



NEXUS BETWEEN TEACHERS INVOLVEMENT IN HORTICULTURAL FARMING AND ACADEMIC PERFORMANCE OF PRIMARY SCHOOLS PUPILS IN TIMAU DIVISION

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Abstract

The horticultural industry provides an important source of foreign exchange, generates substantial employment, and has contributed to the upgrading of agricultural skills. A number of studies have raised concerns about the benefits that export horticulture provides to employees and the wider economy. However, most people in the horticultural farming areas are paid in wages since they cannot afford to buy farms. Their wages range from Ksh 100 to 200 in a day. Further these people work for long hours in a day (6.00 am to 6.00pm). Parents working in these farms barely spend time with their children. In addition, most of the children in these areas accompany their parents to these horticultural farms; mostly over the weekends. Despite all the laid down strategies by the education stakeholders in Timau division to ensure students perform well in KCPE examinations, many students still continue to perform dismally. The objective of the study was to establish the influence of teachers' involvement in horticultural farming on academic performance of pupils in primary schools in Timau Division of Buuri District. This study used descriptive research design. The target population for this study was teachers, students and parents in primary schools located in Timau division. The target population of this study was therefore 3156. The researcher used a stratified sampling to select teachers' pupils and parents from each of the schools. The sample size of this study was therefore 342 respondents. This study used both secondary and primary data. Primary data was collected by use of questionnaires. Each of the primary schools had one group to discuss the questions in the focus group discussion guide. Descriptive statistics was used to analyse quantitative data while content analysis was used in processing of qualitative data. The researcher also used a multivariate regression model. The study found that there is a positive relationship between teachers' involvement in horticultural farming and academic performance of primary schools. This study therefore recommends that parents should motivate teachers by helping their children to work on homework and by attending school functions and activities. In addition, the government of Kenya should motivate teachers by giving them incentives when their children pass exams.

Key Words: Teachers involvement, Academic performance, Substantial employment, School meetings

Introduction

Education has come to be regarded as a vehicle that promote social, economic and political development, an investment that opens new horizon, a means to empower both men women, and provides for active participation in development programmes and projects. It is important because, it instils knowledge skills and attitudes that are compatible with sustainable development. International trade in Fresh Horticultural and Floricultural Products (FHFP) is growing at a rate of 7% per year, compared with only 2% for staple crops. According to the World Bank, high-value products provide an opportunity for farmers in developing countries to compete for a share of this lucrative export market.

Trade in horticultural products is often considered an example of successful exports in some African countries, with some of them managing to gain access into the horticultural value chains (Weinberger & Genova, 2015).

Proponents of small farm development as a strategy to poverty reduction argue that the labor advantages of smallholder farms can continue to give them the competitive edge over larger farms if there exist effective and efficient services to assist them to raise labor and land productivity plus intermediaries to link them to remunerative output market opportunities. Opponents of this view Maxwell (2019) suggest that smallholder agricultural growth will depend on competitive engagement with very demanding produce markets, and that small farms face transaction costs in these markets that are too high to be overcome even with the assistance of intermediaries.

Shifting from cereal production to horticultural production generates additional employment. Joshi et al. (2018) estimate that in India, a shift of production from coarse cereals to high-value vegetables, such as cauliflower, eggplant and tomato, would on average generate additional employment of 70 person days per hectare. Often, additional labor requirements are met through hired labor, benefiting small farmers and landless laborers. Greater employment opportunities result in greater incomes for poor households. In Bangladesh, total value added in wages is approximately US\$400 per ha, 7.5 times higher than value added through hired labor in rice (Weinberger & Genova, 2015). But where labor is scarce, availability of hired labor may actually be a limiting factor to vegetable production as a study of determinants of horticultural production in Kenya has shown (McCulloch & Ota, 2017). To this effect most small scale farmers as in Timau division end up involving their children in horticultural farming thus barring them from attending school hence influencing their performance negatively.

Kenya, as a developing nation, looks forward to being fully industrialized by the year 2020 (Munya, 2018). The vision 2030 which aims to turn Kenya into a middle-income economy by the year 2030 is anchored in the national education system. For this reason, examinations are viewed as an important tool for achieving these objectives. The assessment of student's attainment in learning is therefore an integral part of any educational process (Bongonko, 2015). Thus, thousands of students in both, primary and secondary schools sit for national examinations every year. Primary school's students sit for Kenya Certificate Primary Education (K.C.P.E) at the end of 8 years. Surprisingly, there has been a lot of variation in the performance of students in the examinations among and within schools in the country. This is real, despite the fact that these students follow a common syllabus and are of comparable abilities and have studied together in the same class throughout, perhaps both in primary and secondary schools.

Despite free and compulsory primary education and the fact that the majority of school-age children in the research locations were actually enrolled in school, there are still several obstacles preventing children from attaining a good performance in their schools. While the introduction of FPE freed parents from the burden of school fees, there are still costs that persist: school uniforms, examination fees and contributions to the school's maintenance and infrastructure (Benninga & Berkowitz, 2018). Further, most of the parents are so busy to have time to their children; to help them in their homework. Teachers on the other hand are doing teaching and horticultural farming at the same time. This makes them to be absent in schools for several days in a week and hence they cannot finish the syllabus. Moreover, instead of being in schools pupils have been found working in horticultural farms which reduces the time a child is found in school.

The relative profitability of horticultural crops compared to cereals has been shown to be a determining factor for crop diversification into horticultural production in India (Joshi *et al.*, 2018). The production of horticultural products offers opportunities for poverty alleviation, because it is usually more labor intensive than the production of staple crops. Often, horticultural production requires twice as much, sometimes up to four times as much labor than the production of cereal crops. In Kenya, the production of snow peas and French beans, the two most widely grown horticultural export crops, require 600 and 500 labor days per ha, respectively (Dolan, 2017).

The central feature of the education system in Kenya is the academic performance. When examination results are released by the ministry of education every year, the school's worth is perceived from the number of students who appear among the top hundred either in the province or nationally. This is because good performance leads to higher educational opportunities which in turn become essential in securing jobs in both the public and private sectors of our economy. In order to improve academic performance, education stakeholders, have tried to come up with different approaches and strategies such as extra tuition, extrinsic motivation of teachers and students, maintenance of high discipline among students, proper training and supervising of teachers and counselling programmes to help the students adjust well in the school work and environment. The poor academic performance of pupils in the region has been a concern over the past few years.

Statement of the Problem

Governments of developing countries across the world have adopted poverty reduction strategies with the explicit aim of achieving substantial reductions in the proportion of their population falling below nationally set poverty lines. Horticultural exports have grown dramatically in many Sub-Saharan African countries, especially in Kenya, while many other agricultural commodities have faced stagnation and declining world prices.

In addition, the horticultural industry provides an important source of foreign exchange, generates substantial employment, and has contributed to the upgrading of agricultural skills. In an effort to make increase their earnings at peak time parents involve their children in horticultural farming. This leads to an increase in students' absenteeism in schools which subsequently influences their performance. In addition, students start getting little money at an early age which causes them to drop out of schools. A number of studies have raised concerns about the benefits that export horticulture provides to employees and the wider economy. However, most people in the horticultural farming areas are paid in wages since they cannot afford to buy farms. Their wages range from Ksh.100 to 200 in a day. Further these people work for long hours in a day (6.00 am to 6.00pm). Parents working in these farms barely spend time with their children. In addition, most of the children in these areas accompany their parents to these horticultural farms; mostly over the weekends. Due to the fact that they have a better economic capability, teachers are capable of buying land in which they employ people to work for wages but on their supervision.

Several research studies have been carried out on the horticultural industry in Kenya. For instance, Harris (2015) did a survey on "Kenya Horticultural subsector"; Dijkstra and Magori (1995) conducted a study on "horticultural production and marketing in Kenya" while Dolan (2001) carried out a study on "The good wife: struggles over resources in the Kenyan horticultural sector". Therefore there is need to do a study on the influence of horticultural farming on the academic performance of primary schools.

Despite all the laid down strategies by the education stakeholders in Timau division to ensure students perform well in KCPE examinations, many students still continue to perform dismally. Aziza (2008) observes that the percentage of Pre-Primary children attending schools in Meru town is 50.4% for boys, and 49.6% for girls. The percentage of Primary children attending schools is 48.4% for boys and 51.6 % who also perform poorly in their exam. The division has been performing poorly for the last five years as it has never been below position 10 out of 15 zones with an average mean score of 215 marks. This continued poor performance is therefore a likely indication that not all possible avenues of improvement have been explored. With many of the community members turning to horticultural farming, this study investigated the effects of teachers involvement in horticulture farming on the academic performance of pupils in primary schools in Timau division.

Objectives of the Study

The objective of the study was to establish the nexus between teachers' involvement in horticultural farming and academic performance of primary schools pupils in Timau division.

Theoretical Framework

The theory of concerted cultivation by Lareuae (2002) which stated that lower income families have children who do not succeed to the level of the middle income children. Annette Lareau (2018) stated that lower income families have children who do not succeed to the level of the middle income children, who feel entitled, are argumentative, and better prepared for life. According to Jeremy Suizo (2010) analysis of Lareau's book, 'Unequal Childhoods: Class, Race, and Family Life', there is a clear distinction between the parenting styles of the working class families and the middle class families. The middle class, practices a method she dubs "concerted cultivation" while the working class use a style called the accomplishment of natural growth.

Lareau observed that, middle class parents had a greater presence in the lives of their children; primarily through organizing the child's daily life. For middle class families, there was a heavy emphasis on scheduling and participating in various extracurricular activities and sports. Middle class parents also encouraged their children to ask questions and to be self-reliant. Children under the concerted cultivation method tended to participate in sibling rivalry and because of the heavy scheduling, middle class children rarely visited extended family and had little free time.

The mantra of concerted cultivation is to prepare the children for the future, a sort of 'work hard, play later' mentality where the children can have their fun once they have grown up, gotten a job, and have the money to indulge. The mantra of the natural growth style of parenting is to let the children play and have fun in youth because adulthood will be hard. Working class parents favored letting their children play freely compared to the middle class children who had lives scheduled around extracurricular activities.

As a result of the financial and material issues surrounding working class families, parents were most concerned with providing basic survival needs like food and shelter. Extended family was more present in working class families so as to help raise the children together. At home, children are spoken to with directives rather than discussions or requests and sometimes, the youngsters are forced to fend for themselves. This finding is similar to the concept of cultural capital as presented by French sociologist, Pierre Bourdieu, which is concerned with the social skills and knowledge passed onto children and give them advantages over others into navigating through society successfully.

Research Methodology

Research Design

This study used descriptive research design. Descriptive research studies are designed to obtain pertinent and precise information concerning the status of phenomena and whenever possible to draw valid conclusions from the facts discovered.

Target Population

The target population for this study was teachers, students and parents in primary schools located in Timau division. There are 12 primary schools in Timau division. The target population of this study was therefore 3156.

Sample Size and Sampling Techniques

The sample size was 342 respondents. The researcher used a stratified sampling to select teachers, pupils and parents from each of the schools. Stratified samplings are a method applied if the population from which a sample is to be drawn does not constitute a homogeneous group, and hence requires comparisons between various sub-groups. The procedure assures the researcher that the sample was representative of the population in terms of certain critical factors that have been used as a basis for stratification.

Data Collection

This study used both secondary and primary data. Primary data was collected by use of questionnaires; the questionnaires included structured and unstructured questions. The structured questions were used in an effort to conserve time and money as well as to facilitate an easier analysis as they are in immediate usable form; while the unstructured questions were used as they encouraged the respondent to give an in-depth and felt response without feeling held back in revealing of any information. Validity was ensured by pre-testing the instrument to be used to identify and change any ambiguous, awkward, or offensive questions and technique. The pre-test was conducted by both the principal researcher and the research assistants to enhance clarity of the questionnaires. The pre-test exercise took place at the convenience of both the researcher and the research assistance.

Data Analysis

This study was both quantitative and qualitative in nature. Once the data was collected it was checked for completeness ready for analysis. The data from the field was first coded according to the themes researched on the study. Analysis was done with aid of the Statistical Package for Social Sciences (SPSS V 25.0) package. Descriptive statistics generated such as percentages, mean scores and proportions was presented in tables and figures. Qualitative data collected was checked for completeness and cleaned ready for data analysis. Content analysis was used in processing of this data and results were presented in prose form. Content analysis is a summarizing, qualitative analysis of messages that relies on the scientific method (including attention to objectivity. The univariate regression model for this study was;

$$Y = A + BX$$

Where: Y = Academic Performance of primary schools,

X = Teachers' involvement in horticultural farming

Findings and Interpretations

Teachers' involvement in Horticultural Farming in horticultural farming

The study also sought to examine the influence of teachers' involvement in horticultural farming on academic performance of primary schools pupils in Timau division.

Table 1: Aspects of teachers' involvement in horticultural farming

	Mean	Std. Deviation
Absenteeism	4.0175	6.97314
Lack of commitment	3.0702	.99749
Failure to complete the syllabus	2.9298	1.47430

Table 1 shows the extent to which the respondents agreed that the stated aspects of involvement of teachers in horticultural farming affect the academic performance of primary schools in Timau division. According to the findings, the respondents agreed with a mean of 4.0175 that absenteeism affects the academic performance of primary schools in Timau division. In addition, the respondents agreed with a mean of 3.0702 that lack of commitment affects the academic performance of primary schools in Timau division. Further, the respondents agreed with a mean of 2.9298 that failure to complete the syllabus affects the academic performance of primary schools in Timau division.

In relation to teachers' involvement in horticultural farming, the pupils indicated that this leads to teachers absenteeism from school, leads incomplete syllabus, leads to lack of concern towards students. The respondents also indicated that teachers lack interest in extra tuition thus lack of enough contact hours with the students and teachers get sick due to exposure in the farming.

Regression Analysis

The researcher used a univariate regression model to establish the relationship between independent variable (teachers' involvement in horticultural farming) and the dependent variable which was academic performance of primary schools.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error
1	0.861	0.742	0.639	.52236

a. Predictors: (Constant), Teachers' involvement in horticultural farming

The independent variable that studied, explain 72.4% of the academic performance of primary schools as represented by the R^2 . This therefore means that other factors not studied in this research contribute 27.6% of the academic performance of primary schools.

Table 3: ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.127	1	2.127	8.395	.0051
	Residual	14.189	56	0.253		
	Total	16.316	57			

a. Predictors: (Constant), Teachers' involvement in horticultural farming,

b. Dependent Variable: Academic performance of primary schools

The significance value is 0.0051 which is less than 0.05 thus the model is statistically significant in predicting how teachers' involvement in horticultural farming affects academic performance of primary schools. The F critical at 5% level of significance was 8.395. Since F calculated is greater than the F critical (value = 1.964), this shows that the overall model was significant.

Table 4: Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	3.476	.868		4.003	.020
	Teachers' involvement in horticultural farming	.131	.154	.119	3.848	.019

a. Dependent Variable: academic performance of primary schools

According to the findings, the multivariate regression was;

$$Y = 3.476 + 0.131X$$

The study also found that a unit increase in the scores of teachers' involvement in horticultural farming would lead to a 0.131 increase in the scores of academic performances of primary schools. The study established that teachers' involvement in horticulture farming influences academic performance of primary schools' pupils in Timau division.

Discussion of the Findings

The study also established that teachers' participation in horticultural farming affects the academic performance of primary schools in Timau division to a low extent (29.8%). The study also revealed that teachers in Timau division were moderately motivated (35.1%). According to Shirom and Rosenblatt (2006), work motivation refers to the psychological processes that influence individual behavior with respect to the attainment of workplace goals and tasks.

It was also revealed that absenteeism affects the academic performance of primary schools in Timau division (M=4.0175). In addition, the study found that lack of commitment affects the academic performance of primary schools in Timau division (M=3.0702). Further, the study established that failure to complete the syllabus affects the academic performance of primary schools in Timau division (M=2.9298). Scott et al., (2007) had earlier argued that there appear to be mounting concerns that unacceptably high proportions of teachers working in public school systems in many countries are

poorly motivated due to a combination of low morale and job satisfaction, poor incentives, and inadequate controls and other behavioral sanctions.

In relation to teachers' involvement in horticultural farming, the study found that it leads to teachers' absenteeism from school, leads incomplete syllabus, leads to lack of concern towards students. The study also found that teachers lack interest in extra tuition thus lack of enough contact hours with the students and teachers get sick due to exposure in the farming. In line with this, Clotfelter et al (2001) had earlier found that higher teacher absenteeism is associated with more student absenteeism, which will also lead to poor student performance as the student is not present in class to participate and learn.

Conclusion and Recommendations

The study concludes that a unit increase in the scores of teachers' participation would lead to a 0.191 decrease in the scores of academic performance of primary schools. Teachers in Timau division were moderately motivated. It was also revealed that absenteeism, lack of commitment and failure to complete the syllabus affects the academic performance of primary schools in Timau division.

The study revealed that teachers in Timau division were moderately motivated. This study therefore recommends that parents should motivate teachers by helping their children to work on homework and by attending school functions and activities. In addition, the government of Kenya should motivate teachers by giving them incentives when their children pass exams.

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