Improving Food Production and Food Security in Tanzania through a Youth Development Program in Agriculture

Thesis

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Abstract

Apart from the absence of the agricultural curriculum in the Tanzanian primary public schools, youth development programs in agriculture are not sustained for number of reasons. External reliance on funding, expertise and leadership has been cited as reasons for some of the unsustainability. Since the ‘Education for Self-Reliance’ policy was abandoned, schools have been educating youth with few practical skills and little interest in the field of agricultural and food production.

Through focus group discussions, school board members, school heads, teachers DAICO, DEO and Village Agricultural Extension Officers were asked about their support for a youth development program in agriculture in their local primary school. Focus group discussion participants were asked their opinion of the possibility of designing a youth program in agriculture in their community. Funding, expertise and leadership (which often times have been viewed as major obstacles) needed to conduct the program in the Tanzanian context were discussed.

Focus group participants expressed their willingness to support youth in learning about agriculture by providing expertise, funding, leadership and material support from community and family resources. The program was suggested to reflect the specific needs of the local community, based upon resources available, expertise and leadership with in the community.
Involvement of youth in agricultural related issues was viewed to have a sustained impact on the production and food security of Tanzania.
Dedication

I dedicate this work to my fiancé and friend Levin Msimbira for his love and encouragement until this work is complete and my beloved parents Donald Mwakatoga and Martha Mlyuka for their love, support and prayers.
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Thanks to God for the love and grace he has for me and the curiosity he puts to human minds that we constantly want to learn and endure the challenges we face in the process.

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Last but not least, I thank my fiancé for his tireless assistance in arranging this document, my parents, my siblings and friends for their inspirational and moral support during hard moments in completing this work.
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Field of Study

Major Field: Agricultural and Extension Education
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Chapter 1: Introduction

Agriculture is the primary engine of economic growth in most developing countries. Thus, agriculture is a cornerstone for poverty reduction and food security in most African countries (IFPRI, 2010). Tanzania is no different. Approximately 70-80% of the Tanzanian workforce is engaged in agriculture (Ngugi et al., 2002) The Tanzanian agriculture sector contributes about one fourth of the country’s total gross domestic product (GDP) each year. Despite the importance of agriculture to the Tanzanian economy, little has been done to prepare Tanzanian youth to pursue careers in the agricultural industry (Rutta, 2012).

The importance of youth to the future of Tanzanian agriculture is somewhat amplified by related demographic trends. First, with a 2.8% population growth rate, Tanzania’s population of 48 million is be expected to double by 2050 (Restless Development, 2013). During that period of time Tanzania’s urban population will surpass its rural population. Second, there is a recent youth bulge in the Tanzanian population with 65% of the population being less than 25 years of age (Restless Development, 2013). Third, the growth in wage jobs is lower than the number of persons entering the labor force. These trends indicate that most Tanzanians will continue to be engaged in agriculture in the foreseeable future, and many of the Tanzanian agriculture workers will be the youth.
Therefore, preparing the youth for careers in agriculture is vital for food security and economic growth in Tanzania, not to mention the need for youth to become productively engaged in society.

In many African countries, young people are affected by pervasive problems including extreme poverty, food insecurity, HIV/AIDS and unemployment; yet are often overlooked by policy makers when addressing such problems (Rutta, 2012). The Tanzanian government has generally overlooked the potential contribution of its younger citizens in addressing the issue of agricultural development. Most government and development partner initiatives for agriculture and food production recognize the important role of established farmers, but not youth in particular (Rutta, 2002).

Traditionally, Extension services in Tanzania have been offered through the use of Extension officers visiting individual farmers or farmers visiting an Extension officer for advisory services (Sanga, Kalungwizi and Msuya, 2013). Based upon the established traditions and norms associated with the Extension systems in Tanzania, youth who provide much of the physical labor on family or subsistence farms, have been inadvertently denied access to Extension services. This oversight may threaten the long term involvement of youth in farming activities, and ultimately the improvement of agricultural production and food security in Tanzania.

Historically, the need for agricultural education in Tanzania was recognized during the colonial period. Educational programs during that era focused on agriculture to transform peasant agriculture (Ngugi et al., 2002). In 1924, the Phelps-Stroke Commission was appointed to examine educational problems in East and Central Africa (Mattee, 1978). The commission recommended a focus on agricultural education with
special emphasis on lower educational levels. In 1967, through the “Education for Self-Reliance policy”, Mwl J. Nyerere, the first president of Tanganyika (now the United Republic of Tanzania) criticized the state for providing a colonial education to Tanzanians. Such an education that was not preparing Tanzanian students with skills needed in their own country. He also suggested that, education should be complete in itself, to prepare Tanzanian students for rural life as well.

In support of an ‘education for self-reliance policy,’ agricultural education programs in Tanzanian schools were initiated (Temu et al, cited in Rutta, 2002). However, during the colonial era in Tanganyika, agricultural knowledge and skills were taught in African schools as part of a British-based curriculum. This caused many parents and students to view the agricultural subject with suspicion (Ngugi et al., 2002). Providing agricultural education in African schools was intended to prepare African students to contribute to their communities through agricultural skills. However, the effect of segregating people by the color of their skin made African parents suspicious about the subject. Suspicion over agriculture as a school subject in Tanzania continues to exist among policy makers, parents, teachers, and students into the first decades of the 21st century.

Several research studies have reported the value of teaching agriculture as a subject in primary schools (Msuya et al., 2014; Rutta, 2012; Ngugi et al., 2002). Teaching young students practical food production skills helps reduce unemployment among school-leavers, while indirectly helping parents learn new skills through their children. An additional side benefit is the cultivation of more positive attitudes towards the agricultural industry among young children (Okior et al., 2011). Because agriculture is
not included in the current primary school curriculum (Msuya et al., 2014), there is also a need for establishing youth agricultural education programs that are managed by the community and therefore less prone to fluctuations in government policy and donor funding.

*Tanzanian Context*

Tanzania is the largest country in East Africa. The country is located between 1 and 12 °S in latitude and between 30 and 40 °E in longitude. Being close to the equator, it is a predominantly tropical country. Annual temperatures range between 10 °C and 30 °C depending on the geographical location, relief and altitude. On average the nation receives 1,042 mm of rainfall annually (World Bank, 2010).

Tanzania encompasses a total land area of 945,087 km² comprised of 883,749 km² dry land (about 440,000 km² suitable land for agriculture) and 59,050 km² inland water bodies (URT, 2007). Tanzania shares borders with eight countries including Kenya and Uganda in the North, Rwanda, Burundi and Democratic Republic of Congo in the West, Zambia and Malawi in the South West and Mozambique in the South. The country is also bordered by main water bodies including the Indian Ocean to the East, Lake Victoria to the North, Lake Tanganyika to the west and Lake Nyasa to the south-west. Tanzania is the home land for the highest point in Africa, snowcapped Mount Kilimanjaro 5,950 meters (19,520 feet) above sea level.

Based on the 2012 Population and Housing Census (NBS, 2013), the country was home to over 44 million persons comprised of 48.7 % males and 51.3 % females. Tanzania has over 125 ethnic groups with over 100 spoken languages, making it the most linguistically diverse country in East Africa (NBS, 2013).
Agriculture is the mainstay of the Tanzanian economy contributing to about 24.1% of GDP, 30% of export earnings and employs about 75% of the total labor force (URT, 2009). Agriculture is dominated by smallholder farmers (peasant farmers) cultivating an average farm size between 0.9 hectares and 3.0 hectares. About 70% of Tanzania’s cropland is cultivated manually with the hand hoe, 20% by ox plough and 10% by tractor. Women and children supply much of the labor needed to manage the farm. According to International Labor Organization (ILO, 2006), 85% of boys and 74.8% of girls of 5-14 years of age were working in agriculture. Thus, there is a marked change as young boys grow into adulthood, their involvement in agriculture diminishes greatly in Tanzania (as it does in many other developing countries around the world).

The Government of Tanzania expressed concern about the welfare of children which dates back to colonial times. In 1955, (while under British rule) the government passed Employment Ordinance Cap. 366, which among other provisions, prohibited the employment of children. However, participation of children in family run farms, was not viewed as child labor. Traditionally, children working in agriculture alongside their adult parents was considered an essential element of their socialization (ILO, 2006). According to ILO (2006), this tradition may reinforce prevailing social biases, where by girls imitate their mothers and grandmothers, while boys are expected to emulate their fathers and grandfathers. A family whose traditional occupation is based on farming is more likely to raise children who follow in the same line of work, especially in rural areas.

Child involvement in family farming activities typically do not involve prior training or coaching. Skills that children use on the family farm are generally closely aligned with those used by their parents. Extension services in Tanzania have been
limited in their ability to assist farmers in adopting and using new agricultural techniques. As a result, most children have not been exposed to recent technological changes in agriculture and the food industry. Therefore children enrolled in rural primary schools from class I-VII may be appropriate targets to expose them to up-to-date skills related to needed improvements in food production and security in Tanzania. Therefore, this study seeks to ascertain the willingness of parents and communities to establish and conduct a youth development program in agriculture. Hence, provide an opportunity for children to learn important agricultural knowledge and skills focused on food production and food security.

Traditional relationships between children and parents should be embraced by encouraging parental involvement in children’s educational experiences. In 2002, ‘Hakielimu’ (a Tanzanian civil society organization for education) conducted a competition titled ‘What is a good school?’ Habibu Hassan Sulumbu was one of the winners in the competition who pointed out that, “A good school has a committee that closely supervise different development activities of the school” (Mwemezi, 2013, p. 4). Other criteria for good schools include: schools and communities that are accountable and transparent, school management and government that are supportive, and where information is shared (Mwemezi, 2013). This project will encourage communities to embrace these criteria for good schools for a better youth agricultural program.

Problem Context

For many years, agricultural education has been overlooked in the Tanzanian primary school curriculum. Therefore, most Tanzanian primary school leavers (who do not continue to secondary education) remain in rural areas but are ill-prepared to work in
agriculture or food production. This study seeks to involve community members through their local school board to create a youth development program in agriculture that can be planned, supported, and sustained by rural villages in Tanzania. This study was designed to build upon efforts made by the Tanzanian government and Non-Governmental Organizations (NGOs) such as the Tanzania 4-H program. The program is focused on training youth on topics in agriculture and health issues.

4-H Tanzania Program

The Tanzanian 4-H program is a non-governmental organization established in 1975. It is not-for-profit, non-religious, and open to anyone living in Tanzania regardless of their sex, tribe, origin and handicap. Its aim and mission statements are

http://orgs.tigweb.org/tanzania-4h-organization:

Aim and Objectives: To provide pre-professional practical education in the sectors that are not provided for by the formal school curriculum, such as agriculture, forestry, environmental protection, conservation, community and family health, home economics, household management, leadership and management skills.

Mission statement: We advance 4-H youth development to build a world in which youth can learn, grow, and work together to become economically independent and responsible adults. For this purpose we provide pre-professional education in production activities, leadership skills, community health, environment, and conservation awareness to youth aged 6-25 years.

Tanzania 4-H is primarily a non-governmental organization. In 1986, a decade after it was first introduced in Tanga Region, the self-reliance project began with funding from
the Finnish 4-H Federation and Finnish Ministry of Foreign Affairs. In 2010, the
Tanzanian 4-H program began partnering with the global 4-H network and the National
4-H Council in the United States.

The Tanzanian 4-H program does not receive funding from the Tanzanian
government nor any of its ministries. Lack of local government and community support
threatens the sustainability and expansion of the program. Furthermore, there are
numerous examples of donor-funded projects in Africa that reflect a history whereby
when funding ends, so does the program (Hofisi & Chizimba, 2013).

Approximately forty years have passed since the Tanzanian 4-H program was
launched in Tanga Region in 1976. With the support from the European Union in 1990’s
4-H Tanzania expanded to five new regions. Currently, the program is functioning in six
regions of Tanzania including Arusha, Kilimanjaro, Manyara, Tanga, Morogoro and
Ruvuma. Slow expansion of the 4-H program suggests the need for an alternative design
for youth development programs in Tanzania.
Although 70-80% of Tanzanians depend on agriculture for their livelihood, the national curriculum for Tanzanian primary school does not include agriculture as an approved subject (Msuya et al., 2014). Most young Tanzanian students finish class 7 at the age of 14-16 years, but fail to continue their education in secondary schools for various reasons (e.g. low family income). Therefore, school leavers are faced with the reality of needing to work in agriculture, even though they are not prepared with skills needed to succeed.

There is a clear need for a youth development program focused on agriculture for all young Tanzanian’s, especially for youth who live in rural villages. Msuya et al.
(2014), recommended that appropriate strategies for re-introducing “education for self-reliance” activities should be considered. The fact that agriculture is not part of the primary school curriculum suggests a need for alternative programs to ensure that young Tanzanian students learn about agriculture and food production through other avenues.

The Need for the Study

Funding has been identified as a limiting factor for many developmental programs in Africa. Funding will always remain an important factor in the functioning of any organization, but money-centered thinking tends to overlook other important factors like cultures and norms (Hall & Taylor, 1996; Ostrom, Gardner, & Walker, 1994; Ostrom, 2000; Scott, 2008 (as cited in Islam et al., 2011).

This project proposes a youth development program in agriculture that will be structured and designed to fit the local context. Utilization of locally available resources and school-community linkages will be a priority for program success and sustainability. Operational costs will be minimized for rural communities to establish and manage the program. The program needs to be communally owned, and funded by the community members in the areas where schools are located. From 2002, when the government re-introduced free primary education under the Primary Education Development Program (PEDP), it also introduced capitation grants (Twaweza, 2010), for purchasing text books and teaching materials.

In 2012-13, the government provided 36% of capitation grant to primary schools (Twaweza, 2010). However, funding support at that level was not enough to fully cover the expenses for each student. Although the Tanzanian government has declared free primary education in public schools, inadequate funding (3580 Tsh/student instead of
10000 Tsh/student) has forced parents to contribute additional funding for their children’s education (Twaweza, 2010).

Based upon evidence that parents have contributed to the construction of secondary school laboratories, primary school toilets, desk and chairs suggests that parents may also be willing to support a youth development program in agriculture. Persuading parents and community members to support the introduction of youth development program in agriculture will not be a new thing. Previous studies have acknowledged that the adoption of agricultural innovations in Africa are highly dependent on location, ecosystems, economic activities and cultural practices. This requires special consideration in any attempt to identify constraints for adoption (Erenstein 2002; Giller et al., 2006).

While many of the current school-based agricultural projects are managed and funded by NGOs, Tanzania is characterized by rural areas where a large number of farmers currently live, but have not been well-served by private sector donors (Rutatora & Mattee, 2001). This makes youth from rural areas more vulnerable to unemployment, and compounded by less access to services provided by NGO’s. Considering the importance of youth in agricultural projects in rural areas, it will be necessary for Tanzanian residents in rural areas to organize and collectively work for themselves, and for the community in which they live (Nyerere, 1967). Using local farmers and teachers as supervisors, village leaders as advisors, and advisory services from a local agricultural Extension officers, youth agricultural projects may be designed and completed. Capital assistance will also be required from local communities.
Two primary obstacles to increasing youth involvement in agriculture

Agriculture and animal husbandry is the largest employment sector in Tanzania. However, there is inadequate infrastructure to prepare and facilitate the participation of the youth into the agricultural labor force. As a result, many young men and women are not attracted to work in the agricultural sector and they tend to migrate to urban areas where they remain unemployed or underemployed (URT, 2007). Like many policies, the National Land Policy of 1997 (Rutta, 2012) did not specifically mention land issues and youth, but rather stated that all Tanzanian citizens have the right to access land. Through traditional practices, youths in Tanzania are not eligible for land entitlement until they are old enough to start their own families (Note: A tradition and policy that does not even recognize women). A practice which makes it difficult for youth to engage in farming. This becomes even more problematic in the application of improved techniques like conservation farming which involves soil modifications, which may not yield results for up to four years. Improvement in food production requires not only improved seeds, new innovations, and irrigation for smallholder farmers, Tanzanian youth also need improvement in their ability to access land.

Apart from land, experience and studies have shown that most banks in Tanzania consider the agriculture sector to be too risky to qualify for financing (Rutta, 2012). This is due to the fact that the agricultural industry in Tanzania has failed to convince banks and other financial resource providers of the ability to generate income. Banks and financial institutions that provide financing in terms of loans have higher interest rates (often above 14%) but also require detailed business plans, collateral (such as land title),
and focus on large scale farm projects of at least 50 hectares of land. These conditions inhibit smallholders in rural areas from qualifying for financial support, including youth.

**Problem Statement**

Parents in rural Tanzanian villages frequently encourage their children to migrate to larger cities for employment after completing their primary education. Even so, young people who decide to remain in rural villages are usually not well prepared to engage in farming activities or to produce food to sustain themselves. Therefore, there is a definite need to prepare young people with knowledge and skills to become self-sufficient in terms of their own food production and security.

**Practical Problem**

Most of Tanzania’s rural primary schools have poor facilities and infrastructure which makes for an unattractive learning environment for students and teachers. In 2013, the Tanzanian government decided to adopt a development model from Malaysia ‘Big Fast Results’ and introduced Big Results Now (BRN) initiatives. Through BRN initiatives, the country aimed to transform from a low to a middle income economy country. Six priority areas were targeted to achieve the transformation: (a) energy and natural gas, (b) agriculture, (c) water, (d) education, (e) transportation, and (f) mobilization of resources.

Education initiatives were titled Big Results Now in Education (BRNEd). Under BRNEd, the government of Tanzania focused on nine activities. Activity number eight was Timely Delivery of Adequate Capitation Grants, funding that a public school receives from the government each year for each student enrolled. Such funding was to be used by schools to improve the learning environments and facilities. During the
2013/14 fiscal year, the government of Tanzania provided 5,500 TSH instead of 10000 TSH as capitation grant to each primary school student (Twaweza, 2010).

Due to inadequate funding, schools have poor quality structures and learning facilities, which in turn often lead to poor performance or failure of students to continue into secondary education. Children from rural areas become victims of an inadequate educational system compared to their counterparts in cities. Most girls and boys from rural areas, who do not continue into secondary education typically are employed in towns and cities as house maids and house boys, respectively.

Young girls and boys who remain in rural villages with their parents are not well-prepared to face rural life on their own. With no workplace skills, they cannot take advantage of the limited opportunities available in their local communities. The inability to sustain themselves financially, increases the chances for early childhood-marriage for girls and drug addiction or gang activity for boys.

*Research Problem*

The research problem to be addressed in this study will focus on generating answers to the following questions: What agricultural production knowledge and skills are needed by rural youth in Tanzania to enable them to achieve food self-sufficiency as adults? In addition, this study will examine program development and implementation strategies that contribute to program sustainability in rural Tanzanian villages.

*Purpose of the study*

The primary purpose of this study is to develop a conceptual model for youth development programs in agriculture that can be adapted and managed within local
communities/villages in rural Tanzania. The research objectives developed to guide the study are:

1. Review case studies involving youth/ adult/ extension collaborations to promote agricultural education, with primary focus on food production and food security

2. Identify underlying principles that provide a foundation for developing a sustainable youth development program in agriculture in Tanzania

3. Identify and describe components of a conceptual framework

4. Develop a sample youth development program in agriculture curriculum structure and content outline

5. Design a conceptual model for a sustainable youth development program in agriculture for Tanzania

Definition of Terms

Agricultural education: involves the teaching of agriculture, natural resources, and land management through hands-on experience and guidance to prepare students for entry level jobs to further their education and prepare them for advanced agricultural jobs. Agricultural education provides instruction about crop production, livestock management, soil and water conservation, and other aspects of agriculture. It also includes food education (True, 1929)

Food security: “Food security defines a situation in which all people at all times have physical and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life” (FAO, 1996 as cited in WFP, 2013).
Hakielimu: is a non-profit civil society organization that strives for an open, just and democratic Tanzania where all children enjoy the right to education that promotes equity, creativity and critical thinking. The organization is driven by three main goals: (a) enable people to transform education, in and out of schools; (b) Influence policy making and effective implementation; stimulate imaginative public dialogue and social change; conduct research, policy analysis and advocacy; and (c) Collaborate with partners to advance participation, accountability, transparency and social justice (http://www.hakielimu.org/index.php).

Primary Education: is education that must be a complete in itself. It must not continue to be simply a preparation for secondary school. Instead of the primary school activities being geared to a competitive examination which will select the few who go on to secondary school, it must be a preparation for the life which the majority of the children will lead. (Nyerere, 1967).

Youth: The concept of youth varies from one community to another depending on customs and traditions, social behavior and their location. A youth is a boy or a girl who is in a transitional period from childhood to adulthood. For this study youth are defined as Tanzanian primary school children from 7-14 years of age.

Youth development programs: Educational programs that encourage individual youth (age 7-14 years) to actively shape their own development to their personal choices and perceptions. Throughout the program, participants gain competencies to earn a living, nurture self and others, engage in civic activities, and to participate in social relations and cultural activities (Pittman, 1998)
Youth development as a field of practice has focused on building character, competence and compassion; improving the life chances of all youth; making sure youth grow up to be healthy and productive citizens (Bird et al., 2013).

"Young people should be at the forefront of global change and innovation. Empowered, they can be key agents for development and peace. If, however, they are left on society's margins, all of us will be impoverished. Let us ensure that all young people have every opportunity to participate fully in the lives of their societies." Kofi Annan (http://www.doonething.org/handouts/youth-annan.pdf).

**Operational Definition**

For the purpose of this study, agricultural education was defined as a combination of formal and non-formal educational activities to improve the knowledge and skills of learners regarding food production, processing and security.

**Village**: Will be defined as a small community or group of houses in a rural area, normally comprise more than 250 households and a population larger than 10,000 people. It needs to have important social services like five or more retail shops, at least one local market, a primary school, dispensary, and a small police station.

**Community**: a social group of any size whose members reside in a specific locality, share government, and often have a common cultural and historical heritage.

**Village/community**: In this study village and community will be used interchangeably since parents are allowed to take their children to any schools nearby regardless of the village they are from. A school community encompasses the students, parents, and teachers that will be referred to in this study.

**Youth development program**: was defined for the purposes of this study as a community-based program in primary schools involving willing students and teachers, community members and local extension officers and progressive farmers which will
involve training activities focused on agriculture related activities in schools as well as at home for the purpose of helping youth to learn new agricultural technologies.

Limitations of the Study

Due to limited budget and time, the study will research and develop a model based on two villages in Kilosa district within the Morogoro Region of Tanzania. Kilosa is one of six districts in the Morogoro Region. According to 2012 National Census, the population of Kilosa was estimated at 438,175 people. The district has a historical problem of farmer-herder conflicts which is a concern for the development of the agricultural sector and food production (Benjaminsen, Maganga, and Abdallah, 2009). The district is well known for its resources including the Mkata River, Mkata ranch, Mikumi National Park and Ilona Agricultural Research Institute.

According to Hakielimu, Kilosa is reported to have 223 primary schools and 38 secondary schools. In 2014, four primary schools of Kilosa were reported by Hakielimu to have some improvement in enrollment and attendance of pupils in four primary schools: Rudewa (98%); Mvumi (89%); Mambegwa (77 %) and Madoto (77%). These improvements are a result of 2012/2016 Hakielimu strategy, focusing on what citizens can do to make a difference in education and democracy. Apart from an increase in enrollment and attendance, parental interest in school development was reported to have increased.

Development and success of a youth development program in agriculture may be influenced by citizen participation in school programs. The presence of citizen-supported schools in Kilosa provides an opportunity to pilot-test the implementation of a youth development program in agriculture that is planned and conducted by village members.
Figure 2: The map of Kilosa district (Benjaminsen, Maganga and Abdallah, 2009)
Chapter 2: Review of Literature

Introduction

Designing a youth development program in agriculture for rural Tanzanian villages requires a full understanding of Tanzania as a country and its youth in particular. The agricultural sector, education sector, rural societies and the country’s history with youth development and increased food productivity initiatives are also important dimensions to understand. In this chapter, each of the aforementioned dimensions will be documented and discussed. In addition, an overview of theories that guided this study will be described along with the components of the conceptual framework.

Theoretical Foundation

Constructivism (Learning by doing)

Constructivism is an education theory that was conceptualized by John Dewey in 1960. Dewey’s theory shifted the paradigm from repetitive and rote memorization toward the concept of ‘directed living’. This change in perspective focused on the life experiences of each learner as the context for their learning. Previously, the school itself was the primary context for learning, which was not realistic to many learners.
Constructivism theory rejects the learning focus on repetition, memorization and proposes a method of ‘directed living’. The theory appreciates the value of real environmental settings in learning and suggests that learners, regardless of their status, learn better if they are able to practice, reflect, be motivated and have hands-on learning experiences. Through these factors, learners are able to demonstrate their knowledge and creativity. Some literature, refers to this theory in a general way as ‘hands-on learning’ (Fosnot, 2013).

Figure 3: Conceptual framework for a constructivism theory

Kilosa District Context

Kilosa District is located approximately 300 km inland from the east coast of Tanzania. Kilosa is one of six districts within the Morogoro Region and encompasses 14,245 km² which is about 20% of the region (Beidelman, 1960; Kilosa District Council,
Land distribution in Kilosa is as follows; agriculture (37.5%), natural pasture (33.5%), Mikumi National Park (22.5%), forest reserves (5.5%), and urban areas, water and swamps (1%) (Kajembe et al., 2013).

More than 80% of adult residents in Kilosa depend on agriculture and forest-based resources for their livelihoods. Maize, rice, millet, cassava, beans, bananas and cowpeas are among the food crops grown in Kilosa. Besides food crops, sisal, cotton, coffee, wheat, cashew nuts, coconuts, sugar cane and tobacco are grown as cash crops.

The district lies between 6°S and 8°S, and 36°30’E and 38°E. It borders the Tanga Region and Morogoro District to the north and east, respectively. Kilombero and part of Iringa Region are on the border to the south (KDC, 2000). The district experiences a bimodal distribution of rainfall. Normally the rainy season begins in October and extends through May, while the heaviest rains are experienced between mid-February through May. Mean annual rainfall ranges between 1,000 and 1,400 mm (39.37–55.12 inches) in the southern flood plain and 800 to 1,100mm (31.50-43.31 inches) in the north. Annual mean temperature is estimated to be 25 °C (77 °F).

According to the 2002 census, there were 489,513 people living in the Kilosa district, distributed over 105,635 households (with an average household size of 4.6 persons). The district population is comprised of three major ethnic groups: (Wa) kaguru in the north, Sagala in the central zone and Vidunda in the south.

Like many districts in the country, Kilosa needs to invest in its youth if a prosperous future is a desired goal. With the vast natural resource that the Kilosa District is endowed with; youth born and raised in the district shouldn’t be faced with unemployment issues after they graduate. The Kilosa District needs to invest in its youth.
by educating them with important knowledge and skills to manage and make effective
decisions about the utilization of the available resources for their own development.

Nyerere (1973) in his speech ‘Freedom and Development’ said:

"What we were doing, in fact, was thinking of development in terms of
things, and not of people . . . As a result, there have been very many cases
where heavy capital investment has resulted in no increase in output where
the investment has been wasted”. (Nyerere, 1973. p. 5)

_Tanzania Status of Agriculture and Food Security_

Mvena et al. (2013) reported that the majority of rural Tanzanian farmers tend to
use poor farming practices. Clearly, the use of unimproved crop seeds and low input use
has led to unsatisfactory overall production. However, low adoption of improved
technologies is not the only factor contributing to low yields. “Improved seeds cannot
solve the problems of unimproved farmer” (Owens and Shaw: p. 72 as cited by Rogers,
1976). Factors like untrained farmers also contribute to lower production and hence food
insecurity. According to the analysis of comprehensive food security and vulnerability
conducted in Tanzania for 2010/11, 730,000 households were reported to be food
insecure (WFP, 2013). Among all households, rural households were reported to be more
vulnerable than urban and city households (WFP, 2013).

Maize and rice are the main staple foods in Tanzania. Root crops such as potatoes
and cassava are also important food sources accounting for 15% of all harvested land
(WFP, 2013). Rural farmers rely on traditional farming methods and hence produce at
only a subsistence level. Total maize production is estimated to be 0.7 tons per hectare
(GoT, 2006 as cited in WFP, 2013). Low production also contributes to poor dietary intake (PDI), which also means less calorie intake and low diversified diet (WFP, 2013).

Several national and international strategies like Feed the Future, Big Results Now, Southern Agricultural Growth Corridor of Tanzania have been implemented to reduce the severity of the food insecurity problem. Programs that include providing input subsidies have been operating under the Agricultural Sector Development Program (ASDP) and have helped farmers increase maize production from 1.7 to 3.5 tons/ hectare (Hepelwa, Selejio & Mduma, 2013). Even so, more efforts is needed to increase and diversify production in rural areas for improved dietary intake among the people who live in the area.

Content
Tanzania Agricultural Education Background and its Contribution to Youth Engagement in Agriculture

Before agricultural education was abandoned in Tanzania, students had an opportunity to learn about agriculture of different school levels (Mattee, 1978 cited in Rutta, 2012). Both theory and practice were taught in conjunction with the policy of ‘education for self-reliance’. The education provided was a direct reflection of the real life and experiences of rural Tanzanian residents.

Nyerere under his policy paper ‘Education for Self-reliance’ (1967), emphasized the importance of agriculture in Tanzanian schools and communities. Under the influence of ‘education for self-reliance’, schools were encouraged to establish gardens, farm workshops and animal husbandry. Agricultural teachers and extension professionals trained students to produce food, care for animals and use basic lumbering skills.

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Students were able to eat what they produced and were encouraged to sell excess produce within the local community (Nyerere, 1967). Parents and community members were encouraged to learn from school farms. Importantly, under the influence of ‘education for self-reliance’, school children were able to transfer their knowledge from school to real life. (URT, 1984, cited in Malekela, 1984, Msuya et al., 2014)

During the colonial period and soon after independence, agriculture was part of the school curriculum. Students were able to learn farming skills such as planting, weeding, livestock rearing, poultry and harvesting (Rutta, 2002). The policy of education for self-reliance focused on explaining the importance of education to the learner’s rural life. Through the policy, many graduates during those times were able to become employed in different sectors and better sustain their lives through the use of skills obtained in school. Both theory and practical activities were developed out of the agricultural education syllabus that was taught beginning from standard III to standard VII.
### Table 1: Former Syllabus for Agricultural Education in Primary Schools

<table>
<thead>
<tr>
<th>Standard III</th>
<th>Standard IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Use and maintenance of agricultural tools</td>
<td>• Agricultural tools and equipment</td>
</tr>
<tr>
<td>• Agricultural principles</td>
<td>• Soil science</td>
</tr>
<tr>
<td>• Soil science</td>
<td>• Livestock production</td>
</tr>
<tr>
<td>• Livestock production</td>
<td>• Crop production</td>
</tr>
<tr>
<td>• Crop production</td>
<td>• Natural resources; Forest</td>
</tr>
<tr>
<td>• Natural resources; bee keeping</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard V</th>
<th>Standard VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Agricultural tools and equipment</td>
<td>• Agricultural tools and equipment</td>
</tr>
<tr>
<td>• Soil science</td>
<td>• Soil science</td>
</tr>
<tr>
<td>• Livestock production</td>
<td>• Livestock production</td>
</tr>
<tr>
<td>• Crop production</td>
<td>• Crop production</td>
</tr>
<tr>
<td></td>
<td>• Economics and entrepreneurship</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Agricultural tools and equipment</td>
</tr>
<tr>
<td>• Soil science</td>
</tr>
<tr>
<td>• Livestock production</td>
</tr>
<tr>
<td>• Crop production</td>
</tr>
<tr>
<td>• Economics and entrepreneurship</td>
</tr>
<tr>
<td>• Natural resources; bee-keeping</td>
</tr>
</tbody>
</table>

Information was lacking about the number of public and private secondary schools that taught agriculture as an approved subject prior to this study. In 2009 the number of Form 6 students (i.e. 1,466,402 students) were expected to join tertiary education in different colleges and universities. According to the Higher Education Development Program (HEDP) report of 2010, Sokoine University of Agriculture (SUA)
had the capacity to enroll 1,485 students in higher education agriculture programs. Even though SUA was the only public agricultural university in the country, the lack of agricultural background and little interest among students limited enrollment in SUA with a focus on agriculture in higher education.

The number of students pursuing agriculture in higher learning institutions was perceived to be low, this view becomes more critical when many of these students reflect negative energy about agriculture. Results of a focus group discussion conducted by Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) to assess youth perceptions of agriculture (Rutta, 2012) produced comments such as: “I have never seen a successful young farmer in my entire life; there are no role models in agriculture.” Elizabeth Singu, youth member Ushirika wa Vijana wa Kikristo wa Uzalishaji Tanzania (UVIKIUSA) “Agriculture does not pay because it is a lucky business.” Ramadhani Sigareti, young horticultural farmer in Morogoro Region.

“Although I am doing BSc in Agricultural Economics and Agribusiness, I would like to work in a bank or telecommunication industry because agriculture doesn’t pay.” Kijagwa Gerald, BSc. Agribusiness, second year student SUA, Morogoro. “If you look at the conditions of the farmers, there is no way you can be attracted to be a farmer.” Samson Simangwi, BSc. Agribusiness, third year student SUA.

Lack of a formal agricultural education program is an issue that requires special attention. In order to increase the number of students who study in agriculture and those who wish to pursue a career in agriculture, a clear understanding of the agricultural industry is required. Since there is no formal agricultural education curriculum in Tanzanian primary schools, a youth development program in agriculture provides a real
opportunity for rural Tanzanian youth. The proposed program will strive to impart students with basic information, skills and knowledge about agriculture. This will guide their interest and efforts to become agriculturalists and self-sufficient food producers.

Introducing an existing youth development program in agriculture will not solve the food insecurity problem. Program structure, objectives and community involvement are key to program success (Twaweza, 2010). A positive youth development program that is flexible, locally designed, managed and implemented is key to its success, efficiency and sustainability. There are several factors that should be considered to produce a positive change in youth perceptions and behavior in order to increase youth engagement in agriculture in rural Tanzanian communities. Positive youth development program should focus on eight essential elements (Granger, 2002; Jones & Perkins, 2006; Konopka, 1973; Lerner, 2004, 2008; Pittman, 1991; Small & Memmo, 2004) as described in current 4-H program curriculum in the U.S., but tailored to elements that best fit the rural Tanzanian context.

Eight Essential Elements of a Positive Youth Development Program

Introduction

Eight essential elements have been identified as standard elements for effective practice in youth development work. These elements can also be used as a framework to design and measure the effectiveness of youth development programs. Though originating from the 4-H program in the United States, these elements have been found to be equally useful for designing and assessing out-of-school youth development programs (Huebner & McFarland, 2000).
Positive relationship with caring adults: Parents need to continue to be closely involved in their children’s lives through the maturity stage (Relleen et al., 2003). Positive youth development requires adults who are directly involved with youth in their growth, health, development and learning needs. A poor relationship between parents, teachers and students is believed to be one of the factors that contribute to massive failure of secondary school students (Relleen et al., 2003). This adult-child relationship needs to be improved for positive youth development.

An inclusive environment: In Tanzania, youth considerations and perspectives are not considered in their own development. Although their energy is highly needed in community development, and to provide needed labor; youth are frequently excluded from decision making processes. For youth to feel ‘ownership in a program’ they should be involved in every stage of program development and operation, beginning at the family level, and including both girls and boys (Manyibe et al, 2013).

A safe emotional and physical environment: Youth have a psychological and social need to feel that they are safe and secure. Tanzanians have experienced several killings and abductions of school children, both abled and disabled for several reasons. These situations and many related incidents have contributed to youth not wanting to be in school out of fearing for their physical wellbeing. That climate has generated negative energy (i.e. fear) among children and reduces their desire to associate with people other than their teachers and parents (Jones & Perkins, 2006).

Opportunity for Mastery: This factor is about building knowledge, skills and attitudes and being able to demonstrate those acquired skills. The Tanzanian education system does not provide for each child to demonstrate their knowledge and skills. The current education
system recognizes or appreciates grades obtained based upon examinations rather than the skills a student can demonstrate as a result of learning (Nyerere, 1967). A positive youth development program needs to address this important element, so that the creativity and ability of each student is documented recognized and appreciated.

Engagement in learning: From the year 2000, the Tanzanian public school curriculum has placed more emphasis on computers and information technology than agricultural subjects. There is nothing wrong with this, but the infrastructure and resources do not allow students to fully engage in learning the skills since there are no computers, no electrical power and some schools have inadequate buildings. It is important for learning to reflect the real environment, which the proposed youth development in agriculture program will address.

Opportunity to see oneself as an active participant in the future: In Africa, many cultures and traditions contribute to the development of girls and boys differently, which causes them to view themselves differently as adults. Boys in Tanzania are traditionally raised to believe they are leaders, to work hard and be responsible for family needs. While boys are typically taught to be responsible. Girls on the other are normally taught to be obedient to men, respectful and prepare to be married, which makes them quite irresponsible based upon the belief that there will be a man who will take care of them (Manyibe et al, 2013). Negative energy is created for girls to accept responsibility. Therefore, most Tanzanian girls will focus their energy towards themselves and wait for a man to provide for them.

Opportunity for self-determination: parents and elders need to trust their children and allow them to make decisions for themselves, choose the kind of program or project they
want to do and how to do it. A youth development program should be a place where children are given the opportunity to choose who and what they want to be in the future. Although there are curriculums for youth to follow, there should be a variety of activities that youth are able to pick from. An opportunity to choose what to do might influence their career path after they graduate and influence their future life.

**Opportunity to value and practice service for others:** Youth need to be educated with an understanding that they share responsibility for themselves and others in their village. Although schools and religious groups teach youth to be helpful to others, they rarely practice that in schools and churches. Many youth who have completed seven years of primary education have never been involved in community service. Because agriculture is the main economic activity in rural Tanzania, youth should be encouraged to learn about agriculture so that they may bring changes and improvement in their villages to benefit themselves as well as others within their village (Nyerere, 1967).

This study focuses primarily on creating a youth development program in the area of agriculture and food production. Youth will learn about agricultural and food production practices, farming equipment, measurements, soil science, crop management, harvesting and post-harvest storage of food. Based on their age and class level, youth will learn age-appropriate knowledge and skills with applications to the different parts of their bodies, their home situation, and their leadership skills. Similar to the 4-H program pledge in the U.S., the program will engage the learner’s head (or mind) to clearer thinking, their heart to greater loyalty, their hands to larger service and their health to better living.
Engagement

Introduction

Youth engagement involves the meaningful participation and sustained involvement of a young person in an activity, with a focus outside of him or herself (Pancer et al., 2002). The literature identifies several areas of potential youth engagement including sports, music, advocacy, politics, arts and others. Engagement can happen in a wide variety of settings, either structured or unstructured.

Youth engagement is also related to youth voice, involvement, participation, and governance. Youth engagement promotes active involvement of youth in community responsibilities, challenges, planning and searching for solutions (Pittman, 1991). Youth engagement recognizes that youth have an important role to play in the community or village.

Youth Engagement Policy

In Tanzania, the National Youth Development Policy of 2007, is the only policy that specifically addresses youth-related issues. The Agricultural Sector Development Strategy (ASDS), recognizes the central role of youth in providing a labor force for the industry. Another strategy ‘Kilimo Kwanza’ (which means ‘Agriculture First’) also addressed youth issues by proposing: the introduction of agricultural loans, providing land for agricultural graduates, providing full scholarships or loans to agricultural undergraduates, to develop incentives to attract and retain youth in agriculture, mainstreaming gender issues and strengthening the position of women in agriculture. These strategies may be well-intended, however, they provide support for only 2% of
Tanzanian youth who had the opportunity to attend secondary and higher education according to Shitundu, (2003).

<table>
<thead>
<tr>
<th>Education level</th>
<th>Employment status</th>
<th>Self employed</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td>Paid employees</td>
<td>With employees</td>
<td>Without employees</td>
<td>Unpaid helpers</td>
</tr>
<tr>
<td>Total (no.)</td>
<td>17.0</td>
<td>1.2</td>
<td>0.2</td>
<td>1.3</td>
<td>0.6</td>
<td>13.7</td>
<td></td>
</tr>
<tr>
<td>None (%)</td>
<td>26.3</td>
<td>9.0</td>
<td>5.0</td>
<td>11.0</td>
<td>13.0</td>
<td>30.0</td>
<td></td>
</tr>
<tr>
<td>Primary not completed (%)</td>
<td>26.3</td>
<td>10.0</td>
<td>10.0</td>
<td>16.0</td>
<td>65.0</td>
<td>27.0</td>
<td></td>
</tr>
<tr>
<td>Primary Completed (%)</td>
<td>42.8</td>
<td>52.0</td>
<td>58.0</td>
<td>65.0</td>
<td>17.0</td>
<td>41.0</td>
<td></td>
</tr>
<tr>
<td>Secondary and over (%)</td>
<td>4.7</td>
<td>29.0</td>
<td>27.0</td>
<td>8.0</td>
<td>5.0</td>
<td>2.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Employment by Education Level by main status, 2000/01 (Number in millions)

Source: LFS 1990/91 and 2000/01

*Youth-adult’s Partnership*

This study focused on the concept of youth adult partnership in developing a youth development program in agriculture. The program will involve the community and the schools in the planning process and actively engage youth in all aspects of program development and implementation.

Youth-adult partnerships involve adults working in partnership with young people in all aspects of their own development, rather than adults serving as representatives of
youth problems (Christens & Dolan, 2011). This study examined the agricultural sector that employs a majority of rural youth in Tanzania. Before graduating, youth need to be prepared to face rural life. While in school, youth need to participate in determining what they want to learn and how they want to learn it.

Positive youth participation requires adults who are willing to perceive youth as individuals who can generate solutions to their own problems (Nyerere, 1967). Traditionally, youth and women have been marginalized in decision making. Youth participation in their own development has not been recognized by adults (generally men) in many African societies (Blum, 2007) Time has proven that adults have not always made decisions that were in the best interest of youth and their development into successful adult life. Positive youth engagement will help break the negative stereotype about youth, but should also help youth increase their confidence and self-belief.

Community Support for Youth Development

Youth adult partnerships involve relationships that are not easy to develop in society, due to a gap that frequently exists in the relationship between youth and adults. Community engagement in a youth development program provides an opportunity for a community to create and develop citizens they wish to have in their community or village in the future. Through youth development programming, the community will be encouraged to come together and bridge the gap created by the absence of agricultural science in the Tanzanian primary school curriculum (Msuya et al., 2014).

Hobbs, 1994 as cited in Msuya et al., (2014), argued that children develop within multiple contexts, and their development is optimal when effective connections and continuities among major systems are created. Within the context of the proposed youth
development program; school, family and community are considered as sub-systems that influence and shape learners (Msuya et al., 2014). Unfortunately, many communities have a limited understanding and willingness to promote positive development of all young people (Jones & Perkins, 2005).

Karen Pittman of the Forum for Youth Investment has used the term ‘service-opportunity-support’ to describe what a community could do to support youth development. Pittman et al, (2000) suggested that young people need steady doses of all three elements for effective development. They need services including: healthcare, housing, transportation, crisis intervention, instruction, financial assistance, and public spaces - things provided for them. They need support such as: guidance, nurturing, discipline, standards, mentoring, connections, and recognition - things done with them. They need opportunities that include: jobs, organizational and community roles, educational options, recreational and vocational choices - things they can do for themselves.

Figure 4: Figure of the SOS
Services: Services are the efforts done to or for youth in order to enhance their health, safety, performance, and other forms of essential well-being and physiological functioning. These are the elements that family, and society can provide to youth so that they can fully engage in their community. The proposed youth development program will require full support from caring and influential adults in each village.

Support: Support includes processes and strategies undertaken with young people that facilitate access to interpersonal relationships and resources. Pittman identified three different categories of support: Emotional support facilitates a sense of safety, nurturing, and friendship. Motivational support provides positive expectations, guidance, and develop appropriate boundaries. Strategic support facilitates access to needed resources and information.

Opportunities: Opportunities are things that can be done by young people themselves. Within the realm of being provided with opportunities, youth become actors rather than recipients. Real environments are needed for youth to identify problems and create possible solutions while adults are there to support and encourage the youth initiatives. Because there were no formal agricultural classes for youth, youth based experiences in agriculture will form the basis for what they will choose to learn.

Youth development needs community support. Micro-financial institutions, banks, and other organizations that may provide support later, need to establish early relationships with youth in the community or village. Youth often encounter false information about opportunities because of poor involvement among support institutions regarding youth-related matters. Importantly, stakeholders need to get involved in youth
development while students are in school. School is a reliable and accessible place for stakeholders interested in youth development to engage future clients.

Primary school is the most reliable platform for all youth before they divide themselves into cohorts who will continue with higher education, those who will move to urban areas and those who will remain in rural villages. The proposed youth development project is possible if policy makers and communities are willing to believe in the Rural Poverty Report of 2011, that emphasized the need for investing and creating opportunities for rural youth so that they are able to better manage their own problems (Heinemann, Prato, and Shepherd, 2011). A new and broader approach to, and a new emphasis on, agricultural education and training are required to provide the next generation with the skills, understanding and innovative capacity that they require Heinemann, et al. (2011).
Chapter 3: Methodology

Introduction

In this chapter, the methods and procedures used in this study related to the development of a youth development program in agriculture for rural Tanzania are explained, based on the following research objectives.

1. Review case studies involving youth/adult/extension collaborations to promote agricultural education, with primary focus on food production and food security.

2. Identify underlying principles that provide a foundation for developing a sustainable youth development program in agriculture in Tanzania.

3. Identify and describe components of a conceptual framework.

4. Develop a sample youth development program in agriculture curriculum structure and content outline.

5. Design a conceptual model for a sustainable youth development program in agriculture for Tanzania.
Research Design

This research was based on the descriptive case study design. Focus group discussions were used to collect data from the two rural villages in Tanzania (Rudewa and Mvumi). Focus group sessions were conducted separately so that the two villages’ ideas on developing and the need for a youth program in agriculture were analyzed separately. The study was descriptive in nature, due to the fact that there was no attempt by the researcher to manipulate any variables in the program development process. Rather, the intent of the research was to observe the program development process in each of the two case study settings and then report on those observations.

Focus group interviews were used as the primary method for data collection. Focus group interviews have become popular in social science research for exploring what individuals or groups think or feel as well as why they behave in the way they do. According to Rabiee, (2004 p. 655), focus group interviews are “a technique involving the use of in-depth group interviews in which participants are selected because they are a purposive, although not necessarily representative, sampling of a specific population, this group being ‘focused’ on a given topic”. Focus group interview sessions were organized into two settings, one for each case study site. Each session involved members of the school boards and teachers. A third session involved public officials who might contribute to the program including the district education officer, district extension officer and others.

School board members included of parents who had children in the school and those who do not, the school head teacher, representative teachers, village elected leaders, and other community members. The number of school board members varies from school
to school depending on the needs of the school. The main function of the school board is to provide the management support to the school by involving the community close to the school while mobilizing resources for the betterment of the school. Under current policy, the school does not have authority to introduce any new programs that will involve parents without approval from the school board. The public officials focus group session included the district extension officer, district education officer, school head teacher and representative teachers who were involved because of their roles. Youth development programs will require support and skills from each of these public officials in order to be successful. The extension officer will offer technical knowledge, while the teachers and district education officer will offer administrative support to the program. The selection of participants in this approach relates to the concept of ‘Applicability’, in which subjects are selected because of their knowledge and potential contributions to the study area (Burrows & Kendall, 1997).

During each focus group session, open ended questions presented and discussed to collect the views of all participants on the importance of youth development programs in agriculture, and their willingness to support such a program in their local village. Each focus group session was audio recorded and the researcher took field notes to record observable features of participants.

Credibility and Dependability

Unlike quantitative research that employs expert panels and statistical methods to establish validity and reliability of research findings; qualitative research involves methodological strategies to ensure the ‘trustworthiness’ of the findings. Strategies used
in this study to ensure credibility of the findings include: accounting for personal bias, clarity and openness in data collection and analysis, and data triangulation.

Two villages in the Kilosa district that had a history of local citizen involvement served as the two case study sites for this research. According to Hakielimu, community involvement in these schools has resulted in many changes including increased enrollment, attendance and involvement in out of class clubs.

Based upon community response and readiness, the researcher and school board members defined learning goals and outcomes. They specified the content to be learned and outlined a broad-based leadership structure for a youth development program in agriculture in each of the two case study sites. In this study, five objectives guided the study; (a) reviewing the case study involving the development of a youth program, (b) identifying the underlying principles that provide a foundation for developing a youth program, (c) develop a sample youth development program curriculum structure and (d) content outline, and (e) design a conceptual model for sustainable youth development program in agriculture for Tanzania.

*Population and sampling*

The target population for this study includes two rural villages (Rudewa and Mvumi) in the Kilosa District in Morogoro Region of Tanzania. Each village was selected based upon the history of community involvement in school programs as reported by Hakielimu, which is a non-profit civil society organization that strives for an open, just and democratic Tanzania. These improvements are a result of 2012/16 Hakielimu strategy, focusing on what citizens can do to make a difference in education
and democracy. Apart from an increase in enrollment and attendance, parental interest in school development was reported to have increased.

Development and success of a youth development program in agriculture depends on citizen participation in school programs (Hakielimu, 2012). Presence of such schools in the district was an opportunity for the study to focus on two successful schools (Rudewa and Mvumi) under Hakielimu program.

Procedures

After receiving approval from the Ohio State University Behavior Institutional Review Board, the research project was introduced to Kilosa District whereby the District Executive Director (DED) introduced the researcher by letter to the regional education department. Participants, who were members of the school board were invited through school heads which was the formal protocol.

Step I: Introduction of the program at the district level

Because the program was to work with local school boards, the District Extension Officer, the District Education Officer (DEO) for primary and District Agricultural Irrigation and Cooperatives Officer (DAICO) were contacted through the District Executive Director (DED). To ensure success of the program, their willingness to support the program was important, but this required their understanding of the purpose of the program. The researcher shared background information about agricultural education in Tanzania. After brief introduction the focus group discussion interviews were conducted. During focus group discussion, DAICO and DEO were asked for their opinion on the underlying principles for developing a youth program in agriculture. Some of the
questions were on topics that might be of interest for youth and the willingness of parents to support the program.

Step II: Meeting with school heads

The researcher introduced and submitted a letter from the DED to the school heads and discussed with them about the research. Thereafter, school heads invited members of the school board to the focus group discussion session scheduled in each respective village.

*Data Collection*

Upon identification of the target schools, willing participants (members of school boards and public officials) were informed about the date, time and place for their respective focus group discussion.

On the day of focus group discussion, an open-ended questionnaire was administered and discussed. Participant views on the importance of youth development programs in agriculture and their willingness to support such a program were collected. Audio recording as well as note taking of the observable features of respondents were documented.

*Data Analysis*

According to Robson (1993), the process of data analysis should help the researcher to reduce the amount data collected into meaningful information. Yin (2013) and Strauss & Corbin (1998), described analysis as “the interplay between researchers and data”, acknowledging that there is an extent of subjective selection and interpretation of the generated data. Data obtained via audio recording were transcribed and supplemented with observable body language of the respondents to produce a summary report of each focus
group session. Ultimately, data collected throughout this study were organized, summarized, and reported with respect to each of the research objectives that were used to guide the study.
Chapter 4: Results

This chapter reports the research results based upon the data collected during the three focus group discussion sessions to answer research objectives for developing a youth development program in agriculture for rural Tanzanian schools. Included are the description of the focus groups, procedures followed to conduct the focus groups, and a discussion of the results for each research objective.

Description of the Focus Groups

The focus groups were formed from subjects representing two rural Tanzanian primary schools, including board members and head teachers from each school. The two rural villages included were Rudewa and Mvumi. Additionally, public officials from Kilosa District whose professional roles were related to agriculture and primary school education were also invited to participate in the study.

Descriptions of the Procedures and Timetable for Conducting the Focus Group

Discussion

Three focus group discussion sessions were conducted to collect the data needed to fulfill the objectives of this study. Before the focus groups were scheduled, the District Executive Director (DED) was consulted to obtain permission to conduct the study in two primary schools in the Kilosa district.
A second level of permission was obtained from the District Education Officer (DEO) for primary education to allow the researcher to contact and work with the primary schools. The District Agricultural, Irrigation and Cooperative Officer (DAICO) provided permission to work with the extension officers in the two villages. The two district officers provided the necessary administrative approvals for the research to be completed within the Rudewa and Mvumi.

On January 28, 2016, invitations for participating in the district official’s focus group discussion was sent. The actual focus group discussion was conducted on February 3, 2016 at the DAICO’s office in the Kilosa district. A total of 11 government officials participated in the focus group discussion session (and provided responses for data analysis) including two head teachers, two extension officers, four representative teachers, two teachers from each primary school, one district primary education officer, DAICO and District Irrigation Officers. The session lasted for approximately one hour and 15 minutes.

On April 8, 2016, a second focus group discussion session was scheduled in the Rudewa and Mvumi primary schools. Head teachers from each primary school wrote invitation letters inviting their respective school board members to participate in a focus group discussion session. On April 13, 2016 the focus group discussion session for Rudewa was conducted. A total of nine school board members from Rudewa participated on the discussion which took about 1 hour and 30 minutes. The school board members included the head teacher (who is the secretary for the school board), the school board chairman (who is a community member), and other board members that included both teachers and other community members.
The focus group discussion session in Mvumi was conducted on May 22, 2016 with a total of seven attendees from school board members. Among the members present, there was the head teacher (who was also the school board secretary), the school board chairman and other board members including teachers and other community members (including some with and without children) in the Mvumi primary school.

Each of the two focus group discussions conducted in the rural villages were conducted in one of the local primary school classrooms after regular school hours. The focus group session for Kilosa district officials was conducted in a conference room at the district office administrative headquarter. Overall, a total of 27 participants were involved in the three focus group discussion sessions.

<table>
<thead>
<tr>
<th>Location</th>
<th>Date of FGD</th>
<th>Language</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kilosa District</td>
<td>2/3/2016</td>
<td>Kiswahili</td>
<td>11</td>
</tr>
<tr>
<td>Rudewa primary school</td>
<td>3/13/2016</td>
<td>Kiswahili</td>
<td>9</td>
</tr>
<tr>
<td>Mvumi primary school</td>
<td>4/22/2016</td>
<td>Kiswahili</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 3: Schedule for Focus Group sessions

Discussion of the Results by Objectives

Research Objective #1 - Review case studies involving youth/ adult/ extension collaborations to promote agricultural education, with primary focus on food production and food security.
Overview of Case Study Villages

Rudewa and Mvumi were two of 132 villages in Kilosa District within the Morogoro Region (Morogoro Region Socio Economic Profile of 1997) (NBS, 2013). According to National Bureau of Statistics (2013), the Kilosa District was estimated to encompass a population of 438,175 people, of which 311,946 (71%) of the population lived in rural areas. The youth population aged 5-19 was estimated to be 157,765, of which 113,245 were youth living in the rural area. Rudewa and Mvumi were estimated to have a population of around 2,000 people in each village.

Rudewa and Mvumi were located adjacent to a paved road between the municipalities of Morogoro and Kilosa, Tanzania. Mvumi is approximately 110 kilometers to the southwest of Morogoro, and Rudewa is approximately five kilometers to the southwest of Mvumi. Although the two case study villages were in relatively close proximity to one another, there are some noteworthy distinctions between the two villages. In Mvumi, the primary school was located immediately adjacent to the paved road, whereas in Rudewa, the primary school was located approximately one kilometer away from the paved road.

The primary agricultural and food production activities in the Kilosa District included small scale farming, cattle keeping, plantations of sisal, and traditional fishing. Essentially, the majority of the agricultural production in each village was used to sustain the family, although a small portion of the production may have been sold locally to provide a meager income for the family. Agricultural labor is generally provided by family members, with many of the children expected to work on the farm after they are dismissed from school each day as well as on Saturdays.
Many of the youth living in the rural areas of the Kilosa district (and throughout Tanzania, in general) were either unemployed or underemployed which contributed to a range of social issues which have had long-term implications for the region. Having a large proportion of youth living in the rural area supported the need for strategic plans to prepare the youth with life skills that could be used after they graduated from primary and secondary education.

Primary School Demographics

According to Hakielimu, there were 223 primary schools and 38 secondary schools in the Kilosa district in 2014. In the Rudewa primary school, there were about 1,224 students enrolled and 23 teachers which resulted in a student:teacher ratio of approximately 50 students per teacher. Although Tanzania had embraced a policy in which every child had the opportunity to attend primary school for free; the current facilities and infrastructure were not sufficient to support the number of students enrolled in the Rudewa primary school. In 2015, a total of 113 students from Rudewa graduated and 68 of them (60%) continued into secondary education. This suggests that 45 students did not continue their education in a secondary school, yet were unskilled to fulfill their citizenship roles and responsibilities.

The Mvumi primary school enrolled over 900 students, which was more than the school facilities could support with a total of only 29 teachers of which 13 were in collages which makes the ratio of teacher-student bigger. Other challenges included insufficient numbers of desks, rooms, toilet rooms and teaching materials. In 2015, 40 out of the 57 (70%) primary school graduates from Mvumi continued into secondary education (NECTA, 2015).
Primary School Curriculum

Education in Tanzania is administered by the Tanzanian Minister of Education, who is an appointee of the President of the country. Curriculum frameworks that have been approved by the Minister of Education provide direction for local teachers to make decisions about what should be taught at each grade level in local schools. Mandatory subjects for students in primary schools included: Mathematics, Science, Kiswahili, English, and Civics. In addition to mandated subjects, local schools were allowed to include subjects referred to as ‘hands-on skills’ in the curriculum which enabled teachers to teach subjects or topics that are of interest to them and/or their students. Even so, few teachers included agriculturally related topics or activities in the hands on-skills component of the primary school curriculum.

Youth Programs

Informal discussions with school head teachers revealed that there were no organized youth programs in their schools or within the villages. Although there were playground fields available for sports (specifically football, or soccer in the US) but the facilities were poorly maintained until someone in the village wanted to use them. After the fields had been cleaned up, then youth in the school village were able to use them.

One participant who was also a teacher said she used to take her Standard 6 students to farm visits and showed them how to do farming activities. Although children were involved during the whole season, there was little learning that was taking place; rather, it was just a production activity where students were producing food for themselves. But still, this was a positive sign and suggested that there may be teachers
with an interest in helping children learn about agriculture and perhaps devote themselves to conducting such a program.

Research Objective #2 - Identify underlying principles that provide a foundation for developing a sustainable youth development program in agriculture in Tanzania.

Based upon the data collected during focus group discussions conducted at each of the three different locations in Kilosa District, five fundamental principles emerged regarding the creation of a youth development program in agriculture. The principles outlined below may be adapted to other rural villages in Tanzania.

Participant’s overview of the youth development program in agriculture

Most of the focus group participants appeared to understand what a youth development program was and could easily relate with youth programs they had encountered in the past. The majority of the male participants exhibited pride in the skills they developed through agricultural youth programs they had participated in while they were young. Examples of such skills included: terrace making, carpentry, plumbing skills, gardening and farming, in general. It was evident that participants had learned these skills in practical activities as part of the curriculum requirements during their time in school.

Participants were informed that the focus group discussions were conducted as a means to collect ideas about designing a youth development program in agriculture in their local village primary school. Their specific contributions were focused in the context of introducing the program in their local school. Some of the principles that
participants suggested were viewed as crucial for the development of a youth development program in agriculture were:

**Involve children at an early age in agriculturally related activities.**

Participants acknowledged that early involvement of children in agricultural activities would have a better effect on the program than waiting until the students were registered for kindergarten or primary school at five to seven years of age. One focus group participant emphasized the need to educate parents about the importance of agriculture and the need to train and encourage their children to learn about agriculture. They also pointed to the need for the Tanzanian government to approve the re-introduction of agricultural subjects in the public school curriculum so that students could acquire the knowledge and skills they need about agriculture, food production, and food security.

**Provide training on topics and skills that would produce fast results**

Focus group participants suggested a number of agricultural topics they thought might be of interest to youth ranging from farming, livestock, cooking, food storage and nutrition. It was evident that participants wanted the youth to receive training or experience focused on a broad range of agricultural activities that would likely be a part of their current or future daily activities. From time-to-time participants suggested topics by referring to what they had been doing which would yield fast returns like gardening, chicken rearing, vegetable production and annual crops that could also contribute to the local school lunch program.
Topics like tree planting projects, raising large animals such as cattle, and soil conservation activities (which have long term returns) were not mentioned or discussed in the focus group discussions. One participant said, “Farmers are interested on activities that show fast results” the participants suggested that this should be the same for youth. Because parents need to embrace the program, early stages of the program should focus on agricultural activities that produce immediate results for both parents and youth participants. Proper selection of the subject matter topics in relation to participant age, school location and resource availability was also emphasized.

**Program management provided by local stakeholders**

Participants expressed concern about the need for clear messaging regarding the program within the community. They generally agreed that clear communication of messages would make a difference in the overall success of the program. Tanzanian President Magufuli recently embraced a ‘free education’ policy that has resulted in many different translations and interpretations. However, focus group participants emphasized the need for clear communication to community members when introducing the program so that they did not confuse the program with the recently announced of free education.

Community members, school board members, parents/guardians with children in local schools, political leaders, teachers and students were identified as the main stakeholders who should be involved in planning and conducting the program. Participants suggested using school board meetings, parent meetings and general village meetings as platforms for introducing the program, to ensure clear and consistent communication. From focus group participant’s experience, school programs have been
more successful when such meetings were used to inform the various stakeholder groups about the proposed initiatives.

**Program timing and sequencing**

Because the proposed youth development program in agriculture was to be designed for students to participate out of their own free will, it was important to consider a number of challenges that were raised regarding the proper timing for the learning to take place in the program. This was especially apparent with regard to the parent’s schedules. Several suggestions were offered for discussion by the focus group participants based upon their different experiences. In general, participants agreed on some aspects and disagreed on others. Most participants agreed that students should participate in the youth development in agriculture program at the primary school after their daily classes end at 14:30 hours (i.e. 2:30 p.m.). However, two concerns were raised regarding this proposal. First, at the end of the school day, some students are very restless or hungry and may need to go home and have lunch since not all rural primary schools in Tanzania provide lunch programs. A second concern was that of how to motivate teachers to become involved with the program when considering the extra hours involved, for which they would not receive additional compensation. On the contrary, some focus group participants noted that teachers were paid for nine hours a day from 07:30 to 15:30 hours (i.e. 7:30 a.m. to 3:30 p.m.) even though student classes were dismissed at 14:30 hours (i.e. 2:30 p.m.). Therefore, expecting teachers to spend an additional hour and a half after school was not considered overtime by some focus group participants. Even so, the question remains, would teachers be motivated to participate in
a youth development program in the local village primary school after the formal classes were dismissed?

There were few focus group participants (mostly teachers) who suggested using one of the regular class sessions that would normally be used for hands-on activities. Another participant suggested introducing the local youth development program as an agricultural club.

After all the suggestions and challenges that were raised by the focus group participants, there was a lack of consensus with the original idea of the program being offered on free will, characterized by voluntary student participation. In fact, the focus group participants generally agreed that the subjects addressed in the proposed program were of sufficient importance that they should be taught to all students. For example, if a student expressed interest in learning more about fishing, they should be provided with the opportunity to learn about fishing, but should also be expected to learn about other topics such as gardening, crop harvesting, storage, and preparation, etc.

Local program design should reflect available resources

When participants were asked about their potential personal contribution to the program, the majority of them talked about the unique skills they could offer to support the program. It was apparent that many of the focus group participants had a desire to contribute to the program by sharing their knowledge, experience and their resources with youth for free.

Focus group participants were also asked if other village residents who were not part of the focus group discussion would agree to share their knowledge, skills and
resources to support the program. In response, the focus group participants were certain that if messages requesting villagers to share their knowledge and skills were shared clearly, they should be willing to support the program. One specific example was presented with regard to local school flower gardens when a focus group participant said, “All the flowers you see around the school garden came from community members, we ask students to come with flowers and on the next day they would show up with flowers.” Which demonstrates that parents and guardians were willing to share their resources with the school. Participants insisted on their participation right from the start so that they include program topics they can support in terms of their expertise and resources.

Objective #3; Develop a conceptual framework for a youth development program in agriculture for rural Tanzania.

Youth development programs in agriculture should aim to develop youth to become better and more responsible adults. Enabling them with agricultural skills that will help them become food self-sufficient and able to produce for themselves and their families. In order for the community to raise youth that are going to be responsible and food self-sufficient the need for a cooperation between families, community, schools and the government needs to be emphasized.
Focus groups provided a structural picture (see Figure 5) of how the youth program should be organized. To raise youth who are going to be self-sufficient in terms of food production and security; resources from every sector of the community need to be mobilized.

Family resources; families need to support and encourage youth to pursue and carrying out agricultural related projects at home and in school. Unused land should be made available for youth to utilize, if youth are interested in planting trees or flowers they should be supported and trained well how to do what they want to do. Available manure and building materials should be made available for youth to utilize and learn. It is evident that many rural families do farm and keep at least small livestock like chicken and so manure should be available for youth to use if gardening is going to be a project (Covarrubias, Nsiima & Zezza, 2012).

Apart from material support, family can also support youth by consuming what their children produce. When youth participants see what they produce on their table they are going to get a sense of fulfillment and be encouraged to do more for themselves and their family.

School resources; the school needs to invest its resources for a youth program to be accomplished. Most of the primary schools (especially rural primary schools) have land that can be cultivated. Such land should be available for youth to practice and produce based on their interests.
Teachers interested in youth development programs in agriculture should be supported by the school and school board. Students cannot learn without a teacher to support and direct them. Schools should free their teachers and support them while taking initiatives in enhance student learning about agriculture.

Community resources; the community has numerous resources that youth can benefit from. Within the villages, there are fishermen, bee keepers, gardeners, carpenters and so many other professions that youth can learn from. Teachers, school board members and leaders should encourage community members to share their resources with youth for the benefit of the community in the future.

Purchasing youth products after they have produced food or other agricultural commodities that can be consumed community members should be at the forefront to support the youth development program. The experience of producing food and making money will help youth create business-minded thinking whenever they talk or think of agriculture.

The eight essential elements used in the 4-H youth program in the U.S., are elements that the community need to consider as they develop a strong youth development program in agriculture. The program should help students grow, feel confident in themselves and the people around them and allow youth to see themselves as problem solvers.
Objective # 4: Develop a sample youth development program in agriculture curriculum structure and content outline

Focus group participants agreed that not every topic could be taught to every child, considering their age and standard level. Participants suggested that topics should build upon each other as learners advanced from one standard level to the next. Topics suggested by focus group participants included: farming, livestock and nutrition. An abbreviated sample content outline was designed which may be adapted to rural village settings in Tanzania. It should be noted that the curriculum outline for nutrition topics
was not intensively discussed with the focus groups in order to identify specific topics for each standard level.

<table>
<thead>
<tr>
<th>Standard level</th>
<th>Gardening</th>
<th>Planting</th>
<th>Crop management</th>
<th>Harvesting</th>
<th>Food storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Site selection</td>
<td>Seed selection</td>
<td>Weeding (time)</td>
<td>What to harvest and when</td>
<td>Types of food to store</td>
</tr>
<tr>
<td>3-4</td>
<td>Tools needed</td>
<td>Planting materials selection</td>
<td>Mechanical and chemical weeding</td>
<td>Harvesting tools</td>
<td>Drying techniques</td>
</tr>
<tr>
<td>5</td>
<td>Land preparation</td>
<td>Actual Planting</td>
<td>Pest management</td>
<td>How to harvest</td>
<td>Storage facilities</td>
</tr>
<tr>
<td>6-7</td>
<td>Manure and fertilizer application</td>
<td>Gap filling</td>
<td>Weeds handling</td>
<td>Management of the crops remains</td>
<td>Chemical storage</td>
</tr>
</tbody>
</table>

Table 4: Farming and Crop Science structural curriculum

Livestock and livestock products

Participants expressed interest in topics that related to small animals and animal products. The demand for raising chickens, doves and rabbits received more emphasis than other small animals. Milk, eggs and manure were among the animal products/by-products that seemed to be of most interest to participants for their children to learn about. It was also evident that a number of children were raising doves and rabbits at home. From the participant’s experience, children should keep small animals so that they could harvest more frequently than large animals. Although some of the participants could sell the animals they produce to raise money for their personal and family needs, it was very rare to see an older child in secondary school raising rabbits or doves. Referring
back to the comment made by participants that topics with immediate returns were of
greatest interest; it was suggested that children prefer raising animals that they could
make production and management decisions and potentially generate an income in a
relatively short period of time. However, this observation raises questions about why
most students discontinue raising rabbits and doves as they grow older? Why do
community members view small animals (such as rabbits and doves) as children’s
business? Animal housing, animal management, diseases management, product handling
and storage were also some of the topics that focus group participants thought might be
of interest to children in the two rural villages of Tanzania.

**Nutrition and food preparation**

The topic for nutrition and food preparation was not discussed intensively. There were a
few times when participant’s (especially female teachers) mentioned the need for children
to learn things related to nutrition, food preparation and storage. The topic of nutrition was
supported by the majority of the focus group participants who endorsed the importance of
nutrition without offering additional details in particular. The proposed content outline is
developed from consultation with a nutritionist who taught nutritional programs in urban
primary schools.
<table>
<thead>
<tr>
<th>Grade level</th>
<th>Important nutrients</th>
<th>Food groups</th>
<th>Nutrients and farming</th>
<th>Cooking and nutrients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Five important nutrients</td>
<td>Fruits and vegetables</td>
<td>Weed management</td>
<td>Water soluble vitamins</td>
</tr>
<tr>
<td>3-4</td>
<td>Vitamins, Protein</td>
<td>Roots, tubers, Cereals</td>
<td>Pest management</td>
<td>Fat soluble vitamins</td>
</tr>
<tr>
<td>5</td>
<td>Fat, Minerals</td>
<td>Nuts, Milk</td>
<td>Irrigation</td>
<td>Cooking</td>
</tr>
<tr>
<td>6-7</td>
<td>Carbohydrates</td>
<td>Animal products, Legumes</td>
<td>Fertilizer application</td>
<td>Consumption</td>
</tr>
</tbody>
</table>

Table 5: Nutrition and food preparation sample topics structural curriculum

Objective # 5. Sample program model for a sustainable youth development program in agriculture in Tanzania

A sustainable youth program requires a involvement of the public officials like the DED, DAICO, head teachers, teachers, school board members and community members who are willing to share their resources and expertise. The choice regarding what should be learned needs to consider the learners’ needs and aspirations. Curriculum topics should reflect the environment in which the program takes place. Futris & Schramm, 2015 shared their experience from the lesson learned in program development for youth and they are discussed below;
• Don’t skip steps: An experience from failing programs reveals that each and every step is important in developing a sustainable program. School boards thinking of developing a youth program need to complete a comprehensive situation analysis and tailor the development plans based on the local and state needs and priorities. This goes along with follow-up on the country’s development goals and policy emphasis and strategies.

• Know the audience: in this particular program, youth are the target groups and they are the target since they comprise a large population and they reflect the future of the country. Their development is key for the sustainability of any particular country. Their interest and aspiration in development plans is important. Allow youth to choose what they want to learn, let them participate in the planning processes. For a better program, let them talk about possible challenges and constraints that might restrict their efforts and find solutions together.

• Engage and educate partners: Since no funding or any resources are provided from outside the community, community member need to be involved beginning with program formation. Let all community members learn and understand about the program, allow them to share their ideas, expertise and experience with learners for a sustainable future.

• Adapt and evolve: Currently, there were few youth development programs in agriculture from which to adopt or model their curriculum for learning. It is encouraged to develop a specific curriculum for a particular youth program since environment and need differs from time to time and village to village. Program
developers may want to examine similar programs in other countries to identify topics to learn and how they should be taught.

- Document impact: To convince stakeholders, school board members and other community members to either support or initiate a youth program, people will need to see achievement from previous programs. Proper documentation will also help the program connect with different stakeholders and share knowledge, experience and expertise.

The ideas summarized from the three focus group discussions and the literature are summarized below in the form of a sample program model for sustainable youth development in agriculture. How the program should be designed, resource considerations, potential topics the role of community members and different entities in the community have been identified in the sample program model below.
Figure 6: Sample program model for a youth development program in agriculture
Chapter 5: Discussion

The purpose of this study was to develop a conceptual model of a youth development program in agriculture that would enable rural Tanzanian youth to learn about agriculture outside the formal academic curriculum of the public primary school. This study was based on a belief that community involvement in the establishment of the program would yield positive results and contribute to sustainability of the program (Marsland, 2006). Focus group discussions served as the primary means for data collection and were used to solicit community ideas on how the program should be planned, organized, and conducted. (Burrows & Kendall, 1997). Other factors to be considered include, where the program should obtain for support including expertise, financial support and other resources. The study also produced a structural outline of a sample youth development program and curriculum content outline based on ideas that rural Tanzanian school board members, teachers and public officials suggested. This chapter will discuss the findings based on the data collected from the three focus group discussion sessions and offer suggestions for further research.

In general, the two schools (Mvumi and Rudewa) used as case study sites in this study were rated positively by Hakielimu with regard to involvement of community members in school related issues. (Rudewa rated at 98% and Mvumi at 89%). During focus group discussions, participant’s referred back to previous programs they had participated during their school experience.
They were involved in toilet building for the school, contributing to secondary school laboratories, classes and now into ‘A desk for every child’ campaign (Mkama, 2015). Their references to other programs was an encouragement to each other as if to say, we did those, we can also do this for our children.

Based on its location, Kilosa District is about 70 km from the regional capital of Morogoro. Therefore, some of its citizen were exposed to and understood the need to plan and participate in their own development. Although the majority of Morogoro’s citizens live in rural areas, they are not very remote since the district is surrounded by several small towns with different economic activities which has contributed to increased interaction with outsiders, making citizens more aware, eager and responsive for change (Tacoli, 1998). Community desire for the program is a concern if similar responses will occur in predominantly animal keeping communities (like Maasai) and other traditional communities whose rural-urban interaction are more limited.

**Desire for a Youth Program in the Villages**

A sense of eagerness and a genuine desire for a youth development program in agriculture was observed in each of the two communities based on their responses and suggestions about how the program should be structured, organized, and supported (Njunwa, 2010). One could imagine a positive response from any society that has respect for others, and expressed a willingness to work with any person. Emphasis of how the program should be organized while focusing on their own context, knowing that the study was to gather data for rural Tanzania, suggest that focus group participants recognized a strong need for the program.
Early agricultural trainings and employment challenges

Focus group participants emphasized the element of early preparation of children to prepare them for a better future. They emphasized the need for agricultural related subjects to be taught even before school enrollment; as the child becomes able to help parents with home activities, beginning around age five (Edet & Etim, 2013).

An increasing number of youth bodaboda (motorbike) riders in streets was interpreted as an indicator that many youth lack employment skills. Few employment options exist for rural youth after they graduate if they do not continue into secondary education. The lack of employment skills appeared to contribute to the oversupply of motorbike drivers (Chalya et al., 2010). Currently, many male youth engage themselves in motorbike riding business (offering rides for fees to travelers) even though many are unskilled and often experience bad accidents, with some eventually becoming incapacitated and helpless (Outwater, et al., 2015). Chalya et al., 2010 estimated the number of motorbike accidents admitted to Bugando Medical Center was about 37% of all the traffic injuries between March 2009 and February 2010. Communities need to take action and create other options for youth to become employed in a more secure environment or employ themselves with necessary life skills for self-sufficiency. There are so many issues associated with youth unemployment in Tanzania. It is up to parents and community members to help prepare the youth for careers opportunities after they graduate so that they become self-sufficient in their food production (Nyerere, 1968).
Kilosa farmer-herder conflicts

A positive youth development will never be fully achieved without cooperation between the school, parents, community, government and youth themselves (Perkins et al). Students need to have settled minds during class sessions better learning (Bal-Tal, 2002). This can be achieved in a settled environment where there is peaceful interaction within the community. Parents at home can support school development of their children by assisting them to do their homework, and help them plan well at home, through sport participation and school work (Gutman & McLoyd, 2000).

Historically, Kilosa District is one of the Tanzanian districts with farmer-pastoralist fighting’s that occurs nearly every year (Benjaminsen, Maganga, and Abdallah, 2009). While interacting with an education activist in Kilosa, he mentioned to me saying “I requested for Peace Corps volunteer and I was told that I cannot have one because of the constant violence that is happening in Kilosa” I. Abdallah (personal communication, April 22, 2016). Apart from the hunger and destruction these fights bring to rural Tanzanian communities, they also limit some potential opportunities that community could benefit from.

Kilosa communities need to understand that farmer-herder conflicts produce a negative effect for youth development. They affect the youth’s ability to concentrate and attend to classes. Each community needs to find ways to stop the violence from happening so that they train their children in farming skills that will help secure their future life. No matter the efforts, program objectives will not be successful if a disconnection between community, school and children continues to prevail in Kilosa (Relleen et al., 2003).
Lack of confidence

Focus group participants agreed and understood that the proposed youth development in agriculture program would not depending upon external resources based on the experience of several previous programs. Although they agreed and provided several suggestions about how the program should operate and how to secure resources like funds, capital, and expertise; from time to time some of the participants mentioned elements that suggested the need for some funding from outside. This might be the result of the long time experience of running programs with external support.

Therefore, it was apparent that some participants had a difficult time fully understanding that the program would not depend on external sources of support.

Transparency and honesty

The level of corruption and dishonesty that has been experienced in Tanzania and other African countries in development programs makes everybody alert and worried. Participants in the focus group discussions insisted on honesty and transparency from the beginning when the program is first introduced to community members. All activities, projects goals and plans should be open to everyone in the community and especially all issues related to finances. Parents or guardians need to enjoy full participation in terms of program management, supervision, and accountability.

Administrative gender concern

Primary schools have more female teachers than males, while school boards had more males than females. In addition, during focus group discussions, the male participants contributed more frequently than female participants. In fact, the facilitator
had to request female participants to contribute more often than they would have voluntarily. This is a typical situation in Tanzanian settings, but female participants had much to contribute during informal discussions before and after the focus group discussion sessions. During informal discussions, women seemed more concerned about their girls. They wanted their girls to be taught about nutrition and food preparations and not so much about food production.

Perhaps in the future men and women should be interviewed separately to enable women to express themselves more about what they want for their girls. Nutrition and food preparation seems to be of interest to female participants but was not discussed intensively because of an apparent fear of expression. Separation of the focus group discussions should only benefit the process of extracting ideas from a female perspective. Social and cultural practices define the roles and activities for girls and boys separately. Adichie, the author of ‘we should all be feminist’ emphasized the focus on “ability and not gender in raising children” (Adichie, 2013). The learning process should combine both girls and boys despite the fact a specific learning project was suggested by either a male or female focus group discussion.

**Financial concern:** As discussed earlier, monetary needs cannot be ignored and requires special attention so that program implementation is sustained. Financial reliance on donor and government assistance has prompted the introduction of many learning experiences in the education sector and new options need to be discussed. Looking at the ‘capitation grant’ an innovative idea brought about by the re-introduction free education in 2002 replacing fees. According to Twaweza (2010), capitation grant was to cover books expenses, learning materials, maintenances and repair, and sometimes the head
teacher would use the money to support other un-prescribed school activities (Uwazi, 2010). The fact that the government was unable to deliver funding on time and in the right amount suggests that development programs experience challenges from both the government and NGOs. As suggested earlier, a less expensive program that is designed to fit the local context, with resources locally available is more sustainable in the long run.

It is important for program developers to have something to guide the overall process, and in this case the eight essential elements for developing a positive youth development program were considered. These elements have been used as the basis for developing 4-H programs because they have a positive effect on youth participants in any out-of-school program for any organization. The eight elements includes:

Positive relationship with a caring adult

Youth need an adult to guide, instruct, and direct them. Although creativity and freedom for youth is encouraged for them to learn and discover things for themselves, they still need an advisor, a friend and a teacher to watch over them. The Kilosa community members need to be advisors, friends and instructors for positive development of the program and individuals to be achieved. Responsible youth will be raised with and through the support of responsible and caring adults. Participants from each of the focus group discussions suggested that teachers need to lead the training process. This means a teacher should be in charge of all the plans for trainings, when the training should occur, who is going to train if it’s a resident in the village or an extension officer, the teacher is the one to approach and make the appointment. From the teacher, the head master and school board members are going to receive reports about the
program. Having a school teacher in charge of the schedule of activities simplifies communication and also better ensures the safety of the students.

A safe emotional and physical environment

Kilosa communities need to ensure safety for youth to feel comfortable and learn. When children feel safe they can more openly express themselves and their parents will be more willing to let their children stay overtime after classes are dismissed to learn about agriculture. This may be a great challenge within the Kilosa District because there are frequent fights between farmers and pastoralists. Fights which lead to killings, destruction of homes, crops, animals, and even injury among community members. Apart from the killings happening between farmers and pastoralists, youth needs love and kindness from their teachers and other adults teaching them.

An inclusive environment

Another element was related to the different ways of helping youth feel part of the program. Adults need to create an environment where participants feel they are personally involved in the program, such as having matching t-shirts, participating in different program events that include all participants. If participant recognition is part of the program, there should be different categories or forms of recognition. This will help youth recognize that there is no one right way or answer which is the perspective that will benefit them as they mature into adult life.

Engagement in learning

This is an element that emphasizes the idea of allowing youth to take charge of their own learning. Challenge them to be creative and relate their experiences to solve
new problem situations. Both adults and youth need to be able to share their ideas and work together peacefully. Allow everyone to feel engaged by considering what they think and feel like doing, with the idea of helping youth create their own projects and help them become better persons. Focus group participants acknowledged that some youth are keeping animals like rabbits, dove, and dogs. Youth should be provided with an opportunity to share their experience about their projects with others. Allow them to talk about how they balance school and their projects, and how their projects benefit them. These experiences will help youth to learn from each other.

**Opportunity for mastery**

This concept involves the idea of helping youth develop skills and build confidence in themselves and the skills they have learned. Mastery takes years, and so there should be opportunities for youth to practice their skills and be allowed to train others so that they get connected into what they know and develop a sense of pride in themselves and their abilities.

**Opportunity to see oneself as an active participant in the future**

In Tanzania and many Africa countries, cultures and traditions contribute to the development of girls and boys differently, which causes them to view themselves differently as adults. Boys were normally taught to believe they are leaders, responsible for family needs and should work hard, while girls would normally be taught to be obedient, respectful and prepared for a married life (Manyibe et al, 2013). This element suggests that adults need to recognize the capabilities and capacities of youth participants. The program should allow youth to make decisions on their own, chose
careers they like and be free to decide what is best for themselves. This was quite evident when the focus group participants resisted the idea of a voluntary program in favor of mandatory participation. The idea of allowing youth to learn about subjects that were of personal interest was a foreign concept to the majority of focus group participants. Most of the adult participants discussed what was best for youth during the focus group session and had not previously considered allowing student participants to contribute to decisions about topics to include in the program. This is a new paradigm for many people in Kilosa and other rural areas of Tanzania.

**Opportunity for self-determination**

Parents and elders need to trust their children and allow them to make decision for themselves, choose the kind of program or project they want to do and how to do it. The youth development program should be a place where children are taught how to take charge of their own issues, make decisions, solve problems and feel pride in their achievements. This cannot be accomplished without mentorship and advisory support from caring adults, and including parents, teachers and community members (Wehmeyer & Schwartz, 1997). Apart from complementing the education needs, this habit will help them become more responsible citizens in the future.

**Opportunity to value and practice service for others**

Youth should be educated about the need to share responsibility for others in their village. Although the school and religious groups teach youth to be helpful to others, they rarely practice that in school and in churches. Few youth who complete the seven years of primary education have ever been involved in community service projects. Through the youth development program, participants should be encouraged to provide service to
others, by helping fellow citizens to complete tasks and support them in various ways. The program should also train youth to recognize their responsibility to take their learned knowledge and skills back to their communities (Nyerere, 1967, p. 6).

**Recommendations**

1. Agricultural science subject need to be re-introduced in the Tanzania public school curriculum. In line with the inclusion of the agricultural science subject, youth development programs in agriculture should also be conducted to complement the mastery of skills and provide opportunities to students for hands-on experiences. The change that the government is geared to make should be influenced by educational philosophies and not legislative or political philosophies (Birkenholz, 1986). As noted in the Technical report No. 5, Agricultural Education in Kenya and Tanzania (1968-1998) by Ngugi et al., 2002 there was a disconnection between ministries that delivered and support agricultural related programs. In the current setting, the focus in mainly on the Ministry of Agriculture, Livestock and Fisheries and the Ministry of Education, Science, Technology and Vocational Training. Policy makers need to identify how the two ministries might work together to support the creation of youth development programs in agriculture in rural Tanzanian villages.

**Financial support:** from previous experiences with ‘Education for Self-Reliance’ schools received financial support from the government for new programs, which ended soon after the government failed to do so (Ngugi et al., 2002. Msuya et al., 2014). This study found that agricultural programs are manageable and community members are capable of supporting these programs financially. The two relevant government ministries need to
work together to design a policy that would support agricultural programs in schools and also mobilize community members to support the program.

2. Teachers and extension workers need to work together so that children are able to share their experiences and challenges and get advice from expert’s (Okiror et al., 2011). This will also increase the familiarity and value of Extension services among youth as they mature into adulthood. Locally available expertise from experienced farmers should also be viewed as part of Extension and expert services.

3. Adult focus group participants identified topics that were perceived to be of interest to youth. In the future, a similar focus group discussions should also include youth themselves to see if they have similar interests to those identified by their parents and teachers.

4. With the current schedule in primary schools where children attend school from 6:30 am to 3:00 pm without lunch provided in the school, there will be some difficulties in retaining children for the program. School boards with these structural arrangement need to design a better plan for school children if they want them to be involved in a youth development program after school hours.

5. Researchers, academic institutions and all stakeholders need to find alternative ways to interact with youth and expose them to agricultural issues and develop transferable skills in order to maximize youth involvement in the agricultural industry later during their adult life.

Recommendation for Further Research

1. This study did not involve youth who are school children and interview them about their interest and willingness to learn about agriculture outside of their formal
public school curriculum. It is recommended that future research projects include youth insights in planning and conducting such a program.

2. Male participants appeared to dominate most of focus group discussions and the resulting responses tend to be based on topics of interest to boys and not so much for girls. In the future, the female participants should have their own focus group discussion and perhaps focus on ideas and topics of interest to girls.

3. Apart from the involvement of school board members and public officials in the collection of data, other stakeholders should also be involved so that different ideas are obtained to match the current needs of the agricultural sector.

4. Institutions like agricultural universities and colleges should also be part of the study so that they provide insight on what should be taught at young age that is linked to what youth will study at university if they choose agriculture as an area of further study in higher education.
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Appendix A: Letter of Support (Swahili)
Utafiti wa Waalimu na Wananunzi wa Chuo Kikuu

Madhumuni ya barua hii ni kumambulisha kwako Joyce Mwakatoga anabae ni Mwanafunzi wa Uzamii katika Chuo Kikuu cha Sokoinie cha Kilimo (SUA). Huyo ndugu hivi sasa yuko katika shughuli za utafiti.


Ili kufanikisha utikelezaji wa taftiti hizi Makamu wa Mkuu wa Chuo SUA amepewa mamlaaki chini ya Hati Idhini ya SUA ya kutoa vibali vya kufanya utafiti nchini kwa waalimu, wananunzi na watataji wake.

Hivo basi tunaombwa upatiko mwanaununzi aliyetajwa hapa juu msada atakaohtaji ili kufanikisha uchunguzi wake. Gharania za malazi na ukakula chake pamoja na uasafiri wake atalipa wenyewe kutokana na fedha alizopewa. Msada anasohitaji zaidi ni kuruhusiwa kuonana na viwangozi na wanaheji ili uweze kuzungumiza nao na kuwauliza maswali aliyo nayo.

Kiini cha Utafiti wa Wananunzi aliyetajwa hapa juu ni: "Kuboresha uzalishaji wa Chakula Tanzania kupitia program za vijana mashuleeni".

Sehemu anayofanya utafiti huo ni Wilaya ya Kilosa. Ikiwa kuna baadhri ya sehemu ambazo zinazolikwa, ni wajibu wako kuzua zisitembewe.


Wasalaam,

Prof. Gerald C. Monela

MAKAMU WA MKUU WA CHUO

Nakala: Mtafiti
Appendix B: Letter of Support (English)
PERMISSION TO CONDUCT RESEARCH IN TANZANIA

SOKOINE UNIVERSITY OF AGRICULTURE
VICE CHANCELLOR’S OFFICE
P.O.BOX 3000, MOROGORO, TANZANIA.
Phone: 023-2604523/2603511-4; Fax: 023-2604651, MOROGORO

Ref No: SUA/ADM/R.1/8 Date: 8/September/2015

TO WHOEVER CONCERNED

RESEARCH FOR RESEARCHERS, ACADEMIC STAFFS AND STUDENTS OF SOKOINE UNIVERSITY

The aim of this letter is to introduce to you Joyce Mwakatoga a student of Sokoine University. Currently the student is on her research period.

Sokoine University of Agriculture (SUA) was initiated by the law (“University Act No.5 of 2005”) and first implemented January 1, 2007. The consent was taken from Act No 6 of 1984. One of SUA responsibilities is to conduct research and use the results from those research. For these reasons, academic staffs, students and university researchers conduct different researches at appropriate times.

In order to conduct those research, the vice chancellor of SUA has the authority to release research permissions within the country for academic staffs, students and researchers on behalf of the government and science and technology board.

Therefore, we request you to give the mentioned student above your support so that she succeed with her research. She will cover for her own meals, accommodation and transportation by the financial assistance she obtained from the university. The help she need is your permission to meet and talk to your leaders and ask them the questions she has.

The title of her research is ‘improving food production and security through youth development program in agriculture in Tanzania’

If there are any prohibited places, it is your responsibility to tell the research not to visit. The research time is between 9/14/2015 to 11/30/2016. For any clarifications do not hesitate to contact me.

Sincerely,

Prof. Gerald C. Monela
Vice Chancellor, SUA

Copy: Student
Appendix C: Letter of Support in Kilosa District (Kiswahili)
JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA WAZIRI MKUU
TAWALA ZA MIKOA NA SERIKALI ZA MITAA
HALMASHAURI YA WILAYA YA KILOSA

Telegrams: "DISCO"
Telephone No. 023 - 2623093
DED DIR. 023 - 2623093
Fax No: 023 - 2623333
Email: kdcded@yahoo.co.uk


Makamu Mkuu wa Chuu,
Chuo Kikuu cha Sokoine cha Kilimo,
S.L.P. 3000,
MOROGORO.

YAH: RUHUSA YA BI JOYCE MWAKATOGA – MWANAFUNZI WA CHUO KIKUU
CHA SOKOINE (SUA) MOROGORO

Tafadhali husika na mada tajwa hapa juu na barua yakonjye Kumb. Ne.
SUA/ADM/R.1/8 ya tarehe 15 Septemba, 2015 liliyontambullisha mtajwa hapo juu.

Kwa barua hili nakujulisha kuwa mtajwa amepatiwa nafasi ya kufanya utafiti katika
Halimashauri ya Wilaya ya Kilosa, juu ya "Kuboresha uzalishaji wa chakula Tanzania kupita program za vijana mashuleni" kuanzia tarehe 14/9/2015 hadi
30/8/2016.

Natumaini atapata ushirikiano wa kutosha kutoka kwa wafanyakazi wangu.

Kazi njema.

Abdulatif Mkata
Kny: MKURUGENZI MTENDAJI WILAYA
KILOSA

Nakala: Mkuu wa Idara,
Kilimo, Umwagilibi na Ushirika,
HALMASHAURI YA WILAYA YA KILOSA.

Mkuu wa Idara,
Idara ya Elimu Msingi,
HALMASHAURI YA WILAYA YA KILOSA

Bw. Joyce Mwakatoga,
MWANAFUNZI.
Appendix D: Letter of Support in Kilosa District (English)
Vice Chancellor,
Sokoine University of Agriculture
P.O. Box 3000
Morogoro

REF: PERMISSION FOR MS JOYCE MWAKATOGA A STUDENT FROM SOKOINE UNIVERSITY OF AGRICULTURE (SUA) MOROGORO

Regarding the matter above and a letter with reference No SUA/ADM/R.1/8 of Sept. 18, 2015 which introduces the person above.

With this letter, I am informing you that, the mentioned person has given the opportunity to conduct her research in Kilosa District on ‘improving food production and security through youth development program in agriculture in Tanzania’ from Sept 14, 2015 to August 30, 2016.

It’s my grates hope she will receive maximum cooperation from my employees.

Nice work.

Abdulatif Mkata
District executive, Kilosa

Copy: Kilosa District Agricultural Irrigation and Cooperatives Department
Copy: Kilosa District Primary Education Department
Copy: Ms Joyce Mwakatoga (Student)
Appendix E: Consent Form for Focus Group Participants
Swahili Version (Local language)

Maelezo haya chini yatatumika kuwaalika washiriki kwenye majadiliano ya kusaidia utafiti kwaajili ya kukamilisha masomo ya Shahada ya Uzamili ya bi Joyce Mwakatoga mwanafunzi wa Chuo kikuu cha Sokoin SUA.

Bibi/Bwana jina kamili

Unaalikwa kushiriki kwenye utafiti ambapo mawazo yako yatatumika kusaidia kutengenezwa kwa mfumo wa kuanzisha program za wanafunzi za shule za msingi kujifunza kilimo mashuleni nje ya mtaala wa kawaida wa darasani.

Programu hii itawasaidia watoto wetu kujifunza kilimo, kukipenda na kata motuini. Nini watoto watajifunza, nani atawafundisha na watajifunzaje itaamuliwa na wazazi washiriki wa utafiti huu. Matokeo ya utafiti hayata nufaisha kijiji chetu tu, bali yataweza kutumia na vizuri na jamii zingine kuhakikisha programu zinatafai fanana na hii hapa baadaye hii.

Ushiriki wako ni wa hiari kabisa, hakuta kua na malipo wala zawadi. Ushiriki wako ni siri, mtafiti hata toa taarifa zako mahari popote isipokua taarifa zako zitasaidia kukamilisha kwa utafiti huu tu. Kwakuua hatuwezi kua uhalari wa udhibiti wa tarifa zetu, nawashi kutoa taarifa ambazo hazita leta mkanganyiko wowote kwako wala mali mwingine ndani na nje ya ukumbi huu. Utaona vinasa sauti ndani za chumba, hii ni kumsaidia mtafita kufikia kwa mtoto kila chakula kwa maana haitaweza kuelewa kwa mtafita kuandika kila mchango. Kila hatuwezi kua na taarifa hata toa sauti zako zisimakea ke kwa jinsi hii.

Mawazo ya watu wote yataheshimiwa na kuthaminiwa. Kwa maswali yoyote juu ya utafiti na ushiriki wako uso kwa kuuliza kwa number Joyce Mwakatoga 0755281398.

Kwa maswali kuhusu haki zako kama mshiriki wa utafiti au mjadala huu au malalamiko yahusuito utafiti huu kwa mali ashe muja huma kiwasili na Bi. Sandra Meadows ndani ya office inayowajibika na hatua za utafiti at 614-688-4792 nambari hii si ya bure.

Karibuni sana na asanteni kwa ushiriki wenu.

Joyce Mwakatoga. 
Robert Birkenholz

Mwanafunzi:
Msimamizi
English Version
The following script will be used to invite subjects to participate in focus group sessions to provide input for a research project to develop a youth development program in agriculture for rural Tanzania villages.
Dear Ms/Mr <lastname>:
You are invited to participate in a focus group session in order for your ideas to be used for the development of a youth program in agriculture for school children. The program will cover agriculture related topics that are not taught in the regular school curriculum. The program will equip children with skills needed to work in the agricultural industry after they graduate. What are they going to learn, how they should learn and whom to train them is going to be determined by you the participants. The program structure, content, and organization be discussed during the focus group sessions for your specific villages. However, the input provided in the focus group sessions will also serve as a model for other villages as they develop similar programs in the future.
Your participation is strictly voluntarily. There are no rewards or other benefits as a result of your participation. You are free to discontinue participation at any time without any penalty as a result of your discontinuation.
Since we cannot guarantee the security of the information, I ask that you to provide information that will cause no harm to you or any other person inside or outside the focus group session. The information you provide will be summarized along with input from the other focus group participants and used to help make decisions about the structure and content of the agricultural youth development program in your village.
We also plan to use an audio recorder during the focus group session to help the researcher capture all the information since not everything can be written down as each participant speaks. Feel free to let it be known if you do not want your voice to be recorded. The researcher will agree to schedule time alone with you to respond to the questions. You should also know that the time allocated for the discussion is 90 minutes. Each focus group participant’s ideas and perspectives are valued. So we thank you in advance for your interest and willingness to participate in this project.
If you have any questions about this project, your participation in the focus group sessions, or this research project, please feel free to contact Joyce Mwakatoga by phone at No: 0755281398
For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 614-688-4792 not a tall free number
Respectfully,
Joyce Mwakatoga
Graduate Student

Robert Birkenholz
Advisor
Appendix F: IRB Approval Letter
04/07/2016

Study Number: 2016B0015
Study Title: Improving Food Production and Food Security in Tanzania through Youth Development Programs in Agriculture

Type of Review: Initial Submission

Review Method: Expedited

Date of IRB Approval: 04/06/2016
Date of IRB Approval Expiration: 04/06/2017

Expedited category: #6, #7

Dear Robert Birkenholz,

The Ohio State Behavioral IRB APPROVED the above referenced research.

In addition, the following were also approved for this study:

- Non-English Speaking Subjects
- Waiver of Consent Documentation

As Principal Investigator, you are responsible for ensuring that all individuals assisting in the conduct of the study are informed of their obligations for following the IRB-approved protocol and applicable regulations, laws, and policies, including the obligation to report any problems or potential noncompliance with the requirements or determinations of the IRB. Changes to the research (e.g., recruitment procedures, advertisements, enrollment numbers, etc.) or informed consent process must be approved by the IRB before implemented, except where necessary to eliminate apparent immediate hazards to subjects.

This approval is issued under The Ohio State University's OHRP Federalwide Assurance #00006378 and is valid until the expiration date listed above. Without further review, IRB approval will no longer be in effect on the expiration date. To continue the study, a continuing review application must be approved before the expiration date to avoid a lapse in IRB approval and the need to stop all research activities. A final study report must be provided to the IRB once all research
activities involving human subjects have ended.

Records relating to the research (including signed consent forms) must be retained and available for audit for at least 5 years after the study is closed. For more information, see university policies, Institutional Data and Research Data.

Human research protection program policies, procedures, and guidance can be found on the ORRP website.

Michael Edwards, PhD, Chair
Ohio State Behavioral IRB
Appendix G: Focus Group Discussion questions
Improving Food Production and Food Security in Tanzania through
Youth Development Programs in Agriculture

Focus group discussion questions

1. Do you believe that youth in rural Tanzanian villages should be involved in agriculture and food production?
2. Are there currently opportunities in your village for rural youth to be engaged in agriculture? Explain
3. What barriers do you perceive that inhibit rural Tanzanian youth from engaging in agriculture and food production?
4. At what grade/age do you think children are best to learn about agriculture?
5. Are there opportunities in agriculture and food production for both girls and boys in rural Tanzania?
6. What topics do you believe are most relevant for rural Tanzanian youth to learn in agriculture?
7. Where do you think the rural youth development in agriculture program should be conducted?
8. Are you willing and able to offer support for a rural youth development program in agriculture in your village? And if so, how?