International Journal of Innovative Agriculture & Biology Research 3(3):18-26, July-Sept. 2015

© SEAHI PUBLICATIONS, 2015 www.seahipaj.org ISSN:2354-2934

CONTRIBUTION OF SECONDARY SCHOOL AGRICULTURAL KNOWLEDGE ON FARMERS' CROP AND LIVESTOCK DIVERSIFICATION ACTIVITIES IN UASIN-GISHU COUNTY, KENYA

***[1]Ernest KIPKEMEI; Jared MOSE[2]; Chepchumba CHUMO[3]; David KOSGEI[4]; Winrose CHEPNG'ENO[5]; Rose BOIT[6]**

[1]Moi University, Department of Agricultural Economics and Resource Management

P. O. Box 3900-30100, Eldoret, Kenya

***E-mail of corresponding author: ernestkipkemei@yahoo.com**

E-mails:[2]mosejared@yahoo.com;[3]chumbiin@gmail.com;[4]davidkosgei@yahoo.com; [5]winroseck@gmail.com; [6]rboit2005@yahoo.com

ABSTRACT

Though the Kenyan government has spent enormous resources on the development and teaching of agriculture in secondary schools, little has been done to establish whether there is any significant difference in agricultural productivity between farmers who had secondary school agriculture knowledge and those without this knowledge. This paper focuses on the contribution of secondary school agriculture knowledge on rural farmers' crop and animal diversification aimed at optimizing agricultural productivity. The research design used *ex-post facto;* the sampling procedure adopted was proportionate sampling technique. A total of 200 farmers were interviewed: 98 had obtained agriculture knowledge while 102 did not obtain agriculture knowledge at secondary school. The Data collected were analyzed using descriptive statistics. It was revealed that farmers with secondary school agriculture knowledge diversify more in crop productivity as compared to farmers without this knowledge. The diversification in livestock was lower for farmers with secondary school agriculture knowledge as compared to the farmers without this knowledge. It was concluded that farmers with secondary school agricultural knowledge perform significantly better in crop and animal diversification activities compared to farmers without the secondary school agricultural knowledge. This implies that secondary school agricultural knowledge not only broadens farmers' capacity but also makes them more effective, self reliant, resourceful and capable of solving farming problems. Consequently, the Ministry of Education should emphasize the need for secondary schools to own or hire land and own some livestock to enhance the livestock management practical skills. This study, having established that students who study agriculture in secondary schools become better farmers, then more students should be encouraged to take the subject so that they become better farmers and hence producers of agricultural products. The results will also assist in improving the curriculum by providing a basis for reference in curriculum development.

Keywords: Contribution, Secondary School Agricultural Knowledge, Farmers, Crop, Livestock Diversification Activities, Uasin-Gishu County, Kenya

INTRODUCTION

Agriculture is the backbone of Kenya's economy. It is the livelihood of over 80% of the total population. It serves as the source of food, raw materials for industries, source of employment, provides foreign exchange, provides market for industrial goods, source of capital for national development and helps to correct the balance of trade deficit (Cheruiyot, 1992). Arnnon (1989) observes that small-scale farmers have great potential in increasing agricultural production in the Least Developed Countries (LDCs), Kenya included. Chitere and Doorne (1985) have also noted that 85% of the Kenyan people live in the rural areas, most of them in small holding areas where farm units are only approximately two hectares. Despite enormous efforts to industrialize, Kenya still remains an agricultural nation with the majority of its people (75%) living in the rural areas and depending on agriculture, either directly or indirectly for

their income. In recent years, agricultural production has not kept pace with population growth rate and the country has become a net importer of its two major staple foods, maize and wheat (Kliest, 1985).

This paper focuses on the contribution of secondary school agricultural knowledge to rural agricultural productivity. The information obtained from this study will be useful to curriculum developers in evaluating the usefulness of the content included and methodology of agricultural education in Kenyan schools.

The rapidly growing population and steady expansion of the education system has resulted in the unemployment of those who complete school and cannot find access to further education. Students who cannot get into high paying jobs can engage themselves in agriculture, hence, the need for initiating agriculture in secondary schools in Kenya (RoK, 1964). The reduction in farm size due to increase in human population has led to reduction in farm output. There is, therefore, need to get more and more technical skills. This needs a level of education that can assist the trainee to make certain critical decisions related to farming. This is because the education system of a country plays a major role in the development of human and natural resources, as well as creating attitudes which inspire and dispose individuals towards change. Education provides participatory skills in people. Subsequently, this will enhance economic, political and social development (Mwangi, 1998).

The Kenya school curriculum during the colonial times (before 1963) was more western oriented. In some schools, simple technical education was included while basic agricultural instruction was added to help develop local farming. However, very few of the early missionaries had sufficient agricultural knowledge and practical skills to help improve the standards of local farmers (Anderson, 1970). Reflecting on the type of education, former president of Tanzania, Julius Nyerere, states in his book that education provided by the colonial government,

> *was not designed to prepare young people for the service of their country instead, it was motivated by the desire to inculcate the values of the colonial society, and to train individuals for the service of the colonial state* (Nyerere, 1979, p. 18).

Alliance was the first school established in Kenya in 1926, with agriculture as one of the subjects to be taught. African students soon recognized academic curriculum as the channel to success. Thus, vocational subjects, including agriculture, were held by these students in less esteem and were gradually dropped from the curriculum. Agriculture, despite determined efforts by the staff, was dropped from the curriculum in 1931 (Anderson, 1970). Attempts to re-establish secondary school agriculture were made in 1960 with Chavakali Secondary School in western Kenya as a pilot school. In 1968, the Ministry of Education formally recommended that agriculture be included in secondary school curriculum. The subject was introduced in less than 20 schools. However, introduction of agriculture in other schools moved very slowly such that there were less than 200 secondary schools offering agriculture by 1985.

In 1985, the Government of the Republic of Kenya started implementing the 8-4- 4 system of education and at the same time started phasing out the 7-4-2-3 system. The new system emphasized teaching more technical and vocational skills in secondary schools in order to serve those who would not continue with further formal education (Kathuri, 1990). Teaching of Agriculture was made compulsory in Forms I and II and optional in Forms III and IV. Since the subject was already being taught in all secondary schools, the new structure of education allowed pupils to continue studying agriculture from primary school through university level (ibid.). The expansion of teaching agriculture in all schools and at all levels was mainly for the acquisition of certain attitudes of mind and the basis for understanding, participating and co-operating in social and economic changes.

The objective of teaching agriculture among either subjects (RoK, 1964) was to ensure that learners become better adopters and productive in agriculture than before. The question is, has this objective been achieved since agriculture was introduced in schools?

Research Work on Agricultural Education

In 1960, Robert Maxwell initiated a pilot agricultural education programme at Chavakali secondary school in Western Kenya. The programme had three basic objectives. They included:

i) Making rural secondary education in Kenya more practical and more responsive to developmental

needs of the country

ii) Developing the school demonstration area and generate enthusiasm and willingness to work among the students

iii) Relating agricultural courses to the:

- Entire school programme
- Development of the region and the country
- Life and future of the students (West Virginia University, 1966, p. 1-2)

These objectives were consistent with the name of the course at that time - vocational agriculture. It was seen as a subject that would result in a reasonable amount of technical training among students. The course aimed at making a student fit for effective employment in agriculture (Struck, 1945; Kathuri, 1990). At the early stages the pilot project met with apathy because members of the community viewed agriculture as an occupation for those who lacked school education (Kathuri, 1990). This view was also directed towards those who were unable to make it through education system or other basic science subjects. Agriculture was also seen as a dirty job (Stabler, 1969).

Maxwell (1968), in his follow-up study, showed that there is a positive relationship between former students who did agriculture in secondary schools and their present occupations. That is, they participated in agriculture oriented occupations.

Kathuri (1990) did a study to investigate how the Kenya agricultural education curriculum was being implemented in schools, factors influencing the implementation process and how the implementation affected student's achievement in agricultural education. Kathuri's (ibid.) findings were that school location, school category, teacher qualification and availability of books were significant factors related to students' achievements. It was also observed that teachers used more theoretical than practical-oriented teaching methods. Consequently, curriculum implementation did not match the syllabus in both content coverage and development of practical skills in agriculture. Kathuri also noted that resources available for teaching agriculture varied in secondary schools and most schools lacked the resources. Other than the above studies, very little has been done, if any, to determine the benefits derived by former agriculture secondary school students from the curriculum in terms of farming.

Education is cherished in all societies. Schooling is important where there is a rapid rate of' technological change. Against this background, several countries and international agencies have supported farmer's formal and non-formal education. In Africa, several studies have shown a positive relationship between education and agricultural productivity (Mwangi, 1998; World Bank, 1988). These works elaborate on the positive contributions education makes to agricultural productivity. No significant growth is possible in Kenya without substantial growth in agricultural productivity (Nyoro, 1994).

Agricultural Diversification

Agricultural diversification is defined broadly as the increased variety of agricultural commodities produced (David & Otsuba, 1993). The livelihood of many farmers critically depends on incomes from diverse sources including the production of commercial crops and livestock products. Agricultural diversification represents a powerful counteractive force against population pressure that otherwise results in growing poverty and inequality in many developing countries. Diversification in crops and livestock is not likely to be successful unless it is based on major technological advancement in farm production. Significant progress cannot be expected unless it is supported by technological innovations. These innovations require a higher level of education among the farmers for better adoption of new technologies of production (David & Otsuba, 1993).

One of the general objectives of including agriculture in the 8-4-4 secondary school curriculum (KIE, 1992), is to ensure that schools take an active part in rural development by integrating agricultural activities in the curriculum. This would be through provision of technical knowledge, reinforcing interest in and awareness of opportunities existing in agriculture among the secondary school graduates (RoK, 1976). However, little has been done to establish whether there is any significant difference in agricultural productivity between farmers who graduate with secondary school agriculture knowledge and

those without. The main question is: does agriculture knowledge at secondary school level make any difference in agricultural productivity?

Limitations of the Study

Kenya has diversified ecological zones that influence agricultural production. These ecological zones may also influence the opportunities and resources that are available for agricultural production. It would therefore, be advisable to draw a sample from the whole nation, but time allocated for the study and availability of resources limited such widespread sampling procedure. Therefore, one zone was chosen and a limited sample was used.

MATERIALS AND METHODS

The study utilized the Ex-Post facto research design. The study was undertaken in Uasin Gishu County. Kapseret and Turbo Divisions, out of the six divisions in the county were purposively selected for the study because the two divisions had more small-scale farmers as compared to the others. In each of these Divisions two groups of farmers were identified - those with secondary school agriculture knowledge and those without this knowledge.

Uasin Gishu County is a highland plateau situated at an altitude of 1500 metres above sea level around Kipkaren and 2100 metres above sea level around Timboroa (District Annual Report, 2010). It receives rainfall of approximately 960mm/year, which is evenly distributed. This rainfall is bimodal with the two peaks coming in March and September. The wettest areas are Ainabkoi, Kapseret and Kesses Divisions. Turbo, Moiben and Soy Divisions receive relatively lower amounts of rainfall as compared to Ainabkoi, Kapseret and Kesses Divisions (District Annual Report, 2010). Temperatures range from a minimum of 8.8^0C to a maximum of 21.6^0C. The average temperature is 18^0C during the wet season and a maximum of 21.6^0c during the dry season. February is the hottest month, while June is the coolest month (District Annual Report, 2010).

Farmers generally prepare land for planting, especially for maize, during the months of January and February. However, wheat is usually planted in the months of April and May. Due to favourable topographical and climatic conditions, the entire county has a high potential for agricultural and livestock activities. According to the District Population projection, Uasin Gishu County was expected to have a population of 693,882 by the year 2001. Out of the above population, Kapseret Division would have a population of 107,336 and Turbo Division, a population of 126,194 (Uasin Gishu District Development Plan, 1997-2001). The study took a sample of 200 farmers for the two divisions to ensure that the main characteristics of the farmers were captured. The sampled farmers were the heads of farm families or managers of the farm.

An interview schedule was used in the study to collect data for the enterprise diversification. The responses from the respondents were coded and entered into a data sheet. The final data were then keyed into the computer for analysis. The Statistical Package for Social Sciences (SPSS) computer program was used to analyse the data. The T-test and Chi-square statistics were used to test the stated hypotheses. The level of significance was set at $\alpha = 0.05$. The analysis was based on a sample size of 200 small scale farmers comprising of 98 of them with secondary school agriculture knowledge and 102 of them without this knowledge.

RESULTS AND DISCUSSION

Farmers' Crop Diversification Levels

The farmers were asked to state the type of crops they grew in their farms. The list was then computed by categorizing the farmers according to the number of crops that each one of them grew in the farm.

Farmers were then rated based on these categories as follows: those farmers with 1-2 types of crops were rated as low diversification, those with 3 - 4 types of crops as fair diversification and those with more than 4 types of crops as more diversification. Their frequencies were determined and the summary is as shown on Table 1.

Table 1: Distribution of Farmers by Crop Diversification Practices

	Farmers with sec. sch. Agric. Knowledge			Farmers without sec. sch. Agric. Knowledge		
	Frequency	Percent	Cumulative percent	Frequency	Percent	Cumulative percent
Low diversification	83	85.6	85.6	89	87.3	87.3
Fair diversification	12	12.3	97.9	13	12.7	100.0
More diversification	2	2.1	100.0	-	-	
Missing	1	-		-	-	
Total	98	100.0		102	100.0	

Farmers who were less diversified among those with secondary school agriculture knowledge were 85.6% whereas their counter parts had 87.3% of the members in this category of low diversification. The farmers with secondary school agriculture knowledge who had fair diversification were 12.3% of the total members whereas their counterparts had 12.7% of its members in this category.

Table 2: Farmers' Crop Diversification Levels

	Farmers with sec. sch. Agric. Knowledge			Farmers without sec. sch. Agric. Knowledge		
Type of crop	Frequency	Percent	Cumulative percent	Frequency	Percent	Cumulative percent
1-2 crops	83	85.6	85.6	89	87.3	87.3
3-4 crops	12	12.4	98.0	13	12.7	100.0
More than 4 crops	2	2.0	100.0	-		-
Missing system	1					
Total	98	100.0		102	100.0	

Mean = 1.1649 (1.168)
Std. Deviation = 0.4253
Minimum = 1.00
Maximum = 3.00

Mean = 1.127 (1.13)
Std. Deviation = 0.3351
Minimum = 1.00
Maximum = 2.00

Farmers with secondary school agriculture knowledge who had more diversification was 2 % of the total members in this group, but there were none in the group of farmers without the secondary school agriculture Knowledge. The implication to this is that farmers with secondary school agriculture knowledge were better in crop diversification as compared to those farmers without the secondary school agriculture knowledge, although the margin was very small. Table 2 shows the mean standard deviation and range scores of farmers' crop diversification levels. Those farmers with one to two types of crops in their farms were given a score of one whereas those with three to four types of crops were given a score of two; those with more than four types of crops were given a score of three. The score value of one represented less diversification, whereas two represented fair diversification and three represented more diversification. The summary is as shown on Table 2. From the results, it is evident that farmers with secondary school agriculture knowledge are better in crop diversification as compared to their counterparts. Their means are 1.16 and 1.13, respectively.

The argument is that farmers with secondary school agriculture knowledge diversify their crops better than those without this knowledge. The advantage for this is the crops diversified will act as a security in times of crop failure of one of the crops; the farmer does not suffer a total loss. This concept might have been instilled in these farmers while in school as part of a management practice topic in school in relation to guarding against risks and uncertainties in farming. Of the farmers with secondary school

agriculture knowledge, 85.6% of them had 1-2 types of crops in their farms, 12.4% of them had 3-4 types of crops in their farms and 2.0% of them had more than 4 types of crops grown in their farms. Their counterparts had 87.3% of them with 1-2 types of crops grown in their farms, 12.7% of them with 3-4 types of crops grown in their farms and none of the farmers had more than 4 types of crops grown in their farms. From their means and the results observed in Table 2, the farmers with secondary school agriculture knowledge perform better in crop diversification as compared to the farmers without this secondary school agriculture knowledge.

The inferential statistical analysis yielded the t- values as shown in table 3.

Table 3: Paired t-test values for the difference in crop diversification between farmers with secondary school agricultural knowledge and those without this knowledge.

Variable	t-cal	t-crit	Mean difference	Df	Sig.t
Crop diversification (with agric. Knowl.) Crop diversification (without agric. Knowl.)	26.980	1.66	1.165	96	0.05

The result of the analysis in table 4 shows that there was statistically significant differences in crop diversification between farmers with sec. School agric. Knowledge and those without this knowledge (t – cal = 26.980) therefore the null hypothesis which stated that there was no significant difference in crop diversification between the two group farmers is rejected. These findings are consistent with what is expected of farmers who have secondary school agriculture Knowledge (K.I.E, 1985). This consistency in the findings can be explained by the fact that secondary School agriculture Knowledge prepares learners to be better in diversification as a method of minimising risk and uncertainties in farming.

Table 4: Number of Types of Livestock Owned by the Farmers

Farmers with sec. sch. Agric. Knowledge				Farmers without sec. sch. Agric. Knowledge			
No. of cattle	No. of sheep	No. of goats	No. of any other livestock	No. of cattle	No. of sheep	No. of goats	No. of any other livestock
Min 0	0	0	0	0	0	0	0
Max 31	30	30	100	46	27	16	60
Mean 4	4	1	2	5	4	1	1

NB: Any other livestock included poultry and rabbits

Types of Livestock owned by Farmers and Livestock Diversification

i) Cattle

The mean number of cattle owned by farmers with secondary school agriculture knowledge was four (4) whereas the mean for those without this knowledge is five (5). This means farmers without the secondary school agriculture knowledge own more cattle compared to their counterparts. The number of cattle owned per farmer would depend on many factors, such as size of the land for grazing, type of breeds and level of farm management, among other factors.

ii) Sheep

The sheep farmers with secondary school agriculture knowledge had a: mean number of four sheep, so

are those farmers without this knowledge. These figures indicated that farmers with secondary school agriculture knowledge and those without this knowledge do not differ much in the mean number of sheep that they owned.

iii) Goats

The mean value for number of goats is low for both groups of farmers. Although the maximum number of goats for farmers without the Secondary School Agriculture knowledge is lower (16) as compared to those with this knowledge (30).

Thirty-three percent of the farmers with secondary school agriculture knowledge had 1-2 types of livestock, 54.2 % had 3-4 types of livestock and 12.8% of these farmers had more than 4 types of livestock. As for the farmers without the secondary school Agriculture knowledge, 22.9% had 1-2 types of livestock, 64.6% had 3-4 types of livestock and 12.5% of them had more than 4 types of livestock. Farmers with secondary school knowledge had their mean score value of 1.80, standard deviation of 0.65, minimum score of 1.00 and maximum score of 3.00. The score range value for both groups of farmers was 2.00. The summary is as shown on Table 5.

Table 5: Distribution of Farmers According to Livestock Diversification

Farmers with sec. sch. Agric knowledge				**Farmers without sec. sch. Agric. Knowledge**		
Type of stock	Frequency	Percent	Cumulative percent	Frequency	Percent	Cumulative percent
1-2	31	33	33.0	22	22.9	22.9
3-4 types of	51	54.2	87.2	62	64.6	87.5
livestock			100.0	12	12.5	100.0
More than 4	12	12.8				
Types of liv						
Missing systems	4	-	-	6	-	
Total	98	100.0		102	100.0	
Mean = 1.7979				Mean = 1.8958		
Std deviation = 2.00				Std. Deviation = 0.5890		
Range =2.00				Range = 2.00		

The farmers without the secondary school agriculture knowledge had their mean score value of 1.90, standard deviation of 0.59, minimum score of 1.00 and maximum score value of 3.00.

The results indicate that farmers with secondary school agriculture knowledge diversified less in livestock as compared to the farmers without this knowledge. This can be shown in the results of the latter's which was higher (1.90) for farmers without secondary school agriculture knowledge as compared to the farmers with this knowledge, who had a mean score value of 1.80. This indicates that both groups of farmers had fair livestock diversification levels. The same observation was made when percentages were considered. Thirty three percent of the farmers with secondary school agriculture knowledge had 1-2 types of livestock whereas 22.9% of their counterparts had 1-2 types of livestock.

This indicates less diversification of the farmers with secondary school agriculture knowledge, of which 87.2% of them had 3-4 types of livestock whereas their counterparts' percentage was 87.5%. This indicated a fair diversification. Farmers with secondary school agriculture knowledge with more than 4 types of livestock were only 12.8% of their total number whereas there were 12.5% of their counterparts with more than 4 types of livestock, indicating more diversification. From the above observation of the mean scores and percentages of farmers falling in the three categories (of less diversification, fair diversification and more diversification), it can be concluded that farmers without secondary school agriculture knowledge performed better in livestock diversification as compared to the farmers with this knowledge. The most probable reason for this could be that farmers with secondary school agriculture

knowledge tended to specialize more on a particular type of livestock for higher productivity.
The inferential statistical analysis of the results in table 5 yielded the t-test values as shown in table 6.

Table 6: Paired t-test values on difference in livestock diversification between farmers with secondary School agricultural Knowledge and those without knowledge

Variable	t-cal	t-crit	Mean difference	Df	Sig.t
Livestock diversification (with agric. Knowl.) Livestock diversification (without agric. Knowl.)	26.86	1.66	1.798	87	0.05

The results of the analysis in table 6 indicate that the two groups of farmers were significantly difference from each other in terms of their livestock diversification (t-cal 26.86). This difference is significant at 0.05 level of significance. The farmers with secondary school agricultural knowledge diversify more in livestock as a method of minimising risk and uncertainties in farming.

CONCLUSION AND RECOMMENDATIONS

From the study findings and the discussions above, it is evident that farmers with secondary school agriculture knowledge diversify more in crop productivity as compared to farmers without this knowledge. This could be as a result of the knowledge they gained in school on the need to diversify as a security against total crop failure in a case of only one crop being grown.
The diversification in livestock was lower for farmers with secondary school agriculture knowledge as compared to the farmers without this knowledge. Farmers with this knowledge tend to specialize in livestock productivity. In the context of these findings, it can be concluded that the low diversification level of the farmers with secondary school agriculture knowledge may be as a result of less exposure to livestock management skills in school among the learners because most schools do not keep livestock. If they are kept, this is mainly for commercial purposes and less of the practical aspects for the learners.
Since farmers with secondary school agricultural knowledge perform significantly better in most of the aspects looked into in livestock and crop production, it would be more appropriate to make learning of agriculture subject compulsory for all the students in this country as a way of alleviating poverty. The teaching of agriculture subject should be emphasized so that students completing secondary school education and having done agriculture, will be better in diversification of enterprises and hence cope up with uncertainties in farming. Schools should be encouraged to keep livestock in their farms or hire land elsewhere for practical agriculture. With the teaching of agriculture emphasized, the learners, after completing their secondary school education, will have developed self-reliance, resourcefulness, problem-solving abilities and may engage themselves in agricultural enterprises which may not necessarily require a lot of capital to start, but assist in improving the economy of this country.

REFERENCES

Anderson, J. (1970). *The Struggle for the School*. London: Longman.
Arnnon, I. (1989). *Agricultural Research and Technology Transfer*. London, U.K.: Elsevier Science Publishers Ltd.
Cheruiyot, D. (1992). *KCSE Revision Agriculture*. Nairobi: Kenya Literature Bureau.
Chitere, P. A., & Van Doorne, J. H. (1985). Extension Education and Farmers Performance in Improved Crop Farming in Kakamega District. *Agricultural Administration,* 18(2).
David, & Otsuba, (1993). *Agricultural Diversification for Growth and Equity in Agricultural Technology*. Wallington: Oxford U.K
Kathuri, N. J. (1990). *A study of the New Agricultural Education in the secondary Schools in Kenya*. A Ph.D Thesis, University of Illinois at Urbana - Champaign, U.S.A
KIE (1992). *Secondary Education Syllabus*, Vol. 1. Nairobi: Kenya Literature Bureau.
Kliest, T. (1985). *Regional and Seasonal Food Problems in Kenya*. Leiden/Nairobi: African Studies

Centre/MPND.

Maxwell, R. B. (1970). *The Relationship between Social Differentiation to Academic Success in Secondary Schools and Occupational Patterns in Kenya: Chavakali case*. Cornell University. Unpublished Ph.D Thesis.

Mwangi, J. W. (1998). Contributions of Education and Research to National Development with Special Reference to Kenya. *Egerton Journal of Humanities, Social Sciences and Education*.

Nyerere, J. K. (1979) *Education for Self Reliance. Education for Liberation and Development: The Tanzanian Experience*. Hinzen, H., & Hundsdorfer, V. H. (Eds.), London: Evans Brothers Ltd.

Nyoro, J. (1994). *Maize Production: Impacts of Market Reform*. Proceedings of the Conference on Market Reforms, Agricultural Production and Food Security. Nairobi.

Republic of Kenya (1964). *Kenya Education Commission Report, Part 1*. Nairobi: Government Printers.

Republic of Kenya (1976) *Report of the National Committee on Education Objectives and Policies* (Gachathi, Peter, J.). Nairobi: Government Printers.

Republic of Kenya (2010). *Uasin Gishu District Development Plan (2005-2010)*. Nairobi: Government Printers.

Stabler, E. (1969) *Education since Uhuru: The schools of Kenya*. Connecticut: Wesleyan University press.

Struck, F. T. (1945)Vocational Education for a Changing World. New York: John Wiley and Sons inc.

World Bank (1988) Education Sector Policy paper, Washington *D.C.,* U.S.A, cited by World Bank. *Education in Sub-Saharan Africa: Policies for Adjustment, Revitalisation and Expansion*. Washington D.C.: World Bank.