

The Relationship Between Access to Information Services and Youth Involvement in Agribusiness Value Chains in Kakamega County, Kenya

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ABSTRACT

Agribusiness offers huge employment potential considering its wider labour absorptive capacity. However, youth involvement in agribusiness in Kakamega County, Kenya is low. The study aimed at assessing the relationship between access to information services and youth involvement in agribusiness value chains. Stratified and simple random sampling was adopted to select 240 respondents. Data collected was analyzed to generate frequencies, percentages and correlation. It was established that there is a strong correlation between access to information and youth involvement in agricultural value chains. Lack of or inadequate access to information services is a key constrain to agricultural productivity in Kakamega county as it affects all aspects of the value chain except consumption. County governments and Ministry of Agriculture will use these findings to design appropriate agricultural messaging strategies. Policymakers and Donor agencies using these findings will be able to formulate policies that will enhance youth involvement in the Value Chain by knowing what segments of the value chain to focus on youth intervention strategies.

Keywords: Youth involvement, Agricultural Value chains, information services, Kenya.

INTRODUCTION

In Kenya, agriculture is commonly done by the old people as the typical age of a Kenyan farmer is 59-60 years; this is as a result of rural to urban areas movement by Kenyan youth is on the increase in search of office work. However, youth unemployment is a growing problem and this reality hits them once they get into the overcrowded stage of unemployment (Kising'u, 2016). For effective and successful land use, user rights, ownership and access to agricultural information and extension service is key (Oduor et al., 2019). Youth would participate in a fast and changing environment by building their ability and interest in non-monetary employments (Kimani et al., 2019).

Information and quality data on new techniques is significant for agribusiness investors on whether to take in a new development or not. In Kenya, the ratio of national extension staff to farmer ratio is estimated at 1:1500 in relation to the recommended ratio of 1:400 internationally (Afande et al., 2015). This has led to less or lacking awareness of improved

agribusiness practices limiting most farmers from developing with the dynamic technological advances (Bergman et al., 2019).

Agricultural resources

Agricultural resources mean the on-farm building, land, manure, equipment and processing facilities which take part in the production, preparation, processing and marketing of crops, and livestock products as a business or commercial enterprise. Further, agricultural resources can either be naturally occurring or artificial (Sakketa & Gerber, 2017).

Agricultural Value Chain

According to Soosay, Fearne and Dent (2012), the sequence of activities that develops a product and service from the start is a value chain. It involves combining factors of production in agriculture to meet market demands of the service or product from start to final consumption. Many actors take part in a value chain cooperating as the product moves from point to point. It is said that players in a value chain while cooperating to reach the final consumer at times cannot tell how they are linked up either forward and or backward across the chain (Nasra-Allah et al., 2020).

This study refers agricultural value chain as activities from production, input supply, transportation, distribution, processing, whole selling, and retailing to final consumption this is in agreement with Soosay, Fearne and Dent (2012).

Youth involvement in Kakamega County

Youth is defined in many ways but mainly with reference to age brackets; an agreement has not been reached on the lower and upper limits (Afande, Maina, & Maina, 2015). The Kenya vision 2030 identifies youth as any persons between 15-35 years. This paper refers to youth as people in the age bracket of 18-35 years in concurrence with the Kenya Youth Enterprise Development Fund.

According to the 2019 Population and Housing Census, the population without a job in the county was 849,497 out of which 134,614 are between 18-34 years. The implication is that most of the people in the labour market are not meaningfully engaged. Sectors that form a significant number of self-employed persons include the boda boda, cottage industries and Jua Kali. Agriculture sector involvement was as follows Farming 335269, Crop production 321945, Livestock production 235264, Aquaculture 2223 and Fishing 318. Self-employed persons in agriculture, involved themselves mostly in bush clearing, planting, land preparation, thinning, weeding, pruning, harvesting, marketing, storage and transportation as well as post-harvest practices. Others are occupied in brick making, forestry, mining, and construction of buildings (Kenya National Bureau of Statistics, 2019).

With the availability of a wide range of agricultural resources in Kakamega County, agricultural productivity is not improving over time, despite having the capacity to stimulate agricultural productivity in Kenya. Maize yield, for instance, has stagnated at 2 Tons per hectare since 1989 (Kakamega County Development Profile, 2017). Kakamega County has access to adequate rainfall and good soil, yet youth have not embraced farming. This is because these farmers face inequalities in access to resources (Charoenratana & Shinohara, 2018).

In Kakamega County, there is a large number and percentage of unemployed young people leading to migration from rural to urban centres. These centres are unable to generate jobs as fast as population growth leading to youth unemployment (Fox, Senbet, & Simbanegavi, 2016). The high rate at which youth seek credit to join the “boda boda” (motorcycle) business, gambling (Sportpesa, Betway, Elitebet etc.) is a worrying trend in the county (Ehebrecht, Heinrichs, & Lenz, 2018). Many youths can avoid vices such as crime, gambling, sexual immorality, and substance abuse by involvement in agribusiness. Despite worrying trends on youth’s lack of involvement in agriculture, little research has been done to establish youth’s opinions, speeches and ambitions toward agribusiness. Therefore, there is little proof of enhanced youth engagement in agriculture value chain undertakings in Kakamega.

As a result, conducting a value chain analysis to understand the relationship between access to information services among the youth in Kakamega County and their involvement in agribusiness value chains was essential. This is because, some of the problems now emerging within our society is as a result of unemployment, in reviving the agriculture sector, this problem can be sorted out. If youth are incorporated fully in the agriculture sector, they will avoid other socially unacceptable practices. The study was significant to young people and youth groups in Kakamega County as it seeks to unravel poverty and unemployment amongst the youth through engagement in agribusiness.

Policymakers especially the Ministry of Agriculture, County government of Kakamega and other interested parties in the financial and extension information service delivery, will find information from the study useful in forming policies that will ensure youth equity, for quick and effective provision of agricultural information services and monetary services. Interested parties in various agricultural value chains will be informed of the prevailing youth inequities. Information on proposed interventions to promote youth access to information services for improved productivity will be provided.

ACCESS TO INFORMATION SERVICES AND YOUTH INVOLVEMENT IN AGRICULTURAL VALUE CHAINS IN KENYA

For effective land use, proper aptitudes and learning is required in agriculture (Mudege et al., 2019). Youth would participate in a fast and changing environment by building their ability and interest in non-monetary employments (Musa, 2020). Information and quality data on new methods is significant for people in agriculture so as to know whether to take in new ideas or not. In Kenya national extension staff: farmer ratio is estimated at 1:1500 in relation to the recommended ratio of 1:400 internationally. This has led to less or lacking awareness of improved agribusiness practices limiting most farmers from developing with the dynamic technological advances (Irungu et al., 2015).

Extension information services to a great extent have taken an adult dominated often due to a misconception that young people cannot be farmers (FAO., 2013). As a result, youth are less inclined to be beneficiaries of this service (Kumar & Philip, 2019). The way extension service is passed affects youth using data for advancements. Time, financial requirements, and social reservations restrict youth from attending field days and such events especially if it’s located far from rural homesteads (Paroda, 2019). Studies in Kenya have shown that agribusiness expansion programs often ignore plots governed by youth and women, but support plots overseen by adult males (Raza et al., 2020).

Rural youth are attracted by modern ICTs, for example, mobile phones and the Internet and have the potential for enabling agribusiness innovation and facilitating dissemination and access to information to enhance on-farm productivity and providing access to markets and credit services (Njeru et al., 2015). Enhanced focus on modern ICT-based information provision is necessary. Despite the passion by development organizations working with farmers in promoting the use of ICT in disseminating agricultural information, we know little about its use in agribusiness transactions (Okello, Ofwona-Adera, Mbatia, & Okello, 2010).

Youth training on income-generating initiatives especially in the agribusiness front is very crucial. Many youths are not aware agriculture is a viable business. Youth regiment, activeness, and skilled performance is the power that is required for the development of a country (Samah, 2015).

Despite the rising awareness on agribusiness projects, due to existing inequalities many youths struggle to access such ideas on agriculture (Yami et al., 2019). Emphasis is required to make access to, libraries schools and local municipalities where information can be obtained easily. The information should be in languages and diction the youth can understand (Abebe, 2020). To help young farmers commercialize their operations, we should invest in vocational training and revise the rural vocational and technical education curriculum. They are also keen on boosting their production because of enhanced production techniques (Gichimu & Njeru, 2014).

There is criticism on lack of youth awareness of these programs or reaching a minute percentage of the young people who need the support (Irungu, Mbugua, & Muia, 2015). Despite the extensive venture by the government, as is the case with development associates in offering capacity building and funds provision to youth groups and young people in Kakamega, it's not clear how coordinated the programmes are or in actual sense who receives these grants. Youth in Kenya contribute to 70% of the overall unemployment in the country; this is because Kenya's economy is at present reliant on agriculture (Manalo et al., 2019).

According to studies conducted by Njenga, Mugo, & Opiyo (2011) that assessed the level of awareness of existing programs supporting agribusiness activities by the youth. Majority youth (54.6%) revealed that they are not aware of any projects in agriculture in their community or area. Various projects have been developed which integrate ICTs in passing agricultural information to youths. Mobile tools like Farming Kenya, mkulima-young and m-farm. More mobile and ICT applications have been developed to provide extensive information to people interested in agriculture. However, in as much as mobile technology has highly penetrated in rural areas, the Internet has not. Computers' prices are high as well as the Internet, coupled with limited or no electricity, and limited access to the Internet in rural areas of Sub-Saharan Africa (Boye & Kaarhus, 2011).

RESEARCH METHODOLOGY

Study area and Research Design

This study took place in Kakamega County. The target population was all the youth farmers in Kakamega County. The study was conducted in all the 12 Sub Counties. The main economic activity in the area chosen by the researchers is farming hence all the essential information for

the study was obtained (Kakamega County Development Profile, 2017). Cultural diversity, Ease of access, and population consistency also informed the selection.

Sampling procedure and sample selection

There are 897 farmer groups in Kakamega County. 146 of these are youth groups, with each sub-county having 9-21 youth groups. Each youth group has 15-20 members (Kakamega County Development Profile, 2017). The study involved 2453 youth farmers. The total sample size was determined using Taro Yamane's formula. In determining an appropriate sample size for the study, the formula is suitable as it is presumed to have normal data distribution for consideration in the diverse classes of individuals. According to Bryman (2016) acceptable sample has less than 10% error; hence for greater accuracy, in getting the minimum sample size, a sampling error of 6.5% will be used.

The formula is as shown:

$$n = \frac{N}{1+N(e)^2}$$

In which: N=population size- 2453 e= sampling error 0.065 n=sample size

Therefore:

$$n = \frac{2453}{1+2453(0.065)^2} = 215.85$$

Hence 216 respondents is the lowest acceptable number to achieve a 6.5% sampling error. To increase the level of accuracy, 240, a higher number of respondents was identified.

To determine the sample, stratified random sampling technique was used. The population was stratified into sub-counties, therefore, obtaining 12 sub-counties. From the population, each of the 12 sub-counties, 10 youth groups were selected giving a total of 120 youth groups. 2 youths were then randomly selected from each of the 120 groups giving a total of 240 youths. This will allow obtaining information from a wide range of people that is vital and relevant (Saunders, Lewis & Thornbill, 2016).

Data Collection, Processing and Analysis

The study used the questionnaire as the primary data collection tool. This was administered to 240 youth farmers in Kakamega County through the help of two trained research assistants. The questionnaires were then collected after filling for data analysis.

Descriptive statistics with the help of Eviews7 software was used to analyze collected data. Responses were given labels and codes. The overall trend of the findings of the study variables was deduced from descriptive information of frequencies. Mean, standard deviation, percentages, and making use of tables. Further, to assess the relationship between resources in question and involvement in the agricultural value chain Pearson correlation coefficient was used. Information received was triangulated through data editing for syntactic accuracy, sequence and exactness (Ary et al., 2020).

RESEARCH FINDINGS AND ANALYSIS**Youth involvement in Agricultural value chains**

The researchers sought to find out the level of youth involvement across the agricultural value chain in Kakamega County. The findings are as shown in table 1.

Table 1. Youth involvement in Agricultural value chains

STATEMENT		N	SE	LE	A	%	S.D
Producers	F	45	145	34	16		
Youth involvement as producers	%	18.8	60.4	14.2	6.7	(52%)	0.769
Input Suppliers	F	39	143	34	24		
Youth as suppliers of fertilizers	%	16.3	59.6	14.2	10.0	(54%)	0.821
Youth as suppliers of seeds	F	41	133	44	22		
	%	17.1	55.4	18.3	9.2	(55%)	0.826
Youth as suppliers of chemicals	F	44	141	37	18		
	%	18.3	58.8	15.4	7.5	(53%)	0.791
Transporters	F	14	63	104	59		
Youth as transporters of agro	%	5.8	26.3	43.3	24.6	(71%)	0.819
Distributors	F	23	81	103	33		
Youth as distributors of agro products	%	9.6	33.8	42.9	13.8	(65%)	0.841
Processors	F	224	15	1	0		
Do youth own processing plants	%	93.3	6.3	0.4	0.0	(26%)	0.273
Processors	F	34	43	113	50		
Youth as processors	%	14.2	17.9	47.1	20.8	(69%)	0.945
Whole Sellers	F	89	98	45	8		
Youth as wholesalers	%	37.1	40.8	18.8	3.3	(47%)	0.825
Retailers	F	121	89	26	4		
Youth as retailers	%	50.4	37.1	10.8	1.7	(41%)	0.742
Final Consumers	F	0	0	13	227		
Youth as consumers	%	0.0	0.0	5.4	94.6	(98.6%)	0.227

Key: F-frequency S.D-Standard deviation %-percentage N-Never SE-Small Extend LE-Large Extend A-Always Source: Field Data

Youth as final consumers was represented by (98.6%) and low standard deviation (0.227). This indicates that majority of the youth are consumers of agricultural products. Youth ownership of processing plants had a low standard deviation (0.273) as well as a low mean of 26% indicating that majority of the youth in Kakamega do not own processing plants. However, it was realized that majority of the youth (69%) work in processing plants however the standard deviation was high (0.945) indicating the response had a huge variation from case-to-case basis.

In terms of youth involvement in agricultural value chains, the researchers found out that across the value chain youth are mainly involved as final consumers, transporters and processors. Youth involvement in terms of ownership of processing plants was low 26% as well as wholesalers and retailers is low. Youth involvement in production, input supply of seeds,

fertilizer and chemicals was above average as shown in table 1. In general, youth are mainly consumers and work in processing plants. This is a worrying trend since the sample was drawn from youth farmers whose involvement in agricultural value chains should be higher. Generally, youth involvement across the value chains s relatively low.

Youth access to information services In Kakamega county

The researchers sought to identify the level to which youth access information services in Kakamega county. The research findings are stipulated in table 2.

Table 2. Youth access to information services

STATEMENT		SD	D	A	SA	MEAN %	S.D
You do not receive frequent extension/information services as	F	15	15	86	124	3.329 (89%)	0.851
	%	6.3	6.3	35.8	51.7		
Planning of extension/information services involves youth	F	211	16	13	0	1.175 (29%)	0.504
	%	87.9	6.7	5.4	0.0		
Youth always participate in extension meetings	F	83	74	59	24	2.1 (52%)	0.992
	%	34.6	30.8	24.6	10.0		
Youth ask for specific extension/information services	F	12	23	104	101	3.225 (80%)	0.818
	%	5.0	9.6	43.3	42.1		
The information service addresses your needs	F	136	73	29	2	1.57 (39%)	0.734
	%	56.7	30.4	12.1	0.8		
You are aware of the available ICT based agricultural information services	F	197	31	7	5	1.105 (25%)	0.405
	%	82.1	12.9	2.9	2.1		
You access the available ICT based agricultural information services	F	197	31	7	5	1.105 (25%)	0.405
	%	82.1	12.9	2.9	2.1		
Information services do not meet your needs	F	161	31	25	23	1.63 (40.6%)	1.011
	%	67.1	12.9	10.4	9.6		
Extension services do not add value to produce quality and prices	F	179	35	14	12	1.41 (35%)	0.813
	%	74.6	14.6	5.8	5.0		
Access to information services can improve your farming skills	F	0	13	41	186	3.721 (93%)	0.558
	%	0.0	5.4	17.1	77.5		

Key: F-frequency S.D-Standard deviation %-percentage N-Never SE-Small Extend LE-Large Extend A-Always Source: Field Data

From the sampled farmers, (89%) asserted that they do not receive extension services, however, this is had a great variation given the high standard deviation of (0.851). Planning for extension services rarely involves the youth as indicated by the low mean of (29%) and low standard deviation of 0.504 indicating that this cuts across all youth farmers. There was a big variation across youth farmers in terms of their participation in extension meetings as shown by the huge standard deviation of (0.992) and a percentage of (52%). Youth farmers believe that access to extension services will make youth farmers improve their farming skills as

asserted by the (93%) of the respondents. This result has a low standard deviation indicating that this perception cuts across all the youth farmers as shown above.

The study found out that youth farmers do not get frequent and adequate information or extension services as asserted by 89% of the respondents. Further, 71% of the respondents noted that youth are not involved in planning for extension service. Youth participation in extension meeting was realized to be at 48%. Further, (82.1%) of the youth farmers stated they were not aware and are consequently unable to access agriculturally based Information Communication Technologies on mobile phones or over the internet. However, it was noted that youth ask for specific type for extension/information service. Majority of the youth noted that extension service does not meet their needs since they are not well coordinated as shown in table 2. This is in agreement with Ali (2017) who found out that the farmer to extension agent ratio in Kenya is low leading to a majority of farmers being left out in the extension service delivery.

The relationship between access to information services and youth involvement in agricultural value chains

The researchers sought to find out the relationship between access to information services and youth involvement in agricultural value chains in Kakamega county. The results are shown in 3.

Table 3. Correlation between access to information service and youth involvement in agricultural value chains

	Produ ction	Input Supply	Tran sport	Distri bution	Proce ssing	Whole Selling	Reta iling	Consu mption
You do not receive frequent extension/information services as youth farmers	-0.705	-0.637	0.404	0.018	-0.602	-0.993	-0.964	0.820
Planning of extension services involves youth	-0.122	-0.204	0.316	0.097	-0.999	-0.518	-0.784	0.922
Youth always participate in extension meetings	-0.544	-0.461	0.357	0.125	-0.628	-0.950	-0.912	0.943
Youth ask for specific extension services	-0.627	-0.569	0.334	0.315	-0.695	-0.907	-0.970	0.899
The information service addresses your needs	-0.327	-0.243	0.237	0.344	-0.894	-0.844	-0.977	0.993
You are aware of the available ICT based agricultural information services	-0.712	-0.643	0.205	0.027	-0.654	-0.983	-0.946	0.902
You access the available ICT based agricultural information services	-0.619	-0.737	0.376	0.016	-0.702	-0.897	-0.943	0.875
Information services do not meet your needs	-0.123	-0.203	0.338	0.427	0.990	-0.507	-0.781	0.893
Extension services can add value to produce quality and prices	0.843	0.823	0.352	0.311	0.998	0.568	0.827	0.829
Access to information services can improve your farming skills	0.947	0.767	0.175	0.304	0.503	0.913	0.818	0.989

Key: F-frequency S.D-Standard deviation %-percentage N-Never SE-Small Extend LE-Large Extend A-Always Source: Field Data

The study found out that there is a negative correlation between access to information services and youth involvement in production, input supply, processing, wholesaling and retail, with the correlation of wholesaling and retail being a strong negative correlation. Further, there is a strong positive correlation between access to information service and youth involvement in final consumption, while there is a weak positive correlation between access to information services and youth involvement in transport and distribution. Also, there is a strong positive correlation between the potential of information and extension services to improve production, input supply, processing, retailing and wholesaling. There is a weak positive correlation on the potential of information to improve involvement in transport and distribution services. This is because the major activity by the youth in the region is transport services using motorcycles hence this service will continue even outside agricultural activity. Consumption is not affected by access to information services as youth must eat as a means of survival and day to day life.

On the other hand, the respondents noted that extension and information services if well-coordinated can lead to improved quality and agricultural productivity. They also noted that access to information services will help them improve their farming with a majority asserting the importance of information service on agricultural productivity. In general, information service access to the youth in Kakamega is limited while it has the potential to stir agricultural productivity in the county if well-coordinated and executed.

There is a negative correlation between access to extension services among the youth and their involvement in production, input supply of chemical seeds and fertilizers, processing, wholesaling and retailing. This is because they are not aware of the opportunities in these sections of the value chain. However, in some sections of the value chain such as distribution, transportation and consumption, youth are involved. This underscores the importance of access to information service for improved agricultural productivity. This is in agreement with Kising'u (2016) who found out that access to information service affects youth involvement in agricultural value chains.

In general, there is limited access to information service among the youth in Kakamega County. This, in turn, affects their involvement in the agricultural value chain. Youth involvement in the value chain can be enhanced with improved access to information services.

CONCLUSION

Access to information services among the youth in Kakamega county is limited. Lack of involvement of youth in planning for extension service greatly affects this. Lack of appropriate extension techniques and modern technologies dissemination in Kakamega county has greatly affected youth involvement. Although a number of youths have aspiration to join agribusiness lack of crucial information and inability to access agricultural extension services impedes them. There is a relationship between access to information services among the youth and their involvement in agricultural value chains. For the few youths who have access to land and financial resources, they lack the information on where to invest in the value chain. Improved access to information services among the youth will lead to enhanced involvement by the youth across the agricultural value chains.

According to FAO (2015), 20-30% of the total agricultural output could be raised by reducing inequalities. Also, if we fail to reduce the inequalities and increasing the proportion of youth

agriculturalist, farming would be low restraining growth and output and indirectly hindering the performance of the Agricultural Value Chains. The agribusiness sector could be a potential source of gainful employment for the many underemployed and unemployed young people. The findings here, show that; if the youth had the same control, accessibility, and access to information services as others in the society greater productivity would be realized.

There is an opportunity to develop agricultural productivity and increasing yields and consequently increased income from agribusiness. However, these increases can only be realized if access to information services and extension is enhanced to the youth.

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