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# FACTORS AFFECTING YOUTH PARTICIPATION IN COMMERCIAL PIG PRODUCTION: GOROMONZI DISTRICT, MASHONALAND EAST

BY

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A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRIBUSINESS MANAGEMENT IN THE COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

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## Abstract

This study examined factors affecting youth participation in commercial pig production in Goromonzi district of Zimbabwe. Data were collected using structured questionnaire administered to a random sample of 60 youth farmers in the district. The data were analysed using descriptive statistics and Multiple Regression Model .The descriptive statistics showed thatthe average youth farmer sold 70.78pigsper annum, which was used as a measure of participation in pig production. The average age of the youth that participated in the study was 29.4years and the average household size from which the youth farmers belonged had 5 members. The male respondents made up sixty-eight percent of the participants and seventy percent of the youth were married.Of the participants eighty-three percent had obtained at least secondary level education. According to the study sixty-three percent of the youth had access to finance, sixty-eight to markets and seventy-seven to land and only fourty-eight percent had access to extension. It also shows that sixty-three percent of the youth farmers perceived pig production as a viable and profitable enterprise.The regression analysisshowed that age, access to finance, access to markets, access to land and access to extension are the major determinants of youth participation in commercial pig production.These positively and significantly affect youth participation as measured by annual sales of pigs by youth farmers. The regression analysis was also ran using actual cash sales made from the pork sold annually as a measure of youth participation. The results showed a similar conclusion that, age, access to finance, land, markets and extension were also positively and significantly affecting youth participation. However, while the results shown are similar, the $R_2$ and the adjusted $R_2$ show that using number of pigs sold as a measure of analysis strengthened the model. The model improved from 61.5% to 63.7% for $R_2$ and from 53.6% to 56.3% for adjusted $R_2$. The results also show that most youth farmers engage in horticulture, poultry production while others are employed to supplement sources of income, hence as alternative sources of livelihood. Recommendations given were cartegorised according to the stakeholders in the pig production eneterprise. Policy makers are encouraged to introduce policies that enable youth participation, while the private sector, contractors and financial service providers are encouraged to introduce more flexible company policies that are not inhibitive to youth who are still struggling with acquisition of capital, knowledge and whose experience hasnot earned them economies of scale. This will enable increased participation in the pig production industry.



**Key Words:** Youth participation, Commercial pig production

## Declaration

I declare that this dissertation is my original work except where sources havebeen cited and acknowledged. The work has never been submitted, nor will itever be submitted to another university for the award of a degree.

| | | |
|---|---|---|
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| Main Supervisor's Full Name | Main supervisor's Signature | (Date) |

## Copyright page

## Acknowledgement

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## Dedication

I dedicate this dissertation to my parents who make me see more everyday of what else I could be, my babies Michelle and Ndishe and to my husband who has been the wind under my feathers.

## List of Acronyms and Abbreviations

AUC African Union Commission

FAO Food and Agriculture Organization

LMAC Livestock and Meat Advisory Council

PIB Pig Industry Board

PPA Pig Producer Association

ZAGP Zimbabwe Agriculture Growth Programme

ZAS Zimbabwe Agriculture Society

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# CHAPTER 1 INTRODUCTION

## 1.1 Introduction

Youth participation in agriculture has been the topic of interest over the last decade with questions being raised on how to engage youth in agricultural activities. With over36% of Zimbabweans aged between15-35,(Food and Agriculture Organization[FAO], 2017), thedemographic forms a significant economic contribution if they get employed. However, there has been a slack in youth participation in agriculture despite efforts being put to facilitate youth engagement in commercial pig production.

This study identifiedandanalysed factors affecting youth participation in commercial pig production. It analyses the socio-economic variables, market access, access to financial services, availability of modern technologies and access to technical information on piggery production and how these affect the engagement of youth in commercial pig production. The study of these factors therefore highlighted areas of significant effect on participation and makes recommendations that can improve youth participation in the piggery sector.

## 1.2 Background of the Study

Zimbabwe is a country whose economy relies significantly on agriculture. The sector has the potential to contribute 20% of the GDP, employing about two thirds of the total population (World Bank, 2019). Agriculture contributes over 40% of national earnings (Ministry of Lands Agriculture and Rural Resettlement, 2018).

Livestock contributes 19% of value of total agricultural output with beef making most of the market share(NAPF, 2018). There is an increase demand of pork increasing its market share to 13% due to its competitive price versus other livestock(LMAC, 2017).

Pork production has therefore been increasing due to increased demand, and has been adopted as a substitute to beef. This increasing demand means a potential exists to increase production of pork sustainably and profitably (PIB, 2017). Support structures have been established and continue to be established to encourage pig production and ease of production.

It is however against this background that there is low engagement of youth in commercial pig production. Piggery as an enterprise in agriculture has the potential to create jobs for the youth, avail a cheaper source of protein to communities and generally improve the livelihoods of the youth and their communities. A decline in national herd by 25% means there is potential for expansion (NAFP, 2018), which if youth are to take advantage of would ensure improved socio-economic welfare.

The piggery enterprise can be used by the youth as a vehicle for employment and wealth creation which should attract youth. However engagement of the youth is low. Youth in Zimbabwe seem to prefer other sectors leaving the sector to be manned by the elderly averaging 60 years of age (FA0, 2014),

Participation of the youth in the piggery sector has been riddled with different challenges that inhibit and affect youth participation in the sector. Socio-economic factors including as market access, access to financial services, knowledge on the

enterprise and access to modern technologies also affect youth engagement in commercial pig production.

## 1.3 Statement of the Problem

There has been very low participation of youth in commercial piggery farming in Zimbabwe despite efforts by the government to enable engagement and commercialization of the agricultural sector. Supporting programs such as Command livestock have been established to enable agricultural engagement of the youth, but the adoption of commercial pig production has been low. A sound understanding of the socioeconomic characteristics of youth and how these characteristics affect youth participation in commercial pig farming would help in formulating policies regarding enablement of youth participation in commercial pig production in Zimbabwe. This study thereforeassesses the major socio-economic factors influencing youth participation in commercial pig production in Zimbabwe.

## 1.4 Research Objectives

### Main Objective

To analyse the factors affecting youth participation in the commercial pig production

The specific objectives of this study were:

a. To establish the socio-economic characteristics of the youth participating in the commercial pig production.
b. To identify the pre-dominant agriculture based livelihood activities youthparticipate in.
c. To identify factors affecting youth participation in the Commercial pig production.

d. To identify factors influencing pork sales ($) for youth in commercial pig production

## 1.5 Research Questions

i. What are the socio-economic characteristics of the youth participating in the Commercial pig production?

ii. What are the pre-dominant agriculture based livelihood activities youth participate in?

iii. What are the factors affecting youth participation in the Commercial pig production?

iv. What are the factors affecting pork sales for the youth?

## 1.6 Assumptions / Hypothesis

The study assumes that the respondents will answer honestly, objectively and accurately. It also assumes that the sample to be used is a true representation of the population of youth farmers in the Goromonzi district.

## 1.7 Significance of the Study

The youth are the future of agriculture, having the potential to boost food security in Africa, (FAO, 2013). The effective involvement of the youth in pig production activities is very essential to the sustainability of the sector, (Paisley, 2014). While most of the food is produced by an ageing smallholder farmer, these are less likely to adopt new technologies needed to sustainably increase piggery production and ultimately meet the national and international demand for pork. There is therefore need to engage youth in commercial pig production.

The study soughtto identify and analyse factors affecting youth participation in commercial pig production. The study's findings contribute to the awareness of the socio-economic factor hindering effective participation by the youth by different stakeholders in the piggery sector.

The findings also provide information for use by different policy makers in the formulation of policies that enable youth participation. The information can also be used in advising the different programs to be implemented for their effectiveness.

Once there is an understanding of the information, there is an anticipated increase in youth commercial farmers which will facilitate the creation of jobs and a contribution to national income and welfare.

## 1.8 Delimitation of the Study

The study was conducted in Mashonaland East in the Goromonzi district. The district lies in Natural Region II which means favourable climate for pig production, receiving between 750-1 050mm of rainfall annually. The district was also preferential for the study as it has been selected by PIB in partnership with PPAZ as the area for piloting Pig Producers Business' societies, associations and clubs. The partnership offers trainings, disease surveillance and extension support for the pig producers in the area. This offers the farmers a comparative advantage over other districts in the commercial production of pigs, and offers a unique opportunity to youth in the area taking up pig farming as an enterprise of choice. The respondents picked were youth farmers in the district, those engaged in piggery as well as those majoring in other agricultural value chains. The study usedan analytical, quantitative cross-sectional design. The youth that participated in the survey where between the ages of 18-35.

## 1.9 Limitations of the Study

The limitations of the study includedaccessing some remote areas of Goromonzi. Another limitation to the study was that not all stakeholders were reached for interviews due to other commitments andthe limited time allocated for the process. Another limitation experienced was that youth farmers do not keep records of their production process, the prices and quantities awarded diferent markets.

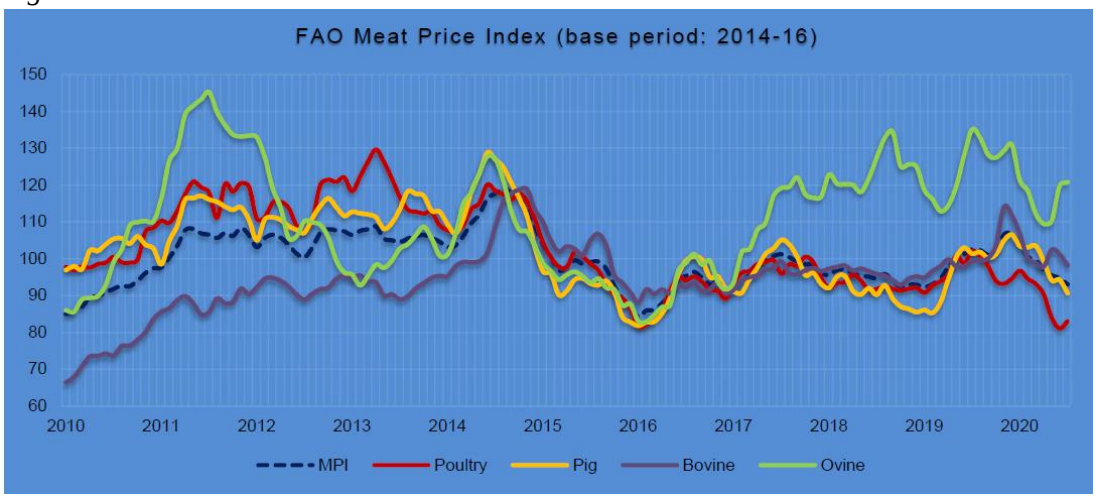
# CHAPTER 2 REVIEW OF RELATED LITERATURE

## 2.0 Introduction

### Pig production in Zimbabwe

Pig production has been given attention recently as a cheaper and sustainable source of protein.Global trends show thatpork is the cheapest source of meat and there have been registered shortages in the international market for pork. While the Covid-19 has suppressed the global demand for meat in the year 2020, pork still ranks as the cheapest sources of meat, after chicken as shown in the graph below (FAO, 2020). The price of pork sets it apart as a preferred substitute to other meats (substitution effect of the price change) increasing its demand. This creates ready markets for the product, an opportunity for youth. This also translates to an opportunity for export if Zimbabwean youth farmers where to engage in pork production.

*Figure 1 Global Meat Price Review*




Source: FAO, (2020)

Funding has been channelled towards the growing of the sector. As such there is adoption of more favourable breeds so as to increase productivity and viability of the pork value chain.

The pig enterprise contributes significantly to meat consumption and hence nutrition of Zimbabweans. Currently the national herd is growing steadily as different institutions are engaging in increasing the national herd and capacitating smallholder farmers, (PIB, 2017). The total number of pigs slaughtered for the first quarter of 2019 was 46,128, an increase of 24% over the same period in 2018, (LMAC, 2019).

*Figure 2 Annual Numbers of Pigs Slaughtered in Abattoirs 2013-2019*

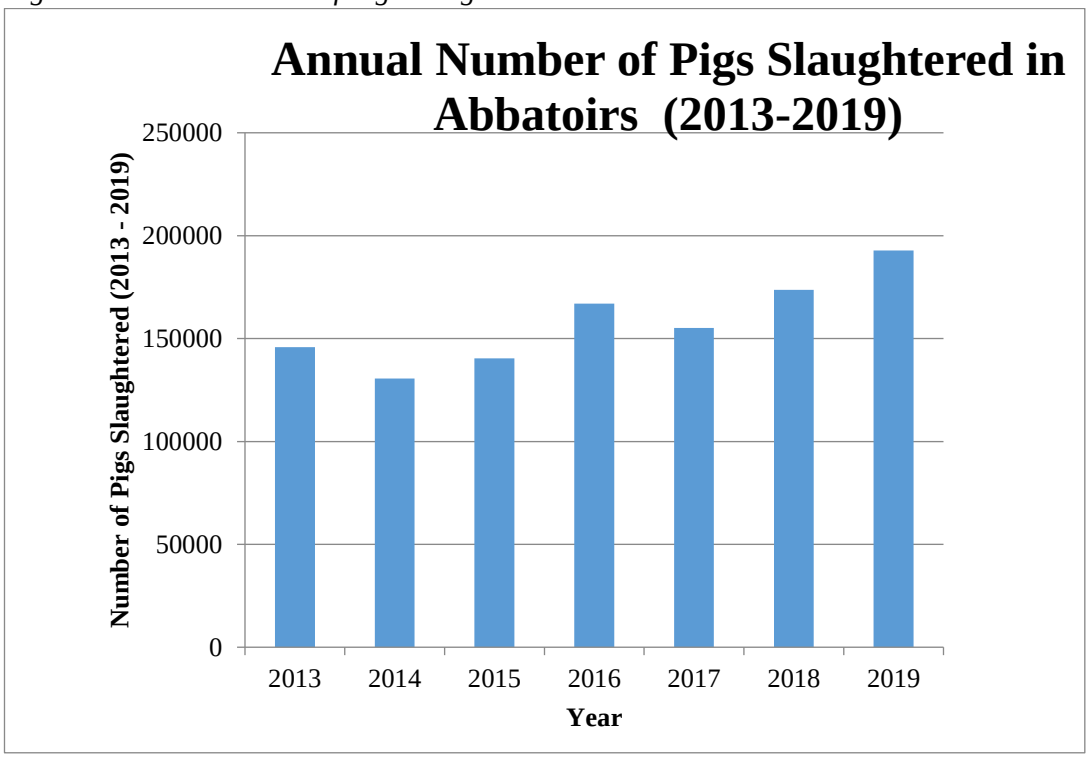



*Table 1:*
*Annual Numbers of Pigs Slaughtered in Abattoirs 2013-2019*

| **Year** | **Total Pigs Slaughtered** |
|---|---|
| 2019 | 192 747 |
| 2018 | 173 694 |

Table 1(cont'd)

| Year | Total Pigs Slaughtered |
|---|---|
| 2017 | 155 181 |
| 2016 | 167 026 |
| 2015 | 140 445 |
| 2014 | 130 523 |
| 2013 | 145 747 |

Source: Ministry of Lands, Agriculture, Water and Rural Resettlements (2020)

In Zimbabwe, pig rearing is done at both subsistence and commercial levels. The national sow herd in 2019 was estimated to be 60 351 of which 20351 only are in the commercial pig production sector (Ministry of Lands, Agriculture, Water and Rural Resettlements, 2020). The smallholder farmers therefore make up close to 80% of the pigs being produced in Zimbabwe (LMAC, 2017). Breeds kept by producers include Landrace, LargeWhite, Duroc and the indigenous Mukota (common in the small holder farmers). It is a substitute of beef due to its favourable pricing comparative advantage to beef.

The major players in the value chain include Colcom and Cold Storage Company (CSC). These make up 67% of the pork sold on the formal market(PIB, 2017). Large-scale commercial producers possess highly productive Large White pigs and use modern breeding technologies and best management practices to achieve big litters. Small holder pig producers use mixed breeds of both Mukota and Large White while small-scale units experience comparatively low breeding performance and poor

growth rates due to management challenges. The rest of the pork produced is sold to local butcheries (LMAC, 2017)

**Youth participation in Commercial pig production**

Youth engagement in agricultural activities has been low. Piggery production has a lot of support from different stakeholders(LMAC, 2019). Regardless of these initiatives youth engagement in commercial pig production has still been significantly low and initiatives by different stakeholders are being put in place to support youth engagement (ZAGP, 2020). The piggery value chain presents different challenges to the engagement of youth participation in commercial pig production.

## 2.2 Theoretical Framework

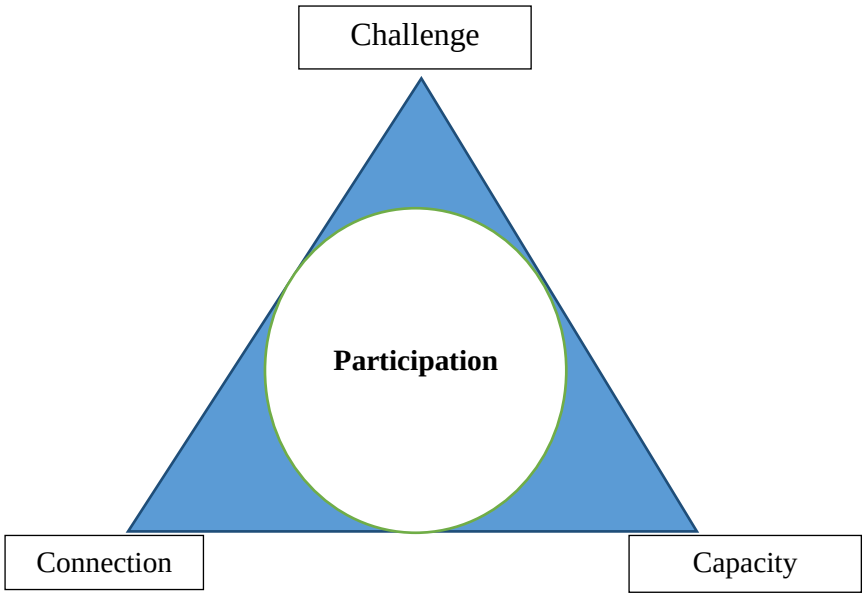
**Theory of reasoned action**

The study is supported by the Theory of Reasoned Action (Fishbein&Ajzen, 1975). The theory states that a person's behaviour is determined by their intention to perform the behaviour and that this intention is in turn a function of their attitude towards the behaviour and subjective norms. Intention reflects the extent to which an individual is likely to plan to do, and invest in pursuing a given behaviour (Hagger, 2019). It measures how humans behave based on their pre-existing attitudes and behavioural intentions. The theory therefore identifies factors underlying the formation and change of behavioural intention as the most important predictor of behaviour. In commercial pig farming youth use the theory of reasoned action to consider available information to inspire the course of action and behaviour they take. Their experiences and observations about agriculture affect their beliefs and intentions and ultimately the decisions they take in commercial pig production.

**The Triangle of participation**

According to this theory participation is influenced by three dimensions, Challenge, Capacity and Connections (De Backer &Jans, 2002). It states that young people will engage with society when there is a dynamic balance between the three dimensions. They will engage if they have something to challenge, that is if they are aware of the issues to be solved at hand, in this case, unemployment, poverty, stagnation. These challenges incite participation.Having identified the challenge, youth will participate if they are aware of the capacity they have to make a difference. Lastly they will participate if they are able to connect with others in order to tackle the challenges effectively. According to this theory increasing any point of the dimensions also increases the other two, which is they are positively correlated (De Backer &Jans, 2002).

*Figure 3 Triangle of Youth participation*




Source: De Backer &Jans (2002)

Factors that affect participation are therefore categorised into the 3 dimensions, whether one is aware of the challenge (for example, shortages in pork on the market, the need for job creation), whether they have the capacity to alleviate the challenge (for example, educational level, access to finances), and the relevance it brings in the society, (for example, employment creation, poverty alleviation).

Youth participation in commercial pig production has been on the low side. Generally,youth participation in agriculture has left economies constantly reviewing policies, in a bid to identify the challenges and means to engage youth for the growth of the sector. At regional levels the African Union Commission has rolled out the African Youth Charter, Youth Decade Plan of Action and the Malabo Decision on Youth Empowerment. At national level several institutions have engaged in programs that engage youth participation, which include the Zimbabwe Agricultural Growth Programme, PIB, and Action Aid. In Zimbabwe several factors affect youth

participation and the common ones include access to markets, finance, land, extension and information services as well as perception about the growing of pigs as a career option.

## 2.2 Relevance of the Theoretical Frame to the Study

### *Access to markets*

Commercial farmers are more efficient than communal farmers and hence have better access to high value markets than communal farmers, (Zimbabwe Agricultural Society [ZAS], 2019). The piggery sector is however made up of 80% small holder farmers and communal farmers (LMAC, 2017). Due to low efficiencies the small holder farmer access to high value market is therefore limited. Youth participating in agriculture are yet to develop skill and capacity to operate at the commercial level.

### *Access to Finance*

Commercial pig production is a capital intensive enterprise. The capital required to start the production process and the working capital has been cited as a major hindrance to participation. The major funders of commercial pig production include loans from banks, which are not accessible to youth as they have not acquired assets to warrant as collateral yet. A few youthhave sustained access to the appropriate mix of cost-effective, demand-driven and tailored financial products (AUC, 2018). The risky nature of the sector also make other funders such as insurance, credit loaning facilities shy away from funding the sector(FAO, 2014).

### *Access to land*

The land tenure system in Zimbabwe is insecure for most youth. Most land is accessed through inheritance hence in the communal set up, there is constraining of project size

and it presents gender bias complexities (FAO, 2014). However, others access land through renting, while this is an option for the well-resourced, it is a major hindrance for those financially challenged adding on to their overheads.

### *Youth perception*

Youth perception on engagement in agriculture has been topical as well as a factor affecting youth participation in commercial pig production. There is a general perception that primary production agriculture is characterized by low returns, drudgery and hard work therefore reserved for the less educated (Food and Agriculture Organization [FAO], 2017).

While agriculture has been evolving, it still represents traditional manual hard and dirty work which repels the youth. The youth are attracted to more white collared jobs perceived to pay more for less effort (AUC, 2018). The image of agriculture then relates it to the work one engages in after retiring from more fun and economical activities.

### *Access to information*

Another major constraint to youth participation in commercial pig production is unavailability of knowledge on the demands of the enterprise and the processes within the value chain. Insufficient access to knowledge, information and education limits productivity and the acquisition of skills, while insufficient access to knowledge and information can hinder the development of entrepreneurial ventures (FAO, 2014).

Other background factors including, age of respondents, marital status, level of education, household size, and gender also contribute to the participation of youth in commercial pig production.

## 2.3 Review of Empirical Studies

Youth participation in agriculture has been an issue of concern in the last decade (AUC, 2019). Africa has at least 60% youth a potential which utilized can revamp the agricultural sector (FAO, 2017). As shown by studies improving the living standards and welfare of African citizens require the engagement of youth in Agriculture.

Kisingú, (2016)'s study on rural youth participation in agriculture shows that with increased education the intention to participate in agriculture decreases. According to his study 8% of the respondents had diplomas and degree qualifications, while certificate holders constituted 21%, and the secondary graduates 33% and the primary graduates 38%. Participation increased with a decrease in level of education. In the study 42% of the respondentshad basic education, while 35% had secondary education and only 7% being tertiary education graduates. Studieshavefoundthat an increase in education decreases participation in agriculture. In Ghana a year decreases participation of youth in agriculture by 0.82% (Twumasi, Jiang &Acheampong, 2019).

According to FAO(2014) access to land contributes significantly to youth participation in agriculture including pig production. Land access contributes to whether youth participate or not in agriculture (Kimaro, Towo&Moshi, 2015). Access to land through renting or ownership is of key to participation, with according to the study 65.1% of youth who participate having access to at least 3 acres of land(Yunus&Giroh, 2017). The land tenure in Zimbabwe is hereditary pausing challenges to the resource accessibility.

Access to financial resources is also a factor affecting youth participation. Piggery is a capital intensive enterprise. Inaccessibility of finance according to LMAC (2017) have been the reason for most youth agricultural projects collapsing.Capital is required to initiate the project, secure feed and access veterinary services. An increase in access to financing through credit facilities, peer to peer lending and micro-finance institutions increase youth participation in the sector. 71.1% of the respondents studied in Tanzania, (Kimaru*et al*., 2015)stated that they were motivated by availability of financing. In the study it was concluded that 81.13% of the respondents highlighted that they were constrained by inadequate capital.

Information access is a major factor in the engagement of youth in agricultural activities. According to ZAS(2019) most communal pig farmers lack adequate technical knowhow on pig production which corresponds to low productivity. While commercial farmers with adequate knowhow are producing an average of 20-24 piglets per sow the majority are producing an average of 8-17, a huge production disparity caused by lack of information (ZAS, 2019).

Youth perception has also been cited by several studies as a factor that affects participation of youth in commercial pig farming. While there is an increase in financing for agriculture and livestock production in Zimbabwe, (Command agriculture), perception hinders youth engagement.Findings under psychological factor also revealed that, farming or agriculture activities were perceived as a job for the low class, illiterates, aged, rural people and therefore belittling (Latopa& Rashid, 2015).

Latopa& Rashid (2015)highlighted the adoption of agriculture and commercial pig production as a career of choice is hinged on the facilitation of different processes which will aid market access. Kanyonza (2014) explains how piggery production should move from being production oriented to being market oriented. Absence of market access compromises sustainability of production.

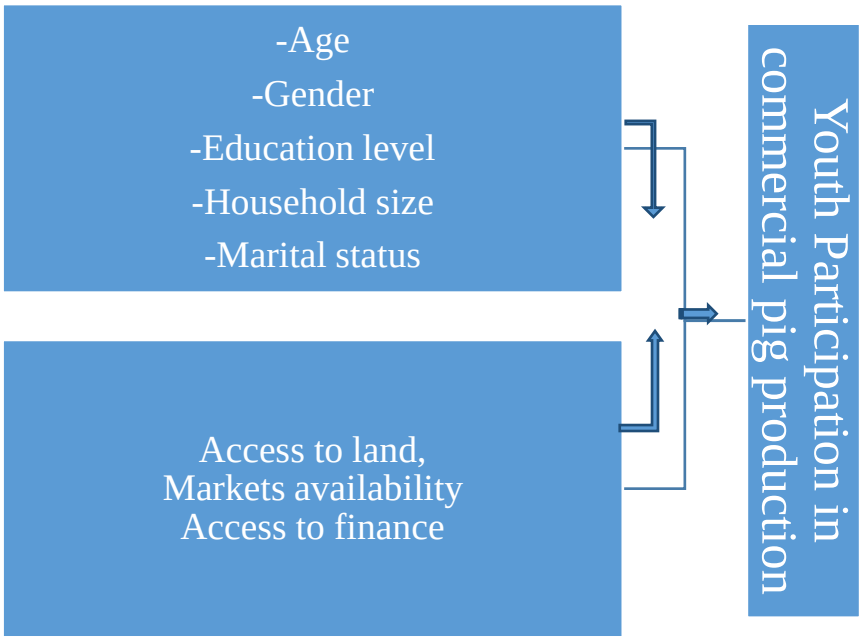
## 2.4 Identification of Research Gaps

The gaps to be addressed by the research proposal include knowledge on what factors affect participation of youth in the commercial pig production. Studies have been conducted to identify the limitations of youth engagement in agriculture, however there is need to account for those factors affecting the context of pig farming. Effort is being availed by different piggery stakeholders within the piggery value chain, i.e. PIB, PPAZ, the ministry of Agriculture and other Non Governmental Stakeholders to ensure active participation of youth however to little avail. The research will close the knowledge gap on which factors are affecting youth participation in commercial pig production, and the extent at which each factor affects youth engagement.

It will also give recommendations on what policy strides to be taken to facilitate engagement of youth in commercial youth participation. These can be adopted both at local organizational levels as well as at national levels.

## 2.5 Conceptual Framework

*Figure 4 Conceptual Framework*




## 2.6 Summary

The chapter is a representation of literature available that informs the research.It presents the factors common to agriculture as a whole and seeks to establish its relationship to commercial pig production. The chapter makes reference to other findings relevant to the study of youth participation in commercial pig production. The chapter provides description and summary to the findings of other literature on the subject under study.

# CHAPTER 3 METHODOLOGY

## 3.1 Introduction

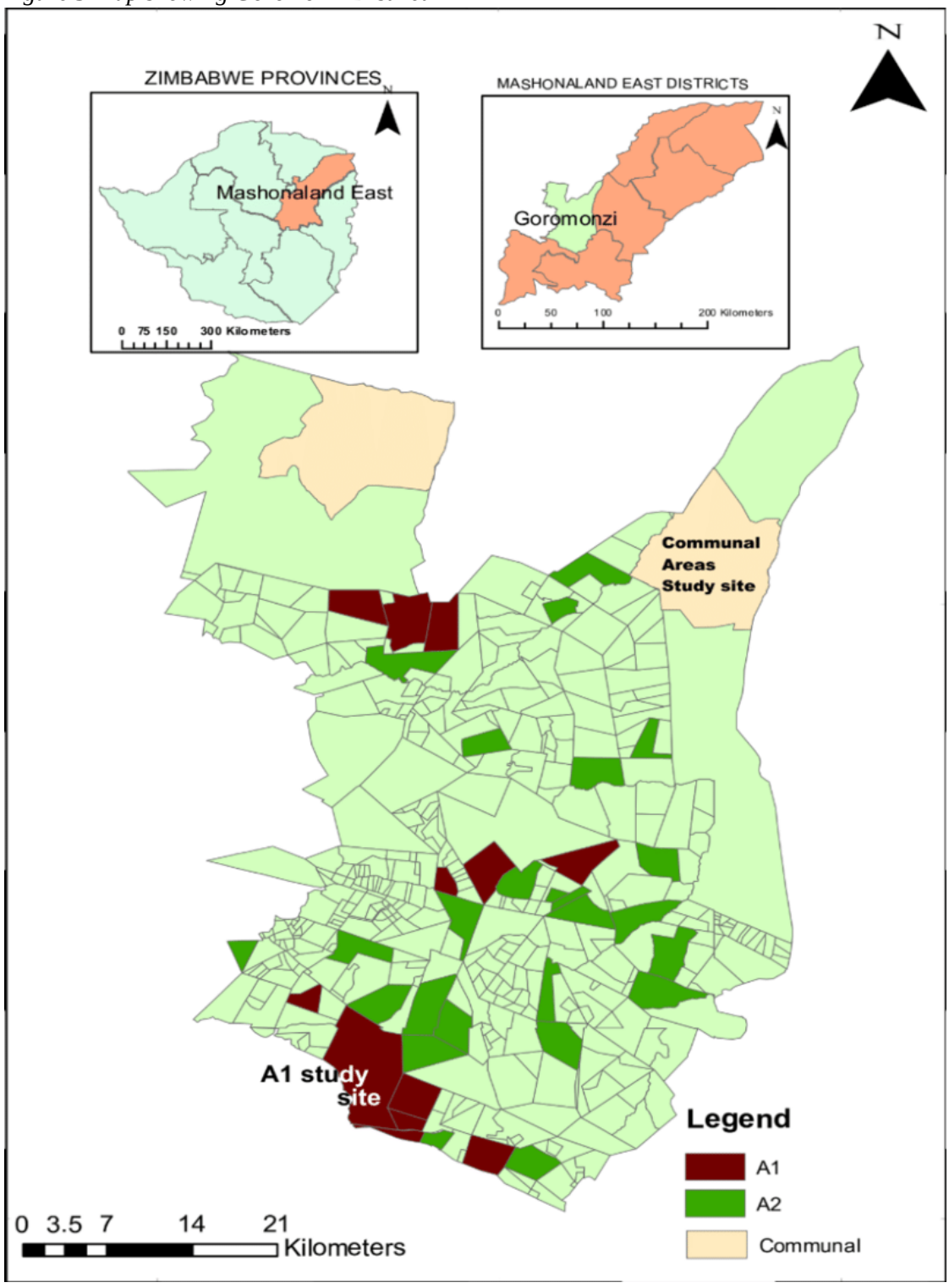
This chapter presents a description of how the study was carried out. It shows the study area, Goromonzi of Mashonaland East Zimbabwe. It also shows the population under study, the sample and how was constructed as well as data collection techniques and tools adopted to carry out the study. The chapter also discusses the data analytical tools used after the data was collected. It is a compilation of how the research was carried out.

### Area under study

The research was carried out in Goromonzi a district in Mashonaland East Province of Zimbabwe. It is located 32km southeast of Harare(the capital). It comprises communal, resettlement and commercial farms.Goromonzi is located in Region II, receiving 750-1050 mm annual rainfall and agriculture is the main economic activity of the district. The main livestock venture includes cattle, dairy, poultry and piggery (FAO, 2006).

The area is well suited for pig production having been adopted as an area of pilot by Pig producer association (PPA) and Pig Industry Board (PIB) for their piggery projects, training and extension, the farmers in the area enjoy an advantage that enables participation (LMAC, 2017). Pig producers also enjoy easier market access due to their proximity to the capital while being in region II also mean favourable climate for the sector. The district is therefore suitable for a variety of exotic commercial breeds.

*Figure 5 Map showing Goromonzi District*




## 3.2 Research Design

The research seeks to identify and analyse factors affecting youth participation in commercial piggery production. The research design is cross sectional and

experimental. To enable this data is collected from youth farmers in the Goromonzi district and this make up the population from which the sample was extracted.

## 3.3 Population and Sampling

The population was youth engaged in agriculture in the Goromonzidistrict.These will gave information on factors that affect their engagement in agriculture, and further highlighted preferred ventures to commercial pig production justifying their level of participation in the enterprise.

The sampling methodusedwas stratified random sampling method. The district was divided into strata using districts as boundary marksand random selection of youth was done from each strata. This sampling method ensured all parts of the district are represented, while reducing bias as each participant is randomly selected.

Questionnaires were distributed in 10 different wards of the Goromonzi district, 12, 13, 14,15,16,17,18,19,20 and 21. A total of 60 responses were obtained from both piggery farmers and non piggery farmers. The population sizewas deduced from information obtained from the AGRITEX officers.

## 3.4 Data Collection Instruments

The data for the study was obtained from both primary and secondary sources. The instruments used for Data collection are the questionnaire with both open ended and closed ended questions for the primary data. These weredistributed to the youth engaging in agriculture in the district.

Secondary data was obtained from different publications, and other empirical studies of organizations that work with commercial pig farmers. These include PIB, PPA and the AGRITEX officers.

## 3.5 Data Collection Procedure

The study was done to identify factors affecting youth participation in agriculture, therefore the data required was obtained from the youth who are engaged in agriculture in the area. Questionnaires were distributed to youth aged between 18-35 years of age in the Goromonzi district. The stratified random sampling method was adopted to select the recipients of the questionnaires.

In light of the Covid-19 steps were followed to reduce the risk of spreading the infection. The distribution of the questionnaire was conducted by personnel in surgical masks. The participants had surgical masks availed to them and made mandatory to wear during the data collection process. Sanitization of hands before and after exchange of the questionnaire was alsomade mandatory. The One meter social distance was observed at all times during the data collection process.

## 3.6 Analysis and Organization of Data

Descriptive and inferential statistics were used in the study. Descriptive statistical tools applied include simple percentage means, standard deviation, and frequency table. The determinants of youth participation in commercial pig production are assessed using the following Ordinary Least Squares (OLS)regression function:

$$YP = \alpha + \beta_0 AGE + \beta_1 HHS + \beta_2 GEN + \beta_3 MAS + \beta_4 LoE + \beta_5 ATF + \beta_6 ATM + \beta_7 ATL + \beta_8 ATE + \beta_9 POF + \mu$$

Where

YP =

$\alpha$ =autonomous piggery production by the youth

$\beta_i$ =Model coefficients

$\mu$ =Error term

The description of the dependent and independent variables is given in Table 2 with the hypothesized impact of the independent variables on the dependent variable.

Youth participation was measured by the number of pigs sold annually

Analysing the factors influencing annual sales ($) a youth makes enables me to understand the income component for the youth who are participating and how it is affected by the independent variables under study.

Analysing the sales one makes annually of pork however does not differentiate low markets from high markets hence exaggerating the sales of those more active. To balance this I did a parallel analysis measuring participation by the actual number of pigs sold which will eliminate the bias created by the different market values. Two regressions were run one with number of pigs sold annually (a proxy for youth participation) as the dependent variable and another with sales ($) as the dependent variable.

*Table 2*
*Variables for OLS regression for the factors affecting youth participation in commercial pig production.*

| **Variable** | **Variable description** | **Variable measurement** | **Hypothesis *(Apriori )*** |
|---|---|---|---|
| Dependent Variable | | | |
| YP | Total number of pigs sold | Numbers sold | Continuous |
| Independent Variable | | | |
| AGE | Age | Years | + |
| HHS | Household size | Number | + |
| GEN | Gender | Dummy 1=male 0=otherwise | + |
| MAS | Marital status | Dummy 1=Married 0=otherwise | + |
| LOE | Level of education | Dummy 1=secondary education 0=primary education | - |
| ATF | Access to finance | Dummy 1=yes 0= No | + |
| ATM | Access to markets | Dummy 1= Yes 0=No | + |

Table 2. (cont'd)

| **Variable** | **Variable description** | **Variable measurement** | **Hypothesis *(Apriori )*** |
|---|---|---|---|
| ATL | Access to land | Dummy 1= Yes<br>0=No | + |
| ATE | Access to extension services | Dummy 1= Yes<br>0=No | + |
| POF | Perception on farming | Dummy 1=positive<br>0=Negative | + |

## 3.7 Ethical Considerations

Ensuring anonymity of the respondents and confidentiality of responses is of vital importance as this will ensure respondent security.

- The data for this project was collected anonymously. Neither the researchers nor anyone else is able to link data to the respondents.
- The data was coded and a key maintained separately, to ensure anonymity.
- Information about the respondent is kept confidential to the maximum extent allowable by law.
- Only the following entities will have access to the data:

  -Researchers and Research Staff.

  -AUREC
- The institutions identified cannot access identifiable data. The data was de-identified so as to retain confidentiality of the participants.

- The results of this study may be published or presented at professional meetings, but the identities of all research participants will remain anonymous.
- The study only considered respondents who agreed to the survey process. Only those who signed the Consent Form participated.

## 3.8 Summary

Chapter 3 is a summary of the research methodology outlining the different stages of data collection and analysis. It highlights different research tools and the paradigm in which the research took place. It is an explanation step by step of how the research was conducted.

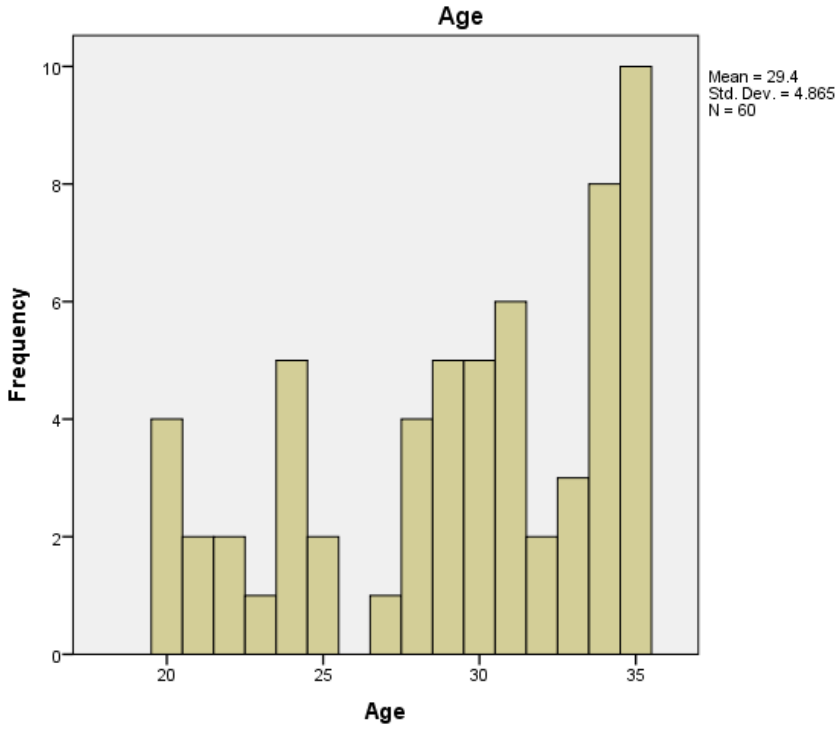
## CHAPTER 4 DATA PRESENTATION, ANALYSIS AND INTERPRETATION

### 4.1 Introduction

The main focus of this study was to analyse the factors affecting youth participation in commercial pig production. This chapter is a compilation of the data presentation, analysis and interpretation. It shows the data collected and the results obtained after the regression process took place. The data is presented in the form of charts and tables having gone through the SPSS analytical tool. The chapter is then concluded by discussions linking the analysis to the study and the studies of others in explaining the factors that affect youth participation in commercial pig production.

### 4.2 Data Presentation and analysis

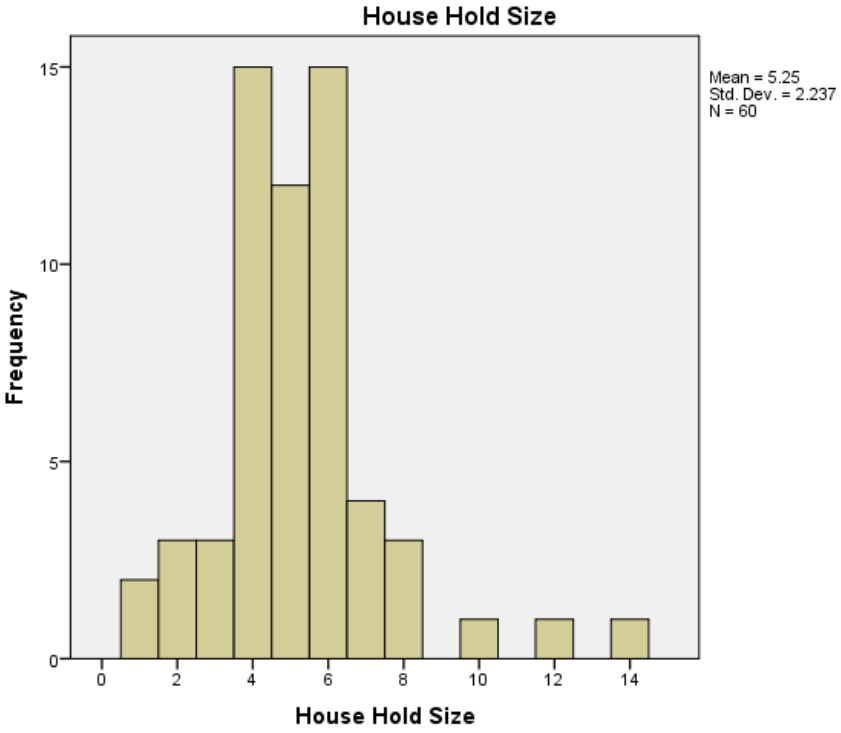
*Figure 6Ages of respondents*




The average farmer engaged in the survey is 29 years of age with the youngest being 20years of age and the oldest being 35years of age. 25%of the youths engaged are

below 25years of age, and more than 50% are above 30years of age. The 35year age group has the most number of youth participating in agriculture.

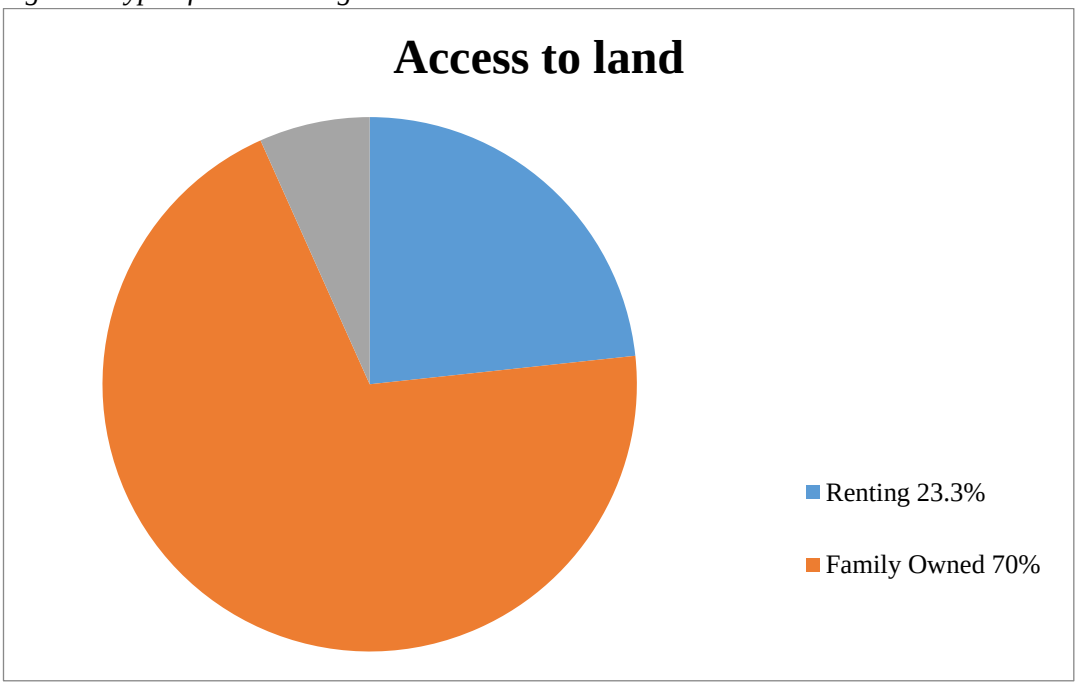
*Figure 7 Household Sizes*




The average household size had 5 people with the majority of the houses having at between 4 and 6 House Hold members. The biggest Household had 14 members while the smallest had only 1 individual.

Access to Land

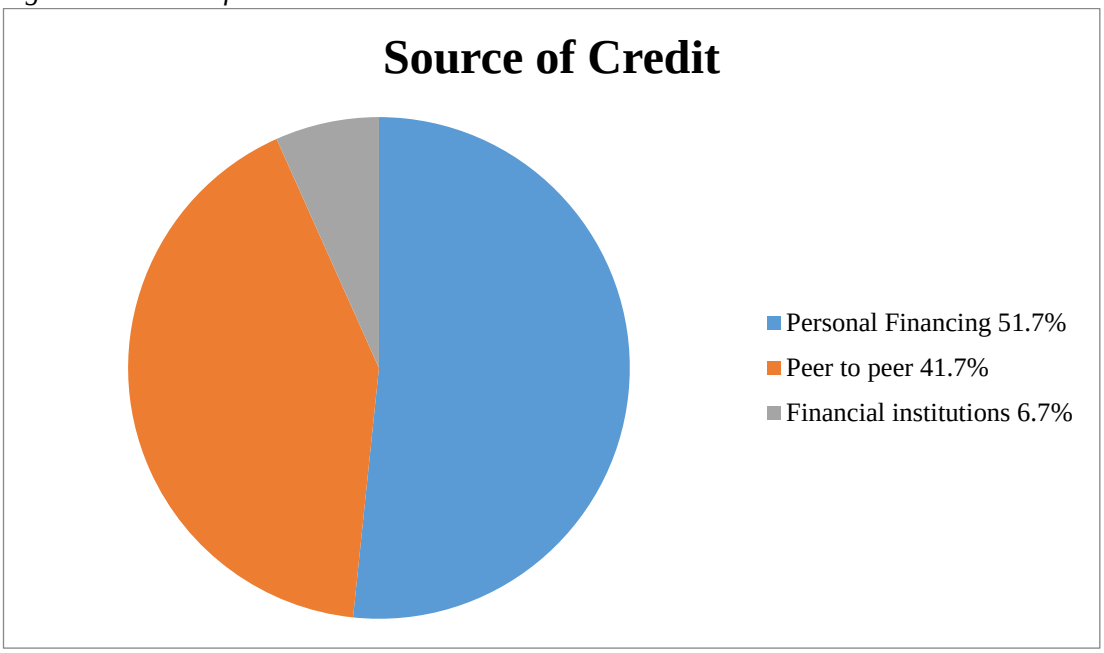
*Figure 8 Type of land holding accessed*




An average of 77% of the youth farmers that participated had access to land, that is either the land was in their name (7%) or it is land that belonged to their parents (family owned) (70%). Of the youth engaged 23% had to rent hence accrued cost in accessing the land for them to practice farming.

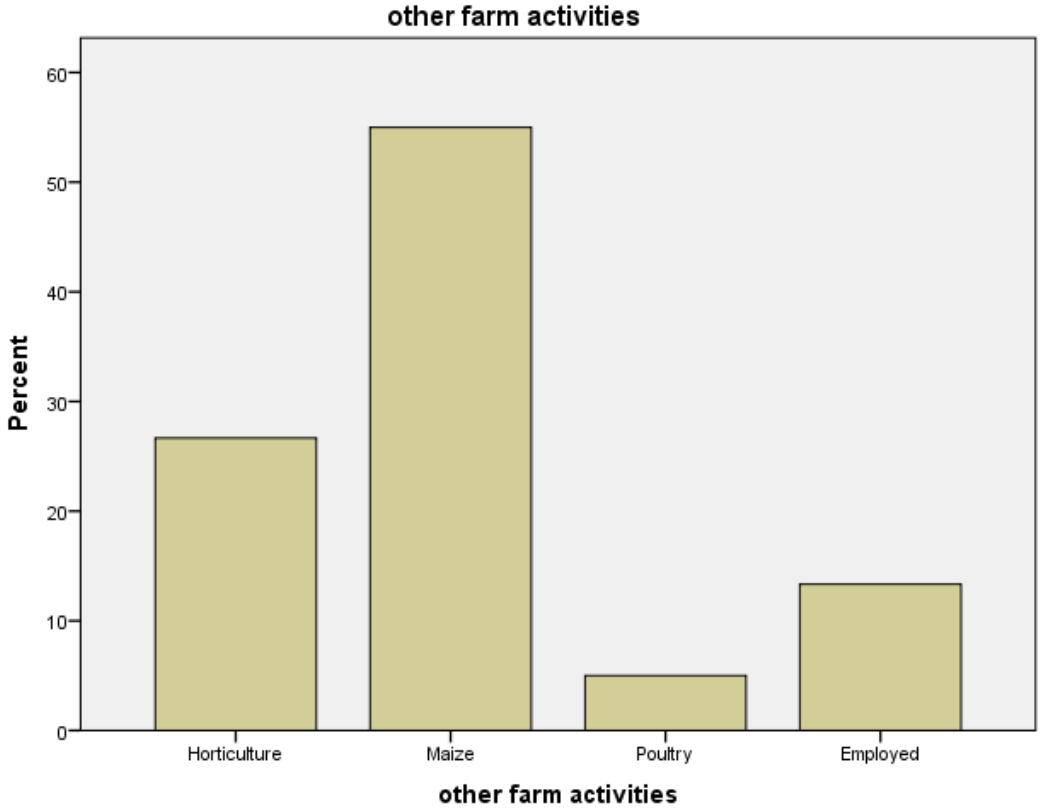
Access to finance

*Figure 9 Sources of Credit*




An average of 63% of the youth engaged had access to finance. The financial support as observed was from either peers or from financial institutions. Only fourty-one point seven percentof the youth accessed finance through peer to peer lending and 6.7 was obtained from financial institutions such as Banks and micro-finance institutions. Of the youth engaged Fifty-one point seven percent had no financial support; they had to rely on their personal savings to start the piggery projects.

*Figure 10 Other predominant activities youth are engaged in.*




The youth that participated in the study had other activities they engaged in which complimented their agricultural work. From the data compiled twenty-six point seven percent engaged in horticultural farming, growing vegetables and potatoes concurrently with the production of pork, Fifty-five percent grew maize, while Five percent also ran poultry projects. About Thirteen point three percent were employed, either on farm, at the local shopping areas and at local institutions such as the local schools.

*Table 3*
*Table Summary statistics of the sample youth*

| **Variable** | **Variable description** | **Variable measurement** | **Mean** | **Std Deviation** |
|---|---|---|---|---|
| Dependent Variable | | | | |
| YP | Number of pigs sold per annum | Numbers | 70.78 | 61.88 |
| Independent Variable | | | | |
| AGE | Age | Years | 29.40 | 4.865 |
| HHS | Household size | Number | 5.25 | 2.237 |
| GEN | Gender | Dummy 1=male 0=otherwise | | |
| MAS | Marital status | Dummy 1=Married 0=otherwise | | |
| LOE | Level of education | Dummy 1=secondary education 0=primary education | | |
| ATF | Access to finance | Dummy 1=yes 0= No | | |
| ATM | Access to markets | Dummy 1= Yes 0=No | | |

Table 3 (cont'd)

| **Variable** | **Variable description** | **Variable measurement** | **Mean** | **Std Deviation** |
|---|---|---|---|---|
| ATL | Access to land | Dummy 1= Yes 0=No | | |
| ATE | Access to extension services | Dummy 1= Yes 0=No | | |
| POF | Perception on farming | Dummy 1=positive 0=Negative | | |

The average youth farmer sells 70.78 pig per annum. The average age of the youth participating in farming is 29.4 years of age, with an average household size of 5. Of the youth farmers interviewed 68% are male and 70% are married. In addition, 83% of the farmers engaged had access to at least secondary education. Access to financial support among the youth farmers is averaging 63%. Furthermore, 77% of the youth farmers have access to land, while 68% of the farmers had access to well organized markets, i.e. registered retailers and/ or contractors. Access to extension is low averaging 48%. Of the youth farmers engaged in the data collection process 63% had a positive perception towards Commercial pig production.

*Table 4*
*Model Summary*

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .798[a] | .637 | .563 | 40.929 | .637 | 8.588 | 10 | 49 | .000 |

a. Predictors: (Constant), Perception on farming , Level Of Education, Gender, House Hold Size, Access to Extension, Access to Land , Age , Access to Markets , Marital Status , Access to Finance

*Table 5*
*OLS Estimates of the Determinants of Youth Participation in Commercial Pig Production (number of pigs sold)*

| **Variable** | **Coefficient** | **Std Error** | **T** | **Sig** |
|---|---|---|---|---|
| (Constant) | -62.393 | 35.785 | -1.744 | 0.088 |
| Age | 2.432 | 1.303 | 1.867 | 0.068 |
| House Hold Size | 0.144 | 2.501 | 0.058 | 0.954 |
| Gender | -4.693 | 13.266 | -0.354 | 0.725 |
| Marital Status | -7.754 | 13.700 | -0.566 | 0.574 |
| Level Of Education | -18.806 | 14.954 | -1.258 | 0.215 |
| Access to Finance | 82.390 | 13.854 | 5.947 | 0.000 |
| Perception on farming | -16.459 | 20.190 | -0.815 | 0.419 |
| Access to Land | 26.036 | 13.494 | 1.930 | 0.059 |
| Access to Extension | 21.617 | 11.129 | 1.942 | 0.058 |
| Access to Markets | 24.318 | 13.951 | 1.743 | 0.088 |

Table 5 (cont'd)

| **Variable** | **Coefficient** | **Std Error** | **T** | **Sig** |
|---|---|---|---|---|
| $R^2$ | 0.637 | | | |
| Adjusted $R^2$ | 0.563 | | | |

The variables which significantly affect the youth participation as measured by total annual pigs sold are, the ages of the farmers(AGE), Access to finance (ATF), Access to Land (ATL), Access to markets (ATM) and Access to Extension(ATE). These are important in determining amount of sales of pork annually.

The variables which do not significantly affect youth participation include, Gender (GEN), Marital Status (MAS), House Hold Size (HHS), Level of Education (LOE) and Perception on Farming (POF).

*Table 6*
*ANOVA (Number of Pigs Sold)*

| Model | Sum Of Squares | DF | Mean Square | F | Sig |
|---|---|---|---|---|---|
| Regression | 143855.493 | 10 | 14385.549 | 8.588 | 0.000[b] |
| Residual | 82082.690 | 49 | 1675.157 | | |
| Total | 225938.183 | 59 | | | |
| Dependent Variable : Youth participation (Pig Sold per Annum) | | | | | |

The independent variables under study collectively significantly influence the participation of youth in commercial pig production. They jointly explain the variation in the dependent variable. These are significant at 1% as shown by the ANOVA.

The $R^2$showing amount of variation in Youth participation as measured by pigs sold annually by youth that is explained by the independent variables is 0.637. This means 63.7% of the variation in youth participation is explained by the independent variables.

As expected a priori with a year increase in age is an increase in Youth participation as measured by annual sales of the pigs. With each unit increase in age is an increase in sales of pork by 2.43pigs. This is significant at 10%.

As expected *a priori* there is a positive relationship between Youth participation and Access to Finance. At 1% significance the one with access to finance sells an average of 82.39pigs more annually than the farmer who cannot financial support. With increasedfinancial access is therefore significant increase in participation by youth in commercial pig production.

As Expected *a priori* there is a positive relationship between youth participation in commercial pig production and Access to land. Access to land significantly affects youth participation at 10%. An increase in hectrage availed to youth participating in farming increases the sales of the pork sold annually. A unit increase in hectrage availed to youth increases the number of pigs sold by 26.04.

As expected *a priori* as Access to extension increases so does youth participation in commercial pig production. The farmer with access to extension sells 21.62pigs annually than the one who cannot access extension. Extension therefore significantly affects youth participation in commercial pig production at 10% level of significance.

An increase in market access increases one's ability to participate in commercial pig production as noted *a priori*. The youth farmer with access to markets sells 24.32pigs more in annual pork sales per annum, at 10% level of significance.

**Analysisusing annual sales of pork ($) as a measure for youth participation.**

Factors affecting youth participation in commercial pig production were also measured using annual sales of pork by the youth farmer as the dependent variable.

The analysis showed that the average youth farmer makes $13 764.30 in pig sales per annum, with the standard deviation of $12 618.24.

*Table 7ANOVA (amount of pork sold per annum)*

| Model | Sum Of Squares | DF | Mean Square | F | Sig |
|---|---|---|---|---|---|
| Regression | 5885432215.821 | 10 | 588543221.582 | 8.220 | .000[b] |
| Residual | 3508553156.779 | 49 | 71603125.649 | | |
| Total | 9393985372.600 | 59 | | | |
| Dependent Variable : Youth participation (Pig Sales per Annum$) | | | | | |

The analysis of variance shows that at 1% significance the independent variables collectively influence the dependent variable as measured by annual sales of pork.

*Table 8*
*Model Summary*

| Model | R | | | | Change Statistics |
|---|---|---|---|---|---|

| | | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.784[a] | 0.615 | 0.536 | $8,596.75413 | 0.615 | 7.811 | 10 | 49 | 0.000 |

a. Predictors: (Constant), Perception on farming , Level Of Education, Gender, House Hold Size, Access to Extension, Access to Land , Age , Access to Markets , Marital Status , Access to Finance

The $R^2$showing amount of variation in Youth participation as measured by annual sales in pork by youth that is explained by the dependent variables is 0.615. This means 61.5% of the variation in youth participation is explained by the independent variables.

*Table 9*
*OLS Estimates of the Determinants of sales ($) in Commercial Pig Production*

| **Variable** | **Coefficient** | **Std Error** | **T** | **Sig** |
|---|---|---|---|---|
| (Constant) | -11937.410 | 7398.516 | -1.613 | 0.113 |
| Age | 483.647 | 269.326 | 1.796 | 0.079 |
| Gender | 3.132 | 517.067 | .006 | 0.995 |
| Marital Status | -1218.090 | 2742.606 | -.444 | 0.659 |
| House Hold Size | -1654.265 | 2832.446 | -.584 | 0.562 |
| Level Of Education | -4151.039 | 3091.771 | -1.343 | 0.186 |

Table 5 (cont'd)

| **Variable** | **Coefficient** | **Std Error** | **T** | **Sig** |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Access to Finance | 16969.110 | 2864.236 | 5.924 | 0.000 |
| Perception on farming | -4160.176 | 4174.293 | -.997 | 0.324 |
| Access to Land | 5554.875 | 2789.772 | 1.991 | 0.052 |
| Access to Extension | 4421.410 | 2300.926 | 1.922 | 0.060 |
| Access to Markets | 4842.269 | 2884.340 | 1.679 | 0.100 |
| $R^2$ | 0.615 | | | |
| Adjusted $R^2$ | 0.536 | | | |

As expected *a priori*, with increase in age comes an increase in production of pigs sold at the market. An increase in a youth farmers years by a year increases the average production of the farmer by $483.65. This is at 10% significance level.

As expected *a priori* access to finance significantly and positively affect the number of pigs sold by youth farmers annually. At 1% significance, a unit increase in financial access increases the annual sales of pork by ayouth farmer by $16 969.11.

An increase in access to land significantly and positively affect youth participation as measured annual sales youth make of pork. As expected *a priori* a unit increase in access to land increases youth participation by $5 554.88 annually at 10% significance.

An increase in access to extension as expected *a priori* results in the increased youth participation. With a unit increase of access to extension at 10% significance, a youth can increase their output by $4 421 than the one without access to extension.

As expected *a priori* access to markets significantly and positively affect youth participation in commercial pig production. A unit increase in market access results in an increase in annual sales of pigs brought to the market. At 10% significance level a unit increase in access to markets can increase one's annual sales by$4 842.27.

*Table 10*
*Model summary results compared*

| | Annual sales ($) | Number of animals sold |
|---|---|---|
| $R^2$ | 61.5% | 63.7% |
| Adjusted $R^2$ | 53.6% | 56.3% |

These variables explain 63.7% of youth participation as measured by number of pigs sold. The variables explain 61.5% of youth participation as measured by annual sales of pork by youth.

The adjusted R2 is 53.6%youth participation measured by annual sales of pork. It increases to 56.3% when youth participation is measured using number of pigs sold annually.

Measuring the number of pigs too allows for more accuracy of the independent variables in explaining youth participation in commercial pig production.

The improvement in the adjusted R2 means using pigs as the measure of participation actually improves the model more than would be expected by chance. Measurement using number of animals therefore improved the model under study.

## 4.3 Discussion and interpretation

Age is a significant factor in the engagement of youth in commercial pig production. The average young farmer is 29years of age, while the minimum age engaged is 20 and the majority of the farmers are over 30years of age. With increase in years is increase in youth participation in youth participation as represented by sales annually. The piggery enterprise is a capital intensive enterprise which makes it a barrier to entry for the younger youth, especially those who are just graduating from secondary school and college. To maintain one sow unit one requires an average of $1 825 per annum in capital which then hinders participation of the younger youths. The ages ranging from 30 to 35 years are however more active being more resilient to issues of financing. They would have over the years managed to save and acquire funds which can assist in the initiation and running of the project facilitating more engagement in commercial pig farming.

Age also contributes to engagement as it feeds into the level of commitment by the youth. The 18-19year olds are usually still completing their studies hence not many engage in farming at these ages. Ages between 20-25 are volatile owing to the need for employment and the attractiveness of having a stable monthly income versus waiting at least 3months for gross income. Most youths are migrating to the urban areas anticipating more lucrative opportunities; hence the participation is skewed

towards those who are 30years and above. This age group has had an opportunity for employment and has experienced the urban life. Having been either disappointed by the level of unemployment and or low remuneration have an appreciation of the returns obtained from commercial pig production. Kisingú, (2016) agrees that they are therefore more likely to choose agriculture as business for their employment and income creation.

Access to finance,

Most youths engaged used personal finances or peer to peer funding, 63% used financing from formal financial institutions. Access to financial resources has a positive impact on participation annual sales of pork by youth farmers which is in line with the findings of Kisingú, (2016).

With increased access to finance, infrastructure can be improved; proper pig management can be affordedas the farmers will be able to buy vaccines and feed. They will be able to properly follow through production cycles. This will ultimately enable them to get more returns for their inputs and ultimately increase participation in commercial pig production.

Access to markets

On average 68% of the farmers had access to organized markets. The balance 32% is forced to sell to hawkers and at farm gates. Increase in access to more formalized markets results in an increase in youth participation in pig production at commercial level. Youth pig farmers generally have small piggery units and due to limited access to extension have poor performance which limits their capacity to supply slaughter stock (LMAC, 2017).

Formal markets offer more stable services. These markets are more reliable, transactions are transparent and hence offer more incentive for a youth to engage in commercial pig production. However the informal markets such as hawkers are less reliable. Their prices are generally lower than those of offered by formal markets averaging $3.00 while those of contractors and registered butchers are averaging $3.50. They are also less reliable as the transactions are based mostly on individual negotiating skills, which most youths are yet to develop. Farm gate markets are also not reliable as usually the farmer is forced to reduce the price so at to push volumes considering the high rate of perishability of the pig once it is slaughtered. This discourages farmers from engaging in pig production lowering sales.

This result is similar to that found out by Kimaro, (2015). An increase in accessibility of formal and defined markets increases youth participation in commercial pig production.

Access to extension

Only an average of forty-eight percent of the youths has access to extension services. Extension access has the potential to increase the sales of the youth participators by 21.62pigs. The low access rates are a result of different factors which include, remoteness of some areas making it hard for AGRITEX officers to reach. This is in line with studies by Kimaro, (2015) who establishes that access to agricultural knowledge has a positive impact on youth participation in agriculture.

With access to extension comes information on proper management of the production process. The youth who received training were more efficient in their production processes, being more prepared. They were also more aware of disease management,

more efficient marketing strategies and had more control of their financial projections than those who never received any extension services.

Access to land

An average of 77 % of the youth had access to land for them to practice agriculture and piggery production. While pig production is not land intensive, participation of youth was higher for those who utilized land that was either in the family name or that they owned. The youth therefore depend on family land as the majority of them have not gathered resources enough to secure personal land. With renting came an increased cost which restricts participation of youth in piggery production as observed in the study.

Land tenure has been cited as a major player in the practices adopted by farmers.Zimababwe's land reform is viewed as more than a transfer of land as an asset, it is a more fundamental reconfiguration of social, cultural and economic relationship and opportunity across genertaions (Scoones, Mavedzenge and Murimbarimba, 2019). In the event of renting, farmers tend to participate less in establishing permanent structures and long term investments. Youth participation therefore only increased with increase in access to land, that is either family land or land they owned. . These findings conform to those of Gilbert, (2011) who highlights that the land from which youth operate is family land owned limiting their access to land. They are also similar to those of Kwenye&Sichone (2016).

Pre-dominant agriculture based livelihood activities youth participate in

Youth engaged in agriculture as observed engaged in other activities to compliment the piggery project they engaged in. From the data obtained the reasons for other

engagement included supplementing income, for example twenty six point seven percent of the farmers' also practised horticulture,five percent keeping chicken while fifity five percent grew maize and about thirteen point three percent were employed. The money earned from these activities then funded some activities in the piggery project. Others grew maize as a supplement for feed (LMAC, 2017), considering the high cost of feed most of the youth farmers make their own feed on farm.

The type of activities the youth engage in due to their limited access to credit are as highlited less capital intensive and have a high rate of return within shorter periods of time.This shows the other characteristic of youth, which has a high volatility nature, demanding relatively quicker returns as compared to older age groups.

## 4.4 Summary

This chapter is a compilation of the presentation of data collected in the field, the analysis of the data, interpretation and discussion of the data. The factors affecting Youth Participation in Commercial Pig production is defined in number of pigs sold annually in the first analysis and as the annua sales of pork($) in the second analysis. The factors affecting youth participation in commercial pig production are age, access to finance, access to extension, access to land an access to markets. With each unit increase in these factors is an increase in the youth participation.

# CHAPTER 5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction

This chapter presents the summary and conclusion of the study. It will summarize the major findings of the study with relation to the objectives of the study stated. It will also state recommendations with regards to the conclusion of the study, policy objectives based on the findings of the study and highlight areas of further research discovered.

## 5.2 Discussion

The study focused on highlighting the socio-economic factors affecting youth participation in pig production. Factors observed were Age, Gender, Marital Status, Level of education, House hold size , access to finance, Access to land, Access to extension, access to markets and the perception of the youth on farming as a business.

Observed was that age, access to finance, land, extension and markets were the most significant factors affecting the participation of youth in piggery production. With increase of these factors is an increase in sales of pork one makes annually.

Age is a significant variable affecting youth participation in commercial pig production. The study showed that with maturity came a sense of determination and responsibility which facilitated commitment to the enterprise. Farming comes with responsibilty and as one ages, marriage, children and a need to be productive enables engagement and commitment to the enterprise, (Scoones, *et al*. 2019).Resourceallocation and stages of farming need to be appropriate to the life stage

of young people. A life cycle approach to inclusion helps ensure services are adequate for key life transitions (IFAD, 2015).

Access to finance is also a significant factor in the participation of youth in commercial pig production. A unit increase in access to money means an increase in sales of pork by the youth. The study however shows that only 6.7% of those engaged have access to financial resources from financial institutions, about 42% being from peer to peer support. Njeru, (20l7) however states that youth's interest in farming is likely to be positively related to their ability to gain access to the resources needed to farm. There is therefore need to invest in the financing of the youth in farming.

Access to land was also realised to increase partivipation of youth in commercial pig production. While this has been a challenge for most youth, (Scooners*et al*., 2019), access to land has been observed to serve as a capital resource as well as a tool of empowerment allowing one to assume independence and responcibility, (IFAD, 2014). Access and control over land is seen as a major challenge which is restricting youth participation in farming and IFAD, 2014 cites this as the ajor reason for youth migration to urban areas. As noted in the study only about 7% of the youth own land , while the rest utilise family land and others rent, both instances compromising their power to make independent decisions.

Increased access to extension has been noted to increase participation of youth in commercial pig production. Haruna*et al*, (2019) note that information disseminationthroughextention has the capacity to guarantee sustainable food security and profitability. The study showed however low participation in agricultural

educational programs. Only 48% of those engaged in piggery production had access to extention. Extension is required to avail information for better practises and to deskill from traditional practises that limit profitability.

The study also observed that with increase to market access was an increase in participation. Increasing market access increases profitability of the enterprise offering an incentive for youth engagement. Formal markets were seen to result in higher returns, and were more transparent than the informal markets.

The youth engaged in farming were noted to also have other activities they engaged in. The predominant activities were maize production, horticulture, poultry and others were employed.

## 5.3 Conclusions

The purpose of this study was to analyse Factors affecting youth participation in commercial pig production. Factors that had significant influence on youth participation include age, access to markets, access to extension, access to finance and access to land. These factors have a positive relationship with the dependent variable, Youth participation as measured by annual pig sales by the youth farmers.

With increase in age an increase of pigs sold by 2.43pigs was noted annually, the farmer with access to finance sold 82.39pigsmore than the one who does not access financial support. Access to extension resulted in the capacity of the farmers to increase participation by 21.62pigs more as compared to one without access to extension. Availability of land for the youth farmer enabled them to sell 26.04pigsmore than the one who rents while access to formalized markets enabled an increase in

participation of 24.32pigs more than those producing with no definite market to sell their products.

Other factors such which include gender, marital status, House Hold size, level of education and the perception of the youth farmer where also studied. These however were not significant after analysis.

## 5.4 Implications

The findings in this study have contributed to the understanding of factors that affect youth participation in commercial pig production. This study has yielded findings that indicate the factors and the extent to which the factors affect participation, providing both theoretical and practical implications for youth participating in pig production at a commercial level.

*i. Educators andextension workers ,*

With age is an increase in the likelihood for participation. This implies that the educators realize information gaps in the pig producer community. It highlights how the younger a farmer is the less likely they are to participate. This shows the relevance of packaging information by age. The 18 to 25year olds farmers are less likely to commit to commercial pig production in the event of new opportunities(Scoones, *et al.* 2019). information encouraging commitment and helping them realise the importance of farming is more relavant for this age group. The 26-35year old youth however are more stable and require information more biased towards scaling up their production and how to take advantage of economies of scale.

*ii. Farmers Unions*

The study shows that participation for the youth is affected by accessibility of resources, which includes land, finances, markets and extension. The more the youth accesses these resources the more they participate in pig production. This implies that farmer union organizations are now aware of area of lobbying and advocacy. More effort will be channeled towards resource mobilization and with sensitivity to the ages of the beneficiaries.

*iii. Financial institutions*

The study shows that with access to finance participation in pig production increases. The financial institutions therefore play a pivotal role in the participation of youth farmers in commercial pig production. Commercial pig production is capital intensive and most youth excel more with access to finance. Financial institutions are therefore important in the increased participation of youth. The financial institution therefore can contribute to the participation of youth through reducing and removing any constrains to financial resources by the youth.

*iv. Feed producers*

The study shows that increasing access to productive resources such as finance, land and extension can improve participation in commercial pig production. Instead of assuming youth to be a risky investment, the study shows that availing resources can ensure effective participation of youth in pig production. Availing of inputs such as feed, in the form of loans and grants can increase participation of youth in pig production.

*v. Government*

Youth participation according to the findings of the study is affected by availability of land for farming. The study shows that youth require capital resources such as land to be productive. This means that if policy makers and the governments wish to engage youth, policies that enable access to land , finance and other resources will have to be established.

## 5.5 Recommendations

*Age*

Policy reforms made targeting youth participating in commercial pig production should consider the age component and how it affects youth participation.The study shows that with age the likelihood of participation in commercial pig production increases. A unit increase in age would result in an increase in the pigs sold to the market by 2.43 pigs. This means support awarded by stakeholders towards the production should consider the age component in pig production. Youth aged above 25years of age are more likely to commit and ensure sustainability of the project. Engaging younger than 25youths will require more in incentives to ensure commitment.

*Access to Extension*

The study shows that the more one can access extension the more one increases sales of pork. To increase access to extension services by youth the government should moderate fees charged for extension services by other stakeholder as other private players are charging exorbitant fees for extension. The government institutions such as AGRITEX should develop and strengthen existing means to access even the most remote farmers, as this will enable their participation. New training centres with

demonstrative piggery projects pens are also important as most youth farmers learn more from observation.

*Access to finance*

The study shows that access to finance affects youth participation in pig production, a unit increase in finance has the potential to increase pig sales by 82.39 pigs. This means more effort should be commited to availing financial resources to the youth farmers. Financial institutions have remained a mystery to most youth farmers. They are aware of the need for financial support, however are not equipped to follow through the borrowing processes from formal institutions such as banks. The banking system should be demystified allowing for ease of transaction for youth in remote areas of Zimbabwe.

Most youth are now proficient in the use of mobile telephones; it would ease the process of accessing financial resources if institutions educated them on the borrowing and lending systems of institutions using these devices. It would also enable access to finance by youth if the banks could also transact borrowing and lending services on mobile devices taking advantage of how the majority of youthshave access to mobile devices.

*Access to land*

Access to markets has proven to be a significant factor in youth participation in commercial pig production, increasing participation by 26.04pigs for its every unit increase. To increase participation therefore I recommend that a quota policy should be established by the Ministry of lands. This will be land reserved only for the youths, considering most do not have the collateral required to access assets such as land. The

government can ensure as land redistribution is taking place, youth with viable project proposals are allocated land from which they can practice pig production.

*Access to markets*

Increasing access to markets increases youth participation.and according to this study by 24.32 pigs for every unit increase in market access. The government can improve market access through the dissemination of market requirements to the youth farmers. Quality assurance measures should be communicated prior to one's engagement so as to enable access to high quality markets.

Rural councils should also assist young farmers by developing infrastructure, such as cold storage facilities, abattoirs and pork market spaces at centres close to farmers. This will ensure the farmer accesses a better market for their product, which will increase annual sales.

The youth participating in commercial pig production face challenges qualifying for contractual engagement because of failure to meet the required scale of production. This can be alleviated by the organization of youth farmers into groups, working and producing together to meet the demand of the contractor and also enabling them to develop bargaining power for more favorable contractual agreements.

*PIB and Farmers unions*

First, PIB and farmers unions should review the prices of their service sows and boars acknowledging the financial constraints of the youth. For example, they can have discounted pricing for youths who are starting the project.Secondly, PIB and farmers unions shouldhave follow up progams for youth engaged in commercial pig production, so as to reduce quiting due to structural challenges and also to equip them

with new information based on technological developments in piggery. Thirdly, they should have discounted access to loans and grantsand trainings for the youth, so as to encourage engagement in light of their limited capacity to access funding.It is also important to equip the youth with financial skills so as to help facilitate profitable enterprices which ultimately will be sustainable.

*Government*

Firstly, the government can adopt policies that reduce risks through encouragement of more productive and more efficient farming systems. Secondly , the government can promote a better market environment through market regulation so as to avoid price distortions and enable protection for infant farmers. Thirdly the consolidation of land rights, and land tenure, making land accessible to youth as well will go a long way in equipping youth with the power and capacity to engage in commercial pig production.

*Contractors*

Contract farmers in the piggery sector in Zimbabwe have been observed to engage large scale farmers, whose capacity can meet their demand. This has possed as a barrier to entry for youth who are mostly practising small scale farming. To help facilitate engagement contractors should reduce on the quantities demanded from youth farmers.Furthermore they should educate youth farmers on market reuqirements, which include quality assurance of the carcass, storage and transport requirements to enable more participation from the youth.

*Large scale commercial producers*

Firstly, large scale farmers should acquire knowledge on market requirements so as to maximise on returns from the enterprise.Secondly, they should also invest in good management practices, i.e. breeding, feeding and dsease control so as to avoid loses and to enable maximum profit making. Thirdly obtaining of good breeding stock from recognised players also enables reduction of loses due to poor performance of the pigs and ultimately reduce on profitability. Lastly they should also have exchange programs with the upcoming young farmers so as to increase ease of engagement by the young farmers and also to pose as a learning platform for those in farming.

*Small and medium scale producers*

The small and medium scale producers should invest in gettingorganised. This will enable them to develop a bargaining power in light of access to resources as well as have their voices heard as policy imfluencers. This will secure better markets, bargain for more favourable policies and access to resources such as extension and financial support from other stakeholders. Access to these resources woud increase participation of youth.To increase participation they should furthermore secure information on market requirements, i.e. preferred quality of breeds, carcass storage and packaging as well as weights for higher outcomes and also more so as to meet the market demands. Lastly this group of farmers should also invest in good management practices so as to enable higher returns for their investment as well as reduce loses due to petty oversights.

*Feed Producers*

Feed producers should educate the young farmers on the feed conversion ratios which enables one to get the maximum efficiencies when producing pork required by specific

markets. Most of the youth producers cited rejection of their pork due to compromises in quality caused by inadequate feed to concentrate ratios. Availing extension in light of feed quality and quantities required will increase therefore increase market access of the youth farmers. Increasing extension and market access will increase youth participation in pork production. Furthermore they should also educate the youth farmer about the storage of the feed to avoid loss due to phytosanitary compromises such as aflatoxins. This will significantly reduce the cost of production, resulting in higher returns from investment. With increased market access comes increased participation of the youth in commercial pig production.

*Processors*

Processors should firstly educate youth pork producers on the quality of pork they require. An increase in extension as observed will increase efficiencies of the pig farmers, reducing on cost of production and increasing profitability.This will enable the youth farmer to engage with an understanding and appreciation of the end use of the product, hence the management processes for better results and higher returns. This will increase profitability and ultimately participation of youth.

Secondly processors of pork products can also can help promote youth engagement in commercial pork production by branding the products from youth farmer pork, so as to encourage consumers to also appreciate the youth farmer. This can increase demand for pork from youth farmers on the market, resulting in increased profitability. Profitability from increased market demand and access will ultimately means increased participation of youth in commercial pig production.

*Youth*

The youth should get organized into farmer groups and orgaizations. This will promote increased bargaining power to offset the limitation of small size and production capacity, and capturing economies of scale. This inturn will enable easier access to resources and even more targeted responces from other stakeholders.

*Retailors and Butcheries*

These are a powerful communication tool between the consumer and the farmer. The retailors can brand meat and meat products from the youth farms. This sensitises consumers of the need to support the youth farmers, and gives feedback on the quality the farmer is producing.

*Financing institutions such as banks and micro-finance institutions*

Financing institutions must first observe and monitor the minimum age of youth clients to include youth aged from 18years as these are also economic. Secondly a quota of bank loans should be available to bankable youth business start-ups. This can be improved through the lowering of  interest rates are supposed to be lowered for youth loans, so as to encourage access to financial services. Thirdly there is need for mandatory financial education training for youth engaging in commercial pig production. This will demystify the financial services products and enable youth to consider loaning as a means of capital mobilisation.

## 5.6 Suggestions for Further Research

In order to determine whether there exists variances and or similarities in other agroecological regions pertaining to youth engagement in commercial pig production,

other researchers should replicate the study inorder to come up with more comprehensive policies to support youth participation in commercial pig production. Research should also be channelled towards assessing youth engagement along the piggery value chain. Appreciation of the value chain will incentivise more farmers to engage taking advantage of opportunities for value addition. An appreciation of the value chain and what affects youth engagement will also enable all the stakeholders along the value chain to better manage and convert the threat associated with engagement of youth in agriculture into an entrepreneurial potential.

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# APPENDICES

## Appendix1:Research Participant Information and Consent Form

You are being asked to participate in a research study. Researchers are required to provide a consent form to inform you about the research study, to convey that participation is voluntary, to explain risks and benefits of participation, and to empower you to make an informed decision. You should feel free to ask the researchers any questions you may have.

Study Title: Factors affecting youth participation in commercial pig production: Goromonzi East, Mashonaland East

Department and Institution: College of Health, Agriculture and Natural Sciences. Africa University

### 1. PURPOSE OF RESEARCH

- You are being asked to participate in a research study of factors affecting youth participation in commercial pig production for the Goromonzi East Area in Mashonaland East.
- You have been selected as a possible participant in this study because you fit the target population which is youth engaged in agriculture.
- From this study, the researchers hope to learn the factors affecting youth participation in commercial pig production. Studies done show that pig production is a viable project in Zimbabwe (source), however there is low

engagement of youth. The study is therefore an effort to understand and establish socio-economic factors that affect youth participation, realize the alternative agricultural practices the youth are engaging in and how these affect engagement in pig production. The study also seeks to understand factors affecting those youth that are already engaging in commercial pig production.

- Your participation in this study will take about 30min
- If you are under 18, you cannot be in this study without parental permission.
- In the entire study, 100 people are being asked to participate.

**2. WHAT YOU WILL DO**

- The participants are required to respond to the questions in the questionnaire honestly. The questionnaire has questions that assist in the research to be carried out on factors affecting youth participation in commercial pig production. The research is being conducted for educational purposes in fulfilment of the requirements for the Degree of Master Of Science in Agriculture.
- Should the participant require the results of the study they are free to contact the researcher once the research has been completed.

**3. POTENTIAL BENEFITS**

- You will not directly benefit from your participation in this study. However, your participation in this study may contribute to the understanding of factors that affect youth participating in Commercial Pig production. You will have an understanding of what enables and or hinders engagement in commercial pig

farming. This can assist in the formulation of programs and policies to better aid engagement of youth in the sector

- Financial compensation, or other forms of compensation are not considered a benefit of being in the project.

**4. POTENTIAL RISKS**

- Covid-19 is a risk associated with conducting the study, to minimize the risk
  - All participants will be mandated to wear protective surgical masks
  - Every participant will have their hands sanitized before and after the responding to the questionnaire.
  - A social distance of one meter will be observed between the researcher and the participants throughout the survey process.
- Data obtained will be held private and confidential. Please refer to the privacy and confidentiality section of the consent form.

**5. PRIVACY AND CONFIDENTIALITY**

- The data for this project are being collected anonymously. Neither the researchers nor anyone else will be able to link data to you.
- The questionnaire will be responded to in private, as well as any conversations that may arise.
- The data are being coded and a key maintained separately, to ensure anonymity.
- Information about you will be kept confidential to the maximum extent allowable by law.
- Only the following entities will have access to the data:

- Researchers and Research Staff.
- AUREC

- The institutions identified cannot access identifiable data. The data will be de-identified so as to retain confidentiality of the participants.
- The results of this study may be published or presented at professional meetings, but the identities of all research participants will remain anonymous.

## 6. YOUR RIGHTS TO PARTICIPATE, SAY NO, OR WITHDRAW

- Participation is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.
- You have the right to say no.
- You may change your mind at any time and withdraw.
- You may choose not to answer specific questions or to stop participating at any time.

## 7. COSTS AND COMPENSATION FOR BEING IN THE STUDY

- Procedures being performed for research purposes only will be provided free of charge by participants.
- You will not receive money or any other form of compensation for participating in this study.

## 11. CONTACT INFORMATION

If you have concerns or questions about this study, such as scientific issues, how to do any part of it, or to report an injury, please contact the researcher

If you have questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact, anonymously if you wish, the AUREC at Africa University.

## 12. DOCUMENTATION OF INFORMED CONSENT.

Your signature below means that you voluntarily agree to participate in this research study.

_____ _____

Signature Date

You will be given a copy of this form to keep.

**Appendix 2: Questionnaire Survey Tool**

**Questionnaire**

Good morning/afternoon. My name is …….. and I am conducting an academic survey on Youth participation in commercial pig production in Goromonzi. The purpose of the survey is to obtain information on the Youth participation in Commercial pig production in Goromonzi.

This survey is voluntary and your answers to this interview are confidential.

Consent given |___|

| IDENTIFICATION INFORMATION Please Tick where appropriate. | | |
|---|---|---|
| Q1. Date of Survey (DD/MM/YY) \|___\|___\|___\|___\|___\|___\| | Q2. Name of Enumerator \|_____\| | |
| Q3. District \|_____\| | Q4. Ward \|_____\| | Q5. Village \|_____\| |

| IDENTIFICATION INFORMATION | | | |
|---|---|---|---|
| Q6. | Respondent number | \|_____\| | |
| Q7. | Gender of respondent | Male | \|____\| |
| | | Female | \|____\| |
| Q8. | Marital Status | Single | \|____\| |
| | | Married | \|____\| |
| | | Divorced | \|____\| |
| | | Widowed | \|____\| |

| | | | | | | |
|---|---|---|---|---|---|---|
| Q9. | Age | \|_____\| | | | | |
| Q10. | Relation to household head | \|_____\| | | | | |
| Q11. | Number of Dependants | \|_____\| | | | | |
| Q12. | Number of Household Members | \|_____\| | | | | |
| | 0-14 years | | 15-50 years | | Above 50 | |
| | Male | Female | Male | Female | Male | Female |
| | \|____\| | \|____\| | \|____\| | \|____\| | \|____\| | \|____\| |
| Q13. | Education Level | No Formal Education | \|____\| | | | |
| | | Primary Education | \|____\| | | | |
| | | Secondary School | \|____\| | | | |
| | | College/University Grad | \|____\| | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MARKET ACCESS | | | | | | |
| Q14. | How may pigs do you have? | \|_____\| | | | | |
| | Pigs numbers | Sows | Gilts | Boars | | |
| | | \|_____\| | \|_____\| | \|_____\| | | |
| Q15. | How many do you sell annually? | \|_____\| | | | | |
| Q16. | Infrastructure Availability tick | Transport | Roads | Abattoir services | | |
| | | \|_____\| | \|_____\| | \|_____\| | | |
| Q17. | How do you market? tick | Social Media | Word of Mouth | Sell as Groups | Other | |
| | | \|_____\| | \|_____\| | \|_____\| | \|_____\| | |

| | List of Markets you sell to | Q18. Indicate the proportion of your produce sold in each market as a percentage (%) | Q19. What is the average price per kg in $? | Q20. What is the distance to each market ?(km) | Q21. Rate the following characteristics of each market (Low-High: 1-5) | | |
|---|---|---|---|---|---|---|---|
| | | | | | Reliability of market | Transparency in the market | Accessibility of the market |
| M1 | Outgrowers/ Contractors | | | | | | |
| M2 | Retailers | | | | | | |
| M3 | Informal/ Vendors | | | | | | |
| M4 | Farm Gate | | | | | | |

| ACCESS TO LAND | | | | |
|---|---|---|---|---|
| Q22. | Size of Land in hectors | \|_____\| | | |
| Q23. | Size of Allocated to Commercial Pig Production in hectares | \|_____\| | | |
| Q24. | Land tenure | Rent | Family Land | Own Land |
| | | \|____\| | \|____\| | \|____\| |

| ACCESS TO FINANCE | | |
|---|---|---|
| Q25. | Amount invested in Pig Production in $ (Capital) | \|_____\| |
| Q26. | Have you required extra financing before? tick | YES \|____\| NO \|____\| |

| | | | | | | |
|---|---|---|---|---|---|---|
| Q27. | Have you ever applied for financing before? tick | YES \|____\| NO \|____\| | | | | |
| | If Yes, Approximately how much was approved in $ | \|_____\| | | | | |
| Q28. | Sources of Credit. tick | Own Finances | Peer to Peer | Money Lenders | Bank | Micro Finance Institution |
| | | \|___\| | \|____\| | \|____\| | \|___\| | \|____\| |

| ACCESS TO EXTENSION SERVICES | | | | | | |
|---|---|---|---|---|---|---|
| Q29. | Do you have training in Pig production? tick | YES \|____\| NO \|____\| | | | | |
| Q30. | Type of Training Acquired | Inherited | Job Experience | Formal Training | Other | |
| | | \|____\| | \|____\| | \|____\| | \|___\| | |
| Q31. | Sources of Extension Services | Non-governmental Organisation | Private Sector | Agritex (government) | None | |
| | | \|____\| | \|____\| | \|____\| | \|___\| | |
| Q32. | How many trainings per year? | 0 | 1 | 2 | 3 | >3 |
| | | \|____\| | \|___\| | \|____\| | \|___\| | \|___\| |

| PERCEPTION | | | | | | |
|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Q33. | Commercial Pig Production can fulfil youths socio-economic needs | \|____\| | \|____\| | \|____\| | \|____\| | \|____\| |
| Q34. | Commercial Pig Production is potentially a major employer of youth | \|____\| | \|____\| | \|____\| | \|____\| | \|____\| |
| Q35. | Inclusion of agriculture in all levels of education can motivate youth in commercial production | \|____\| | \|____\| | \|____\| | \|____\| | \|____\| |
| Q36. | Commercial Pig production can provide enough incentives to youth | \|____\| | \|____\| | \|____\| | \|____\| | \|____\| |
| Q37. | Commercial pig production is a competitive enterprise compared to other income generation activities | \|____\| | \|____\| | \|____\| | \|____\| | \|____\| |
| Q38. | As a young person I see agriculture as a low status profession | \|____\| | \|____\| | \|____\| | \|____\| | \|____\| |

**Appendix 3: AUREC Approval Letter**

AFRICA UNIVERSITY
(A United Methodist-Related Institution)
INVESTING IN AFRICA'S FUTURE

**AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE (AUREC)**

P.O. Box 1320 Mutare, Zimbabwe, Off Nyanga Road, Old Mutare-Tel (+263-20) 60075/60026/61611 Fax: (+263 20) 61785 website: www.africau.edu

Ref: AU1893/21 8 February, 2021

SHARON-ROSE MANDEMWA
C/O CBPLG
Africa University
Box 1320
**Mutare**

RE: **FACTORS AFFECTING YOUTH PARTICIPATION IN COMMERCIAL PIGPRODUCTION: GOROMONZI DISTRICT, MASHONALAND EAST.**

Thank you for the above titled proposal that you submitted to the Africa University Research Ethics Committee for review. Please be advised that AUREC has reviewed and approved your application to conduct the above research.

The approval is based on the following.

a) Research proposal
b) Data collection instruments
c) Informed consent guide

- **APPROVAL NUMBER** AUREC1893/21
  This number should be used on all correspondences, consent forms, and appropriate documents.
- **AUREC MEETING DATE** NA
- **APPROVAL DATE** February 8, 2021
- **EXPIRATION DATE** February 8, 2022
- **TYPE OF MEETING** Expedited
  After the expiration date this research may only continue upon renewal. For purposes of renewal, a progress report on a standard AUREC form should be submitted a month before expiration date.
- **SERIOUS ADVERSE EVENTS** All serious problems having to do with subject safety must be reported to AUREC within 3 working days on standard AUREC form.
- **MODIFICATIONS** Prior AUREC approval is required before implementing any changes in the proposal (including changes in the consent documents)
- **TERMINATION OF STUDY** Upon termination of the study a report has to be submitted to AUREC.

AFRICA UNIVERSITY
RESEARCH ETHICS COMMITTEE (AUREC)
APPROVED
P.O. BOX 1320, MUTARE, ZIMBABWE

**Yours Faithfully**

**MARY CHINZOU – A/AUREC ADMINISTRATORFOR CHAIRPERSON, AFRICA**
**UNIVERSITY RESEARCH ETHICS COMMITTEE**