1	4	5
2. Gives examples from Kenya	5	0	5
3. Illustrates most of the topics	5	0	5
4. Previous chapter helps in understanding the next	1	4	5
5. Raises problems	0	5	5
6. Suggests projects	0	5	5
7. Organization of chapter corresponds with syllabus organisation	0	5	5
8. Science terms defined before use	5	0	5
9. Sentences short and clear	5	0	5
10. Illustrations are attractive	1	4	5
11. Cover design is appealing	3	2	5

The textbook is appropriate in the depth of content and the language difficulty. However it is inappropriate in organisation of content and physical aspects.

Table 6: Teachers' Responses on Sakira (1981) "O" Level  
Agriculture. Nairobi: Oxford University Press.

	Number of Teachers		
	Yes	No	Total
1. Content understandable	1	3	4
2. Gives examples from Kenya	3	1	4
3. Illustrates most of the topics	1	3	4
4. Previous chapter helps in understanding the next	0	4	4
5. Raises problems	0	4	4
6. Suggests projects	3	1	4
7. Organization of chapter corresponds with syllabus organisation	0	4	4
8. Science terms defined before use	3	1	4
9. Sentences short and clear	2	2	4
10. Illustrations are attractive	0	4	4
11. Cover design is appealing	2	2	4

The textbook is appropriate in language difficulty. It is inappropriate in organisation of content, physical aspects and depth of content.

#### DISCUSSION

The study revealed that the textbooks indicated in table one are used in teaching agriculture in the secondary

schools in Keumbu division. Among those, the most popular are found in tables two to six.

All the agriculture teachers involved in the study use K.I.E. (1987). Secondary Agriculture Forms 1 to 4. Nairobi: KLB giving a percentage of hundred. Various percentages use the other identified books as indicated on table one.

Only three textbooks from the ones recommended by the Ministry of Education in 1988 were being used. These are:

1. Ivens G. W. (1967). East African Weeds and Their Control. Nairobi: OUP.
2. Ngugi D. N. (1978) East African Agriculture. Nairobi: Macmillan.
3. Sakira (1981). "O" Level Agriculture. Nairobi: OUP.

The rest were among the recent publications not appearing in the original list.

The five popular textbooks were found appropriate in various areas <sup>and</sup> inappropriate in others as discussed after each of the tables two to six. Generally they all gave examples from Kenya. This gave learners the opportunity to fit the content into the immediate environment. They also defined science terms and words before use. Sentences were short, clear and simple.

However they seemed to have some common weaknesses. They did not suggest projects and supplementary reading.



## CHAPTER 5

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### SUMMARY

This study was carried out because of the many and diverse agriculture text books currently in the market. At the inception of 8:4:4 the Ministry of Education recommend about sixty two text books for teaching secondary schools agriculture K.I.E. (1988). Over the years more have been released to the market. The problem of the agriculture teacher therefore is to identify the appropriate textbook(s) for teaching agriculture in secondary schools.

Two major objectives were developed to guide the study. The second objective was developed from Das (1992). Various limitations were encountered in the course of the study. These included:

1. Lack of sufficient time
2. Lack of funds
3. Poorly equipped library that could not help in locating the required literature.

The researcher then carried out a survey using questionnaires. The questionnaires were hand-delivered to agriculture teachers in the four secondary schools in Keumbu division. The completed questionnaires were analysed so as to help in achieving the objectives of the study. From the study the following conclusions and recommendations were arrived at.

## CONCLUSIONS

The study focused on the study of the appropriate textbooks for secondary schools agriculture. It was carried out in the four secondary schools in Keumbu division of Kisii District.

The objectives of the study:

- (a) To identify the various textbooks currently being used for teaching agriculture in secondary schools in Keumbu division of Kisii district and rate the popularity.
- (b) To establish the appropriateness of each book in terms of:
  - (i) Depth of content
  - (ii) Organisation of content
  - (iii) Language difficulty
  - (iv) Physical aspects

It emerges from the study that a diversity of text books are used for teaching agriculture in the four secondary schools studied. Thus the following conclusions can be drawn from the study:

1. A total of eight different text books are used in teaching agriculture in the schools studied. All the schools use the K.I.E. (1987). Secondary Agriculture Forms 1 to 4. Nairobi: KLB. This

therefore is the most popular textbook. The rest of the textbooks in use in the secondary schools studied are in table 1. The least popular textbook is Njoroge L. (1989). Gold medal agriculture. Nairobi: Macmillan. It is used by only 12.9% of the teachers.

2. None of the textbook was appropriate in all the four areas under consideration.
  - 2.1. Cheruiyot D. (1992). Top Mark KCSE Revision Agriculture. Nairobi: KBL was found appropriate in more areas than any other textbook. It was found appropriate in three areas namely depth of content, organisation of content and language difficult.
  - 2.2. Muchiri S. G. (1987). Agriculture for Secondary Schools - A four year course. Nairobi: Heinemann and Sakira (1981). "O Level Agriculture. Nairobi: OUP were found appropriate in the least number of areas. They were found appropriate in the least member of areas. They were found appropriate in one area each.
  - 2.3 Every textbook was found appropriate at least one area.
  - 2.4 All the textbooks rated were appropriate in depth of content except Sakira (1981). "O" Level Agriculture: Nairobi: OUP.

- 2.5. Among the books rated only Cheruiyot D. (1992). Top Mark KCSE Revision Agriculture. Nairobi: KLB was appropriate in organization of content.
- 2.6 None of the books rated was appropriate in physical aspects.

#### RECOMMENDATION

Based on the above research findings and conclusions the researcher wishes to make the following recommendations.

1. All Agriculture teachers sould ensur that they have at least a copy of Cheruiyot D. (1992). Top Mark KCSE Revision Agriculture. Nairob: KLB. This is because it is appropriate in depth of content, organization of content and language difficulty. The book is therefore very useful in preparing the learners for the Kenya Certificate of Secondary Examination.
2. Teachers and learners use a combination at most three of the popular textbooks (tables 2 to 6). Each of these textbook is inappropriate in one are oranother. Hopefully each will be able to make up for the inappropriateness of the other. For example if K.I.E. (1987) Secondary Agriculture Forms 1 to 4. Nairobi KLB is used in conjunction with Cheruiyot D. (1992).

Top Mark KCSE Revision Agriculture. Nairobi: KLB.

Inappropriateness of organisation of content in the former is solved.

3. Research should be done to find out how the K.I.E. (1989) Secondary Agriculture Forms 1 to 4. Nairobi KLB can be restructured to make it most relevant to the current 8:4:4 syllabus. This is because it seems a very popular book and every school has copies.
4. Further research using a large sample of schools should be carried out to identify the appropriate textbooks for teaching agriculture in secondary schools.

BIBLIOGRAPHY

1. Daily Nation Newspaper: Books a Stumbling Block  
24th March, 1990.
2. Daily Nation Newspaper: K.I.E. Books Not up-to-Standard.  
6th April, 1990.
3. Das R. C. (1992) Science Teaching in Schools, New Delhi,  
Sterling Publishers.
4. Kamunge (Chairman) (1988), Report of the Presidential  
Working Party on Education and Manpower Training for  
the Next Decade and Beyond.
5. Gachathi (Chairman) (1976) Report of the National Commi-  
ttee on Educational Objectives and Policies.
6. Kenya Times, Rise and Write Books, 20th June, 1990.
7. K.I.E. (1988) Secondary Agriculture Forms 1 and 2 Teachers'  
Guide. Nairobi, Kenya Literature Bureau.
8. K.I.E. (1989) Secondary Agriculture Form 4 Teachers' Guide  
Nairobi, Kenya Literature Bureau.
9. Kipkorir L. I. (1990) Mechanisms for the research findings  
to reach teachers and students. A paper presented to  
the National Seminar on the teaching of science in  
Kenya's Educational System.
10. Ministry of Education (1988) Education Administration  
Conference, Nairobi, Jomo Kenyatta Foundation.
11. Ogula P. A. (1990) Formative Evaluation of the Secondary  
Education Curriculum. A summary of the Evaluation  
Report, K.I.E.
12. Oluoch G. P. (1988) Essentials of Curriculum Development.  
Nairobi, Elimu Bookshop Ltd.

13. Omulando S. J. (1992) and Shiundu J. S. Curriculum Theory and Practice in Kenya, Nairobi: Oxford University Press.
14. Report by Commission for Higher Education (1989).
15. Report on Kenya Science Teachers' College Staff Development Seminar (1988).
16. Rowntree D. (1981) Developing Course for Students. England, McGraw-Hill Book Company (U.K.) Ltd.
17. Standard Newspaper: Identify books for 8:4:4 system. 30th March, 1990.
18. Sunday Standard Newspaper 8:4:4 Who's in Charge, 26th July, 1987.

QUESTIONNAIRE FOR AGRICULTURE TEACHERS

Please complete this questionnaire by giving honest answers. Your answers will be treated confidentially and will only be used for the purpose of this study.

A. Background Information

1. Name of the school .....
2. How long have you taught? .....
3. Which of the following problem(s) have you encountered in the course of teaching agriculture? Tick in the appropriate box/boxes.

Inadequate textbooks

Lack of a school farm

Disinterested learners

Lack of an agricultural workshop

Poorly equiped agricultural workshop

B. Books Used in Teaching Agriculture

4. List down three books you use for scheming and planning your agriculture lessons for the classes you teach.

FORM	BOOKS
1	1
	2
	3
2	1
	2
	3
3	1
	2
	3

