Influence of Selected Factors on Participation of Rural Youth in Agriculture in Balaka District, Malawi

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Abstract

Rural youths are facing challenges in earning a livelihood in Malawi. Malawi economy, which is predominantly agricultural, though offers a lot of opportunities but still has seen only a limited participation of rural youths. Despite the Malawi government efforts to enhance youth participation in the agriculture sector through policy support, only few youths participate actively in the sector. This background prompted the study to determine the influence of selected factors on participation of rural youth in agriculture in Balaka District, Malawi. The cross-sectional survey design was employed. Proportionate stratified sampling technique was used to attain a sample size of 196 rural youth respondents and 4 key informants, which were interviewed using researcher administered questionnaire and key informant questionnaire. Multiple linear regression model was used to analyse data and draw inferences from the findings. The findings indicate a very weak participation of rural youth in agriculture. Factors which include: age, marital status, education level, occupation, access to land, access to markets and access to alternative jobs and income have significant influence on participation of rural youth in agriculture. Government of Malawi could consider introducing youth specific agricultural interventions; institute an agricultural development fund for rural youth and an agri-preneurial training facility. Malawi Extension and Advisory Services Strategy Paper could also include rural youth development in agriculture as one of its priority areas, with clear attainable strategies aimed at improving access to land, credit and markets. The strategies should be guided by demographic factors like age, education levels, marital status, and occupation.

Keywords: Rural Youth, Agricultural Development, Balaka District, Malawi

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Introduction

Background of the Study

Rural youth are the future of food security [Food and Agriculture Organization (FAO), Technical Centre for Agricultural and Rural Cooperation (CTA) and International Fund for Agricultural Development (IFAD), 2014]. Yet around the world, few young people only see a future for themselves in agriculture or rural areas. Young people and mainly the rural youth face many challenges in trying to earn a livelihood out of agriculture though it offers a lot of opportunities. Alliance for Green Revolution in Africa (AGRA, 2015) specifies limited access to arable land, credit, markets, and many other productive resources necessary for agriculture as major problems worldwide. Older farmers are less likely to adopt the new agricultural technologies, and ultimately feed the growing world population while sustainably utilizing the environment (Mapila, 2014). Hence, there's need to engage youth in agriculture. Youth participation all along the agricultural value chain is thus vital to the growth of the agriculture-based economies of most African countries(AGRA, 2015).

Africa is faced with the problem of inadequate involvement of rural youth in agricultural-based livelihoods (Anyidoho, Kayuni, Ndungu, Leavy, Sall , Tadele&Sumberg, 2012). IFAD (2011) attributes this to lack of lucrative incentives in smallholder subsistence farming in many third world countries. The low participation of rural youth in agricultural livelihoods raises concerns for the future of agriculture (Mapila, 2014).

The World Bank (2012) indicates that Malawi faces employment challenges, in particular for youth. The country's economic profile indicates that 74 percent of the total population are living in poverty. The youth in Malawi form more than 50 per cent of the country's population (Government of Malawi, 2013). According to FAO & National Smallholder Farmers' Association of Malawi (FAO & NASFAM, 2015),Malawi economy is predominantly agricultural, with about 84 percent of the population living in rural areas. The Malawi National Agriculture Policy (GoM, 2016) indicates that the agricultural sector generates over 80 percent of the export earnings and 30 percent of the Gross Domestic Product (GDP). The sector therefore provides investment opportunities for Malawi rural youth for their livelihoods.Malawi provides afascinating case since the youth form a large proportion of the country's population (Chinsinga&Chasukwa, 2012).

The country's agricultural sector is characterised by inadequate participation of the youth, who are seen to be the future for agriculture (Government of Malawi, 2016).Chinsinga and Chasukwa (2017); Kamchacha(2012); Mapila (2014) suggest inadequate involvement of the youth all along the agricultural value chain, with the majority participating in subsistence farming focusing on production for consumption only.Factors like perceptions, availability of investment opportunities, demographic and socio-economic characteristics are responsible for rural youth's participation in agricultural sector (FAO, 2014). Determinants for rural youth's participation in the agriculture sector in Malawi were not extensively studied and documented.While there is a lot of documentation on youth participation in agriculture, current studies have focused on their participation in relation to policies, with few focusing on the specific factors influencing their participation in agriculture, which this study sought to uncover.

Objectives of the Study

The study was guided by the following objectives:

i. To determine the level of rural youth participation in agriculture in Balaka District, Malawi.

ii. To determine the influence of demographic characteristics of the rural youth on their participation in agriculture in Balaka District, Malawi.

iii. To determine the influence of selected socio-economic factors on participation of rural youth in agriculture in Balaka District, Malawi.

Hypotheses of the Study

H01: There is no statistically significant influence of demographic characteristics on rural youth participation in agriculture in Balaka District, Malawi.

H02: There is no statistically significant influence of socio-economic factors on rural youth participation in agriculture in Balaka District, Malawi.

Research Methodology

Research Design

The study employed a cross-sectional survey design to achieve its objectives. This design was selected because it enabled the researcher to make comparisons at a single point in time.

Location of the Study

The study was carried out in Balaka District, located in the Southern Region of the Republic of Malawi. Malawi is part of the sub-Sahara of Africa, and is located in the south-eastern part of the continent. It is bordered in the north and east by Tanzania, to the east, south and southwest by Mozambique, and to the west by the nation of Zambia. The study area was chosen because the challenge of inadequate youth involvement along the agricultural value chain manifests itself in the District, where a majority of rural youth are not employed and face challenges in trying to earn a livelihood as outlined by Balaka District Council (2017). The District has vast untapped agricultural potential for rural youth.

Target Population

The study targeted151,567rural youths. The rural youths were sampled regardless of their involvement in agriculture. All young men and women within the age range of 15-35 years had an equal chance of being sampled for this study. According to the 2008 Malawi census (NSO, 2008), Balaka District youth population is projected at 151,567 by the year 2016; representing about 37.02% of the total projected population of the District in 2016. The same demographics were accessed during data collection. The target population was the same as the accessible population.

Sampling Procedure and Sample Size

Proportionate Stratified Random Sampling technique was used to sample the number of rural youth respondents. As proposed by Nassiuma (2000), the following formula was used to come up with appropriate sample size for the study.

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

Where: n= the required sample size, N = the population within the study area, C= Coefficient of Variation = Standard error. Applying the formula:

$$n = \frac{151567 \times (0.28)^2}{(0.28)^2 + (151567-1)(0.02)^2)}$$

The required sample size was arrived at 196. Having determined the sample size, the number of rural youth respondents interviewed in each of the six Extension Planning Areas (EPAs)were sampled proportionately according to the youth population in the respective EPA. Table 1 outlines the sample size as drawn using the explained methodology.

Table 1: Sample Size by Youth Proportion

EPA	Youth Population	Proportion of youth sampled (%)	Proportionate Youth Sampled
Ulongwe	42,566	28	55
Bazale	43,877	29	57
Mpilisi	28,260	19	37
Phalula	11,345	7	14
Rivirivi	11,104	7	14
Utale	14,414	10	20
Totals	**151,567**	**100**	**196**

Source: Modified from BDC (2017)

Key informant questionnaires were also administered where a total of four key informants were interviewed. These included agricultural extension officers from the Extension Planning Areas. According to Balaka District Council (2017), Balaka District has a total number of fifty-four Agricultural Extension workers in the various EPAs. Applying this population

size of fifty-four to the formula proposed by Nassiuma (2000) at 28% coefficient of variation and 2% standard error, the sample size for the key informants was found to be four and was sampled using simple random sampling technique. The total sample size for this study was 200 respondents.

Instrumentation

The study used two instruments, a researcher administered questionnaire to collect primary data from the rural youth whereas key informant questionnaire was used to collect information from key informants as required to attainthe objectives.

Data Analysis

The collected data was analysed using both quantitative and qualitative methods. Quantitative analysis employed both descriptive and inferential statistics.The collected data was checked for accuracy, coded and entered using Statistical Package for Social Sciences (SPSS) version 22 and analysed to produce necessary frequency tables and percentages. Inferences were drawnusing multiple linear regression model.

An index for participation was developed for objective dealing with level of rural youth participation in agriculture in Balaka District, Malawi. The indicator items for participation were given a score of '1' each, indicating an equal weight of participation along the agricultural value chain. Although there are no firm rules for index scoring, practice tends to support the method that items be weighted equally unless there are compelling reasons for differential weighing (Babbie, 1989). The index therefore had a maximum possible score of '12' indicating strong participation, since the total indicators items were twelve; and a minimum possible score of '0' indicating no participation at all. The index was developed to further characterize level of participation into five distinct categories. A total possible score of '0' indicated 'no participation', a total possible score of '1 to 3' indicated 'very weak participation', a total possible score of '4 to 6' indicated 'weak participation', a total possible score of '7 to 9' indicated 'moderate participation', while a total possible score of '10 to 12' indicated strong participation. The categorical data was quantified to allow running of the multiple regression model as recommended by Babbie (1989).

The two Null hypotheses were tested (for objectives two and three)using multiple linear

regression model at 0.05 level of significance ($\alpha \leq 0.05$). The model was used to make inferences about the results from the demographic characteristics and socio-economic factors. An index for participation was also developed in these objectives where the participation indicators were collapsed into two scores of '1' to indicate participation and '0' to indicate no participation. In addition, thematic analysis was developed for analysing the qualitative data.

Results and Discussions

Level of Respondents' Participation in Agriculture

Three attributes of the rural youth respondents were considered. These include: participation or non-participation in agriculture and participation type. The results indicate that 56.6% of the respondents participated in agriculture as compared to 43.4% that do not participate in agriculture. Table 2 presents the summary of the results of distribution of respondents by participation in agriculture.

Table 2: Percentage of Respondents by Level of Participation in Agriculture (n=196)

Level of Participation	Total Possible Score	Frequency	Percent
Non-participation	0.00	85	43.4
Very weak participation	1.0-3.0	108	55.0
Weak Participation	4.0-6.0	3	1.6
Moderate participation	7.0-9.0	0	0.0
Strong participation	10.0-12.0	0	0.0
Total		**196**	**100.0**

The findings also indicate that participation of respondents in agriculture was very weak as 55% of the respondents had a total possible score of one to three types of participation. Only 1.6% was in the category of weak participation with a possible score of four to six types of participation. None of the rural youth respondents were in the categories of moderate and strong participation according to the index of participation. The very weak

levels of participation indicate inadequate involvement of rural youth in the agriculture sector as asserted by the Government of Malawi (2016) in the National Agriculture Policy.

Demographic Characteristics and Participation of Rural Youth in Agriculture

The demographic attributes that were of interest in this study were: sex, age, marital status, level of formal education and main occupation as presented in Table 3.

Table 3: Distribution of Respondents by Demographic Characteristics (n-196)

Demographic Variable	Distribution	
Sex	**Male**	**Female**
	55.60%	44.40%
Median Age	24	
Marital Status	**Single**	**Married**
	57.10%	42.90%
Mean number of years spent in school	10	
Main Occupation	**Farming**	**Other**
	44.40%	55.60%

Sex: The findings indicate that 55.6% of the respondents were male and 44.4% were female. The results can be attributed to gender roles among rural youth in Malawi where males are seen to take active roles in economic activities than females. As such for married youth, the males were likely to be the respondents as compared to the females. According to Mussa (2016), gender difference to the disadvantage of young women is apparent in economic activities, including agriculture, in Malawi

Age: The median age was found to be 24 years which is within majority age group. This age is mature enough to venture into agriculture and it should be seen as an asset to the sector. The District Youth Officer (DYO) had this to say:

"The youthful population in the District however, could be taken as an opportunity for the youth since they are energetic and can ably participate in the agriculture sector. There is therefore need to actively involve the rural youth in agriculture, if the country is to achieve notable strides in the development of the sector [KII, DYO 2017]."[1]

Marital status: Results indicate a higher percentage (57.1%) of single youth than married Youth. According to Kimaro, Towo and Moshi (2015), marital status is an important demographic that is well associated with rural youth participation in agriculture. Married rural youth are more likely to be involved in agriculture (Muhammad, Omotesho & Folola, 2009).

Level of Education: Education was regarded as an important demographic factor as it may influence participation of rural youth in agriculture. FAO (2007) suggests a positive association between education of youth and their participation in agriculture. Formal primary and secondary education can provide young people with basic numeracy and literacy, managerial and business skills, and introduce youth to agriculture (FAO, 2014).The results indicate 36.2% attained the Malawi Junior Certificate of Education (JCE) which indicates 10 years in schooling, 31.1% attained Malawi School Certificate of Education (MSCE) indicating 12 years in schooling. The mean number of years in school for the respondents was found to be 10.22, mode was 10.0 and median was 10.0. However, the results show that more than 65% have not attained the MSCE, which shows high rates in secondary school drop-out. According to FAO (2014), development challenges in rural areas could be solved by youth empowerment through education. Rural youth require basic understanding of agricultural technologies for them to effectively participate in the sector.

Occupation: The findings indicate that 44.4% of the respondents were engaged in farming as their main occupation. The other 30.1% were students who are still in school, while 25.5% were engaged in other activities as their means to livelihoods. Access to alternatives jobs and other income sources could negatively influence rural youth participation in agriculture (FAO, 2014). Those that are formally employed form a very small proportion of the respondents. This indicates that the majority of the respondents still depend on the sector for their livelihood.

[1] Key Informant Interviews, District Youth Officer, January 2017

Results of the Regression Analysis are Presented as shown in Table 4.

Table 4: Regression Model Summary of Demographic Characteristics

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.829[a]	.687	.679	.28065

a. Predictors: (Constant), Age, Sex, Marital status, Education level, Occupation

b. Dependent Variable: Participation in agriculture

The regression analysis results for the model indicate an adjusted R2 value of .679; this show that variance in a combination of age, sex, marital status, education level and, occupation explained 67.9% of the variation in participation of rural youth in agriculture. The regression coefficients of the models showing the Beta, and p values are presented in Table 5.

Table 5: Regression Coefficients for Demographic Characteristics

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	p
1(Constant)	.036	.221		-.165	.869
Age	.046	.005	.472	9.223	.000
Marital status	.269	.051	.270	5.283	.000
Education	.032	.012	.117	2.590	.010
Occupation	-.248	.028	-.409	-9.002	.000

The regression analysis from the model indicates that age had a positive and significant influence with β=0.472 and p=0.000 on participation of rural youth in agriculture in Balaka District, Malawi. Educational level also had positive and significant influence with β=0.117 and p=0.010. Marital status had a positive and significant influence with β= 0.270 and p=0.000. This means that the older the rural youth, the more likely they are to participate in agriculture; and more years spent in school would likely influence participation in agriculture among the rural youth. Nnadi and Akwiwu (2008) concluded that education exhibited positive significant relationship with Youths` Participation in Rural Agriculture.

The results further show that un-married rural youth are less likely to participate in agriculture as compared to married rural youth who are likely to be engaged.

The regression analysis also indicates that occupation had a negative and significant influence on rural youth participation in agriculture; with β= -0.409 and p=0.000. This indicates that rural youth with alternative jobs and income sources are less likely to participate in agriculture. The magnitude of the t-statistics therefore indicates that the most significant demographic factor influencing participation of rural youth in agriculture is age with t=9.223. Occupation was the second most significant factor negatively influencing participation with t= -9.002. Marital status was the third most significant factor indicating t=5.283. The least significant factor was educational level with t=2.590.

Libaisi, Marinda and Wakhungu (2012) observe that gender, marital status and education levels had a significant effect on rural youth's participation in agricultural enterprises. Age, education, marital status and occupation were significant factors influencing youth participation in agricultural activities in Imo state, Nigeria (Nnadi & Akwiwu, 2008). Chikezie, Omokore, Akpoko and Chikaire (2012) also site significant characteristics such as: age, gender, marital status and education as having influence on rural youth participation in agriculture.

Socio-Economic Factors and Rural Youth Participation in Agriculture

Five attributes of the rural youth respondents in the study area were considered important in relation to objective three. These included rural youths' access to: land, financial credit, markets, agricultural information; and alternate income sources in relation to participation or non-participation in agriculture. Results have been presented as highlighted in figure 1.

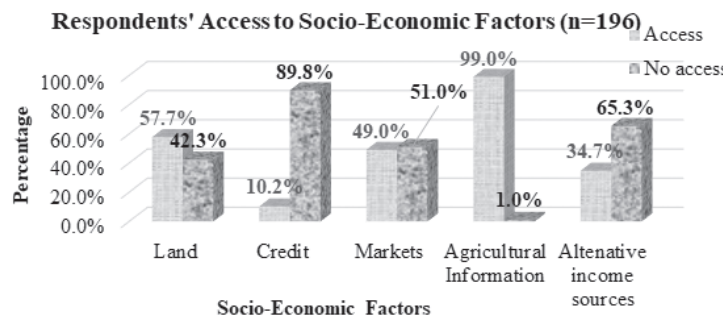

Figure 1: Percentage of Respondents with Access to Socio-Economic Factors

Access of the Youth to Land

The results indicate that 57.7% of the respondents had access to land while 42.3% did not. Respondents with access to land reported that the land was either family land or own land. Rural youth with no access to land however indicated that they were either still in school or were not yet married therefore their families had not yet allocated them their own land for farming. It is common in Malawian culture that children will be allocated land when they are independent in which case it could be through marriage or moving out of the parents' house to settle in own home. According to FAO (2014), access to land is particularly key for young people whose livelihoods depend on agriculture in rural areas. It is a pre-requisite for young people who want to venture into farming. The respondents' who do not have access to land cannot therefore be compelled to engage in the sector. The findings confirm that access to arable land for farming remains a principle challenge among rural youth in Malawi as asserted by FAO (2014); Kamchacha (2012; Kimaro et al., (2015).

The findings also reveal that ownership of land among rural youth is mainly in form of family land that has been passed on from parents. The findings also indicate growing pressure on land in Balaka District as asserted by key informants. This has been validated by this study as the mean land holding size was 0.87 hectares; mode and median were 0.61 hectares. Furthermore, the study found out that most of the land is customary and rural youth could not use it as collateral for accessing loans. Given that land is an essential production resource in agriculture, sustainable productivity for rural youth is highly unlikely.

Access of the Youth to Financial Credit

The findings indicate that access to credit is a key challenge with regards to rural youth participation in agriculture as 89.8% of the respondents were found to have no access to financial credit as compared to only 10.2% of the respondents who have access. This means that the respondents may not have adequate access to inputs for production and may not engage in market oriented farming since these require high capital investments. Access to financial services is fundamental to starting any agricultural activity (FAO, 2014). Lack of access to finance is a principle challenge faced by most young producers in Malawi (FAO & NASFAM, 2015). Valle (2014) observes that access to finance is a critical factor in developing self-employment opportunities for rural youth in agriculture.

Access of Youth to Agricultural Markets

The results, as highlighted in Figure1 indicate that 51.0% of the respondents had no access to markets. These findings could also explain the high percentages of respondents engaged in subsistence farming mainly for consumption. The results are in line with Government of Malawi (2016) which acknowledges that access to agricultural markets, especially among youth, remains a critical challenge in Malawi.

The respondents with access to markets are doing so through agricultural commodity traders commonly known as vendors. They also sell their produce at the local village market. This shows that rural youth in Balaka District do not necessarily have access to structured market platforms like contract marketing and agricultural commodity exchange. This is evidence that marketing is indeed one of the major constraints for rural youth participation in agriculture. Continued weak efforts towards notable policy interventions on agricultural marketing as observed by Chinsinga and Chasukwa (2017) could discourage this sizable and growing population from participating in agriculture.

Access of the Youth to Agricultural Information

The results indicate a stable agricultural information and extension system in Balaka District. This could be explained by the progressive demand driven extension system in Malawi. Modern day ICTs like radio and internet could also be responsible for the increased access to agricultural information. The education level of the respondents also plays a role in these findings given that a majority attended secondary school. The results are in agreement with Modernizing Extension and Advisory Services report (MEAS, 2012) which recognized the well-defined, decentralized, demand driven and pluralistic agricultural extension service delivery in Malawi. The history and current provisioning of agricultural extension services in Malawi is particularly rich (Kabuye &Mhango, 2006). According to Chowa, Garfoth and Cardey (2013), the Malawi agricultural extension policy is one of the most progressive public sector planning documents, incorporating the prominence of involving several service providers and a focus on responsiveness to farmer's felt needs.

Access of the Youth to Alternative Job Opportunities and other Income Sources

The results indicate that 34.7% of the rural youth respondents had access to other job opportunities and income sources. This means that strengthening youth participation in agricultural value chains could help provide more livelihoods options for the rural youth considering that 65.3% of the respondents do not have alternative income sources. The results agree with ILO (2012) that observe the seemingly lack of alternative jobs and other income sources for rural youth. Chinsinga and Chasukwa (2017) argue that while the government continues to pursue resolute efforts to address chronic youth unemployment, the problem persists because most of these efforts have been divorced from the agricultural sector. According to the respondents, low levels of professional education, family poverty, lack of capital and lack of skills are among the reasons for not having access to other income sources. FAO (2014) asserts that rural youth may not have the necessary skills or access to the necessary opportunities for skillset development and upgrade to participate in the green economy.

Table 6: Regression Model Summary of Socio-Economic Factors

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.991[a]	.982	.981	.06841

a. Predictors: (Constant), access to: land, credit, markets, agricultural information and knowledge; and alternative jobs and income.

The regression analysis model from table 6 indicate an adjusted R2 value of .981; this indicates that variance in a combination of access to land, access to credit, access to markets, access to agricultural information and knowledge; and access to alternative jobs and income explained 98.1% of the variation in participation of rural youth in agriculture. The regression coefficients of the models showing the Beta, and pvalues are presented in Table 7.

Table 7: Regression Coefficients of Socio-Economic Factors

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	p
1 (Constant)	.029	.050		.590	.556
Land	.900	.022	.899	40.455	.000
Credit	.006	.017	.004	.349	.727
Market	.084	.021	.085	4.007	.000
Alt. jobs	-.029	.012	-.028	-2.403	.017

The regression analysis from the model indicates that access to land had a positive and significant influence with β =0.899 and p=0.000 on participation of rural youth in agriculture. Access to markets also had positive and significant influence with β=0.085 and p=0.000. This means that rural youth who have access to land and markets are more likely to participate in agriculture. The regression analysis also indicates that access to alternative jobs and other income sources had a negative and significant influence with β= -0.028 and p=0.017. This means that rural youth who have other income sources; are less likely to participate in agriculture as compared to those who depend on agriculture as their only means of livelihood.

The results of the regression analysis also indicate that access to credit had no significant influence with β=0.004 and p=0.727.This shows that access to credit does not compel rural youth to engage in agriculture. However, the study has established that it remains a challenge to youth engagement in agriculture. The magnitude of the t-statistics indicate that the most significant socio-economic factor is access to land with t=40.455. Access to markets was the second most significant factor with t=4.007. The least significant factor was access to alternative jobs and other income sources with t= -2.403, indicating negative influence.

Therefore, it is concluded that socio-economic factors have a significant influence on participation of rural youth in agriculture. The specific factors include access to land and access to markets that have positive significant influence; access to alternative jobs and

other income sources that had negative influence. The results concur with Chinsinga and Chasukwa (2012) who observe that rural youth's access to land is very critical as it is a significant determinant of their participation in agriculture. Access to lucrative markets is an important factor in participation of rural youth in agriculture (Mapila, 2014).

Conclusions

The following conclusions have been drawn from the study findings:

i. The level of rural youth participation in agriculture in Balaka Districtis very weak. While a majority of the rural youth is participating in agriculture, they are only engaged as primary producers mainly for consumption leaving out participation in other profitable activities along the agricultural value chain which could provide livelihood options for them.

ii. Demographic characteristics have a significant influence on participation of rural youth in agriculture in Balaka District, Malawi. Age, marital status and educational levelare more likely to positively influence participation of rural youth in agriculture.

iii. Socio-economic factors significantly influence participation of rural youth in agriculture in Balaka District, Malawi. Access to land and access to markets have positive influence on participation. Access to alternative jobs and other income sources negatively influence participation of rural youth in agriculture.

Recommendations

Based on the study findings, the following areas have been recommendedfor policy interventions and further research:

i. Ministry of Agriculture Irrigation and Water development should consider introducing youth specific market oriented agricultural interventions; focusing on profitable value chains, that aims at re-engaging and strengthening rural youth participation in the sector.

ii. The Government of Malawi should consider instituting a fund exclusively targeting rural youth as beneficiaries, championed by the youth themselves as partners; with the aim of enhancing access to financial credit and loans to enable rural youth acquire land and other production resources for meaningful commercial farming.

iii. The Government of Malawi should consider instituting an agri-preneurial training facility for this sizable and growing demographic.

iv. The Malawi Extension and Advisory Services Strategy Paper should include rural youth development in agriculture as one of its priority areas; with clear attainable strategies aimed at improving access to land, markets, credit and improved ICTs. The strategies should be guided by factors like age, education levels, marital status, and occupation.

v. Further research may be carried out to examine the capacity of District Agricultural Extension Services System (DAESS) to champion inclusion of rural youth in agriculture.

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