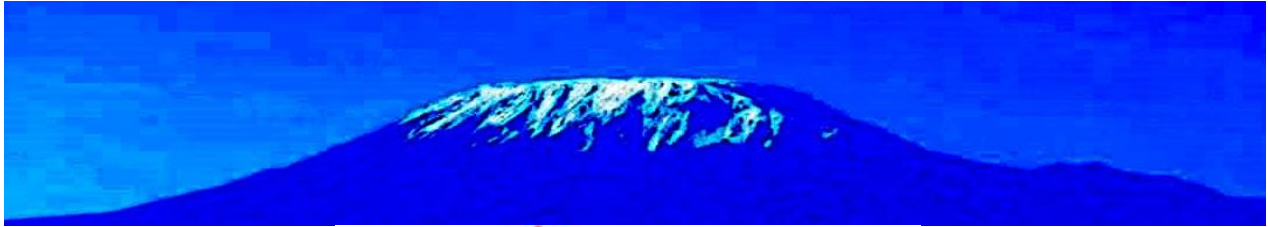


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The Effects of Socio-Demographic Factors on Agricultural Production and Marketing in Ludewa District, Njombe - Tanzania

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Abstract

Crops' production and marketing in Tanzania are affected by socio-demographic factors. However, such factors have been given little attention. Thus, this study assesses the relationship between socio-demographic factors and maize production and marketing in Ludewa district. The Solow growth model, which guides the study, indicates that among other economic growth determinants, socio-demographic factors are important. A two-stage sampling mechanism was employed to obtain a sample of 427 farmers. In the first stage, study area was purposively selected and in the second stage, farmers were selected through simple random sampling procedures. A semi-structured questionnaire was used to collect data from the sampled farmers. Checklists were used to collect information from focus group discussions and key respondents. Findings from descriptive analysis reveals that age, sex, and education level significantly influence the size of land grown with maize, while the farming experience influences maize output. Furthermore, the results reveal that age, sex, marital status, and education level significantly influenced marketing participation. The study recommends enhancement of socio-demographic factors for high quality human capital resources.

Introduction

Scholars define socio-demographic factors variously. In the context of agriculture Khoza et al. (2019) use the term socio-demographic factors to refer to aspects such as gender, age, educational level, and size of the household. Such definition also extends to mean economic factors or characteristics of the farm which include one's level of income, farm size, type of farming enterprise, experience in farming, and the number of labourers deployed in farming. More so, Khoza et al. relates institutional factors with land tenure, access to training, access to information, as well as distance to markets. For Arulrajah (2017) the quality of human resources, an important aspect for the efficient crop production and marketing is also associated with socio-demographic factors mentioned earlier. Supposedly, that is the reason Arulrajah (2017) proposes that "the quality of human resources in an organization determines its productivity and quality of all outputs produced and performance demonstrated". Thus, to enhance the quality of human resources entail an appropriate checking of socio-demographic factors for improved productivity.

Studies conducted out of Africa have shown the importance of socio-economic and demographic factors in all sectors including agricultural sector. Borychowski et al., (2020)'s study, for example, revealed that socio-economic issues (such as low agricultural incomes, poverty risk, very low market power, weak market integration, lack of sufficient farming education and health quality, and cultural issues, to name a few) are among the most important problems hindering small farmers. Borychowski et al. (2020) disclosed that these socio-economic issues are also determinants for resilience of small-scale family farms in Lithuania, Moldova, Poland, Romania and Serbia. Furthermore, Sihem (2019) studied economic and socio-cultural determinants of agricultural insurance demand across countries and discovered

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that “the agricultural insurance demand is a multidimensional function, which depends on economic and socio-cultural determinants: (i) the premiums of agricultural insurance, (ii) the subsidies of agricultural premiums, (iii) cultivated surfaces, (iv) the education level of farmers, (v) yield risks, and (vi) religion”. On their side, Corner-Thomas, et al. (2015)’s study revealed that socio-economic and demographic factors have an influence on the use of farm management tools and implementation of the programmes for agricultural development and transformation.

Africa is not exceptional as far as studies on the importance of socio-demographic factors in agricultural sector are concerned. Exploring Ghanaian cassava farmers, Abdul-kareem and Şahinli (2017) discovered that farmers’ socio-economic characteristics such as gender, education, farming experience, farm size, and farmers’ primary occupations) significantly affected the agricultural output of the farmers they studied. Likewise, Maniragaba et al. (2016) established that in Uganda there is a link between socio-demographic factors and people’s economic growth which in turn matters for poverty alleviation and allocation of resources at large. Also, Atibioke (2012)’s study, conducted in Nigeria found that the socio-economic and demographic factors have influence on agricultural technologies adoption.

In Tanzania socio-economic and demographic factors are equally important as far as agricultural production and marketing is concerned. To this, Temu et al. (2020) clarified that education and health services improve the quality of human capital and suggesting an investment in human resources education. Studies also indicate that the adoption of farming technology relates to socio-economic and demographic factors. Lubua and Kyobe (2019) stipulate that there is a relationship between the socio-economic factors and the adoption of mobile phones in the farming community of Tanzania. Furthermore, in the study conducted in Arumeru district, Arusha by Komba et al. (2018) disclosed that socio-economic factors are important factors that influence farmers’ perception on the effectiveness of agricultural extension information and service delivery. Additionally, Temu et al. (2020) studied how enhanced quality of human resources has a positive relationship with food crops production and hence increase in the availability of food at the household level. He noted that socio-demographic factors have an influence on individuals’ decision making in production, marketing, consumption, and economic growth at large. Notably, the influence of socio-demographic factors on crop production and marketing may be positive or negative depending on how it is managed by the society.

Even though the quality of human resource and its performance is influenced by socio-demographic factors, little empirical works have been done to assess the separate effects of farmers’ socio-demographic factors on the crop production and marketing aspects. Thus, this study intends to fill in the gap by conducting an empirical assessment of the effects of socio-demographic factors on aspects of maize production and marketing. Specifically, the researcher assesses the effects of different constraints including production and marketing infrastructure on production and marketing efficiency.

Empirical Literature Review

Evidence from literature signals the fact that the usefulness of socio-demographic factors in influencing the decisions and preferences of farmers and other economic agents cannot be overemphasized. The decision can be in different activities but for the sake of this study the focus is based on agricultural production and marketing. For example, socio-demographic factors are associated with production and marketing constraints or challenges and they best account for losses of agricultural produce after production (Matsane and Oyekale, 2014). The following sections present specific cases justifying the importance of socio-demographic factors.

Socio-demographic factors and agricultural production

As mentioned earlier, demographic factors include the aspect of age. Age is related to and is taken as a proxy measure of experience in production and marketing (Kyaw, et al., 2018). According to Siriwardana and Jayawardena (2015) farming experience contributes to the farming productivity. Workers' performance in agricultural agencies is therefore significantly affected by age (the age group 25-35 engaged more in crop production) and working experience (Uli and Shaffril, 2010; Atibioke, 2012), among other things. As Maniragaba et al. (2016) revealed, there is a possibility of a nation with a high proportion of children to allocate a good proportion of its resources to their care and therefore lower the speed of economic growth, a point similarly raised when Maestas et al. (2016) found that population ageing has an effect on economic growth.

Concerning education and extension services, Atibioke (2012) revealed that the readiness of farmers to adopt the new technologies is related to several socio-demographic factors one being education. Supposedly, Atibioke claim is so because as Okwuokenye and Onemolease (2011) notes, educated people can understand and work with new ideas. Similarly researchers (including Khoza et al. (2019); Eneyew (2012); and Asmah (2011)) have described that the education level signifies the human capital appropriate decision making. In the case of extension services, smallholder farmers who have contacts with extension services offered in the locales may have a better understanding of new technologies such as high yielding varieties and other new farming practices (Kyaw, et al., 2018). Such contact the current study elaborated encourages farmers to produce more and improve their livelihood.

Studies which addressed the aspect of gender have clarified that male farmers are more active in farming, involvement in teamwork, knowledge sharing, and in innovation and adoption of practices (Siriwardana and Jayawardena, 2015). Bezu et al. (2018) indicated that "when a treatment or technology is brought the big proportion of male-headed households adopt compared to the fewer female-headed households who adopted". Probably, this is so because in many African families, males are decision makers especially in family resource allocations. More so, males are endowed with plenty of resources and so they can utilise them at their advantage, the very privilege females are denied given the fact that many males are beneficiaries of patriarchal dividend.

Socio-demographic Factors and Marketing

In their study, Okwuokenye and Onemolease (2011) found that age relates positively and significantly with marketing margin. Okwuokenye and Onemolease thus argued that aged people can minimize marketing costs to realize a high profit. Furthermore, these scholars contends that marketing experience can enable the marketers to understand the ins and outs of the trade and this essentially provide them with clues on how how to minimize running costs and maximize profit of their yields. One thus may assess Khoza et al. (2019)'s assertion that smallholder farmers' decision to participate in the agro-processing industry is significantly influenced by their age, as essentially true.

Regarding education, Kyaw, et al. (2018) explains whether households' heads education level would positively determine smallholder farmers' decision on both market participation and volume of market sales. It was noted, high education level also increases the negotiation power and information seeking ability (Kyaw et al., 2018), which eventually affect farmers' economic growth. For example, Magesa et al. (2014) stress that "skills/education level enable farmers to access market information and participate in agricultural markets". To this, this study contends that education and skills can positively impact farmers.

In addressing the aspect of gender and marital status and how this affect marketing of farming produces Okwuokenye and Onemolease (2011) view that, mostly males handle wholesale marketing. The reasons for this can be due to financial capability; stress associated with marketing activities which many women cannot withstand. In case of marital status, Okwuokenye and Onemolease (2011) explained that married people can benefit more and participate in marketing as they may have larger family members who will assist them in carrying out some of the marketing functions more efficiently.

Although the literature reviewed show the existence of the relationship between socio-demographic factors and crop production and marketing, the extent to which each factor influences the production and marketing is missing. This weakness makes this study important.

Theoretical Review

To unearth the implications of socio-demographic factors on crop production and marketing this study deploys the Solow – Swan model as its analytical lens. The Solow growth model is considered to be a foundation of all analyses in modern economic growth theories. The Solow model of growth explained that economic growth is the dynamic process between inputs (capital, labor, and technology) and output (Ramanayake, 2019). Among other economic growth determinants, the basic version of the neo-classical growth model has been extended to include demographic characteristics such as education, human capital, and fertility, and population growth. According to Prskawetz et al. (2007), demography matters for economic growth, once one considers changes in age structure. Therefore, the theoretical review validates the explanation of the relationship between socio-demographic factors and economic growth.

Methodology

The Study Area

The study was conducted in Ludewa district, one of the four districts constituting Njombe region. Ludewa district is generally endowed with rich soils and is one of the few agricultural potential districts in Tanzania. About 95% of the people in Ludewa district live in rural areas and depend on agriculture as their main economic activity. Main food crops cultivated in Ludewa include maize, sorghum, wheat, beans, and cassava. Ludewa also grow cash crops such as coffee, sunflower, tobacco, and pyrethrum. Livestock keeping is not very widely practiced but few households' rear cattle, goats, sheep, and donkeys. This study selected Ludewa district as its case study because of several reasons including its potentiality in maize production and its geographical location, being located remotely.

Sampling Techniques, Nature, Sources of Data and Data Collection

Multistage sampling technique was used to decide on the region to study and Ludewa district was purposively selected due to its representativeness in terms of maize production and remoteness. 427 farmers were randomly sampled from Ludewa and Mawengi wards of Mawengi Division: Mlangali and Lupanga wards of Mlangali Division. The researcher adopted the lottery method. To this end, each of the farmers in the village register book was assigned a

unique number. The numbers were placed in the box and mixed thoroughly. A blind-folded researcher picked numbered tags from the box until the intended sample size was reached.

Cross-sectional data were collected using a semi-structured questionnaire. Additional primary data were obtained through interviewing key informants and focus group discussions (FGDs) using checklists. The selection of participants for FGDs was purposive as only well-informed maize growers were involved. The selected participants were recruited by explaining to them the essence of the study. They were also assured that the information they provide would be held confidentially and that names of participant would never appear in the report. The information this study unearthed from the studied participants included socio-demographic factors such as age, sex, marital status, farming experience, educational level, and extension services, among others.

Data Analysis

Descriptive statistics such as frequencies, means and percentages were used to describe the socio-demographic variables. Also, Chi-square test was employed to determine if there was any significant relationship between socio-demographic factors and production/marketing aspects. The Statistical Package for Social Sciences (SPSS) 18 version was used to manage and analyse data. The methods of data analysis considered the nature of the objective and data collected.

Results and Discussions

Marketing Channels and Functions

The result revealed that most of the households (72%; n = 427) sold their maize at farm-level (Table 1) and there were reasons for the use of farm-level market instead of other markets. During focus group discussions (FGDs) farmers pointed out that price of maize at government godowns (The godowns are warehouses/granaries built by the government to buy and collect maize during harvesting season) was relatively high but they were not motivated to sell there because of these reasons: (i) the government agents unreliability in the opening and closing dates of the maize buying season (i.e. the season opens late and closes early), (ii) at government godowns, there are long queues and therefore the seller can take more than a week before getting service; this delaying is associated with some costs including waiting costs for trucks. Also, during the rainy season maize got rotten at the godowns' marketplace while waiting for weighing; (iii) there is poor handling of the maize by the godowns' attendants. For example, during FGDs, participants claimed that the attendants pour some maize down deliberately so that at the end of the day they collect as theirs for sell. All these aspects open room for bribery for those who want to be favoured. These constraints can be categorized as observable and unobservable costs (i.e., transaction costs). An appreciable percentage (28.3%; n = 121) of the households did not produce maize for sale probably due to the said constraints. Another observation was that godowns existing in every village studied were not operating at all or had changed to other uses. The village leaders interviewed said that government built the godowns in the early 1980s in every village, but they are very small and government facilitated (funded) the grain/maize buying for just two years only. Consequently, most of the godowns are idle and some are used for other activities like storage of electric equipment and other crops other than maize, coffee. This later revelation implies that maize growers were discouraged to produce for markets.

Table 1: Markets where households sold maize

Market Channel	Frequency	Percentage
Farm level	221	72.2
Local market	15	4.9
District assemblers (Government Go Down)	70	22.9
Total	306	100

Source: Compiled from field data

The main buyers identified in the marketing channels were small scale traders, whole-sellers, and villagers (Table 2). It was noted, most of the households (72.1%; n = 298) sold their maize to small scale traders and only a few sold their maize to other buyers as follows: about 2.7% sold to other villagers and about 25.2% sold to wholesalers (individuals and the government agency). Such findings corroborates the Wilson and Lewis (2015)'s observations that majority of marketed maize is delivered to local collection hubs, accumulated by traders who sell on to local, regional and urban markets.

Small-scale sellers sold their maize to individual wholesalers and to district government godown. The individual wholesalers interviewed revealed that they sold their maize to another district godown (at Makambako in Njombe district), buyers from Dar es Salaam, and nearby countries, e.g., Democratic Republic of Congo. It was also noted that the Ludewa's district godown do transfers the maize collected to the Government granaries after every buying season. Therefore, it is clearly evident that due to limited resources, farmers can't take their crops where they can fetch good price. Thus, the act of selling at farmer level markets imply a lack of organization (say, farmers' marketing associations) that could enable farmers to enjoy the economies of scale by putting their resources together and ferry their crops to far competitive markets where the price might be relatively high. The researcher also found that although 54.4% (n = 232) of the sampled farmers claimed to have graded their maize before selling, actually they were not grading maize, instead, they were winnowing. Farmers' inability to grade their maize thus conflicted with the value adding that aspect.

Table 2: Types of traders in the marketing channels

Trader type	Number of farmers who sell maize to trader	(%)
Small-scale traders	298	72.1
Villagers	11	2.7
Wholesalers	104	25.2
Total	413	100

Source: Compiled from field data

Overview of Socio-Demographic Factors

Age of household head

This study also discovered that the majority (91.1%, n = 389) of the heads of households were in the economically productive age group (15-64 years). The age of heads of household ranged from 19 to 85 years and the mean age was 43.8 years. This characteristic infers that most of the heads of households were still energetic and economically productive. Also, since there were aged people, it can be said that farmers in Ludewa district also constituted experienced people in maize production and marketing as well.

Marital status of the household head

From the data collected, the researcher realized that most of the households (79.2%) studied were male headed. This implies that males are decision makers in maize production as well as maize marketing activities. Again, since most of the respondents (75%) were married, one could suppose that most of households studied were settled and more organised to perform maize production and marketing activities. Even so, a few others were widowed (11.7%), single (6%), separated (4.4%), widower (1.6%), and divorced (0.9%). So, it is expected to realize high maize production if other factors are constant.

The education level of households' heads

The researcher also considered the number of years head of households spent in school to establish their levels of education. The results indicated that the number of years head of households spent in school ranges between 0 and 14 years and the mean was about 6.85 years. Education level results revealed that most heads of households ended up with primary education and there were no university graduates (Table 3). Furthermore, it was noted, there is a significant difference between education levels at 1% significance level.

Table 3: Education levels of heads of households

Education level	Respondents	Percentage
Primary education	364	85.2
Secondary education	40	9.4
Certificate college	8	1.9
Diploma college	1	0.2
None	14	3.3
Total	427	100

Source: Compiled from field data

Experience in maize production

Experience of heads of households on agriculture was also analysed to determine its effect on maize production and marketing. It was noted, most of the heads of households were quite experienced in maize farming with 75.5% having been in this business for more than 10 years. The mean years in maize production was about 21. The implication is that most of farmers can do the production and marketing better whenever other things are in place, inputs and marketing infrastructure.

Socio-Demographic Factors and Maize Production Aspects

Socio-demographic factors which were thought to influence maize production included age, sex, marital status, education level, extension services, and experience. These factors were analysed using chi-square test by hypothesizing that there was no significant relationship between maize production and socio-demographic factors.

The age of households' heads and landholding size

The researcher also investigated whether the age determine the size of land the heads of households owned. The result showed that there is an insignificant relationship between the size of land owned by heads of households versus their respective age ($p > 0.1$). However, the study disclosed that the size of land grown with maize was dependent on age ($p < 0.1$). Chi-square value calculated was greater than the critical value. That results implies, since age is related to experience, it enables farmers to understand the ins and outs of the production and thus knowing how to maximize output by increasing land put into cultivation. The importance of age in crop production was also acknowledged in the studies done by the World Bank Group

(2016) and Gebre et al. (2019). Such researchers found that age is significantly related to the willingness to commercialize agriculture, the use agricultural mechanization, and that this affected gross output. These may trigger other things like holding big size of land for increased benefits.

Age of households' heads and the quantity of maize produced

Age of heads of household was not significantly related to the quantity of maize produced (in 100kg bags). The researcher noted that, the Chi-square value calculated by this study was less than the critical value ($p > 0.1$). Therefore, the null hypothesis stating that "there was no statistically significant relationship between age and the quantity of maize produced" was accepted.

Another aspect that was thought as crucial in this study was the analysis of the relationship between fertilizer application and age. The result indicated that the an relationship between fertilizer application and the age of households' heads was statistically insignificant ($p > 0.1$). However, one's age was a factor which contributed into farming productivity as it facilitates the accumulation of knowledge regarding different farming practices and adoptions of new technology which also increase agricultural output.

Age of households' heads and decision to enter contract with input suppliers

The researcher also analysed whether farmers' age impacted their decision to enter contract with fertilizer suppliers. It was noted, age of heads of households inconsequentially influenced a farmer's decision of entering contract with fertilizer suppliers ($p > 0.1$). Similarly, the link between farmers' age and access to information regarding fertilizers availability was statistically trivial ($p > 0.1$). However,, age had something to do with experience and therefore it can influence farmers to appropriately decide whether to enter into contracts with the farming input suppliers or not.

Sex of households' heads and size of land grown with maize

The researcher also analysed whether sexes of households' heads as they matter in farming decision making and lifestyle of farmers. It was discovered; the size of land planted with maize had a statistical significance relationship with the sex of heads of households ($p < 0.1$). It was noted previously that most of households were headed by males and the implication here is that it is possible that males are capable of cultivating relatively big size of land.

Sex of households' heads and quantity of maize produced

The researcher also noted that there was little statistical relationship between farmers' sex and the quantity of maize that a farmer produced, farmers' decision on fertilizer application, the decision of entering a contract with fertilizer suppliers as well as farmers accessibility to information about fertilizer availability ($p > 0.1$). Among other reasons, such little connection might be attributed by Siriwardana and Jayawardena (2015)'s assertion that male farmers are more active in farming and involvement in teamwork, knowledge sharing, innovation, and adoption of farming practices. What is not said in this study is the extent to which this factor is important.

Marital status of households' heads and size of land grown with maize

Marital status is one of the socio-demographic factors that influence the decision making in the households and society at large. That said, the analysis of the maize production aspects by marital status is crucial. This study inquired if there is a significant statistical relationship between the size of land grown with maize and marital status. The result revealed that there was no statistically significant relationship between the size of land grown with maize and

marital status ($p > 0.1$). Such results are contrary to the assumption that married people will cultivate bigger land because they want more food to feed family and have more manpower for farm works.

The education level of households' heads and size of land grown with maize

The analysis on the relationship between maize production aspects and education level of households' heads was also done. The result showed that the size of land grown with maize related significantly with a number of years spent in school by heads of households at 5%. Such discovery concurs with Khoza et al. (2019)'s claim that educated people can manage their finances; they have greater understanding and can work with new ideas. Such a point is also emphasized by several researchers including Eneyew (2012; and Asmah (2011). The two are of the view that education level signifies the human capital endowment which in turn enhances the capability of engaging in other livelihood options by influencing one's decision to participate in agro-processing.

Extension services, farmers' experience vs quantity of maize produced

By conducting the chi-square test, the researcher tested the relationship between , agricultural extension, farmers' experience and the quantity of maize production. It was found that extension services had influences on the quantity of maize produced significantly ($p < 0.1$). The analysis showed that there a substantial association between the quantity of maize produced and farmer experience (in years) in agriculture activities ($p < 0.1$) as indicated in Table 4. Such a result reminds us of Ebojei et al. (2012) assertion that the socio-demographic factors have a momentous influence on maize production. This is partly because age, education, and extension visits might affect farmers' decision to adopt well performing maize seeds.

Table 4: Chi-square test results for socio-demographic factors in maize production

Variables cross-tabulated	Chi-square value	p -value
Households heads' age and landholding size	1900.675	0.770
Households heads' age and land grown with maize	1321.914	0.002*
Households heads' age and maize output	7083.037	0.679
Households heads' age and fertilizer application	58.247	0.503
Households heads' age and contract with input suppliers	118.083	0.481
Households heads' age and inputs information accessibility	147.991	0.945
Households heads' sex and land size grown with maize	35.323	0.018*
Households heads' sex and maize output	112.205	0.704
Households heads' sex and fertilizer application	0.705	0.401
Households heads' sex and contract with input supplier	4.578	0.101
Households heads' sex and input information accessibility	4.271	0.234
Households heads' marital status and land grown with maize	98.706	0.518
Households heads' education level and size of land grown with maize	97.352	0.091*
Households heads' experience and maize output	553.793	0.007*

Source: Compiled from field data

***The relationship between variables is statistically significant**

Socio-Demographic Factors and Maize Marketing

Socio-demographic factors thought to influence maize marketing in this study included age, sex, education level, marital status, extension services, and experience. These factors were analysed using chi-square test by hypothesizing that there was no significant relationship between maize marketing and socio-demographic factors.

When chi-square test was done the result showed that maize marketing participation and age of heads of households had a statistically significant relationship ($p < 0.1$) but there was no significant statistical relationship between perception on farm-level price, type of the market where the maize was sold and age of heads of households. This is possible since age is related to experience which enables marketers to understand the ins and outs of the trade and thus knowing how to minimize costs and maximize profit.

The analysis of this study also showed that maize marketing participation, farmers' perception towards farm-level price offered and type of markets where maize was sold were all influenced significantly by sexes of heads of households ($p < 0.1$). Likewise, it was noted that the level of education and marital status had a significant influence on farmers' market participation ($p < 0.1$). Such results recalls Siriwardana and Jayawardena (2015)'s supposition that men have the financial capability to can withstand the stress associated with marketing activities compared to women.

The analysis to determine the relationship between farmers' participation in maize marketing against extension services and experience of heads of households in agriculture activities revealed that extension services influenced farmers' participation in maize marketing significantly ($p < 0.1$). However, the aspect of experience was statistically less related to the decision of farmers to participate in maize marketing (Table 5). Such is also the case noted by Egbetokun and Omonona (2012)'s study which showed that the major determining factors which significantly influence farmers' participation in the market were age, marital status, farming experience and extension services but extension services were not found to significantly influence farmers' marketing participation.

Table 5: Chi-square test results for socio-demographic factors of maize marketing

Variables cross-tabulated	Chi-square value	p -value
Households heads' age and market participation	74.285	0.087*
Households heads' age and perception on farm-level price	123.228	0.306
Households' heads' age and type of market	110.530	0.414
Households heads' sex and perception on farm-level price	9.042	0.011*
Households heads' sex and type of market	10.305	0.006*
Households heads' marital status and market participation	17.638	0.003*
Households heads' education level and market participation	9.526	0.049*
Experience and market participation	51.448	0.205

Source: Compiled from field data

*The relationship between variables is statistically significant

Conclusion and Recommendations

The objective of this study was to empirically assess the effect of socio-demographic factors on the aspects of maize production and marketing. Among others, the study revealed that socio-demographic factors are important factors for farmers' participation in crop production and marketing. However, farmers' participation in maize production and marketing was poorly supported as marketing infrastructure including godowns were inadequate or incapable of meeting farmer demands. Similarly, farmers were unable to secure profitable external markets and so they are exploited by the traders who buy maize at farm level. Eventually, farmers are discouraged to produce surplus for sell. The researcher then concluded that socio-demographic factors are important as far as maize production and marketing are concerned but these have to be backed up by marketing and faming infrastructural arrangements.

Thus, the researcher recommends that, efforts should be put in improving the quality of human capital resources through checking the socio-demographic characteristics such as; providing services that will retain labour force (productive age group) in the rural areas, enhancing gender equality, improving the education of farmers, delivery of agricultural extension services, the improvement of production and marketing infrastructures should also be considered. When these are taken into consideration, they will boost the farming and marketing of maize greatly.

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POLICY BRIEF

The Effects of Socio-Demographic Factors on Agricultural Production and Marketing in Ludewa District, Njombe – Tanzania

The importance of socio-demographic factors in different economic activities is vital information to policy makers and other stakeholders. This guides their decisions on the enhancement and engagement of human resources in developmental issues. In particular, socio-demographic factors are relevant determinants for agricultural production and marketing and therefore need to be enhanced. This is true not only in Tanzania but in all African countries and outside Africa. However, little empirical works have been done to assess the separate effects of farmers' socio-demographic factors on the crops' production and marketing aspects. This policy brief intends to inform policy makers on the importance of socio-demographic factors on crops' production and propose policy options that will enhance farmers' outcomes.

Although socio-demographic factors play an important role in crop production and marketing, researchers have been paid little attention to such factors. Thus, the study conducted in Ludewa district used descriptive analysis to assess the relationship between socio-demographic factors and aspects of maize production/marketing. The main findings revealed that age, sex, education level, and experience are important determinants for both increased size of land grown with maize and marketing participation. The study recommends policies that will enhance the quality of human resources, including education for extension officers and other agencies to educate farmers in good farming practices, involvement of female and male farmers in both crops' production and marketing. Finally, the study advocates for policies that could enhance the marketing infrastructure for crops' produce to avoid exploitation of farmers by traders who buy produce at farm level and offer low price.

Research overview and Analysis of Research findings

The data for this study were collected through semi-structured questionnaire from 427 farmers, using simple random sampling procedures after multistage purposive methods were employed to select the study area. Checklists were used to collect information from focus group discussions and key informants. Descriptive analysis was employed to explore the association between socio-demographic factors and maize production and marketing aspects. The findings show the significance of socio-demographic factors in the increased size of land grown with maize. Farming experience was also found to influence maize output level significantly. The farmers' age, sex, marital status, and education were found to have influence on marketing participation.

Conclusion and policy option recommendations

The findings suggest that socio-demographic factors are important as far as maize production and marketing are concerned but these have to be backed up by marketing and farming infrastructural arrangements. Thus, the researcher recommends that, efforts should be put in improving the quality of human capital resources through checking the socio-demographic characteristics such as; providing services that will retain labour force (productive age group) in the rural areas, enhancing gender equality, improving the education of farmers, delivery of agricultural extension services, the improvement of production and marketing infrastructures should also be considered. When these are taken into consideration, they will boost the farming and marketing of maize greatly. Finally, policy that will enhance the marketing infrastructure for crops' produce is important to allow farmers reach distant and competitive markets where they can enjoy good price.

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