The Role Of Education System In Preparing Youth For Agricultural Career Decisions And Aspirations: Exploring Ways To Attract More Youth To Engage In Agriculture And Agricultural Entrepreneurship in Tanzania.

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ABSTRACT (Academic)

Youth intention to pursue a career in agriculture and entrepreneurship is influenced by the knowledge they acquire through formal, informal, and nonformal settings. Changing youth perception of agriculture is essential for agriculture and youth development. The purpose of the study was to examine current youth perceptions of agriculture, solicit Tanzanian leaders' views of agriculture, and youth entrepreneurship. Understand youth intention and aspirations to choose a career in agriculture and agricultural-related fields, and the influence of the education system in shaping youth career decisions and entrepreneurship in agriculture. This study utilized a multi-method approach to examine youth and leaders perception of agriculture and the role of education systems on youth decisions on a career. The Theory of Planned Behavior (TPB) and the Social Cognitive Career Choice (SCCC) were used as the theories involve the human intention and motivation to create knowledge, which may result in changing behavior. Self-efficacy, environment, culture, and critical reflection are essential when constructing knowledge, contribute to youth decision making process and meaning-making. The Theory of Planned Behavior Constructs was used to develop a survey to understand youth intentions to choose a career in agriculture and career the influence of education pathways in youth development. Through the lens of the Theory of Planned Behavior and Social Cognitive Career Choice, unstructured interviews were used to understand (i) the influence of previous background, and the need to teach agriculture to youth at a younger age for agriculture development and (ii) the community perception (leaders, teachers, youth, etc.), on youth career in agriculture and

agricultural-related fields, teaching agriculture in schools, perception of agriculture and agricultural entrepreneurship. From the stepwise linear regression analysis, the model predicts 48% of the variance in student intention to choose an agricultural career. The results show that the three predictors' attitudes, perceived behavior control, and subjective norms have an influence on youth pursuing a career in agriculture. From the interviews, participants tabled their concerns about the existence of community negative perception of agriculture, very few have the idea of the agricultural curriculum in schools. Many believed that the education system does not prepare youth in decision making or facing the world challenges when they graduate.

For the country's development, Tanzania needs more youth to engage in all kinds of agricultural practices for food security and poverty reduction, such as a career in agriculture and entrepreneurship. Youth can easily adopt new and improved agricultural knowledge due to their aggressiveness, eagerness, creativity, and ability to learn innovations. Motivation, creativity, critical thinking, and taking risks is essential in changing youth perception of agriculture. People they trust will influence their perception, intention, and attitude towards agriculture. Through youth programs, formal education, educators' knowledge, experience, effectiveness, preparation, encouragement, and interaction training youth on new or improved agriculture innovations can influence youth high level of achievement and success in agricultural practices.

ABSTRACT (Public)

Very few primary and secondary schools teach agriculture subjects; therefore, many youths lack agricultural knowledge at a younger age. The formal education system in Tanzania allows students to choose Technical and Vocational Education Training (TVET) after the completion of their primary and secondary education. However, in most cases, students who are selected to attend TVET, especially agricultural training institutions, are those primary and ordinary level-secondary school students who did not get good grades to go for further studies. Such as advanced level- secondary school or university. Hence it makes agriculture viewed as the last option for students and works well for those who failed. Non Formal education has the potential to contribute to youth intention to career decisions and aspirations in agriculture. Youth programs and apprenticeship can provide skills needed for youth development and entrepreneurship in agriculture.

It is essential for agriculture to be treated as a respectable profession and not for failures, retirees, or as a last result. It is my desire, in collaboration with others, to keep working with communities such as schools, youth programs, extension agents, and others in Tanzania to change people's perceptions about agriculture. The sustainability of social change requires leaders to involve diverse stakeholders that can contribute to the success of a common goal. Kuenkel (2016) Posit that "stakeholder collaboration is a form of co-creation" (p. 2). Engage youth in development programs to learn more about agriculture, youth engage in decision-making and participate in trade unions. Also, to attract more youth to become entrepreneurs and invest in agriculture. I desire to see more youth engage in agriculture and pursue a career in agriculture and agricultural-related fields. To see more youth are employed in the agricultural sector and well paid like other professionals. To see a change in policies and programs that will

attract youth, especially girls, to study STEM at a younger age. To see leaders pioneer in building a positive perception of agriculture to the community, but also the education policy to change and give prestige agriculture profession by putting requirements like Medicine, Pharmacy, Engineering professions.

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Dedication

I dedicate this dissertation to my husband, Ommary Ally, and my two beautiful children Kaysan and Kartmaya. If it were not for your support, I would not be able to finish my doctoral degree. To my husband, you rose above the normal culture, which does not necessarily give a chance for a married woman to pursue her dreams. You always said, "I married you with your dreams, go pursue them, and I will fully support you." Indeed, you supported me. You raised our two beautiful children while I was studying. Thank you very much. The lessons you have given our children through your support of my studies is absolutely worth their future. Kaysan and Kartmaya, thank you for always asking, "Mummy, why do you go to school while you are older than us?" This was a consistent wakeup call in my mind as it reminded me of the bigger picture of what I was pursuing. I honestly remember nothing other than the precious time we spent together every time you visited me, and thanks for the comfort and encouragement through your bravery.

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LIST OF ABBREVIATIONS

AFIDEP	African Institute for Development Policy
PYD	Positive Youth Development
TVET	Technical and vocational education and training
URT	United Republic of Tanzania
UN	United Nations

CHAPTER 1

Introduction

> "Most of the youth who complete primary schools, secondary schools and institutions of higher learning do not easily secure employment in the civil service, parastatal organizations and other economic sectors. Most of these, however, find it difficult to work in the informal sector because of various factors such as insecurity, lack of capital, lack of work premises, work implements and other working facilities. The private sector prefers to employ skilled and experienced labor force. Hence a large group of youth continue to remain unemployed, a situation which facilitates increasing rate of crime and other social evils. " (URT, 2017, p.14)

Agriculture accounts for nearly 70% of Tanzania's economy (URT, 2008). The sector contributes highly in the economy as it is still a significant employer, and the majority are women, Restless Development (2011, p.5) stipulated that "Agriculture remains the principle employer in Tanzania accounting for 62.3% and 68.5% of men and women respectively'. In Tanzania, "agriculture is a significant driver of growth, poverty reduction and food security, not to mention an important source of raw materials for industries" (Shayo, Rudd & Mattee, 2018, p.1)

Understanding youth perceptions of agriculture is paramount in understanding youth career choice as "youth perceptions of agriculture have transformed over the years as the emphasis on agriculture has increased" (Shayo & Rudd, 2018, p.1). Society's negative perception of agriculture, the lifestyles of farmers, and the low salaries and status of Extension Agents are among the factors that discourage youth from pursuing agriculture as a career. Yet, for the agriculture sector to grow, it is crucial to stimulate youth's interest in engaging in agriculture.

Investing in youth in agriculture has a more prominent and more prolonged impact than ever because technology has improved, and youth can employ themselves and others through agriculture. “In recent years, the emphasis on agriculture has increased as the population in the world increases” (Shayo & Rudd, 2018). Tanzania is among the countries where the population is increasing as African Institute for Development Policy (AFIDEP), 2018, p.1) mentioned that “Tanzania's population is projected to increase from 53.9 million in 2015 to 186.9 million by 2065. Young people aged 15-34 are projected to increase from 17.8 million to 62.3 million by 2065”. Youth engagement in agriculture can help in feeding the world by 2050 as projected by the Sustainable Development Goals (Shayo & Rudd, 2018).

The youth population in Tanzania is more than half of the entire country’s population. Restless Development (2011, p.3) mentioned that “Tanzania has the tenth largest youth population globally. With 66% under the age of 25 already, and the figure set to rise significantly, understanding young people and their situation is critical in Tanzania”. Formal, informal, and non-formal learning are necessary to develop the knowledge and skills needed by youth for agricultural development. Mukembo, Edwards, Ramsey, & Henneberry (2015, p. 17) asserted that “one of the ways youth can be attracted to agriculture is through formal and informal networking with peers, including forums that promote agricultural knowledge, skills, and projects such as agricultural organizations in schools.” Additionally, Ajzen (1991) theorized that behavior control, subjective norms, attitude, behavioral, normative, and control beliefs, when combined, may influence youth intention to engage in agricultural-related disciplines. For agricultural and youth development, and youth careers in agricultural-related disciplines, it is crucial for youth to interact with society and understand the need for agricultural knowledge and its importance to society and the Tanzanian economy as a whole.

Problem Statement

"Tanzania faces serious development challenges, with about 28% of the population living in poverty, and 10.3% being unemployed" (African Institute for Development Policy (AFIDEP), 2018, p.3). Throughout the years, there were some efforts towards poverty reduction; nevertheless, the poverty rate is still high in the country. World Bank Group (2019, p.3) mentioned that "despite efforts between 2007 and 2016 that have reduced the country's poverty rate from 34.4 to 26.8 percent, the absolute number of poor people has held at about 13 million due to high population growth." Agriculture is one of the sectors which, if practiced effectively, can help the country to reduce poverty.

The number of youth engaging in agricultural-related disciplines as a career is decreasing and poses a challenge. According to Mukembo, Edwards, Ramsey, & Henneberry, (2014,p.155), "attracting youth to, and retaining them in, agriculture remains a global challenge." In Tanzania, youth unemployment is one of the biggest challenges the county has faced for a long time (the United Republic of Tanzania, 2008). Over the last several years, many students have graduated from academic institutions. Still, there are not enough jobs for them, and as a result, the competition in the job market is steadily increasing. It has been noted that "Although available government statistics present the unemployment rate in Tanzania at 12.7%, studies have shown that unemployment among the youth is higher than 50%, particularly in urban areas" (Restless Development, 2016,p.9). However, despite the employment deficit, very few young people engage in agricultural development or pursue agriculture as a career. Rutta (2012, p.31) mentioned that "Young people both in urban and rural areas revealed that agriculture is the last career or job choice."

The agricultural sector employs about 65.5 % of the total labor force, as Deloitte (2016, p.11) mentioned that "currently the sector alone provides employment to 65.5% of Tanzanians and in favorable seasons, covers more than 100% of the domestic food needs". According to the Tanzania National Employment Policy (URT, 2008), nearly 1.4 million (13.4%) youth were unemployed in 2008, and unemployment was higher among female youth at 15.4% compared to 14.3% for males. The recent data show that the employment rate has increased following the report from African Institute for Development Policy (AFIDEP) (2018, p.3) which says "The burden of unemployment is skewed towards the youth (15-24 years) and women, with unemployment rates of 13.7% and 12.3%, respectively, in 2014, against an unemployment rate among men of 8.2%". On the other hand, the African Institute for Development Policy (AFIDEP) (2018, p.3) report mentioned that "Even among those employed, about 11.8% are underemployed, again with young people aged 15-24 bearing the heaviest burden (15.2% among males; 12.8% among women)".Therefore, there has been a slight increase in youth unemployment for the past ten years. There is a need to create decent jobs and improve the work environment to employ more youth. Agriculture is one of the promising sectors which, if well planned and utilized, can create many jobs for youth, increase food security and reduce poverty.

More elderly adults are engaged in agriculture compared to youth (Shayo & Rudd, 2018). The potential reason for more elderly adults to engage in agriculture is the fact that youth lack of knowledge about agriculture as a profession. In many societies, people's perception of agriculture is situated in the realm of "farming"; hence it is connected to industrialization and production of raw material. This perception has a significant impact on society, especially youth who went to school and practiced farming as a punishment in public schools. The politics that exist in agriculture, the living standard of agricultural practitioners, low salaries, and social

practices that still exist and negatively impact women who are engaged in agriculture, have a negative impact on youth and community perception of agriculture in Tanzania.

Purpose

The purpose of the study was to examine current youth perceptions of agriculture, solicit Tanzanian leaders' views of agriculture, and youth entrepreneurship. Understand youth intention and aspirations to choose a career in agriculture and agricultural-related fields, and the influence of the education system in shaping youth to make such decisions. This study used a multi-method approach to understand youth career choices and the influence of education pathways in youth development. Understand the community perception (leaders, teachers, youth, etcetera.), on youth career in agriculture and agricultural-related fields, teaching agriculture in schools, perception of agriculture. Qualitative data which was obtained through face-to-face interviews were used to explore youth aspirations, community attitudes, perceptions of agriculture as a career, and the effects of the education system in youth career choices. Quantitative data were used to describe the agricultural education pathways and their contribution to youth engagement in agriculture as a career choice. The survey questions were used to identify youth intentions to pursue a career in agriculture and the role of the education system in facilitating youth to make choices about careers.

Research Questions

1. What is the role of the education system on youth intentions to pursue a career in agriculture and agricultural-related fields?

2. What is the influence of previous experience, need for teaching agriculture at an early age for youth aspirations and intentions in agricultural career choice and decision making?

3. What are Tanzanian leaders, teachers and youth experiences and perspectives on agriculture and agricultural-related careers for youth development and poverty reduction and indeed for agricultural entrepreneurship?

Objectives

1. To describe the role of the education system on youth intentions to pursue a career in agriculture and agricultural-related fields
2. To describe the influence of previous experience, the need for teaching agriculture at an early age for youth aspirations and intentions in agricultural career choice and decision making.
3. To explore leaders, extension agents, and community's experiences and perspectives on agriculture and agricultural-related careers for youth development and poverty reduction and indeed for agricultural entrepreneurship.

Manuscript #1: Youth Intention To Pursue a Career In Agriculture: The Role Of Education System In Shaping Youth Decisions To Aspire To And Pursue Career In Agriculture.

The purpose of this study was to understand youth intention to pursue a career in agriculture and agricultural-related fields. The role and contribution of the education system in shaping youth intentions towards career choices, decisions, and youth perception of the pursuit of careers in agriculture. The Theory of Planned Behavior (TPB) was used to guide and understand attitudes, intentions, and perceived behaviors of youth in making decisions about careers.

Manuscript #2: Youth Aspirations and Intentions to Choose A Career: Is Agriculture a Viable Career Choice?

The purpose of this study was to understand the influence of previous background, and the need to teach agriculture to youth at a younger age for agriculture development. Understand the role of agriculture programs on positive youth development and youth career decisions in agriculture. This study was guided by the Social Cognitive Career Choice Theory to understand youth self-efficacy, personal input, learning experiences, interests, outcome, and performed domain attainment to understand the role of the youth programs in youth career choice in agriculture.

Manuscript #3: Narratives of Leaders, Extension Agents, and the Private Sector; Their Stories about Engaging in Agriculture and Youth Development in Agriculture.

The purpose of this study was to understand extension agents, policymakers, and community perceptions of youth careers in agriculture, knowledge about agricultural curriculum and youth programs, youth involvement in decision making, youth entrepreneurship, and youth intentions towards the agricultural career. The study used the Theory of Planned Behavior (TPB) as a guide to understanding leaders, extension agents, and community participants' perceptions of youth careers in agriculture and agricultural entrepreneurship.

Research Design

The study employed probability and purposive sampling techniques to select the participants. The researcher collected data from various groups such as youth who are pursuing agriculture as a career, those who are not employed, and those who are in other fields like teachers, government leaders, community members, and the private sector. The researcher collected both qualitative and quantitative data concurrently by employing a mixed-method approach.

Study one utilizes quantitative research methods to explore youth intentions to pursue a career in agriculture. Describe the role of the education system in shaping youth intentions and aspirations to pursue a career in agriculture. The theory of planned behavior was used as a guide in developing a survey that was administered to high school students to understand their intentions to choose a career in agriculture. Study two used a quantitative research method, where semi-structured interviews were conducted to students and teacher's perceptions of youth aspirations and intentions to choose a career in agriculture. Social Cognitive Career choice guided the study to understand the youth decision making process when choosing a career path. Study three used a qualitative research method to describe leaders, extension agents, and community perception on youth engagement and to pursue a career in agriculture, youth programs and explore ways to attract more youth to engage in agriculture. The theory of planned behavior was used to guide a study, where participants were asked semi-structured interviews to capture their narrative perspectives and experiences.

Population and Sampling

Any Tanzania aged 18 and above was eligible to participate in the study. Students who are still in school (agricultural secondary schools and non-agricultural secondary schools). Youth who are pursuing an agricultural career, youth who are in other fields, who are not employed. Government officials, members of parliament, school principals, and faculty members at Sokoine University of Agriculture and Ministry of Agriculture Training Institutes were sampled. The researcher used unstructured interviews to collect qualitative data, where data were collected through face-to-face, phone calls, and Skype interviews. As for quantitative data, a survey was used to collect data by using a face-to-face approach. The interviews were conducted in both Swahili and English and transcribed verbatim. Atlas-TI was used for coding where themes and

sub-themes were created, and quotes were identified to support the themes. For Swahili, transcripts quotes were translated into English.

Basic Assumptions

The researcher assumes that youth career choice is influenced by their knowledge gained through multiple sources, decision-making skills, self-efficacy, and is influenced by the people they trust, and social norms. Understanding learning pathways is essential in youth development in agriculture to predict and explain youth learning in agriculture as well as decision making and career choice in the agricultural sector.

The researcher assumes that the messages that youth receive about agriculture are very contradictory, diminishing youth interest in learning more about it and pursuing agriculture as a career.

The researcher assumes that when agriculture is connected with punishment in schools, or when the community perceives agriculture as just “farming” and not a career, the youth lose interest in engaging in agriculture as a career.

If Extension Agents are not given priorities in professional development, policy-making, and advising on alternative agricultural practices contributing to the nature of the area, communities will not value agriculture as a career.

It is essential to explore exciting and creative ways to attract youth to engage in agricultural development. The source of truthful and accurate information about agriculture is also contestable. In many cases, youth do not have access to this information.

The link between government, the private sector, and other actors is critical to ensure sustainable improvement in the agriculture sector. This relationship is weak in Tanzania.

Engaging youth in agricultural programs in their communities can increase their enthusiasm to learn and engage in community development activities. Changing habits of the youth is more natural than changing the habits of adults. Youth like to try and practice different things, and they can quickly adopt new knowledge and practices.

Limitation of the Study

The study was conducted in Dodoma, Morogoro, and the Coast Region of Tanzania. The researcher ensured that the limitations are minimum to increase the validity, reliability, trustworthiness, and rigor of the study. The researcher's findings from the study represent a small population of youth, teachers, government officials, and program leaders in Tanzania; therefore, generalizations should be avoided. The data collection process took longer than expected due to the fact that the process of acquiring permission from the local government was longer than expected due to new federal research regulations. The researcher received initial approval to collect data within five days, while the letter of authorization needed to go through multiple offices to get the approval. As a result, the study's sample size was reduced.

Definition of Terms

Youth-According to the United Nations (2013), "for statistical purposes, (the UN) defines youth as those persons between the ages of 15 and 24 as youth without prejudice to other definitions by Member States" (p.1). This study uses the United Nations definition of youth.

Positive Youth Development- Positive youth development (PYD) concentrates on the development of the "Five Cs": Competence, Confidence, Connection, Character, and Caring (Lerner, Almerii, Theokas, & Lerner, 2005) and Contribution (Lerner & Lerner, 2013). Adolescents who develop the "Six Cs" are said to be thriving.

Employability Skills- "Employability Skills can be defined as the transferable skills needed by an individual to make them 'employable,' along with good technical understanding and subject knowledge" (Science, Technology, Engineering, and Mathematics Network (STEMNET), 2017, p.1).

Informal Learning- "It provides a simple contrast to formal learning or training that suggests greater flexibility or freedom for learners. It recognizes the social significance of learning from other people, but implies greater scope for individual agency than socialization" (Eraut, 2004, p. 247).

Non-Formal Education- "Serves a variety of learning needs of different groups of youth and adults in the population. The basic needs of young and adult persons are diverse and may be served through various delivery, such as informal education, evening schools, libraries, correspondence, radio, television, and other forms of media and distance education" (URT, 1991,p. 9).

Formal Education- "the structure of the formal education and training system shall be 2-7-4-2-3+(that is, 2 years of pre-primary education, 7 years of primary education, 4 years of secondary Ordinary level education and 2 years of secondary Advanced level and a minimum of 3 years of university of education." (URT, 1991, p. 12)

Conclusion

For the country's development, Tanzania needs more youth to engage in agricultural careers for food security and poverty reduction. Motivation, decision making, efficacy, and social norms are essential in changing youth perception of agriculture. Youth perception, intention, and attitude toward agriculture are influenced by the people they trust. Youth can

quickly adopt new and improved agricultural knowledge due to their aggressiveness, eagerness, and ability to learn innovations. Training youth about new or enhanced agriculture innovations requires educators' knowledge, experience, effectiveness, preparation, encouragement, and interaction so as to influence youth's high level of achievement in agricultural career opportunities. Although agriculture is widely believed just to involve farming, it is a much broader field with massive potentials to youth. Advanced technical expertise is utilized in many agricultural arenas. It also involves social sciences with needs in program planning, evaluation, and leadership, just to mention a few. The global interest in creating decent jobs provides the opportunity for the human side of agriculture to be highlighted and change people's perceptions about agricultural practices.

Summary

The status of agriculture continues to deteriorate in the eyes of Tanzanian youth due to the stereotypes and negative perception of agriculture; hence youth are accepting the idea that agriculture is not a viable career choice. Educators, Extension Agents, and other actors in positive youth development can impact and change youth perception of agriculture. Their commitment and efforts should not be undervalued; Instead, they should be encouraged so that youth adopt innovations and practice agriculture as a career. As Fishbein & Ajzen (2010) suggest that, people's relationships, especially people they love and trust, have an influence on perception, intention, and attitude toward performing a particular behavior. Therefore changing youth's perception of agriculture can be influenced by the people close to them and people they trust. Politicians and other leaders have a primary role in changing the perception of agriculture as a career. If they speak highly of agriculture and get support from the government and private

sector, the perception of agriculture and engagement of youth in agriculture could also change in a positive direction.

On the other hand, It is hard to know the legitimacy of the information that is shared through various sources such as social media, search engines, etc. Therefore, it is not easy to change youth perceptions of agriculture in this era.

Through learning certain behaviors in a specific setting, youth habits are formed. When youth are trained and learn by doing, they can quickly adopt new and improved agricultural career skills. Despite the fact that agriculture is vital for youth and society, youth need to be motivated to perform better and can see the value of agriculture in their lives and pursue it as a career.

Be it intrinsic or extrinsic motivation; it is important to increase individual satisfaction and the need to engage in agricultural practices. Elderly people in societies are rich in knowledge about agriculture. They have been practicing agriculture their entire lives. Therefore through social interactions, youth can learn traditional knowledge about agriculture. But there are also agricultural centers where youth can get modern or new agricultural experience. Through non-formal education, by combining the traditional with modern/new knowledge or technology about agriculture, youth can integrate various skills, techniques, and practices for agricultural development and employment.

The Theory of Planned Behavior and Social Cognitive Career Choice Theory is an excellent lens to use in youth development. They both involve the human intention and motivation to create knowledge that may result in changing behavior. The intention must be strong enough to perform a particular act, prompt critical reflection, and share experiences to

change behavior. On the other hand, environment, culture, and critical reflection are essential when constructing knowledge. When youth are engaged in non-formal education, the Theory of Planned Behavior stresses the importance of understanding their intentions, beliefs, subjective norms, and the surrounding environment and how it contributes to their decision-making process and meaning-making.

CHAPTER 2

Literature Review

> "Youths in Tanzania provide an opportunity for increased economic development through their involvement in agriculture, the main economic activity in rural areas. According to the Integrated Labour Force Survey (2006), youths in Tanzania constitute about 65 percent of the total labour force. Youths provide a tremendous opportunity for developing agricultural based rural economy if properly harnessed." (URT, 2013, p.24)

Reviewing the literature is the first thing a scientist is involved in before further processes in the research. It is a very crucial process as it enables the researcher to identify the gap, explore what was done in the past, current, and plans for the future. Koons, Schenke-Layland & Mikos (2019,p. 2334) mentioned that literature review " is a valuable and necessary exercise to communicate about combinations of these findings, in order to understand what has been revealed in the past, what is being explored currently, and what can and should be pursued next." In this chapter, the researcher provides in-depth knowledge of the Tanzania education system, youth career in agriculture, youth decision-making process, etcetera. The review of the literature provides insight about the three manuscripts of the study.

Tanzania Education System

Tanzania education system is divided into, kindergarten (0-6 years of age), Primary school (7-14 years of age), Ordinary-level secondary education ((form 1-4 years of study), (14-18 years of age)), advanced-level secondary education ((form 5-6, years of study), (19-21 years of age)). Technical and vocational education and training (TVET) is categorized into certificate (1-2 years of study) and diploma (2-4 years of study). Tertiary education is divided into, Bachelor's degree (3-5 years of study) Master's degree (2-3 years of study), Postgraduate Diploma (2-4 years of study), Doctoral of Philosophy (3-7 years of study).

The 1991 National Education Policy emphasized on teaching agriculture, fine art and craft, home economics, and textile from primary schools (Year 1-Year 7) to secondary schools (Form 1- Form 4), which was implemented through school curricula where students were taught the mentioned subjects (URT, 1991). Therefore students were able to gain basic knowledge about agriculture at a young age. Probably 4H Tanzania, which was piloted in some schools, could not expand to many regions because students were already being taught the necessary skills in schools in the 1990s. In 2002 the curriculum changed, and all the mentioned subjects were removed from primary and secondary school curricula (Hardman, Abd-Kadir, & Tubuhinda, 2012). The current education system in Tanzania gives schools the choice to teach or not to teach agriculture in schools (URT, 2014). Many schools opted not to teach agriculture; therefore, many students lacked the foundational knowledge of agriculture and other skills like home economics, textile, etc. Some schools, especially English medium schools, teach fine arts and crafts.

Nevertheless, when students complete their secondary education, they are given the opportunity to select the training institutions they prefer if they are not chosen to go to a higher level (URT, 1991). Some of these students join technical and vocational education and training institutes (TVET). For the agriculture sector, they join the Ministry of Agriculture Training Institutes (MATIs). The education system in Tanzania emphasizes traditional knowledge assessment. Students' motivation changes over time, depending on the purpose, the assessment helps to improve the situation for the achievement of the goal.

Youth Development in Tanzania

Positive Youth Development (PYD) in Tanzania.

According to the National Agricultural Policy (URT, 2013), “youths in Tanzania constitute about 65% of the total labor force. Youths provide a tremendous opportunity for developing agricultural-based rural economy if properly harnessed” (p. 24). Investing in positive youth development and especially youth in agriculture has a tremendous and more prolonged impact now than ever because the technology has improved, and they can become entrepreneurs and create employment opportunities to others through agriculture. “In recent years, the emphasis on agriculture has increased as the population in the world increases” (Shayo & Rudd, 2018). Youth engagement in agriculture can help in feeding the world by 2050, as projected by the millennium development goals (Shayo & Rudd, 2018). For agricultural development, positive youth development, and youth career in agricultural-related disciplines, it is crucial for young people to interact with society and understand the need for agricultural knowledge and its importance in the community and Tanzania as a whole. The National Youth Development Policy (URT, 2007) postulated that “Most of the youth who complete primary schools, secondary schools, and institutions of higher learning do not quickly secure employment in the civil service, parastatal organizations and other economic sectors (p.14). Most of these young people, however, find it challenging to work in the informal sector because of various factors such as insecurity, lack of capital, lack of employability skills, lack of work premises, work implements, and other working facilities (URT, 2007). In addition, “The private sector prefers to employ skilled and experienced labor force. Hence a large group of youth continue to remain unemployed, a situation which facilitates increasing rate of crime and other social evils”. (URT, 2007, p.14). Non-formal learning, positive youth development programs, and youth apprenticeship programs are essential in facilitating youth to acquire skills, techniques, and good agricultural practices that will increase youth potential for decent work opportunities.

The Definition of Youth

According to the National Employment Policy of Tanzania, youth are defined as young men and women from the age group of 15 to 35 (URT, 2008), while according to The United Nations (2013), "for statistical purposes, defines those persons between the ages of 15 and 24 as youth without prejudice to other definitions by Member States" (p.1), with adolescents being approximately 11 to 14 years (Eccles, 1999). According to Defoe, Dubas, & Figner, (2015), there is no consensus on the age of children and adolescents, some studies referred to children as being from 6 to 9 years, those from 9 to 12 years as early adolescents, and those from 9 to 12 to be children. However, the traditional definition of adolescents is 11 to 19, where 11 to 14 are early adolescents, and 15 to 19 are late adolescents. Eccles (1999) characterized middle childhood as between 6 to 10 years, early adolescents as approximately 11 to 14 years, and late adolescents as 15 to 18 years. The study used the United Nations definition of youth, which is the age of 15 - 24 years.

Youth Programs in Tanzania

4-H Tanzania.

In 1976 a school teacher visited Finland and was impressed with the 4-H programs and its success. The teacher decided to establish a program with his students in Tanzania. He aimed to follow and implement the 4-H global objective of "learning by doing". At the time the program was established, 4-H Finland had 84 projects in place since 1928. The 4-H Tanzania program was entirely funded by Finland 4-H organization aiming to promote education, entrepreneurship, civic engagement, health, environmental conservation activities such as planting trees as a club and individual projects. Finland 4-H organization also funded 4-H Tanzania organizational needs such as workshops, conferences, facilities, offices, training

camps, and many other supplies and publications as well as financial support (Applegate, 2013). After 42 years of existence, 4-H Tanzania is still not known to the broader Tanzanian community. The programs work to invest in the next generation to become competent professionals in their fields. 4-H Tanzania adheres to the member creed for all members around the globe, that is, Head, Heart, Hands, and Health. The 4-H Tanzania organization has almost 624 members, but it is not clear if this number includes active and alumni or active members only.

Healthy Well-being: this is one of the 4-H goals around the globe, which 4-H Tanzania is working on encouraging the 4-H members and communities to improve their well-being. The program promotes a healthy lifestyle, eating a balanced diet, and value healthy living. National 4-H Council (2016) shared a story of Ruwanthi, who launched a blog to share stories and have live discussions about healthy nutritional habits to mental and emotional well-being. She organized the healthy living summit in nine counties in California, which resulted in more youth starting their farm-to-table gardening and cyber-safety programs (National 4-H Council, 2016). Blogging can be an excellent opportunity for youth in Tanzania or 4-H'ers to develop similar blogs to share and engage conversation about healthy living. Still, there are so many barriers that they encounter, which makes it difficult, such as lack of internet access or computer/tablet/phone equipment. Some 4-H'ers live in rural areas where there is no electricity. Therefore, it becomes impossible to have social media platforms to learn and engage a broader audience. Also, the new Cybercrime Act of 2015 (URT, 2015) introduced fees for individuals who want to run a blog with an application fee of 100,000 TSH ($45), an initial license fee of 100,000 TSH. ($45) and an annual license fee of 1,000,000 TSH. ($ 450), therefore it can cost up to $540 without other

charges paid at the local level (URT, 2015). Hence it becomes difficult for a youth to own a blog or initiate such a program using social media due to the high running cost.

Grow true leaders' campaign: This is a new program and multi-channel initiative aiming to reach and empower 10 million young people by 2025. The program is a result of a survey on leadership, and young people who met in 2016 and initiated and voiced their ideas to invest in true leaders. During the launching campaign on Twitter, they reached 685 million (National 4-H Council, 2016). Through searching for materials and reading the 4-H Tanzania Facebook and Twitter posts, there are no similar initiatives in Tanzania; however, if adopted, this could make an impact on youth leadership in Tanzania.

Active and Engaged Citizenship: 4-H United States citizenship program emphasizes youth empowerment and knowledge about their civic duties, civic skills, neighborhood connections, and public participation to become better citizens and actively engage in their communities and the world (Lerner & Lerner, 2013).

Volunteerism: According to Purdue Extension (2008), women are more likely to volunteer (46%) than men (42%). Volunteerism has many positive benefits in 4-H programs where volunteers act as primary contacts, and an excellent network for donations, the historical perspective of the program, 4-H reaches a wide range of the audience. At the same time, local people own the program as they have long-term relationships and ownership. It is a unique feature that 4-H US encourages the community to participate. If volunteerism is emphasized in Tanzania, it has a promising impact on building communities and encouraging programs like 4-H to be developed and out-scaled.

There is little research that has been done about 4-H Tanzania and its impact on the community. The above shows that Grow True Leaders campaign, blogging about healthy well-being and engaging active citizenship could be excellent opportunities for 4-H Tanzania to adopt the models. Refine them to meet Tanzanian needs, implement for positive youth development, and to create more opportunities for Youth to Learn Various Skills.

Current Trends and Research in Positive Youth Development.

Positive youth development involves children, adolescents, and youth, who are at different developmental stages. The difference in their development is uniquely identified during the process of growth and maturity to adulthood (Action for the Rights of Children, 2001). Due to changes in behavior during their biological development, researchers have developed models that will enhance the reduction of problems (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004). Researchers are also still working on identifying the social attributes that youth feel they value and also valued by the people they love or trust such as parents, peers, teachers, faith leaders and others, and the magnitude of those values on the impact of youth development (Lerner, 2017).

In the early 1990s, research about development adolescents and their relationship with individuals and the world grew and was viewed through the lens of system theories. The researchers discovered that adolescents' development is not static. Even though they enjoy their peers' relationships especially those with whom they share core values and a similar perception of the world, they also value their relationship with their parents (Lerner & Lerner, 2013). A positive youth development framework was developed to encourage and support young people to become successful by participating in meaningful activities (RHYIssues@aGlance, 2012). According to Zarrett & Lerner (2008), positive youth development has five C's which focuses on

psychological, behavioral and social characteristics, of which if adolescent develops the five C's is considered to be committed and motivated. There was also the attainment of the sixth C, as Lerner (2017) proposed, which leads to adulthood (RHYIssues@aGlance, 2012).

There are six components in a positive youth development model, which include; Competence: "Positive view of one's actions in specific areas, including social, academic, cognitive, health, and vocational. Social competence refers to interpersonal skills (such as conflict resolution). Cognitive competence refers to cognitive abilities (e.g., decision making) (Zarrett & Lerner, 2008, p. 2). Zarrett & Lerner (2008) also mentioned that "Academic competence refers to school performance as shown, in part, by school grades, attendance, and test scores. Health competence involves using nutrition, exercise, and rest to keep oneself fit. Vocational competence involves work habits and explorations of career choices" (p.2). Youth encounter various complexities in life and different environments; it is essential for them to know how to make decisions in their daily lives, role play, supportive direction, and give and receive feedback (RHYIssues@aGlance, 2012). Confidence: "An internal sense of overall positive self-worth and self-efficacy" (Zarrett & Lerner, 2008, p. 2). Connection: "Positive bonds with people and institutions that are reflected in exchanges between the individual and his or her peers, family, school, and community in which both parties contribute to the relationship" (Zarrett & Lerner, 2008,p. 2). Character: "Respect for societal and cultural norms, possession of standards for correct behaviors, a sense of right and wrong (morality), and integrity" (Zarrett & Lerner, 2008, p. 2). Caring/Compassion: "A sense of sympathy and empathy for others" (Zarrett & Lerner, 2008, p. 2). Youth understanding of the difference that exists amongst them and to be able to trust one another to be open and share their feelings. Contribution: "Contributions to self, family, community, and to the institutions of civil society" (Lerner & Lerner, 2013, p. 10).

Catalano *et al*. (2004) suggest encouraging family and community environments to support positive youth development, which is essential for the completion of the developmental task.

The Positive Youth Development Model

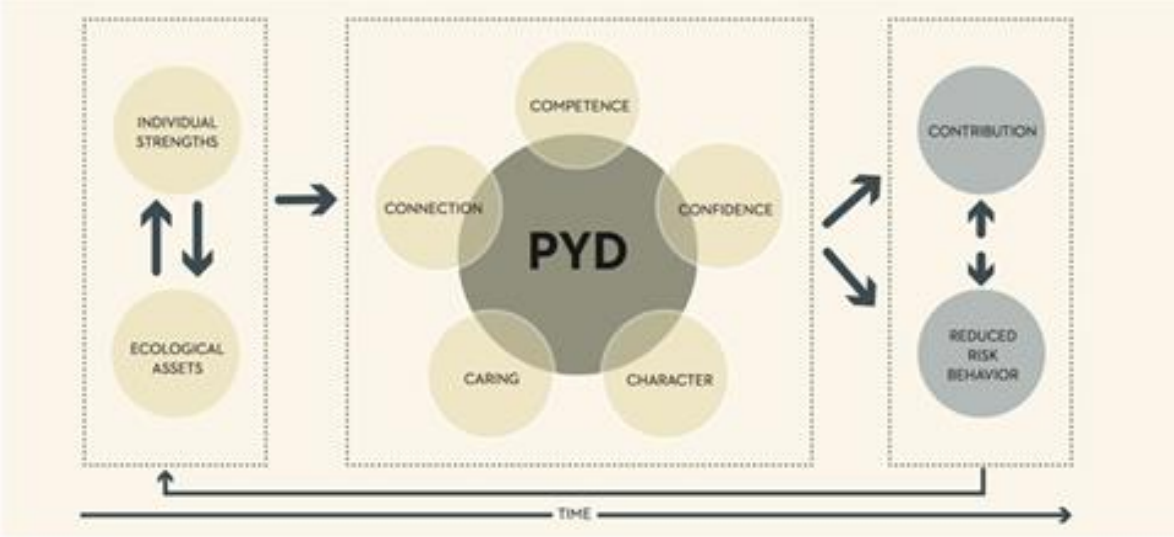

Fig 2-1: The Positive Youth Development Model developed by Lerner & Lerner (2013). The Positive Development of Youth: Comprehensive Findings from the 4-H Study of Positive Youth Development. Chevy Chase, MD: National 4-H Council.

The six Cs of positive youth development have been used by the 4-H program US for youth engagement and youth development. Other research institutions have been working to conduct research to identify the social elements which are essential for youth development (Zarrett & Lerner, 2008). The study conducted by Benson, Scales, Hamilton, & Sesma (2007) views positive youth development as a crucial scientific inquiry that is growing in the research, conceptual model, and theory that guides the development of youth in various fields. In their study, they also found the social element is critical to positive youth development. Benson et al., (2007), identified four positive youth development features, such as; Positive youth

development which is “comprehensive in its scope, linking a variety of (1) ecological contexts (e.g., relationships, programs, families, schools, neighborhoods, congregations, communities) to (2) the production of experiences, supports, and opportunities known to (3) enhance positive developmental outcomes” (p.895). Its primary organizing principle is a promotion (of youth access to positive experiences, resources, and opportunities, and of developmental outcomes useful to both self and society) (Benson et al., 2007). Benson et al., (2007), also mentioned that “It is, as the term implies, developmental, with emphasis on growth and an increasing recognition that youth can (and should be) deliberate actors in the production of positive development” (p.895). Positive youth development also “is symbiotic, drawing into its orbit ideas, strategies, and practices from many lines of inquiry (e.g., resiliency, prevention, public health, community organizing, developmental psychology)” (Benson et al.,2007, p. 895).

Positive Youth Development to Strengthen Youth Development in Tanzania.

Informal and Non-Formal Education for PYD in Tanzania.

A concrete foundation in agricultural education contributes to positive youth development and positive youth perception of agriculture. Engaging youth in agricultural practices allows them to learn and practice agriculture at a young age. Interactive, engaging, and practical agricultural programs can increase the interest of youth to engage in agriculture and pursue it as a career.

Often, when people think about formal, informal, and non-formal, they think about where the learning takes place. Formal education, there is a teacher-student interaction, which involves a traditional school system where the curriculum is used as a guide. In contrast, informal learning is acquiring knowledge in more incidental and spontaneous learning situations. On the other

hand, non-formal education is when learners develop an interest in gaining further knowledge or skills (Livingstone, 2001). Livingstone (2001) posits that "the non-formal or further education of adults typically occurs in courses or workshops with a pre-established curriculum and an externally designated instructor" (p.3). Therefore workshops, training, seminars, community-based activities or programs, community or non-credit courses, community interactions (sharing experiences), youth programs are some of the examples of non-formal learning.

Informal learning for PYD.

Livingstone (2001), discussed the four aspects of informal education, employment-related, community volunteer, work-related, household work-related, and other general interest related (p.11). He defined informal learning as gaining knowledge or skills of interest outside the organized courses. The idea of employment-related for being informal learning is that individuals at the workplace engage themselves in informal learning knowingly or unknowingly. He argues that people learn by doing, and that is what people do at work. When they don't understand something, they use different sources to learn to be conversant with the task or activity.

On the other hand, Billett (2002), criticized the idea of "informal learning" in workplaces. He argued that "in workplaces, there are intentions for work practice, structured goal-directed activities that are central to organizational continuity, and interactions and judgments about performance that are also shaped to those ends" (p.56). He also mentioned that in the working place, they use the pedagogical format, which involves the continuity of learning and the structure of the organization. Therefore it is not informal; instead, it is formal learning.

Non-Formal Learning For PYD.

The non-formal education program was introduced in Tanzania, aiming to extend knowledge to adults and young people. The government assumed that non-formal education is less expensive compared to formal education, and allows flexibility in knowledge choice, and allocation of time and resources for both individual and government (Gillette, 1976). Non-formal education provides an opportunity for youth to acquire learning opportunities, but also practical skills that can be very useful for employment purposes.

Although formal education is essential, on the other hand, non-formal education gives more opportunities to all adults and youth who were not able to get a formal education. But also to those who attended formal training and wanted to gain more skills and practices on particular content. The non-formal educational programs were introduced in Tanzania with the primary objective of assisting the community in "either the provision of knowledge and skills for specific purposes or the changing of attitudes in order to open up a more positive approach towards technical change and progress" (King, 1967, p. 11). The programs were through part-time courses, which included general and technical subjects, community development, and agricultural-extension and health services.

For the past few years, the number of youth enrolled in non-formal programs like the 4-H program has decreased; however, the government is making an effort to make sure that youth engage in non-formal education. Recently the International Labor Organization (ILO) and the Government of Tanzania launched a youth apprenticeship program to create opportunities for youth to acquire skills needed for jobs, help create decent work and prevent youth from child labor (ATE, 2018). The initiative is significant for youth and agricultural development; however, it requires youth and community readiness to engage in these programs. The programs have the potential for changing youth behavior and perception about agriculture.

Youth Leadership for Positive Youth Development in Tanzania.

Formal, Informal, and Non-formal learning such as 4-H programs involves a lot of teamwork to gain multiple perspectives of knowledge by sharing experiences, skills, and practices. Leadership and power are the critical components in working with a team, team building, and improving team performance. Power and leadership are two different things. Leadership is more than just influence and power, but influencing others to perform is vital to succeeding (Franz, 2012). Leaders' words can break or build the teams' confidence.

On the other hand, both cohesiveness and collaboration are identified as co-determinants of group productivity and effective responses of team members. According to Franz (2012), the shared trust between a leader and followers can lead to more significant levels of participation and collaboration. It is also essential for a team to have a strong shared sense of team identity and confidence in individual abilities and effectiveness. When the team has real cohesion, it increases the emotional intelligence of the team members (Franz, 2012).

Adaptive Leadership for Positive Youth Development.

Adaptive leadership is a concept that is viewed as an active form of leadership, whereby it impacts the environment. The idea is related to reproduction, as Heifetz (1998) saw adaptive leadership as a biological adaptation that has traits that equip individuals to survive and reproduce in a changing environment. Adaptive leadership is a dynamic process that involves mutual influence. Heifetz & Linsky (2017) posit that "sustainable change is adaptive", for a change to be transformative and sustainable it requires both internal and external realities, values, competence, culture, trust, respect as well as changing the environment so as to build capacity, face challenges and look for opportunities to advance (p. XIV).

Leadership in positive youth development is very crucial. Due to its potential for positive youth development, the 4-H in the US launched the Grow True Leaders' campaign, which is essential in developing youth leadership skills. For youth leaders, it is vital to capture and communicate a vision to the group because a real team has a desire to achieve a common goal. Team members will work together and sacrifice if they can see themselves working towards achieving something. It is imperative to have an inspiring vision, and a leader should provide the big picture of the idea and a vision and share it with the team (Greenleaf, 2002). Each team member has a role to play, and every role has its share in contributing to the bigger picture. It is a leader's responsibility to coach a team and develops team members' competencies so that the team can work together but not give direct commands or instructions. It is also vital for a leader in non-formal education to empower people, delegate authority, and be open to ideas. It is essential to trust the team members and rely on and support their judgment (Franz, 2012). Giving young people the authority to decide, empowers them, and creates a sense of ownership. It is essential to encourage youth in a team to engage in self-leadership behaviors such as self-observation, role-playing exercises, and self-problem solving. It is also necessary to encourage team members to evaluate themselves and to give both positive and negative feedback (Greenleaf, 2002). The formation of a team takes time. It needs courage, commitment, and persistence to make sure the team is established. However, it is worth doing, and in many cases, it has shown a very positive impact and influence change in organizations, youth programs, and communities.

Social Capital for Positive Youth Development.

Social capital is significant for leaders and followers as well. The importance of interaction is acknowledged as a fundamental process in team success. It enables the

development and maintenance of the team's goals. It is ideal for groups to continually find effective ways of creating and maintaining the flow of ideas, information, decisions, and tasks, social relationships, and build knowledge among team members (Henttonen, 2010). Besides, team culture is vital, it is hard to create the culture of any group, and when it is established, it generates trust and builds relationships, and it is always changing for the benefit of the team. Culture rests on spoken and unspoken norms that are followed by group members. The culture of the team can be considered as a web, you take out one piece of it, and it will reform to its overall shape (Franz, 2012). So, it is crucial for teams to respect and adhere to team core values and norms for team sustainability.

Learning Practices for Positive Youth Development in Tanzania.

Research shows that individual cognitive and motivational process of learning is shaped when culture and social layers are combined (Phan, 2012), there is sharing of knowledge, interaction, cognitive process, information processing, etc. which result in interpretation and individual construction of knowledge. As Lave (1988) stipulated, "Arrangement of knowledge in the head corresponds in a complicated way to the social world outside the head, but that they are socially organized in such a fashion as to be indivisible" (p.1). The social and cultural interaction that occurs in different settings tends to make individuals view things differently depending on individual interpretation and the "reality." Youth interaction in multiple events allows them to challenge their perception, interpretation, knowledge, and learn from others.

Transformative Learning for Positive Youth Development.

Human relationships and constructive dialogue are significant in transformative learning. Positive youth development can be enriched through interaction, sharing of experience, and constructive conversations where learning occurs. "Transformative learning involves

experiencing a deep structural shift in the basic premises of thought, feeling and action" (O'Sullivan & O'Connor, 2002, p. Xvii). Frequently transformative learning is a result of a change in life. The critical reflection, assumptions, and meaning-making are influenced by culture, context, and other social, political, and economic understandings. Research shows that transformative learning is very much fostered by establishing relationships among people where trust and support are essential to be created, which is necessary in PYD.

As Mezirow (2000) suggested, "transformative learning involves participation in constructive discourse to use the experience of others to assess reasons justifying these assumptions and making an active decision based on the resulting insights" (p. 8). We learn through experience and from others, whereby the social environment and our individual (radical) knowledge creation influences our learning. People have a different understanding of certain things, and biased listening to other people's perspective allows an individual to learn and transform their understanding of the context. However, it depends on the individual purpose when learning the context. It is important to be critically reflective of the knowledge we gain from others and how genuine they are when they share the experience. O'Sullivan & O'Connor (2000) posited that transformative learning involves progressive personal and social change.

Additionally, it is essential to be aware of the cultural differences and pre-existing knowledge when we encourage transformative learning for social change. It is stated by Mezirow (2000) that "culture enables or inhibits the realization of common human interest, ways of communicating and realizing learning capabilities" (p. 7). Transformative learning goes hand in hand with self-reflection, specific directions, and active experiences that are meaningful to learners. Therefore it is important to encourage youth to initiate active conversations and critical reflection for personal and social change.

Situational Learning for Positive Youth Development.

Situated learning is one of the essential practices in both formal and non-formal education for positive youth development. When young people are situated to learn, it is important to understand pre-existing knowledge, cultural, and social aspects that exist. Some organizations or communities' cultural practices can have an impact on learners' interaction, participation, decision making, critical thinking, etc. The power dynamics that exist in the learning structure/context can have a positive or negative impact on learners, which at some point can include or exclude some of the learners. Niewolny & Wilson (2009) mentioned that "social and cultural relations of power legitimate some and exclude others from participating in a community of practice" (p.30). Lave & Wenger (1991) posited that "situated learning explores the situated character of human understanding and communication, and it focuses on the relationship between learning and social situations in which it occurs" (p.14). Through interaction and social situations, networks, and relationships are created, knowledge is shared, which may result in a change of perception or behavior. It is believed that learning, gaining, or sharing knowledge broadens our pre-existing understanding and gives us the opportunity to understand specific content through different lenses.

The Importance of Youth to Engage In Agricultural Entrepreneurship.

Zakaria, Adam, & Abujaja (2014) conducted a study in Ghana to assess the University for Development Studies Agricultural Students' Intention to take up self-employment in agribusiness. From the analysis, 45.3% preferred to work in agribusiness, which indicates their intention in self-employment in agribusiness. 31.8% preferred livestock and poultry, and 24.2 % prefer crop production. On the influence of students' perception of their intention in self-employment in agribusiness, results show that most of the students in the study have a positive

perception of self-employment in agribusiness, and it is lucrative. Personal attributes such as age, marital status, place of domicile, the parental education background of students, practical agricultural, experiences and risks tolerance show significant contribution in influencing youth in self-employment in agribusiness

Another study conducted by Ridha & Wahyu (2016) in Indonesia aiming to determine factors affecting young entrepreneur's intention in the agricultural sector, concluded that generally age, ethnicity, and gender have a significant influence on youth intentions in entrepreneurship as most of the respondents were youth aged 23. On gender, 66.1 % were male, and 33.9% were female; hence more men participated in agricultural programs compared to women. The results show that motivation coming from family and people they trust it influences their interest in entrepreneurship. An entrepreneur is expected to have values, self-confidence, autonomy, leadership, diligence, and discipline. Results from the study reveal that agricultural background is influenced by subjective norms such as parents, peers, and friends, there was no effect on the attitude-behavior on youth entrepreneurship, and also perceived behavior control has no effect on the youth's intention to engage in entrepreneurship.

Agriculture is a promising sector that provides numerous employment opportunities and is an essential driver for economic development in Africa, especially in Tanzania (Koira & Van-Der, 2017). Investing in the agricultural sector allows interacting with nature, animals as well as people. Youngsters who decide to become agricultural entrepreneurs can be a potential source of job opportunities for many people, from preparing the land, harvesting, processing, packaging, marketing, program planning, program evaluation, leadership skills, technology, seed production, and many more. Lyocks, Lyocks, & Kagbu (2013) mentioned that "Entrepreneurship has the potential to contribute to the rejuvenation of the industry, creating more employment

opportunities, increasing the potential for profit and moving away from the perception of agriculture as a low prestige career" (p.83). Therefore entrepreneurship in agriculture is a paying business that allows people to contribute to community change as well as contribute to the national and international economy. The conference will provide an ideal opportunity for the private sector and government actors to hear directly from young agri-entrepreneurs leading the charge for the sector's transformation (Roy, 2017).

Youth Entrepreneurship through Experiential Learning.

In order for youth to learn agriculture in-depth and ignite their enthusiasm, they need to share experiences and learn from others. Experiential learning can be beneficial in youth programs such as conferences where youth learn techniques, skills, and knowledge that is useful in agricultural practices and career choice. According to Fenwick (2003), the common theme in learning is gaining knowledge, experience, skills, collaboration, and networking, creating relationships, etcetera. Fenwick (2003) mentioned that "the notion of experiential learning has been appropriated to designate everything from kinesthetic directed instructional activities in the classroom, to special workplace projects interspersed with critical dialogue led by a facilitator, to learning generated through biographical writing, and even to team-building adventures in the wilderness" (p.3). People learn through experience, which comes from different dimensions, to achieve or acquire new knowledge. Fenwick (2003) mentioned five things to consider in determining such as purpose, interpretation, engagement, self, and context. Therefore the conference will eventually be a place where young men and women can learn broadly about agriculture and agricultural-related fields and how agriculture can be integrated into multiple sectors. The idea shared can be changed to a real and practical project or programs that can be implemented for community development.

Youth Development and Decision making

Children and Adolescents Decision Making.

Adults, adolescents, and children's decision making are different depending on their maturity, exposure, and childhood experience, social and cultural cues, etc. What is similar is that adults, adolescents and children decision making depends on the cognitive process which involves brain and memory, other factors can be internal and external factors that influence the decisions. Also, when making decisions, there should be a situation which requires immediate or late decision depending on the nature of the issue (Orasanu, 2016).

Adolescents' decision making is highly vulnerable compared to adults or children because their brain is going through multiple stages of development (Defoe et al., 2015). At this stage of development which occurs in various regions of the brain, the adolescent tends to develop their identity and make decisions on who they think they want to be, what values and behavior they need to adopt, etcetera. Contrary to children, their decision making is based on their realities at that point, and parents and guardians often make decisions on their behalf. However, Coyne & Harder (2011) argued that parents and guardians should consider children as individuals and allow them to make their own decisions, a child's competence and preference depend on the circumstances in every situation.

Understanding Decision Making.

Scholars defined decision making in various ways; nevertheless, they all have the similarity that decision making involves the cognitive process, outlined problem, and decision in problem-solving. Wang & Ruhe (2007) described decision-making as "one of the basic cognitive processes of human behaviors by which a preferred option or a course of action is chosen from among a set of alternatives based on certain criteria" (p. 83). Similarly, Orasanu (2016) defined

decision making as requiring one's cognitive process to solve the identified or existing problem. One of the significant criteria in decision making is to recognize that there is a defined problem that requires a decision for it to be solved. Decision making can also be described based on the values that a decision-maker may consider. According to Dreher (2009), decision-making "requires processing of several value-related signals, such as prediction error, uncertainty, the subjective value of different options and the distance between them, goal value, and decision value"(p. 135). Vaidya & Fellows (2017) also defined decision making as a process where a decision-maker can decide based on goal-oriented behavior, subject value, or the flexibility level. Gallo (2012) described decision making as "is not about the actual act of selection or choice, it's about everything that leads up to that moment of choice. When discussion, deliberation, analysis, considerations, possibilities, consequences are all 'cut off', you come to a choice and a decision has been made" (p.1).

What It Means To Make A Decision?

Making decisions can be overwhelming, stressful, frustrating, and above all, it can be tough. When someone wants to make a decision, there are so many things/needs to be considered before making any decisions, such as outcome, the process itself, values, and many more. Orasanu (2016) concluded that "Decision-making is not one thing, but it involves situation assessment, the choice among alternatives, and assessment of risk; however, the decisions differ in the degree to which they call on different types of cognitive processes" (p.138). Decisions are made depending on the situation and risk analysis; hard decisions are made behind the actions. Various steps are taken before the decision is made, which requires different strategies and types of choices available depending on the nature of the problem (Orasanu, 2016). The case study presented by Beach & Lipshitz (2016) about the downing of a Libyan airline by Israeli defense

forces shows that General Hod's decisions were assessed before shooting the plane. He tried several possible solutions, such as asking the pilot to land the aircraft at Refidin airbase. The airline pilot wanted to land but decided to fly away after he discovered that he was not at the right airport as he was supposed to land at Cairo International Airport. The warning that General Hod and the entire military base had about the terrorist plan forced him to decide to shoot the plane to protect the military base. However, before shooting the flight, he contacted his superior to make sure more than one person analyzed the decision made before implementation.

Decision-making requires a person to be mindful of the situation and to decide on the best solution. A mindfulness person needs to be conscious and aware, focused on the present moment, and able to calmly observe and accept feelings, thoughts, and bodily sensations. A person should be able to pause, reflect, and listen to the inner wisdom. Also, it means that a person can focus on the relevant information, know when to cut your losses, be aware of your own biases, and check ego (Davis, 2017).

Emotions and Decision Making.

In decision-making, both emotional and cognitive processes are inevitable. Lerner et al., (2015) reveal that "emotions powerfully, predictably, and pervasively influence decision making" (p. 802). When people make decisions and think about several options to solve a problem and to find the best possible solution, emotions play an essential role. People have expectations of the outcome of their decision; hence feelings also influence the options and decision making (Beresford & Sloper, 2008). Blakemore & Robbins (2012) posit that "Emotions such as relief and regret have a role in decision making, where regrets arise from the experience of an outcome that one could have chosen but did not" (p. 1187), and relief arises from the positive decision outcome. In the study conducted by Lerner et al., (2015) on emotion

and decision making, eight themes were identified. First, integral emotions, these are the type of emotions that arise from judgment and choice at hand, where a decision-maker who is not certain with his/her decision will make safer decisions. Second, incidental emotions that occur without awareness are emotional where the decision is affected due to carrying over the situation, e.g., blame someone for something they are not involved. Third, emotion valence, where decisions are influenced by the intensity and qualitative character that enable problems to be addressed quickly. Fourth, emotions shape decisions via the content of thought, when there is a difference in appraisal dimension associated with risk perception, a difference in pride and surprise, where risk perception tends to make people either at higher risk or not depending on the level of fear and anger. Pride favors the effects that involve personal efforts, where surprise favors unpredictable events; these differences affect one's judgment. Fifth, emotions shape decisions via the depth of thought, where additional attention is needed when decision making. Sixth, Emotions shape decisions via goal activation, which involves addressing opportunities quickly. Seventh, emotions influence interpersonal decision making, where social interaction allows the establishment of social relationships. People's beliefs about their intentions reflect their emotions when making decisions or interacting with others. Eighth, is unwanted effects of emotion on decision-making can be reduced under certain circumstances. Lerner et al., (2015) mentioned that "These strategies broadly take one of two forms: (a) minimizing the magnitude of the emotional response (e.g., through time delay, reappraisal, or induction of a counteracting emotional state), or (b) insulating the judgment or decision process from the emotion (e.g., by crowding out emotion, increasing awareness of misattribution, or modifying the choice architecture)" (p. 811).

Emotions guide the adolescent decisions rather than their thoughts; frequently, they do not think through before they act, or consider the consequences of their actions. However, each child's and adolescent's brain is different. It does not mean they cannot make the right decision; instead, it is vital for parents, teachers, and others to understand the difference and be able to manage children's and adolescents' behavior.

The Central Psychological Theories of Decision Making.

Many psychological theories involve the decision-making component, whether by mentioning or through the process when elaborating on the theory. In this paper, Kirton Adaption-Innovation, the Theory of Planned Behavior, Social Cognitive Theory, Constructivism, Social/Cultural Constructivism, and Motivation are discussed concerning adolescents' and children's decision making.

Kirton Adaption-Innovation.

Kirton Adaption-Innovation Theory (Kirton, 2011) focused on the realm of thinking styles. The theory relies on the cognitive function where problem-solving is taking place. Kirton (2011) posits that "Adaption-Innovation Theory rests on the assumption that problem-solving is the key to life in an ever-changing universe" (p.26). Every individual is unique in the way they solve problems, and all organisms must solve problems (Kirton, 2011). According to Kirton (2011) "the domain of cognitive functioning is very complex and is at the core of understanding mankind; within this domain, style forms but a part." (p.35). A creative solution is a necessary consequence of cognitive function; both internal, e.g., behavior and external variables such as environment and climate, are vital in problem-solving and decision making (Kirton, 2011).

Cognitive function schema explains the complexity of understanding the humankind. The schema is detailed and quite informative, where it describes the scope of operation and the

process in different brain departments in problem-solving. There are three domain regions in which the cognitive process takes place, cognitive affect (selects a type of problem and determines the answer needed via motive). It comprises of needs that are either biological (are not learned) or values, beliefs, and attitudes (which are acquired). It acts as a source of guidance in pursuit of a solution, where the perceived problem is considered with the motive to find the answers, bearing in mind alternatives that the environment has to offer. Cognitive effect (undertakes problems via a cognitive function), it takes the problem-solving in detail. In this component, two variables are vital, the cognitive style (the preferred style in problem-solving) and the cognitive level (the cognitive capacity for problem-solving). Style and level are not related; they all function through a cognitive problem-solving process, where one's styles do not indicate their level of operation in problem-solving.

Cognitive Function Schema

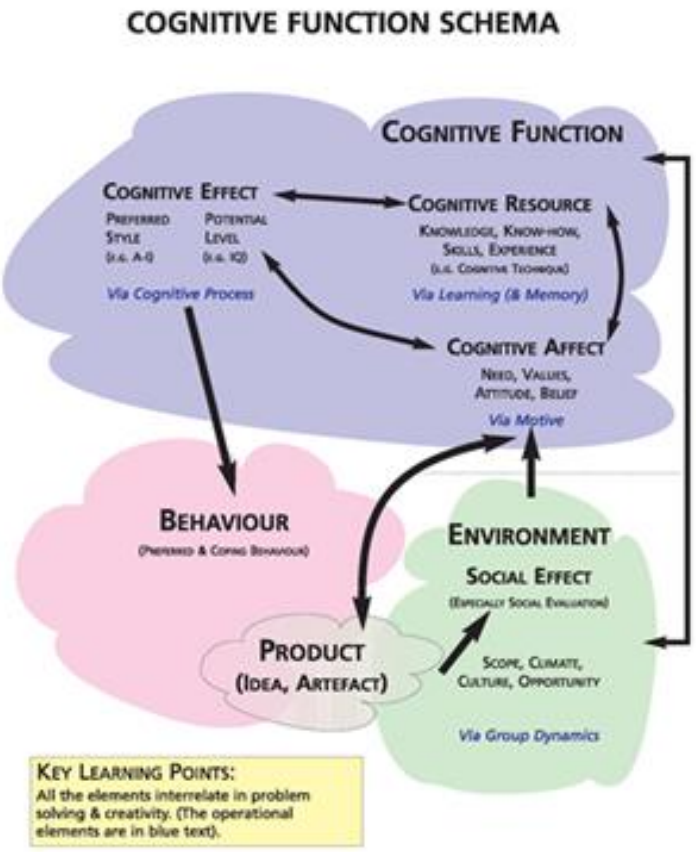

Fig 2-2: Cognitive function Schema by Kirton, J. M. (2011). Adaption- Innovation. In the context of diversity and change. Routledge. Network.

Cognitive resources (cognitive techniques through memory) include skills, knowledge, experience, and know-how needed to solve the problem. Whenever there is a problem with predictions or assumptions which are made through experience, knowledge, and skills, and the solutions are implemented. Learning is what is associated with memory, where the knowledge is stored and used when needed. The three cognitive domains are considered to be internal departments that are influenced by social effects (Kirton, 2011). For each cognitive component

there are processes which are essential in decision making and central to its function, for cognitive affect motivation is crucial, for cognitive effect there is a problem-solving process, and cognitive resources are learning, interaction and memory; “These processes are part of the genetically constructed mechanism, and their basic operation is underway at birth, without learning, they operate whether we are aware of them or not whether we understand them or not “ (Kirton, 2011,p 38). Behavior is influenced by cognitive function to attain a product (an idea or an artifact), while Personality is made up of the characteristics of behavior; behavior also impacts the environment. The environmental component includes the social effect which provides for climate, culture, and opportunity. The interactions and external events with other people play a role in individuals’ behavior, the social evaluation by others affects individual cognitive function. The social evaluation has an impact on self-image, information on reality, self-efficacy, and decision making.

Although the Kirton Adaption-Innovation Theory focuses on the individual style in problem-solving, I think the cognitive function schema is a useful tool to explain the process of decision making. There is no problem solved without a decision to be made, and the cognitive function schema can be one of the ways we can look at how people reach a final judgment.

Constructivism.

Societies and knowledge are socially constructed. Constructivism is how individuals modify their interpretation of knowledge. The idea changed is subject or object to the individual depending on their experience. Constructivism involves a cognitive process of information, analysis, and understanding. In constructivism, there is no “truth” which exists in the real world; instead, it is self-constructed. The environment plays a role in shaping one’s interpretation and experience (Glasersfeld, 1984). Adolescents and children sometimes construct their own

realities, the decision as to what is good or bad depends on the environment and reality. For example, children sometimes create their assumption, which is their reality. The influence might be the cartoons or children's television show they like, or the social context that they are exposed to, e.g., in school. Children's reasoning skills and self- awareness develop during middle childhood. Eccles (1999) mentioned that "through their growing, understanding of other people's behavior and through their grasp of written materials, children take in information that builds their knowledge base and stretches their reasoning capacities" (p.33). Therefore learning through experience and interaction, adolescents and children can construct their own choices on the situations they encounter.

Social/Cultural Constructivism.

Vygotsky and Social Constructivism theory emphasizes the importance of the social environment in learning. According to Vygotsky, humans adapt the environment to their purpose, unlike animals (Schunk, 2015). Social interaction and meaningful activities influence learning and knowledge gain. Culture plays a vital role in social interaction in learning norms and societal practices. Vilches (2012) mentioned four aspects in social constructivism: First our "taken-for-granted ways of understanding the world" second "we commonly understand the world categories are historically and culturally specific" third "knowledge is sustained by social process" and the fourth "knowledge and social action go together" (p.9). Social and cultural interactions influence adolescents and children in decision making. What they observe and inherit from parents, guardians, teachers, and the community as a whole, has an impact on their decisions and how they make those decisions.

Children Decision Making Reflecting On Vygotsky and Zone of Proximal Development (ZPD).

According to Vygotsky, learning requires assistance. It depends on the type of knowledge one is acquiring, but at one point, people need help. Vygotsky, 1978 (as cited by Schunk, 2015) defined a zone of proximal development (ZDP) as " the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers" (p.314). He explained the ZPD as the place where the cognitive development of an individual occurs, and the level of the knowledge increases when the level of difficulty remains constant. He also believed that culture had affected one's mental development, but other authors criticized him, suggesting that children develop before they learn from culture (Schunk, 2015).

The concept of ZPD is widely used and applied in children learning, where a child can perform a specific task intentionally, such as decision making, but at some point, the support will be needed. It is considered that a child's lower level of ZPD in problem-solving means little or no help is required, where a child's higher limit of problem-solving a child needs support from an expert. Children's decision making depends on their cognitive ability, where if it is lower, then they need little help, and when it is higher, they need more attention and support from their parents or teachers. The cultural tool is essential in child learning in ZPD, where the interaction between a learner and a teacher can lead to cognitive change. Children's cultural knowledge is developed when they bring their own understanding through social interaction and integrate with their experience. Vygotsky believed that children exposed to the education setting and cultural-historical setting were for child development, awareness of themselves, and the ability to make decisions (Schunk, 2015).

Motivation.

Motivation is subjective to an individual; it is difficult to anticipate what motivates someone until they are asked. To learners, motivation is fundamental to increase their self-efficacy and create enthusiasm. Trust, feedback, acknowledgment, encouragement, etc. increases individual or group motivation to achieve a specific goal. "Motivation depends on believing that one will achieve the desired outcome from a given behavior (positive outcome expectations) and that one is capable of learning or performing those behaviors (high self-efficacy)" (Schunk, 2015). Behaviors are created and adopted when there is a common goal to achieve in groups. People need to get an opportunity to experiment freely according to experience and skills and learn from and teach each other. Social interaction motivates people to engage in different activities and influence decision and choice making. Children and adolescents need the motivation to make decisions. The motivation can come from their parents, teachers, guardians, and people they trust. Many adolescents have the skill of reasoning, reflecting, metacognitive, and self-regulation necessary to solve a particular problem. Still, very few have the will and motive to approach difficult issues.

Youth and Adolescents Decision Making

Even though neuroscience and information processing are psychological theories, but in this section, the two theories are used to explain the cognitive process and how adolescents and youth brain function when making decisions.

Neuroscience and Decision Making.

Smith & Graybiel (2016) stated that "Decision-making processes are supported by a range of brain circuits outside the classic habit system, and deliberations themselves are correlated with an interesting neural signal related to prospective cognitive processes in the orbitofrontal cortex, hippocampus, and nucleus accumbens" (p.37). The Neuroscience of

learning and decision making shows how connected learning and behavior are in individual development. It explains how the “central nervous system (which comprises of the brain and spinal cord) which regulates voluntary behavior and the autonomic nervous system (ANS) which regulates involuntary actions” (Schunk, 2015, p. 69) is connected and functioning. The way the information is sent and received in the CNS, and the brain relates to the ways a person can influence learning. It can also change one's behavior if the knowledge is well understood, and there is a willingness to change (Schunk, 2015). The study conducted by Bell, Bricker, Reeve, Zimmerman, & Tzou, (2013) shows that the use of language, culture influences learning development and pathways, people they trust (parents, friends, and etcetera.), particular learning environment, and resource availability.

Children and Adolescents Information Processing.

Information processing differs from one another depending on how brains are wired and the capacity to interpret, store, and retrieve information, similarly to teenagers and children. Meaningful knowledge tends to be retained because it connects or makes meaning to an individual. The ability to capture and interpret information differs because of an individual’s cognitive ability to process the information and create sense (Schunk, 2015). For example, in classes, when a teacher is teaching, some students are sharp and aggressive, participate, and engage in a class session by asking questions or responding to the teachers. But there are those who take time to answer questions or ask questions. It doesn’t mean the one asking questions is smarter than the one who doesn’t speak during a class session, they process information differently, one processing faster than the other. The study conducted by Crick & Dodge (1996) used the Theory of Aggressive Behavior (Bandura, 1973; Berkowitz, 1993) and ethological observations in animals (Lorenz, 1966) and children (Price & Dodge, 1989) to learn how

children respond to reactive and proactive aggression. The theories suggest that whether the aggressiveness of a child is reactive or proactive is influenced by the social information process patterns that have been developed and maintained. Children respond to a particular behavior according to a specific social situation and arouse a particular outcome. The study results show that there is a difference in the social-cognitive mechanism in each child's aggressiveness. Cognitive readiness involves decision-making and adopting a specific behavior. A child's aggressiveness can be taught primarily at an early age. However, it also depends on how one's brain functions and the child's development. The Crick & Dodge (1996) article pointed out that "Developmental changes in behavior are related to developmental change in processing" (p. 1000). Therefore Müri & Nyffeler (2008) concluded that "Decision-making and working memory are two associated functions of the brain important for a successful behavior in everyday life" (p.413).

Adolescents Decision Making.

There is a widespread change in teenagers' brains, which influences their decision to be weak or better. Schunk (2015) posits that "The structural alteration that the brain undergoes results into major changes in teens' reasoning and problem-solving, especially when the frontal lobes mature and parietal lobes increase in size and the prefrontal cortex which controls judgment and impulses mature slowly" (p. 51). Similarly, Blakemore & Robbins (2012) described the "adolescent slow development of the brain regions necessary for cognitive control, subsuming response selection, top-down control and inhibitory process including prefrontal cortex" (p.1184). The prefrontal cortex controls reasoning and thinking before acting; this part of the brain is continually changing and matures in adulthood. Elkind, (1998) as cited in Stein, Wells, Stephenson, & Schneiderman, (2001) defined adolescence as ". . . an age when the

imaginary audience and personal fable are most powerful, and teenagers are most vulnerable to their influence. Teenagers are in the process of formulating their own personal identities and simultaneously learning to think hypothetically and symbolically" (p.981). According to Schunk (2015) a teens' decision making lacks the consideration of consequences, sometimes the information they get is incomplete, yet they make decisions that focus on pleasing their peers. This kind of decision making is a result of the teens' rapid brain development, which leads to flawed decision making. According to Blakemore & Robbins (2012), "Adolescents also show a preference for decisions that provide immediate rewards" (p.1184). The feeling that the outcome is positive and rewarding escalates their changes to involve themselves in decision making. Sometimes adolescents' decisions are guided by someone else's perspective; this kind of behavior changes as the adolescent matures, which might happen at a late stage of adolescence.

Peer Influence on Decision Making

Peers have an impact on adolescent decision making as Albert, Chein, & Steinberg, (2013) suggested that "peer observation influences adolescents' decision making even when the peer is anonymous and not physically present in the same room" (p.5). They feel worthy and rewarding when they perceive that someone is observing them, especially someone of the same age. Adolescents spend more time interacting with their peers, unlike children. They feel happier and develop peer norms that they feel comfortable and rewarding. The influence of peers in decision making can lead to adolescents developing excellent or lousy behavior (Albert et al., 2013). For example, in recent years, there has been an increase in developing and releasing new technologies, such as phones, iPads, and tablets, which most children and peers are using. The adoption of technology can be slower, depending on the social system. Earlier adopters are ready to learn and take risks in adopting innovations. Adoption occurs over time, depending on the

knowledge and the need to adopt (Agarwal & Prasad, 1998). Some families are conservative and are afraid to change. They are familiar and knowledgeable with their traditional techniques, culture, taboos, and traditions. And therefore accepting new technology becomes hard, especially when they cannot anticipate the impact of that innovation on their children.

Over time families gain various experiences and adopt the technology; nevertheless, the more conservatives would not accept the innovation instantly, and thus it takes time for them to adopt (Agarwal & Prasad, 1998). Social interactions, collaborations, and practices innovations can be readily utilized in societies. Experience, interpretation, and understanding of innovation are what drives people to adopt or resist new technologies. Many people prefer to function in their comfort zone. When introduced to innovation, they become fearful and can face constraints when adopting new technology; as a result, they resist adopting (Rogers, 2003). Family resilience in adopting technologies impact adolescents' behavior, especially when it involves their peers and results in making decisions and taking risks to engage in wrongdoing to get what they want. Albert et al., (2013) concluded that "these behavioral results suggest that peer presence increases adolescents' risk-taking by increasing the salience (or subjective value) of immediately available rewards and that some adolescents are more susceptible to this effect than others" (p.6).

Behaviorism for Children and Adolescents.

Adolescents' upbringing impacts their decision making. Parents and guardians play a role in developing children's ability to make choices or decisions. Parents are considered primary educators as they support their children in their learning and development, emotional support, quality, and quantity of cognitive stimulation (Kernan, 2012). When learning occurs in a specific condition, it forms a habit. Behavior can be developed when there are consistency and repetition

of a particular pattern in a constant setting. Behavior is conditional, whether an individual has an intrinsic or extrinsic motivation, but there is certainly a goal to achieve (Smith & Graybiel, 2016). Learning involves the association between stimuli and responses when there is satisfaction similarly to decision making. In the study conducted by Smith & Graybiel (2016) about habit formation, the results showed that habit formation is not a simple process; it needs cognitive readiness and motivation to adopt or change individual behavior. Habitual change (positive or negative) occurs in multiple brain regions or even in single areas. The authors considered habits as being formed through various simultaneously signaling processes in the brain. However, not all habits formed freeze, and they won't change, they change when there is a motive (Betsch, Haberstroh, & Höhle, 2002). Schunk (2015) mentioned that individual performance or act of a particular behavior is a cognitive decision, commitment, self-motivation, and essential to that person. Habits are formed when there is a consistent setting. Therefore adolescents' decisions may rely on their environment, values (individual, a group, or a family). While children at an early age environment and values do not count, instead, it is their own realities that matter at that time. People are wired differently, processing, and interpreting information differently. A habit formed at an early age has an impact on children and adolescent decision making. When these habits and behaviors are formed, it takes cognitive readiness to change; it is essential to impose positive behavior than negative behavior. Decision making is behavioral, which requires a cognitive process and willingness. The habit of making decisions when nurtured at an early age will have an effect in adolescence and adulthood (Schunk, 2015).

Theoretical Framework

The Theory of Planned Behavior.

The Theory of Planned Behavior (the Theory of Reasoned Action) has been used in human behavior to assess individual behavioral change (Fishbein & Ajzen, 1975; Ajzen, 1991; Fishbein & Ajzen, 2010). According to the Theory of Reasoned Action, which was the original theory, the individual "intention" to perform a particular behavior is influenced by several factors. The theory assumed intention as "to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior" (Ajzen, 1991, p.181). The author posits that for someone to perform a particular activity, they must have a more definite intention to engage and act.

Theory of Planned Behavior (TPB) measures the perception, attitude, and perceived behavior of an individual. According to Borges, Foletto, & Xavier (2015), TPB suggests that people's behavior originates from their intentions to perform a specific behavior. An intention to perform a particular behavior is attributed to attitude, subjective norm, and perceived control, which leads to a positive or negative intention to perform the behavior. Social pressure leads to one's perception of their capability to perform the behavior. Behavioral beliefs, normative beliefs, and control beliefs influence an individual's attitude, subjective norm, and perceived behavioral control. An individual's performance of a certain behavior will lead to a particular outcome.

The Theory of Reasoned Action (TRA) was developed to measure people's intention to perform a behavior. The assumption is that there is a link between individual beliefs, subjective norms, intentions, and attitudes, which results in behavioral change (Fishbein & Ajzen, 1975). In Ajzen (1991), the theory assumed intention as "to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort

they are planning to exert, to perform the behavior" (p. 181). It needs someone's firm intention and motivation to perform a specific act.

The theory was further developed into the Theory of Planned Behavior, where perceived behavioral control was included. The theory assumptions include the intention of the individual to perform a particular act that reflects their attitudes and perceptions. When an individual is exposed to subjective norms, it will affect his/her intention to implement it. Perceived behavior controls are an individual perception of their ability to perform, and these can be influenced by internal control, self-efficacy, and self-esteem. These perceptions increase the ability of an individual, believing that they have power and control, and they can perform a specific task. External is when an individual seeks conformity, acceptance, or approval that they can perform a task; this comes from people they love and trust. Behavioral beliefs where the individual perception of behavior influences own attitude (positive or negative). Normative beliefs, this is where societal expectations shape behavior. Control beliefs are an individual belief that they have full control and autonomy when engaging in a particular act (Fishbein & Ajzen, 2010).

A cognitive process, ability, and readiness are essential when one has an intention to perform a particular behavior. It is vital to question people's intentions to perform or act to measure their attitude towards specific behavior. Behaviors can be modified depending on the knowledge gain, social interaction, and experience (Ajzen, 1991). For adolescents and youth to make decisions, there has to be the intention to make any decision which will result in the outcome, Ajzen (1991) suggested that if there is no firm intention and motivation, then it is difficult for a behavior to be performed. Although adolescents and youth prefer immediate outcomes, children do not care much about the result; instead, they are guided by trust or

mistrust. Therefore, adolescents and youth, intentions to perform a behavior such as deciding to solve a particular problem, they are influenced by the outcome of the decision.

As per Ajzen (1991), an intention to perform a particular behavior requires cognitive ability and readiness. Attitude towards specific behavior is measured by questioning people about their intention to act/ perform, perceive, or think. Perceived behaviors are socially constructed, whereby people's behavior and perception are shaped by interactions, history, beliefs, norms, traditions, and experiences.

The Theory of Planned Behavior Model

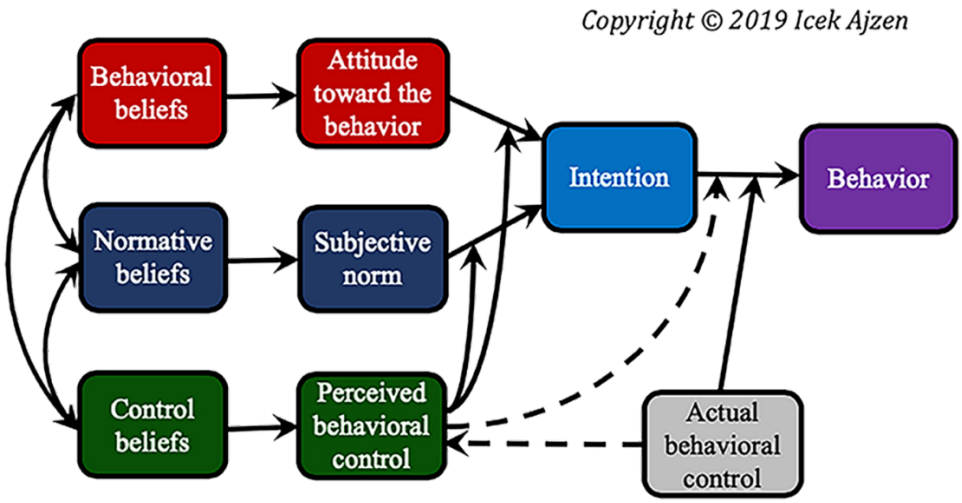

Fig 2-3: The Theory of Planned Behavior by Ajzen (2019). Source: Retrieved from https://people.umass.edu/aizen/tpb.diag.html#null-link

Youth Attitude towards Agriculture Career Choice.

According to Fishbein & Ajzen (2010), attitude is defined as "a latent disposition or tendency to respond with some degree of favorableness and unfavorableness to a psychological object" (p.76). Youth decision on agricultural career choice likely depends on the assessment of

the favorable and unfavorable perceptions and outcomes; as Rojewski & Kim (2003) posits that the combination of psychological, social and economic perspectives, can be significant factors that contribute to youth career behavior of work-bound and aspirations. Social behavior, as well as behavioral beliefs, are formed when there is a sequence of actions and acts, experiences, the interaction that occurred at some level and specification (Fishbein & Ajzen, 2010). Youth attitude towards agriculture is pioneered by the societal positive or negative stereotype towards agriculture and agriculture-related fields.

Youth have the goals they want to achieve in life, which costs and benefits are considered during the pursuit (Orbell, Hodgkins & Sheeran, 1997). The study conducted by Ochs & Roessler (2004) concluded that career exploration intentions are influenced by the outcome expectation, self-efficacy beliefs, and intentions to pursue a certain career. Thompson & Russell (1993) mentioned that youth knowledge about career potential and agriculture as an industry is lacking as they perceive agriculture as science-oriented and do not realize the potential opportunities provided by agriculture as a career choice. The study conducted by Shenaifi (2013) on attitudes of students toward agriculture at the College of Food and Agricultural Sciences, found that students' attitude towards agriculture is positive. Nevertheless, some students did not believe that agriculture is improving to be the right career choice for them. Many respondents were in support of students who have an agricultural background to pursue agriculture as a career. In contrast, the study conducted by Dyer, Lacey & Osborne (1996) argued that agriculture is a career for all, even without a farm background. Also, students who did not enroll in agriculture programs were interested and intended to graduate in the College of Agriculture but not necessarily to pursue agriculture as a career.

Gender can play a role in youth intention to pursue agriculture as a career. In the study conducted by Mukembo et al. (2014; 2015), it was interesting to see that gender influenced youth agriculture career choice, where young men were more inclined to pursue agriculture career than young women. Females were more interested and passionate to gain life, leadership, and communication skills when they joined young farmers' clubs, while men were more focused on technical education. Additionally, some agricultural-related programs in schools have influence (positive and negative) in youth career choice in agriculture (Dyer et al., 1996).

Youth Subjective Norms towards Agriculture Career Choice.

Youth intention to engage in agriculture is also influenced by their subjective norms, which lead to perceived behavior control. Subjective norms refer to one's perception of how the people he/she loves and trusts think when performing or not performing a certain behavior (Fishbein & Ajzen, 2010). The youngsters who want to pursue agriculture as a career have higher expectations of getting support from the people they love or trust, openness, and extraversion (Ridha & Wahyu, 2017). Ochs & Roessler (2004) mentioned that their family or individual values influence youth career decisions and outcome expectations.

Society pressure impacts youth intention to pursue agriculture as a career. In the study conducted by Thomson & Russell (1993) to determine the relationship between belief by counselors and parents on students' decision to select agriculture as a career. It shows that counselors' and parents' expectations are associated with students' intention to either choose or not to choose a career in agriculture. Osborne & Dyer (2000) mentioned that parents' background or participating in agriculture has influence in youth engaging in agricultural activities. Therefore, it is much easier for a young man/woman from such a family to have the intention to pursue a career in agriculture because of the experience and knowledge about

agriculture. On the other hand, Mukembo et al., (2014) argued that some parents, guardians and counselors are not well informed about the career opportunity in agriculture beyond farming. Therefore teachers, counselors, and parents sometimes are either supportive or unsupportive when a young man or woman is interested in an agricultural career (Mukembo et al., 2014).

Perceived Behavior Control towards Agriculture.

According to Ajzen (1991), perceived behavior control and perceived self-efficacy concept by Bandura (1977, 1982) have similarities. Ajzen (1991, p.184) mentioned that "people's behavior is strongly influenced by their confidence in their ability to perform it (i.e., by perceived behavioral control)." Self-efficacy beliefs can influence the choice of activities, preparation for an activity, effort expended during the performance, as well as thought patterns and emotional reactions. The perceived behavior control of time, job workload and demand, job autonomy, job satisfaction can mediate youth intention to choose agriculture as a career (Claessens, Van Eerde, Rutte, & Roe, 2004). Societies and knowledge are socially constructed. People's behavior and perception are shaped by interactions, history, beliefs and traditions, and experience. Bandura (2002) concluded that at the elementary level, parents, teachers, peers, and maternal support contribute to children's (including youth) perceived academic efficacy when one needs social support, perceived academic self-efficacy, life satisfaction, and academic achievement. On the other hand, at the middle and high school levels, teachers' support fades from the picture, the maternal support declines, and parental support increases. Therefore the perceived self-efficacy retains its mediating predictive value throughout the age span despite the weight of the different enabling supportive structures, which is influenced by the change of age.

Social Cognitive Career Theory

Bandura's Self-efficacy Theory (1977, 1997) serves as the foundation of Social Cognitive Career Theory (SCCT) (Lent, Brown, & Hackett, 2000, 2002; Lent, 2005). Social Cognitive Career Theory is the theory that helps to understand people's relationship and the environment and the commonality that exists. It goes further by looking into educational and vocational decision and choice making, how interests are created, performance, and stability in occupational pursuit. The theory also posits that personal cognitive variables (e.g., self-efficacy, expectations, and goals) and environmental aspects shape individual career development.

Youth acquire personal efficacy from their performance, forms of social persuasion, observation of models, and physiological indexes. The support from teachers, parents, and peers increases self-efficacy, especially when there are motivation and belief in one's capability. Teachers', parents' or peers' self-efficacy impact youth achievement. Cultural patterns, morals, language, customs, traditional practices shape community members to individualistic or collectivistic mode. The diverse cultural environment is what makes a person individual or collective. When exposed to a group, collective mode behavior is influenced by shared beliefs. The beliefs that are shared by the group members influence the high sense of perceived collective efficacy (Bandura, 2002).

Social Cognitive Career Choice Model

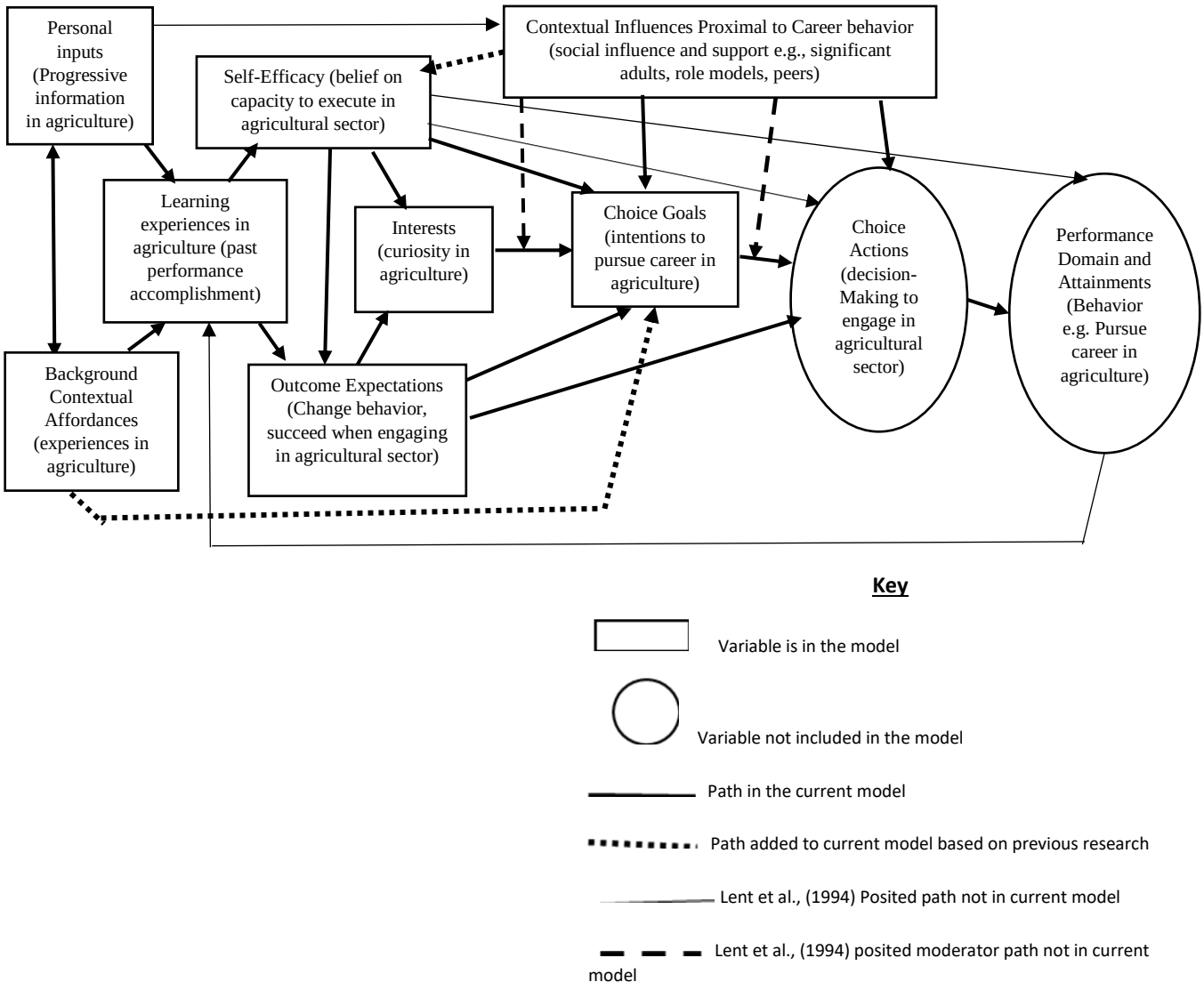

Fig 2-4: *Social Cognitive Career Choice model. Adopted from Navarro, Flores & Worthington (2007)*

Societies and knowledge are socially constructed. People's behavior and perception are shaped by their interactions, history, beliefs, traditions, and experience. For Schunk (2015), learning occurs when it is actively performed and through observation. It requires cognitive ability to understand and make meaning to the knowledge acquired. For example, children at

their younger age learn from the people surrounding them. Children tend to mimic what their elders do or say and make their own realities. Therefore if the knowledge transferred is negative or positive, it can be quickly adopted at an early age. Sometimes it changes, and sometimes it doesn't. It all depends on personal interaction and cognitive ability to make meaning and interpretation (Schunk, 2015). Bandura (2002) suggested that at the elementary level, parents, teachers, peers, and maternal contribute to children's perceived academic efficacy. Middle and high school levels, teachers support fades from the picture; the maternal support decline and parental support increases. The perceived self-efficacy retained its mediating predictive value throughout the age span despite the weight of the different enabling supportive, which is influenced by the change of age. Perceived self-efficacy influences adolescents' decision making. The children's belief and confidence that they can make decisions increase their likelihood to participate in and contribute to various choices when needed.

Summary

It is essential to know that youth-related attitudes, experience, interest, self-efficacy towards certain careers can be developed at an early age, and some learners can build their interest as early as 14 years of age (Mukembo et al., 2014). Ochs & Roessler (2004, p. 224) posit that "This initial stage involves crystallizing vocational preferences through (a) thinking about fields and levels of work, (b) making tentative career choices, and (c) committing to obtaining the education or training needed for the selected occupation." It is pivotal for youth to acquire knowledge at an early age to understand the opportunities in agriculture, the importance and the impact of engaging in an agricultural-related field.

Therefore, the theoretical framework for the study combines the Theory of Planned Behavior and Social Cognitive Career Theory as a lens to understand the intention, knowledge

interpretation, influence of the environment, and cognitive support in youth decision making in career choice and development. The theories involve human intention, self-efficacy, learning support, and motivation to create knowledge, which may result in changing behavior. The intention must be strong enough to perform a particular act, critical reflection, sharing experience to changing behavior. On the other hand, environment, culture, and critical thinking and reflection are essential when constructing knowledge.

Understanding youth intention to engage in an agricultural career is pivotal for agricultural development. According to Ajzen (1991, p. 181), “Intentions are assumed to capture the motivational factors that influence behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior. Any behavioral change requires one's intention, knowledge, experience, and motivation. When youth do not have a firm intention and non-motivation factor in choosing career in agriculture, Ajzen (1991, p.181) suggested: “ Intentions are assumed to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior.” It could be difficult for them to perform and engage in an agricultural career. On the other hand, youth aspirations and interest to participate in an agricultural-related career will depend on the anticipated outcome, such as availability of opportunities in the agriculture field, knowledge, awareness, economic, social, and professional development as well as role models and people they trust.

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CHAPTER 3

MANUSCRIPT #1

Youth Intention to Pursue a Career in Agriculture: The Role of Education System in Shaping Youth Decisions to Aspire to and Pursue Career in Agriculture.

> "To become independent and responsible problem solvers, individuals must also become their own best friends as problem solvers. Individuals who use and believe in positive self-talk such as 'I can learn to be a good career problem solver' or 'I know I can trust that my career decision will be the right one for me' will approach the task of career problem solving and decision making much differently than individuals who use negative self-talk such as, 'I've tried to find a good occupation many times before, but I can't ever arrive at good decisions', or 'People, like counselors or teachers, are better suited to solve my career problems than me'." (Peterson, Sampson, Lenz, & Reardon, 2002, p.327)

Abstract

Agriculture is a crucial sector for the Tanzanian economy. Many people involved in agriculture are elderly citizens who have been practicing agriculture for decades. As important as it is to Tanzania's economy, agriculture has a poor appeal to youth who are largely not interested in agriculture as an occupation. Many Tanzanians view agriculture as a last resort for low achieving students and not a promising career path. This study explores the intention of high school students to pursue a career in agriculture. The linear regression model predicted 48% of the variance in youth intention to pursue a career in agriculture. Attitude towards agriculture, subjective norms, and perceived behavior control were found to be strong contributing variables to the predictive model. If agriculture is well branded, positively viewed by peers and society, undoubtedly influenced by significant adults, and taught from primary school through secondary school, youth intention to enter an agricultural career could be positively impacted.

Introduction

Education is a fundamental human right in Tanzania. Every citizen has the right to access education without any discrimination. The constitution (URT, 1977) stipulates under section 11

(cap 2 & 3) that, “Every person has the right to access education, and every citizen shall be free to pursue education in a field of his choice up to the highest level according to his merits and ability.” (p.14).

Education is offered in formal, informal, and non-formal learning systems throughout Tanzania. Learning can occur in many settings (Schuck, 2015). Whether formal, informal, or non-formal education, there is a structure that governs the learning process. Formal learning is more structured than informal and non-formal learning. It is important to note that the terms informal and non-formal are often used interchangeably. Malcolm, Hodkinson, & Colley (2003), stipulated that “the term informal and non-formal appeared interchangeable, each being primarily defined in opposition to the dominant formal education system, and the largely individualistic and acquisition conceptualizations of learning developed in relation to such educational context” (p. 314). In the settings mentioned above of learning, people continuously make decisions that impact their lives, such as career decisions.

Learning opportunities provide space for people to acquire skills; for decision and choice making. Youth learn decision-making skills at a young age when exposed to problem-solving situations, which may result in reaching their desired goals. Audusseau & Juhel (2015) believe that “Starting early during childhood and then more and more as they age, children are facing decision-making situations that require them to make a choice between two or more alternatives in order to reach a desired goal” (p. 38). Decision making is a cognitive process where people choose the preferred options which they feel are appropriate (Wang & Ruhe, 2007). Most people make choices depending on their values, influence, experience, knowledge, and available options, which results in inevitable consequences as Steinbeis & Crone (2016) posits that “Value-based decision making is a pervasive aspect of our daily lives. It occurs each time we

have to make a choice between available options based on the value that we assign to each of them" (p. 28).

Youth career decisions are made in light of the decision making processes they learn throughout life. Making choices about a career has never been easy. Youth must consider a myriad of factors when making career choices. The information that young people get during childhood from the people they love, trust, and through interactions, social media, etcetera, does influence their decisions on future careers (Inchara, Gayathri, & Priya, 2018). Nevertheless, the decisions, like career decisions, can change with age when considering the goals, attainment, consequences, cost-benefits, and outcomes (Steinbeis & Crone, 2016). Career choices cannot be anticipated at a very young age as the choice may change with increased exposure to many careers (Hartley & Somerville, 2015). However, during adolescent teenagers tend to make risky choices driven by immediate outcome, family influence, and values, and personal experience; hence "adolescents decision-making is indeed unique, and that their patterns of uniqueness can be partially attributed to normative maturational changes in brain function" (Hartley & Somerville, 2015, p.112).

The Tanzanian Education System

Tanzania has formal, informal, and non-formal learning systems where people acquire knowledge and skills. The formal education is categorized into pre-primary education, primary education, post-primary education or secondary education, and tertiary education (college degree). Informal education is acquired through individual interest, while non-formal education is acquired through less structured but institutionalized learning systems (URT, 1991).

Pre-Primary Education

Pre-primary education is a component of formal education for children aged 0 to 6years; it includes kindergarten, nursery school, daycare, and etcetera, where children learn early knowledge. Even though this stage of education is essential for child development, many parents do not have the financial capacity to enroll their children in such schools. Therefore it continues to be optional in Tanzania (URT, 1991). The government encourages parents to register their children in kindergarten at the age of 5-6 years to acquire early knowledge. The "Government, therefore, considers that with the involvement and cooperation of parents, local communities and non-government agencies, possibilities abound for the systematization of formalization of pre-primary education for the 5-6 years old children" (URT, 1991, p. 3).

Primary Education

Primary education is mandatory for every child aged 7- 14. The primary education is for seven years of learning basic foundation knowledge that will be useful for further education but also community development. URT (1991) stipulated that primary education " is fundamental to the strengthening of higher levels of education, laying strong foundations in scientific and technological literacy and capacity and thus a means to self-reliant personal and national development."(p.4). Some parents are not able to enroll their children in primary schools, so the children do not get the necessary education needed for everyone. In 2016 the government reintroduced the Fee-Free Education from primary to ordinary level secondary school education. Previously parents were required to pay fees, but with the 2016 Government Circular, parents' financial contributions are voluntary and have to be approved by the Local Government Authorities and the regional authorities (Hakielimu, 2017).

Secondary Education

The secondary education is for a total of six years, divided into two levels, the Ordinary level secondary education (OCSE) (Form 1-4) consisting of four years of study. In the first two years, students study seven core subjects; Mathematics, English, Kiswahili, Geography, History, Civics, and Biology (URT, 2010). Depending on the school curriculum, Science, Business or Arts, students can choose to learn Chemistry and Physics, Bookkeeping and Commerce, or Needlework and Cookery, or technical subjects (URT, 2010, p. 9). Agriculture is not one of the elective subjects, and the information shared from the (URT, 2010) only shows the number of periods per week if agriculture science is taught in ordinary-level certificate schools. When students get to form three, they have to choose the area of concentration, either Arts, Science or Business. For example, for students who decide their area of concentration to be in arts subjects, students will study Mathematics, Geography, Civics, English, Biology, and Kiswahili.

Advanced Certificate of Secondary Education (ACSE) (Form 5-6) lasts for two years, where students who passed form four join the Advanced level certificate. With advanced level education, the students stick to their concentration depending on their passed subjects, combinations for science can be Chemistry, Biology, and Geography (CBG), or Physics, Chemistry, and Biology (PCB); for arts can be History, Geography and English (HGE) or for business Economics, Geography, Mathematics (EGM) etcetera. The core subject is General Studies (URT, 1991). For those who are interested in further studies in agriculture, they study Chemistry, Geography, and Biology (CBG), nevertheless anyone who has studied science subjects has an opportunity to pursue a degree in agriculture and agriculture-related fields.

College Education

There are two types of a college education: Technical and Vocational Education Training (TVET), which awards a certificate and diploma level education. Generally, enrolment is after

completion of primary or secondary school. Depending on the program, years of study vary, but it is usually between 1 and 2 years (URT, 1991). Before sitting for the National Ordinary or Advanced Certificate of Secondary Education examination, students are required to fill the forms called self-forms and have the opportunity to select their schools (for ordinary level), TVET (where they provide certificate or diploma certificate for a specific specializations, e.g., teaching, agriculture, nursing, forestry etcetera). The second is a Bachelor's degree, which is between 3-5 years. Upon completion of the Bachelor's degree, students are eligible for the Postgraduate Diploma (between 2-4 additional years), Master's degree (between 2-4 additional years) and Doctor of Philosophy (between 3-7 additional years).

Teaching Agriculture in Tanzanian Schools

While Tanzania considers agriculture as the backbone of the economy, Agriculture subject is not given a strong emphasis to be taught in primary or secondary schools likely because the Education Policy of (1991) did not explicitly mention agriculture as a mandatory subject. The policy categorized agriculture as part of "life skills," which includes crop and livestock, technical skills, among others, pottery making, and etcetera. The policy encourages all levels of education and training to incorporate these life skills into their programs so that students can gain the theory and practical knowledge. Similarly, the National Education Curriculum (2010) did not emphasize agriculture as a mandatory subject; instead, it is categorized as the learning area of natural sciences and technologies.

The secondary education curriculum identified the subjects which are compulsory in the ordinary and advanced level. For ordinary-level education, students should study seven core subjects and two elective subjects. "The core subjects shall be Mathematics, English, Kiswahili, Biology, Civics, Geography, and History. Elective subjects shall be Physics, Chemistry or

Bookkeeping and Commerce, Home Economics or Technical subjects" (URT, 2010, p. 9). In ordinary level education, agriculture is an elective subject where students can decide to enroll or not, but also schools can choose to teach or not to teach the subject.

On the other hand, the National Higher Education Policy (1999) encourages the higher learning institution to have a curriculum that includes programs that significantly contribute to changing the world and meet the current and future needs of the country, such as agriculture. The National Higher Education Policy (1999, p.7) mentioned that "As agriculture will continue to be the backbone of the economy, agricultural-related disciplines and technologies shall be given priority."

The Education System in Preparing Youth for Career Decisions.

The Tanzania Education Policy (1991, p. 56) posits that secondary education does not adequately meet the learning needs of students and their career choices. Students are placed prematurely into vocation programs, which might meet their future career preferences. Besides, the instructional process does not enable students to master both vocational and cognitive skills at the end of the cycle, thus rendering them incapable of undertaking self and direct employment in the formal and informal sectors.

The Tanzania Education System

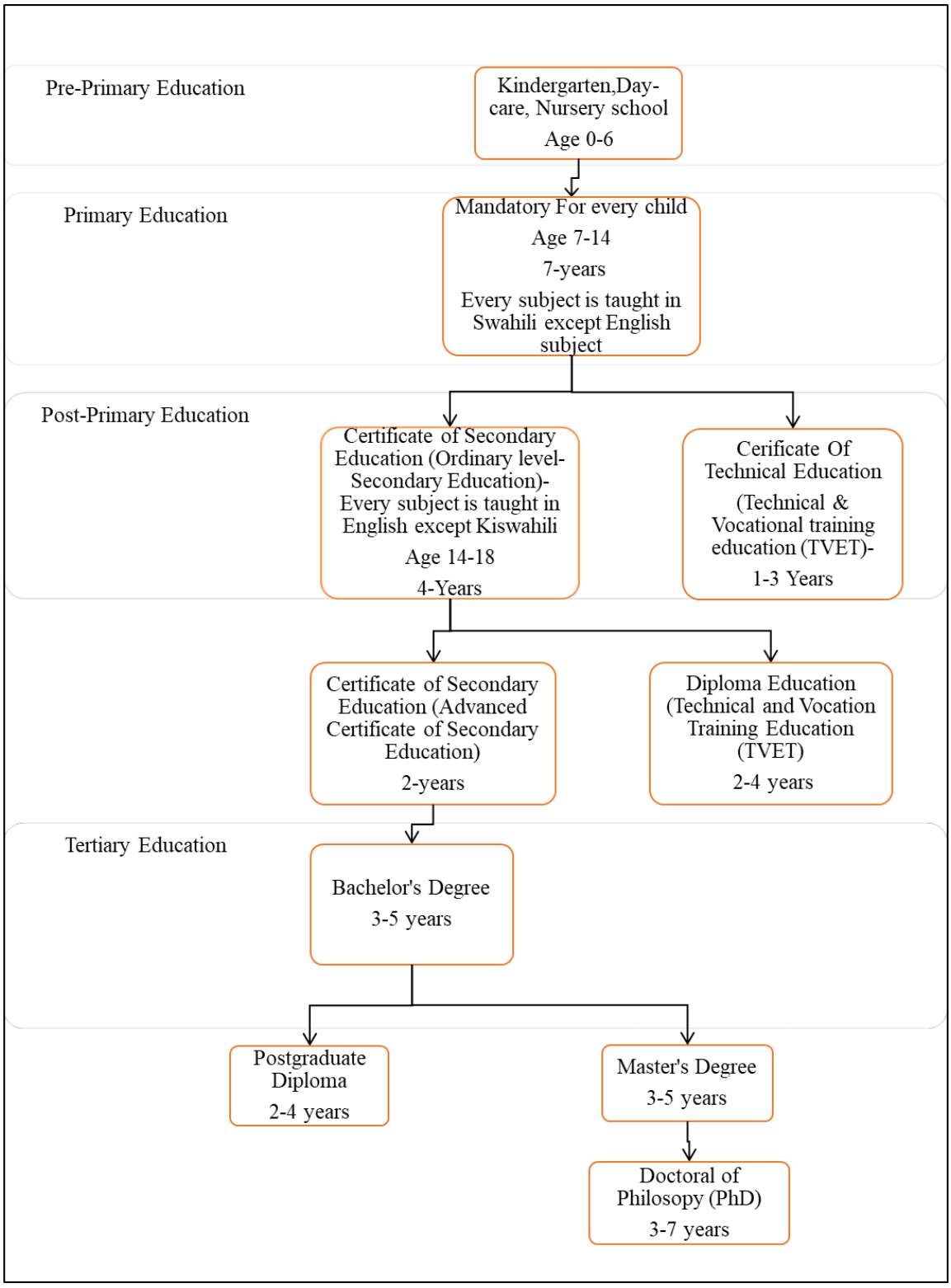

Fig 3-1: *The Tanzania Education System*

Purpose

The purpose of this study was to understand youth intention to pursue a career in agriculture and agricultural-related fields and the role and contribution of the education system in shaping youth intentions towards career choices, decisions, and youth perception on the pursuit of careers in agriculture.

Objective

1. Determine agricultural career decision-making intentions for youth in schools that offer instruction in agriculture and agriculture-related subjects and schools that do not offer agricultural subjects.
2. Determine agricultural career decision-making intentions for youth in schools that do not offer instruction in agriculture.
3. Compare agricultural career decision-making intentions for youth in schools that offer instruction in agriculture with youth in schools that do not offer agricultural instruction
4. Propose a model for predicting agricultural career decision-making intentions for youth in Tanzania.

Theoretical Framework

The Theory of Planned Behavior served as the conceptual framework for this study. The Theory of Planned Behavior (Fishbein & Ajzen, 2010) suggests that Attitude (behavioral beliefs and attitude), Subjective norms (normative beliefs and subjective) and Perceived Behavioral Control (control beliefs and perceived behavioral control) determine the intended intentions that one will make in the future with respect to a particular objective (in this case a particular career). The Social Cognitive Career Choice theory was used to support the concept of youth career

decisions and choices. The theory realm on the assumption that a person's self-efficacy, outcome expectations, and personal goals, interest, and making decisions lead to pursue a particular occupation. The two theories have similarities on self-efficacy and perceived behavior control, as Ajzen (1991, p. 668) mentioned that "both are concerned with perceived ability to perform a behavior (or sequence of behaviors)"

The Theory of Planned Behavior

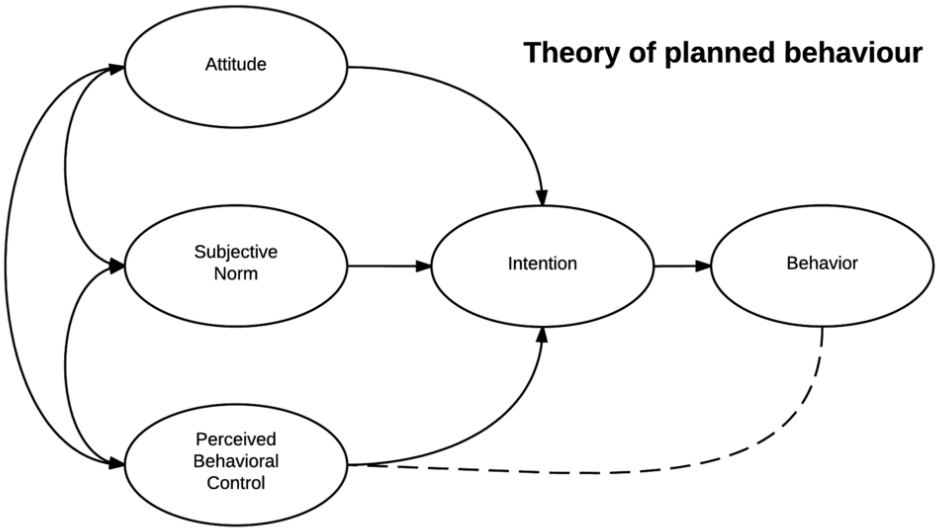

*Fig 3-2***:** *The Theory of Planned Behavior***:** Source https://en.wikipedia.org/wiki/Theory_of_planned_behavior

Research Methods

Research Design

The research design was divided into five phases: Review of literature, Adoption of the Theory of Planned Behavior Constructs, Development of items for each construct, Review and

editing the items, and Administering the questionnaire to the High School students. The Theory of Planned Behavior was used to guide the process of instrument development.

Phase 1

A review of the literature was carried out to explore the questionnaire that can suffice the need to understand the perception of youth in career choices and the role of the education system in shaping youth career decisions.

Phase 2

The Theory of Planned Behavior was useful for this study, as the researcher aimed to explore the perception of youth in relation to the role of the education system in youth preparedness in career choice and decisions. The researcher wanted to understand youth intentions when it comes to career choices. The Theory of Planned Behavior Questionnaire Constructs was used to develop the study questionnaire. The Theory of Planned Behavior has seven constructs that can be measured, including attitude, which measures the instrumental and experiential aspects of the construct. Perceived behavioral control measures the capacity and autonomy aspects. Intention measures past behavior, eliciting salient beliefs. Behavioral beliefs measure behavioral expectations and willingness. Normative beliefs measure the list of people or groups that approve or disapprove of certain behaviors. Subjective norms measure the norms that serve individual interests and society's interests. Control beliefs measure the ability to perform a particular act (Fishbein & Ajzen, 2010).

Phase 3

The questionnaire was developed by considering the requirements of the Theory of Planned Behavior constructs. The questions used a 5-point Likert scale, using 1=strongly

disagree, 2=disagree, 3=neutral, =4=agree, 5=strongly agree. Behavioral beliefs had five (5) items, attitude towards behavior had four (4) items, normative beliefs had four (4) items, Subjective norms had four (4) items, Control beliefs had six (6) items, perceived behavioral control had eight (8) items, and intention had four (4) items. The instrument was validated utilizing a panel of experts at Virginia Tech. The number of items was determined in consultation with the expert panel.

Phase 4

After the items were developed, the researchers reviewed and edited the questions, considering the level of education of students, language, time, and cultural appropriateness of the questions. The language was a key factor in preparing the questionnaire because English is a second language; nevertheless, it is a means of communication and learning in secondary and high schools in Tanzania. The researcher chose to administer the instrument in English.

Phase 5

When the IRB was approved, the researchers obtained the Tanzania local government permission to conduct research in a total of three high schools, which teacher's agriculture and agriculture-related subjects. A total of (n = 101) students participated in the study, 48 females and 53 males, aged 18-24. The researchers administered the instrument face-to-face with the students in the presence of their teacher and the research assistant.

Population

Six high schools were purposefully selected for the study. Students who were ready to sit for their final exams and move on to tertiary (College) education were selected to participate. Three schools teach agriculture as a subject or related subjects like students who are taking

Chemistry, Geography, and Biology (CBG) subject combination. The assumption was that a student who is studying CBG has a much higher chance of going to the Sokoine University of Agriculture or study agriculture-related fields in college. The other three schools that do not teach agriculture or related subjects. Due to data collection constraints, the researchers administered the survey to only three schools, two that teach agriculture and one that does not teach agriculture but teaches related subjects (Chemistry, Biology, and Geography (CBG)).

The Description of schools that participated in the study.

Three schools participated in the study. Two schools were selected from the Coastal Region and one in Morogoro Region. The two schools in Coast Region both teach agriculture as a subject. One is a girls' school, and the other is a boys' school. The school in Morogoro teaches subjects related to agriculture but not agriculture subjects. The school is a mixed school, for girls and boys.

Data Collection

Data collection involved three high schools, two in Coast Region, and one in Morogoro Region. The researcher and the research assistant worked to obtain a permit before proceeding with the data collection. The researchers submitted IRB letters, recruitment letters, and supporting documents needed e.g., a researcher student ID, written letter, and work ID (as the researcher is a Tanzanian citizen working in the Ministry of Agriculture), to the local government authorities for approval. After obtaining the local government approval, the researcher and research assistant collected data in the selected high schools.

The high school students were between the ages of 18 and 24 years. The researchers made appointments with school principals. During the day of the meeting, the researchers

explained the purpose of the study, why the school was selected and showed the permit to the principal from the local government. The school principals were very supportive, planned with class teachers, and allowed the researchers to meet the students. During the face-to-face meeting with the students in their respective classes, the researchers explained the purpose of the study, the consent form elaborating their rights as subjects, and emphasized that their participation was voluntary, there was no compensation or punishment if they did not participate. All students in the three schools agreed to participate in the study. The survey tools were distributed to the students after obtaining verbal consent. It took each student about 25-30 minutes to complete the survey. The researcher collected data over a four-month period due to the delay in obtaining permits from the local government, which involved two different Regions.

Instrumentation

The researchers (including the research assistant) used the instrument, which was developed by the researcher for this study. The instrument aimed to measure the students' perception of the role of the education system in identifying career decisions and opportunities. Participants answered the questionnaire individually, although they were all in the same room as Fishbein & Ajzen (2010, p. 451) posit that "although the participants can be assembled in groups, the elicitation is done individually in a free-response format." Participants responded to 35 items of a 5-point Likert scale (1=strongly disagree to 5= strongly agree) and five demographic questions which include, name (optional), age, gender, education level, and school. Written consent was also obtained from the students.

The researcher ran a reliability analysis to determine the internal consistency of the items in scales and subscales (Gliem & Gliem, 2003). As cited by Gliem & Gliem (2003, p. 87) that "George & Mallery (2003) provide the following rules of thumb: "_ > .9 – Excellent, _ > .8 –

Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and _ < .5 – Unacceptable" (p. 231)". On the other hand, Vaske, Beaman, & Sponarski (2016) argued that measuring the internal consistency is important but does not necessarily determine the homogeneity and unidimensionality of the items.

The researcher conducted a reliability analysis to measure the model considering the original Theory of Planned Behavior main variables. The variables were categorized into three constructs: Attitude (behavioral belief and attitude), Subjective norms (Normative belief and Subjective norms), and Perceived behavior Control; (Control norms and perceived behavioral control). The results show the Attitude Cronbach's alpha yielded of .782, Subjective norms yielded a Cronbach's alpha of .816 and Perceived behavioral control yielded at Cronbach's alpha of .782 with an overall Cronbach's alpha of .909.

Data Analysis

The SPSS software was used to run descriptive statistics, frequency (*f*), means (M), percentages (P), and standard deviation (SD) to describe the high school students' demographic characteristics. After obtaining the item reliability and Cronbach's alpha, the researchers employed the stepwise linear regression analysis to predict the relationship between the intentions (dependent variable) of youth intention to choose a career and Attitude, Subjective norms, and Perceived behavioral (independent variables).

Results

A total of 101 (n = 101) high school students who study agriculture and agriculture-related subjects participated in the study. The survey was administered to 17 girls and 27 boys in the Morogoro region (non-agriculture school). In the Coastal region, one school was boys only (A), and the other was girls only (B), but they both teach agriculture. The survey was

administered to school A 26 boys and school B 31 girls, respectively. The mean age for the participants were (M = 19.61, SD = 1.208). There were more male participants at 51.5 % than females at 46.6 %. There was no statistical difference in the predictive model with students in schools that offered agricultural subjects and those that do not.

Demographics

Table 1.1: *Mean, Standard Deviation, Frequencies and percentage for the high school students in agriculture and agriculture-related schools participated in a study (n = 101)*

		M	*SD*
Age		19.61	1.208
Gender		.48	.502
		f	P
Age	18	17	16.5
	19	35	34.0
	20	29	28.2
	21	13	12.6
	22	5	4.9
	23	1	1.0
	24	1	1.0
Gender	Male	53	51.5
	Female	48	46.

Descriptive Statistics

Table 1-2: *Descriptive statistics for youth intention, age, gender, attitude, subjective norms and perceived behavior control to pursue agriculture career (n = 101)*

Predictors		Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic
Intention		1.00	5.00	4.2649	.69266
Age		18	24	19.61	1.208
Gender		0	1	.48	.502
Attitude		1.00	5.00	4.2926	.53971
Subjective Norms		1.00	5.00	3.8168	.80692
Perceived Behavioral Control		1.83	5.00	3.9917	.63185
Valid N (listwise)	101				

Linear Regression Table

Table 1-3: *Relationship between youth intention to pursue agricultural career and age, gender, attitude, subjective norms and perceived behavior control (n = 101)*

	B	SE B	β	95% CI
Model	.590	.423		-0.249, 1.429
Attitude	.341	.117	.266**	0.109, 0.573
Subjective Norms	.160	.091	.187***	-0.020, 0.340
Perceived Behavioral Control	.401	.113	.366*	0.177, 0.625
R2		.496		
Adj. R2		.481		
F		12.648*		

Note. p<.001*, p<.01**, p<.05, ***

The stepwise linear regression analysis shows that the model predicts 48% of the variance in student intention to choose an agricultural career. The results show that the three predictors, attitudes, perceived behavior control, and subjective norms have an influence on youth pursuing a career in agriculture (F (3, 97) = 31.860, p<.000) combined. The results also show age and gender have no effect on youth intention to choose a career in agriculture when p= .721 and p = .512, respectively.

Conclusion and Recommendations

"Young people everywhere are key agents for social change, economic development, and technological innovation. They have aspirations and want to participate fully in the development of their societies" (Lyocks, Lyocks & Kagbu, 2013, p. 78). Youth engaging and pursuing a career in agriculture and agricultural-related fields is paramount in social change, economic development, and technological innovations. Choosing a career is one of the critical decisions that youth make at a younger age, as Inchara, Gayathri & Priya (2019, p. 871) mentioned, "The choice of a right career is of fundamental importance in one's life."

In the three schools that participated in the study, the students are either studying agriculture or agriculture-related subjects (not agriculture school). In Tanzania students in high school who are studying Chemistry, Biology and Chemistry (CBG) combination and those studying agriculture subject are more likely to pursue a career in agriculture

The results show that the model predicts 48% of the variance of youth intention to choose a career in agriculture. Dyer, Lacey & Osborne (1996) wrote that high school students who are enrolled in agriculture display a positive attitude towards agricultural fields and have the intention to pursue a career in agriculture and agricultural-related fields. Orbell, Hodgkins & Sheeran (1997, p. 946), posit that "the formation of an implementation intention specifying where and when a particular goal intention or a particular behavior in the service of a goal will be enacted increases the likelihood that a goal will be achieved." Youth have the potential and opportunity to set goals at a younger age for a career they prefer. They can ask themselves questions like, what would they prefer in their future, what do they want to achieve, how can they achieve their goals, when and where can their goals be achieved. Youth who are interested in agriculture can start participating in agriculture activities at a younger age at school or at home.

Given that there were no statistical differences in the predictive model between schools that offer agricultural subjects and those that do not may indicate that the perceptions of agriculture as a career are developed early in life. As mentioned earlier, two schools teach agriculture subjects, and one teaches agriculture-related subjects. It is likely that youth today in Tanzania have lower perceived behavioral control and more negative attitudes toward agriculture in part because agriculture was removed from the primary curriculum. Changing public perceptions and the beliefs of adults can only happen over time with proper education in and

about agriculture with schooling. Beginning agriculture education with positive messages and images early in life will lead to more youth intending to pursue agriculture careers. Therefore, changing the branding of agriculture and moving societal norms in a positive direction is critical to begin to influence youth that agriculture is the right career choice.

Choosing a career involves emotion and is heavily influenced by people we love and trust. Perceived behavior control " refers to people's expectations regarding the degree to which they are capable of performing a given behavior, the extent to which they have the requisite resources and believe they can overcome whatever obstacles they may encounter" (Ajzen, 2002, p. 676-677). Results show that perceived behavior control, attitude, and subjective norms influences youth intention to pursue a career in agriculture. The students' belief that they are capable of pursuing a career in agriculture or agricultural-related fields increases their intention when there is an opportunity for them to pursue a career in agriculture (Ajzen, 2002).

Recommendations for Practice

Based on the results, it is recommended that agriculture be taught in schools at the primary school level to trigger youth interest to pursue agriculture as a career. Or develop Youth programs in both primary and secondary schools that can increase the number of youth engaging in agriculture. The recommendation mainly comes from the fact that attitude development and perceived behavioral control toward agriculture as a career occurs very early in life. The absence of agriculture in the primary school curriculum has likely resulted in the youth's negative perceptions of agriculture. We believe teaching agriculture in the primary school can positively affect attitude and perceived behavioral control of youth by exposing them to positive agriculture messages early in life. Teachers should be creative to have programs that youth will be interested

in participating. When agriculture is taught in primary or secondary schools, it would be useful to prepare youth to engage in entrepreneurship in the agriculture sector. Results show that perceived behavior control is one of the factors that influence youth intention to pursue a career in agriculture. Perceived behavior control is when someone perceives either ease or difficulty of performing a particular behavior; therefore, teachers have the potential to have programs/lessons that can influence youth perception of agriculture career positively and successfully. Ajzen (2002, p.667) mentioned that "a high level of perceived control should strengthen a person's intention to perform the behavior, and increase effort and perseverance."

Subjective norms such as peers, family members, and people youth consider as influential, or role models, and the people they trust have potential influence in youth intention to pursue a career in agriculture. Therefore norms about agriculture could be changed through youth participation in various programs such as agriculture led conferences, skills competitions, study tours, etcetera. Also changing the perception that agriculture is only farming, but rather it is a broad and rewarding career. The government has a potential opportunity to change community perception and improve the lives of extension agents as they are the critical factors in influencing youth perception of agriculture. The norm that agriculture is for the failures or elderly or as a last resort for people should be addressed to increase the interest of youth in agriculture.

The outcome expectations influence attitude towards agriculture careers. Youth expect a successful and fruitful career; the government and other actors have the ability to brand agriculture as a rewarding and meaningful career. Providing markets for agricultural products and increasing salaries for extension agents would be very positive steps in positively changing attitudes and perceptions about agricultural careers. Having a positive attitude towards

agriculture instilled at a younger age will increase the number of youth pursuing agriculture as a career path.

Recommendation for Further Research

From the findings, it is recommended to conduct further research to verify the results and to discover the other 52% of the variance in predicting youth intention to pursue a career in agriculture. If 48% have the intention to pursue agriculture as a career, what could be the factors that influence their intentions? What are the attitudes, subjective norms, and perceived behavioral controls that youth think influenced their intentions? There is also an opportunity to explore strategies to attract more youth to engage in agriculture. Schools have a significant role to play to influence the intention of youth to pursue a career in agriculture; exploring the programs and skills needed to increase youth intention to pursue a career in agriculture is paramount.

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CHAPTER 4

MANUSCRIPT #2

Youth Aspirations and Intentions to Choose a Career: Is Agriculture a Viable Career Choice?

> "Youth is a critical and transformational time in life, where most people formulate their aspirations, assume economic independence, and define their roles in society. It is at this time that decisions made can fundamentally affect the course of a young person's life. While employment is a critical step towards financial independence, jobs can also convey a sense of identity, status and self-confidence. Productive employment can also promote social cohesion, create networks, and allow a young person to have a stake and a voice in society" (Haji, 2015, p.3-4)

Abstract

Interest in and about a specific career is influenced by the role models, societal norms, perceived value of that career, self-efficacy, and personal interest. This study explored aspirations and intentions that led to a career choice. The decisions about choosing career paths are complicated, and youth often are faced with making career decisions before they are prepared to do so. The aspirations and the value that is projected towards the career at an early age is essential for youth development. Youth like careers that are promising and have a quick return that contributes to a successful life. Youth making decisions about their profession is influenced by the perception of career field and societal norms, their perceived self-efficacy in the field, the influence from the family and people they love, and the value and satisfaction they will attain from the career. Choosing agriculture as a career path in Tanzania is a challenge for youth today as many view agriculture as a poor career choice and career with little benefits that lead to a fulfilling life. This study sought to gain insight into what might influence career choice in agriculture for youth in Tanzania.

Introduction

Deciding on a career can be overwhelming; it requires someone to think critically and carefully as it influences current and future well-being. "Decision-making involves many cognitive processes such as information search and processing, judgment, learning, memory and problem-solving" (Mann, Harmoni & Power, 1989, p.266). Career interests and goals are developed at an early age as childhood, adolescence, or early adulthood as Lent, Brown & Hackett (1994, p.88) wrote that "over the course of childhood and adolescence, people's environments expose them to a wide array of activities of potential career relevance." It is evident that at a similar age, youth in Tanzania have the opportunity to develop, explore, and decide on their career. A career results in an individual professional identity, where interests, skills, values, goals are developed and maintained. The surrounding environment influences people's decision-making and actions; the people they love and trust, experience, etcetera (Turpin & Marais, 2004). Agriculture in Tanzania is often viewed in a negative light as only farming. It is commonly used to discipline students in schools who misbehave and is seen as a last resort career choice by many Tanzanians.

Literature Review

Youth Development and Decision making

Children and Adolescent Decision Making.

Adults, adolescents, and children's decision making processes are different depending on their maturity, exposure, and childhood experience, social and cultural cues, and etcetera. What is similar is that adults, adolescents, and children's decision making depend on the cognitive process, which involves the brain and memory, as well as other internal and external factors that

influence decisions. When making decisions, there should be a situation which requires immediate or late decision depending on the nature of the issue (Orasanu, 2016).

Adolescents' decision making is highly vulnerable compared to adults or children because their brain is going through multiple stages of development (Defoe, Dubas, & Figner, 2015). At this stage of development which occurs in various regions of the brain, the adolescent tends to develop their identity and make decisions on who they think they want to be, what values and behavior they need to adopt, etcetera. However, children make their decision based on their realities at that point, and parents and guardians frequently make decisions on their behalf. Coyne & Harder (2011) argued that parents and guardians should consider children as individuals and should allow them to make their own decisions since a child's competence and preference depends on the circumstances in every situation.

Understanding Decision Making.

Scholars define decision making in various ways; nevertheless, they all agree that decision making involves the cognitive process, outlined the problem, and decision in problem-solving. Wang & Ruhe (2007) described decision-making as "one of the basic cognitive processes of human behaviors by which a preferred option or a course of action is chosen from among a set of alternatives based on certain criteria" (p. 83). Similarly, Orasanu (2016) defined decision making as requiring one's cognitive process to solve the identified or existing problem. One of the significant criteria in decision making is to recognize that there is a defined problem that requires a decision for it to be solved. Decision making can also be described based on the values that a decision-maker may consider. According to Dreher (2009), decision-making "requires processing of several value-related signals, such as prediction error, uncertainty, the subjective value of different options and the distance between them, goal value, and decision

value"(p. 135). Vaidya & Fellows (2017) also defined decision making as a process where a decision-maker can decide based on goal-oriented behavior, subject value, or the flexibility level. According to Gallo (2012), decision making "is not about the actual act of selection or choice, it's about everything that leads up to that moment of choice. When discussion, deliberation, analysis, considerations, possibilities, consequences are all 'cut off', you come to a choice and a decision has been made" (p.1).

What it Means to Make a Decision?

Making decisions can be overwhelming, stressful, frustrating, and above all, it can be tough. When someone wants to make a decision, there are so many things/needs to be considered before making any decisions, such as outcome, the process itself, values, and many more. Orasanu (2016) concluded that "Decision-making is not one thing, but it involves situation assessment, the choice among alternatives, and assessment of risk; however, the decisions differ in the degree to which they call on different types of cognitive processes" (p.138). Decisions are made depending on the situation and risk analysis; hard decisions are made behind the actions. Various steps are taken before the decision is made, which requires different strategies and types of choices available depending on the nature of the problem (Orasanu, 2016). The case study presented by Beach & Lipshits (2016) on the downing of a Libyan airline by Israeli defense forces shows that General Hod's decisions were assessed before shooting the plane, he tried several possible solutions such as asking the pilot to land the aircraft at Refidin airbase. The airline pilot wanted to land but decided to fly away after he discovered that he was not at the right airport as he was supposed to land at Cairo International Airport. The warning that General Hod and the entire military base had about the terrorist plan forced him to decide to shoot the

plane to protect the military base. However, before shooting the flight, he contacted is superior to make sure more than one person analyzed the decision made before implementation.

Decision-making requires a person to be mindful of the situation and to decide on the best solution. A mindfulness person needs to be conscious and aware, focused on the present moment, and able to calmly observe and accept feelings, thoughts, and bodily sensations. A person should be able to pause, reflect, and listen to the inner wisdom. Also, it means that a person can focus on the relevant information, know when to cut your losses, be aware of their own biases, and check ego (Davis, 2017).

Emotions and Decision Making.

In decision-making, both emotional and cognitive processes are inevitable. Lerner et al., (2015) reveal that "emotions powerfully, predictably, and pervasively influence decision making" (p. 802). When people make decisions and think about several options to solve a problem and to find the best possible solution, emotions play an essential role. People have expectations of the outcome of their decision; hence feelings also influence the options and decision making (Beresford & Sloper, 2008). Blakemore & Robbins (2012) posit that "Emotions such as relief and regret have a role in decision making, where regrets arise from the experience of an outcome that one could have chosen but did not" (p. 1187), and relief arises from the positive decision outcome.

In the study conducted by Lerner et al., (2015) on emotion and decision making, eight themes were identified. First, integral emotions, these are the type of emotions that arise from judgment and choice at hand, where a decision-maker who is not certain with his/her decision will make safer decisions. Second, incidental emotions that occur without awareness are emotions where the decision is affected due to carrying over the situation, e.g., blame someone

for something they are not involved in. Third, emotion valence, where decisions are influenced by the intensity and qualitative character that enable problems to be addressed quickly. Fourth, emotions shape decisions via the content of thought, when there is a difference in appraisal dimension associated with risk perception, a difference in pride and surprise, where risk perception tends to make people either at higher risk or not depending on the level of fear and anger. Pride favors the effects that involve personal efforts, where surprise favors unpredictable events; these differences affect one's judgment. Fifth, emotions shape decisions via the depth of thought, where additional attention is needed when decision making. Sixth, emotions shape decisions via goal activation, which involves addressing opportunities quickly. Seventh, emotions influence interpersonal decision making, where social interaction allows the establishment of social relationships. People's beliefs about their intentions reflect their emotions when making decisions or interacting with others. Eighth, is unwanted effects of emotion on decision making can be reduced under certain circumstances, as suggested by Lerner et al., (2015) that "These strategies broadly take one of two forms: (a) minimizing the magnitude of the emotional response (e.g., through time delay, reappraisal, or induction of a counteracting emotional state), or (b) insulating the judgment or decision process from the emotion (e.g., by crowding out emotion, increasing awareness of misattribution, or modifying the choice architecture)" (p. 811).

Many times emotions guide adolescent decisions rather than their thoughts; oftentimes, they do not think through before they act, or consider the consequences of their actions. However, each child's and adolescent's brain is different. It does not mean they cannot make the right decision; instead, it is vital for parents, teachers, and others to understand the difference and be able to manage children's and adolescents' behavior.

Peer Influence on Decision Making

Peers have an impact on adolescent decision making as Albert et al., (2013) suggested that “peer observation influences adolescents' decision making even when the peer is anonymous and not physically present in the same room” (p.5). They feel worthy and rewarding when they perceive that someone is observing them, especially someone of the same age. Adolescents spend more time interacting with their peers, unlike children. They feel happier and develop peer norms that they feel comfortable and rewarding. The influence of peers in decision making can lead to adolescents developing excellent or lousy behavior (Albert et al., 2013). For example, in recent years, there has been an increase in developing and releasing new technologies, such as phones, iPads, and tablets etcetera, which most children and peers are using. The adoption of technology can be slower, depending on the social system. Earlier adopters are ready to learn and take risks in adopting innovations. Adoption occurs over time, depending on the knowledge and the need to adopt (Agarwal & Prasad, 1998). Some families are conservative and are afraid to change, and they are familiar and knowledgeable with their traditional techniques, culture, taboos, and tradition. Therefore accepting new technology becomes hard, especially when they cannot anticipate the impact of that innovation on their children.

Over time families gain various experiences and adopt the technology; nevertheless, the more conservatives would not accept the innovation instantly and take time for them to adopt (Agarwal & Prasad, 1998). Societies can readily utilize social interactions, collaborations, and innovations. Experience, interpretation, and understanding of innovation are what drive people to adopt or resist new technologies. Many people prefer to function in their comfort zone. When introduced to innovation, they become fearful and can face constraints when adopting new technology; as a result, they resist adopting (Rogers, 2003). Family resilience in adopting

technologies impact adolescents' behavior, especially when it involves their peers and results in making decisions and taking risks to engage in wrongdoing to get what they want. Albert et al., (2013) concluded that "these behavioral results suggest that peer presence increases adolescents' risk-taking by increasing the salience (or subjective value) of immediately available rewards and that some adolescents are more susceptible to this effect than others" (p.6).

Behaviorism for Children and Adolescents.

Adolescents' upbringing impacts their decision making. Parents and guardians play a role in developing children's ability to make choices or decisions. Parents are considered primary educators as they support their children in their learning and development, emotional support, quality, and quantity of cognitive stimulation (Kernan, 2012). When learning occurs in a specific condition, it forms a habit. Behavior can be developed when there are consistency and repetition of a particular pattern in a constant setting. Behavior is conditional, whether an individual has an intrinsic or extrinsic motivation, but there is certainly a goal to achieve (Smith & Graybiel, 2016).

Learning involves the association between stimuli and responses when there is satisfaction similarly to decision making. In the study conducted by Smith & Graybiel (2016) about habit formation, the results show that habit formation is not a simple process; it needs cognitive readiness and motivation to adopt or change individual behavior. Habitual change (positive or negative) occurs in multiple brain regions or even in single areas. The authors considered habits as being formed through various, simultaneously signaling processes in the brain. However, not all habits formed freeze, and they won't change, they change when there is a motive (Betsch et al., 2002). Schunk (2015) mentioned that individual performance or act of a particular behavior is a cognitive decision, commitment, self-motivation, and essential to that

person. Habits are formed when there is a consistent setting. Therefore adolescents' decisions may rely on their environment, values (individual, a group, or a family). While children at an early age environment and values do not count, instead, it is their own realities that matter at that time.

People are wired; differently, processing and interpreting information are different. A habit formed at an early age has an impact on children and adolescent decision making. When these habits and behaviors are created, it takes cognitive readiness to change; it is essential to impose positive behavior than negative behavior. Decision making is behavioral, which requires a cognitive process and willingness. The habit of making decisions when nurtured at an early age will have an effect in adolescence and adulthood, and this includes the career decisions at an early age.

Theoretical Framework

The theoretical ground for this study is the Social Cognitive Career Theory (SCCT) (Lent, Brown, & Hackett, 1994). The framework aims to explain the three assumptions that underpin career development; "(a) Career and academic interests develop, (b) Career-relevant choices are forged and enacted, (c) Performance outcomes are achieved" (Lent, Brown & Hackett, 1994,p.80). The influence of environment and behavior (social, cultural, etcetera.) affect one another in a person's career development. Dos Santos (2018, p. 143) posits that "intentions (personal beliefs and goals) and behaviors (exercises and actions) affect each other as individuals tend to act what they believe. As people continue to perform success-oriented actions, their interests and self-efficacy are encouraged, and the opportunity to achieve their goals increases".

The cognitive variables, such as self-concept, self-efficacy, performance, outcome expectations, and interests, influence one's career and professional identity. "When securing

meaningful career path, academic self-efficacy is vital for individual confidence and ability to perform academic tasks, where career decision self-efficacy is essential for an individual in making decisions about the career path (Wright et al., 2014).

Social Cognitive Career Theory

Bandura's Self-efficacy Theory (1977, 1997) serves as the foundation of Social Cognitive Career Theory (SCCT) (Lent, Brown, & Hackett, 2000, 2002; Lent, 2005). Social Cognitive Career Theory is the theory that helps us understand people's relationships with the environment and the commonality that exists. It goes further by looking into educational and vocational decision and choice making, how interests are created, performance, and stability in occupational pursuit. The theory also posits that personal cognitive variables (e.g., self-efficacy, expectations, and goals) and environmental aspects shape individual career development.

Youth acquire personal efficacy from their performance, social persuasion, observation of models, and physiological indexes. Support from teachers, parents, and peers increases self-efficacy, especially when there is motivation, and belief in one's capability. Teachers, parents, or peer's self-efficacy can also influence youth achievement. Cultural patterns, morals, language, customs, and traditional practices shape community members. The diverse cultural environment is what makes a person individual or collective. When exposed to a group, the collective mode of behavior is influenced by shared beliefs. The beliefs that are shared by the group members influence the high sense of perceived collective efficacy (Bandura, 2002).

Social Cognitive Career Choice Model

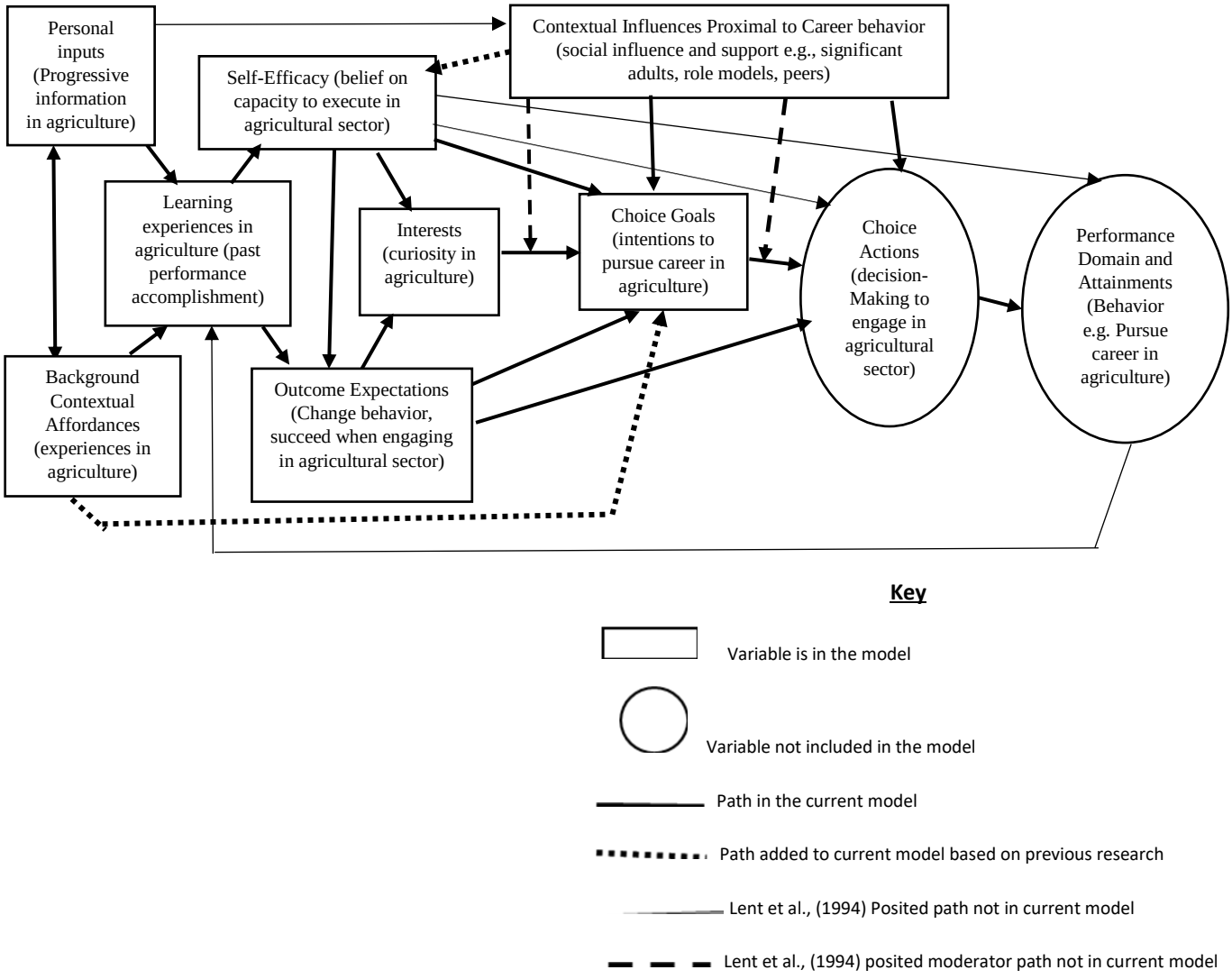

Fig 3-3: Social Cognitive Career Choice Model. Adopted from Navarro, Flores & Worthington (2007)

Societies and knowledge are socially constructed. Human behavior and perception are shaped by interactions, history, beliefs and traditions, and experience. For Schunk (2015), learning occurs when it is actively performed, and through observation. It requires cognitive

ability to understand and make meaning of the knowledge acquired. For example, children at a younger age learn from the people surrounding them. Children tend to mimic what their elders do or say and make their own realities. Therefore if the knowledge transferred is negative or positive, it can be easily adopted at an early age. Sometimes it changes, and sometimes it doesn't; it all depends on the personal interaction and cognitive ability to make meaning and interpretation (Schunk, 2015).

It is essential to know that youth-related attitudes, experience, interest, self-efficacy towards certain careers can be developed at an early age, and some learners can build their interest as early as 14 years of age (Mukembo et al., 2014). Ochs & Roessler (2004, p. 224) believe that "This initial stage involves crystallizing vocational preferences through (a) thinking about fields and levels of work, (b) making tentative career choices, and (c) committing to obtaining the education or training needed for the selected occupation." It is pivotal for youth to acquire knowledge at an early age to understand the opportunities in agriculture, the importance and the impact of engaging in an agriculturally related field.

Motivation.

Motivation is subjective to an individual; it is difficult to anticipate what motivates someone until they are asked. For learners, motivation is fundamental to increase their self-efficacy and create enthusiasm. Trust, feedback, acknowledgment, encouragement, etc. increases individual or group motivation to achieve a specific goal. "Motivation depends on believing that one will achieve the desired outcome from a given behavior (positive outcome expectations) and that one is capable of learning or performing those behaviors (high self-efficacy)" (Schunk, 2015). Behaviors are created and adopted when there is a common goal to achieve in groups.

People need to get an opportunity to experiment freely according to experience and skills and learn from and teach each other. Social interaction motivates people to engage in different activities and influence decision and choice making. Children and adolescents need the motivation to make decisions. The motivation can come from parents, teachers, guardians, and other trusted people. Many adolescents have the skills of reasoning, metacognition, and self-regulation skills necessary to solve problems, but very few have the will and motive to approach difficult decision-making challenges.

Purpose and Objectives

The purpose of this study was to understand youth aspirations and intentions to choose a career path in Tanzania. Specifically, a career in agriculture. The assumption was that career path decisions are influenced by various factors such as environment, experience, family and peers, and sometimes the opportunity that presents itself. The questions focused but not limited to, "How did the participants select a career? Was it by choice? Were they forced? Were they inspired? What resonates with them to hold on to their jobs? If there was a change of career, what was the reason for the change?"

Methodology

This qualitative study was conducted in Morogoro Region, Tanzania. Four (n = 4) participants were purposefully selected for the study. Participants included teachers and students from schools that teach agriculture-related subjects and non-agriculture schools. Any individual aged 18 and above qualified to participate in the study. The interviews were audio-recorded. Some participants opted for written responses. The participants were contacted via phone and email for recruitment; a consent form was sent through email. Also, the researcher obtained

verbal and written consent for all face to face interviews, and written consent for all participants opted for written responses. The interviews were conducted in both Swahili and English languages. The audio-recorded interviews were transcribed verbatim, and quotes were developed, where Swahili quotes were translated into English.

The researcher wanted to gain a perspective on career choice from secondary students as well as teachers who interact with the students. The researcher explored not only the career choice process of youth but also included adult reflections on career choice in Tanzania.

This study was significantly impacted by new Tanzanian government regulations governing research in the country. The new rules significantly impacted the number of participants who participated in the study.

Sampling

Participants were purposefully selected from schools in the Morogoro region of Tanzania. The criteria for selection were youth who were between 18 and 24 of age. And for teachers, 18 years of age and above were qualified for the study. It was essential to understand the perspectives of youth who were interested in pursuing a career. A girl who was 19 years old volunteered to participate in the study, and a boy who was 19 years old agreed to participate in the study.

Teachers represented different backgrounds and perspectives about career decisions, to understand teachers' paths during their process of making decisions about their careers. It was essential to examine their views on teaching/ not teaching in Tanzanian schools and how youth decisions on career choices are influenced. One male teacher who was the Second Master and from the same school with the two youths participated in the interview. A female teacher from a

different school in Morogoro agreed to participate in the study and shared her perspectives on youth career decisions in agriculture.

Participants' profile

Lucas is a Second Master (Assistant Principal) at [high school]. He is 39 years old. He has a bachelor's degree in education. He has eleven (11) years of work experience and has been in the position Second Master or Assistant Principal for one and a half years. His role is to oversee all administrative work at the school when the school principal is not available.

Mariam is a teacher at [high school]. She is 37 years old. She has a bachelor's degree in education and ten (10) years of work experience. Her role is to teach arts subjects, History, Geography, and Civics. Growing up, she practiced subsistence farming for subsistence.

John is a student at [high school]. He is 19 years old, studying a combination of Chemistry, Biology, and Geography (CBG). He expects to join the Sokoine University of Agriculture for his bachelor's degree. He had no background in agriculture. He was never interested in studying CBG; instead, he wanted to study Physics, Chemistry, and Biology to become a doctor. He did not do well in Physics; therefore, he ended up studying CBG.

Fatma is a student at [high school]. She is 19 years old. She chose Chemistry, Biology, and Geography combination (CBG) because she liked it. She started to like CBG when she was in form three, and she shared with her brother, who motivated and supported her to study hard and pursue her dreams. She was so interested in becoming an agricultural officer and wished to study agriculture in the future. She heard people saying that there are no jobs for youth after they graduate. Nevertheless, she is optimistic that if she goes to higher education (diploma or degree)

to study agriculture and get capital, she can employ herself by practicing agriculture or open a shop that sells agriculture products.

Data Collection

Data were collected through face-to-face interviews and written responses, where three were face-to-face interviews, and one was a written response. After the IRB was approved, the researcher sought permission from local government authorities and the parliament to conduct a research with students and teachers. The researcher and the research assistant visited the identified schools and introduced the study to the school principal and requested their willingness for their schools to be part of the study. As for teachers, one agreed to participate during the researcher's visit, and another asked the email to be sent to her. The introduction and recruitment email was sent to the participant requesting her willingness to participate in the study. The participant opted for a written response; therefore, she signed the consent form and responded to the interview questions.

A total of four (n = 4) participants agreed and participated in the interviews. The interviews were audio-recorded verbatim, and they lasted for 30-50 minutes. The written responses were received through email. The researchers identified the schools to participate in the study. The researchers went to a [high school], met the school principal and explained the intention to conduct research in his school, but also showed the permit to conduct research from the local government. The School Principal instructed the second master to accommodate the researchers and provide them with the necessary support.

The Second Master in the agriculture-related school was supportive. He asked one of the teachers to gather students who are in Chemistry, Biology, and Geography (CBG) specialization

and ask them their willingness to participate in the study. Two students and one teacher volunteered to participate in a face-to-face interview. Another teacher was from a school that did not teach agriculture or agriculture-related subjects. The researchers obtained both verbal and written consent before the interview process started. The participants were allowed to ask for clarification whenever they felt necessary. Participants who opted for a written response, the consent forms were also sent through email, and they sent back the consent forms to the researcher. After consenting, the researcher sent the research questions to the participants and scheduled the date to submit the responses. The researcher asked the participants to respond to the interview questions within two weeks. The researcher assured participants privacy during and after the interview process, analysis, and data presentation.

The interviews were conducted in both Swahili and English. Swahili is the national language in Tanzania; therefore, many are used and comfortable to speak, while English is the second language and official language, but not all people speak or write fluent English. Participants typically answered questions using both English and Swahili. In order to be inclusive and obtain all people's perspectives, participants were allowed to choose any language between the two during interviews, or even mix-it-up when responding. Some participants wanted the questions to be asked in Swahili; therefore, the researcher translated and clarified the question to the participants for their understanding.

Data Analysis

The audio-recorded interviews were transcribed verbatim to capture all the participants' ideas and stories shared. The researcher developed themes from the transcripts and used Atlas-TI for open coding. Also, for a few audios, the researcher tried to use the transcribe software like *transcribe me*, but it did not work as many transcripts were in Swahili and English

language. Also, the quality of the audio was very poor, making it difficult for the software to capture the words correctly. Therefore, the researcher transcribed the interviews verbatim. Swahili transcripts were translated into English. The written responses (all of which were in English) were imported to the Atlas-TI and used the themes analyzed from the audio transcripts for further analysis. Direct quotes from the written were used to support the themes. After the major themes were identified, sub-themes were developed depending on the richness of the data as well as similarities in the responses. The quotes were pulled from the transcripts to support the identified themes. The quotes which were in Swahili were translated in English. Some participants were willing for their full name and titles to be used, but for ethical reasons, participants' real names have not been used rather pseudo names.

*Table 2-1***:** *Participants Demographics Table*

	Pseudo Name	Gender	Age	Education level	Occupation	Work experience (including political experience)
1	Fatma	Female	19	Form six	Student	0
2	Lucas	Male	39	Bachelor Degree	Teacher	11
3	John	Male	19	Form six	Student	0
4	Mariam	Female	37	Bachelor Degree	Teacher	10

Findings

Five themes emerged from the interviews; (1) previous experience and agricultural knowledge, (2) the perception of agriculture as farming (3) the need for teaching agriculture subjects in primary and secondary schools, (4) youth decision making and choices about career, (5) challenges in the agriculture industry.

Deciding on a career path is not an easy process. Some people struggle to make such decisions due to a variety of circumstances, including a lack of awareness on how to choose a

career, peer pressure, family demands and pressure, stereotypes of certain professionals, etcetera.

Theme #1: Previous Experience and agricultural knowledge

Not every participant had experience in agriculture in various ways; on the other hand, some had experience in agriculture, which influenced their career in agriculture. Those who had experience in agriculture had more chances to pursue a career in agriculture that those who did not have experience in agriculture.

Fatma *"I come from an agricultural family, my father, is an Agricultural Officer, and my mother is a small-scale farmer. So since I was a child I have observed my family involved in farming and the achievements they have obtained, so I have always liked agriculture. This is what made me like my current combination. Although my father has not discussed it with me about my combination, it is just that in class, I came to like some subjects which I did well, and I was therefore inclined to choose them…Yes, because I have always liked agriculture."*

John *mentioned that "I have no background in agriculture; my parents have never been involved in agriculture. I went to primary and O-level secondary schools here in Morogoro. Then I joined this school to study CBG. Initially, I did not plan to study CBG, I wanted PCB, but my passes were not so good".*

"Knowledge is power," gaining knowledge about agriculture can be influential for youth development and career decisions. Participants explained their views on the agriculture knowledge below;

Fatma *mentioned that he gets the knowledge about agriculture "From the community, and by reading the Femina booklets called SHUJAA, you can get some information about good agricultural practices, especially when on leave. There has not been any program in our school to encourage students to join an agricultural career. But in the community, you find programs like KILIMO KWANZA (Agriculture first) which train people about modern agricultural practices. For example, my aunt is a member of a Kilimo Kwanza group in Kilombero. And she usually tells me that they are trained using Farmer Field Schools demonstration plots, they get inputs and solar panels on loan, and they are taught about different agricultural practices. This is also how I get some knowledge of agriculture".*

John *mentioned that "I get knowledge from the media where you can hear about problems facing livestock like deaths and so on, but I also hear people talking about these things, so I came to be interested. Because I grew up here in Morogoro town, I have not had much information about the agricultural training institutes, I have only heard about SUA".*

John *mentioned that "I often go to SUA, and when I see the different crops there, I get very interested, but the problem is I do not have any basic knowledge on agriculture."*

Where people get knowledge or information about agriculture, the knowledge they acquire influences youth perception and choosing a career in agriculture. The source of information and the type of information matters in creating interest in agriculture. What, where, and how they get information, how legitimate is that information is vital on youth development and career decisions.

Theme # 2: The Perception of Agriculture as Farming

From the literature, the perception of agriculture is based on "farming." Participant's perspectives support the research as they tended to view agriculture as farming and they shared their views below;

John *mentioned that "It concerns crop farming and livestock keeping. Also, it is an opportunity to make progress in life, especially if you work hard, you can prosper in life if you look at our current situation and the industrialization strategy of our country."*

On the other hand, ***Lucas*** *viewed agriculture as negative and helpless as he mentioned that "Many farmers are poor and even politicians label farmers as poor and helpless. It is very difficult to change people's mindset about the hopelessness of agriculture, so we must start very early with young children to implant a positive mentality about agriculture."*

Mariam *stated that "It's all about farming/cultivating crops for food security and sustainability or commercial agriculture."*

Fatma *mentioned that "It is not easy to explain, but I usually think of cultivating, hoeing a small farm because that is what I see all the time."*

Sometimes such perceptions make youth think agriculture is not the right career choice and consider it to be a difficult job. Agriculture, if well-presented and shared, is very broad and covers a lot of sectors such as policy making, program planning, and evaluation. Most people do not see that side of agriculture and only focus on farming.

Theme #3: The Need for Teaching Agriculture Subjects in Primary and Secondary Schools

Many participants were supportive of agriculture being taught in primary and secondary schools to increase the interest of youth to pursue a career in agriculture. These views can be used and contribute to the policy amendments to give priority to agriculture subject and make it compulsory like other subjects. Participants shared their opinions as follows;

Fatma *mentioned that "They should start some agricultural programs in our school. For example, in some schools, they have programs where students have some gardens where students can grow vegetables, so this makes students like agriculture from very early on. So the first thing that I need is agricultural education, secondly is the capital and thirdly support from my family. It is necessary to mobilize young people to join agriculture and to use modern practices so that they can get good returns from agriculture that will encourage them to continue with agriculture."*

John *mentioned that "I think when it comes to agriculture, you do not see the connection to our studies until it is in high school, unlike Medicine, where you know from the beginning that Biology or Physics will lead to Medicine. So it is important to start talking about agriculture from very early in schools so that someone can know that eventually, I will go into agriculture. There are very few schools that teach Agriculture; for me, I came to know about Agriculture after interacting with my friends who are studying at SUA taking Agriculture, Aquaculture, and so on; otherwise, I did not know about Agriculture. So it is important for Agriculture to be taught in Schools because even in our industrialization strategy, we will need agricultural raw materials to feed our industries. If one has good agricultural knowledge, he/she will produce more, so it is good to study agriculture."*

John *mentioned that "Yes, I will miss the basic agricultural knowledge, for example, how to produce different crops and knowledge about other opportunities related to agriculture."*

John *mentioned that "I would say yes because, as I mentioned earlier, people come to learn about agriculture much later in their studies. Had there being an opportunity to learn about agriculture from the beginning, it would have influenced me more strongly to study Agriculture later on. So it is important to teach about agriculture in schools."*

The establishment of schools depends on the demand and what the school wants to achieve in the end, whether it is science, art, or business-focused school. Participants shared that;

Lucas *mentioned that "I am not sure, but my understanding is that the school was established to focus more on commercial subjects. But also I think since our school is in the middle of the town, it has no area to conduct any practical teaching of agriculture".*

Lucas *continued that "Not really because of our circumstances. Initially, we focused on Commercial subjects, later on, we added Science subjects, but we have not thought of including Agriculture, maybe later as a way of preparing our students for self-employment, because now if you prepare your students for employment you are on the wrong track, we must teach for self-*

employment. The biggest challenge is the lack of land area for teaching about Agriculture. For example, the school has bought some hoes to be used by our students to learn some simple agricultural skills but because we have no land students use the hoes for flower gardening. To start implementing an Agricultural curriculum would, first of all, require knowledge in the sense that we would need people experienced in agriculture to orient and guide us on how to implement it. People are usually reluctant to take risks, but if we are properly trained to avoid the risk of failure, we can try ...once we acquire the relevant knowledge, other steps will follow".

Lucas *also mentioned that "Agriculture as a subject should be taught from primary school level. These days there are too few schools teaching agriculture. The government should employ more people in agriculture so that young people can see that there is a future in agriculture. The government should support farmers with inputs, infrastructure, markets, and extension services so that farmers can earn a decent income, which would then inspire young people to seek a future in agriculture. Youth must be made to understand that agriculture is not only about farming, but there are other activities along the value chain that the youth can be involved in. For example, I know of a person who has constructed a godown to store crops for farmers, and many farmers who are from town usually store their crops while waiting for markets, and he has employed other people to manage the godown. But there are other opportunities like transportation, processing and so on that, the youth can be engaged in"*

Lucas *continued to express his idea as "Teaching in schools can be rather theoretical, and students do not get the real feel of engaging in agriculture, so when they engage in agriculture, they meet many challenges which discourage them. Even where they get a good education, some of them are not able to employ themselves, so continue roaming around looking for jobs that are not there. So after schooling, the youth need to be guided and facilitated to establish an agricultural enterprise. He continued said that many farmers are poor, and even politicians label farmers as poor and helpless. It is very difficult to change people's mindsets about the hopelessness of agriculture, so we must start very early with young children to implant a positive mentality about agriculture".*

Mariam *also responded that "Yes, I think it is advantageous to teach it in primary schools because primary education is the foundation, so it is important for the pupils to learn things earlier."*

Participant's interest in agriculture subjects being taught in schools is a positive suggestion as they see the value and need for youth to engage in agriculture careers. The participants suggested that it would help youth employ themselves even when there are not enough jobs offered in the public sector.

Theme # 4: Youth Decisions Making and Choices about Career

Making decisions about a career may be difficult or easy. Some youth will choose their career path as they are influenced by people close to them and/or are in an environment that

makes career decisions relatively easy. Others may find it to be difficult in their life situation to make a career choice. Participants shared their views on career choice;

Opportunities in Agriculture Career

Agriculture has many promising opportunities for youth development. These opportunities are known to youth and available for them to access; they will increase the number of youth in the agriculture industry. Such opportunities include the type of agriculture they practice (modern or tradition, commercial or for consumption, etc.), the broad knowledge about the agriculture industry, for example, veterinary medicine, agricultural economics, food, and nutrition, etc. Participants discussed their views as follows;

Fatma *responded that "I think of somebody who succeeds through agriculture. He can be successful or unsuccessful depending on the nature of agriculture that he practices, one will succeed only if he uses modern farming".*

Fatma *mentioned that "I was encouraged to take the CBG combination by my brother…… although I also liked the combination, and my brother supported me. I started thinking about this combination when I was in Form Three. I hope it will lead me to an agricultural career in the future, so I hope this combination will allow me to pursue studies in agriculture...I believe so because, with CBG, I can join any agricultural degree program at SUA".*

John *mentioned that "Yes, I would, although we differ in our interests and others are not interested in agriculture, and so you cannot advise them if they are not interested."*

John *mentioned that "I have thought for quite some time. As I said initially, I wanted to take PCB so that I could study Medicine, so after changing my combination to CBG, I have changed my mind now. I discovered that there is a program of Veterinary Medicine at SUA, which my friend is studying. So I think with my CBG combination, I can join that one. I think this is ok because some people study human medicine and others about animal medicine, so they are not very different so to me they are both ok".*

John *mentioned that "I liked to be an animal doctor because in our environment there are many obstacles facing human or livestock health, and I like to treat animals. Also, in Tanzania, there is a shortage of staff in this field".*

John *mentioned that "Yes, although not so much because to convince somebody to like something you yourself must have adequate knowledge about that thing, I do not have enough knowledge I can try to advise someone."*

Lucas *responded that "Most of our students, for example, come from farming households, with low income so they cannot get all their needs. So when they compare themselves to their urban friends who have better incomes, they feel that agriculture is not paying. And when he is schooling it is not for the purpose of going to assist parents in agriculture, but for the purpose of escaping from agriculture by being employed… Even when I was going to school, I did not like agriculture because I used to be sent home for lack of fees, and when I saw how my parents were struggling, I used to be very discouraged. But now after getting employed, I have seen the advantages of farming, and I do have a farm somewhere in the outskirts of town because I see it is a good thing. So, unfortunately, students form a negative opinion about agriculture because of the situation at home that is not promising. Especially when they compare themselves to their friends from non-farming backgrounds".*

Fatma *mentioned that "I was assisted by my parents to join this school, they just said there is a good school somewhere, so I came, and I found it is this school. Yes, there are agricultural schools, but it would not be easy for me to transfer to another school after joining this one".*

Mariam *said that "I was inspired by my secondary school teacher, who was my favorite."*

Participants saw the opportunity to succeed in the agricultural sector if youth are provided with the needed knowledge and skills. Family members and people participants trusted, contribute to their career decisions. On the other hand, some did not intend to study the subjects which relate to agriculture; it was by the circumstances. Also, the lifestyle of farmers has an impact on their children pursuing a career in agriculture. If a farmer's life is difficult, hard to make ends meet, hard to pay school fees, or have enough food for the family, it creates a negative perception in children in that that agriculture has no value and so decides to pursue other career options.

Theme # 5: Challenges in the Agriculture Industry

Agriculture faces several challenges that might have an impact on youth decisions to pursue a career in agriculture. But also their perception of agriculture as some of the participants shared their views that employment, lack of knowledge about agriculture and the opportunities it offers, and lack of agriculture programs that can be useful for youth development are a challenge. Participants' views are as follows;

Fatma *mentioned that "Currently employment opportunities are hard to come by, but I believe that even if I am not employed after my studies at least, I can start my own business as an inputs dealer. Agriculture is hard work, and that is why many young people are not keen on joining agriculture as a career."*

John *mentioned that "The biggest challenge currently is a shortage of employment opportunities. So for us at A-level, we plan to take courses that will allow us to employ ourselves. Another challenge is that the admission requirements for some university programs are too high, so that is a challenge".*

John *mentioned that "First, it will depend on my pass level. Secondly, it is the limited opportunities in the country. Only SUA offers a Veterinary Medicine degree, and there are many applicants."*

John *posits that "There are no agricultural programs in this school. If there were programs, I would participate fully. Otherwise, I learn from the community".* ***John*** *also mentioned that "No for the one year I have been here at this school I have never heard of any agricultural programs*

Lucas *said that "First they lack the knowledge and do not know where to get it. But even if they get the knowledge, the second challenge is the lack of capital, including land, equipment, etcetera".*

Lack of knowledge, the absence of agricultural programs for youth development, limited opportunities contribute to challenges facing the agricultural sector. Nevertheless, some participants see agriculture as a potential career for their future and are interested in engaging in agriculture.

Conclusions

From the findings, the four participants communicated the sense of self-concept, self-efficacy, and outcome expectation when thinking about a career path. The majority of participants did not have an easy way to choose their careers. Role models inspired some of the participants. Some were encouraged and discouraged by their family members. Some were not interested in their current job, but the circumstances beyond their control forced them into their current situation. Others had to change their profession because they felt the career they had was their parents' careers and not what they were passionate about. Some had mixed feelings and didn't know what career to choose, yet ended up with a career they are passionate about.

The results show that the participant's current careers are a result of the influence of family, role models, previous experience, and the surrounding environment. For some, it was because they needed to earn a living. Many of us can relate to the process of choosing a career; it was either by family influence, circumstances, role models, or a desired career, etcetera. Zimmerman & Kontosh (2007, p. 287-288) mentioned that the "relationships with parents, siblings, and peers influence the way a person makes career decisions and his or her commitment to that decision." From the findings, the Tanzania education system does not prepare youth for decision making about a career; students do not get enough information about career choices. The majority of graduates apply for jobs for the sake of securing a job and get a salary, not because it is something they are passionate about. Very few are passionate about a particular career. On the other hand, few people accomplish what they aspire to become. Lent, Brown & Hackett, (2002) posits that "Choice goals are sometimes influenced more directly and potently by self-efficacy beliefs, outcome expectations, or environmental variables than they are by interests" (p.752).

Implications and Recommendations

Career trajectories build a person's identity as La Pointe (2010, p.3) posits that "Some of the identity positions a person occupies become more permanent and are habitually adopted in given interactional contexts." The results show that previous experience, families, peers, people we trust, role models profoundly influences a person's career path. On the other hand, self-efficacy and self-concept, education experience, professional development lead to an intended career. The information about various careers is essential to be provided at a younger age. The study contributes to the broader knowledge of understanding the complexity of choosing and deciding on career path and development.

From the findings, the education system does not do an excellent job in preparing youth to make decisions to pursue a career in agriculture. It is recommended to teach agriculture in both primary and secondary schools to create youth programs that can trigger youth interest to pursue a career in agriculture. To work towards changing youth perception of agriculture by providing skills and knowledge which are relevant and key for youth development such as entrepreneurial skills, program planning, leadership programs, etcetera. Programs like 4-H can be useful in engaging youth in agriculture at a younger age.

For future study, there is an opportunity to continue exploring professional identity and career, career satisfaction and expectations, occupation goals, and professional development in Tanzania. Also, to explore and learn critical thinking skills and career information needed to support students in choosing and making decisions about their career. From the findings, it shows youth are not aware of youth programs, and research can explore the existing youth program and create a network map that will be used to identify programs and locations where such programs are provided.

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CHAPTER 5

Manuscript # 3

Narratives of Leaders, Extension Agents and the Private Sector; Their Stories about Engaging in Agriculture and Youth Development in Agriculture.

> "Agriculture as a science and art which is developing and growing, needs farmers with advanced knowledge and skills to carry out farming as business. The inadequate entrepreneurship skills and knowledge among youth has contributed to low participation in agriculture as a business." (URT, 2016, p.23)

Abstract

Agriculture is an essential sector in Tanzania's economic development. As the country moves toward industrialization, there is an increased demand for raw materials, planners, traders, exporters, and other players along the agriculture value chain. Therefore there is an excellent opportunity for youth to engage in agriculture and agricultural-related fields for employment purposes and contribute to the country's economy.

Many youths are not motivated to engage in agriculture due to several reasons, including the lack of a background in agriculture and a lack of role models to influence youth to pursue agriculture as a career (Lyocks, Lyocks, & Kagbu, 2013). The education system has little national government support for preparing youth for agricultural employment or for encouraging youth to pursue agriculture as a career (National Education Policy, 1991). As Lent, Brown & Hackett, (2000, p.37) posits, "Career development is influenced both by objective and perceived environmental factors. Examples of objective factors include the quality of the educational experiences to which one has been exposed and the financial support available to one for pursuing particular training options".

Parents, friends, role models, significant adults, and the people youth trust have a substantial impact on youth career decisions (Fishbein & Ajzen, 2010). Past experiences also

influence one's behavior, and if done repeatedly can become a habit (Ajzen 1991, p.203), "prior behavior has an impact on later behavior that is independent of the effects of beliefs, attitudes, subjective norms, and intentions. Specifically, the assumption typically made is that repeated performance of behavior results in the establishment of a habit; behavior at a later time then occurs at least in part habitually, without the mediation of attitudes, subjective norms, perceptions of control, or intentions". The negative perceptions about agriculture in communities has become habitual as it has occurred over time and across generations. Society shapes perception through trust, traditions, norms, values, and culture (Lent, Brown & Hackett, 2000). Many Tanzanian communities and society at large have perpetuated the idea that agriculture is not a right career choice (URT, 2008).

Introduction

The agricultural sector employs about 65.5 % of the total labor force, as Deloitte (2016, p.11) mentioned that "currently the sector alone provides employment to 65.5% of Tanzanians and in favorable seasons, covers more than 100% of the domestic food needs". For the past eight years, there is a slight change in employment in the agricultural sector for the labor force from 75% (URT, 2008) to 65.5% (Deloitte, 2016). Therefore the number of people depending on the agricultural sector is dropping as they are involved in other industries; nevertheless, 65.5% is still the highest percent; hence agriculture employs the majority of Tanzanians. According to the Tanzania National Employment Policy (URT, 2008), nearly 1.4 million (13.4%) youth were unemployed in 2008, and unemployment was higher among female youth at 15.4% compared to 14.3% for males.

The recent data show that the employment rate has increased following the report from African Institute for Development Policy (AFIDEP) (2018, p.3) which says "The burden of

unemployment is skewed towards the youth (15-24 years) and women, with unemployment rates of 13.7% and 12.3%, respectively, in 2014, against an unemployment rate among men of 8.2%". On the other hand, the African Institute for Development Policy (AFIDEP) (2018, p.3) report mentioned that "Even among those employed, about 11.8% are underemployed, again with young people aged 15-24 bearing the heaviest burden (15.2% among males; 12.8% among women)".

More seniors are engaged in agriculture compared to youth (Shayo & Rudd, 2018). This is heavily influenced by a lack of knowledge about agriculture as a viable profession and the image of agriculture perpetuated in communities as only farming, with no chance of a career that can lead to a high quality of life for youth.

The negative perception of agriculture has a significant impact on society, especially youth who go to school and practice farming only as a punishment for misbehavior. Many people in Tanzania have a negative perception of agriculture due to a lack of emphasis on agriculture-related subjects in primary and secondary schools (Restless Development, 2015-2020). Also, the politics that exist in agriculture, the living standard of poor agricultural practitioners, low salaries, and negative social-practices that negatively impact women engaged in agriculture all influence the negative perception of agriculture in Tanzania (Restless Development, 2015-2020).

Purpose

The purpose of this qualitative study was to learn unique perspectives of government officials, Members of Parliament, and the private sector about youth career decisions, aspirations, and intended engagement in agriculture. In addition, the researchers sought to learn

about participants' own experiences in agriculture and their understanding of the need for youth to engage in agriculture.

Research question

How do community perception, perceived norms, intention, and attitude toward agriculture impact youth aspirations in career choice?

Objectives

i. To understand the role of policymakers, leaders and other actors on youth aspirations and career in agriculture
ii. To explore participant's views on youth perception of agriculture and youth pursuing a career in agriculture, their participation, and searching for information about agriculture.
iii. To understand the agricultural curriculum and how it shapes youth in career decisions and entrepreneurial skills.
iv. To understand the influence of role models, people youth trust and information on youth aspiration and career decisions.

Literature review

Youth Attitude towards Agriculture as a Career.

According to Fishbein & Ajzen (2010), attitude is defined as "a latent disposition or tendency to respond with some degree of favorableness and unfavorableness to psychological object" (p.76). Youth decision on agricultural career choice likely depends on the assessment of favorable and unfavorable perceptions and outcomes. Rojewski & Kim (2003) posits that the combination of psychological, social, and economic perspectives, can be significant factors that contribute to youth career behavior of work-bound and aspirations. Social behavior, as well as behavioral beliefs, are formed when there is a sequence of actions and acts, experiences, the

interaction that occurred at some level and specification (Fishbein & Ajzen, 2010). Youth attitude towards agriculture is pioneered by the societal positive or negative stereotype towards agriculture and agriculture-related fields.

Youth have the goals they want to achieve in life in which costs and benefits are considered during the pursuit (Orbell, Hodgkins & Sheeran, 1997). The study conducted by Ochs & Roessler (2004) concluded that career exploration intentions are influenced by the outcome expectation, self-efficacy beliefs, and intentions to pursue a certain career. Thompson & Russell (1993) mentioned that youth knowledge about career potential and agriculture as an industry is lacking as they perceive agriculture as science-oriented and do not realize the potential opportunities provided by agriculture as a career choice. The study conducted by Shenaifi (2013) on attitudes of students of the College of Food and Agricultural Sciences toward agriculture, found that students attitude towards agriculture is positive; nevertheless, some students did not believe that agriculture is improving to be a right career choice for them. Many respondents were in support of students who have an agricultural background to pursue agriculture as a career. On the other hand, the study conducted by Dyer, Lacey & Osborne (1996) argued that agriculture is a career for all, even those without farm background. Also, students who did not enroll in agriculture programs were interested and intended to graduate in the College of Agriculture but not necessarily to pursue agriculture as a career.

Gender can play a role in youth intention to pursue agriculture as a career. In the study conducted by Mukembo et al., (2014, 2015), it was interesting to see that gender influenced youth agriculture career choice, where young men were more inclined to pursue agriculture career than young women. Females were more interested and passionate to gain life, leadership, and communication skills when they joined young farmers' clubs, while men were more focused

on technical education. Additionally, some agricultural-related programs in schools have influence (positive and negative) on youth career choice in agriculture (Dyer et al., 1996).

Youth Subjective Norms towards Agriculture Career Choice.

Youth intention to engage in agriculture is also influenced by their subjective norms, which leads to perceived behavior control. Subjective norms refer to one's perception of how the people he/she loves and trusts think when performing or not performing a particular behavior (Fishbein & Ajzen, 2010). The youngsters who want to pursue agriculture as a career have higher expectations of getting support from the people they love or trust, openness, and extraversion (Ridha, & Wahyu, 2017). Ochs & Roessler (2004) mentioned that their family or individual values influence youth career decisions and outcome expectations.

Society pressure impacts youth intention to pursue agriculture as a career. The study conducted by Thomson & Russell (1993) to determine the relationship between belief by counselors and parents on students decision to select agriculture as a career. It shows that counselors and parents beliefs are associated with students intention to either select or not to choose a career in agriculture. Osborne & Dyer (2000) mentioned that parents' background or participation in agriculture has an influence on youth engaging in agricultural activities. Therefore it is much easier for a young man/woman from such a family to have the intention to pursue a career in agriculture because of the experience and knowledge about agriculture. On the other hand, Mukembo et al., (2014) argued that there are some parents, guardians, and counselors who are not well informed about the career opportunity in agriculture beyond farming. Therefore teachers, counselors, and parents sometimes are neither supportive nor unsupportive when a young man or woman is interested in an agricultural career (Mukembo et al., 2014).

Perceived Behavioral Control towards Agriculture.

According to Ajzen (1991) perceived behavior control and perceived self-efficacy concept by Bandura (1977; 1982) are similar. The perceived behavior control of time, job workload and demand, job autonomy, job satisfaction can mediate youth intention to choose agriculture as a career (Claessens et al., 2004). Societies and knowledge are socially constructed. People's behavior and perception are shaped by interactions, history, beliefs and traditions, and experience. Bandura (2002) concluded that at the elementary level, parents, teachers, peers, and maternal support contribute to youths' perceived academic efficacy when one needs social support, perceived academic self-efficacy, life satisfaction, and academic achievement. On the other hand, at the middle and high school levels, teacher's support fades from the picture as maternal support declines, and parental support increases. Therefore the perceived self-efficacy retains its mediating predictive value throughout the age span despite the weight of the different enabling supportive structures, which is influenced by the change of age.

Theoretical Framework

The Theory of Planned Behavior.

The Theory of Planned Behavior (the Theory of Reasoned Action) has been used in human behavior studies to assess individual behavioral change (Fishbein & Ajzen, 1975; Ajzen, 1991; Fishbein & Ajzen, 2010). In the Theory of Reasoned Action which was the original theory, the individual "intention" to perform a certain behavior is influenced by several factors. The theory assumed intention as "to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior" (Ajzen, 1991, p.181). The author posits that for

someone to perform a particular activity, they must have a more definite intention to engage and act.

The Theory of Planned Behavior (TPB) measures the perception, attitude, and perceived behavior of an individual. According to Borges et al., (2015), the TPB assumes that people's behavior originates from their intentions to perform a specific behavior. An intention to perform a particular behavior is attributed to attitude, subjective norm, and perceived control, which leads to a positive or negative intention to perform the behavior. Social pressure leads to one's perception of their capability to perform the behavior. Behavioral beliefs, normative beliefs, and control beliefs influence an individual's attitude, subjective norm, and perceived behavioral control. An individual's performance of a specific behavior will lead to a particular outcome.

The Theory of Reasoned Action (TRA) was developed to measure people's intention to perform a behavior. The assumption is that there is a link between individual beliefs, subjective norms, intentions, and attitude, which results in behavioral change (Fishbein & Ajzen, 1975). In Ajzen (1991), the theory assumed intention as "to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, to perform the behavior" (p. 181). It needs someone's firm intention and motivation to perform a specific act.

The theory was further developed into the Theory of Planned Behavior, where perceived behavioral control was included. The theory assumptions include the intention of the individual to perform a particular act that reflects their attitudes and perceptions. When an individual is exposed to subjective norms, it will affect his/her intention to implement it. Perceived behavior controls are an individual perception of their ability to perform, and these can be influenced by internal control, self-efficacy, and self-esteem. These perceptions increase the ability of an

individual, believing that they have power and control, and they can perform a specific task. External is when an individual seeks conformity, acceptance, or approval that they can perform a task; this comes from people they love and trust. Behavioral beliefs where the individual perception of behavior influences one's own attitude (positive or negative). Normative beliefs is where societal expectations shape behavior. Control beliefs, individuals believe that they have full control and autonomy when engaging in a particular act (Fishbein & Ajzen, 2010).

A cognitive process, ability, and readiness are essential when one has an intention to perform a particular behavior. It is vital to question people's intentions to perform or act to measure their Attitude towards specific behavior. Behaviors can be modified depending on the knowledge gained, social interaction, and experience (Ajzen, 1991). For adolescents and youth to make decisions, there has to be the intention to make any decision which will result in the outcome, Ajzen (1991) suggested that if there is no firm intention and motivation, then it is difficult for a behavior to be performed. Although adolescents and youth prefer immediate outcomes, children do not care much about the result; instead, they are guided by trust or mistrust. Therefore, adolescents and youth, intentions to perform a behavior such as deciding to solve a particular problem, they are influenced by the outcome of the decision.

As per Ajzen (1991), an intention to perform a particular behavior requires cognitive ability and readiness. Attitude towards specific behavior is measured by questioning people about their intention to act/ perform, perceive, or think. Perceived behavior is socially constructed, whereby people's behavior and perception are shaped by interactions, history, beliefs, norms, traditions, and experiences.

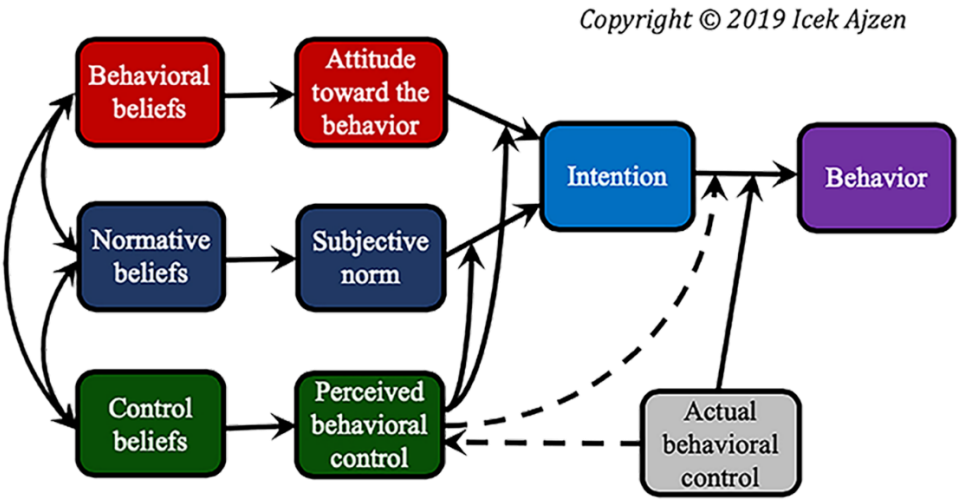

Fig 4-1: The Theory of Planned Behavior Ajzen (2019). Source: Retrieved from https://people.umass.edu/aizen/tpb.diag.html#null-link

Methods

Research Design

This qualitative study was designed to explore leaders, extension agents, and community perspectives on youth career decisions and engagement in agriculture and agricultural-related fields. The Theory of Planned Behavior guided the study by looking at people's perceived behavior, subjective norms, and attitude towards a youth career in agriculture.

Sampling

Sixteen (n = 16) purposefully selected participants participated in the study. A recruitment letter was sent to the parliament of Tanzania requesting leaders who are policymakers, extension agents, faculty members from the agriculture university, and other community members to participate. The purpose of selection was to obtain multiple perspectives on youth engagement in agriculture, what has been done, and what can or should be done to

engage youth in agriculture. The study also addressed the concept of teaching agriculture in schools and the role of youth in agricultural development.

Data Collection

Semi-structured interviews were used to collect data through face to face, skype calls, and written responses. The participants who opted for face-to-face interviews chose a place to conduct interviews where they felt comfortable to share their perspectives. Data were collected during a parliament session in June 2019, and as for other participants was between June through October 2019. Four of the participants opted for written responses instead of audio recording. Ten participants' interviews were through face-to-face interviews, and two opted for Skype interviews, which was also audio recorded, four opted for written responses. The researcher obtained both verbal and written consent during audio-recorded interviews and written consent to all participants. The interviews were conducted in both Swahili and English languages simultaneously.

The recruitment email was sent to the potential participants asking for their willingness to take part in the study. Those who were interested in participating responded via email or called the researcher to confirm their willingness and to ask clarifying questions where needed. Participants had the opportunity to choose to use Swahili or English during the interviews. Swahili is the primary and national language in Tanzania; therefore, many participants felt confident enough to use it and were able to elaborate more on their responses. English is the second language, and it is used as a formal and official language as well. The researcher interviewed ten (10) members of parliament, one (1) Faculty member at Sokoine University of Agriculture, Three (3) extension agents, one (1) unemployed person, and one (1) administrative officer. The interviews lasted between 35 and 118 minutes.

Researchers' Reflexivity

The researchers were biased as they knew some of the participants and their contribution to the agricultural sector. Although the researcher might have no direct relationship, due to their prominent roles in the community and their contribution to the agricultural sector, the researcher felt the need to obtain those participants' perspectives on youth in agriculture and career decisions.

Data Analysis

The interviews were audio-recorded and were transcribed verbatim except four participants who opted for written responses. The researcher identified repetitive codes that were considered to be the major themes from the transcripts, but also the sub-themes were identified. During the interview, both Swahili and the English language were used by the participants. Swahili quotes were translated into English. Atlas TI software was used for open coding for ethnography analysis. Using the themes identified through Atlas-TI, the quotes were pulled out from the written responses data and the participant's transcripts, to match the identified themes and sub-themes.

Table 3-1. Participants Demographics Table

	Pseudo Name	Gender	Age	Education level	Occupation	Work experience (including political experience)
1	Kay	Male	43	Bachelor Degree	Member of Parliament (MP)	16
2	Abdul	Male	42	Master's degree	MP	23
3	Moses	Male	55	Master's degree	MP	29
4	Ruby	Female	42	Diploma Certificate	Leader	4
5	Lulu	Female	31	Master's degree	MP	11
6	Jessica	Female	32	Master's degree	Tutorial Assistant	Less than a year

7	Priscilla	Female	33	Bachelor Degree	Agricultural Officer	7
8	Zahra	Female	35	Bachelor Degree	Unemployed	Had a job for 3 years then resigned
9	Chris	Male	58	Bachelor Degree	MP	31
10	Jonathan	Male	45	Master's Degree	MP	22
11	Barack	Male	59	Masters Degrees	MP	45
12	Andrew	Male	55	Bachelor Degree	MP	27
13	Ephraim	Male	38	Bachelor Degree	Agricultural Officer	10
14	Benjamin	Male	41	Master's Degree	Agricultural Officer	9
15	Matthew	Male	35	Master's Degree	MP	13
16	Maya	Female	36	Master's Degree	Administrative Officer	13

Findings

The researcher used narrative analysis to obtain an in-depth participants' perspective. The themes identified were used as a guide. Seven themes were identified as well as subthemes. The seven themes include (1) Participants Career Choices and Aspirations (2): The influence of the school system on youth career decisions (3) The Perception of Agriculture (4) The Need for Teaching Agriculture Subject in Primary and Secondary Schools (5) awareness of Agricultural Curriculum (6) The Role of Education System in Preparing Youth to face world Challenges in the Agricultural Sector (7) Ways to Attract youth to engage in agriculture

Theme # 1: Participants Career Choices and Aspirations

Each participant had a different experience with career choice and aspirations. It is fascinating to see some similarities as well. From the findings, some of the participants had no intention to pursue a career in agriculture. Still, circumstances forced them to do so, on the other hand, those who chose other careers see the importance of agriculture, and some practiced agriculture. Below are the participants' intentions to pursue their careers.

The road to politics

Some participants were policymakers, who have significant roles in the agricultural sector and youth development in agriculture. Participants shared their views on their journey in politics as follows;

Kay *mentioned that "You know, there was a lot of pressure around me saying, Kay, this is the wrong path. My family members, my father, my late mother, said no, Kay, just stick to your job. You know, you are lucky, you got a good job, and remember I'm the firstborn in the family. So, everyone was not happy, and they said, no, don't do this. So I contested against the wishes of my family, and they had no choice. That was the 2005 and 2010 elections. In 2010 there was a political crisis between me and my political party that made them unhappy. Even now, when you stand up in the parliament to speak, some of my relatives call to say why …So this is a difficult job because when you listen to all people around, people consider politics as not a good career to follow."*

Jonathan *said that "At the beginning, I faced a lot of challenges because at the beginning when I finished Form Four (Ordinary level education) my dad took me to a medical school for training as a clinical officer, so when I finished the clinical officer training I was appointed as clinician at a very remote area…. Actually, when my father took me to the village where I was supposed to stay I returned on the same day because I said no, I cannot stay here. So I went back home…. So when I was there I said I better change my career. So I studied for a Diploma in Business Education… not having a background in accounting subjects because I was doing science at my A-level (advanced level school), and all my education background was in science. So I found myself having to start from the lowest level. Later on I had the opportunity to go overseas to study for a degree in Business and when I finished, I came back to Tanzania and started working in different companies".*

Matthew *posits that "At the beginning, it was a bit difficult because I had kind of mixed feelings, and it took me some time to decide what route to follow. I remember when I was a young person. When I was a child, I so wanted to become a priest, and that's why I joined the seminary school because I wanted to become a priest, but when I joined advanced level secondary (A-Level) school I was also attracted to serve people as a lawyer...but when I joined the university I was also pulled and excited with the way politics were being conducted in the university level. So I joined politics there and I was a deputy minister serving as deputy minister of education. I became a very influential person….,. So from there politics started to be part of me. And then I found it to be the best route also because at the end of the day it is a service to the people whether you are a lawyer or a politician, at the end of the day, what matters is service to the people. So I took these two routes simultaneously."*

He also mentioned that "I was at the same time serving as an advocate and politician. At the end of the day, I think politics took the largest portion, and that's why…here I am today. Becoming a politician wasn't automatic, I was being inspired, I remember when I was 10 years old in 1994/1995, I attended the campaign rallies for the then Member of Parliament for [Constituency] the late [Honorable] since my father was his campaigner, and with him I

attended a number of campaign rallies and found them very interesting….. So those were two inspirational moments I can say, which actually made me who I am today."``

Lulu *said that "In getting into politics I was inspired by different role models. I used to admire women who were fighting for women's rights and against the discrimination of women and who were creating public awareness about these issues, since this is also what I am interested in. Since 2000 I used to see some Parliamentarians advocating for the rights of women and the youth and to fight for human, economic and political rights for all citizens. So I was really inspired by some of these politicians and I was therefore attracted to politics because I thought that this way I can serve the entire community and not just a few people. So I was drawn into politics by circumstances because I like to see people observing the rule of law and I am against all forms of oppression. I studied for an MBA because I believe that business is universal so I could accomplish many things like getting into business but also farming, even politics.".*

Chris *said that "I am the son of a politician, my father was one of the first politicians to join TANU and to support Mwalimu Nyerere in the fight for independence for our country. In fact he was one of the first few people who promoted TANU in [Region] during its initial years. My father was a Middle School Headteacher and a politician as well, so I grew up in a family of a politician. In 1963, my father was arrested for leading a demonstration of people from [District] demanding water services and he was jailed in [Prison], but it was Mwalimu Nyerere who ordered his release from prison in 1964. So I grew up witnessing my father fighting for people's rights. In addition, our clan is of a very famous chief, and we are the great great- great grandchildren of the first chief. So our inspiration has been from inside not outside. In fact, my brother was also a Member of Parliament in the past".*

Every participant's journey to a career path was different, and it shows that choosing a career is not easy as participants shared their experiences. Some were discouraged by people they trust, some did not know what career they wanted, and some knew the type of job they wanted. Some participants had the intention to pursue a particular career, depending on their interests and opportunity presented to them. Other participants ended up in politics because of the influence of the people close to them, but also, they felt they need to serve and make changes through politics.

The influence of the community such as extension agents, family, and friends in youth career choices

From the findings, Extension agents, as well as people they loved and trusted, influenced participants' career decisions. Participants shared who their influence was and how it impacted their career decisions.

Ephraim *said that "From the beginning when I was a child, I used to see these Bwana Shamba (Agricultural Extension Officers) moving around in my village using motorcycles going to work. Then I admired them, and I said these guys are doing a good job. From that experience, I wanted to know more, so I asked my parents, and I knew I was going to be an extension agent. So I was inspired by the Bwana Shamba (Extension Officer) of the village".*

Jessica *mentioned that "Being born and living closer to the University was my biggest inspiration, at a very tender age the University Billboard played a major role in pushing me to want to be part of the university. The female professors who used to visit us in schools made me want to be like them, and their tireless support in answering my questions as I proceeded with my educational journey played a major role too".*

Maya *responded that "I chose this career after being inspired by my workmate as I was re-categorize from the career chosen by my family. She inspired me to see how proper planning and administration can lead to a proper and efficient outcome."*

Zahra *mentioned that "I was inspired by my cousin as she also worked as a Health Safety and Environmental Officer."*

As participants shared their journey to career decisions, many participants were influenced and inspired by the people close to them or people they consider to be their role models. Fishbein & Ajzen (2010) mentioned that the intention to perform a particular behavior is influenced by subject norms such as significant adults, peers, and role models. Therefore people around youth like extension agents affect youth perceptions, decisions, and interest to engage in an agricultural career.

Theme # 2: The influence of the school system on youth career decisions.

Career knowledge is often attained through the school system, whether it is formal, informal, or non-formal. Therefore the knowledge about agriculture has an impact on youth

decisions on a career path. Participants shared their process of making decisions about their career and how the education system shaped their choices;

Benjamin *stipulated that "I would say that it was not in my mind to be an extension agent or to work in the agricultural department. I was interested in other professions. So on the way, when I started choosing a career, I was not forced, rather I would say that it was by chance that I found myself in the agricultural profession. I had other goals, but something went wrong somewhere along the way, especially with schooling, you know those days we had very few universities, and I wanted to go into the health sector as my number one choice, but in those days university choices were very few. So I did not get the chance to go to medical school and instead was selected to go to Sokoine University of Agriculture and automatically I ended up in the agricultural sector".*

Moses *mentioned that "I was just selected by the government to join Form one at [Secondary School] and it was just like I had to join automatically to do it...It was not my wish to become an engineer but all who joined [Secondary School] were expected to become Engineers. Those good old days we had only three technical schools in Tanzania, Ifunda, Mtwara and Tanga. But you know being raised in a small village and in a family where your dad has a small shop, I was thinking just to become a business person. That's what I thought. Now you can see from a village and go to [Secondary School] which is three hundred and thirty kilometers from my home...Then from [Secondary School] I joined [High School]; you can see change. So I did PCM for my A-level in [High School]."*

Barack *mentioned that "My parents were peasants who relied on traditional farming for their livelihood, so I grew up in a subsistence farming household that was growing bananas and coffee. Actually, in my village or my districts, I am among the people who have big banana farms producing about 300 bunches of bananas every week, so apart from being a politician I am also a farmer which I learned the hard way because I used to work on the farm to get school fees and to support other needs. I am a marketing professional ...I used to oversee the family business, and now my brothers and children are also involved in the family business".*

Rubby *mentioned that "After finishing my studies it was my ambition to work in a government institution either to be a journalist for a newspaper, or to work in any ministry. My brother inspired me to work in the ministry because he was working in the Prime Minister's Office. As for this position in the Parliament, I saw the job advertisement, I applied and got the job".*

Some participants had no intention to pursue a career in agriculture; however, they are currently working in the agricultural sector. Some arrived at a career in agriculture, not by choice but by circumstances, like not passing exams for desired subjects. Hence the government put them in the courses/universities that were relevant according to their grades. Some participants

had backgrounds in agriculture where they felt they could continue a family legacy and pursue a career in agriculture.

Theme # 3: The Perception of Agriculture

Individuals had different perceptions of agriculture. Many linked agriculture with cultivation, food, livestock keeping, and technology. Participants shared their perception of agriculture where their views are categorized agriculture as farming, agriculture as food, agriculture as a serious commitment and wealth, and agriculture as a value chain.

Agriculture as Farming

Some participants viewed agriculture as farming, getting into the field, cultivating and producing crops as

Abdul *mentioned that "To the youth but even among some of the leaders in the government, and most of the people when they hear of agriculture they think of somebody who is engaged in farming in the villages."*

Maya *responded that "Big plantations, production lines, large transportation cars and higher income. Why? I was raised by a production manager and that is what I used to see large wheat plantations. In the aspect of production lines and large visit, it was after the visit to China and Swaziland.*

Jessica *said that "When agriculture is mentioned the first thing that comes to mind is plants/crops. The reason is that I grew up in a farming family and agriculture has always been a part of our life".*

Zahra *mentioned that "Farming and cultivation. Why? Because that's what it means"*

Agriculture as Food and Wealth

Through agriculture, people can put food on their table and have a healthy meal. On the other hand, with perseverance, commitment, and dedication, agriculture can lead to wealth, poverty reduction, and food security. Participants shared their perspectives as follows;

Rubby *mentioned that "Agriculture gives us food, that's all. Almost everyone, when you mention agriculture, they relate to food". Similarly,* ***Priscilla*** *mentioned, "Production of food through cultivation."*

Ephraim *mentioned that "The first thing that comes to mind is that agriculture can employ most people, especially in my country agriculture is a sector which employs most of our people and it is something that needs high commitment because agriculture revolves around crops and food, so agriculture is life, you cannot mention life if there is no food".*

Moses *said that "Well, what comes to mind first, is that this is a thing that needs serious commitment. You have to have dedication, love, and passion for agriculture. It's not like a thing that you just go and plant, and then you come for harvesting it doesn't work like that. As for me, I love agriculture. I have been trained several times. I told you that I have farms in my region, I mean my constituency in [Region] and also I have a farm in Manyara, trying to cultivate different crops like maize and so on but on a large scale".*

Kay *mentioned that "The first thing that comes to my mind is wealth. The first thing that comes to my mind is future, the first thing that comes in my mind is independence because I believe agriculture has no difference with ICT because we all say that the future is in technology, but I consider the future to be in technology and agriculture. Because a human being, a human being can do anything when their stomach is full. So if the stomach is empty, you can do nothing. People are discussing about going to Mars and we want to get maximization of the 24 hours in a day. You cannot maximize the utilization of 24 hours and the 360 days. Because there'll be no single day whereby we'll say we have 27 hours, we will have only 24 hours. So we need to get the maximum out of 24 hours. So to get the maximum of 24 hours, you need two things. You need technology and you need your stomach to be full, and for the stomach to be full, you need agriculture".*

Agriculture as a Value Chain

Some participants viewed agriculture as a value chain, which includes marketing, farming, evaluation, trading and business, and consumers. The idea that agriculture is as essential as Information technology and it is growing very fast also emerged during participant's stories. They shared their views as follows;

Abdul *mentioned that "My perception of agriculture includes all the value chain of agriculture since in agriculture there is division of labor, some people can engage in farming. Some of them can become agents of distributing inputs to the farmers but also depending on agriculture because if it's not there that means they cannot get income because there are no customers for their inputs. All of this, in my view, is agriculture. And also, the buyers who buy the crops produced by farmers are the agriculture sector stakeholders because without market, without the buyers, there's no agriculture. So that's why even now the farmers blame the government because they couldn't find the market for our crops. Why? Because the buyers are not there. So if we do not set or build a conducive environment, which can attract more buyers to come in our country to buy the crops produced by farmers it will be chaos, because the farmers*

will complain that we produce, but the market is not there. But also for brokers of the crops since business is information; who has the information has the customers".

***Abdul** also mentioned that Information technology is a powerful tool to spread the information to the farmers because through IT they can access information from wherever in the world because they can get the market from China, America, Europe, the Far East, so the same information can be spread to the farmers. Agriculture is business, business is information, the one who has information can do business, and market is the heart of the business, without market you cannot do business, without the heart you cannot survive".*

***Benjamin** said that "The first thing that comes to mind when you mention agriculture is about food, it is about eating. I would say most people do not see agriculture as a profession and career like any other career, rather many people think agriculture is everybody's business, anyone can practice agriculture, and it is not a profession. The perception is that agriculture is the last option for most people. If you pursue other careers and fail, you can embark on agriculture as a last option. Regardless of how much you get from it, agriculture will always be the last option. So the last option for most of the people is agriculture, and they think that it is possible to practice it without using agricultural professionals like extension agents".*

***Jonathan** posits that "Oh, almost 95% of people in my constituency are doing agriculture. So to me agriculture, I take it as the development of my area because most of my people are involved in agriculture as an economic activity because we don't have a lot of other businesses, we depend on agriculture and we largely concentrate on cultivating cashew nuts and mixed crops, so to me agriculture is the development of my people".*

***Barack** said that "Agriculture for me is the livelihood of people especially in the rural areas, as you know a good number of Tanzanians live in rural areas, and that is their daily activity, when we are looking for real income we rely upon agriculture, even in families, most of the young generations are trained in agriculture in rural areas".*

***Matthew** mentioned that "Agriculture is the backbone of our economy and is the sector which we believe can employ a big number of young persons. To me I consider agriculture as a savior to many young persons. And that's why I first mentioned about changing mindset. Today if you tell a young person to go to the village to engage himself or herself into agriculture, it is not that easy because they consider agriculture as the last option. So if somebody did not have an opportunity to be employed in the banking sector or in mining sector or in other economic sector, the last option is agriculture because we haven't put much emphasis and actually you know these young person's wish to have quick results, now agriculture takes time for one to probably succeed. So that's why I earlier mentioned that one of the things that we are doing is changing the mindset and to make young people to believe that they can also benefit from agricultural activities and that they can be self-employed through agriculture. So to me when agriculture is mentioned, I see salvation, I see an opportunity to young persons".*

***Lulu** mentioned that "Agriculture is the backbone of the economy, it is like a skin as it touches everybody. Over 70% of the people depend on agriculture, for food or a relative involved in farming, or somehow engaged in an agricultural business. So, to me, agriculture is a big national issue that touches a large part of the population. So the government must put more effort in this sector that caters for a large proportion of our population. This is because if someone has no education or income, the only thing they can do is to go into farming. So it is*

important to have a wider knowledge about agriculture since everybody is involved in farming, agribusiness, food, and everything else".

Chris *mentioned that "You know in a country where 70 to 80% of the population is employed in agriculture, when you hear about agriculture you immediately think of farming and using the hand hoe, but for us leaders, this concept is out of date. When you talk of agriculture it includes extension and advisory services, inputs supply, processing and marketing. Today's youth have a very negative perception of agriculture because unfortunately our curricula have been designed to prepare the youth for white collar employment like clerks, doctors and teachers and they were not prepared to become farmers and hence to inspire the rural youth who do not continue with schooling. It is only recently that we have begun to think about allocating special areas for training the youth in agriculture but this may not succeed by just selecting a few of them for special training camps."*

It is fascinating to learn various participants' perspectives on agriculture. As many shared agriculture is viewed as "farming," leading to negative perceptions of agriculture. Agriculture is also considered as food, for food security and wealth if it is commercialized. Participants viewed agriculture as an inclusive sector that has a lot of opportunities for youth.

Theme #4: The Need for Teaching Agriculture Subjects in Primary and Secondary Schools

Many participants were in favor and wanted to see agriculture taught in schools, especially in primary schools. Below are views from the participants on the need and importance of teaching agriculture;

Jessica *mentioned that "there is definitely a need to teach practical agriculture in primary schools. Why? Because the majority will join the industry after they graduate from either secondary or primary education".*

Matthew *responded that "There is a very big advantage because we start preparing a person from that lower level to upper level that agriculture is one of the economic activities that can sustain life and to make people self-employed. I remember when agriculture was introduced in our curriculum, most of the people who took agriculture subjects were the ones who joined Sokoine University of Agriculture, and even if they couldn't join the university, but at least they could practice agriculture at the household".*

Barack *responded that "It a good question to me because when I was in primary and secondary school we used to learn agricultural activities, to generate income, but in primary school we produced different crops, in our district we were growing coffee, banana and cassava. When I joined secondary school we had a special subject on agriculture, so I can say I have a good knowledge of agriculture, animal husbandry, poultry, cash crops even mechanization."*

He also said that "So the advantage of training our pupils from primary schools to secondary schools, is that once they finish secondary school education they have the advantage of implementing their skills on their own, instead of moving to town or somewhere else to look for a job, that is the advantage……and actually even on my side there are lots of things I am doing even now borrowing from the experience I got from my primary and secondary school. We used to have special agriculture schools but they are now very few, and agricultural subjects are out of the syllabus. In fact in primary schools we were practicing, there were no theoretical teachings in agriculture, they will teach you the agricultural practices, from preparing the farm to harvesting, but in secondary school there was a theory and practical".

Participants think it is essential to teach agriculture in schools, according to their views below;

Jonathan *mentioned that "There is a big advantage of teaching agriculture in schools, like I said almost 95% of Tanzanians especially those coming from the rural areas engage in agriculture after finishing their primary education there is something to do from the experience they got from school. Since most of the students in primary schools do not go on to secondary school where agriculture is taught, so agriculture should be taught in primary schools where everybody is attending but secondary school is not for everyone".*

Andrew *mentioned that "I will say; briefly, it is very important because students are taught how to manage agriculture better. In primary schools, I don't think if we have agriculture schools. In fact in primary school, we had a subject called Self-Reliance, students had small gardens and practiced horticultural skills by planting vegetables, taking care of them, and learning the farming processes, but this is no longer there".*

Benjamin *responded that "To me, one of the things that I think is important is to cultivate the practice of agriculture very early to the youth. If you look at it will influence youth to consider agriculture as a profession, it will help the youth to understand that agriculture is not only practiced as a last resort for most of the people we see today, but they will see it as a profession like any other profession. But also in most cases agriculture is viewed as a punishment, if you go to primary schools or secondary schools for example, children who misbehave, are told by the teacher to go to farm as a punishment, and therefore most children view agriculture as a punishment and not a respected profession. But if we have special programs in primary schools and secondary schools where children and youth are taught the importance of agriculture, they will eventually perceive it as a profession".*

Some participants used Swahili proverbs to explain their views on how teaching agriculture is schools is vital. These proverbs mostly aim to emphasize other messages that participants wanted to convey. Apart from the ones participants used, the common one that is used in agriculture is "*kilimo ni uti wa mgongo*" (agriculture is the backbone). That means it is as important as the spine.

Ephraim *mentioned that "On my side I think there are many …many advantages of teaching agriculture in schools, because most of the people are not taught agriculture in schools, previously there was a subject called Sayansi Kilimo (Agricultural Science), but currently in Tanzania our curricula don't have such subjects but it is a very important subject to be taught at an early age. If it is taught at an early age and youth get to understand the importance and knowledge of agriculture, I hope in future we will get good and experienced people working in the agricultural sector and youth will engage in self-employment in agriculture".*

Maya *mentioned that "Yes, there is a need agriculture covers a lot of aspects, which one can study and understand and use at every level. In the past up to 1990's in Tanzania Primary curriculum there was one subject for agriculture science and many of student's right after primary school employed themselves based on the knowledge obtained during their studies.*

Abdul *responded that "Yes it is very important….It is important because according to the Swahili saying "Samaki mkunje angali mbichi". Secondly it is important to change the perception of people, because as a country we made a mistake a few years ago when we started to treat agriculture in our primary and secondary schools as a punishment. If a student or a child made a mistake the punishment was to go to work on the farm for example for two hours. So our children when they get older they do not think of agriculture as a career, rather look for a white collar job. They feel that agriculture is a punishment and not suitable for him or her, which is a very wrong perception. And when we say that 75% of our population depends on agriculture, agriculture is our economy, it contributes a lot to our GDP more than 30%, so how can we say this sector is a punishment?....So we are saying that teachers need to work hard to change their mind and pupils perception that agriculture is not a punishment but is an economic activity. So for a clear answer why it is important to teach it in schools it is because it is an economic activity to generate income, today and for the future".*

Kay *said that "Yes, I believe so…because it connects a kid to nature, because the origin of a human being….I am a believer that every human being comes from nature, you have to connect those people coming to this world with their mother nature. So if you connect a person with the land…the usefulness of land, the importance of the tree, this is where you are going to be fed, this is where you are going to eat, this is where your today and tomorrow is, it is important to connect kids with nature. If you connect kids with agriculture you connect them with nature, they will understand the importance of the trees in agriculture, and they will understand the value and where the food comes from, they will understand the process of getting food from the land and Mother Nature."*

He also mentioned that "But also you train kids from the primary and secondary schools the concept of not depending on white-collar jobs, which I can make my living out of the piece of land I have. And with the technological advancement, you have to connect kids with nature....I don't know if when you were in primary school, you were told when you are coming to school tomorrow, come with your hoe, when you are coming tomorrow you will have your small garden. This is what I was told and did during my primary school days, we were doing that…so you can now understand where I am coming from."

He continued "And I remember when I was growing up, we had a slogan in our education system "Elimu ya Kujitegemea" (Education for Self-reliance). So you are preparing a self-reliant and self-dependent person from the primary school. So if a student fails at Primary school level education he or she can go back to his or her village and establish a small garden

and cultivate various crops. And you know what……we are creating a society of people who depend on white-collar jobs for their living which is very dangerous. Abolishing technical schools, and agricultural schools is a big mistake that we have made as a country".

***Rubby** mentioned that "Yes…as I said, food is everything, since the time we are born, the first thing is to eat, a baby needs to be fed milk from the mother, so it is very important for children to know about agriculture at a young age. Agriculture is not only food but it also relates to our health, a child gets that knowledge on how it grows, types of soil good or bad, and if you don't eat you will die, so they have to understand that agriculture is life".*

***Lulu** responded that "Like I said agriculture touches everybody since more than 70% of the people depend on agriculture, which means out of every ten households, seven depend on agriculture. So failing to invest in agriculture means that these households or the society, in general, will not prosper since we have not invested enough to help those 70% of the people who live in rural areas and depend on agriculture. So it is important to start teaching about agriculture in schools at early stages as this will help the young people to learn about modern farming practices, but also about markets, agribusiness skills, food preservation, and many other such things."*

She suggested that "If we start teaching at early stages even if someone graduates from the university and cannot get employment, it will be easy for him or her to get into agriculture because he or she will have a wider knowledge about agriculture. For example, if you ask me today to quit my law profession to go into irrigation farming I will find it very difficult and I will not succeed because I do not have an agricultural background. So it is really important to teach agriculture in our schools from very early stages so that eventually we can empower the youth to succeed in life".

***Chris** mentioned that "The need to teach agriculture in schools is very high because agriculture is life, we eat because of farmers, and agriculture is the source of raw materials for industries, so people must learn to farm productively and to use modern practices because land is limited it will not increase while the population is increasing. You can have someone with a small piece of land but producing the same amount of crops as the one with 20 acres.*

He continued "Unfortunately our curricula have changed, as in the past when I was going to school in 1965 we used to be taught about agriculture, we were attending classes in the morning and in the afternoon we used to look after our small gardens where we learned about grafting and budding and such skills. But as governments changed, things began to change…Nyerere started Sokoine University of Agriculture, and even before he died he had plans to start Butiama University of Agriculture".

***Moses** responded that "It is very important for sure. I'm not so sure how to put this, but the late Mwalimu Nyerere was very visionary, from the beginning we had some secondary schools specializing in agriculture. And I remember we had good teachers from Cuba. And you know you just mentioned I think Kibaha Secondary School But also schools like Kantalamba Secondary School specialized in agriculture, just to mention a few. And you could see the student who went into an Agricultural school, after attaining his form four level education he could go into farming on his or her own because all those basic skills were taught. It's not like today where there's nothing like that. If you ask someone who has just completed form four now you have attained your secondary education, can you tell me exactly what are you going to do? He*

or she is full of theories but nothing practical. There is a mismatch. It is a big mistake we made as a government to transform those schools which were for special skills into general subjects. It was not the right decision.

That's why even the government has decided to revive those schools for special skills. So someone who has gone through this program knows exactly when you say this soil is too much alkaline. He can explain it and he can know how to treat the soil so that it becomes good for farming. I remember they had agro- mechanics so we could have basic skills on how to operate tractors when it is broken, and which ways they can fix some small. ...small problems. So it would be easier for them, after all he has a passion because he knows, and it becomes easier at the advanced secondary school level. It becomes just a continuation of basic and fundamental things which he has done. So there is a need… It is just unfortunate that the Minister for Education at that time made those changes. Now there's a move to bring back those technical schools and agricultural schools."

From participants' views, there is a need to teach agriculture in primary and secondary schools to prepare youth with skills to engage in agriculture. Changes in the curriculum have an impact on youth development and success. At one time, the schools that specialized in agriculture prepared youth for self-resilience and provided useful skills that youth used for employment. Abolishing such schools reduced the number of youth studying agriculture and decreased the number of students who are interested in pursuing a career in agriculture. Teaching agriculture in schools or having programs that focus on teaching agriculture skills will increase youth interest in agricultural occupations, but also in practicing modern agriculture that will lead to high quality and quantity of production. It will also create leaders in the agricultural sector who will use their creativity and skills for agricultural development.

Theme #5: Awareness of Agricultural Curriculum

Many participants were not aware of the existence/non-existence of the agricultural curriculum in primary or secondary schools. Many participants shared knowledge about their experience and what they heard/know about the agriculture curriculum.

Chris *responded that "To be frank, I don't know because I did not study agriculture. What I know is that at Sokoine University of Agriculture there are various degree programs being offered but I do not have any details. What I do know however is that those agricultural*

subjects which used to be offered in primary and secondary schools those good old days are no longer being offered. When we were in o-level secondary school, some schools were designated as agricultural secondary schools but even for other schools sometimes we were required to undertake farm work just to prepare us for life after school. But there was also National Service, and I attended for one year where we were taught military skills for six months and agriculture and other skills for six months.

"Let me tell you, our politicians are the problem, because our Constitution allows any leader who comes into power to introduce new things so our country lacks continuity. Every new President comes with new things and does not continue what the predecessor started, so taxpayers' money is wasted. We cannot develop unless we change this system whereby it will be prohibited to change any programs that have been approved by Parliament until they have been concluded. Our educational system is in shambles because every new Minister brings changes into the system as a matter of trial and error".

***Moses** mentioned that "Not quite certain about the agricultural curriculum". Similarly **Rubby** said that "No I don't." On the other hand **Maya** responded that "Only that it's not a compulsory and it is taught from secondary to those who choose it, in some selected schools".*

***Kay** responded, "In which area, Primary schools? No we don't have agriculture curriculum in primary schools, we don't teach agriculture in our primary schools, we teach agriculture in secondary schools but it depends on the specialization of a student, and there is a huge discussion assessing again the curricula to accommodate the concept of agriculture from primary school, to review the education policy of our country…we are discussing with the government, we have not reached anywhere, but it is an ongoing discussion".*

***Barack** responded that "We don't have an agricultural curriculum. Sometimes back there was a confusion in our school curriculum on the way of managing the schools. So even in secondary schools agricultural subjects were scraped off, even the way of treating and managing schools was changed. It is like apart from self-reliance subjects, the experience and experiments, the "mchakamchaka" the fitness program was abolished, the national secondary school games competitions were also abolished. The government is trying to restart now, so we used to do exercises and sports and whatever, perhaps you were too young to remember, but we used to have Filbert Bayi, and a good number of sportsmen and women who were identified in those school games and other competitions, but they were abolished, we abolished the good practices".*

***Andrew** responded that "There is no agricultural curriculum in schools. There are a lot of factors that contributed to the abolishment, like agriculture teachers are not enough, land which was used by schools in the 1990's is the same as the one they have today, shortage of space because the compounds are not expanding but the number of students is increasing. In urban areas it is even worse. There was no stated reason for abolishing agriculture curriculum in schools, it just became a new practice…as to why there was no explanation. But I would say that in Tanzania there is a bad tradition that once a new regime comes into power they start afresh; no continuity".*

***Benjamin** said that "I would say that I have mixed feelings, in primary schools, those days we had agriculture as a subject, actually it was taught in primary schools, but nowadays agriculture has been mixed with other subjects, and there is very little part of*

agriculture taught it is not agriculture in totality as such, so it is a challenge, but also in secondary level education for instance, in those days we had special schools for agriculture, where people used to study agriculture as a subject, I went to agriculture school, so I knew agriculture earlier…in the current situation the curriculum does not provide that much space for agriculture to be taught in schools".

Ephraim *said that "From what I know some of the schools teach agriculture, not many schools. Even when we compare our universities we currently have only one agricultural university Sokoine University of Agriculture. When you compare with other subjects like Accounting, there are lots of universities, lots of schools, I think my government should do something to push agriculture subject from the primary level to the tertiary level. The first thing is to introduce agricultural curriculum from primary school to higher learning, so that students are aware that agriculture is a core subject. Because even if you are a businessman/woman you have something to do with agriculture, not necessarily to do farming directly, but you can provide funds to support something related to farming or agriculture".*

Priscilla *mentioned that "The current agriculture curriculum prepares students for life as adults to engage in crop cultivation".* ***Jessica*** *mentioned that "The current curriculum does not include agriculture in primary and majority of secondary schools (public schools). There are few public schools which teach agriculture at high school level. I happen to be lucky and went through agriculture before the curriculum was changed…and all the way to high school. The teaching in high school was too theoretical".*

Therefore many participants were not aware of the agriculture curriculum used in schools, and for those who know they partially know that it exists but not precisely what is taught to students in classes. But also participants mentioned that agriculture is not taught in primary and secondary schools, whereby their statement is supported by the National Education Policy (1991) where agriculture is not a compulsory subject rather elective for the schools which are interested in teaching agriculture.

Theme #6: The Role of Tanzania's Education System in Preparing Youth to face world Challenges in the Agricultural Sector

The education system plays an essential role in preparing youth to make decisions and choices about their career and their future development. Participants discussed perspectives on the role of the education system to prepare youth to face world challenges.

Kay *mentioned that "No….We are not preparing our youth now. Look at the VETA (Vocational Education and Training Authority) as the tertiary schools that we have in our country. Look at even students from Sokoine University of Agriculture (SUA). You can have a*

graduate from SUA but looking for a bank teller job. You can now see and understand where the problem is, you can find a Veterinary Medicine graduate looking to work at the bank, or telecom company job or such kind of jobs, because the curriculum has not prepared them to think outside first paying sectors, and agriculture in our country is not seen as a paying sector, in our classrooms we have not taught kids that if you go to agriculture you can be a millionaire….you can be a millionaire in the agro-sector".

Kay *Continued "Because when they go back to the village, they see all the poor people are the ones working in agriculture. No one is excited…..so the system…the education system, our economic system, our policies have created an environment for everyone to feel that you cannot go into agriculture. The funny thing is that even the financial institutions are not ready to give loans to the people who are in the agricultural sector, they see a huge risk. So not only that the curriculum does not prepare young people, but even the economic system for our country, the laws, the policies of the government do not prepare anyone to love the agricultural sector".*

Matthew *responded that "There's been a number of concerns about whether our education system prepares the youth to face challenges. I can confidently say yes though, we are still in need of doing more, or make more efforts. Make sure that our people who receive education from the curriculum become self-reliant and become self-employed. I remember when I was in primary school there was also a vocational training in the primary education. So it was part of our primary education. And the aim was at least if somebody completes primary education, standard seven, at least he/she will have few vocational skills, which can make him or her employ himself or herself. But at least that was a good preparation for someone to become self-reliant."*

He continued "There are a number of questions and concerns from stakeholders that the curriculum should be reinstated, especially the vocation training, although it has been replaced now with VETA. The presence of VETA actually helped to fill the gap which now reduces the importance to have the vocational training in primary schools because VETA is already in place. VETA was introduced to fill the gap for vocational training, at first there was no VETA so the vocational training was part of the primary schools. It is not bad for special schools to be brought back to the curriculum, it is not bad for preparation, because you can prepare someone from primary education and later on if he or she joins VETA it can be an added advantage, at least she or he has some nitty gritty from the primary education".

Maya *responded that "To some extent as it provides basic knowledge; but must be revised to accommodate the current techniques and situations".*

Some participants thought there was some confusion on the role of the education system in preparing youth to engage in Agriculture.

Barack *mentioned that "We are in a confusion…we don't know what we want and what we are doing. Borrowing from the first government with Mwalimu, we tried to train the youth, as I said we used to practice sports, self-reliance you do laboring at school, you are trained in small gardening, we used to plant coffee trees and bananas in our area. Even in other schools, they used to keep livestock for revenue. So at the very early age you learn and know how to keep livestock, and when you go home you can do the same. In sports this is how those talented such*

as Filbert Bayi and Nyambui emerged, that was very systematic. When we went to school those days it is when they introduced agricultural based schools, they also introduced the technical schools like Ifunda and Moshi Technical Secondary Schools, Dar es Salaam Technical College and others. You can see the picture that we are preparing people for this (agricultural) sector to love their sector."

***Baraka** continued "Now after that phase those schools were abolished, so nobody recognized the importance of having the technicians, also we didn't recognize the importance of having knowledgeable farmers. A farmer who knows how to do proper farming, castration of animals, proper keeping of animals to increase the volume of milk per cow and poultry management. So we ignored all this and just pushed people to count one class after the other, primary and secondary after years then you have a graduate. So that is the problem.*

***Baraka** shared that "We have a case for example in Dar Es Salaam Technical College where students were always rioting to stop the technical practices and change to the non-technical academic approach, the same applies to IDM Mzumbe, SUA, IFM, CBE, they were all technical oriented. There was a debate from lecturers and teachers fighting to change the curricula to non-technical academic, and that is where we ended up changing them to be universities where people are trained in theories and very little practical. In those good old days, a graduate from Mzumbe used to sit and pass CPA in a single sitting. Today there are very few students who pass at the first attempt, even from the University of Dar es Salaam. So we abandoned the good system that trained people for work and we trained for the world".*

***Andrew** responded that "We don't know what we want and what we are saying …we practice what we are not saying and we say what we are not practicing. We have a system of getting and giving graduates certificates but lack professionalism especially doing actual work, we are so empty. In primary schools, we have a system of teaching reading, writing and counting, which has nothing to do with agriculture. But in those days we were taught how to do farming".*

***Benjamin** mentioned that "Not at all, I don't think so…You know because we don't have those programs that prepare the young generation to be skilled and take chances in agriculture, and most importantly to see agriculture as a career. So the most important thing that I can say, apart from teaching agriculture in schools we should have special agricultural programs for youth so that they learn agriculture, they practice agriculture, they identify the challenges in agriculture earlier when they are in the process of making decisions on their careers".*

***Ephraim** responded that "To me primary, secondary or tertiary level education does not prepare the youth to face the world challenges. At least very few people who go to agricultural universities are prepared to study in such universities but many don't. So we need to prepare the youth from primary schools, secondary schools, tertiary level and universities to like agriculture".*

Participants continued to share their views on preparing youth to face the world challenges, and to the role of education to facilitate the preparation of youth;

Abdul *mentioned that "That is why I mentioned earlier that we made a mistake,initially we had agriculture in our curriculum at that time……we had Agricultural Science and Development Studies, but we removed it from the curriculum. We are supposed to make it mandatory for everyone in school. Agriculture is an economic activity, as I said, 70% of citizens of Tanzania depends on agriculture. That is more than 70% of the economic activity coming from agriculture that is why I said it is important to teach it from primary school. Secondly, it is important to our nation, agriculture produces raw materials, almost 65% of the raw materials used in the industries here in Tanzania come from agriculture. Almost 28% to 30% foreign currency is generated from agriculture, more than 30% of the GDP is coming from agriculture, 16% is coming from the crops sub-sector, so that's why I said yes it is important to teach agriculture as a subject and include it in our curriculum…. The good news is that we are in the process of reviewing the agriculture policy and we would like to propose that agriculture as a subject to be taught in schools".*

Rubby *said that "I don't think so…What I remember when I was in primary school…we used to have small gardens, I wonder why this is not there anymore. You take a gallon of water from home to school, prepare your garden, dig it, and plant it, water it every day and you feel proud …..and sometimes you learn cooking using the crops from the garden. I wonder why they do not do it anymore as practiced in our primary schools. For example my children don't know how to garden, to plant or weed crops as we used to be taught in school and practice at home. I think it should be taught from primary schools as it used to be so that children can learn from a young age…..Schools and families should both play a role in teaching children but schools play a big role as most of the time children are at school and most of the time children listen to their teachers more, if they tell them this is good or bad they will listen, even when they come home and you teach them otherwise they will tell you my teacher taught me this ...So the school system has a big role to play, even if we parents also have to teach our children as well, but we don't spend a lot of time with our children compared to the time they spend at school".*

Moses *mentioned that "The answer is yes or no…you cannot say clearly that this is what it is. It is sort of complex especially if we know what exactly is supposed to be part of the knowledge the youth need or are aiming at, if we want to prepare the youth for agricultural career or for becoming entrepreneurs then there is a need to have special skills to be imparted to those youth. Currently, this is not the case, we are heading to that direction but right now we are creating youth groups and preparing them to gain skills needed".*

Chris *mentioned that "I don't think so, because if this was the case we would see some changes in agriculture. I feel our youth are just taught to be employed and to get employment from agriculture. To me we would be more successful if we support our youth to visit other countries to learn about potential markets and to come back and to teach others how to access those markets……. We have Kilimanjaro International Airport (KIA) and other airports, so what prevents planes from landing there to take fresh produce to other countries? We produce flowers in Hai, Meru and Arusha but since there is no plane that lands at KIA (Kilimanjaro International Airport) flowers have to be exported through Nairobi Kenya! We also have Songwe Airport in Mbeya but for the last 20 years no cargo plane has landed there."*

He argues that "So you cannot talk of encouraging the youth to go into farming when you are not facilitating them to get profitable markets. We are currently talking of industrialization, but you cannot achieve industrial revolution unless you also have an agricultural revolution.

This requires a multi-sectoral effort involving the Ministers of Agriculture, Lands Industry, Investment, Finance and Foreign Affairs who through the Embassies, can link us with external buyers…. . If you go to Muheza and Handeni farmers there produce a lot of oranges but they usually rot for lack of markets. Can't we really construct a plant to process oranges into concentrate which can be used to make orange juice when there are no oranges? This would allow people to consume fresh juice rather than artificially flavored juices. And how about mangoes, we are very rich in mangoes but nobody is paying any attention. So there is a lot of wealth in agriculture that needs to be taped".

Participants showed their concern that youth are not well prepared to face the challenges facing the agricultural industry. Youth consider agriculture as a problematic career; hence their interest to engage in agriculture is also low.

Education System in Preparing Youth in Decision Making and Career Choices

The role of education in preparing youth in decision making is very significant in youth career decisions. The education systems, formal, informal, and non-formal, all have an essential role to play in shaping youth decisions, aspirations, and intentions to engage in certain behaviors. Most participants focused on the formal education system. Participants had different views on how the education system prepares youth for career decisions as indicated below;

Kay *mentioned that "No…Our education system prepares kids to be loyal. Even to be a loyal is a decision if you are deciding to be loyal is a decision… The system prepares them to be loyal. Even the culture has an impact on youth decision making…in my family I am considered to be the most difficult person…stubborn. So our culture, our society, our education system does not prepare someone to ask why, how, when, what…… We have to turn around and transform. So any transformation in any society starts from the family level, what you impact to the kids in the family and then they will be influenced by the outside environment. So we have to start from the family level and then whether the education system is good or bad, the influence of family is very huge. The influence of your neighborhood is very huge".*

Matthew *mentioned that "Yes I do believe so…because through the curriculum students get to understand how the world, the government and authorities operate. So I do believe that through the education that they receive which is under the curriculum our education system prepares a person to become a decision maker. And now you might be taught in school, but this goes to the personal level also because there are people who are born not to be confident, but the people who are born to be confident and there are people who are born to be decisive. So you might be taught in school, but it goes to a personal level. So I can say basically the*

education curriculum prepares a person to be of that nature. So from there it depends upon the person himself or herself".

***Chris** said, "No! I will give you an example, I love children, I have four of my own and I have adopted six more who were orphans. One of them called Joshua is very bright and wanted to be a doctor but in his Form Four grades he obtained B, C, C grades in three subjects but according to the Ministry of Education regulations he could not qualify because one needs to get at least B, B, B at O-Level. So I was forced to take him to a private school to repeat the O-Level exams and to improve his grades, otherwise he would not qualify even if he got all As at Advanced Level."*

***Chris** continued that "This shows you that there are some silly regulations which can prevent a young person from achieving their goals even when they have the ability, but how do we assist the youth to discover their talents so that they can pursue them. In the past when we were going to school after completing Form Four we were required to fill the so-called selection forms to choose which career you wanted to pursue and teachers would advise us on the right choice depending on how they perceived each of us. Teachers could tell who was fit to be a teacher, a doctor, a policeman, an agricultural officer and so on depending on how you performed in class. But these days this system has been discontinued and students do not get the necessary advice to help them make the right choice".*

As participants shared their views on the agricultural sector, they discussed challenges such as the quality of produce, marketing, and technological knowledge. The education system is an essential source of knowledge to prepare youth to face challenges in the agricultural sector. Many participants were concerned that youth are not prepared to face these challenges. The school systems prepare the youth to be employed and not to think critically about how they can use their knowledge to create jobs. On the other hand, the government, through targeted youth programs, can teach skills such as entrepreneurship in agriculture and encourage them to engage in agricultural and agriculture-related careers.

Theme # 7: Ways to Attract Youth to Engage in Agriculture

From the literature, the number of youth engaging in agriculture is decreasing day by day; hence more elderly people are involved in agriculture. Participants shared their views on ways to attract youth to engage in agriculture and agriculture-related fields**.**

Jessica *said "More information on what the market wants to be provided, improved infrastructures…and banks willingness to give loans to youth for them to farm commercially. In schools, mode of punishment be changed from agricultural related activities to other forms of punishment."*

Priscilla *mentioned that "imparting them with agricultural methodology and skills creating awareness on opportunities that are available in the agricultural industry. Provision of loans with simple conditions."*

Zahra *stated that "Parents play a bigger role so it should start from home as kids do what their parents do." But also,* ***Maya*** *said that "By showing them the importance of it instead of preaching about it."*

Matthew *mentioned that "The First thing is the improvement of infrastructure, uh, roads, railways for them to easily access the market. The second thing is economic empowerment through TADB (Tanzania Agriculture Development Bank) and other economic funds. The third thing is extension services. They should get somebody to guide them who his specialized agricultural officers. And the last thing is ensuring that they have the predictable market for their produce. With all done, I'm sure quite a bit of youth or young persons will be attracted to engage themselves in the agricultural sector. And actually, that is what the government is doing right now. Yeah. The SGR, Eh….the construction of roads….It is actually going to serve the same purpose. At the end of the day once the country's connected that a person can take his produce from the village to the market center without any difficulties. It's one of the things that actually attracted people to engage in agricultural activity."*

Kay *said that "The government and the community has to speak positively about agriculture, because those days back agriculture was considered Eh.. An area whereby failures can go, people who are jobless can go, people who are very poor can go there. So this is number one, the mindset should change. The communication strategy should change. People should understand that the future is agriculture. There'll be no growth in any country, especially in our country If the mindset of the decision maker is to communicate about the potential of agriculture….If it will not change, that will be a very big problem. So what should be done is to show the potential of agriculture to everyone to understand what is in the agro sector. The way we promote ICT, we need to promote agriculture the same way. The way we say ICT is the future is the same way, we need to say Agro is the future."*

Abdul *suggested that "Because agriculture is the widest and largest sector, it is the sector that can consume the medium or the large number of people. Because you know that it is not only in Tanzania but all over the world we have the challenge of employment, we have unemployment problems. So to address that one, at least agriculture is the one that we have an assurance that it can provide employment to everybody. First we have to address the challenge of low productivity. If we are going to address the challenge of increasing productivity from farming, youth can engage in agriculture. As I told you they calculate cost and benefit analysis……If there is an increase in production and market, that means there is more income, and the producers are benefiting. So that means youth will be attracted to engage in farming because they are going to generate more income. Number two is to educate them to engage in farming not only in cultivation. Most people don't have land and we don't have land for all,*

because all of us cannot engage in cultivation because the land is not there. So some of them will be farmers, some of them will be agents, some of them will be blockers, some of them will be traders, some of them will be transporters, some of them will be exporters."

Ephraim *said that "First of all is to make agriculture more modern, when it is modernized like deep farming, screen farming etcetera etc. To allow youth to know the demand of the market, especially through market information. For example if someone from Manyara knows that In November people in Dodoma prefer Cassava, they will calculate cost and benefit and know what they will get after they sell, for sure they will produce Cassava. So agriculture must be a market driven model… Youth are ready to farm if they are assured of the market, and not the market only but the price of the products as well."*

Benjamin *mentioned that "Well….one of the solutions I would say is to provide a fair and conducive environment, or good agricultural environment for youth. You know most youth don't want to engage in agriculture because of the nature of the agriculture we are doing. So far I would say….. Not some people...but many people still use the old technology in farming, we don't use the new technology. But if we improve the environment and provide tractors for instance and other improved agricultural technologies,…uuh so that it will help to ease the cultivation process or farming process, most youth will be interested to engage in agriculture."*

Jonathan *said that "Number one and important one is our agriculture system should be mechanized, then we move from subsistence farming to business farming…we should use the power tillers and improve the agricultural practices….When youth graduate from school or colleges like SUA whatever, they just want to earn money immediately, so if you go and tell them to tilt the farm, and especially our producers do not have a well lined marketing, So it is not easy for youth to tolerate and be in the farms and do cultivation, although there are few who tolerate and succeed."*

Barack *stated that "First of all we have to review the school curriculum, you prepare youth with a good background for them to have a career in agriculture. But another way of what should be done…is well …I have a problem when we talk about agriculture and I know we are doing subsistence farming. Because agriculture itself is attractive, but actually what we have is subsistence farming… To invest in agriculture…actually with agriculture we don't have problems we have problems with subsistence farming. Areas where agriculture is practiced youth are rushing and practicing agriculture…The issue is the subsistence farming. If a graduate knows that when they practice Agriculture and sell around 400 liters of milk a day, they cannot spend time at peoples gate looking for jobs. Why not go home, work hard and earn money or start a small factory?…"*

He suggested that "So If we practice agriculture and modern agriculture and leave the subsistence farming, youth will be attracted to engage in agriculture… At the government level, what they should do is to make the agricultural sector more attractive by ensuring that farm producers get markets. We have to improve on the marketing.. And marketing for example if you have maize, you have to have the distribution network, the storage. If you have the silos where you can keep the maize for two to three years and you have the system where the government can cover the farmers' capital and investment, by buying and selling so that the farmers cannot get the implication of the price fluctuation, people will be encouraged to do farming. And in the

areas where they have large and big land, even the graduates will join their parents and do the farming because they know they will earn money."

Andrew *mentioned that "I will say that the misconception of agriculture, to transform the mindsets of our youths to see agriculture as a positive thing, something that can make them successful and develop them like any other industries like engineering or medicine."*

Chris *mentioned that "If it were me I would send 100 to 200 youth to Israel or Egypt where they practice intensive irrigation and then when they return I would send them to specific areas in groups of five where they be given loans to engage in modern farming where they would also act as demonstration sites for other youth to see and emulate. The youth need a big push from the government. So if we want to see agricultural development, we must see agriculture as the biggest employer, and agriculture must be taught from lower levels, but we must also support the youth and allocate them special areas where they can practice modern farming and in the process inspire others".*

Moses *responded that "…what I know is that the current government is thinking seriously to engage youth in agriculture. That's why when it comes to youth empowerment we urge them to be in registered groups so that they can be identified and provided with skills needed for their development….. there is a law that was passed by the Parliament that from the revenue collected by the councils, 10% of what is collected should be distributed as 2% for people with disabilities, 4% for youth, and 4% for women. So you can see, if we need the youth to be empowered we should compel the district councils to also put aside a part of land for allocation to youth. The land can be used for agriculture purposed by youth groups depending on their skills and capacity. The idea is that youth groups are given loans and land on which to practice agriculture, and after sometimes they return the land and the loan after they have earned from selling agricultural products*".

Many participants shared that work needs to be done to change the community's perception of agriculture. Youth should be given land, capital, technology, reliable markets, improved infrastructure, and support to be attracted to agriculture. Some participants questioned the use of the word "agriculture" as Tanzania practices both subsistence farming and agriculture. They view agriculture as an attractive sector but not subsistence farming. Some participants also viewed agriculture as necessary as ICT (information and communication technology), has many opportunities for youth.

Discussion and Conclusions

The aim of conducting this in-depth study was to gain a deeper understanding of the participant's path when choosing and deciding about their careers. The study also sought their knowledge and opinions of teaching agriculture in schools, their perception about agriculture in general, and the need to engage youth in agriculture. In searching for what can attract youth to agriculture, hearing other people's journeys when choosing careers, their perception of agriculture, and the need to learn agriculture in schools, can contribute to our understanding of youth decisions about careers and especially career in agriculture.

From each theme, participants have different perceptions on the questions asked. The variation of the perspectives is influenced by the differences in experience, background, interests, and their view on agriculture and youth engagement in agriculture. As many participants stated in their narratives, agriculture contributes significantly to the Tanzanian economy. "Currently the sector alone provides employment to 65.5% of Tanzanians and in favorable seasons, covers more than 100% of the domestic food needs" (Deloitte, 2016, p.11). The sector is largely contributing to the country's economy; hence youth engagement in agriculture is paramount for agricultural development.

Most of the participants are not aware of the agricultural curriculum as either they did not learn it in school, their school did not teach it, or in general, they did not know if it exists. According to The National Education Policy (1991), agriculture is optional to be taught in schools. And as many participants mentioned that there were specialized agriculture schools, but the government has abolished them, and very few remained. The fact that over 65% of the country's GDP comes directly from agriculture is a reliable indicator that the agriculture sector is

a core contributor to the country's economy. In addition, agriculture is the major employer in Tanzania. Engaging youth in agriculture is crucial for food security and national development.

The majority of people engaging in agriculture are women, and the elderly, very few young people participate in agriculture. If it is not emphasized at a younger age, it is not easy for youth to see agriculture as a potential career that can make them successful. Many participants were in favor of teaching agriculture at a younger age, be it in primary school as a mandatory subject or to have agriculture programs that students can learn in secondary schools. Many participants mentioned agriculture was once taught in schools, and there were agriculture specialized schools. Most thought it is vital for the government to include agriculture subjects and make agriculture mandatory for everyone like other subjects such as English, Geography, History, Civics, and Mathematics. If children learn that agriculture is as important as the other subjects, they will be interested to learn more and pursue it as a career.

The perception of agriculture is mixed, some participants see it as a potential for success, and some perceive it negatively. In many schools, agriculture is mostly used as a punishment. When students have done something wrong, the punishment is to get a piece of land, cultivate for a few days then go back to class. By doing that, children learn that agriculture is not a good thing to do. Why not punish students by sending them to the laboratory to conduct experiments? Or ask them to write a business plan? Most career decisions are made depending on "different motivating factors and influences involved in the basic career selection and development process" (Segal, Borgia, & Schoenfeld, 2002, p.26). They are, therefore, using agriculture as punishment, and it negatively impacts youth interest in pursuing a career in agriculture.

Implications

The narratives include extension agents, members of parliament (government leaders), and people from the private sector. When the youth learn other people's perspectives, they may feel that they are not alone, especially for those who have similar experiences. It is essential to share the positive viewpoints of members of parliament and other Tanzanian leaders with youth.

Branding agriculture is imperative in changing the negative perception of agriculture and attracting youth to pursue a career in agriculture. Branding starts with teaching agriculture in school to eliminate the stereotype that it is a punishment, or it is not the right career choice. Leaders should encourage and support youth who are interested in agriculture by providing financial support as well as land and skills needed for a successful investment in agriculture. In some cases, agriculture is considered a last resort for people who fail in school. If one fails in life, agriculture is regarded as a cushion, and people can fall into and practice to sustain their lives. If the branding of agriculture changes and becomes more positive, more people, especially youth, will be attracted to engage in agriculture and pursue it as a career.

The perception that agriculture is only "farming" needs to be changed for agriculture to be perceived as a sector where youth can have a successful career. The process of the value chain in agriculture needs to be taught at a younger age so children can view agriculture more positively and see all facets of agriculture as career opportunities.

Recommendations

It is recommended that agriculture be taught in schools from primary to secondary schools. For example, students can be encouraged to share their scientific ideas on agriculture and help the agriculture sector to grow. For secondary school students who are interested in

agriculture, the school can encourage them to do projects related to agriculture and to solve agricultural problems. College students can engage in research and share research findings of agriculture and agriculture-related fields. To influence young men and women who are not involved in agriculture can witness what their peers are doing; perhaps it may lead to the increase in the number of youth interested in pursuing a career in agriculture. Having agriculture programs that offer skills will create interest for youth to engage in agriculture. Utilizing existing young agri-entrepreneurs to share their stories on their journey in investing in the agricultural sector.

For further research is recommended to explore the agricultural curriculum for teaching youth and preparing them to face agricultural challenges. Although there is a 4-H program that most participants are not aware of, more research should be done to understand why 4-H is not widely adopted despite being in Tanzania for almost 42 years. Research is needed to identify the necessary agricultural skills for youth and the types of programs that are tailored to age and level of education. Tanzania needs research about teachers colleges that prepare agriculture teachers, Extension Agents, and other agricultural educators.

Summary

The chapter shared participants' narratives according to the themes identified by the researcher. The researcher believes it is vital for people to learn in-depth responses from participants about specific issues. The findings contribute to the literature but also provided another lens on how people view agriculture. The suggestions provided by the participants are useful in agricultural and youth development. Preparing youth to face world challenges after they graduate from their primary education is essential as well as for developing agriculture programs

that will attract youth to engage in agriculture. Teaching agriculture from primary school is paramount for agricultural success, as most of the participants suggested. Agriculture is an excellent source of employment and reducing youth unemployment. Agriculture can reduce poverty at household and national levels and contribute highly to the GDP (URT, 2008). FAO (2016) suggested that agriculture continues to be an essential source of job creation, which has to do with the fact that over 60 percent of the population in sub-Saharan Africa lives in rural areas, where subsistence agriculture is still the mainstay of local economies.

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CHAPTER 6

CONCLUSION

> "Ensuring that youth have access to the right information is crucial; integrated training approaches are required so that youth may respond to the needs of a more modern agricultural sector; modern information and communications technologies offer great potential; there is a distinct need to organize and bring youth together to improve their capacities for collective action; youths pecific projects and programmes can be effective in providing youth with the extra push needed to enter the agricultural sector; and a coherent and integrated response is needed from policymakers and development practitioners alike to ensure that the core challenges faced by youth are effectively addressed." (FAO, 2014, p.x)

This chapter includes the overall summary of the study. The need for the study, objectives, and research design are discussed. The key findings of each research question are discussed, followed by the conclusion and the recommendations. Also, synthesizing the findings of the overall manuscript.

Need For the study

Agriculture is a large sector of the Tanzanian economy. Yet, it is underperforming due to factors, such as few skilled farmers, poor technology used for farming, low quality, and quantity of products. It is critical to engage youth in agriculture and agricultural careers to ensure national food security and to reach the countries potential for development.

Although in recent years, the number of youth engaging in agriculture has increased, there is a need to attract more youth to engage in agriculture and pursue agriculture as a career. In recent years there has been an increase in the number of youth migrating from rural to urban settings to search for a better life as youth perceive those engaging in agriculture as a failure (Rutta, 2012). Agriculture is considered to be for seniors or retirees, as the last option for employment. "Young people both in urban and rural areas revealed that agriculture is the last career or job choice" (Rutta, 2012, p.31).

Purpose Statement

This study used a multi-method approach to understand youth intention and aspirations to choose a career in agriculture and agricultural-related fields, and the influence of the education system in shaping youth to make such decisions. Describe the community perception (leaders, teachers, youth, etcetera), on youth career in agriculture and agricultural-related fields, teaching agriculture in schools, perception of agriculture. Qualitative data from face-to-face interviews were used to explore youth aspirations, community attitudes, perceptions of agriculture as a career, and the effects of the education system in youth career choices. Quantitative data were used to describe the agricultural education pathways and their contribution to youth engagement in agriculture as a career choice. Open-ended questions were used to identify existing youth programs and their effectiveness in youth development and agricultural career choice.

Research Questions

1. What is the role of the education system on youth intentions to pursue a career in agriculture and agricultural-related fields?
2. Describe the influence of previous experience and the need for teaching agriculture at an early age to increase youth aspirations and intentions in agricultural career choice and decision making?
3. Describe community stakeholders such as policymaker and private sector perspectives on agriculture and agricultural-related careers for youth development and poverty reduction and the indeed for agricultural entrepreneurship?

Methodology

This study used multi-method research design to describe the intentions of youth to pursue a career in agriculture, explore attitudes and intentions of the community towards youth aspirations and career choice in agricultural entrepreneurship, and describe leaders, teachers and youth perspectives, experiences and stories on agriculture and agricultural-related careers for youth development and poverty reduction: and the hopes for youth development. The qualitative study used face-to-face, phone call, written, and skype interviews to learn participant's perspectives on youth perceptions, career decisions, aspirations and intentions, and youth development in agriculture. Unstructured interviews were developed using the theory of planned behavior and social cognitive career choice as a guide. For the quantitative part, an instrument was generated using the theory of planned behavior constructs to describe youth intentions to pursue a career in agriculture. The questionnaire was developed by considering the requirements of the Theory of Planned Behavior model. The questions used a 5-point Likert scale, using 1=strongly disagree, 2=disagree, 3=neutral, =4=agree, 5=strongly agree. Behavioral beliefs had five (5) items, attitude towards behavior had four (4) items, normative beliefs had four (4) items, Subjective norms had four (4) items, Control beliefs had six (6) items, perceived behavioral control had eight (8) items, and intention had four (4) items. The instrument was validated utilizing a panel of experts at Virginia Tech. The number of items was determined in consultation with the expert panel.

The study population included all participants aged 18 and above. The sampling for the study included the high school students (the age range was 18-22) who were in agriculture schools, study subjects related to agriculture and non-agriculture schools, youth (for this study age used was 15 - 24), leaders, teachers, and others. The researcher collected qualitative data from a total of 20 (n = 20) participants who willingly agreed to participate and signed the consent

form. The researcher collected data from a total of 101(n = 101) participants for the quantitative data. Therefore the total number of participants for the study was 121 (n = 121). The study was conducted in both Swahili and English language; all survey and interview questions were in English.

The qualitative data aimed to explore perspectives, stories, attitudes, intentions of youth development, and youth career in agriculture-and agricultural-related fields. The interviews were transcribed verbatim. Themes were identified during the analysis using Atlas-Ti. Quotes were pulled out of the transcripts to support the themes and sub-themes. The researcher used ethnography data analysis for the study. Quotes that were in Swahili were translated to English for a broader audience to understand. For the quantitative research, the researcher performed various statistical tests such as Cronbach's alpha test of inter-item reliability, descriptive statistics, and stepwise linear regression to describe youth intention to pursue a career in agriculture.

Summary of Findings

Manuscript #1- Youth Intention to Pursue a Career in Agriculture: The Role of Education System in Shaping Youth Decisions to Aspire to and Pursue Career in Agriculture.

The purpose of this study was to understand high school students' intention to pursue a career in agriculture and agricultural-related fields.

Objective: To describe the role of the education system on youth intentions to pursue a career in agriculture and agricultural-related fields. A total of 101 high school students who study agriculture and agriculture-related subjects participated in the study. The mean age for the participants were (M=19.61, SD=1.208). There were more male participants at 51.5 % than females at 46.6 %. The stepwise linear regression analysis shows that the model

predicts 48% of the variance in student intention to choose an agricultural career. The results show that the three predictors' attitudes, perceived behavior control, and subjective norms have an influence on youth pursuing a career in agriculture ($F(3, 97) = 31.860$, $p < .000$) combined.. The results also show age and gender have no effect on youth intention to choose a career in agriculture when $p = .919$ and $p = .254$, respectively.

Manuscript # 2: Youth Aspirations and Intentions to Choose A Career: Is Agriculture a Viable Career Choice?

The purpose of this study was to understand youth aspirations and intentions to choose a career in agriculture. Also, the influence of precious background and the need to teach agriculture to youth at a younger age for agriculture development. The influence of education systems in youth decisions on a career path.

Objective: To describe the influence of youth learning agriculture at an early age for youth aspirations and intentions in agricultural career choice and decision making. This qualitative study was conducted in Tanzania. Four (n = 4) participants were purposefully selected for the study. Participants included teachers and students from the schools that teach agriculture-related subjects or not teaching agriculture—any individual aged 18 and above qualified to participate in the study. The interviews were audio-recorded, and some participants opted for written responses. The researcher visited the identified schools and requested permission to conduct research. Some participants were willing to participate in the study on the spot. Other participants were contacted via phone and email for recruitment; a consent form was sent through email. Also, a researcher obtained verbal and written consent for all face to face, and written consent for all participants opted for written responses. The interviews were conducted in both Swahili and English languages. The audio-recorded interviews were transcribed verbatim,

and quotes were developed, where Swahili quotes were translated into English. Five themes emerged from the interviews ;(1) previous experience and agricultural knowledge, (2) The Perception of Agriculture as farming (3) the need to teach agriculture in schools, (4) youth decision making and choices about career, (5) challenges in the agriculture industry.

Deciding on a career path is not an easy process. Some people struggle to make such decisions due to various circumstances, such as lack of awareness on how to choose a career, peer pressure, family demands and pressure, stereotypes of certain professionals, etcetera. Participants shared their views about various topics on youth career decision and development in Tanzania.

Manuscript # 3: Narratives of Leaders, Extension Agents, and the Private Sector; Their Stories about Engaging in Agriculture and Youth Development in Agriculture.

This qualitative study was designed to explore youth, leaders, and community perspectives on youth career decisions and engagement in agriculture and agricultural-related fields and youth entrepreneurship. The theory of planned behavior guided the study by looking at people's perceived behavior, subjective norms, and attitude towards a youth career in agriculture.

Objective: To explore leaders, experiences, and perspectives on agriculture and agricultural-related careers for youth development and poverty reduction and, indeed, for agricultural entrepreneurship. A total of sixteen (n = 16) participants participated in the face-to-face, phone call, written, and skype interviews, which lasted for about 35 -115 minutes. Participants were purposefully selected for the purpose of gaining their knowledge but also time. A letter of recruitment was sent to [Government office] requesting to get a permit to conduct research. The letter was sent with the attachment of VT IRB, Student ID, and employment ID (The researcher is Tanzanian and works for the government). After the approval, with reference

to the research topic, few names were suggested for the researcher to meet some of the participants or given a contact to request their willingness to participate in the study. The participants who agreed to be part of the study gave verbal and written consent. The interviews were conducted in both Swahili and English languages. Some participants provided written responses, and some were interviewed face-to-face. The interviews were transcribed verbatim; Atlas-TI was used for coding. Seven themes emerged with sub-themes such as (1) Participants Career Choices and Aspirations (2) The influence of the school system on the influence of youth career decisions (3) The Perception of Agriculture(as farming, as food, as wealth and commitment and as value chain) (4) The Need for Teaching Agriculture Subject in Primary and Secondary Schools (5) awareness of Agricultural Curriculum (6) The Role of Education System in Preparing Youth to face world Challenges in the Agricultural Sector (7) Ways to Attract youth to engage in agriculture

Discussion and Conclusion

Manuscript # 1: Youth Intention To Pursue A Career In Agriculture: The Role Of Education System In Shaping Youth Decision Making In Career Choices And Aspirations In Agriculture

"Young people everywhere are key agents for social change, economic development and technological innovation. They have aspirations and want to participate fully in the development of their societies" (Lyocks, Lyocks & Kagbu, 2013, p. 78). Youth engaging and pursuing a career in agriculture and agricultural-related fields is paramount in social change, economic development, and technological innovations. Choosing a career is one of the critical decisions that youth make at a younger age, as Inchara, Gayathri & Priya (2019, p. 871) mentioned, "The choice of a right career is of fundamental importance in one's life."

In the three schools that participated in the study, the students are either studying agriculture or agriculture-related subjects (not agriculture school). In Tanzania, students in high school who are studying the Chemistry, Biology, and Chemistry (CBG) combination and those studying agriculture subjects are more likely to pursue a career in agriculture. The results show that the model predicts 48% of the variance of youth intention to choose a career in agriculture. Dyer, Lacey & Osborne (1996) wrote that high school students who are enrolled in agriculture display a positive attitude towards agricultural fields and have the intention to pursue a career in agriculture and agricultural-related fields. Orbell, Hodgkins & Sheeran (1997, p. 946), posit that "the formation of an implementation intention specifying where and when a particular goal intention or a particular behavior in the service of a goal will be enacted increases the likelihood that a goal will be achieved." Youth have the potential and opportunity to set goals at a younger age on the type of career they prefer. They can ask themselves questions like what they would prefer in their future. What to achieve, how, when, and where the goal will be achieved. For youth who are interested in agriculture, they can start practicing agriculture at a younger age at school or home.

Choosing a career involves a lot of emotions and influence of people we love and trust. Perceived behavior control " refers to people's expectations regarding the degree to which they are capable of performing a given behavior, the extent to which they have the requisite resources and believe they can overcome whatever obstacles they may encounter" (Ajzen, 2002, p. 676-677). Results show that perceived behavior control, attitude, and subjective norms such as significant adults, role models, and peers influence youth intention to pursue a career in agriculture. The students' belief that they are capable of pursuing a career in agriculture or

agricultural-related fields influences their intention when there is an opportunity for them to pursue a career in agriculture (Ajzen, 2002).

It is, therefore, be concluded that the education system plays a significant role in youth critical thinking, problem-solving, and creativity. When youth make decisions about a career they use their critical thinking skills learned from school to make decisions that impacts their lives. Critical thinking involves “logical reasoning and problem-solving” (Meyers, 1986, p.5). The role of the education system is to help youth think critically and generate the best choices and best decisions using the information available in a particular situation such as the intention to pursue a career in agriculture or agriculture-related fields. Therefore the skills learned, the knowledge gained, and the information needed by youth throughout their learning process, is paramount for guiding youth’s intention to pursue a career in agriculture.

Manuscript # 2: Youth Aspirations and Intentions to Choose A Career: Is Agriculture a Viable Career Choice?

From the findings, participants showed a sense of self-concept, self-efficacy, and outcome expectations when thinking about a career path. The majority of participants did not have an easy way to choose their careers. Some of the participants were inspired by their role models. Some were encouraged and discouraged by their family members. Some were not interested in their current job, but the circumstances forced them. Some had to change their profession because they felt the career they had was their parents' careers and not what they wanted to become. Some had mixed feelings and didn't know what career to choose, but ended up with their passionate career. Some knew what they wanted and pursued their passion.

The results show that the participant's current careers are the result of the influence of the family, role models, previous experience, and the surrounding environment. For some, it was

because they needed to earn a living. Many of us can relate to the process of choosing a career; it was either by family influence, circumstances, role models, or a desired career etcetera. Zimmerman & Kontosh (2007, p. 287-288) mentioned that the "relationships with parents, siblings, and peers influence the way a person makes career decisions and his or her commitment to that decision". From the findings, the Tanzania education system does not support the youth decision-making process about a career; they do not get enough information about careers. The majority of graduates apply for jobs for the sake of securing a job and get a salary, not because it is something they are passionate about. Very few are passionate about a particular career. On the other hand, few people get what they aspire to become. Lent, Brown & Hackett, (2002) posits that "Choice goals are sometimes influenced more directly and potently by self-efficacy beliefs, outcome expectations, or environmental variables than they are by interests" (p.752).

In conclusion, career aspirations or desires are triggered by the information, knowledge, and branding of a specific career. How the majority view a particular job has an impact on an individual's decisions to pursue such a career. Youth learn about career aspirations from the people around them, role models, media, and other sources of information. Family members, people within a career such as extension agents, and people who are not or partially involved in the agricultural industry influence youth aspirations and intentions to pursue a career in agriculture. However, agriculture is viewed as the last option to many, or as a cushion to fall on when someone did not pass the exam to pursue their chosen career. Considering its importance, agriculture should be given priority by the country and especially the youth whose population will double by 2050, while the country needs a young generation to invest their skills, creativity, innovations and, leadership for agricultural development.

Manuscript # 3: Narratives of Leaders, Extension Agents, and the Private Sector; Their Stories about Engaging in Agriculture and Youth Development in Agriculture.

The aim of conducting this in-depth study was to get a deeper understanding of the participants on their path when choosing and deciding about careers, teaching agriculture in schools, their perception about agriculture in general, and youth engaging in agriculture. In searching for what can attract youth in agriculture, I thought that hearing other people's journeys when choosing careers, their perception of agriculture, the need to learn agriculture in schools can contribute to youth decisions about career and especially a career in agriculture. From each theme, participants have different perceptions on the questions asked. The variation of the perspectives is influenced by the differences in experience, background, interests, and their view on agriculture and youth engagement in agriculture. As many participants stated in their narratives, agriculture contributes significantly to the Tanzanian economy. "Currently the sector alone provides employment to 65.5% of Tanzanians and in favorable seasons, covers more than 100% of the domestic food needs" (Deloitte, 2016, p.11). The sector is largely contributing to the country's economy; hence youth engagement in agriculture is paramount for agricultural development.

Most of the participants are not aware of the agricultural curriculum as either they did not learn from school, they do not teach it, or in general, they don't know if it exists. According to the National Education Policy (1991), agriculture is optional to be taught in schools. And as many participants mentioned that there were specialized agriculture schools, but the government has abolished them, and very few remain. If the country's GDP depends on agriculture for about 65% and above, that means agriculture is a core contributor to the country's economy, but also the majority employer. The majority of people engaging in agriculture are women, and the

elderly, very few young people engage in agriculture. If it is not emphasized at a younger age, it is not easy for youth to see agriculture as a potential career that can make them successful. Many participants were in favor of teaching agriculture at a younger age, be it in primary school as a mandatory subject or have agriculture programs that students can learn in schools. As many participants mentioned, agriculture was once taught in schools, and there were agriculture specialized schools. Then it is vital for the government to include the agriculture subject and make it mandatory to everyone like other subjects such as English, Geography, History, Civics, and Mathematics. If children learn that agriculture is as important as the other subjects, they will be interested to learn more and pursue it as a career when they are choosing a career.

The perception of agriculture is mixed as some participants see it as a career area that offers potential for success, and some perceive it negatively. In many schools, agriculture is often used as a punishment when students have done something wrong. The punishment is to get a piece of land, cultivate for a few days then go back to class. By doing that, children learn that agriculture is not a good thing to do. Why not punish students by sending them to the laboratory to conduct experiments? Or ask them to write a business plan? Most career decisions are made depending on "different motivating factors and influences involved in the basic career selection and development process" (Segal, Borgia, & Schoenfeld, 2002, p.26). Therefore agriculture to be used as punishment in schools can negatively impact youth interest in pursuing a career in agriculture.

Changing people's perception is not an easy task, and it will not happen overnight. Changing perception is changing people's behavior, beliefs, attitudes, norms, taboos, etc. It requires an amount of commitment, willingness, passion, empathy, hardworking, collaboration, and all kinds of support to succeed.

Agriculture needs to be treated as a respectable profession and not for failures. The formal education system in Tanzania allows students to choose TVET after they complete their education. However, in most cases, students who are selected to attend TVET, especially agricultural training institutions, are those primary and ordinary level-secondary school students who failed to go for further studies such as advanced level- secondary school or university. Hence it makes agriculture be viewed as the last option for students who failed.

It is essential for youth and the community as a whole to understand the importance of innovation. Innovations are not necessarily to create a new product/idea but to improve something to be more useful to the community. Aubert & Wanga (2005) suggest that there should be a change in education method when teaching innovation to make youth more autonomous and risk-takers. Also, youth need more practical knowledge that they can relate to their day to day life. Teaching youth specific skills required for the agricultural sector will be essential in youth development in agriculture. However, it is crucial to be aware that students have different needs and cognitive abilities to learn, and therefore identifying types of skills to be taught is critical to agricultural development. Additionally, creating an environment that will trigger eagerness and enthusiasm to learn agriculture is vital for youth career choice and entrepreneurship' development.

Synthesis of Manuscripts

The education system in Tanzania plays a significant role in influencing youth decisions about careers and attracting youth to engage in agricultural activities. The researcher intended to look at the high school's students who study agriculture and agriculture-related subjects' intentions to pursue a career in agriculture. Understand youth intentions and aspirations

to pursue a career in agriculture. Explore leaders' perspectives on the aspects of formal, informal, and non-formal learning for youth development in agriculture and agriculture entrepreneurship'. Participants shared their views on changing curriculum in schools to incorporate agriculture subject to trigger youth interest in agriculture at a younger age. Participants also shared their opinions on how they get information about agriculture. Some shared that they go and learn from their friends from the Sokoine University of Agriculture. Other participants shared their views that some youth programs are existing under the Prime Minister's Office. The existing programs work with youth and train them on various skills needed for agriculture production and support youth groups that engage in agriculture by providing the resources available.

The three manuscript findings showed that youth might intend to pursue a career in agriculture if they are well informed and acquire the necessary skills. Also, the perception of agriculture has an influence on youth pursuing a career in agriculture. Manuscript one used independent variables to predict the relationship between youth intention (dependent variable) to pursue a career in agriculture or agriculture-related fields and attitude, subjective norms, and perceived behavior control (independent variables). Manuscript two used ethnographic analysis to explore youth decision making on choosing a career path in agriculture. Manuscript three used ethnographic analysis and obtained narratives that explore community perceptions of youth engaging in agriculture careers. Manuscripts two and three aimed at gaining an in-depth understanding of the perception of youth to pursue career choice and decisions. During data collection, participants used Swahili and English language to express their perspective. The interviews which were in Swahili were translated to English for broader understanding; as Astalin (2013, p. 120) mentioned: "The results are expressed as though they were being expressed by the subjects themselves, often using local language and terminology to describe

phenomena.” Manuscript two and three share the two common themes, (1) the perception of agriculture, and (2) The need for teaching agriculture in primary and secondary schools.

The linear regression model predicts 48% of youth intention to pursue a career in agriculture or agriculture-related fields through their attitudes, subjective norms, and perceived behavioral controls. The findings show that people's youth trust, love, and role models significantly impact their decisions on a career path. Improving perceptions of agriculture as a career contributed positively to youth career intention in agriculture. Finally, youth who believe they can engage in an agricultural career and be successful are more likely to choose an agricultural career.

As many participants suggested, there is a need to re-introduce agriculture subjects in schools to increase youth interest in pursuing a career in agriculture. It is essential for the nation as a whole to positively change the image and branding of agriculture so that future generations will view agriculture as a career in the same category as engineering, medicine, and business. Utilizing youth employment in agriculture can enable the country to reduce poverty and reach the 2030 Sustainable Development Goal # 1 to end poverty in all forms everywhere. Through youth engaging in agriculture and agriculture entrepreneurship, youth will be able to use the new and improved technologies to practice modern farming. Which will comprehend the 2030 Sustainable Development Goal # 2 of ending hunger, achieve food security, and improved nutrition and promote sustainable agriculture.

Limitation of the study.

There was difficulty in getting the permit from the local government offices where the research was conducted. As a result, the sample size, especially in high schools, was smaller than planned, and the study took longer than expected.

Recommendations

The researcher provided the practical and research recommendations for youth development and career choices in agriculture, and explore ways that can be useful to attract more youth to engage in agriculture or agriculture-related fields.

Recommendation for Practice

From the findings it is recommended that;

1. Community perceptions can change if leaders' perceptions also change to focus more on the positivity of agriculture. When leaders stand at the podium to speak to the public, they should encourage youth to engage in agriculture and talk positively about agriculture.
2. The lives of extension agents should be improved by increasing their salary, professional development, and work environment to reduce the stereotypes that exist in agriculture. When children are growing up, they see the extension agents in their areas as poor and struggling. Hence youth will not be interested in the career that will not lead to attaining an absolute value.
3. Tanzania should develop and implement youth programs in schools that focus on agricultural literacy from the lower level of education.
4. The government has a tremendous role in developing a generation that values agriculture as a career if the subject is taught from primary school and given the same weight as other science subjects. If agriculture is made a compulsory subject from a young age, it is

more likely that children will value it as they value Biology, Physics, Geography, and other required subjects.

5. Farmers face challenges in marketing their products and pricing. Tanzania should address these issues and create constructive solutions to influence a change in the public's perception of agriculture.
6. Tanzania should design programs that will allow students from various universities to collaborate themselves, but also with farmers and other agricultural entrepreneurs.
7. Tanzania should commit to empowering women and girls in agriculture through exposure to agriculture and agricultural careers as well as creating formal, informal, and nonformal education in and about agriculture.
8. Agriculture is broad, and multiple practices exist and are useful to farmers and practitioners. For youth to understand the best practices in agriculture, they need to learn to solve problems with evidence and critical thinking skills. Understanding practices in the agricultural field will challenge their beliefs about agriculture, which is vital in youth development.
9. Tanzania needs youth development programs where youth can be taught self-confidence in decision making. Youth who have lower self-esteem are more likely to avoid making decisions or not trusting their decision-making process.
10. Youth involved in agriculture programs have a greater interest in agriculture. Engaging youth in agriculture from a young age will increase the number of youth who choose agricultural careers.

Recommendations for Future Research

From the research point of view, it is recommended that;

1. It is vital to look at the existing youth programs and how they contribute to youth career choices and also at what level do youth engage/participate in youth agricultural programs.
2. The role of government in youth and agricultural development is limitless. It is essential to understand how the government is planning to create good jobs for youth and the role of other actors in planning, implementation, and evaluation of youth agricultural programs.
3. There is a need to study the impact of formal, non-formal, and informal education in youth agricultural career choice.
4. It is vital to understand the role of extension agents, community, and higher education institutions in rural youth development.
5. Explore the skills needed in the agricultural industry for youth employment and development.
6. There is a challenge of integrating research and practice. Researchers should research to better understand the reasons for these challenges in youth agricultural careers and determine what methods can be implemented to incorporate research and practices for youth agricultural development.
7. There are very few articles on youth development in agriculture in Tanzania. Researchers should research to find solutions for youth development in agriculture.
8. Most participants were not aware of the agriculture curriculum in Tanzania. Research to explore what curriculum is used to teach agriculture, the gaps, and how it can be improved to prepare youth to face world challenges is needed to prepare youth for agricultural careers better.

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Appendix A: Virginia Tech IRB Approval

BRANY

BRANY SBER IRB

DATE: 07/19/2019
TO: Rick Rudd, PhD, Asha H Shayo, PhD
CC: commercialirb@vt.edu
FROM: Raffaella Hart, MS, CIP, BRANY SBER IRB (IRB00010793)

SUBMISSION TYPE: SBER-Initial Review
PROTOCOL NUMBER: 19-031-568 / VT IRB-19-157
STUDY TITLE: IRB-19-157- Research Protocol (HRP 503)

IRB ACTION: **EXEMPT**

DETERMINATION DATE: 07/19/2019
ANNUAL REPORT DUE: 07/18/2020
REVIEW TYPE: Exempt

Thank you for your submission for the above-referenced study.

1. **BRANY SBER IRB Determination**
   BRANY SBER IRB has determined your submission is **exempt from IRB review** under category # 2(ii), as detailed in 45 CFR 46.104(d) and BRANY's Standard Operating Procedures (category excerpted below).

   (2) Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) with the following criterion met:
   (ii) Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; **or**

   **This determination requires that all procedures and activities are performed in accordance with relevant state and local law (including tribal law, when applicable).*

2. **Documents Acknowledged with this Submission**
   a. IRB-19-157-Research Protocol (HRP 503) (1)-Revised (BRANY stamp 7/19/19)
   b. Abstract (BRANY stamp 7/19/19)
   c. Informed Consent Form (Version A) (BRANY stamp 7/19/19)
   d. Recruitment Letter-IRB Revised(1) (BRANY stamp 7/19/19)
   e. Data collection tools:
      - Students Perception (RQ1)-Revised 7/19/19 (BRANY stamp 7/19/19)
      - Youth Programs Quant (RQ2) (BRANY stamp 7/19/19)
      - High School Students (RQ1) 2 (BRANY stamp 7/19/19)
      - Program Leaders (Q2) (BRANY stamp 7/19/19)
      - Teachers teach Ag (RQ1) (BRANY stamp 7/19/19)

- Youth in Programs (RQ2)-Revised 7/19/19 (BRANY stamp 7/19/19)
- Agricultural Sectors (RQ3) (BRANY stamp 7/19/19)
- Teachers Not teach Ag (RQ1) (BRANY stamp 7/19/19)

f. 19-031 Rudd_SBER Study Application xForm (2019-07-18), including:
- Approval Letter From Tanzani Parliament - Asha H. Shayo (20190610)
- VT IRB-19-157 Approval Letter
- Email from VT IRB office regarding circumstances of submission of 19-157 (20190717)

Modifications are in accord with those required by the IRB, and were incorporated as indicated in the enclosed redlined version.

3. **Provisions of BRANY SBER IRB's Determination**
Although this study has been determined to be exempt for further IRB review, any proposed changes to the research must be reviewed by the BRANY SBER IRB prior to implementation. The BRANY SBER IRB will evaluate the proposed change(s) and determine whether the activity remains exempt.

4. **Study Personnel**
The following study personnel have provided the required evidence of training in human subjects protection and conflict of interest disclosures, and therefore may participate in the conduct of this activity.
   a. Rick Rudd, PhD
   b. Asha H. Shayo, PhD

The following study personnel have **not** met the requirements to participate in the conduct of this activity, as detailed below.
   a. Amon Mattee – Provided Completed COI Form (Form 01) and evidence of completed CITI training.

5. **IRB Approval Period and Expiration of IRB Approval:**
Research that has been determined to be exempt from BRANY SBER IRB review is not subject to continuing review. However, BRANY SBER IRB requires you complete an annual report, or notify the IRB if the study is completed before then.

Your Exempt Annual Report to BRANY SBER IRB is due on 07/18/2020. BRANY IRB requires you "check in" at least annually to ensure your study status is up to date, and your study remains in compliance. If your research is completed before then, you must submit a notification of study closure to BRANY SBER IRB (submit via xForm in IRBManager).

If you have any questions or require any additional information, please call me at 516-470-6909 or send an email to me at rhart@brany.com. Thank you.

Appendix B: Consent Form

RESEARCH SUBJECT CONSENT FORM

Title:	Community Perceptions, Youth Development and Career decisions in Agriculture-Tanzania
Protocol No.:	IRB- 19-157
Sponsor:	Virginia Tech
Investigator:	Rick Rudd
Sub-Investigator	Asha H. Shayo
	175 West-Campus Drive
	Blacksburg, VA. 24060
	USA.
	Amon Mattee
	Sokoine University of Agriculture
	Morogoro-Tanzania
Daytime Phone Number:	**rrudd@vt.edu, (540) 230-9615**
24-hour Phone Number:	**+255-787-097999 or (540)-385-1555**

RESEARCH CONSENT SUMMARY

You are being asked for your consent to take part in a research study. This document provides a concise summary of this research. It describes the key information that we believe most people need to decide whether to take part in this research. Later sections of this document will provide all relevant details.

What should I know about this research?

- Someone will explain this research to you.
- Taking part in this research is voluntary. Whether you take part is up to you.
- If you don't take part, it won't be held against you.
- You can take part now and later drop out, and it won't be held against you
- If you don't understand, ask questions.
- Ask all the questions you want before you decide.

How long will I be in this research?

We expect that your taking part in this research will last about 60-90 minutes for qualitative data and 20-30 minutes for quantitative data.

Why is this research being done?

The purpose of this research is to understand youth decisions in career choices, the influence of education pathways (formal, informal, and nonformal) in youth critical thinking and decision making. Explore youth aspirations, community attitude, perceptions of agriculture as a career and effect of the education system in youth career choices. Also, identify existing agricultural youth programs and their effectiveness in youth development and agricultural career choice.

What happens to me if I agree to take part in this research?

Quantitative data will be collected using surveys. A tape recorder will be used to record interviews to capture participants' answers to the questions verbatim. There will be observations, field notes and artifacts (where necessary). Participants are allowed to use either Swahili or English languages. Each participant will be asked to have a verbal consent before the start of the interview. For those who wants to use the Swahili language, a researcher will verbally translate the consent form into the Swahili language. The purpose and the procedures of this study and the role of the participants will be thoroughly explained to participant in the English or Swahili language. Each respondent will be encouraged to ask for questions for clarity and transparency after establishing an understanding of the research process as well as verbally consent his/her participation in the study.

The Co-investigator and a collaborator (who will play a role of a research assistant), are both native of Tanzania and speaks both Swahili and English language. The study will be conducted in English, however, whenever there is a need for clarification, they will be able to provide

assistance and help participants navigate and respond to the questions with a broader understanding.

Could being in this research hurt me?

There is no or minimum risks or discomforts that you may expect from taking part in this research.

Will being in this research benefit me?

The most important benefits that you may expect from taking part in this research include using your recommendations to advise the government and other actors on improving and developing youth in various areas such as youth programs, youth aspiration and career choice, curriculum amendment and youth skills in agriculture. It is not expected that you will personally benefit from this research.

Possible benefits to others include, the story shared will be useful to understand the public perception of agriculture, education system and youth programs, and how they influence youth career decisions and development in Tanzania.

What other choices do I have besides taking part in this research?

This research is not designed to diagnose, treat or prevent any disease. Your alternative is to not take part in the research.

What else should I know about this research?

Participants will be purposefully selected from high-level students (agricultural secondary schools and non-agricultural secondary schools), youth who are pursuing agriculture career, youth who are in other fields (non-agricultural fields), youth who are not employed, government officials, school principals, and faculty member at university or agriculture training college, the private sector, youth in various agriculture programs and program leaders in agriculture programs working with youth, and community members.

DETAILED RESEARCH CONSENT

You are being invited to take part in a research study. A person who takes part in a research study is called a research subject, or research participant.

What should I know about this research?

- Someone will explain this research to you.
- This form sums up that explanation.
- Taking part in this research is voluntary. Whether you take part is up to you.
- You can choose not to take part. There will be no penalty or loss of benefits to which you are otherwise entitled.
- You can agree to take part and later change your mind. There will be no penalty or loss of benefits to which you are otherwise entitled.
- If you don't understand, ask questions.
- Ask all the questions you want before you decide.

Why is this research being done?

The purpose of this research is to understand youth decisions in career choices, the influence of education pathways (formal, informal, and non-formal) in youth critical thinking and decision making. Explore youth aspirations, community attitude, perceptions of agriculture as a career and effect of the education system in youth career choices. Also, identify existing agricultural youth programs and their effectiveness in youth development and agricultural career choice.

About 120 subjects will take part in this research.

How long will I be in this research?

We expect that your taking part in this research will last about 60-90 minutes for qualitative data and 20-30 minutes for quantitative data.

What happens to me if I agree to take part in this research?

Quantitative data will be collected using surveys. A tape recorder will be used to record interviews to capture participants' answers to the questions verbatim. There will be observations, field notes and artifacts (where necessary). Participants are allowed to use either Swahili or English languages. Each participant will be asked to have a verbal consent before the start of the interview. For those who wants to use the Swahili language, a researcher will verbally translate the consent form into the Swahili language. The purpose and the procedures of this study and the role of the participants will be thoroughly explained to participant in the English or Swahili language. Each respondent will be encouraged to ask for questions for clarity and transparency after establishing an understanding of the research process as well as verbally consent his/her participation in the study.

The Co-investigator and a collaborator (who will play a role of a research assistant), are both native of Tanzania and speaks both Swahili and English language. The study will be conducted in English, however, whenever there is a need for clarification, they will be able to provide assistance and help participants navigate and respond to the questions with a broader understanding.

What are my responsibilities if I take part in this research?

If you take part in this research, you will be responsible to answer all the questions that you feel comfortable.

Could being in this research hurt me?

The researcher anticipates little to no risks for the study participants.

Will it cost me money to take part in this research?

Participants are not required to provide money for their participation in the study.

Will being in this research benefit me?

There are no benefits to you from your taking part in this research. However, possible benefits to you and others include using your recommendations to advise the government and other actors on improving and developing youth in various areas such as youth programs, youth aspiration and career choice, curriculum amendment and youth skills in agriculture. Also, the story shared will be useful to understand the public perception of agriculture, and how it is influencing youth career development.

What other choices do I have besides taking part in this research?

This research is not designed to diagnose, treat or prevent any disease. Your alternative is to not take part in the research.

What happens to the information collected for this research?

We may publish the results of this research. However, we will keep your name and other identifying information confidential. We protect your information from disclosure to others to the extent required by law. We cannot promise complete secrecy.

Who can answer my questions about this research?

If you have any questions or requests for information relating to this research study or your participation in it, or if you want to voice a complaint or concern about this research, or if you have a study related injury, you may contact the researchers identified above. If you have any questions about your rights as a research subject or complaints regarding this research study, or

you are unable to reach the research staff, you may contact a person independent of the research team at the Biomedical Research Alliance of New York Institutional Review Board at 516-318-6877. Questions, concerns or complaints about research can also be registered with the Biomedical Research Alliance of New York Institutional Review Board at www.branyirb.com/concerns-about-research.

Can I be removed from this research without my approval?

Please note that there may be circumstances under which the investigator may determine that a participant should not continue as a part of the study. The person in charge of this research can remove you from this research without your approval.

What happens if I agree to be in this research, but I change my mind later?

If you decide to leave this research, contact the research team so that the investigator is notified that you are no longer interested in participating in the study. As a participant, it is important for you to know that you are free to withdraw from this study at any time without penalty. You are free to refuse to answer any questions and respond to what is being asked of you without penalty

Will I be paid for taking part in this research?

There is no compensation for participants in this study

Statement of Consent:

Your signature documents your consent to take part in this research.

Signature of adult subject capable of consent	Date
Signature of person obtaining consent	Date

Appendix C: Recruitment Letter

[RECRUITMENT LETTER]

Date

Dear Sir or Madam,

My name is Asha. H. Shayo, a PhD candidate in the Department of Agricultural Leadership and Community Education in the College of Agriculture and Life Sciences at the Virginia Polytechnic Institute and State University (Virginia Tech).

You are being asked to participate in a research study titled "Community Perceptions, Youth Development and Career Decisions in Agriculture-Tanzania". This study will use a mixed method approach to understand youth career choices and the influence of education pathways in youth critical thinking and decision making. Qualitative data will be used to explore youth aspirations, community attitude, perceptions of agriculture as a career and effect of education system in youth career choices through face to face interviews. Also to describe the agricultural education pathways, youth programs and their contribution in youth decisions and career in agriculture. Open ended questions will be used to identify existing youth programs and their effectiveness in youth development and agricultural career choice. The interview will be unstructured interview which is intended to last for 60 to 90 minutes. The interviews will be audio recorded to ensure that I accurately capture your thoughts. Quantitative data will be used to support the qualitative data by examining the relationships that lead to youth intentions to make career choices. A survey will be used to collect quantitative data, which is intended to last for 20-30 minutes. There are no financial benefits to participating. The lessons learned from this study will be documented, and hopefully published and presented in conferences.

Your participation in this study is in no way compulsory, rather it is voluntary; this is a face to face interview and Qualtrics survey. You have the right to remain anonymous or keep your identity known in this study. A consent form will be provided to you for review prior to a scheduled interview and you will consent your identity during interview session.

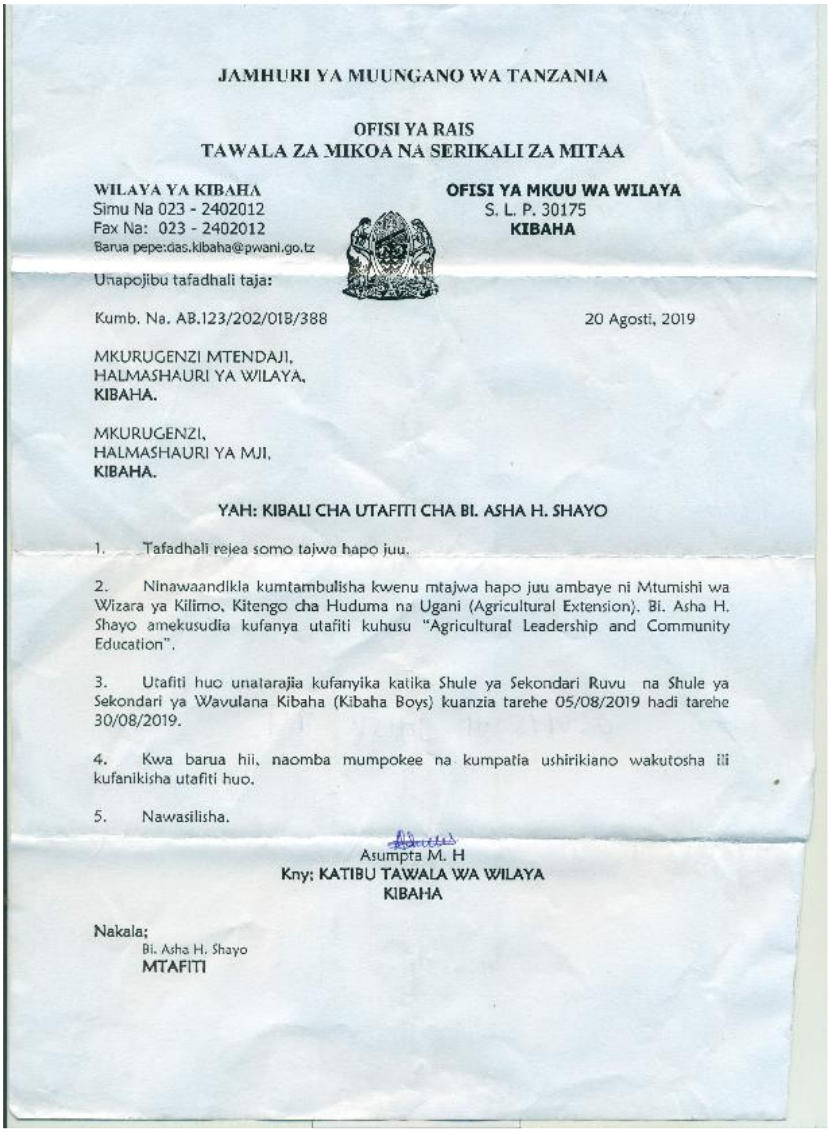
If you would like to participate in this study, I ask that you please reply to myself. I will be pleased to follow up to confirm a date and time that will be convenient to you. If you have any questions, you are welcome to contact me directly via email (hsasha8@vt.edu) or via phone by calling [+255-784 097-999, +255-754-503517, or +1-540-385-1555]

If you have any questions or requests for information relating to this research study or your participation in it, or if you want to voice a complaint or concern about this research, or if you have a study related injury, you may contact the researchers identified above. If you have any questions about your rights as a research subject or complaints regarding this research study, or you are unable to reach the research staff, you may contact a person independent of the research team at the Biomedical Research Alliance of New York Institutional Review Board at 516-318-6877. Questions, concerns or complaints about research can also be registered with the Biomedical Research Alliance of New York Institutional Review Board at www.branyirb.com/concerns-about-research. Thank you very much in advance for your interest in this research and outreach opportunity.

Sincerely,

Asha. H. Shayo
PhD. Candidate- ALCE, Virginia Tech
Litton Reaves Hall (0343)
Blacksburg, VA 24061

Appendix D: Approval Letter from the Coastal- Region Local Government



JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

WILAYA YA KIBAHA
Simu Na 023 - 2402012
Fax Na: 023 - 2402012
Barua pepe:das.kibaha@pwani.go.tz

OFISI YA MKUU WA WILAYA
S. L. P. 30175
KIBAHA

Unapojibu tafadhali taja:

Kumb. Na. AB.123/202/018/388 — 20 Agosti, 2019

MKURUGENZI MTENDAJI,
HALMASHAURI YA WILAYA,
KIBAHA.

MKURUGENZI,
HALMASHAURI YA MJI,
KIBAHA.

YAH: KIBALI CHA UTAFITI CHA BI. ASHA H. SHAYO

1. Tafadhali rejea somo tajwa hapo juu.

2. Ninawaandikia kumtambulisha kwenu mtajwa hapo juu ambaye ni Mtumishi wa Wizara ya Kilimo, Kitengo cha Huduma na Ugani (Agricultural Extension). Bi. Asha H. Shayo amekusudia kufanya utafiti kuhusu "Agricultural Leadership and Community Education".

3. Utafiti huo unatarajia kufanyika katika Shule ya Sekondari Ruvu na Shule ya Sekondari ya Wavulana Kibaha (Kibaha Boys) kuanzia tarehe 05/08/2019 hadi tarehe 30/08/2019.

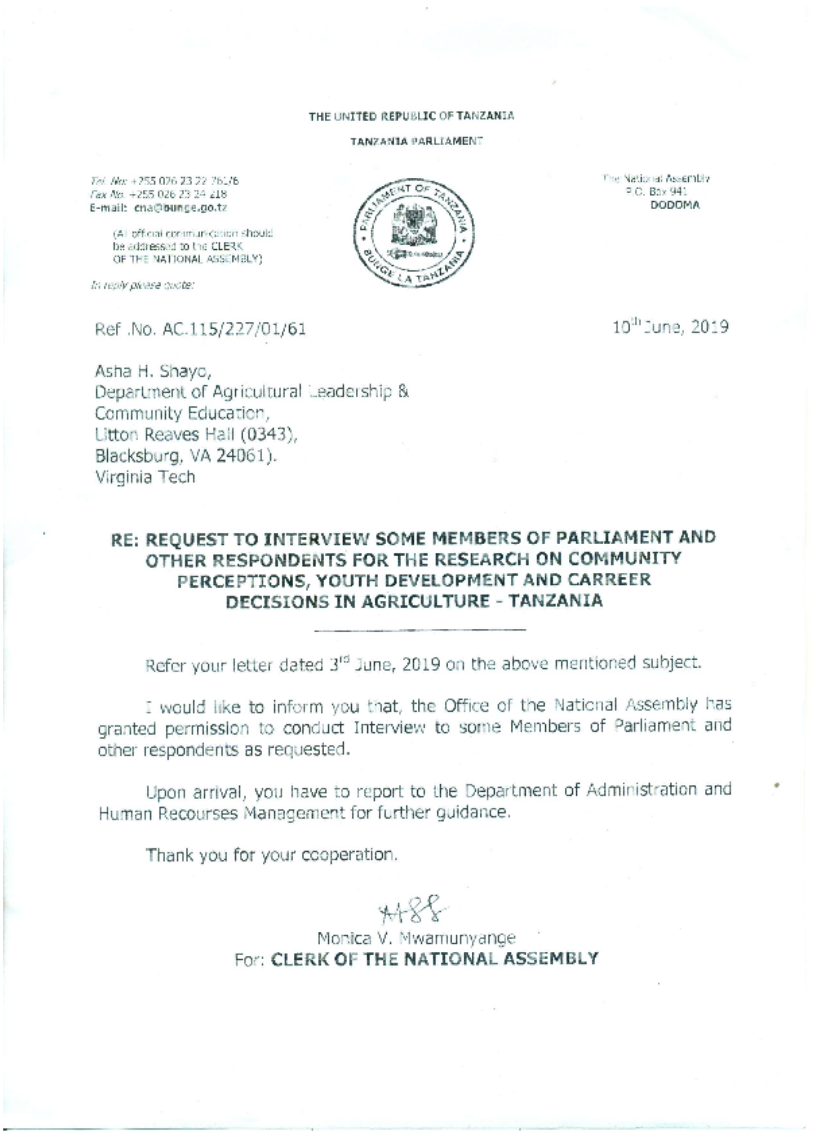
4. Kwa barua hii, naomba mumpokee na kumpatia ushirikiano wakutosha ili kufanikisha utafiti huo.

5. Nawasilisha.

Asumpta M. H
Kny: KATIBU TAWALA WA WILAYA
KIBAHA

Nakala;
Bi. Asha H. Shayo
MTAFITI

Appendix E: Approval letter from the Parliament of Tanzania



THE UNITED REPUBLIC OF TANZANIA

TANZANIA PARLIAMENT

Tel. No: +255 026 23 22 761/6
Fax No: +255 026 23 24 218
E-mail: cna@bunge.go.tz

(All official communication should be addressed to the CLERK OF THE NATIONAL ASSEMBLY)

The National Assembly
P.O. Box 941
DODOMA

In reply please quote:

Ref .No. AC.115/227/01/61

10th June, 2019

Asha H. Shayo,
Department of Agricultural Leadership &
Community Education,
Litton Reaves Hall (0343),
Blacksburg, VA 24061).
Virginia Tech

RE: REQUEST TO INTERVIEW SOME MEMBERS OF PARLIAMENT AND OTHER RESPONDENTS FOR THE RESEARCH ON COMMUNITY PERCEPTIONS, YOUTH DEVELOPMENT AND CARREER DECISIONS IN AGRICULTURE - TANZANIA

Refer your letter dated 3rd June, 2019 on the above mentioned subject.

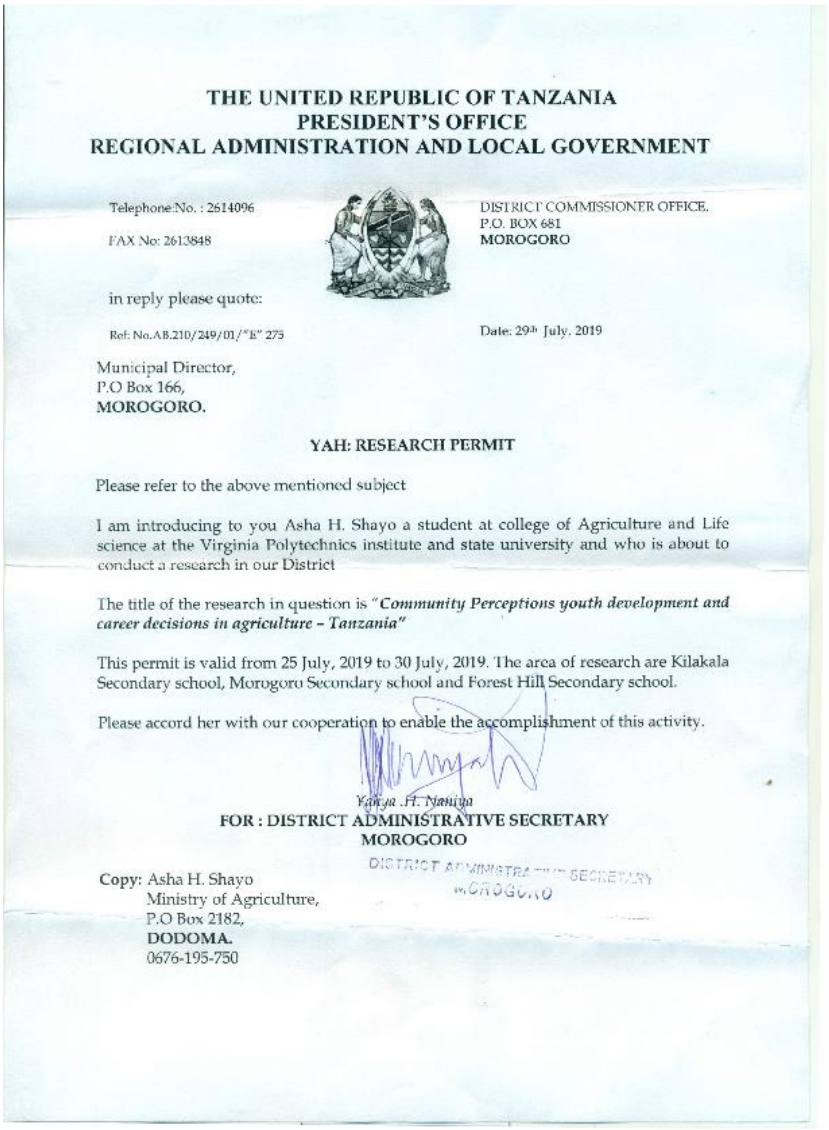
I would like to inform you that, the Office of the National Assembly has granted permission to conduct Interview to some Members of Parliament and other respondents as requested.

Upon arrival, you have to report to the Department of Administration and Human Recourses Management for further guidance.

Thank you for your cooperation.

Monica V. Mwamunyange
For: **CLERK OF THE NATIONAL ASSEMBLY**

Appendix F: Approval Letter from Morogoro Local Government



THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

Telephone:No. : 2614096
FAX No: 2613848

DISTRICT COMMISSIONER OFFICE,
P.O. BOX 681
MOROGORO

in reply please quote:

Ref: No.AB.210/249/01/"E" 275

Date: 29th July, 2019

Municipal Director,
P.O Box 166,
MOROGORO.

YAH: RESEARCH PERMIT

Please refer to the above mentioned subject

I am introducing to you Asha H. Shayo a student at college of Agriculture and Life science at the Virginia Polytechnics institute and state university and who is about to conduct a research in our District

The title of the research in question is *"Community Perceptions youth development and career decisions in agriculture – Tanzania"*

This permit is valid from 25 July, 2019 to 30 July, 2019. The area of research are Kilakala Secondary school, Morogoro Secondary school and Forest Hill Secondary school.

Please accord her with our cooperation to enable the accomplishment of this activity.

Yahya .H. Nanjiga
FOR : DISTRICT ADMINISTRATIVE SECRETARY
MOROGORO

DISTRICT ADMINISTRATIVE SECRETARY
MOROGORO

Copy: Asha H. Shayo
Ministry of Agriculture,
P.O Box 2182,
DODOMA.
0676-195-750

Appendix G: Interview Questions on Agricultural Sector

Open-ended interview questions

Introduction of the interviewer.
Purpose of the interview (see IRB document)
Presentation of the consent form
Tape recording
Ownership of content

Demographic Information

Name (optional).....

Age.....

Gender.....

Occupation.....

Education Level.....

Experience.....

Region/District.....

Background experience

1. What's your current position?
2. How long have you been in this position?
3. Can you give me a brief overview of what you do in your work?
4. What are you most excited or passionate about?
5. What are the goals you most want to accomplish in your work?
6. How did you choose your career? Did someone force you, or inspire you?
7. How easy or difficult was it for you to make choices about your career?

Youth development

1. When you hear someone mention agriculture, what is the first thing that comes to mind? Why?
2. Do you think there is any advantage in teaching agriculture in/from primary school? Why/why not?
3. How do you understand the current agriculture curriculum?
4. Do you think the education curriculum prepares the youth to face the world challenges especially in the agricultural sector?
5. Do you think the education system prepares the youth in decision making and career choices?
6. Do you think youth have enough skills and capacity to improve the agriculture industry?
   - If yes, How? If no, what kind of skills set is essential for youth development?
7. Do you think the lack of background in agriculture affects youth's perception and choice of agriculture as a career? Why/ why not?

8. What do you know about youth programs in agriculture? Can you mention a few? What is their role? How are you engaged in such programs?
9. With the country's emphasis on industrialization, what do you think is the role of youth? Are they involved in the decision-making process? How? Do you think there are enough youth engaged in agricultural activities?
10. What are some significant changes you can identify for youth development in agriculture?
11. What do you think should be done to attract more youth in agriculture and agricultural related fields?
12. In what ways are youth empowered in self-employment? Do you think they have enough skills and resources? What should be done?
13. What do you think are the challenges the country is facing in promoting youth development in agriculture?
14. What are the practices that you think will be useful in positive youth development especially in agriculture?
15. Do you think there is any hope in the future to see more youth in agriculture? If yes what are your hopes? If no why not?
16. How is the government/organization ensuring the goal of industrialization is reached through agriculture?

We are at the end of our interview, do you have any question or anything else you would like to share?

Thank you.

Appendix H: Interview Questions for High School Students

Open-ended interview questions

Introduction of the interviewer.
Purpose of the interview (see IRB document)
Presentation of the consent form
Tape recording
Ownership of content

Demographic Information

Name (optional)……

Age……

Gender……

Occupation……

Education Level……

Experience……

School……

Background information

- Please tell me about yourself, your background and experience in Agriculture?
- When did you start thinking about career path or career choice?
- What are the challenges and opportunities that you think youth face when it comes to career path and career choice in agriculture?
- What do you think needs to be done differently in youth skills development?

1. What influenced you to make choices about your career path?
2. Where do you get knowledge about your desired career?
3. How do you perceive agriculture? (When you hear a word "agriculture" what is the first thing comes to your mind? Why do you think that way?)
4. Would you pursue agriculture as a career? Why/why not?
5. Would you recommend someone to pursue agriculture as a career?
6. Were you raised in a family that is engaged in agricultural activities? If yes did that influence you in studying agriculture? If not why are you in agricultural school?
7. What inspired you to(not) go to an agricultural school?
8. Do you think the agriculture lessons (could)/help you in agriculture career path? Why/why not?
9. Apart from classes where else do you get information about agriculture and agriculture related field?
10. Are there any agricultural programs in your schools or in the community? If yes to what extent do you participate? If no is there any way you are engaging in agricultural activities?

11. Please share the circumstances that you think will enable you to pursue a career in agriculture?
12. Please share factors that will hinder you to pursue a career in agriculture.
13. When you see people engaged in agriculture, what comes to your mind? Why?

We are at the end of our interview, do you have and question or anything else you would like to share?

Thank you.

Appendix I: Survey for High school Students

Students' Perceptions on Education System on Their Decisions and Career Choice in Agriculture.

Instructions: This assessment is designed to measure student perception on education system (formal, informal and nonformal) on the influence of their decisions and career choice in agriculture. For each item, please circle the numbers next to each statements, the responses indicate that (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree). By continuing with the survey, you are providing your consent to participate in the research.

	Items	Your Answer				
1	Teaching agriculture in schools will increase the number of youth engaging in agriculture	1	2	3	4	5
2	Agricultural programs will influence youth participating in agriculture and choose career in agriculture.	1	2	3	4	5
3	I think if I study agriculture in school, I can easily pursue career in agriculture.	1	2	3	4	5
4	I believe agriculture can be a successful career, if it is taught from the younger age (9 years and above)	1	2	3	4	5
5	I get my knowledge about agriculture from various sources such as social media, library, communities, etc	1	2	3	4	5
6	If I attended agriculture school, I would be more skilled in agriculture and influenced to pursue career in agriculture	1	2	3	4	5
7	If I participate in agricultural programs, I will gain skills and agricultural knowledge which will influence my decision to pursue career in agriculture	1	2	3	4	5
8	If I attend agricultural symposium, conferences, I believe it will trigger my interest to pursue career in agriculture.	1	2	3	4	5
9	My participation in community programs that relates to agriculture, will be useful in my professional development and career choice in agriculture	1	2	3	4	5
10	When it comes to career choices, I want my family to be involved in making such choices	1	2	3	4	5
11	My teachers think I can be successful if I pursue career in agriculture.	1	2	3	4	5
12	I think I can pursue career in agriculture because the government puts more emphasis on youth career in agriculture.	1	2	3	4	5
13	The education system prepares me well in making decisions about my career.	1	2	3	4	5
14	If I pursue a career in agriculture my family will be proud of me	1	2	3	4	5
15	My family encourages me to pursue a career in agriculture	1	2	3	4	5
16	Teachers in my school give me the knowledge and skills that will help me succeed in an agricultural career	1	2	3	4	5
17	The education system contributes to my career decisions	1	2	3	4	5
18	I expect to choose my career in agriculture when I graduate	1	2	3	4	5

19	I expect to be successful in agriculture career, if I have the necessary skills and knowledge	1	2	3	4	5
20	My family experience has influenced my career choice in agriculture.	1	2	3	4	5
21	I make my own decisions whether or not I want to study agriculture or career in agriculture.	1	2	3	4	5
22	I expect to get a lot of opportunities if I have a career in agriculture.	1	2	3	4	5
23	I will achieve my goals if my career is in agriculture	1	2	3	4	5
24	If my friends pursue career in agriculture I will also choose a career in agriculture	1	2	3	4	5
25	If there are many youth programs that are interesting and have good program for my career development in agriculture I will join the programs	1	2	3	4	5
26	If my family insists on me to study agriculture, I will follow their desire.	1	2	3	4	5
27	If the government provides many opportunities for youth to engage in agriculture, I think I will be interested to participate	1	2	3	4	5
28	If agriculture is/was taught in schools, I would be interested to study agriculture	1	2	3	4	5
29	I believe agriculture is a good career choice for me	1	2	3	4	5
30	My perception of agriculture and career in agriculture is negative	1	2	3	4	5
31	Most people who are important to me approve my career choices	1	2	3	4	5
32	I intend to pursue a career in agriculture	1	2	3	4	5
33	I intend to search the knowledge, skills and information materials about agriculture for my professional development	1	2	3	4	5
35	I intend to attend various platforms related to agriculture to learn, engage, network and find information about career in agriculture	1	2	3	4	5
35	I intent to participate in various youth programs to acquire agricultural skills and techniques	1	2	3	4	5

Demographic Questions

Name (Optional)……

Age……

Education level……

Gender……

School……

Signature……Date……..

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Appendix J: Interview Questions for Teachers in Schools Which Do not Teach Agriculture

Open-ended interview questions

Introduction of the interviewer.
Purpose of the interview (see IRB document)
Presentation of the consent form
Tape recording
Ownership of content

Demographic Information

Name (optional)……

Age……

Gender……

Occupation……

Education Level……

Experience……

School……..

Background information

1. Please tell me about yourself and your background
2. What is your current position?
3. How long have you been in that position?
4. Can you give me a brief overview of what you do in your work?

Teachers who do not teach agriculture

1. Why are you not teaching agriculture in your school?
2. Do you think agriculture should be taught in schools? Why/why not?
3. Do you think the current agriculture curriculum influences youth decision to engage in agricultural career? Why/why not?
4. Have ever thought of teaching agriculture is your school? Why, why not?
5. Are there any challenges your school is facing by not teaching agriculture?
6. Do you think the school is missing opportunities by not teaching agriculture?
7. What do you think are the challenges for youth to embark on a career in agriculture?
8. What do you think are the opportunities for youth to embark on a career in agriculture?
9. What do you think are the factors that influence the youth to engage in agriculture?
10. What do you think should be done to attract more youth to study agriculture and pursue career in agriculture?
11. What do you think needs to be done differently with regard to youth employment and career choice especially in agriculture? (E.g. in cultural context, government, international development, etc.)

12. What do you think are the advantages or disadvantages of teaching agriculture is schools
13. What is your perception of youth career in agriculture?

We are at the end of our interview, do you have any question or anything else you would like to share?

Thank you.

Appendix K: Interview Questions for the Teachers in Schools That Teachers Agriculture

Open-ended interview questions

Introduction of the interviewer.
Purpose of the interview (see IRB document)
Presentation of the consent form
Tape recording
Ownership of content

Demographic Information

Name (optional)……

Age……

Gender……

Occupation……

Education Level……

Experience……

School……..

Background information

1. Please tell me about yourself and your background
2. What is your current position?
3. How long have you been in that position?
4. Can you give me a brief overview of what you do in your work?

Teachers who teaches agriculture

1. Why do you teach agriculture in your school?
2. Do you think agriculture should be taught in schools? Why/why not?
3. Do you think the current agriculture curriculum influences youth decisions to engage in agricultural career? Why/why not?
4. Are there any challenges your school is facing in teaching agriculture?
5. Do you think there are more opportunities for school by teaching agriculture?
6. What else do you think should be taught in agriculture subjects in addition to what is being taught currently?
7. What are the challenges for youth to embark on a career in agriculture?
8. What are the opportunities for youth to embark on a career in agriculture?
9. What do you think are the factors that influence the youth to engage in agriculture?
10. What do you think should be done to attract more youth to study agriculture and pursue career in agriculture?

11. What do you think needs to be done differently with regard to youth employment and career choice especially in agriculture? (E.g. in cultural context, government, international development, etc.)
12. What do you think are the advantages or disadvantages of teaching agriculture is schools
13. What is your perception of youth career in agriculture?

We are at the end of our interview, do you have any question or anything else you would like to share?

Thank you.

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Version Date:
07/19/2019