AGRICULTURAL EDUCATION AND YOUTH FARM ENTREPRENEURIAL INTENTION: EVIDENCE FROM SELECTED FOLK DEVELOPMENT COLLEGES IN TANZANIA

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A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY OF SOKOINE UNIVERSITY OF AGRICULTURE. MOROGORO, TANZANIA

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EXTENDED ABSTRACT

Education is widely acknowledged as a transformative tool for any desired human behaviour. Similarly, agricultural education and training has been a pivotal tool in improving productivity and efficiency in the agricultural sector. However, its outcomes in terms of graduate alignment to farming entrepreneurship is questionable since majority of youth graduating from agricultural colleges have shown limited interest in engaging in farm related enterprises. Besides, disinterest in farm related enterprises prevails in the face of serious youth unemployment and government initiatives in agricultural training and the agricultural development in general. This study sought to address this apparent paradox. The study involved three Folk Development Colleges (FDCs) - Mamtukuna (Kilimanjaro) Monduli (Arusha) and Chisale (Dodoma) purposively selected out of 55 FDCs in Tanzania basing on learning objectives and similarity of courses offered. Specifically, the study: (1) identified the type of knowledge and skills provided by agricultural training institutions in transforming youth intention towards farm entrepreneurship; (2) Determined youth attitudes toward farm entrepreneurship as influenced by exposure to agricultural education; (3) Assessed the perception of youth on college social support environment towards intention to farm entrepreneurship; and (4) Determined the relationship between agricultural education and youth farm entrepreneurial self-efficacy. A sample of 300 respondents was randomly selected from the population of final year certificate students in the three colleges. Qualitative data were transcribed by words and summarised into understandable themes. Quantitative data were analysed by both descriptive and inferential statistics. The descriptive statistics included frequencies, percentages, minimum, maximum, mean and standard deviation. Inferential

statistics employed include: Somers D model, Mann-Whitney model, Kruskal-Wallis model, Multiple Regression and Structural Equation Modelling. The results of the analysis generally show that agricultural education has significant influence on youth farm entrepreneurial attitude and self-efficacy. Consequently, attitudes, college social support environment and self-efficacy have significant influence on youth farm entrepreneurial intention. It is concluded that agricultural education and training in the study area have both direct and indirect positive influence on youth farm entrepreneurial intention. Regular review, harmonization of VETA and FDC curricula and improving learning environment by modernizing the infrastructure is recommended. Also integrated approaches which involve various farming enterprises' stakeholders in teaching agricultural courses in FDCs are recommended.

DECLARATION

I, Paschal Banga Nade, do hereby declare to the Senate of Sokoine University of Agriculture that this thesis is my own original work done within the period of registration and that it has neither been submitted nor concurrently being submitted to any other institution.

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DEDICATION

This work is dedicated to my wife who tirelessly encouraged me during the course of this study; to my children Glory, Gabriela and Grace; to my beloved parents, my late father Banga Nade and my mother Martha Masong and to my brothers and sisters.

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ABBREVIATIONS AND ACRONYMS

AET	Agricultural Education and Training
AGRA	Alliance for Green Revolution in Africa
ASDP	Agriculture Sector Development Programme
CIPD	Chartered Institute of Personnel Development
DTCIDC	Danish Trade Council for International Development and Co-operation
FDC	Folk Development College
FFA	Future Farmers of America
GDP	Gross Domestic Product
IIEP	International Institute of Educational Planning
ILO	International Labour Organization
MCDGC	Ministry of Community Development, Gender and Children
MoCU	Moshi Co-operative University
MUCCoBS	Moshi University College of Co-operative and Business Studies
NACTE	National Council for Technical Education
NBS	National Bureau of Statistics
NGO	Non Governmental Organization
NYCI	National Youth Council of Ireland
PBC	Perceived Behavioural Control
SAE	Supervised Agricultural Experience
SACAU	Southern African Confederation of Agricultural Unions
SUA	Sokoine University of Agriculture
TPB	Theory of Planned Behaviour

TRA	Theory of Reasoned Action
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Education Scientific and Cultural Organization
URT-PHC	United Republic of Tanzania- Population and Housing Census
VETA	Vocational Education and Training Authority

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

It is widely acknowledged that well trained and prepared youth play a big role in economic production and determine the sustainability of global socio-economic development (Aceleanu *et al*,. 2015). This is due to the fact that if well prepared socially, emotionally and cognitively this age group is more energetic, active, dynamic and efficient in socio-economic productive work compared to other age categories. In addition, this age group forms a large proportion of the population globally, forming over 40 % (around 1.5 billion aged 15-35 years of the global population) of the population (ILO, 2016). Thus if the youth are not well prepared and utilized they will become a liability to global socio-economic development.

Various agencies have been involved in addressing youth matters in all spheres of human development at global, country and local or community levels. These agencies include multinational organizations and institutions, government and non-governmental organizations. With all the support provided by the stakeholders, yet the youth are currently facing enormous challenges. To mention a few, youth are currently facing health, poverty, unemployment, societal neglect, insecurity, forced migration, drug abuse and human trafficking challenges (Mcha, 2012; Bennel, 2010; Olufunike, 2014; NYCI, 2009). While some of these challenges cannot be completely eradicated, if properly addressed, their magnitude can be reduced to acceptable levels.

In addressing such challenges youth need to be well equipped behaviourally, emotionally, cognitively and physically. Education is among the tools widely accepted in preparing youth in all domains of life (UNESCO, 2005; Turkkahraman, 2012; Schmidt, 2008; Burchi, 2006). However, to achieve the goal of well prepared youth depends on the kind and quality of education provided to them.

With a view to addressing youth unemployment based on human capital development as far as education is concerned, this study focused on assessing the influence of agricultural education on youth farm entrepreneurial intention. The study was directed at assessing the impact of agricultural education because the agricultural sector seem to be neglected by agricultural graduates, despite the obvious opportunities for youth employment in developing countries like Tanzania where there are limited formal non agriculture sector employment opportunities (DTCIDC, 2016).

Also unemployment is given an emphasis in this study due to its' critical nature and multi-dimensional outcomes which affect global and country sustainability of socio-economic development. Some outcomes of youth unemployment include: youth engagement in malpractices such as criminal gangs, armed robbery, and drug abuse (Coenjaerts, 2009; Sileika and Bekeryte, 2012).

1.2 Status of Youth Unemployment

The United Nations defines youth as persons aged between 15 and 24 years age and estimates show that about 71 million youth aged 15-24 years are unemployed globally; this is attributed

to slow growth of global economic development (ILO, 2016). Also other factors which are attributed to global youth unemployment include lack of relevant skills, unstable labour market, discrimination by work experience, and insecurity (Sanchez-Castaneda *et al*., 2012).

According to Tanzania National Youth Policy of 2007, a youth is a person aged 15 to 35 years; this is similar to African Union's definition (Rutta, 2012). Youth aged 15 to 35 years comprise 34.6% of the total Tanzanian population (URT-PHC, 2014).The percentage of unemployed youth (15 -35 years) as per national definition in Tanzania stands at 13.4% against the overall 11.7%. Females (12.3%) are affected more than males (8.2%), while the situation is more critical in urban compared to rural areas (NBS, 2014).

In relating education to employment of the youth, generally it is estimated that about 800, 000 to 1, 000, 000 graduates from tertiary colleges and universities annually enter into the labour market, while only 3-7% get employment in the public and private formal sector (Nangale, 2012). Specifically the percentage of young people who found employment after completion of vocational training at the Folk Development Colleges (FDCs) was 66% (44% males and 22% females) (Dotto, 2014). Unemployment rates rise with the level of education, and university graduates tend to have the highest levels of unemployment recently in Africa (Golup and Hayat, 2014). According to findings by Wedgood (2005), unemployment among educated youth is more an outcome of low quality education than of the number of school leavers exceeding the labour market demands. Tanzania's higher education institutions have not raised much of expectations as the graduates lack the skills required by the labour market and this trend results in graduate mass unemployment (Ndyali, 2016).

Tanzania like many other developing countries has limited industrial and other non-agriculture sectors growth, thus few graduates are absorbed by these sectors. For instance, the non-agricultural sector employed only 36.9% of the labour force in 2014 (URT-PHC 2014). The agricultural sector employs over 70% of the labour force and its contribution to GDP has been increasing since independence despite its slow pace growth. With increasing global population, advancement in technology and the link between agriculture and manufacturing industries seemed to be improving especially on value addition.

Nonetheless, farming lags behind as the career of choice among agricultural students as noted by Adams *et al.* (2013) who found that only 39% of self-employed Folk Development College (FDC) graduates were partly involved in farming. Similarly, self-employment in farming among SUA graduates and secondary school leavers was rare (Iwega *et al.*, 2005). In the same vein, estimates show that only 3-5% of the self-employed secondary school leavers are in farming. Surprisingly those who are unemployed have good examination pass marks (Mukyanuzi, 2003). Youths with secondary education are 3% less likely than those with no education to be self-employed in agriculture compared to not working and the ones with tertiary education are 6.5% less likely than those with no education to be self-employed in agriculture as compared to those not working (Elima, 2015). Also it is further shown that about 15.5% of tertiary and higher learning graduates in Tanzania are employed in agriculture while only 13% of lower tertiary vocational education are employed in farming (Takei, 2016; URT and IIEP, 2011).

Takei's (2016) analysis of Technical and Vocational Education and Training (TVET) identified high degree of irrelevance of most TVET courses for the targeted labour market as overall, 89 % of employers claim that the skills possessed by graduates were not applicable to their intended jobs. For instance, the author found that graduates cannot communicate clearly with local farm workers who do not understand new ideas quickly. Some gaps identified in the curriculum included: agricultural business awareness; operation and management/maintenance of agricultural machinery and implementation; pests and weed control and use of agro-chemicals. Similarly, Mbalamwezi (2015) revealed that although job opportunities are few, youth blame the current education curriculum, saying it is too theoretical and does not expose them to necessary practical skills to employ themselves. Employers on the other hand believe that youth, unlike adults do not have the necessary experiences and competences needed in the world of work.

In the same vein, the analysis of certificate to higher degree levels of education and training for other countries including Tanzania shows a declining interest in agriculture as a career of choice (Dramé-Yayé, 2011; Sanyanga *et al*., 2013; Sanginga *et al.* 2015). They found that graduates are deemed to have limited competencies in information and communications technologies (ICT) attributed to inadequate theoretical knowledge, curricula are oriented towards white collar employment and limited contextualized learning materials and approaches. The lack of interest for the agricultural graduates in agricultural related careers raises the question of fit-for-purpose of agricultural graduates in the job market. In an attempt to address youth unemployment in Tanzania, the government has introduced entrepreneurship course at various levels of education and training, FDCs being among them.

1.3 Introduction of Entrepreneurship Courses in Agriculture Colleges

Entrepreneurship is a multidimensional phenomenon and is acknowledged as one of the drivers of sustainable economic growth. Entrepreneurs create new businesses, drive and shape innovation, speed up structural changes in the economy, and introduce new competition hence contributing to productivity (Doğan, 2015; Kew, 2015). An entrepreneur determines or identifies the specific wants of the people and the type of goods and services that will fulfil those wants most comfortably. The entrepreneur does not only identify but mobilizes and organizes the resources to tap the opportunities by combining men, materials, money and machines to exploit the opportunity (Maina, 2013).

There are two schools of thought in the field of psychology for understanding an "entrepreneur". The more traditional group of scholars has focused on the personality characteristics of the individual such as: locus of control, risk taking, achievement motivation, problem solving and innovativeness, perception, and work values. The second group of scholars has taken a social cognitive approach, looking at the relationship between an individual and his or her environment (Shane and Venkataraman, 2000; Sarasvathy and Simon, 2000). This study has built its foundation on the second group of researchers' views which recognizes the environmental factors (learning) for a person to become an entrepreneur.

Therefore education is vital to create an understanding of entrepreneurship, to develop entrepreneurial capabilities, and contribute to entrepreneurial identities and cultures at individual, collective and social levels. Likewise entrepreneurship education creates inspiring awareness to business opportunity, provides exposure to entrepreneurship process, builds self

confidence, equip students with knowledge and skills and engender self employment as a career option. It has been shown that on average, graduates with entrepreneurship education were three times more likely to be involved in the creation of a new business venture than were their non-entrepreneurship business school cohorts (Charney *et al.,* 2000; Premand *et al.*, 2015).

Ekpoh *et al.* (2011) found that the goal of entrepreneurship education is to empower our graduates irrespective of their areas of specialization, with skills that will enable them to engage in income yielding venture. After recognizing the value of entrepreneurship education the Government of Tanzania has taken an initiative of introducing entrepreneurship education in college and university level of education with clearly specified goals especially in an attempt to cope with the changing labour marked rooted in 1980s to 1990s structural economic transformations. According to the Tanzania Entrepreneurship National Framework of 2013, entrepreneurship training aims to produce graduates who have "the will, the skills and initiative to seize the job market, business and other opportunities" (URT, 2013). It further underscored that, the entrepreneurship training at tertiary level aims to continue to nurture an entrepreneurial character so that learners can be both competitive and successful in their chosen career.

FDCs being among the agricultural colleges, have introduced entrepreneurship courses in their training. One among the reasons for introducing entrepreneurship course is to address the problem of the changing job market to suit the graduates of Tanzania in terms of pro-activeness and mind-set (Mwasalwiba, 2010). Thus the agricultural graduates in FDCs were

expected to possess entrepreneurial mindset and skills for seizing the opportunities in, and advancement of, the agricultural sector and therefore introducing the concept of farm entrepreneurship.

Rudmann (2008) defines farm entrepreneurship as finding ways and means to create and develop a profitable farm in a changing business environment. Similarly, Kahan (2012) defines a farm entrepreneur as the person who looks for better ways to organize the farm, tries new crops, better animals and uses alternative technologies to increase productivity, diversify production, reduce risks, and increase profit. Kahan emphasized that a farm entrepreneur is the one who exclusively produces for the market. Hennon (2012) pointed out the higher-level skills for farming related enterprises which include developing and evaluating a business strategy, networking and utilizing contacts, and recognising and realising business opportunities. In this study a farm entrepreneur covers all aspects of the two definitions and is summarized as the person who has best farm production skills, opportunity realization skills, management skills, networking skills and produces for the market thus generating profit.

Agricultural Education and Training (AET) appears to be focused much on producing agricultural professionals as one of its objectives, who tend to seek employment in government and other sectors. However, the AET link in preparing farm entrepreneurs as among of its objectives is not clearly established by previous studies, hence the need for this study.

1.4 Statement of the Problem

Agricultural graduates have not been able to hit the ground running upon graduation in establishing their own enterprises, and their impact on the performance of African agriculture

continues to be debated (Drame-Yaye, 2011). Effective entrance of agricultural students in agricultural fields presently is not feasible and its teaching and learning is being questioned. For instance, student pre and post-attendance test of agricultural courses shows an increase in literacy but mixed results in terms of attitude and perception toward farm related enterprises (Esnards, 2012; Riediel, 2006). Christian (2002) found that FDC graduates were searching for employment in town, despite 55 % of their syllabus being practical skills based, and therefore the impact of training in terms of behaviour (change of attitude, perception and intention) and capabilities in the field of agriculture is not clear.

With abundant untapped opportunities in the agricultural sector and serious youth unemployment, the Government of Tanzania and other stakeholders have been implementing agricultural training initiatives for youth. However, majority of youth have persistently neglected farm related enterprises irrespective of education and training provided to them. This is evidenced by prevailing negative attitudes and perceptions of agriculture as a form of punishment and not as an enterprise that can provide income (Leavy and Smith, 2010). The key questions to ask here are: what are the expected learning outcomes of agricultural education and training programmes? Which learning outcomes the agricultural graduates should acquire in terms of behaviour? In which careers are the graduates prepared for? Therefore, this study needs to establish whether indeed AET blended with entrepreneurship courses does influence students' farm entrepreneurial intentions.

1.5 Justification for the Study

Since the adoption of free market economy after the decline of state controlled economy due to structural economic transformation which took place in the end of 1980s and early 1990s, there has been a decline of public sector employment attributed to the shift of state owned economy to private mode of economy. Also since that adoption of free market economy the private formal sector growth has been very gradual to the extent that it cannot absorb the number of graduates from the fast expanding education sector in Tanzania, thus leaving large proportion of graduates unemployed. In this changing labour market situation, there is a need to assess the goal of agricultural education in FDCs for preparing graduates to create more employment chances in the agricultural related enterprises.

Thus the study is timely since young graduates are faced with unemployment challenge. It practically unveils and addresses behavioural and technical challenges in agricultural education in shaping and fitting the graduates to the field of farm entrepreneurship. Specifically, it is of benefit to the Agriculture Sector Development Program (ASDP), Kilimo Kwanza Initiative, the National Policy of Agriculture of 2013, Education and Training Policy of 2014 and National Youth Development Policy of 2007. Also it adds knowledge to the existing theories of behaviour and learning including theory of planned behaviour, attitude and social learning theory as explained in the contribution of the study section.

1.6 General Objective

To assess the influence of agricultural education on youth farm entrepreneurial intentions

1.6.1 Specific objectives

1. To identify the type of knowledge and skills provided by agricultural training institutions for transforming youth intentions towards farm entrepreneurship.
2. To determine youth attitudes toward farm entrepreneurship as influenced by exposure to agricultural education.
3. To assess the perception of youth on college social support environment towards intention to farm entrepreneurship.
4. To determine the relationship between agricultural education and youth farm entrepreneurial self-efficacy.

1.7 Research Questions

1. What kind of knowledge and skills do youth acquire from agricultural training institutions for transforming youth intentions to farm entrepreneurship?

2. To what extent does agricultural education influence youth attitudes towards farm entrepreneurship?

3. How does social support environment influence youth intentions towards farm entrepreneurship?

4. How does agricultural education enable youth to successfully pursue farm enterprise?

1.8 Theoretical and Empirical Review

1.8.1 Theories of behaviour and intention

The theory of planned behaviour (TPB) is an extension of the Theory of Reasoned Action (TRA) which tried to explain human behaviour. It states that a person's behaviour is determined by his/her intention to perform the behaviour and that this intention is, in turn, a function of his/her attitude, subjective norm and perceived behavioural control (PBC) toward the behaviour (Ajzen,1991). Intention is the cognitive state immediately prior to performing the behaviour and is the best predictor of behaviour (Sanchez, 2012). Intention is the state of mind that directs and guides the actions of the entrepreneur toward the development and implementation of the business concept (Elfving, 2008).

According to the TPB, the 'attitude' toward behaviour is determined by the total set of accessible behavioural beliefs linking the behaviour to various outcomes and other attributes. It represents the person's general feeling of favourableness or unfavourableness towards an object. Thus the person's attitude towards an object is a function of his evaluation of the object's attributes (Ajzen, 1991).

The second component is 'subjective norm', which is the individual's perception of the social pressure to engage (or not to engage) in entrepreneurial behaviour (Ajzen, 1991). The subjective norm consists of two sub components: normative beliefs and the motivation to comply with these beliefs. Normative beliefs concern with the perceived probability that important referent individuals or groups will approve or reject a given behaviour; they set the

norm that specifies how the subject should behave. The second sub-component, motivation to comply, reflects a person's willingness to conform to these norms that is to behave in keeping with the expectation of important referents. Depending on the social environment, these pressures can become a trigger or a barrier to the development of an entrepreneurial career (Ajzen, 1991).

The third TPB component is Perceived Behavioural Control (PBC) which refers to individuals' perceptions of their ability to perform a given behaviour (Ajzen, 1991). Individuals usually choose to perform behaviours that they think they will be able to control and master. This concept is therefore very similar to self-efficacy and is used interchangeably (Bandura, 1982). Apart from introducing PBC the TPB also differ with TRA on the aspect of consciousness and unconsciousness of the behaviour whereby TPB concerns deliberate/planned behaviours while TRA concerns mainly unconscious behaviours (Ajzen, 1991).

The link between intentions and behaviour is very well explained in psychology. Intentions reflect the motivational factors that influence behaviour and are a reliable indicator of how hard a person is willing to try and how much effort he/she makes to perform a behaviour (Ajzen, 1991). As a result, intentions are widely seen as powerful predicators of behaviour, especially in the case of purposive, planned, and goal oriented behaviour (Nwankwo *et al.*, 2012). Entrepreneurship is considered a planned behaviour because the act of starting a new venture creation is preceded by intentions to do so (Mwasalwiba, 2010). This justified the conducting of this study for FDC final year students, who were yet to enter into the world of

employment by assessing the cognitive, behavioural, capabilities and college-related environmental support as the learning outcomes on farm related career intentions.

Therefore this study builds its foundation from the Theory of Planned Behaviour (TPB) because of its major assumption that individuals can choose the behaviour that they are able to perform, assuming that youth can either choose farm entrepreneurship or not. Also the entrepreneurial determinants are situational and vary across behaviour. Also variability of the determinants has been across culture thus justifying the use of TPB for this study. In the following section the review of studies on agricultural education blended with entrepreneurship course is made in an attempt to understand its influence on youth farm related career.

1.8.2 Agricultural education and youth farm entrepreneurial intention

According to Anagnosti *et al*. (2014), the agri-entrepreneurship education program has affected the students' perceived behaviour control and anticipated positive and negative effect (belief that they are not capable of performing the given behaviour). They further found that entrepreneurial intent is strongly and positively related to attitudes towards entrepreneurship. Mohamed *et al*. (2012) found that the participants agreed on the effectiveness of basic student entrepreneurial programme in developing graduates' intention towards becoming agri-entrepreneurs. The origin of the participants, the presence of family members already involved in entrepreneurial activities and educational background motivate participants to become agri-entrepreneurs.

Percy-Smith and Akkermans (2012) noted that agricultural curriculum lacks some competencies especially it includes at general level, research, communication, technical, interpersonal and entrepreneurship. Students were found to have a positive perception towards farming, agricultural education, high school agricultural knowledge impartation and the importance of practical lessons, but responded negatively to the delivery process, especially with regard to agricultural sessions. They seemed not to have sufficient awareness of the link between knowledge in agricultural disciplines and the possible opportunities in agricultural production or processing as private job creation or entrepreneurship (Kidane and Worth, 2013).

On the other hand, it is reported that only 9% of the rural youth plan to pursue agriculture as their livelihood in Ethiopia and there was an increase in youth outmigration in the past six years (2007-2013). The lack of land access is forcing the youth away from an agricultural livelihood (Bezu and Holden, 2014). Six factors were statistically significant determinants of entrepreneurial intentions namely: relation with parents, attitude towards agriculture, work experience, intent to migrate, parents' level of income, and parents' educational level (Alibaygi and Pouya, 2011).

The following analysis include entrepreneurial intentions of agricultural students regardless of specific sector, rather, the generation of self-owned enterprises or start up enterprises. Zwan *et al*. (2013) found that the indicators of entrepreneurial learning assessed were positively related with being self-employed. Regarding their own inclinations to start enterprises, a majority of the respondents indicated that they occasionally (10%) or frequently

(43%) considered starting their own enterprises (Dollisso, 2010). Pouratashi (2015) revealed that about half of the respondents had medium entrepreneurial intentions and there were differences in entrepreneurial intentions between students who had attended entrepreneurship courses and those who had not. Also, there were differences in entrepreneurial intentions between students who had self-employed parents and those who did not, however, education support, personality traits and skills were the three factors that influenced the entrepreneurial intentions of students.

Rasheed (2003) substantiated that students with training in entrepreneurship have greater overall entrepreneurial characteristics, higher achievement motivation, more personal control, and greater self-esteem than a comparable cohort. Another study revealed that both entrepreneurial orientation and entrepreneurial skills have a strong association with entrepreneurial intention among students (Ibrahim and Lucky, 2014). Asghar *et al.* (2016) found that 33% of the respondents replied that their intentions were increased because they were motivated by guest speakers and teachers where they learnt that to be an entrepreneur is a respectable career and has economic and social benefits. Also 46% of respondents have gained confidence to run their own business. Koe (2016) found that students' entrepreneurial intention was positively affected by their quality of pro-activeness and innovativeness. However, risk-taking ability was not an influential factor on entrepreneurial intention.

Waguey (2014) assessed entrepreneurial behaviours of students studying agriculture and found that 52% of the respondents have moderately high to high potential ability to engage, sustain, and succeed as entrepreneurs. On the other hand, the respondents tend not to use their

time productively. In terms of work habits and attitudes, the respondents have ability to take upon themselves responsibilities and tasks rather than depending on others, ability not to allow conditions to determine their attitudes towards work, and ability to make responsive and timely decisions. However, they have the tendency not to believe in their abilities or capacities in comparison with others.

The quality of education providers also determines the quality of the expected learning outcomes. Heinert and Roberts (2016) observed that teachers who took part in entrepreneurship training were three to four times more advanced in their use of entrepreneurship education methods such as the use of stories, games, projects, discussions about the economy, and student-led development of entrepreneurial related materials such as presentations. However, those who felt they had no entrepreneurship education skills used more abstract teaching methods such as discussion. Mwasalwiba (2010) found that entrepreneurship is often taught by lecturers who have sometimes forcibly switched from their original (more or less related) specializations to entrepreneurship in universities and was hastily adopted as a subject. Also there were no proper review of the teaching capacity and expertise among the members of the faculty.

The influence of AET blended with entrepreneurship course on youth farm entrepreneurial intention seemed to be determined by context under study as shown by the review of the study above. The contextual factors resulted to inconsistency in terms of relationship; some have shown positive relationship (developed farm entrepreneurial intention) and some shown negative relationship (not developed farm entrepreneurial intention). The factors attributed to

this variation include inadequacy of competencies in the curricula, inappropriate use of teaching approaches, quality of trainers and student background factors. These patterns of findings demand further assessment for FDCs graduates; hence raise the need for this study.

1.8.3 Agricultural education and youth farm entrepreneurial attitude

Despite the agriculture sector having huge potential for thriving business, a great percentage of youth do not aspire for a career in agriculture due to its poor profitability and low professional status (Mibey, 2015). SACAU (2013) reported that among the most important reasons given for youth lack of interest in agriculture, is the negative image of agriculture manifested in the following sentiments: first, farmers are a vulnerable and impoverished group; second, farmers are uneducated, unskilled, physical labourers with extremely low economic returns; third, the sector is for the elderly, illiterates or people with nothing to do; fourth, farming is an inferior occupation that is suitable for the uneducated or retirees; fifth, youths know that agriculture can earn them a living but they only consider it as the last resort when they have tried everything else and they have failed.

Agriculture is not considered to be delivering the types of lifestyles and status that young people desire and expect. The mindset of the youth, generally, getting involved in agricultural sector is seen as a temporary expedient, acceptable as an answer to unemployment problem only until such time a better solution can be found. Especially, university graduates do not get actively involved in it and is dominated by those with lower education achievement; they do not find small-scale farming an attractive employment or career option (D'Silva *et al.*, 2011; Sumberg *et al.*, 2014). Lack of appropriate agricultural information and lack of visible change

from subsistence farming to commercial farming with clear support are some of the factors deterring young people from engaging in agriculture (Xaba, 2014).

Armoogum *et al*. (2016) found that 35% of students were of the view that the module content of the course was not up-to-date with modern technologies in the agricultural sector. It was also observed that about 14.75% of alumni have created their own business and have become entrepreneurs. Moore (2015) noted that combining training in a range of market-relevant skills, with access to job and business opportunities and appropriate financial services, can foster economic opportunities for youth. In contrast, Uli *et al.* (2010) found that the youth are quite positive and quite knowledgeable about contract farming and at the same time they show strong support and have good belief about it.

Attitude of a person towards object or state is determined by control beliefs. The above studies review is largely reflecting that the negativity of farm entrepreneurship is related to youth background factors such as the image of agricultural occupation from the society perception. However as far as agricultural education is concerned; inadequate information about the opportunities found in agriculture sector transpired from studies and the cause being un-updated modules used in training. Therefore, youth attitude to farm entrepreneurship has been mainly drawn by generalized factors. This call for this study to specifically assess the influence of AET blended with entrepreneurship course on youth farm entrepreneurial attitude.

1.8.4 Youth perception on social environment support toward farm entrepreneurial intention

Youth being part of the society are subjected to social norms. The social norm measure is a function of the perceived normative beliefs of significant others such as family, friends and co-workers, weighted by the individual's motive to comply with each normative belief (Elfving, 2008). Keith and Beukel (2014) noted that followers not only influence the outcome of entrepreneurship but also influence intention to entrepreneurship. Thus, there is a significant impact of a student's social capital network span on his/her career intentions, especially in taking up entrepreneurship as a career choice (Sharma, 2014). The results of correlation analysis by Salleh (2016) showed that all psycho-social factors such as college experience, social support and risk taking propensity have significant and positive relationships towards entrepreneurial intention.

On the other hand, Ekpe (2012) found that social environment (friends' agreement) moderated the relationship between entrepreneurial orientation (education) and entrepreneurial intentions among the students. However, respondents in qualitative study reported that studies were boring and mentioned that enterprise education should be covered in a much more stimulating and innovative way, using better mediums than textbooks to engage. However, their fellow students (who thought 'outside the box' and were set on becoming entrepreneurs) provided them with support and advice (CIPD, 2014).

Abdullah and Samah (2013) found that majority of students from four agriculture institutes are encouraged by their social environment (participating in agro-clubs) to get involved in

agriculture entrepreneurship. Gender wise, the findings show that both males and females identified parents, peers, famous persons and teachers for entrepreneurship, but males found starting a business more desirable and more feasible, and reported higher entrepreneurial intention (Kennedy *et al.,* 2003). Siam (2015) found that entrepreneurial skills, environmental support and motivational factors are significantly related to the entrepreneurial intention. Also having an entrepreneurial peer group has a positive effect on an individual's entrepreneurial intentions (Falck and Luedemann, 2012).

Similarly, Krithika and Venkatachalam (2014), found significant relationship between the subjective norms and entrepreneurial intention among students and further noted that they give more value to the perception of closest friends and perception from people that are important towards their self employment. Asghar *et al*. (2016) noted that 40% of the respondents mentioned friends and family to have influence on their decision to choose entrepreneurship as career choice. In contrast, Peng *et al*. (2012) found that family background factors like the entrepreneurship of grandparents, parents, relatives and friends have no significant impact on students' entrepreneurial attitude, subjective norm and entrepreneurial self-efficacy. Melka (2016) revealed that despite some acknowledged practices of offering entrepreneurship course and training in higher learning, the students were not found to perceive their institution's environment promoting entrepreneurship.

The influence of social agents on youth farm entrepreneurial intention seemed to vary by type of agent and college environment as revealed by the above reviewed studies. Friends and parents appeared to predominate the development of youth farm entrepreneurial intention

unlike tutors/teachers and college environment. Since the stimulant and activeness of social support differed by agents which in turn affect the strength of influence. There is a need to establish the influence of social agents in FDCs on youth farm entrepreneurial intention as no clear systemic relationship has been established by previous studies.

1.8.5 Agricultural education and youth farm entrepreneurial self-efficacy

Self-efficacy is an individual level of confidence in, and beliefs about, his or her capabilities to successfully carry out a course of action, perform a given behaviour or attain a desired performance outcome (Nasta, 2007). In analysing the phenomenon Umoh *et al*. (2013) found a positive relationship between self-efficacy in poultry farming and technical knowledge in poultry farming but there were variation in terms of knowledge possessed. However, males were also found to be significantly more knowledgeable than females. Entrepreneurial orientation, entrepreneurial education and self-efficacy are significantly and positively related to entrepreneurial intention (Baba, 2014). The type of institution one attends at college level has a bearing on entrepreneurial intentions and subsequent venture formation since the entrepreneurs in the group demonstrated a high level of confidence, self-knowledge and self – efficacy (Kamau-Maina, 2007).

Long-term impacts study on urban farming youth internship evaluation showed an increase in learning job skills through the internship. The skills included farming practices, time and money management, teamwork, and public speaking. In addition, participants reported an increased sense of responsibility, high levels of self-confidence, and strong connections with their community (Sonti *et al.,* 2016). In the same vein, Bickel (2014) revealed that a

consecutive learning unit with hands-on work experiences in school subsequent to the farm stay could maintain the increased levels of interest to agriculture career. Nwankwo *et al*. (2012) gender analysis showed that gender-role orientation and self efficacy are significant factors in entrepreneurial intentions. Males possessed more of the personality characteristics that predispose them to entrepreneurial activities than females.

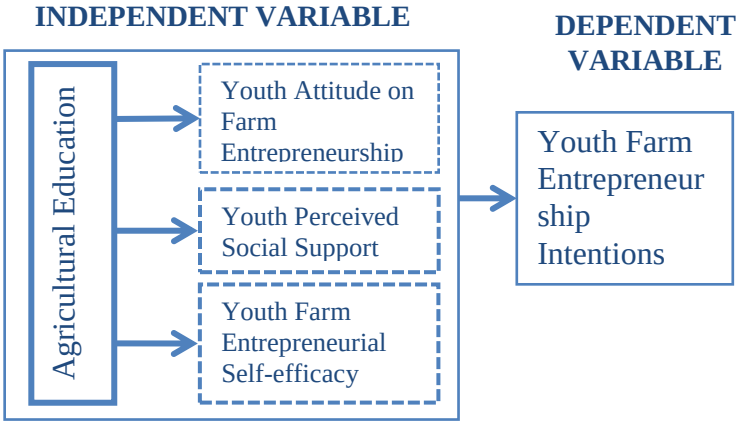
On the other hand, Oyugi **(**2015) revealed that significant relationships exist between entrepreneurship education and entrepreneurial intention, while self-efficacy was found to partially mediate the entrepreneurship education and entrepreneurial intention. Also those students who took it as a course unit were likely to have less confidence while those who took it as a programme had more confidence since they had more time to develop their self - efficacy, hence likely to be more confident for example, ability to see more opportunities than before.

On the contrary, Santoso and Oetomo (2016) found that self-efficacy did not influence entrepreneurship intention and students graduating from more traditionally designed and delivered courses were less prepared for a changing and changeable world. Likewise, Inyang and Eko (2015) found a negative relationship between entrepreneurial interest and technical knowledge in poultry farming, which implied that the entrepreneurial interest was not increasing in the dimension with technical knowledge, nevertheless the relationship was not statistically significant.

Practical related agri-entrepreneurship programme have positive significant influence on farm entrepreneurial intention as noted by the above review of studies. However, those students who studied entrepreneurship as a course, traditionally designed programmes and duration spent in offering the training have negative and less influence on youth farm entrepreneurial intention. This study will further assess the confidence in capabilities in relation to farm entrepreneurship career since no clear linkage between AET blended with entrepreneurship course has been established by previous studies.

Generally, the reviewed literature on the influence of AET on three variables of intention (attitude, social support and self-efficacy) demonstrate the mixed results. Positive, negative, significant, non significant, weak and strong relationship is noted in the studies. The variation in studies' results is attributed to the learning environment and content of the curricula, dynamics in the agricultural sector and youth socio-economic background factors. Since youth in FDCs are also affected by these factors, there is a need to conduct the study in establishing relationship between AET blended with entrepreneurship course on youth farm entrepreneurial intention.

1.9 Conceptual Framework



The model portrays that agricultural education may influence youth attitude, perceived trainers support and entrepreneurial self-efficacy. In turn youth opportunities' anticipation and positive outcomes evaluation, belief in trainers' social support and compliance with trainers' perceptions and belief in their competencies on farm entrepreneurship may influence their intentions to opt for farm entrepreneurships.

According to TPB intention is the function of three determinants: attitude toward the specific behaviour (determined by the total set of accessible behavioural beliefs linking the behaviour to various outcomes and other attributes), subjective norms (determined by normative beliefs and the motivation to comply with these beliefs) and perceived behavioural control (perceived individual capability and the influence of controlling the beliefs of pursuing the behaviour) (Ajzen 1991). In contextualizing the theory of TPB in this study subjective norm variable is labelled as perceived trainers' support, perceived behavioural control is labelled as entrepreneurial self-efficacy and behavioural attributes is replaced by AET since the variables are situational and dynamic.

1.10 Methodology

1.10.1 Study area

Folk Development Colleges (FDCs) were involved in this study. FDCs have long history since (1975) in provision of adult education in Tanzania (Dahlstedt and Nordvall, 2011). The core functions of these colleges have been changing with time in response to political changes (MCDGC, 2014). Formally they provided training on basic life skills based on their localities for those adult who missed formal schooling. But currently the scope has been extended to

vocational skills and advancement in basic skills especially in agriculture, arts and the like, for primary school and post-primary school leavers. FDCs were selected for this study because of the major objective of the training which is to equip the learners with the knowledge and skills that will enable them to be self-employed and self-reliant based on local situations (MCDGC, 2014). Other agricultural colleges were not chosen because of their training goals, which also include producing experts who tend to seek salaried employment in the public and other sectors. So far there are 55 FDCs in Tanzania; among them 39 Colleges are offering short term and long term agricultural training.

1.10.2 Study design

The study employed a cross-sectional design. The design was chosen since it allows data to be collected at once from different cases. It was therefore fit for this study because the data were collected from three colleges which are located in three different regions at one point in time. Also cross-sectional design has been proved to be suitable for estimating the prevalence of behaviour in a population (Sedgwick, 2014).

1.10.3 Sampling procedure

The study population consisted of all finalist certificate students pursuing agriculture courses from Mamtukuna (Kilimanjaro), Monduli (Arusha) and Chisale (Dodoma) FDCs. The colleges were selected purposively because of the similarity in nature of the agricultural courses which are blended with entrepreneurship courses. A sample size of 300 students was derived from a population of 1200 final year students from the three colleges based on the formula by Israel (2009):

$n = N/(1+N(e^2))$----------(1)

where *n* is the sample size, ***N*** population size ***e*** is the level of precision. The formula assumes that p=.05 (maximum variability). The desired confidence level is 95% and the degree of precision/sampling error accepted is ± 5%. Therefore $n = 1200/(1+1200(0.05^2)) = 300$

Every element in the sample was selected by using simple random sampling; where a hundred names for each college were randomly picked from the admission records through the lottery method. The procedure considers the sampling elements to have homogenous characteristics since all are finalists and their courses were blended with entrepreneurship courses.

1.10.4 Data types and sources

Primary data included socio-demographic characteristics of respondents, types of courses studied for agricultural and entrepreneurship courses, type of teaching methodologies applied, expected learning outcomes and farm entrepreneurial attitude, self-efficacy, subjective norms and intention. Both published and unpublished materials (books, journals, papers, chapters, reports and thesis) were reviewed as secondary data in understanding the background, scope and dimensionality of the problem.

1.10.5 Data collection techniques

Questionnaire survey, focus group discussions and key informant interviews were used as data collection techniques. The development of questionnaire was guided by the Theory of Planned Behaviour as retested by Liñán and Chen (2006). Questionnaire consisted of five major sections with several subsections and items as shown in Appendix 7. It was pre-tested

to 12 respondents and few unfamiliar terms were noted and adjusted. The pre-tested questionnaire was personally administered, whereby 294 questionnaires copies were dully filled. The data collected using questionnaires include, type of courses studied, approaches of teaching, expected learning outcomes, attitude, perceived social norms, self-efficacy and intention.

Millward (2012) stressed that when managed well, a focus group can produce a broader and more in-depth understanding of an issue or topic, because the interaction process stimulates memories, debate and disclosure. Six focus group discussions were developed from the 300 sample size selected through nomination method. Studies have evidenced that 2-6 can provide data saturation point for the sample that has homogenous characteristics. Each group consisted of seven members and criteria used during nomination were knowledge of the subject matter, gender and confidence to participate in discussions.

Lastly key informant interviews were conducted for eight persons who were purposively selected based on their experiences and knowledge of the subject matter. These included Principal and one subject tutor per college, making a total of six staff from the three colleges. Also the Head of the Department of the Community Development and Coordinator for Community Development and Folk Development Colleges under the Ministry of Health Gender, Children, Elderly and Community Development were interviewed, thus making a total of eight key informants.

1.10.6 Data analysis

For objective one descriptive statistics especially frequencies, percentages, means, standard deviation, minimum and maximum were employed in analysing the socio-demographic characteristics of the respondents, types of courses studied, types of teaching methodology applied, existence of intention and perception on the expected learning outcomes. Mann Whitney U non-parametric test was performed in analysing the differences in perceived farm entrepreneurship intention across sex. The test is appropriate since it is used to test the statistical significance differences between two groups when the data are at ordinal scale (Nachar, 2008).

Previous studies have evidenced that intention can be directly assessed by beliefs as proxy measure (Ajzen *et al*., 2004; Malebana, 2012). Thus in this study the direct relationship between courses studied measured in form of expected learning outcomes and youth farm entrepreneurial intentions were analysed by using Somers' D non-parametric model. The choice of Somers' D is based on the central role in rank statistics for non-parametric it plays (Newson, 2013). Also the qualitative data and interpretation of quantitative data were transcribed by words and transformed into understandable sub themes.

The data for objective two were analysed by using descriptive statistics, inferential statistics and content analysis. Specifically, respondents' socio-demographic characteristics and levels of farm entrepreneurial attitudes were analysed by using frequencies, percentage, mean, minimum and maximum. The differences in farm entrepreneurship attitude across sex, age, college, background of residence and programme studied were analysed by using Kruskal-

Wallis non parametric test. The test is appropriate in analysing the differences in more than two variables be they ordinal or continuous (McDonald, 2014).

The relationship between effect of agricultural training measured in form of expected learning outcomes and youth farm entrepreneurial attitude were analysed by using Structural Equation Modelling. Likewise Structural Equation Modelling was used to analyse the relationship between farm entrepreneurial attitude and intention. The model was used because it allows examination of a set of relations between one or more independent variables with one or more dependent variables, be they discrete or continuous. To meet the assumption or requirement of the model, Likert scale data were summated which necessitated the change of data to interval level scale. Exploratory Factor Analysis was performed and new set of principal factors were formed for both expected learning outcomes and attitude variables as shown in Appendixes 3 and 4.

Two models were employed under structural equation modelling. These models were first; Confirmatory Factor Analysis for analysis of covariance structure of observable variable structure. Second model is multiple linear regressions by using maximum likelihood estimation method for determining the relationship between courses studied and farm entrepreneurial attitude latent variables. The model was applied because it is appropriate for a sample size ranging between 200-500 respondents (Jackson, 2003). The qualitative data in this objective were transcribed and summarised into understandable sub-themes.

For objective three the data were also analysed by using descriptive statistics, inferential statistics and content analysis. The socio-demographic characteristics and perception on the college social support environment were analysed by using frequencies, percentages, mean, standard deviation. The differences in perceived college social support environment towards entrepreneurship across sex were analysed by using Mann Whitney U model. The Somers' D model was employed in analysing the relationship between college social support environment and youth farm entrepreneurial intentions. The model was applied since it fits with the ordinal data scale and comparison was made on the set of individual cases variable.

Finally for objective four, analysis of quantitative data was performed using descriptive and inferential statistics, whereby frequencies, percentages, mean, standard deviation, minimum and maximum were employed in analysing existence of self-efficacy and socio-demographic characteristics. Moreover, Kruskal-Wallis non parametric test was performed in analysing the differences in self-efficacy across sex and programme studied. Furthermore Likert scale data were summated and changed to interval level scale for parametric analysis. Exploratory factor analysis was performed for the expected learning outcome variable items and self-efficacy variable items whereby new set of factors with underline structure commonalities were identified with the respective items factor loading coefficient ranging from 0.3 and above as shown in Appendixes 3 and 6. Finally, the relationship between the identified factors for both expected learning outcomes and self-efficacy variables were determined by multiple regression. Likewise multiple regression model was applied in determining the relationship between self-efficacy variable items and intention variable items. Qualitative data for the same objective was transcribed through content analysis.

1.10.7 Reliability and validity

Internal reliability of items for self-administered questionnaire was measured by Cronbanch alpha as defined by Fami (2000)

$$\propto = K/K - 1 \times S_T^2 - \sum S_I^2 \qquad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where **α** (alpha) coefficient; K the number of items; S_T^2 is the total variance of the sum of the item and the S_I^2 variance of individual item. The positive alpha coefficient ranging from 0.7 to 1 were utilized. Pairwise deletion method was applied in performing the reliability analysis. To ensure that the instrument covers all the components of information, in the process of developing the questionnaire content validity was employed through reviewing the previous studies in assessing the adequacy and accuracy of what it measures.

Table 1: Reliability test

Category of items	Number of items	Total number of respondents	Cronbanch alpha coefficient
Course evaluation outcome	6	294	0.707
Self-efficacy	28	294	0.884
Attitude	6	294	0.758
College perception	11	294	0.746
Entrepreneurial Intention	9	294	0.870

Ethical Consideration

Research ethics have been observed in two ways in this study. First, an informed consent from all respondents was requested in a questionnaire "introduction" section. It explained among other things the purpose of the study and assured them confidentially of their responses as

well as asking for their permission to fill in the questionnaire. Secondly, all the sources and scholarly work referred in this work have been cited and acknowledged.

1.10.8 Organization of the thesis

The thesis consists of six chapters. The first chapter contains extended abstract, general introduction of the study, statement of the problem, the study objectives, as well as a review of the theoretical and empirical literature and a description of the methodology employed in this study. Chapter two contains the first manuscript that analyses the relationship between the agricultural courses studied and youth farm entrepreneurial intention. Chapter three presents the second manuscript that focuses on the effect of agricultural training on youth farm entrepreneurial attitude. Chapter four contains the third manuscript that deals with the youth perceptions on college social support environment towards farm entrepreneurial intentions. Chapter five presents the fourth manuscript that deals with the influence of agricultural training on youth farm entrepreneurial self-efficacy. Finally, Chapter six summarizes the findings, and draws conclusion and recommendations.

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CHAPTER TWO

2.0 The Influence of Agricultural Courses Studied on Youth Farm Entrepreneurial Intention: Evidence From Folk Development Colleges in Tanzania

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2.1 Abstract

Youth engagement in agriculture in developing countries is of paramount importance since much of their livelihoods depend on this sector. This paper therefore aimed at assessing the influence of studying agricultural courses on youth farm entrepreneurial intention. It specifically addresses two objectives which are; first, to identify type of knowledge and skills provided by agricultural training institutions in transforming youth intention towards farm entrepreneurship, and secondly, to determine the influence of knowledge and skills provided on youth farm entrepreneurial intention. A cross-sectional design was employed and 300 respondents were randomly selected from three Folk Development Colleges (FDCs) offering agricultural programmes. Both qualitative and quantitative data were collected and analysed by using descriptive and inferential statistics where frequencies, percentages, mean, standard deviation and Somers's D Model were specifically employed. The results generally show that there is significant relationship between agricultural knowledge and skills acquired and youth entrepreneurial intentions towards farming. No significant sex differences were found in

terms of farm entrepreneurial intentions and courses studied. It can be concluded that the FDCs' agricultural training provides knowledge and skills which influence youth farm entrepreneurial intention, however the strength of this influence ranges from weak to moderate. Regular review of curricula to enhance the beliefs that develop a view of farm entrepreneurship as a paying business is recommended. The analysis and implication of this finding has been further explained.

Key words: Agricultural courses, Knowledge, skills, farm entrepreneurial intentions, unemployment, youth, Folk Development Colleges.

2.2 Introduction

The effect of agricultural education on increasing productivity and income of farmers has been widely acknowledged (Alam *et al.,* 2009; Heanue and Donoghue, 2014). However, agricultural education has not been quick in responding to the needs of the labour market and the changing environment in this era of unprecedented youth unemployment (AGRA, 2015; Sanginga *et al*., 2015). Currently, youth unemployment situation remains one of the key global challenges. It is estimated that about 73.3 million (13.0%) young people between the ages of 15 and 24 years were unemployed globally in 2014 and the number was expected to gradually rise to 13.1% in 2015 while in Tanzania it stood at 13.4% against overall 11.7% unemployment for the year 2013 (ILO, 2014; NBS, 2014).

Education and training have been positively associated with profitability of enterprises and ability to open up opportunities in different sectors and occupations for youth (Haji, 2015; World Bank, 2014). Also studies have recognized that farm entrepreneurship has proved

successful in addressing youth unemployment through establishment of market-oriented and self-owned farm enterprises (Hrangao and Sorokhaiban, 2015; D'souza, 2013). In addition, it is noted that an individual with "farm entrepreneurship" knowledge and skills is capable of establishing and developing a profitable farm in a changing business environment (Kahan, 2012; Christine, 2008).

In spite of all this, farming lags behind as the career of choice among agricultural students as noted by Adams *et al.* (2013) who found that only 39% of self-employed Folk Development College (FDC) graduates were partly involved in farming. Also Christian (2002) found that FDC graduates were searching for employment in town, despite 55 % of their syllabus being practical skills-based. In addition, Redecker *et al.* (2000) evidenced that FDC graduates were migrating to nearby towns in search of employment and often do not work in their field of training. It is further estimated that only 13% of lower tertiary technical colleges (VETA and FDCs) graduates annually get self-employed in farming (URT and IIEP, 2011).

Agricultural graduates' effective entrance into farm entrepreneurship in establishing farm-related enterprises presently is not feasible whereby parental influence, negative image of the sector and education are seen as impeding factors for the youth to choose a career in farming (Juma, 2007; Noorani, 2015). For instance, student pre and post attendance tests of agricultural courses shows an increase in literacy, but mixed results in terms of attitude and perception toward farm related enterprises (Kaijage and Wheeler, 2013). Also as the level of education increases the preference and participation and time devoted to agricultural-related enterprises decline. For example, attainment of at least secondary education significantly

reduced the probability of participation by 20% and meant fewer working hours than the uneducated (AGRA 2015; Ahaibwe *et al.,* 2013; Zakaria *et al*., 2013; Afande, 2015).

Agricultural education and training has been unresponsive to changing patterns of demands for youth and seems to lack current skills like opportunity realization, multi-institutional management capabilities as well as market driven system to prepare youth for entrepreneurship in farming. This is indicated by growing dependence on white-collar jobs in the government and other places which are difficult to come by these days (Assane, 2015; Sumra and Katabaro, 2014; Agwu *et al.,* 2011). Thus, despite the abundant untapped opportunities in the agricultural sector, the serious youth unemployment, and the agricultural training initiatives for youth taken by the Government of Tanzania and other stakeholders, the majority of youth have persistently neglected farm related enterprises.

2.3 Agricultural Courses and Youth Farm Entrepreneurial Intentions

The Theory of Planned Behaviour states that a person's behaviour is a function of his or her intention, which in turn is a result of attitude, subjective norm and perceived behaviour control. A person's attitude, subjective and behavioural control is determined by beliefs (Ajzen 1991). Therefore youth gain beliefs about farm entrepreneurship by studying agricultural courses. The presence and strength of the intention is determined through evaluation of its associated attributes.

Schlaegel and Koenig (2013) in their review of the dairy sector posit that entrepreneurial intentions are central to understanding entrepreneurship as they are the first step in the process

of discovering, creating, and exploiting opportunities. Prathima *et al*. (2008) noted that agricultural education and training pedagogy in developing countries essentially remains limited to traditional classroom (with obsolete theoretical training and the collapse of outreach and extension services). Also, even with the integration of entrepreneurship courses, learning is often limited to cognition, whereas feelings, motives, and personal experiences are neglected (Müller, 2008; Gemma *et al*., 2015).

Alhaj *et al*. (2015) found that there is a significant relationship between educational support (syllabus, pedagogy and co-curriculum) and entrepreneurial intentions. Zakaria *et al.* (2014) found students' perceptions regarding the prospects of agribusiness enterprises have shown a statistically significant influence on students' intentions to take up agribusiness as a future self-employment avenue. Similarly, Shiri *et al.* (2012) revealed that agricultural students have the entrepreneurial motivations at moderate to high level with the courses of entrepreneurship education explaining 35.5% of variances of the students' entrepreneurial motivations. Hashemi *et al.* (2012) found existence of entrepreneurial intention among agricultural students with perceived self-efficacy showing stronger significance than college entrepreneurial intention. Ribeiro *et al.* (2014) found that 35.2% of the respondents would like to create their own business and contribute to the development of the agriculture sector, nevertheless a perceived bankruptcy was identified as a critical factor in starting up a business, lack of financial support, and fear of failure were pointed as the major difficulties concerning business development.

Furthermore, Dermol and Rožman (2014) showed that students' entrepreneurial intentions were relatively low but male students had significantly higher entrepreneurial intentions than female students. Also male dominance has been reported by Fueglistaller and Zellweger (2014) and Ďuricová (2014) whereby the chance of preference of being an entrepreneur was more than 26% higher if the respondent was male and the chance of being self-employed is more than 23% higher if the respondent was female.

A decline in numbers for youth engagement in farming-related enterprises as level of education, literacy and technical competencies increase has been noted. However, there are mixed results in terms of farm entrepreneurial intentions. Therefore, this study intended to establish whether indeed agricultural courses blended with entrepreneurship courses influenced students' farm entrepreneurial intentions, with a specific focus on Folk Development Colleges since they are centred on providing knowledge and skills for self-employment. Specifically, it answered the following questions: first, what are the types of knowledge and skills provided by agricultural training institutions in transforming youth intentions towards farm entrepreneurship? Secondly, do the knowledge and skills provided influence youth farm entrepreneurship intention?

2.4 Methodology

2.4.1 The study area

The study involved three out of 55 Folk Development Colleges in the country, namely: Mamtukuna (Kilimanjaro Region), Monduli (Arusha Region) and Chisale (Dodoma Region). These FDCs were selected for this study because one of their major objectives of training is to

equip the learners with the knowledge and skills that would enable them to be self-employed and self-reliant based on local situations. The three colleges were selected purposively because of the similarity in the nature of the agricultural courses which were blended with an entrepreneurship course. The study population was all final year certificate students pursuing agriculture courses.

2.4.2 Study design sampling procedures and sample size

This study employed a cross-sectional design, which was appropriate for this study because the data were collected from three colleges which are located in three different regions at one point in time. A sample size of 300 students was developed from an estimated population of 1200 from the three colleges using the formula developed by Israel (2009):

$n = N/(1+N(e^2))$----------(1)

where n is the sample size, N population size, $\boldsymbol{e}$ is the level of precision. The formula assumes that p=.05 (maximum variability). The desired confidence level is 95% and the degree of precision/sampling error accepted is ± 5%. Therefore $n = 1200/(1+1200(0.05^2)) = 300$

Every element in the sample was selected by using simple random sampling, as this procedure considers the sampling elements to have homogenous characteristics (all are finalists and their courses are blended with entrepreneurship courses). The sample was drawn from admission records/directories.

2.4.3 Data collection

Questionnaires, focus group discussions and interviews were employed in collecting data. Pre-testing of questionnaires was done before being administered. The questionnaire forms

were distributed to 12 respondents; equivalent to 4 per cent of a sample size during pretesting. Few unfamiliar terms were noted, whereby the researcher made adjustment to those terms by replacing them with more familiar terms. 300 questionnaire forms were administered and its development was guided by the Theory of Planned Behaviour as retested by Liñán and Chen (2006). Properly filled questionnaires forms were 294 (98%). Six focus groups each consisting of seven students were formed through nomination strategy. Six college staff (two per college) and two Ministry of Health, Community Development, Gender, Elderly and Children officials were purposively selected and involved in interviews based on their role, knowledge and experience.

The courses studied and outcomes measured in terms of expected learning outcomes were assessed by nine items developed under the guidance of the Damian and Wallace (2015) and Roomi and Redman (2016) studies. The nine items were measured on 5 level Likert scale labelled as strongly disagree, disagree, unsure, agree and strongly agree. The five points were scored as 1=strongly disagree to 5= strongly agree. Likewise, the intention were assessed by nine items developed under the guidance of Linan and Chen (2006) and Malebana (2012) and measured on 5 level Likert scale labelled as strongly disagree, disagree, unsure, agree and strongly agree.

2.4.5 Data processing and analysis

The data supporting the two questions for this study were analysed by using descriptive statistics and content analysis. Specifically, respondents' socio-demographic characteristics, types of courses studied, types of teaching methodology applied, existence of intention and

perception on the expected learning outcomes were analysed by using frequencies, percentages, means and standard deviations. The differences in perceived farm entrepreneurship intention across sex were analysed by using Mann Whitney U non-parametric test. The relationship between expected learning outcomes and youth farm entrepreneurial intentions were analysed by using Somers' D non-parametric model.

Somers' D of Y with respect to X is defined as $D(Y/X) = {}_T(X,Y)/{}_T(X,X)$……(2)

Where: Somers' D-coefficient of association for asymmetrical variables; X- independent variable pair which include expected learning outcomes and Y- dependent variable pair which is intention variable. If Somers' D coefficient > 0 ≤ +v 1, the variable is regarded to have impact on intention. The choice of Somers' D is based on the central role it plays in rank statistics for non-parametric (Newson, 2013).

2.4.6 Reliability and validity

Internal reliability of items for self-administered questionnaire was measured by Cronbanch alpha as defined by Fami (2000): $\alpha = K/K-1 \times S_T^2 - \sum S_I^2$ ..... (3)

Where α (alpha) coefficient; K the number of items; S_T^2 is the total variance of the sum of the item and the S_I^2 variance of individual item. The positive alpha coefficient ranging from 0.7 to 1 was taken into consideration. Pairwise deletion method was applied in performing the reliability analysis. To obtain the required alpha results some of the items that were in the questionnaire were deleted. Nine items measuring expected learning outcomes were presented to the respondents but 3 items were deleted after reliability test results with their overall Cronbanch alpha coefficient reading 0.707. No item was deleted for the

entrepreneurial intention item after the reliability test and their respective coefficient read 0.870.

To ensure that the instrument covered all the components of information, content validity was determined through reviewing previous studies in assessing the adequacy, accuracy of what it measures. The questionnaire items that measured farm entrepreneurial intention were adopted and modified and fixed to the context from work of Liñán and Chen (2006), Ajzen (1991) and Malebana (2012). The development of topics list, entrepreneurial teaching methodology and expected learning outcomes were guided by the following studies: Damian and Wallace (2015), Gibb and Price (2014), Roomi and Redman (2016), Vesala and Pyysiainem (2008), Adeyemo (2009), Klein (2006) and Vandenbosch (2006).

2.5 Findings and Discussion

2.5.1 Socio-demographic characteristics of respondents

The analysis of the data shows that the mean age of the respondents was 20.6 years, the lowest being 15 years, and the highest age was 31 years with a standard deviation of 2.439. The average age falls within the age criterion definition of youth by the United Nations. It is also in line with the operational definition of youth used in this study. The distribution by sex shows that females were 11.6% more than males as shown in Table 1. The respondents involved in the study were in two main groups. The first group was those who specialized in animal husbandry and the second group was those who specialized in general agriculture (both animal and crops husbandry). The second group did not specialize because they were not sitting for Vocational Education Training Authority (VETA) exams which have enrolment

limitation as per Form Four National Examination results. In the analysis, the two groups were combined since they are taught using FDC and VETA curricula.

Table 1: Socio-demographic characteristics of respondents

Type of variable	Sub items in the variable	Frequency	Per cent
Sex	Male	130	44.2
	Female	164	55.8
	Total	**294**	**100**
Programme pursued	General Agriculture	73	24.8
	Animal husbandry	221	75.2
	Total	**294**	**100**

2.5.2 Farm entrepreneurial courses studied

Some study findings have noted a mismatch, narrow and outdated agricultural education curricula in developing countries (Asane, 2015; and Sumra and Katabaro, 2014). Following the inadequacy in the curriculum, competencies that focus on preparing youth to be farm entrepreneurs were assessed. Also studies (Roomi and Redman, 2016; Vesala and Pyysiainem, 2008) have recommended skills training and attribute development for context specific entrepreneurship education. Therefore, the competencies and skills assessed in this study have been categorized according to the aspects that guide farm entreprise development or growth (agriculture and general entrepreneurship competencies). The assessment of competencies and skills were conducted in the form of topics studied at this level as shown in Table 2. The list presented was cross-checked against the existing FDC curriculum.

The findings (Table 2) show that for the agricultural courses, animal husbandry is the most studied topic followed by crop production; the least studied topic was agro-mechanics followed by agro-economics. The topics assessed are mostly found in the curriculum of FDC,

except the value addition/value chain topics. However, content-wise, some topics are taught at a very elementary stage (lower levels of cognitive domain; action verbs such as define and mention) and some important topics are missing. Following the inadequate content in the FDC curriculum, in 2013 the government through the Ministry of Health, Community Development, Gender, Elderly and Children allowed parallel use of VETA curriculum to supplement the FDC curriculum as explained by the Ministry Director coordinating Community Development Training Institutes and FDCs:

> *…we are currently using VETA curriculum to cope with changes in the industry and it allows our students to sit for VETA exams as our curriculum doesn't allow our students to proceed for further studies...*

This was further confirmed during the interviews with FDC Principals and Ministry of Health, Community Development, Gender, Elderly and Children officials.

On the other hand, the review shows that although the entrepreneurship course was not in the FDC curriculum, the students were taught using the VETA curriculum. Students have studied all courses that contain basic entrepreneurship knowledge and skills, except the Human Resource Management course. The Human Resource Management course is not an entrepreneurship course *per se* but it is important to be studied by learners because it helps an entrepreneur to manage the employees properly during expansion stage of an entreprise. However it has not been critically adapted to agriculture context as it lacks practical cases. General implication of the score is that learners are expected to possess the right entrepreneurship competencies.

Table 2: Basic farm entrepreneurial competencies studied (N=294)

Type of topic	Frequency	Percent
Animal husbandry	222	75.5
Crop production	208	70.7
Agro-mechanics	112	38.1
Agro-economics	121	41.2
Farm management and planning	140	47.6
Communication, negotiation and problem solving	242	82.3
Business plan development	226	76.9
Financial management	171	58.2
Human resource management	117	39.8
Innovation and opportunity recognition	183	62.2
Theories and process of entrepreneurship	248	84.4
Essentials of entreprise/business ownership	255	86.7
New venture planning, creation and management	197	67.0
Basics of computer and information technology	241	82.0

Based on these findings, the majority of the respondents have basic agricultural and entrepreneurship competencies that can help them to establish farm entreprise. Although some basic topics such as value addition/value chain and human resource management are missing in both the FDC and VETA curricula, with such competencies youth can at least manage to start up an entreprise. This is because the ideal requirement is just awareness or exposure and basic applied skills that are entreprise specific in order to launch an entreprise.

The question of adequacy of syllabus in terms of content was asked to the tutors and the response was that with the introduction of VETA curriculum, their syllabus was deemed adequate, when the follow-up question was asked about why the graduates find it difficult to start or establish an entreprise, the Mamtukuna tutors explained:

> *The environment (infrastructure, and few qualified tutors) for teaching does not motivate learners to start their own enterprise. The component that deals with motivation or character development also needs to be added into their syllabus*.

This also emerged during the focus group discussion as one of the discussants explained:

> *There are no laboratories and facilities for conducting experiments, the situation has affected us for example we are not familiar with much of the skills in the topic of anatomy.*

What is taught is one thing but how it is taught to obtain the best outcome in learning is a different matter. In this case, the teaching methods that were used to deliver the agricultural and entrepreneurship competencies to FDC students were assessed as shown in Table 3. The criterion used in developing the methodology was based on the recommendation provided by Valerio *et al.* (2014), who noted that entrepreneurial learning expected outcomes for college level are entrepreneurial mind-set and entrepreneurial capabilities.

The findings show that six methods of teaching are commonly applied in the FDCs except lecture, research and guest speakers as shown in Table 3. As far as developing entrepreneurship traits among students is concerned the last two techniques of research and guest speakers are crucial. Research techniques help to build innovation, creativity and analytical capabilities; traits that are important for an entrepreneur. However, inviting successful entrepreneurs help to develop motivation, networking and the development of good attitude concerning the field they are expected to work. Thus less regular use of those methods could have affected the learners' expected entrepreneurial traits.

During focus group discussions, respondents were asked if they are happy with the teaching methods. They were positive for those courses where the tutors have good experience and provide practical details in their respective subjects. However, they complained that many of practical skills-oriented topics are only theoretically taught. The focus group discussant explained:

> *.....majority of tutors do not have practical skills, they teach us theoretically only also there are no laboratory equipment/tools that are used in conducting experiments. For example, there is no any surgery equipment...*

The discussion shows that lack of qualified tutors and appropriate infrastructure for student learning are a constraint to experiential teaching method.

Table 3: Teaching methods in FDCs (N=294)

Type of Teaching Methodology	Frequency	Per cent
Lecture	78	26.5
Learning by doing	273	92.9
Classroom discussion	274	93.2
Guest speaker	125	42.5
First hand Interaction with farm entrepreneurs	212	72.1
Case studies	218	74.2
Research	139	47.3
Peer tutoring	255	86.8
Simulations and role play	221	75.2

2.5.3 Perception of the expected learning outcomes in relation to farm entrepreneurship

The expected learning outcomes in relation to farm entrepreneurship were assessed as shown in Table 4.The findings show that students agreed and strongly agreed for item 1-6 intended to measure the skills, knowledge of any other lesson factors. Students gained farm

entrepreneurship knowledge and were satisfied with teaching methodology applied compared to skills related outcomes as evidenced by scores in Table 4.These findings concur with the Rammolai (2009) who noted that time was the limiting factor for entrepreneurship studies in Zimbabwe. However the actual time allotted is six months per term which exceeds university time allotted per semester by two months. Moreover, during the interviews with Principals of colleges and during the focus group discussions, it was noted that majority of tutors work as part-timers. This emanated during the focus group discussion for example one discussant mentioned that:

> *……we do not get enough time to stay with our tutors, others come and disappear, in one term and within the same course you can have sometimes more than two tutors…*

In general, the respondents have good perception of the expected learning outcome measured in relation to farm entrepreneurship. Also the curriculum used is relevant to the existing environment and industry as no mismatch has been noted at this perception level. However, the practical classroom learning is lacking as reported during focus group discussions; this may have implication on the mismatch with the industry requirement for farm entrepreneurship. This finding is consistent with Gemma *et al* (2015) and Prathima (2008) who found much theoretical emphasis in teaching. Also the content of the two curricula that are currently used in parallel was reported as sufficient but some of the students who do not sit for VETA exams are still using FDC curriculum and implementers are not mandated as per evaluation to use the VETA curriculum. Also since the FDC curriculum lacks some of the skills and since the objectives of the two curricula are not the same, there is a need to harmonise the use of the two curricula.

Table 4: Perception on expected learning outcomes in relation to farm entrepreneurship

	Expected leaning outcomes items	SD %	D %	U%	A %	SA%	Total
1	The courses have exposed me to basic skills required for farm entrepreneurship	1.4	3.4	2.7	49.3	43.2	100
2	The courses have provided me with enough knowledge to be a farm entrepreneur	1.4	5.1	9.9	47.3	36.4	100
3	The assignments have provided me with a good lesson for farm entrepreneurship	0.3	1.0	8.2	48.0	42.5	100
4	The courses have raised my awareness on the link between farming and industries	4.1	7.1	12.6	47.3	28.9	100
5	The courses were very clear	1.4	5.4	6.5	57.5	29.3	100
6	The courses are relevant to what I observed in the field	3.4	4.8	15.6	37.8	38.4	100

Note: SD-Strongly Disagree, D-Disagree, U-Unsure, A-Agree and SA-Strongly Agree

An index was developed to determine the overall level of attainment of the expected learning outcomes of the respondents which was then analysed by descriptive statistics. As shown in Table 5 the Likert scale consists of six items and five response options with their respective weights reading as Strongly Disagree (1), Disagree (2), Unsure (3), Agree (4) and Strongly Agree (5). With regards to respondents' responses, the total minimum score for the six items was 6, the total neutral or unsure scores for six items was 18 and total maximum score for the six items was 30. In developing the index the researcher grouped the strongly disagree and disagree score and labelled them as learning has no impact, unsure was labelled as undecided and agree and strongly agree were grouped as learning has impact. Generally the descriptive statistics in Table 5 show that learning has impact.

Table 5: Overall level of expected learning outcomes perception

Learning outcomes	Frequency	Percent
Learning has no impact	8	2.7
Undecided	5	1.7
Learning has impact	281	95.6
Total	294	100.0

2.5.4 Youth farm entrepreneurial intention

Farm entrepreneurial intention as a key aspect in this study was assessed by 9 items measured on five points Likert scale (strongly disagree, disagree, unsure, agree and strongly disagree). The determinants for farm entrepreneurship intention which were assessed include readiness, determination, interest and internal drives (internal locus of control) measured by nine items as shown in Table 6. The findings show that the higher ratings of the respondents fall under agree and strongly agree measurements. There is a small discrepancy between prior-intention in relation to item 8. This implies that after students' enrolment in the college, they had received more exposure, skills, knowledge and confidence which led to an increase (scores) in intention to farm entrepreneurship. By considering the eight items scores measuring intention, the agricultural education blended with entrepreneurship course contributes to the increase in farm entrepreneurship intention of the final year FDC students. This finding is supported by the studies done by Malebana (2012) and Alhaj *et al*. (2015) who found out that there is an increase in intention after studying. Also the scores for prior intention imply that college agriculture education is not the only contributing factor for intention in farm entrepreneurship; there are other factors which are not explained by this study.

Table 6: Farm entrepreneurial intention of the respondents (N=294)

	Entrepreneurial intention indicators	SD%	D%	U%	A%	SA%	Total
1	I am ready to do anything to be a farm entrepreneur	1.7	5.1	5.4	38.1	49.7	100
2	My professional goal is to be a farm entrepreneur	2.7	6.8	5.4	28.6	56.5	100
3	I will make every effort to start and run my own farm entreprise	2.4	4.4	7.1	29.3	56.8	100
4	I am determined to create a farm entreprise in the future	0.7	4.4	9.2	37.8	48.0	100
5	I do not have doubts about ever starting my own farm entreprise	0.7	5.8	11.9	37.1	44.6	100
6	I have very seriously thought of starting farm entreprise in the future	1.0	5.1	6.8	36.4	50.3	100
7	I have strong intention of ever starting a farm entreprise in the future	2.0	3.1	6.5	35.0	53.4	100
8	My qualification has contributed positively towards my interest of starting a farm enterprise	1.7	3.1	3.4	41.2	50.3	100
9	I had a strong intention to start my own farm entreprise before I started my study	5.1	13.9	5.8	37.4	37.8	100

Note: SD-Strongly Disagree, D-Disagree, U-Unsure, A-Agree and SA-Strongly Agree

An index was developed to determine the overall level of youth farm entrepreneurial intention of the respondents after exposure to studying agricultural courses. As shown in Table 7 the Likert scale consists of 9 items and five response options with their respective weights reading as Strongly Disagree (1), Disagree (2), Unsure (3), Agree (4) and Strongly Agree (5). With regards to respondents' responses, the total minimum score for the nine items was 9, the total neutral or unsure scores for nine items was 27 and total maximum score for the nine items was 45. In developing the index the researcher grouped the strongly disagree and disagree score and labelled them as no intention, unsure was labelled as undecided and agree and strongly agree were grouped as presence of intention. Generally the descriptive statistics in Table 7 show that majority of youth have acquired farm entrepreneurial intention.

Table 7: Overall youth farm entrepreneurial intention

Intention	Frequency	Percent
No intention	20	6.8
Undecided	3	1.0
Presence of intention	271	92.2
Total	294	100.0

Mann Whitney non-parametric test was performed to find out whether differences exist between males and females in farm entrepreneurship intentions. The findings show that out of nine factors only two factors show significant differences as shown in Table 8. The implication for the two factors is that female respondents have stronger intention than their male counterparts. Also, although the seven factors are not significant but in six factors out of seven factors, females have outnumbered males implying that female respondents have stronger intention. Also the slight differences seemed to appear after admission into college, which favours females to have stronger intention than males.

Table 8: Differences in farm entrepreneurial intention basing on sex

	Farm entrepreneurial intention factors	Sex	Mean Rank	P. values
1	I am ready to do anything to be a farm entrepreneur	Male	145.19	0.647
		Female	149.33	
2	My professional goal is to be a farm entrepreneur	Male	132.48	0.003*
		Female	159.41	
3	I will make every effort to start and run my own farm entreprise	Male	142.15	0.280
		Female	151.74	
4	I am determined to create a farm entreprise in the future	Male	144.53	0.560
		Female	149.85	
5	I do not have doubts about ever starting my own farm entreprise	Male	135.88	0.024*
		Female	156.71	
6	I have very seriously thought of starting farm entreprise in the future	Male	139.32	0.106
		Female	153.98	
7	I have strong intention of ever starting a farm entreprise in the future	Male	140.88	0.185
		Female	152.74	
8	My qualification has contributed positively towards my interest of starting a farm enterprise	Male	143.66	0.442
		Female	150.54	
9	I had a strong intention to start my own farm entreprise before I started my study	Male	148.56	0.840
		Female	146.66	

Note * Significant at 5% level of significance

The relation between farm entrepreneurial intention and expected learning outcomes was assessed. The farm entrepreneurship intention was first assessed based on the fact that they have studied the required courses. However, to obtain the direct relation, the learning outcome factors were established and computed against nine factors of farm entrepreneurship intention.

The findings (Table 9 with details in Appendix 1) show that, for all eight factors measuring farm entrepreneurship intention, excluding factor number nine, have significant relation for majority of expected learning outcomes determinants. However, the Somers's D coefficient ranges from below 0.02 and above 0.2 indicating very weak to moderately weak strength of relationship. Therefore the conclusion is that there is significant relationship at 5% level of significance between youth farm entrepreneurship intention and expected learning outcomes. Nevertheless, the strength of relation ranges from very weak to moderately weak. This finding concurs with Emanuel *et al*. (2012) and Remeikiene *et al.* (2013) studies which found the existence of intention after studying agriculture courses blended with entrepreneurship courses. This finding is supported by Theory of Planned Behaviour which asserts that intention can be changed directly or indirectly by the formation of beliefs resulting from the environment (Ajzen, 1991).

Table 9: The relationship between farm entrepreneurial intention and expected learning outcomes

	Intention items	Expected Learning outcomes*					
		O_1	O_2	O_3	O_4	O_5	O_6
1	I am ready to do anything to be a farm entrepreneur	M	W	W	ns	W	ns
2	My professional goal is to be a farm entrepreneur	M	W	ns	W	W	W
3	I will make every effort to start and run my own farm entreprise	W	W	W	W	W	W
4	I am determined to create a farm entreprise in the future	M	W	W	W	W	W
5	I do not have doubts about ever starting my own farm entreprise	W	ns	ns	ns	ns	W
6	I have very seriously thought of starting farm entreprise in the future	M	ns	W	W	ns	W
7	I have strong intention of ever starting a farm entreprise in the future	M	W	W	W	W	W
8	My qualification has contributed positively towards my interest of starting a farm enterprise	M	W	M	W	W	W
9	I had a strong intention to start my own farm entreprise before I started my study	W	W	W	W	W	ns

Note: MW Significant at 5%; M moderately Weak (> 0.2) and W very weak (<0.2), ns not significant

*O_1. The courses have me exposed to basic skills required for farm entrepreneurship

O_2. The courses have provided me enough knowledge to be a farm entrepreneur

O_3. The assignments have provided me a good lesson for farm entrepreneurship

O_4. The courses have raised my awareness on link between farming and industries

O_5.The courses were very clear

O_6. The courses are relevant to what I observed in the field

2.6 Conclusion and Recommendations

From the findings it can be concluded that the basic courses required for farm entrepreneurship were studied except for a few courses that are largely taught theoretically, with the practical part (laboratory experiments) lacking. Moreover appropriate teaching methods for farm entrepreneurship were being applied except the involvement in research and use of guest speakers. This could negatively affect learners' knowledge and skills such as innovation, creativity, problem solving, networking, argumentation, comprehension and motivation.

On the other hand, there is significant positive relationship between the agricultural courses blended with entrepreneurship course studied in the FDCs with youth farm entrepreneurial intention. The implication is that youth farm entrepreneurship intention is associated with the learning acquired in the colleges. Female youth have shown relatively higher mean ranking in terms of intention compared to their male counterparts, however, the differences were not significant. This further implies that the learning environment was socially fair for both male and female students. Generally, the intention levels were positive before joining the college and were more positive after studying the courses.

It is recommended that: first, the use of both FDC and VETA curricula need to be harmonized so as to produce better qualified and competitive farm entrepreneurs and not only managers. Secondly, the curricula need to be reviewed regularly and behavioural components with their respective teaching methodologies need to be given more emphasis. Thirdly, main goals of establishing FDCs need to be revisited and reformulated so as to cope with the contemporary social, economic and technological changes. Lastly, the government has to customize entrepreneurship curriculum to the context of the agricultural sector.

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CHAPTER THREE

3.0 The Effect of Agricultural Training on Youth Farm Entrepreneurial Attitudes: Evidence from Folk Development Colleges in Tanzania

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3.1 Abstract

Given the paucity of youth employment opportunities in the non-agricultural formal sector in developing countries much more needs to be done to attract youth into the agricultural sector. Nevertheless, the process of behavioural and mind transformation for youth who are in agricultural colleges is of paramount importance in building a view of agriculture as an alternative source of employment. The main objective of this paper was therefore to assess the influence of the agricultural training on youth farm entrepreneurial attitudes. A cross-sectional design was employed and 300 respondents were randomly selected from three Folk Development Colleges. Both qualitative and quantitative data were analysed using descriptive and inferential statistics. The findings show that there is positive significant influence of agricultural courses studied on youth farm entrepreneurial attitude. This indicates that generally youth have favourable attitudes towards farm entrepreneurship. Furthermore, the findings show that youth farm entrepreneurial intentions can generally be explained by attitude. A significant difference was found in terms of farm entrepreneurial attitude across sex, age groups, college and programme studied. It is concluded that training in colleges where agricultural courses are blended with an entrepreneurship course have positive

influence on youth attitude towards farm entrepreneurship. It is generally recommended that more theoretical components on the socio-economic benefits of farm entrepreneurship need to be added to the existing curriculum. The analysis and implication of these findings have been further explained.

Key words: Agricultural courses, farm entrepreneurial attitude, intention, unemployment, Folk Development Colleges (FDCs)

3.2 Introduction

Unemployment among young people has become a major policy challenge for many governments due to slow economic growth. This situation forces stakeholders to look for economic activities that create and generate more employment opportunities for youth. Globally it is estimated that about 71 million (13.1%) young people between the ages of 15 and 24 years were unemployed in 2016 and the number was expected to remain 13.1% in 2017 while in Tanzania it stood at 13.4% against overall 11.7% for the year 2013 (ILO, 2016; NBS, 2014). Government (the major employer) employs only 3% to 7% of approximately one million graduates entering the labour market each year in Tanzania (Guloba, 2015; Peter, 2013).

Nonetheless, agriculture is the main economic activity in Tanzania but it has suffered neglect from youth especially the educated ones, yet it is the sector which provides more opportunities for employment compared to the non-agricultural sector (Sanginga *et al.,* 2015). Gella (2013) noted that the state of being in school significantly opens up the imaginations of young people as to what is considered possible and achievable and is therefore of more

importance in the construction of attitude and imagined futures. Also Margolis (2014) analysed entrepreneurial qualities of the youth self-employed in farming and found that those with entrepreneurial skills and mindset were earning more income than their counterparts. Following the positive results for farm entrepreneurship it is important to orient youth toward farm entrepreneurship so as to minimize youth unemployment.

However, Agricultural Education and Training (AET) as a tool for preparing the youth for farm entrepreneurship is still debatable since majority of youth have negative attitude toward farm related careers, despite the abundant untapped opportunities in the agricultural sector, government initiatives in training, and the serious youth unemployment in Tanzania. Adams *et al.*, (2013) found that 39% of self-employed Folk Development College (FDC) graduates were partly involved in farming. Also Christian (2002) found that FDC graduates were searching for employment in town, despite 55 % of their syllabus being practical skills-based. In addition, Redecker *et al.* (2000) noted that FDC graduates were migrating to nearby towns in search of employment and often do not work in their field of training. It is also further estimated that only 13% of lower tertiary technical college (Vocational Education and Training Authority and FDCs) graduates annually are self-employed in farming (URT and IIEP, 2011).

3.3 Exposure to Agricultural Education and Youth Attitude towards Farm Entrepreneurship

Attitude is the key to understanding human behaviour. Attitude toward an object is a function of the sum of the perceived attributes weighted to the perceived importance of the object

(Ajzen and Fishbein, 2005). This indicates that attitude is how one judges or evaluates an object. Attitude toward a career has been associated with youth unemployment and the main reason being job prestige (Cvikl, 2014; Vargas-Lindius, 2011).This association is made only to the careers with the attributes that are negatively judged by the youth.

According to the Theory of Planned Behaviour a person forms beliefs about an object and he or she automatically develops attitude toward that object. However the beliefs (information, feelings, experiences and actions) link the object to some attributes through evaluation (Ajzen, 1991). Therefore youth in FDCs are expected to have developed beliefs about farm entrepreneurship by studying an agricultural course and to evaluate its attributes so as to develop a positive attitude. But the evaluation is based on the importance and value attached to it.

The dilemma that exists between what is studied (courses) and the respective career preference among youth is mainly associated with attitude of the career under study. Studies substantiate this mismatch; for instance Kidane and Worth (2013) found that 75% of the respondents were acquiring agriculture knowledge to target the public institutions for employment and also responded negatively to the delivery process of agricultural sessions. Besides, Rahman and Pathak (2013) analysed the order of preference for career choices by youth in agriculture colleges and found the ranking as job in banks, teaching agriculture in the university, private sector self-employment in farming as most and least preferred respectively. In the same vein, 73.8% of students joined agricultural college for getting a job, and only 2.5% joined for farm enterprising. It was also observed that aspirations of the students

towards agriculture enterprise were positively and significantly associated with their fathers' education; fathers' occupation; family size and the aim of joining (Asstt, 2014). Youth who have studied up to some level of secondary education are less likely to get involved in agriculture (Eissler and Brennan, 2015).

Likewise, World Bank (2007) pointed out that students' interest in agriculture in Africa is waning as students seek careers associated with urban lifestyle. Hock-Eam *et al*. (2015) noted that the number of graduate entrepreneurs especially in the agricultural sector is still far below what has been targeted despite the various efforts taken by the governments in developing countries. Youth did not consider occupation in agriculture as they associated it with labour intensive, difficult working conditions, low income and market inefficiencies (Anyindoho *et al.,* 2012). Mangombe and Sabiiti (2013) observed that low quality of training and mass production of ill-equipped agricultural professionals have lowered the outlook of agriculture as a career.

Furthermore, Riediel (2006) found that students did increase their agricultural literacy but the perception scores of students regarding agriculture were not statistically significant. Ibitoye (2011) revealed that youth have negative attitude towards agriculture as a future profession and there were statistically significant differences in job preference for agriculture between male and female youth. Abdullah and Suleiman (2013) revealed that knowledge factor is not significant in influencing interest of youth to become farm entrepreneurs, rather family support, government support and promotion through carnivals and festivals were noted as influencing factors.

In contrast, few studies reported positive attitude and significant relationship between both the students' entrepreneurship attributes and interest to work in the agricultural sector and their attitude towards farm entrepreneurship after attending agriculture course (Batliner, 2013: Luckey, 2012). Among the reasons given was that youth believed that agriculture has an important status politically and socio-economically at both macro and micro levels as it could fulfil some of higher order needs of themselves such as: health and self-esteem, interests and ambitions, satisfaction and success in their lives.

3.4 The Relationship between Farm Entrepreneurial Attitude and Intention

Intention is the cognitive state immediately prior to performing the behaviour and is the best predictor of behaviour (Sanchez, 2012). Azjen and Fishbein (2005) defined attitude as "a learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given object". Attitude towards the behaviour reflects the individual's global positive or negative evaluations of performing a particular behaviour. Therefore attitude is one of the antecedents of intention. According to Ajzen (1991) other antecedents include self-efficacy and subjective norms.

Empirically, Tshikovhi and Shambare (2015) indicated that both entrepreneurial knowledge and personal attitudes have significant influence on entrepreneurship intentions; personal attitudes were observed as having a greater influence on the former. Esnard (2012) found that agribusiness programme had positive but insignificant effects on both entrepreneurship attitude orientations and entrepreneurial intentions. Also she found significantly higher entrepreneurial intentions for male students in comparison to female students. Dahalan (2015)

noted that attitude influences entrepreneurial intention and the relationship between attitude toward start-up and entrepreneurial intention was mediated by opportunity recognition. Attitudinal factors, educational support and behavioural factors have a positive and significant relationship with entrepreneurial intention (Alhaj *et al.,* 2015).

Youth have generally perceived agriculture as poor man's job, laborious and a stepping stone to other careers (Adebo and Sekumade, 2013). Also it is found that 69.6% of youth expressed unfavourable attitude towards agriculture and attitude did not significantly influence interest in agriculture (Aphunu and Akpobasa, 2010). Moreover, about 53% of high school youth have negative to neutral attitude towards organic farming (Freyer *et al*, 2005). Likewise, rural youth have been interested in career related to agriculture but they lack aspirations of becoming an entrepreneur (Heinert and Robert, 2016).

Mixed results in youth attitudes towards agriculture related entrepreneurship after studying AET can therefore be noted. Some of those who reported positive attitude still prefer a job in government. Also a significant and non-significant difference in farm entrepreneurial attitude across sex is noted. Thus, this study focused more on the effects of FDC training on youth attitudes towards farming, since one of the FDCs' main objectives is to provide trainees with life skills for self-reliance. Also from the literature, the debate for youth attitudes toward farming is not yet settled. Therefore the paper attempts to answer the following questions: First, how does the agricultural training influence youth attitude towards farm entrepreneurship? Second, how does attitude influence youth farm entrepreneurial intention?

3.5 Methodology

3.5.1 The study area

The study focused on three Folk Development Colleges, out of 55 FDCs in the country namely; Mamtukuna (Kilimanjaro Region), Monduli (Arusha Region) and Chisale (Dodoma Region). The three colleges were selected purposively because of the similarity in the nature of the agricultural courses which were blended with an entrepreneurship course. The study population was all final year Certificate students pursuing agriculture courses.

3.5.2 Study design, sampling procedures and sample size

A cross-sectional design was employed in this study which is appropriate for this study because the data were collected from three colleges which are located in three different regions at one point in time. A sample size of 300 students was developed from an estimated population of 1200 from the three colleges using the formula by Israel (2009):

$$n = N/(1 + N(e^2)) \quad \text{..... (1)}$$

where *n* is the sample size, *N* population size, ***e*** is the level of precision. The formula assumes that p=.05 (maximum variability). The desired confidence level is 95% and the degree of precision/sampling error accepted is ± 5%. Therefore $n = 1200/(1 + 1200(0.05)^2) = 300$

Every element in the sample was selected by using simple random sampling, as this procedure considers the sampling elements to have homogenous characteristics (all are finalists and their courses are blended with entrepreneurship courses). The sampling frame was drawn from admission records.

3.5.3 Data collection

Primary data were collected by using questionnaires, focus group discussions and key informant interviews while various documents were reviewed for secondary data. Pre-testing of questionnaires was done before administering. The questionnaire copies were distributed to 12 respondents (equivalent to 4% of the sample size) for pretesting. Few unfamiliar terms were noted, whereby the researcher replaced them with more familiar terms. 300 questionnaire copies were administered and 294 (98%) properly filled questionnaire copies were used in data analysis. Six focus discussion groups each consisting of seven students were formed through nomination strategy. Also six college staff (2 staff per college) and two Ministry of Health, Community Development, Gender, Elderly and Children officials were purposively selected and involved in interview as key informants based on their roles and experiences.

3.5.4 Data processing and analysis

In this study the data were analysed by using descriptive statistics, inferential statistics and content analysis. Specifically, respondents' socio-demographic characteristics and levels of farm entrepreneurial attitudes were analysed by using frequencies, percentage, mean, minimum and maximum. The differences in farm entrepreneurship attitude across sex, age, college, background of residence and programme studied were analysed by using Kruskal-Wallis non parametric test. The relationship between courses studied and youth farm entrepreneurial attitude were analysed by using Structural Equation Modelling (SEM). Likewise Structural Equation Modelling was used to analyse the relationship between farm entrepreneurial attitude and intention. The model was used because it allows examination of

the set of relations between one or more independent variables with one or more dependent variables, be they discrete or continuous.

Exploratory factor analysis was first performed to specify the underlying principal factors for expected learning outcomes, attitude and intention as shown in Appendixes 3, 4 and 5. In determining the relationship between courses studied and farm entrepreneurial attitude multiple linear regression was estimated using maximum likelihood estimation method as used by Ullman (2006) as is the most frequently used estimation method in structural equation modelling.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon_0 \quad \text{.....(2)}$$

Where: Y -farm entrepreneurial attitude, β_0- Y-intercept, β_1 change in Y for each 1 increment change in X_1, X_1-skills learning outcomes, B_2 change in Y for each 1 increment change in X_2, X_2-knowledge learning outcomes and E_0-error term.

The purpose of measurement model is to show the co-variation among the observable variables in measuring the extent to which they represent/compose the latent variable. In this case the observed variables are indicators of learning outcomes for exogenous variables and farm entrepreneurial attitude indicators for endogenous variables. On the other hand, the purpose of the structural model is to show the relationship between the latent variables. In question one, skills and knowledge outcomes stand as exogenous latent variables while farm entrepreneurial attitude stands as an endogenous latent variable.

For question two, the same structural equation modelling was applied whereby:

$Y = \beta_0 + \beta_1 X_1 + \varepsilon_0$ .....(3)

Where Y-farm entrepreneurial intention, β_0Y-intercept, β_1 change in Y for each 1 increment change in X_1, X_1-attitude and E_0-error term

The observed variables in this measurement model are indicators of farm entrepreneurial attitude and stand as exogenous variables. The farm entrepreneurial intention indicators are observed variables and stand as endogenous variables. In both questions goodness of fit was tested to assess the correspondence between the theoretical specification (all parameters) and empirical data. The tests include Chi-square likelihood ratio, Comparative fit index, Trucker-Lewis index and Root Mean Square Error of approximation.

3.5.5 Reliability and validity

The internal reliability of items for self-administered questionnaire was measured by Cronbanch alpha as defined by Fami (2000): $\alpha = K/K - 1 \times S_T^2 - \sum S_I^2$.....(4)

Where α (alpha) coefficient; K the number of items; S_T^2 is the total variance of the sum of the item and the S_I^2 variance of individual item. The positive alpha coefficient ranging from 0.7 to 1 was taken into consideration. Pairwise deletion method was applied in performing the reliability analysis. To obtain the required alpha results some of the items that were in the questionnaire were deleted. The Cronbanch alpha coefficient having performed the reliability test for attitude items is 0.758, for expected learning outcomes is 0.707 and for intention read is 0.870

To ensure that the instrument covered all the components of information, content validity was determined through reviewing previous studies in assessing the adequacy and accuracy of what it measures. The questionnaire items that measured farm entrepreneurial intention were adopted and modified and fixed to the context from work of Liñán and Chen (2006), Ajzen (1991) and Malebana (2012). The development of courses/topic list and associated expected learning outcomes was guided by the following studies: Damian and Wallace (2015),Vesala and Pyysiainem (2008), Adeyemo (2009) and Klein (2006).

3.6 Results and Discussion

3.6.1 Socio-demographic characteristics of respondents

The analysis of descriptive statistics shows that females exceed male by11.6% as shown in Table 1. The mean age of the respondents was 20.6 years, with minimum age being 15 years, and maximum age 31 years. Also the statistics for age categories show that majority of the respondents fall in the age category of 20-24 years of age. The average age is within the age criterion defining youth by United Nations. It is also in line with the operational definition of youth as used in this study. The distribution by residence background shows that majority of respondents were from a rural based background. The dominance of rural background residence is supported by the fact that more than 70% of Tanzanians live in rural areas.

Nevertheless, the respondents involved in the study were in two main groups. The first group was those who specialized in animal husbandry and the second group is those who studying as general agriculture. The second group did not specialize because they are not sitting for Vocational Education Training Authority (VETA) exams which have enrolment limitation as

per Form Four national examination results. In the analysis, the two groups were combined since they are taught using FDC and VETA curricula.

Table 1: Socio-demographic characteristics of respondents (n=294)

Type of variable	Sub items in the variable	Frequency	Percent
Sex	Male	130	44.2
	Female	164	55.8
	Total	294	100
Geographical background	Rural	173	58.8
	Urban	121	41.2
	Total	294	100.0
Respondents by college	Mamtukuna	98	33.3
	Monduli	100	34.0
	Chisalu	96	32.7
	Total	294	100.0
Programme pursued	General Agriculture	73	24.8
	Animal husbandry	221	75.2
	Total	294	100.0
Age (Years)	15-19	80	27.2
	20-24	198	67.4
	25-29	15	5.1
	30-34	1	0.3
	Total	294	100

3.6.2. Youth farm entrepreneurial attitude

The attitude was measured by using six items Likert scale with five levels of responses as shown in Table 2.The findings show that, youth have favourable attitude towards farm entrepreneurship. The favourableness is illustrated by the ratings in which most scores are aligned to agree and strongly agree levels of measurement. The sixth item "My qualification has contributed positively to my attitude toward becoming a farm entrepreneur" for farm entrepreneurship attitude received higher ratings than other items implying that the attitude developed has associated with the kind of training provided by the colleges. The findings are further supported by focus group discussions. For example on the career attraction and satisfaction item; respondents were required to give their opinion on whether the field of farm

entrepreneurship was attractive or not. Some of the responses from focus group discussions were as follows:

> *"……..I love the field of animal husbandry since I was young because it has a lot of profit"……. "The career like poultry keeping provides basic needs for everyday"….. "I want to engage in vegetable farming because I see it as a paying job in farming"…….*

Such statements show that they see the field of farm entrepreneurship as attractive. Also they are able to specify the areas that are crucial in terms of results or better economic outcomes.

With regard to satisfaction, the students associate the field of farm entrepreneurship with success. A discussant explained:

> *"...In general the field of agriculture is paying and it is the field that everyone and even businessmen depend on"….*

Also students mentioned various courses/topics that had supported their interest in perceived choice of farm entrepreneurship career for example, pasture management and poultry management. This is contrary to other studies which have reported that agricultural outlook is poor as viewed by youth (Mangombe and Sabiiti, 2013; Riediel, 2006). Otherwise a study on attitude needs to be conducted for other categories of youth who are out of school or who have studied courses which are not agriculture related and/or not blended with entrepreneurship course.

Table 2: Farm entrepreneurial attitude of the respondents

	Farm entrepreneurial attitude items	Frequencies	SD%	D%	U%	A%	SA%	Total%
1	Being a farm entrepreneur implies more advantageous than disadvantageous	294	1.4	5.8	7.8	47.3	37.8	100
2	A career as farm entrepreneur is totally attractive to me	294	1.0	5.1	4.8	37.8	51.4	100
3	If I had opportunity and resources, I would like to start a farm entreprise	294	2.1	2.7	5.4	34.4	55.4	100
4	Amongst various options I would rather be a farm entrepreneur	294	2.0	4.4	6.8	38.1	48.6	100
5	Being a farm entrepreneur would give me great satisfaction	294	0.7	3.4	6.8	35.7	53.4	100
6	My qualification has contributed positively to my attitude toward becoming a farm entrepreneur	294	1.4	3.4	2.7	40.5	52.4	100

Note: SD-Strongly Disagree, D-Disagree, U-Unsure, A-Agree and SA-Strongly Agree

An index was developed to determine the overall attitude of the respondents which was then analysed by descriptive statistics. As shown in Table 2 the Likert scale consists of six items and five response options with their respective weights reading as Strongly disagree (1), Disagree (2), Unsure (3), Agree (4) and Strongly Agree (5). With regards to respondents' responses, the total minimum score for six attitude items was 6, the total neutral or unsure scores for six items was 18 and total maximum score for the six items was 30. In developing the index the researcher grouped the strongly disagree and disagree score and labelled them as unfavourable attitude, unsure was labelled as undecided and agree and strongly agree were grouped as favourable attitude. Generally the descriptive analysis in Table 3 shows that youth in FDCs have favourable attitude towards farm entrepreneurship.

Table 3: Overall farm entrepreneurial attitude of the students

Attitude	Frequency	Percent
Unfavourable Attitude	18	6.1
Undecided	17	5.8

Favourable attitude	259	88.1
Total	294	100

The test for differences in attitude across socio-demographic variables was performed by Kruskal-Wallis non-parametric test as shown in Table 4. The results of the computation show that there are significant differences for farm entrepreneurship attitude at 5% level of significance across sex, age, college and programme studied. The implication for sex differences by considering sum of ranks is that female youth have more favourable farm entrepreneurship attitude than their male counterparts. This implication has little linkage to the competencies offered; rather it may mean that males have exposure to more fields and other field job preference because of their cultural background.

The significant differences across age groups with their respective sum of ranks indicate that, the age category of 20-24years has more favourable attitude than other age categories. This level of attitude at this age could be associated with transition time from schooling to work as per the Tanzanian context. On the other hand, the significant differences across colleges can be explained by two factors; first inadequate implementation of the curriculum content-wise because of lack of qualified tutors, outdated and inadequate learning infrastructure. Secondly, it can be explained by the enterprising culture of the community as the colleges were located in three different regions.

With regard to significant differences across programmes, the sum of ranks indicates that those respondents who specialized in animal husbandry have more favourable attitude than those who were studying general agriculture. This elevated level of attitude for the specialized

group can be associated to their evaluation of the career returns in terms of life outcomes satisfaction because their decision to specialize is born by the awareness of the field. Lastly, there were no significant differences in terms of respondents' background which may imply the tendencies of connectivity of rural and urban areas of Tanzania mainly dominated by agricultural economic activity.

Table 4: Differences in entrepreneurial attitude by socio-demographic variables

Variable		Attitude				
Socio-demographic Characteristics	Category	Observation	Rank Sum	χ^2	Degree of freedom	P-values
Sex	Male	130	17612.0			
	Female	164	25753.0	4.661	1	0.0309*
Age	15-19	80	10794.0			
	20-24	198	29696.0			
	25-29	15	2605.0			
	30-34	1	270.0	22.912	13	0.0415*
Background	Rural	173	26265.5			
	Urban	121	17099.5	1.087	1	0.2971
College	Mamtukuna	98	19152.0			
	Monduli	100	12448.0			
	Chisale	96	11765.0	43.366	2	0.0001*
Programme	General agriculture	73	7793.50			
	Animal Husbandry	221	35571.50	22.301	1	0.0001*

Note * Significant at 5% level of significance

3.6.3 The relationship between youth farm entrepreneurial attitude and training

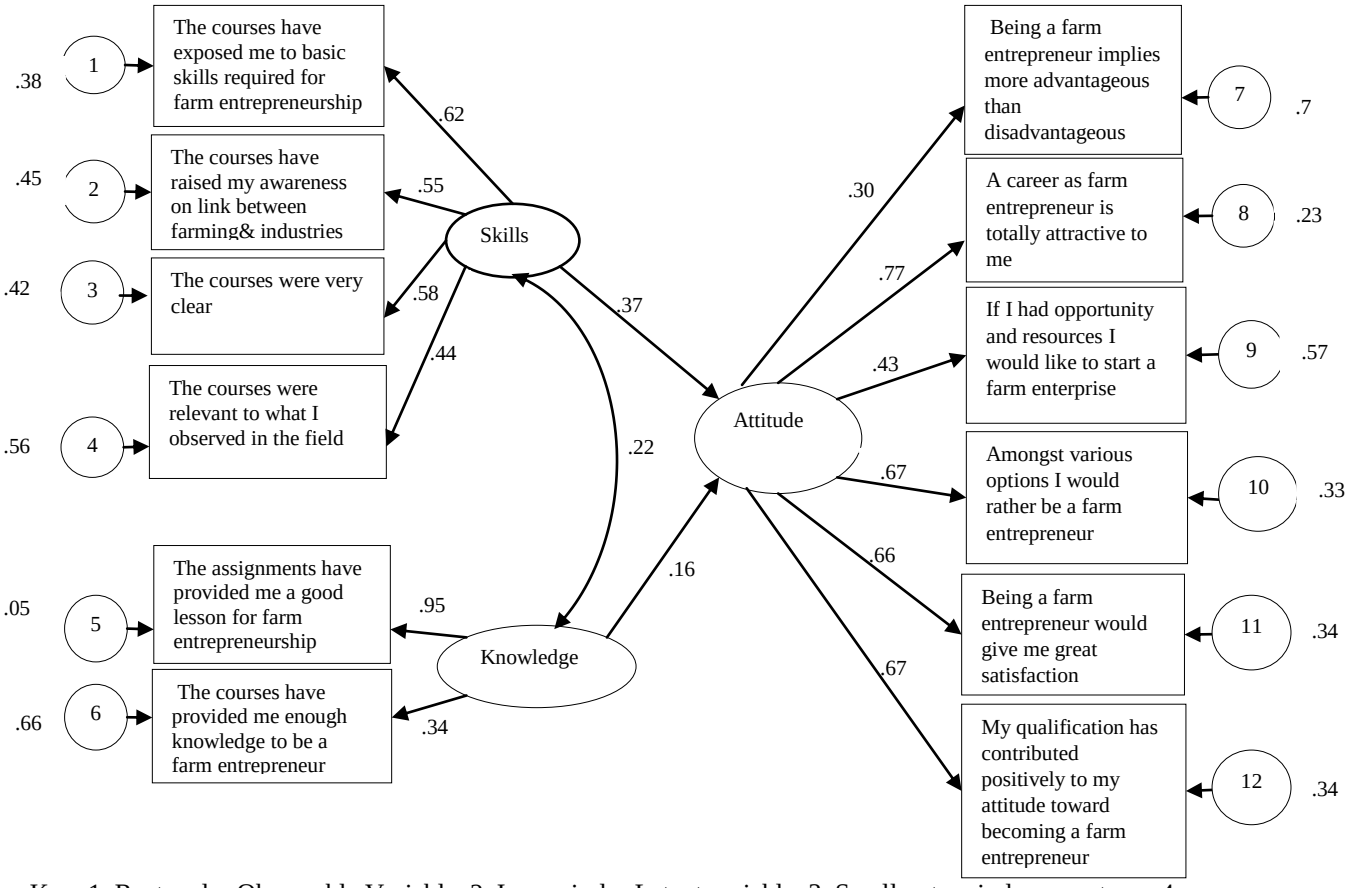
In performing structural equation modelling, exploratory factor analysis was first performed for both expected learning outcomes and attitude constructs. The result of the analysis shows that two underlying principal factors were identified (χ^2 = 341.684, df= 36, p-value = 0.000, Kaiser-Meyer-Olkin (KMO) = 0.802 and variance explained by 52.19%) for learning

outcomes and only one principal factor was identified for attitude constructs (χ^2 = 412.743, df= 15, p-value = 0.000, KMO =0.727 and variance explained by 54.44%).

The analysis results for the measurement model in Figure 1 shows that "the courses have exposed me to basic skills required for farm entrepreneurship" contributed more to skills outcomes influence compared to other observable variables. This implies that the youth have acquired the basic capabilities that could enable them to start up and run farm enterprises. The relevancy of the courses to the practice in the field of agriculture seemed to be limited as evidenced by least influence of the construct "the courses are relevant to what I observed in the field". This could be associated with improper implementation of the curriculum. Nonetheless, only two constructs have shown good influence on knowledge outcomes as per respective factor coefficient.

Furthermore, the analysis for the maximum likelihood estimation shows that skills learning outcomes have more influence on youth farm entrepreneurial attitude with its specific parameter estimate showing statistically significant relationship (Coef.=0.26, Std. err=0.083, z=3.14 and p>z=0.002). It explained youth farm entrepreneurial attitude by 37%. While only 16% of youth farm entrepreneurial attitude is explained by knowledge learning outcomes and its' specific parameter estimate showing statistically significant relationship (Coef.=0.12, Std. err=0.019, z=2.09 and p>z=0.037). The sum of the two learning outcomes explained youth farm entrepreneurial attitude by 53%. This may further mean that the impact of education is fairly good towards farm entrepreneurial attitude. However, it may imply that the remaining

percent of attitude can be explained by other factors which are not determined by this study such as the socio-economic environment of the respondents.



Key: 1. Rectangle- Observable Variable, 2. Inner circle- Latent variable, 3. Small outer circle- error term, 4. Single headed arrow- Direct relation and 5. Double-headed arrow-Covariance

Figure 1: The relationship between expected learning outcomes and attitude

The statistical test for goodness of fit indicates that the model is consistent and over-identified or fit well with the data. This implies that goodness of fit adequately explains the hypothesized relationship between learning outcomes and youth farm entrepreneurial attitude. The goodness of fit is shown in Table 5 and it fits because the recommended cut-off points have been attained. Specifically, it is recommended that χ^2 value (1796.903) of sample moments must be greater than estimated parameters while its p-values have to be less than

0.005. The recommended cut-off points for Comparative Fit Index (CFI) is 0.9 to 1, Trucker and Lewis Index (TLI) 0.9 to 1 and Root Mean Square Error of Approximation is 0.06.

Table 5: Goodness of fit for learning outcomes against attitude

Type of test	Amount of coefficient
Likelihood ratio measured by Chi-square	147.853
P-value	0.000
Root mean squared error of approximation	0.058
Comparative fit index	0.903
Trucker-Lewis index	0.880

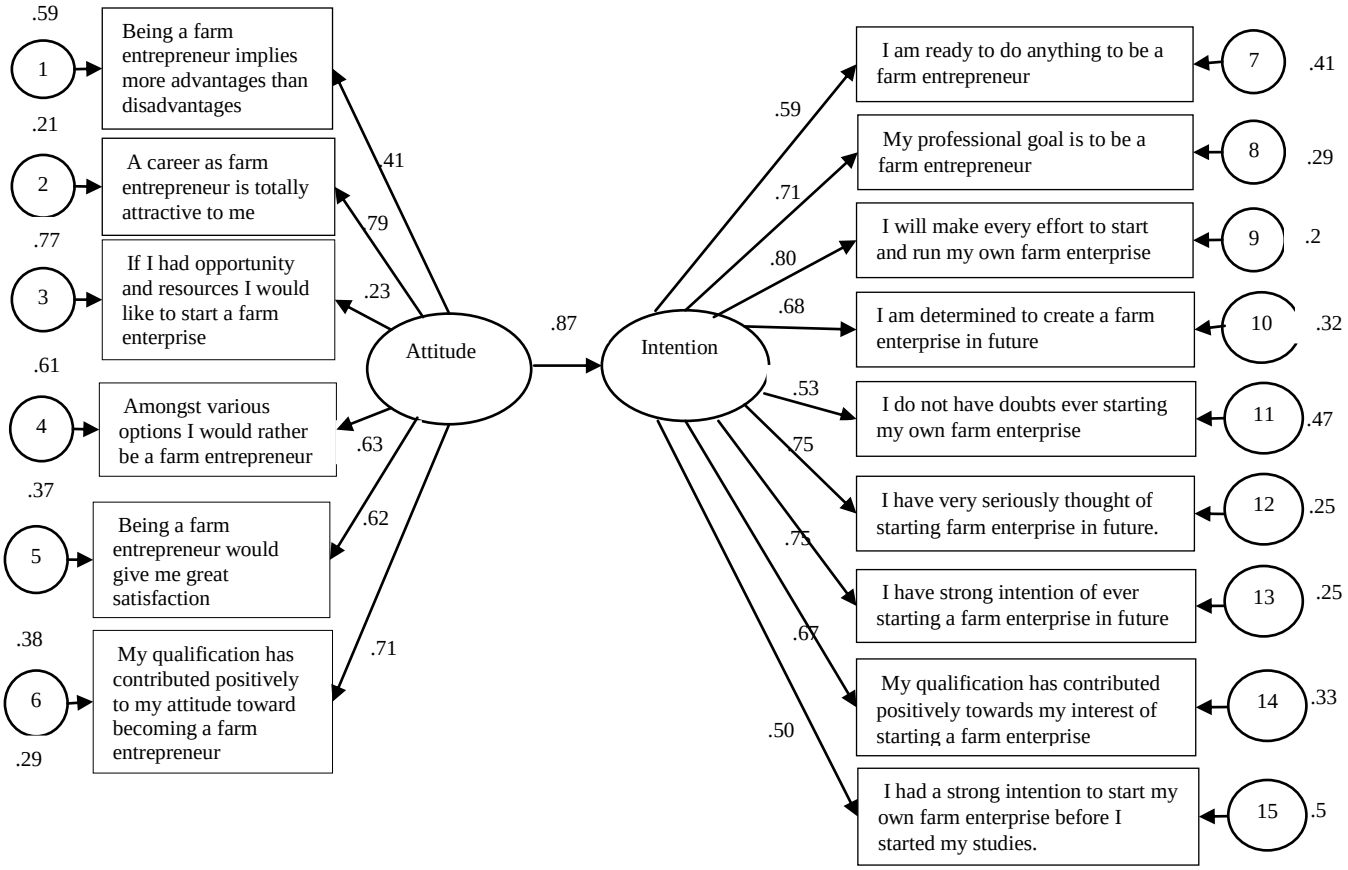
3.6.4 The relationship between youth farm entrepreneurial attitude and intention

Structural equation modelling was also performed in determining the relationship between farm entrepreneurial attitude and intention. In performing structural equation modelling exploratory factor analysis was first performed for both attitude and intention observable variables whereby only one principal factor for both constructs was identified (χ^2 = 1060.511, df= 36, p-value =0.000, KMO = 0.897 and variance explained by 50.75% for intention).

The measurement model analysis results in Figure 2 show that the respondents' evaluation on attraction load higher coefficient in explaining youth farm entrepreneurial attitude as shown by the indicator "A career as a farm entrepreneur is totally attractive to me". The evaluation for attraction means the youth perceive the field as respectable unlike other studies which reported agriculture as hard work and dirty (Adebo and Sekumade, 2013; Mangombe and Sabiiti, 2013). The positive evaluation of the career is also supported by the kind of competencies acquired by youth as evidenced by the coefficient of the indicator "My qualification has contributed positively to my attitude towards becoming a farm

entrepreneur". The term qualification indicates the positive impact of the learning outcomes towards farm entrepreneurship.

However, with regard to economic returns youth hardly developed positive attitude since the construct that measure it loaded second from least towards farm entrepreneurial attitude; "Being a farm entrepreneur implies more advantages to me". This may further indicate that farm entrepreneurship can offer economic returns but there are other careers that may offer better economic returns. This evaluation goes hand in hand with the decision to start farm entreprise which contributed the least in the influence of farm entrepreneurial attitude.



Key: 1.Rectangle- Observable Variable, 2. Inner circle- Latent variable, 3. Small outer circle- error term, 4. Single headed arrow- Direct relation and 5. Double-headed arrow-Covariance

Figure 2: The relationship between farm entrepreneurial attitude and intention

The analysis for the Maximum likelihood estimation shows that 87% of youth farm entrepreneurial intention can be explained by farm entrepreneurial attitude and its' specific parameter estimate shows statistically significant relationship (Coef=1.28, Std err=0.21, z=5.93 and p>z=0.000). This indicates attitude construct is a better predictor of intention unlike other constructs. Since attitude has been contributed by farm entrepreneurial education thus the amount of percent of attitude that contributed to youth farm entrepreneurial intention has been indirectly contributed by farm entrepreneurial education. These findings are supported except the strength by the Theory of Planned Behaviour which indicated that attitude is among the predictors of intention (Ajzen, 1991). They also concur with the study done by Armitage and Conner (2001).

The tests for goodness of fit of the model have further justified such strong relationship as shown in Table 6. The tests of fit have shown that the model is over identified (acceptable standards) as per recommended cut-off points. The recommended (χ^2 value (849.886) for sample moments must be greater than estimated parameters while its p-value has to be less than 0.005. The recommended cut-off points for Comparative Fit Index (CFI) is 0.9 to 1, Trucker and Lewis Index (TLI) 0.9 to 1 and Root Mean Square Error of Approximation is 0.06. This goodness of fit indicates that the model adequately explains the hypothesized relationship between youth farm entrepreneurial attitude and intention.

Table 6: Goodness of fit for attitude against intention

Type of test	Amount of coefficient
Likelihood ratio measured by Chi-square	202.341
P-value	0.000
Root mean squared error of approximation	0.066
Comparative fit index	0.933
Trucker-Lewis index	0.921

3.7 Conclusion and Recommendations

It is concluded that generally there is favourable attitude among the respondents towards farm entrepreneurship. Also the training provided by FDCs has fair direct influence on farm entrepreneurial attitude. However, looking at the composition in contribution in terms of learning outcomes seemed to be aligned to basic practical skills, thus lacking the theoretical support. This implies that curriculum content lacks some basic information with regard to farm entrepreneurship. In the same vein, the curriculum seemed to have a mis-match between knowledge and skills offered as evidenced by the little contribution in influence to learning outcomes by the relevancy measurement construct.

Variations exist among the respondents with regard to farm entrepreneurial attitude across their socio-demographic characteristics where females, those specialized in animal husbandry and Mamtukuna FDC have more favourable attitude than their counterparts. The cause of variation seemed to be rooted in their learning environment since they were taught using the same curriculum content. For instance one of the variations across colleges could be differences in background community farm enterprising culture as these FDCs were located in different regions. However, it may be partly explained by learning especially during the course of teaching where some of the topics were not covered in some colleges and sometimes different teaching methods were applied.

Strong relationship between farm entrepreneurial attitude and intention has been found by this study. This indicates that youth view farm entrepreneurship positively and thus they are likely

to establish farm enterprises upon their graduation. However, this strong relation is not only explained by training since its contribution is only 53% of total attitude that explained youth farm entrepreneurial intention. This means that 34% of the youth farm entrepreneurial intention is explained by other factors which have not been addressed by this study. But it can probably be associated with the improvement that is currently taking place in the agriculture sector in Tanzania.

It is recommended that FDCs cooperate or consult with the stakeholders specifically the practitioners in the field of farm entrepreneurship so as to add or include in their curriculum any new developments that are taking place in the field, especially social, economic and technological changes. The emphasis of the addition or inclusion has to be targeted towards the link between what is offered in the classes (competencies) and what is required in the field.

The government through the National Council for Technical Education (NACTE) has to ensure the equality of the standards of education offered by the colleges to avoid unnecessary substandard graduates that are likely to be produced by improper implementation of the curriculum. More affective theoretical components and better approaches of teaching aimed at improving the image of the agriculture sector and stimulating positive attitudes of the learners need to be added to the existing curricula. Specifically, such components have to fully inform the learners about socio-economic benefits that can be harnessed as they engage with the field of farm entrepreneurship.

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CHAPTER FOUR

4.0 Youth Perceptions on College Social Support Environment towards Farm Entrepreneurial Intentions: Evidence from Folk Development Colleges in Tanzania

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4.1 Abstract

Supporting the development of entrepreneurial behaviour and competencies among youth is currently critical as many governments are looking for methods of achieving job creation and economic growth. However, in achieving that, social support is vital among youth during the process of choosing an occupation. It involves provision of tangible, informational and emotional resources. This paper aimed at assessing the youth perception on college social support environment towards farm entrepreneurial intentions. Two specific objectives that were addressed in this study include: first, to identify the levels of youth perception on college social support environment towards youth farm entrepreneurship, and second, to determine the relationship between perceived college social support environment on farm entrepreneurship and youth farm entrepreneurial intention. The study employed cross-sectional design and 300 respondents were randomly selected from three Folk Development Colleges offering agricultural programmes. Both qualitative and quantitative data were collected and analysed by using descriptive and inferential statistics where percentages, frequencies, mean, standard deviation and Somers's D Model were specifically employed.

The findings generally show that youth have favourable perception towards college social support environment for farm entrepreneurial intentions. The approval from friends provided highest influence while direct support from college had the lowest influence on intention to farm entrepreneurship. It can be concluded that the social support environment in FDCs contribute positively to youth farm entrepreneurial intention. The support is more in the form of moral and social support rather than material support. It is recommended that colleges should design and establish various collaborative programmes that make social agents active in supporting farm entrepreneurship.

Key words: Perception, social support environment, youth, Folk Development Colleges, farm entrepreneurial intention, unemployment

4.2 Introduction

It is widely recognized that social interactions can influence a person's occupational choices through the stock of knowledge and experiences available in the community (Kew, 2015; Giannetti and Andrei, 2004).The significant change elicited by social agents depends on the kind of social support demonstrated by agents. Nurullah (2012) conceptualized social support as emotional, informational and practical assistance from significant others; that support may be actually received or simply perceived to be available when needed. In the developing countries, agriculture provides various opportunities for employment but is not seen by the youth as a viable income source and often the youth view agriculture as employment of last resort since they consider becoming a farmer as condemning oneself to subsistence and

poverty (Heinert and Roberts, 2016; Kusis *et al.*, 2014; Jochaud,2013; Zagata and Lostak, 2013).

Basically, the introduction of entrepreneurship courses into agricultural colleges aimed at producing graduates with competencies, capabilities and mindsets to work in the agriculture sector. Yet, youth still perceive farm related activities as characterized by drudgery, minimal financial returns and therefore meant for the least educated in society (Bojang and Ndeso-Atanga 2013; Amegnaglo *et al.*, 2014; Eissler and Brennan, 2015). Emerole *et al.* (2014) revealed that 35.0% of graduates had poor perception of agricultural business and intention in agriculture. Studies conducted in FDCs that offer agricultural education and training have also indicated similar trends of disinterest in farm entrepreneurship as few of them joined a farming career (URT and IIEP, 2011; Christian, 2002). In the face of growing youth unemployment, poverty in rural areas and slow growth of agriculture there is a need of entrepreneurship in farming for more employment and profitability of agriculture (Bairwa *et al.*, 2014; White, 2012; ILO, 2014). The negative perception of the agricultural graduates raises a debate on whether the social learning environment in agricultural colleges supports the youth farm entrepreneurial intention.

Theoretically, normative beliefs contribute to a person's intention toward a planned behaviour (Ajzen, 1991). The normative belief is formed due to close interaction with important referent persons. In the training institutions, these referent persons include tutors, friends, colleagues and other administrative supporting staff. Rodrigues (2012) posits that individual acceptance of a given behaviour depends on his or her perception within the context of the

environment in the process of interaction; such social environment may be pleasant or unpleasant. Similarly, Lent *et al.* (2000) in their Social Cognitive Career theory categorized the social support into positive and negative support.

In analysing the support of teachers as among the components of the social environment, Dollisso (2010) surprisingly found that only ten percent of agriculture teachers indicated that they always saw business opportunities and desired to establish and become bosses of their own businesses. Agri-entrepreneurship mentoring for young graduates is not carried out by successful agribusinesses and that the graduates get less moral and material support (Uneze, 2013; Kashani *et al.*, 2015). Corps (2011) found that teachers largely emphasize compliance with the norms especially on examination and test scores rather than building skills and values through projects. Ruskovaara and Pihkala (2013) found that teachers who have no entrepreneurship education skills used lightweight methods such as discussions and ready-made materials, whereas the application of more demanding project work and entrepreneurship games was nearly non-existent. In the same vein, Pyburn (2015) identified that youth developed neither the interest nor the necessary skills to effectively engage in agricultural activities because of unfocused and low quality curriculum which lacked soft skills.

On the other hand, Falck *et al.* (2009) noted that the influence of peers at school is more pronounced than neighbourhood effects in one's future occupation. Colleagues, even through informal conversations, can help individuals to come out as an entrepreneur to launch a new venture (Akhter and Sumi, 2014). However, Lewis *et al*. (2012) found that agricultural

education courses, parental and teacher support and encouragement, resources, and opportunities for awards and recognition did not seem to influence student supervised agricultural experience participation. In addition, Sadi *et al* (2013) found that about 73% of students faced initial challenge in convincing their parents, relatives and friends to start an entreprise in agriculture sector as they consider it as the most risky option. They further noted that ignoring the needs of the labour market by agricultural colleges and universities were the main obstacles to youth agricultural entrepreneurial intention.

Jacob and Ariya (2015) observed that more than 75% of the students claimed that the entrepreneurship training has not prepared them for self-reliance after graduation and preferred a government job. There was a negative relationship between entrepreneurial interest and technical knowledge in poultry farming, which implied that the entrepreneurial interest was not increasing with technical knowledge (Inyang and Eko, 2015). In schools where agriculture is not taught very few would make it a career of choice; however, where agriculture is taught, students were generally favourable in their overall attitudes to agriculture, but there was only moderate indication that they would pursue the field further as a career (Ramdwar and Ganpat, 2010).

In contrast, Farah and Abu (2014) found that the majority of students from four agriculture institutes are encouraged by their social environment to get involved in agriculture entrepreneurship. Esters and Bowen (2004) further found that the agriculture teacher has an influence on student enrolment to urban agriculture although the teacher is ranked second to parent/guardian. Guthrie (2013) found that 66.7% of respondents strongly agreed that their

FFA advisor and/or agriculture teacher influenced their decision to participate in entrepreneurial Supervised Agricultural Experience. Tateh *et al.* (2014) found that the respondents' entrepreneurial intentions are positively correlated with their social learning (knowledge and experience, family upbringing) and personality traits.

Moreover, Hashemi *et al.* (2012) found that the perception of agricultural personnel about their organizational commitment had positive effects on their entrepreneurial behaviour. Saeed *et al.* (2014) found that perceived educational support exerted the highest influence on entrepreneurial intention via self-efficacy. Rahmawati and Suranto (2015) found that the provision of material in the field of entrepreneurship through an incubator programme improved mental independence. Also Gelard and Salehe (2011) found a significant relationship between entrepreneurial intention of the students and perceived educational support. Eesley and Wang (2015) observed that entrepreneurship mentorship has significant relationship on early stage of ventures as a career choice.

Studies have shown that social agents (friends, colleagues, teachers and other staffs) differed in their perception on their support to youth farm entrepreneurial intention (Dolliso, 2010; Farah and Abu 2014; Lewis *et al.*, 2014; Sadi *et al.*, 2013). Also the theoretical analysis has shown that the context or environment has an impact on the kind of influence produced by the agents. Therefore this paper aimed to assess the influence of college social support environment on youth farm entrepreneurial intention among FDC final year certificate students. The colleges were chosen because they offer agricultural training that aims at preparing them to be self-reliant citizens. The specific objectives were: First, to determine the

perception of youth on college social support environment towards youth farm entrepreneurship; and secondly, to determine the relationship between perceived college social support environment on farm entrepreneurship and youth farm entrepreneurial intention.

4.3 Methodology

4.3.1The study area

The study was conducted in three selected Folk Development Colleges from three regions namely: Mamtukuna (Kilimanjaro Region), Monduli (Arusha Region) and Chisale (Dodoma Region). These FDCs were selected for this study because one of their major objectives of training is to equip the learners with the knowledge and skills that would enable them to be self-employed and self-reliant based on their local situations. The three colleges were selected purposively because of the similarity in the nature of the agricultural courses which were blended with an entrepreneurship course. The study population was all final year certificate students pursuing agriculture courses.

4.3.2 Study design, sampling procedures and sample size

A cross-sectional design was employed in this study. It was fit for this study because the data were collected from three colleges which are located in three different regions at one point in time. A sample size of 300 students was created from an estimated population of 1200 from the three colleges using the formula by Israel (2009):

$n = N/(1 + N(e^2))$……..……(1)

where *n* is the sample size, *N* population size, ***e*** is the level of precision. The formula assumes that p=.05 (maximum variability). The desired confidence level is 95% and the degree of precision/sampling error accepted is ± 5%. Therefore $n = 1200/(1 + 1200(0.05)^2) = 300$ Every element in the sample was selected by using simple random sampling technique, as this procedure considers the sampling elements to have homogenous characteristics (all are finalists and their courses are blended with entrepreneurship courses). The sample was drawn from admission records/directories.

4.3.4 Data collection

Three data collection techniques were employed in this study. These include: questionnaire survey, focus group discussions and interviews. Pre-testing of questionnaires was conducted before it was administered, whereby the questionnaire forms were distributed to 12 respondents, equivalents to 4 per cent of a sample size. Few unfamiliar terms were noted, whereby the researcher replaced them with more familiar terms. A total of 300 questionnaire forms were administered but properly filled questionnaire forms were 294 (98.0%). Six focus group discussions were organized, each consisting of seven students selected through nomination strategy. Also six college staff (two staff per college) and two Ministry of Health, Community Development Gender, Elderly and Children officials were purposively selected and involved in interviews based on their role, knowledge and experience.

The perception of college social support was assessed by eleven items. The eleven items were measured on 5 level Likert scale labelled as strongly disagree, disagree, unsure, agree and strongly agree. The five points were scored as 1=strongly disagree to 5= strongly agree.

Likewise, the intention was assessed by nine items developed under the guidance of Linan and Chen (2006) and Malebana (2012), and measured on 5 level Likert scale labelled as strongly disagree, disagree, unsure, agree and strongly agree.

4.3.5 Data processing and analysis

Both objective one and two of this study were analysed by using descriptive statistics and content analysis. Specifically, respondents' socio-demographic characteristics and perception on the college social support environment were analysed by using frequencies, percentages, mean, and standard deviation. The differences in perceived college social support environment towards entrepreneurship across sex were analysed by using Mann Whitney U model. The relationship between college social support environment and youth farm entrepreneurial intentions were analysed by using Somers' D model.

Somers' D of Y with respect to X is defined as $D(Y/X) = {}_T(X,Y)/{}_T(X,X)$……(2)

Where: Somers' D-coefficient of association for asymmetrical variables; X- independent variable pair which include college social support environment factors and Y- dependent variable pair which is intention factors. If Somers' D coefficient > 0 ≤ +v 1, the variable is regarded to have impact on intention. The choice of Somers' D is based on the central role it plays in rank statistics for non-parametric (Newson, 2013).

4.3.6 Reliability and validity

Internal reliability of items for self-administered questionnaire was measured by Cronbanch alpha as defined by Fami (2000): $\alpha = K/K-1 \times S_T^2 - \sum S_I^2$…… (3)

Where α (alpha) is the coefficient; K the number of items; S_T^2 is the total variance of the sum of the item and the S_I^2 variance of individual item. The positive alpha coefficient ranging from 0.7 to 1 was taken into consideration. Pair-wise deletion method was applied in performing the reliability analysis. To obtain the required alpha results some of the items that were in the questionnaire were deleted. The reliability test Cronbanch alpha coefficient for perceived college social support items assessed is 0.746 while for entrepreneurial intention is 0.870

To ensure that the instrument covered all the components of information, content validity was determined through reviewing previous studies in assessing the adequacy, accuracy of what it measures. The questionnaire items that measured farm entrepreneurial intention and college social support environment were adopted, modified and fixed to the context from work of Liñán and Chen (2006), Ajzen (1991) and Malebana (2012).

4.4 Findings and Discussion

4.4.1 Socio-demographic characteristics of respondents

The basic social and demographic characteristics of respondents studied include age, sex and programme pursued. Findings show that the mean age of the respondents was 20.6 years, the lowest being 15 years, and highest age was 31 years with a standard deviation of 2.439. The average age falls within the age criterion of youth by the United Nations. It is also according to the operational definition of youth as used in this study. The distribution by sex shows that there were 11.6% more females than males as shown in Table 1. The respondents involved in

the study were in two main groups. The first group was those who specialized in animal husbandry and the second group is those who studied general agriculture. The second group did not specialize because they are not sitting for Vocational Education Training Authority (VETA) exams which have enrolment limitation as per Form Four national examination results. In the analysis, the two groups were combined since they are taught using FDC and VETA curricula.

Table 1: Socio-demographic characteristics of respondents

Type of variable	Sub items in the variable	Frequencies	Per cents
Sex	Male	130	44.2
	Female	164	55.8
	Total	**294**	**100**
Programme pursued	General Agriculture	73	24.8
	Animal husbandry	221	75.2
	Total	**294**	**100**

4.4.2 The perceived college social support environment

The perceived college social support environment for youth engagement in farm entrepreneurship was assessed. The specific areas in college social support environment that were assessed include: Knowledge about people who are farm entrepreneurs in college environment; approval of the decision to engage in farm entrepreneurship by tutors, friends, colleagues and other people who were part of the college environment; valuation of farm entrepreneurship career from tutors, friends, colleagues and other people who are in the college environment; and knowledge about the support provided for start-up in the college environment. All these were measured by eleven items as shown in Table 2.

The findings show that item 1-7 received higher ratings of above 75% when the scores of agree and strongly agree scales are combined. The seven items which received higher ratings are mainly measuring moral and social support from the college environment. For example approval from friends received the highest ratings. This means that the environment is socially supportive for youth to engage in farm entrepreneurship. However, in terms of material support such as financial support for start-ups, the college environment is less supportive. Also some social support items received lower ratings. The lowest rating from the respondents was on the items that deal with support from the college. In general respondents have good perception of the college social support environment toward farm entrepreneurship. The findings are in line with other studies such as Farah and Abu (2014) and Tateh *et al* (2014), who found positive perception of the social support environment towards farm entrepreneurship.

Table 2: Perceived college social support towards farm entrepreneurship of the respondents

	College social support attributes	Frequencies	SD%	D%	U%	A%	SA%	Total
1	I personally know someone who is farm entrepreneur in my college environment	294	3.7	8.2	13.6	40.5	34	100
2	I have a friend who is farm entrepreneur	294	0.7	12.6	9.5	40.8	36.4	100
3	I personally know other people who are farm entrepreneurs	294	0.3	11.9	10.5	39.8	37.4	100
4	My immediate class teachers/tutors would approve my decision to start farm entreprise	294	2.0	6.1	8.2	50.0	33.7	100
5	My friends would approve of my decision to start farm entreprise	294	1.4	2.0	14.6	45.6	36.4	100
6	My colleagues would approve of my decision to start farm entreprise	294	1.7	4.8	16.7	50.7	26.2	100
7	My teacher/tutors value farm entrepreneurship above other activities	294	2.0	6.5	15.6	43.5	32.3	100
8	I can rely on my teachers/tutors for assistance in starting farm entreprise	294	7.1	9.2	25.2	36.1	22.4	100
9	Our college provides good support for people wanting to start farm entreprise	294	17.1	16.0	20.7	29.7	16.3	100

10	I know different types of support that are offered to people who want to start their farm entreprise	294	5.8	9.2	15.0	45.2	24.8	100
11	It would be easy for me to access support from our college	294	12.6	11.9	20.1	33.7	21.8	100

Note: SD-Strongly Disagree, D-Disagree, U-Unsure, A-Agree and SA-Strongly Agree

An index was developed to determine the overall youth perception for social support environment towards farm entrepreneurship. As shown in Table 2 the Likert scale consists of 11 items and five response options with their respective weights reading as Strongly Disagree (1), Disagree (2), Unsure (3), Agree (4) and Strongly Agree (5). With respect to respondents' responses, the total minimum score for the eleven items was 11, the total neutral or unsure scores for nine items was 33 and total maximum score for the nine items was 55. In developing the index the researcher grouped the strongly disagree and disagree score and labelled them as no social support, unsure was labelled as undecided and agree and strongly agree were grouped as there is social support. Generally the descriptive statistics in Table 3 below show that majority of youth recognize the presence of social support in the college environment.

Table3: Overall perception of social support towards youth farm entrepreneurship

Social environmental support indicators	Frequency	Percent
No social support	31	10.5
Undecided	11	3.7
There is social support	252	85.7
Total	294	100.0

Mann Whitney test was conducted to assess whether there was a significant difference between male and female respondents in terms of perceived college social support

environment for youth engagement in farm entrepreneurship. The findings in Table 4 show that there are no significant differences for ten out of the eleven items. Only one item is significant at 5% level of significance, which is "I can rely on my teachers/tutors for assistance in starting farm entreprise" with mean ranking value of 158.12 for males and 139.08 for females, and their respective p-value was 0.047. Although in ten items no significant differences were observed, the mean rankings for males was higher than for females in nine items. With higher scores in descriptive statistics, it implies that the college social support environment favours both males and females in engaging in farm entrepreneurship.

Table 4: The differences in perceived college social support environment by sex

	College social support environment items	Sex	Mean Rank	P. values
1	I personally know someone who is farm entrepreneur in my college environment	Male Female	145.76 148.88	0.741
2	I have a friend who is farm entrepreneur	Male Female	152.65 143.42	0.325
3	I personally know other people who are farm entrepreneurs	Male Female	147.96 147.13	0.930
4	My immediate class teachers/tutors would approve my decision to start farm entreprise	Male Female	149.03 146.28	0.763
5	My friends would approve of my decision to start farm entreprise	Male Female	139.37 153.95	0.114
6	My colleagues would approve of my decision to start farm entreprise	Male Female	148.21 146.94	0.890
7	My teacher/tutors value farm entrepreneurial above other activities	Male Female	154.00 142.35	0.213
8	I can rely on my teachers/tutors for assistance in starting farm entreprise	Male Female	158.12 139.08	0.047*
9	Our college provides good support for people wanting to start farm entreprise	Male Female	149.50 145.91	0.712
10	I know different types of support that are offered to people who want to start their farm entreprise	Male Female	151.11 144.64	0.492
11	It would be easy for me to access support from our college	Male Female	151.59 144.26	0.449

Note * Significant at 5% level of significance

4.4.3 The relationship between college social support environment and youth farm entrepreneurial intention.

The factors for college social support were developed from the component of subjective norm as used by Ajzen in the Theory of Planned Behaviour (Ajzen, 1991). Somers' D test was used to assess the relationship, since the data for both college social support environment and intention are at ordinal scale (categorical forms) which does not follow the assumption of normality. The findings are presented in Table 5 with details in Appendix 2.

The findings show that for all nine items measuring intention, significant items at 5% surpass insignificant items against college social support environment meaning that there is significant and positive relationship between the two variables. However, the findings further show that there is systematic pattern for non significant items specifically for the pairs which involved item 1-8 for intention items against item 8-11 for college social support items. This implies that the colleges did not provide direct support for entrepreneurship in farming while friends, colleagues, tutors and other people morally supported their intention to farm entrepreneurship. Since coefficient of Somers' D ranges from 0.0 to 0.3, therefore the strength of relationship ranges from very weak to moderately weak. The finding is consistent with Eesley and Wang (2015) and Salehe (2011) who found significant relationship between social support and farm entrepreneurial intention.

Table 5: The relationship between farm entrepreneurial intention and college social support

Intention items	Social Support Environment attributes*										
	S_1	S_2	S_3	S_4	S_5	S_6	S_7	S_8	S_9	S_{10}	S_{11}
I am ready to do anything to be a farm entrepreneur	W	W	W	W	M	W	W	ns	ns	ns	ns

My professional goal is to be a farm entrepreneur	ns	W	W	W	W	W	W	ns	ns	ns	ns
I will make every effort to start and run my own farm entreprise	ns	W	ns	M	W	W	W	ns	ns	ns	ns
I am determined to create a farm entreprise in the future	ns	W	ns	W	M	W	M	ns	ns	ns	ns
I do not have doubts about ever starting my own farm entreprise	ns	ns	ns	W	W	W	W	ns	ns	ns	ns
I have very seriously thought of starting farm entreprise in the future	ns	ns	ns	W	W	W	W	ns	ns	ns	ns
I have strong intention of ever starting a farm entreprise in the future	ns	W	W	W	M	M	W	ns	ns	ns	ns
My qualification has contributed positively towards my interest of starting a farm enterprise	W	M	W	M	M	M	M	ns	ns	ns	ns
I had a strong intention to start my own farm entreprise before I started my study	W	W	ns	W	W	W	W	W	W	ns	W

Note: MW Significant at 5%; M moderate Weak (> 0.2) and W very weak (<0.2) ns not significant

*($\mathbf{S_1}$) I personally know someone who is farm entrepreneur in my college environment. ($\mathbf{S_2}$) I have a friend who is farm entrepreneur. ($\mathbf{S_3}$) I personally know other people who are farm entrepreneurs. ($\mathbf{S_4}$) My immediate class teachers/tutors would approve my decision to start farm entreprise. ($\mathbf{S_5}$) My friends would approve of my decision to start farm entreprise. ($\mathbf{S_6}$) My colleagues would approve of my decision to start farm entreprise. ($\mathbf{S_7}$) My teacher/tutors value farm entrepreneurial above other activities. ($\mathbf{S_8}$) I can rely on my teachers/tutors for assistance in starting farm entreprise. ($\mathbf{S_9}$) Our college provides good support for people wanting to start farm entreprise. ($\mathbf{S_{10}}$) I know different types of support that are offered to people who want to start their farm entreprise. ($\mathbf{S_{11}}$) It would be easy for me to access support from our college.

4.5 Conclusion and Recommendations

Youth perceive positively the social support environment in the college. However the perception varies by social agents (friends, colleagues, tutors and supporting staff) as indicated in the findings. Youth mainly receive approval for farm entrepreneurship related career from their friends, colleagues, tutors and other people in the college. However, they rarely received direct support from the college. This means that the social agents in the colleges do provide social cognitive level of support for youth farm entrepreneurship but

when it comes to seeking assistance in terms material support such as capital, grant or any subsidy the environment is not very supportive. In other words it may imply that the agents and colleges at large do not actively participate in farm entrepreneurship.

No significant gender differences were found in terms of perceived college social support environment, although males seemed to have more positive perception than females, probably due to the existence of male dominance in their culture. A significant relationship exists between perceived college social support environment and youth farm entrepreneurial intention, however the strength of relationship ranged from weak to moderately weak. It implies that the agents being part of learning environment consider farm entrepreneurship as future occupation. Nevertheless the fair ratings may mean the occupation is less attractive to them compared to other existing occupations.

It is recommended that colleges need to design and establish various programmes such as hands-on projects, enterprise start-ups and competition programmes which will actively impact the social agents and consequently producing the support to youth farm entrepreneurship. These programmes need to be implemented collaboratively among students, tutors and support staff. Also tutors need to be encouraged to practice farm entrepreneurship and share their experience with students. There is also need to develop a national strategy for farm entrepreneurial support by providing a clear definition of entrepreneurship in the national education policy specifically for the context of agricultural training environment.

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CHAPTER FIVE

5.0 The Influence of Agricultural Training on Youth Farm Entrepreneurial Self-efficacy: A Study of Folk Development Colleges in Tanzania

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5.1 Abstract

Providing entrepreneurial competencies to youth is currently the key to employment generation given the declining public sector employment opportunities in Tanzania. However, to generate such employment youth need to develop a strong belief in their capabilities to use the provided knowledge and skills, and the training provided has to reflect such intention. This further means that Folk Development Colleges (FDCs) being among the training institutions need to offer employment goal-oriented education centred equally in all domains of learning. The main objective of this paper is to assess the influence of agricultural training on youth farm entrepreneurial self-efficacy. A cross-sectional design was used involving 300 respondents randomly selected from three FDCs offering agricultural courses. Qualitative and quantitative data were collected and analysed by using descriptive and inferential statistics. The analyses generally show a significant relationship between agricultural courses studied and youth farm entrepreneurial self-efficacy. A significant relationship was also found between farm entrepreneurial self-efficacy and intention. However, resource acquisition and operational competencies self-efficacy constructs seemed to have more influence on youth farm entrepreneurial intention compared to managerial and financial competencies self-

efficacy constructs. It is recommended that course contents and the teaching environment be updated regularly according to changes in the demands of the industry. *As it stands, the whole FDC curriculum needs a review, and urgent improvements are needed in relation to financial and managerial competencies*.

Key words: Self-efficacy, youth, Folk Development Colleges, farm entrepreneurial intention, unemployment

5.2 Introduction

Self-efficacy is central in the formation of a person's intention which in turn determines whether or not he/she will choose a particular career (Nasta, 2007; Hashemi *et al.,* 2012). This clearly shows that self-efficacy influences an individual intention towards a specific career and its' development. Studies conducted on entrepreneurship have associated entrepreneurial self-efficacy with the success of enterprise start-ups and growth (Mateja *et al*., 2009; Lans *et al.,* 2008). Nonetheless, Weidinger *et al.* (2015) noted that farm entrepreneurship provides alternative livelihoods for the increasing population of educated young people in developing countries who are not finding remunerative formal work. This is true of the Tanzanian situation where the main economic activity is agriculture, yet youth unemployment estimated at 11% remains a big challenge (NBS, 2014).

McGee *et al*. (2009) defined self-efficacy as an individual's level of confidence and belief about his/her capabilities to successfully carry out a course of action, perform a given behaviour, accomplish a given task and attain the desired performance outcome. Thus, farm

entrepreneurial self-efficacy is an individual's level of confidence or belief about their ability to perform farm related behaviour. Wilson *et al.* (2007) confirmed that entrepreneurial self-efficacy plays a key role in determining the level of interest in pursuing an entrepreneurial career. With the acknowledged relationship between entrepreneurial self-efficacy and intention, the youth studying agricultural courses are expected to engage in farm entrepreneurship in this era of unemployment challenge since they are taught both agriculture and entrepreneurial skills.

However, despite the increasing support of the association between belief in the possessed knowledge and skills and career intention, youth who are studying agricultural courses have shown limited interest towards farm related careers. This is evidenced by Dhakre (2014), who found that 73.8% of students joined agricultural colleges so as to be employed in government institutions and only 2.5% so as to start an enterprise. Adams *et al.* (2013) found that 39.0% of self-employed Folk Development College (FDC) graduates were partly involved in farming. In addition, it is estimated that only 13.0% of lower tertiary technical college (Vocational Education and Training Authority and FDCs) graduates annually are self-employed in farming (URT and IIEP, 2011).This raises the question of the strength of behavioural beliefs or confidence youth develop based on the knowledge and skills acquired, or whether indeed such knowledge and skills do facilitate the establishment and running of farm related enterprises.

5.3 Exposure to Agricultural Education and Youth Farm Entrepreneurial Self-efficacy

In assessing this relationship, Temisan *et al.* (2016) found significant joint contributions of agricultural experiences and students' achievement to career decisions in agricultural science.

Similarly, Pierce (2012) found that after having worked in a garden, youth participants perceived themselves as having more positive dietary behaviours, increased knowledge of agriculture, and leadership skills, while Ratcliffe (2007) found that the hands-on experiences in the school garden led to increased ecological knowledge, and performance of environmentally responsible behaviours, but no improvements in ecological attitudes.

Another study indicated that most of the training participants had indicated that the training in agriculture helped them in strengthening their competencies in developing a market plan and making a useful inventory of their networks (Lans *et al.*, 2008). While evaluating the long term impact of an urban farm youth internship programme, the participants reported an increased sense of responsibility, higher levels of self-confidence, and strong connections with their community (Sonti *et al*., 2016). Wang *et al*. (2015) tested the mediating effect of self-efficacy on personality trait and entrepreneurial intention and found that the mediation model of self-efficacy is partially supported by entrepreneurial intention through conviction and preparation among agricultural students.

At the same time, Quisto and David (2012) found that non-agriculture students experienced increase in self-efficacy for agricultural communications tasks and obstacles for pursuing a degree in agricultural communications while agricultural students decreased in all three constructs. Fraze *et al*. (2011) noted that participants' pre- and post-workshop tested knowledge of agricultural facts revealed no significant differences. Similarly, Aldridge (2014) indicated that the three components model of agricultural education (number of agricultural education courses, Future Farmer of America (FFA) program participation, and level of

Supervised Agricultural Experience (SAE) involvement) were not a statistically significant predictor of total self-efficacy for the participants. Fizer (2013) found that 20% chose "FFA/4-H experience" as the most important factor affecting their choice for the career path, but farming background and the size of schools did not play a role in choosing a major.

Moreover, Edziwa and Chivheya (2012) analysed the agriculture education programme in Zimbabwe and found low self-efficacy level in subject content and practical skills. McKim and Velez (2016) found that mastery experiences may not be the optimal method for initially increasing pre-service teachers' self-efficacy, but vicarious experiences and other type of efficacy is supported. Adila and Samah (2014) assessed factors affecting inclination of students towards agricultural entrepreneurship and found that the highest mean score was recorded for social value, followed by subjective norm, then behavioural attitude, then closer valuation and finally confidence in their abilities.

From the reviewed literature, the practical related agri-education approach seems to influence positively youth farm entrepreneurial self-efficacy. However, the influence seems to be determined by context since such educational programmes yielded no impact on youth farm entrepreneurial self-efficacy in some schools or colleges. Also duration spent in study and background environment of the learners influence self-efficacy (Sonti *et al.*, 2016; Fraze *et al*., 2011). Yet the findings continue to vary from positive and negative influence and sometimes to no impacts. Thus this study will further examine this relationship.

5.4 The Relationship between Self-efficacy and Youth Farm Entrepreneurial Intention

According to the Theory of Planned Behaviour (Ajzen, 1991), self-efficacy (perceived behavioural control) is the strongest determinant of intention compared to other antecedents of intention, that is, attitude and subjective norms. Self-efficacy of an individual is determined by the control belief which in turn is a function of his or her past experiences, information and perceived opportunities. In this case, youth pursuing agricultural education may develop the self-efficacy about farm entrepreneurship through learning agricultural courses and their past experiences in farming.

However, looking at empirical findings, results by Liguori (2012) provided no support for the notion that the learning context directly or indirectly affects entrepreneurial self-efficacy or entrepreneurial intentions. Kidane (2016) found a moderately strong correlation (0.555) between entrepreneurial intention and self-efficacy compared to other personality traits, while Yanan (2015) found that personal factors such as voluntary enrolment and farm related experiences were significantly correlated with intention. Hashemi *et al.* (2012) analysis further showed positive and significant relationship between both entrepreneurial self-efficacy and college entrepreneurial orientation antecedents with entrepreneurial intention among agricultural students.

The review of the above studies reflects varied results on the relationship between agricultural training and farm entrepreneurial self-efficacy. Some have shown positive and significant relationships with mixed variation in their strength of relationship while others have shown no significant relationship (Liguori, 2012; Yanan, 2015).The cause of this variation appeared to

be attributed to sources that influence control beliefs which are largely determined by context. Thus as yet there is no clear pattern that has been established on the relationship between farm entrepreneurial self-efficacy and youth farm entrepreneurial intentions. Therefore this study will further assess the type of relationship that exists between farm entrepreneurial self-efficacy and youth farm entrepreneurial intention in the Tanzanian agricultural learning context.

The main objective of this paper was to assess the influence of agricultural courses studied on youth farm entrepreneurial self-efficacy for Folk Development College students. The colleges were chosen for the main reason that they offer agricultural training for self-employment. The specific objectives of the study were: first, to determine the relationship between the courses studied and youth farm entrepreneurial self-efficacy; and secondly, to determine the relationship between youth farm entrepreneurial self-efficacy and intention.

5.5 Methodology

5.5.1 The study area

Three Folk Development Colleges (FDCs) were involved in this study. These colleges were; Mamtukuna (Kilimanjaro Region), Monduli (Arusha Region) and Chisale (Dodoma Region).These FDCs were selected because one of their major objectives of training is to equip the learners with the knowledge and skills that would enable them to be self-employed and self-reliant based on their local situations. The three colleges were selected purposively because of the similarity in the nature of the agricultural courses which were blended with an

entrepreneurship course. The study population was all final year certificate students pursuing agricultural courses.

5.5.2 Study design, sampling procedures and sample size

A cross-sectional design was employed as the data were collected from three colleges which are located in three different Regions at one point in time. A sample size of 300 students was developed from an estimated population of 1200 from the three colleges using the formula developed by Israel (2009):

$$n = N/(1 + N(e^2)) \quad \text{..... (1)}$$

where *n* is the sample size, *N* population size, ***e*** is the level of precision. The formula assumes that p=.05 (maximum variability). The desired confidence level is 95% and the degree of precision/sampling error accepted is ± 5%. Therefore,

$$n = 1200/(1 + 1200(0.05)^2) = 300.$$

Every element in the sample was selected by using simple random sampling, as this procedure considers the sampling elements to have homogenous characteristics (all are finalists and their courses were blended with entrepreneurship courses). The sample was drawn from admission record books.

5.5.3 Data collection

Three data collection techniques were employed. These include a questionnaire, focus group discussions and interviews. Pre-testing of the questionnaire was conducted before it was administered, by administering to 12 respondents, equivalent to 4 per cent of a sample size.

Few unfamiliar terms were noted, whereby the researcher replaced them with more familiar terms. While 300 questionnaire copies were administered, properly filled questionnaires copies were 294 (98%). Six focus groups each consisting of seven students were formed through nomination strategy. Also six college staff (two staff per college) and two Ministry Health, Community Development, Gender, Elderly and Children officials were purposively selected based on their experience and roles for Key Informant interviews.

5.5.4 Data processing and analysis

Quantitative data for both objective one and two of this study were analysed by using descriptive and inferential statistics. Qualitative data for the same objectives were transcribed through content analysis. Specifically, respondents' socio-demographic characteristics and existence of self-efficacy were analysed by using frequencies and percentages. The differences in self-efficacy across sex and program studied were analysed by Kruskal-Wallis non parametric test. In further analysing the first objective, factor analysis was performed for the expected learning outcome variable items and self-efficacy variable items whereby new set of factors with underline structure commonalities were identified with the respective items factor loading coefficient ranging from 0.3 and above as shown in Appendixes 3 and 6. The two identified expected learning outcomes are skills outcomes and knowledge outcomes. The six identified factors for farm entrepreneurial self-efficacy were: resource acquisition, opportunity recognition, operational, managerial, financial and communication competencies.

The relationship between the identified factors for both expected learning outcomes and self-efficacy variables were run by multiple regression as defined by Hair *et al.* (2014):

$$Y'_1 = a + b_1X_1 + b_2X_2 \quad \ldots\ldots\ldots \quad (2)$$

where Y'_1 resource acquisition competencies, a Y-intercept, b_1 change in Y for each 1 increment change in X_1, b_2 change Y for each 1 increment change in X_2, X_1 skills outcomes and X_2 knowledge outcomes. Since there were six dependent variables the same independent variables (X_1 and X_2) were regressed against Y'_2 opportunity recognition competencies, Y'_3 operational competencies , Y'_4 managerial competencies, Y'_5 financial competencies and Y'_6 communication competencies using the same formula.

Similarly for objective two, factor analysis was performed for self-efficacy variable items and intention variable items. The relationship of the identified factors for both self-efficacy and intention were determined by using multiple regression defined as:

$$Y'_1 = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

whereby Y'_1 intention, a Y-intercept, b_1 change in Y for each 1 increment change in X_1, b_2 change Y for each 1 increment change in X_2, X_1 resource acquisition competencies X_2 opportunity recognition competencies, X_3 operational competencies, X_4 managerial competencies, X_5 financial competencies and X_6 communication competencies.

5.5.5 Reliability and validity

Internal reliability of items for self-administered questionnaire was measured by Cronbanch alpha as defined by Fami (2000):$\alpha = K/K - 1 \times S_T^2 - \sum S_I^2$……(4)

Where α (alpha) coefficient; K the number of items; S_T^2 is the total variance of the sum of the item and the S_I^2 variance of individual item. The positive alpha coefficient ranging from 0.7 to 1 was taken into consideration. Pair-wise deletion method was applied in performing the

reliability analysis. To obtain the required alpha results some of the items that were in the questionnaire were deleted. The reliability test results measured in terms alpha coefficient for expected learning outcomes items is 0.707, for entrepreneurial intention items is 0.870 and for entrepreneurial self-efficacy items is 0.884.

To ensure that the instrument covered all the components of information, content validity was determined through reviewing previous studies in assessing the adequacy, accuracy of what it measures. The questionnaire items that measured farm entrepreneurial intention were adopted and modified and fixed to the context from work of Liñán and Chen (2006), Ajzen (1991) and Malebana (2012). The development of items on course learning outcomes was guided by the following studies: Damian and Wallace (2015), Gibb and Price (2014), Vesala and Pyysiainem (2008) and Adeyemo (2009).

5.6 Results and Discussion

5.6.1 Socio-demographic characteristics of respondents

The analysis of descriptive statistics shows that the mean age of the respondents is 20.6 years, the lowest age being 15 years and highest age 31 years with a standard deviation of 2.439. The average age falls within the age criterion definition of youth by United Nations. It also concurs with operational definition of youth as used in this study. The distribution by sex shows that there were 11.6% more females than males as shown in Table 1.The respondents involved in the study were in two main groups. The first group included those specializing in animal husbandry and the second group involved those studying general agriculture. The second group did not specialize because they do not sit for the Vocational Education Training

Authority (VETA) exams which have enrolment limitation as per Form Four National Examination results. In the analysis, the two groups were combined since they are taught using FDC and VETA curricula.

Table 1: Socio-demographic characteristics of respondents

Type of variable	Sub items in the variable	Frequencies	Percents
Sex	Male	130	44.2
	Female	164	55.8
	Total	**294**	**100**
Programme pursued	General Agriculture	73	24.8
	Animal husbandry	221	75.2
	Total	**294**	**100**

5.6.2 Farm entrepreneurial self-efficacy

Various entrepreneurial competencies and skills in relation to farm entrepreneurship were assessed. The competencies and skills assessed covered the two main areas; namely agriculture competencies and general entrepreneurship competencies. Also the skills and competencies were assessed according to the enterprise life-cycle stages which include searching, planning, marshalling and implementing stage (Malebana, 2012; Hanxiong, 2009).

The descriptive statistics in Table 2 show that majority of scores are aligned to fairly confident and very confident levels of measurement. This implies that youth generally perceived themselves as fairly confident and very confident in terms of farm entrepreneurial capabilities. However, the principal component factor analysis was performed and the Bartlett test of sphericity was at acceptable standards; χ^2 = 3907.900, degrees of freedom (df) = 406, p-value =.000 and Kaiser-Meyer-Olkin (KMO) = 0.921 and variance explained by 63.01% as

shown in Appendix 6. Six self-efficacy factors were developed from that analysis and the ratings indicate that youth are very confident in resource acquisition competencies, opportunity recognition, and operational competencies and fairly confident in managerial, financial and communication competencies as shown by the weights of variance for each factor.

This is further evidenced by opinions from the focus group discussions where the group members were asked to at least mention any career that they are confident to engage in immediately after graduation. The discussant responses were as follows:

> *……I will open my agro-veterinary shop; I will open and run a vegetable farm….. I will open a poultry keeping farm……*

The discussion indicates that the youth were fairly well prepared to establish their farm enterprises after graduation. The findings concur with the studies by Cooper *et al.* (2008) and Rasheed (2003), who found an increase in self-efficacy after studying entrepreneurship course.

Table 2: The perceived level of farm entrepreneurial self-efficacy of the respondents

	Farm entrepreneurial self-efficacy	F	V LC%	LC%	U%	FC%	VC%	Total
1	It is easy for me to start a farm enterprise and keep it working	294	1.4	2.7	6.8	35.4	53.7	100
2	I am prepared to start a viable farm enterprise	294	4.1	5.4	9.2	37.1	44.2	100
3	I can control the initial/start up process of new farm enterprise	294	3.1	7.1	8.5	40.8	40.5	100
4	I have necessary practical details for a new farm enterprise	294	3.1	7.5	6.5	33.7	49.3	100
5	I have ability to generate new ideas for a product or service in my farm enterprise	294	1.7	4.4	6.8	29.9	57.1	100
6	I have ability to identify a need for a new product	294	1.4	3.1	7.1	39.8	48.6	100
7	I have ability to design a product or service that will satisfy the customer needs and wants	294	1.0	3.7	9.9	27.2	58.2	100
8	I have ability to estimate customer demand for a new product or service	294	1.7	4.4	10.5	39.5	43.9	100
9	I have ability to determine competitive price for a	294	0.3	4.8	8.2	35.4	51.4	100

	new product or service							
10	I have ability to estimate a start-up funds and working capital necessary to start a farm enterprise	294	3.1	3.1	8.5	38.8	46.6	100
11	I have ability to design effective, advertising campaign for a new product or service	294	2.7	4.1	7.5	32.3	53.4	100
12	I have ability to make contact and exchange information with others	294	1.7	2.4	4.4	32.7	58.8	100
13	I have ability to clearly and concisely explain my farm enterprise idea in simple terms	294	0.7	4.1	4.8	38.8	51.7	100
14	I have ability to develop relationship with key people who are connected to sources of capital	294	0.3	5.1	7.1	35.7	51.7	100
15	I have ability to identify potential sources of funds for any farm enterprise investment	294	1.0	7.5	10.9	35.7	44.9	100
16	I have ability to train and recruit new employees	294	2.4	6.5	7.5	39.1	44.6	100
17	I have ability to supervise employees	294	1.4	1.4	5.8	32.7	58.8	100
18	I have ability to deal effectively with day to day farming problems and crisis	294	2.0	2.0	6.5	39.5	50.0	100
19	I have ability to inspire, encourage and motivate my employees	294	1.0	2.7	6.8	37.4	52.0	100
20	I have ability to persist in the face of adversity	294	1.0	2.4	7.5	35.7	53.4	100
21	I have ability to make decisions under uncertainty	294	1.0	3.1	7.8	32.0	56.1	100
22	I have ability to organize and maintain financial records of my farm enterprise	294	1.0	4.1	6.5	25.5	62.9	100
23	I have ability to manage financial assets of my farm enterprise	294	1.0	3.7	6.5	29.5	58.8	100
24	I have ability to identify profit and loss of my farm enterprise	294	1.4	4.4	3.4	29.3	61.6	100
25	I have ability to identify farm appropriate inputs	294	1.4	1.7	7.8	30.3	58.8	100
26	I have ability to operate machines and apply farm inputs	294	0.7	4.1	8.2	37.8	49.3	100
27	I have ability to use new farming procedure	294	0.7	3.1	7.8	32.3	56.1	100
28	I am capable to compete and produce more or get more profit with other farm entrepreneurs	294	0.7	2.0	5.4	27.6	64.3	100

Note: F-frequency, VCL-Very little confidence, LC-little confidence-unsure, FC-Fairly confident, VC-very confident

An index was developed to determine the overall self-efficacy of the respondents which was then analysed by descriptive statistics. As shown in Table 2 the Likert scale consists of 28 items and five response options with their respective weights reading as Very little confidence (1), Little confidence (2), Unsure (3), Fairly confident (4) and Very confident (5). With regards to respondents' responses, the total minimum score for 28 self-efficacy items was 28, the total neutral or unsure scores for 28 items was 84 and total maximum score for the 28 items was 140. In developing the index the researcher grouped the Very little confidence and

little confidence options and labeled them as no confidence, unsure was labeled as undecided and fairly confident and very confident were labeled as there is confidence. Generally the descriptive analysis in Table 3 shows that youth in FDCs have confidence towards farm entrepreneurship.

Table 3: Overall farm entrepreneurial self-efficacy of the respondents

Self-efficacy	Frequency	Percent
There is no confidence	49	16.7
Undecided	8	2.7
There is confidence	237	80.6
Total	294	100.0

The difference in self-efficacy across sex and program studied was analysed by the aid of Kruskal-Wallis non-parametric test as shown in Table 4. The findings show that only operational competencies self-efficacy variable appeared significantly different at 5% level of significance for both sex and program type with the respective sum of ranks showing female students being more confident than their male counterpart. However, generally there was no significant difference in 5 self-efficacy factors across sex and type of the program. This further implies that approaches used in delivering the competencies were equally fair for both male and female students. In the case of program type the lack of significant difference, meant that the program types have underlying commonalities in terms of content and objectives of their establishment.

Table 4. Kruskal-Wallis test for the deference in self-efficacy across sex and program

Variable	Resource A.	Opportunity	Operational	Managerial	Financial	Communication
X^2 with 1 d f s	1.101	0.217	16.029	0.312	2.565	1.937

Probability s	0.2941	0.6411	0.0001*	0.5763	0.1092	0.1640
X^2 with 1 d f p	1.357	1.616	30.491	3.043	0.282	0.088
Probability p	0.2441	0.2037	0.0001*	0.0811	0.5953	0.7671

Note X^2- Chi-square, d f s -degree of freedom, s -sex, p-programme, A-acquisition, * Significant at 5%

5.6.3 The relationship between learning outcomes and farm entrepreneurial self-efficacy

Multiple regression analysis was conducted to determine the relationship between the expected learning outcomes and farm entrepreneurial self-efficacy. Principal factor analysis was performed first for the set of expected learning outcomes and the respective Bartlett test of sphericity was at acceptance level (χ^2 = 341.684, df= 36, p-value = 0.000 and KMO =0.802 and variance explained by 52.19% as shown in Appendix 3). Two expected learning outcome factors (skills and knowledge) were developed from the factor analysis and used as explanatory variables in the regressions. Since there were six dependent variables; six regressions were performed against explanatory variables as summarized in Table 5.

Generally in all the six regressions, expected learning outcomes have significant impact on self-efficacy since p-values are less than 0.05. Also the adjusted R^2 for all the regressions is above 50% indicating the models are of acceptable standards. Specifically, the expected learning skills outcomes have impacts on efficacy variables than knowledge outcomes except in regression 4. For instance, a unit increase in expected learning skills outcomes increases confidence in resource acquisition competencies by 0.680 while a unit increase in expected learning knowledge outcomes increases confidence in resource acquisition by 0.599. In other words, confidence in resource acquisition competence can be explained by educational

outcomes by 57%. This implies that agricultural training have positive influence on youth farm entrepreneurial self-efficacy.

Table 5. The relationship between expected learning outcomes and self- efficacy

	Coef.	Std. Err.	T	P>t	[95% Conf	Interval]	Model Summary	
1.Resource A								
Skills	.680	.0523	13.01	0.000	.578	.764	Prob>F	0.0000
Knowledge	.599	.0523	11.45	0.000	.496	.701	R^2	0.5814
cons	1.46e-10	.0522	0.00	1.000	112	-.112	Adj R^2	0.5785
2.Opportunity								
Skills out	.357	.049	7.25	0.000	.260	.453	Prob>F	0.0000
Knowledge	.335	.049	6.81	0.000	.238	.432	R^2	0.5417
cons	-192e-10	.048	0.00	1.000	.114	-.114	Adj R^2	0.5366
3.Operatinal								
Skills	.648	.053	12.02	0.000	.543	.754	Prob>F	0.000
Knowledge	.604	.053	11.19	0.000	.498	.709	R^2	0.5645
cons	-9.35e-10	.051	0.00	1.000	.102	-102	Adj R^2	0.5615
4.Managerial								
Skills	.306	.048	6.29	0.000	.211	.402	Prob>F	0.000
Knowledge	.332	.048	6.81	0.000	.236	.428	R^2	0.5386
cons	-4.04e-10	.047	0.00	1.000	.113	-113	Adj R^2	0.5354
5.Financial								
Skills	.295	.050	5.86	0.000	.196	.394	Prob>F	0.000
Knowledge	.276	.050	5.49	0.000	.177	.375	R^2	0.5331
cons	7.22e-10	.049	0.00	1.000	.114	-.114	Adj R^2	0.5299
6.Communication								
Skills	.618	.052	11.7	0.000	.514	.721	Prob>F	0.000
Knowledge	.600	.052	11.4	0.000	.497	.703	R^2	0.5571
constant	6.67e-10	.051	0.00	1.000	115	-.115	Adj R^2	0.5540

Note A-acquisition, adj.-adjusted, pro. -probability, significant at 5%

5.6.4 Farm entrepreneurial self-efficacy and intention

In examining the relationship between farm entrepreneurial self-efficacy and intention, principal component factor analysis for the items that measure intention was performed as shown in Appendix 3. The results of the analysis was of the acceptable standards as shown by Bartlett test of sphericity (χ^2 = 1060.511, df= 36, p-value =0.000, KMO = 0.897 and variance explained by 50.75%) as shown in Appendix 5. Only one factor was developed from this analysis implying that the constructs measuring intention share commonalities.

The analysis of multiple regression shows that there is significant relationship between farm entrepreneurial self-efficacy and intention as p-values are less than 0.05. However, there is slight variation in the levels of influence among self-efficacy constructs. Resource acquisition competencies construct have more influence in the youth intention towards farm entrepreneurship compared to other constructs as shown in Table 6. A unit change in resources acquisition competencies influences intention by 0.596. On the other hand, financial competencies construct had the least contribution to the influence on farm entrepreneurial intention as a unit change in financial control competencies influences intention by 0.103.

The model summary shows that the results were statistically significant ($F(6,286) = 56.32$, $p < 0.000$). This indicates that 53% of the variance in youth farm entrepreneurial intention was explained by farm entrepreneurial self-efficacy. This finding implies that youth farm entrepreneurial intention can be explained by other factors by 47%. Also it raises the question on the strength of the self-efficacy as some of its constructs appear to have low or weak influence as shown in Table 5. In other words, the strength of efficacy can be attributed to the kind of competencies taught during training with their respective teaching approaches. The findings concur with Hashemi *et al.* (2012) who found significant relationship between entrepreneurial self-efficacy and intention among agricultural college students.

Table 6. Relationship between self-efficacy and youth farm entrepreneurial intention

Intention	Coef.	Std. Err.	T	P>t	[95% Conf	Interval]	Model summary	
Resource A.	.596	.052	11.26	0.000	.492	.699		
Opportunity	.183	.048	3.74	0.000	.087	.279		
Operational	.325	.052	6.23	0.000	.223	.427		
Managerial	.140	.048	2.87	0.004	.044	.236		
Financial	.103	.049	2.11	0.036	.007	.199	Prob>F	0.0000

Communication	.318	.050	6.27	0.000	.219	.418	R^2	0.5416
constant	-1.14	.217	-5.25	0.000	-1.56	-.713	Adj R^2	0.5319

Note: A- acquisition

5.7 Conclusions and Recommendations

Generally, the youth perceived themselves as being 'fairly confident' to 'very confident' about their farm entrepreneurial self-efficacy. This variation is also reflected in the specific farm entrepreneurial self-efficacy constructs since their variance weights differed with confidence in resources acquisition competencies being higher than others. No significant differences were found between sex of the respondents and self-efficacy constructs. This indicates that both sexes have nearly the same confidence level for all self-efficacy constructs. Also it may further imply that the environment for learning was gender sensitive.

Significant relationship was found between the expected courses outcome and farm entrepreneurial self-efficacy. Nevertheless, skill-based educational outcomes seem to influence more the farm entrepreneurial self-efficacy constructs than knowledge-based outcomes. Yet, generally the level of influence was around 50% implying that the remaining percentages may be further explained by other factors; probably the social, cultural and economic environment where agriculture is practiced. Further implication may be that the youth were fairly satisfied with the kind of competencies offered in pursuing farm related enterprises.

Significant relationship was also found between farm entrepreneurial self-efficacy and intention. Despite significance relationship shown, some of farm entrepreneurial self-efficacy

constructs contributed low influence on farm entrepreneurial intention, for example financial and managerial competencies. This may be attributed to the content of the courses studied and approaches of teaching which may not be adequate for a career in farm enterprising. In addition self-efficacy generally explained youth farm entrepreneurial intention by 53% implying that the remaining percent can be explained by other factors which were not covered in this study.

It is recommended that course contents need to be updated from time to time as per industry demand changes and their respective teaching approaches should be revised based on regular tracer studies. Nonetheless, as it stands, curriculum needs to be reviewed so as to improve financial and managerial competencies which seem to be inadequate or not properly taught when in fact they are very basic in running a farm enterprise. It is also recommended to make training more applied, but observing a proper balance between knowledge and skills based competencies.

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CHAPTER SIX

6.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of Major Findings and Conclusions

6.1.1The influence of agricultural courses studied on youth farm entrepreneurial intention

The agricultural courses blended with entrepreneurship courses that aimed at preparing youth for farm entrepreneurship are discussed in chapter two. The focus was to determine the extent to which the youth have studied the recommended courses for farm entrepreneurship, and the extent to which the knowledge and skills acquired directly influence youth farm entrepreneurship regardless of the antecedent of entrepreneurial intention. The direct influence of knowledge and skills on farm entrepreneurial intention was measured in accordance with the Theory of Planned Behaviour which pointed out that belief can directly influence the behaviour of an individual.

The findings generally show that the youth have studied the recommended agricultural courses except few courses with variation attributed to college implementation of the curriculum. Animal Husbandry is the most studied course followed by Crop Production and the least studied courses were Agro-mechanics and Agricultural Economics. With regard to entrepreneurship courses, the youth have studied almost all courses except the Human Resource course using the VETA curriculum. However, the courses lack practical cases in the field of agriculture. Moreover, in both agriculture and entrepreneurship some of the courses

were taught at lower levels of the cognitive domain as evidenced by the action verbs used in the learning objectives.

Furthermore, relevant teaching methodologies were applied except research and the use of guest speakers. Also the findings show that there is significant relationship between the knowledge and skills acquired as measured by expected learning outcomes and youth farm entrepreneurial intention. However, the Somers' D coefficient ranges from below 0.2 and above 0.2 indicating very weak to moderately weak strength of relationship.

It can be concluded that the youth in the studied colleges have studied the recommended courses that prepare them for farm entrepreneurship, with the exception of few courses which are basic. In addition, they were taught using appropriate teaching methodologies although they lacked practical learning experiences. This means that with such competencies acquired they are in a good position for farm enterprise start-ups and development. This implies that knowledge and skills have a direct influence on youth farm entrepreneurial intention, although such influence ranged from very weak to moderately weak.

6.1.2The effect of agricultural training on youth farm entrepreneurial attitudes

Chapter three of this thesis presents and discusses findings concerning the effect of agricultural training on youth farm entrepreneurial attitudes. The results of the analysis generally show that 88.1% of youth have favourable attitude toward farm entrepreneurship. They expressed the field of farm entrepreneurship as attractive and satisfying. Their favourable attitude is demonstrated by their citing some of the socio-economic outcomes such

as profit and basic needs offered by farm enterprises. They also associated the awareness of such outcomes by linking to some of the courses studied for example Pasture Management and Poultry Production. However, there were significant variations in terms of farm entrepreneurial attitudes across sex, age groups, college and programme studied. Female youth, those with age category of 20 to 24 years and those specialized in Animal Husbandry have more favourable attitude than their counterparts.

The Structural Equation Modelling Analysis results show that Agricultural Education and Training have significant influence on youth farm entrepreneurial attitudes. There were differences in influence by training whereby skill competencies significantly influenced youth farm entrepreneurial attitude by 37% while knowledge competencies influenced it by 16%. However, some specific observable indicators/variables for training have shown limited contribution to attitude for example the relevancy indicator. Consequently, attitude explained youth farm entrepreneurial intention by 87%. The model goodness of fit test adequately explains the hypothesized relationship between attitude and youth farm entrepreneurial intention. Also for the case of attitude, the indicator for the economic returns has shown the least influence in terms of youth farm entrepreneurial intention.

It can be concluded that agricultural training has a positive influence on youth's attitude towards farm entrepreneurship. Specifically, the influence is only explained to youth who studied agricultural courses that are blended with entrepreneurship courses. However, skills competencies had more influence than the knowledge competencies, implying that the curriculum used lacked some important and relevant information about farm entrepreneurship.

Also it is further concluded that attitude strongly explained youth farm entrepreneurial intention. This means that majority of youth in the studied FDCs were willing to engage in farm entrepreneurship.

6.1.3 Youth perceptions on college social support environment towards farm entrepreneurial intention

The discussion of findings on youth perception of the college social support environment towards farm entrepreneurial intention is presented in chapter four. The descriptive findings generally show that both males and females do get moral and social support from the college especially friends, colleagues and teachers. However, they get less material support such as financial support for farm entreprise start ups. Other than the agents within the college, the college itself is perceived to be less supportive for youth farm entrepreneurship.

The inferential statistics, specifically Somer's D test, revealed that there is significant relationship between college social support environment and youth farm entrepreneurial intention. This means that the college social support environment positively influenced youth farm entrepreneurial intention. However, the strength of the relationship ranged from very weak to moderately weak. Also the test for Somer's D further shows that the college is perceived as not providing direct support for youth farm entrepreneurship apart from training.

It is therefore concluded that the college social support environment has a positive influence on youth farm entrepreneurial intention. This indicates that friends, colleagues and teachers play a significant role on youth decisions and intention towards farm entrepreneurship. In

other words, the social agents in the colleges do provide social cognitive level of support for youth farm entrepreneurship. However, the colleges themselves remained limited themselves to provision of training, but when it comes to seeking assistance in terms of material support such as capital, grant or any subsidy the environment is not very supportive.

6.1.4The influence of agricultural training on youth farm entrepreneurial self-efficacy

Chapter five of this thesis covers the findings and discussion about the influence of agricultural training on youth farm entrepreneurial self-efficacy. Generally, the findings show that youth perceived themselves as fairly to very confident regarding their farm entrepreneurial capabilities. Specifically, the youth are very confident in resource acquisition, opportunity recognition and operational competencies and they were fairly confident in managerial, financial and communication competencies as indicated by multiple regression analysis. Also they were able to specify some of farm related entrepreneurial careers that they are able to perform or engage in. This shows that the youth have been prepared well in establishing farm related enterprises. The findings also indicate that there were no significant differences across sex and programme studied. This means that the learning experiences were similar for both male and female students.

The findings further show that agricultural training has statistically significant influence on youth farm entrepreneurial self-efficacy as measured in terms of learning outcomes. But skills learning outcomes contributed more in influencing self-efficacy. For example, skills learning outcomes explained confidence in resource acquisition by 68%. Though there were slight

variations in terms of influence by both skills and knowledge learning outcomes towards six self-efficacy indicators, they had the least contribution specifically for managerial and financial competencies. This indicates that the training has less impact on managerial and financial self-efficacies. Furthermore, the findings show that self-efficacy significantly influenced youth farm entrepreneurial intention as it explained it by 53%. Thus 47% of youth farm entrepreneurial intention can be explained by other factors.

Based on the findings it can be concluded that agricultural training in FDCs has significant influence on youth farm entrepreneurial self-efficacy. This means that youth are confident concerning the competencies studied in relation to establishment and development of farm enterprises. However, the youth showed lower confidence in managerial and financial competencies compared to resource acquisition and operational competencies self-efficacy constructs. The findings further showed that self-efficacy has statistically significant relationship with youth farm entrepreneurial intention.

6.2 Recommendations

6.2.1 Addressing courses studied and farm entrepreneurial intention

Given the findings on the influence of agricultural courses studied on youth farm entrepreneurial intention, the following are the recommendations. With reference to the findings in chapter two which show that some of the basic courses on entrepreneurship and agriculture were not studied, it is recommended that Value Chain and Human Resource Management need to be added in the current curriculum. Furthermore, since some of courses

for example Agro-mechanics and Agricultural Economics were less emphasized because of shortage of tutors and lack of facilities, it is recommended that government should employ qualified tutors and improve the teaching infrastructure to facilitate the teaching of these courses.

Since the FDCs were taught using VETA entrepreneurship curriculum which lacks relevant practical cases for FDC students pursuing agriculture courses, it is recommended that government through NACTE should harmonise the use of entrepreneurship curriculum so as to make it fit for the purpose of the FDC expected learning outcomes. Also content for the agricultural courses needs a review so as to fit with the expected learning objectives since as it stands some of the content is more aligned to lower cognitive levels which could not properly fit with expected learning outcomes.

With reference to findings on teaching methodology, it is recommended that research and use of guest speakers need to be applied during training. These two techniques help the learners in developing entrepreneurial character such as creativity, innovation and motivation. Also tutors need to be given additional training so as to update them since entrepreneurial teaching methods do vary according to context.

6.2.2The effect of agricultural training on youth farm entrepreneurial attitudes

In addressing youth farm entrepreneurial attitude, it is recommended that more information about socio-economic benefits and opportunities offered by farming enterprises needs to be added to the current curriculum in FDCs. This is because knowledge competencies have

shown limited contribution to youth farm entrepreneurial attitude. Also since the attitude strength is still moderate such information will improve the awareness of the youth concerning the opportunities which in turn will improve their attitude. In addressing the mis-match of the courses with industry, it is recommended that; first the teaching in FDCs has to be integrated with industry practitioners who should be visiting the colleges to share the experiences through workshops, seminars, and exhibitions or vice versa; secondly, the colleges have to make the proper placement during the field training sessions; and thirdly, the teaching environment needs to be modernized in accordance with the changes and dynamics in the industry.

In addressing the differences across colleges concerning youth farm entrepreneurial attitude, it is recommended that NACTE has to critically monitor and ensure that the colleges offer standard training for youth, since the variation across the colleges is somehow attributed to the improper or inadequate implementation of the curricula in the course of training.

6.2.3Youth perceptions on college social support environment towards farm entrepreneurial intention

With reference to the findings concerning perceived college social support environment towards farm entrepreneurial intention, it is recommended that the FDCs have to establish incentives which encourage youth to engage in farm entrepreneurship. Also it is recommended that FDCs should design programmes such as incubators and farm related collaborative hands-on projects and competitions so as to make the social environment in the colleges active and motivating for farm entrepreneurship. Moreover, tutors need to be

encouraged to practice farm entrepreneurship and share their experience with students. There is a need to develop a national strategy for farm entrepreneurial material and moral support in the FDCs.

6.2.4 The influence of agricultural training on youth farm entrepreneurial self-efficacy

In addressing youth farm entrepreneurial self-efficacy, it is recommended that there should be proper balancing of both theoretical and practical training. However, more emphasis in training needs to be put on financial and managerial competencies since these competencies have shown limited influence in youth farm entrepreneurial intention indicating that they were inadequately or not properly taught when in fact they are important in running any farm enterprise.

6.3 Policy Recommendations

The National Agriculture Policy of 2013 has clearly stated that there is inadequate participation of the private sector in the development of the agricultural sector; however, it does not state the strategies to involve them. Therefore, this study recommends the policy to be reviewed to indicate the training strategy which will influence youth to participate in agriculture through farm entrepreneurship. Also the policy should state ways to engage the private sector in farm entrepreneurship. Furthermore, the study recommends that youth farm entrepreneurship behavioural motivation training component should be part of the Agricultural Sector Development Programme (ASDP) involving the FDCs. As it stands the programme’s emphasis is on research and technological change.

Despite the fact that individuals can acquire entrepreneurial behaviour through learning, the opportunity identification and realization largely depend on the context of that learning. Therefore, it is recommended to review the Tanzania Education Policy of 2014 to define and customize entrepreneurship across sectors including agriculture. Also the Education Policy has to generally state learning outcomes based on the levels of education starting from primary to university level.

6.4 Contribution of the Study

The study findings contribute to the body of knowledge that expresses farm entrepreneurial intention after exposure or studying agricultural courses blended with entrepreneurship courses in FDC. It has described critically the competencies that influence youth farm entrepreneurial intention and its antecedent. Thus it provides the behavioural basis for addressing youth unemployment through farm entrepreneurship by unveiling attitudinal, subjective norms and self-efficacy attributes. The findings of this study are also useful to stakeholders of youth development especially in designing policies that deal with youth socio -economic development. Specifically the study will help to improve the educational, agricultural, youth development and employment policies.

Theoretically, the study contributes to the Theory of Planned Behaviour in that the dominance of antecedents of intention depend on the context under study as this study found that attitude is the strongest determinant of intention compared to subjective norms and self-efficacy. Also the study has further shown that not only the beliefs directly measure the behaviour but also the beliefs measure the intention.

APPENDICES

Appendix 1: The relationship between farm entrepreneurial intention and expected learning outcomes

Dependent variable: Farm entrepreneurial Intention factors	Independent Variable: Learning outcomes determinants	Somers D Coefficient	P-Values
(1)I am ready to do anything to be a farm entrepreneur	The courses have exposed to basic skills required for farm entrepreneurship	0.287	.000*
	The courses have provided me enough knowledge to be a farm entrepreneur	0.166	.002*
	The assignments have provided me a good lesson for farm entrepreneurship	0.171	.002*
	The courses have raised my awareness on link between farming and industries	0.089	.107
	The courses were very clear	0.153	.005*
	The courses are relevant to what I observed in the field	0.044	.408
(2)My professional goal is to be a farm entrepreneur	The courses have exposed to basic skills required for farm entrepreneurship	0.221	.000*
	The courses have provided me enough knowledge to be a farm entrepreneur	0.125	.026*
	The assignments have provided me a good lesson for farm entrepreneurship	0.110	.054
	The courses have raised my awareness on link between farming and industries	.161	.004*
	The courses were very clear	0.117	.037*
	The courses are relevant to what I observed in the field	0.194	.000*
(3)I will make every effort to start and run my own farm entreprise	The courses have exposed to basic skills required for farm entrepreneurship	0.192	.001*
	The courses have provided me enough knowledge to be a farm entrepreneur	0.126	.022*
	The assignments have provided me a good lesson for farm entrepreneurship	0.143	.010*
	The courses have raised my awareness on link between farming and industries	0.168	.002*
	The courses were very clear	0.178	.001*
	The courses are relevant to what I observed in the field	0.172	.001*
(4)I am determined to create a farm entreprise in the future	The courses have exposed to basic skills required for farm entrepreneurship	0.208	.000*
	The courses have provided me enough knowledge to be a farm entrepreneur	0.111	.043*
	The assignments have provided me a good lesson for farm entrepreneurship	0.152	.007*
	The courses have raised my awareness on link between farming and industries	0.130	.013*
	The courses were very clear	0.130	.021*
	The courses are relevant to what I observed in the field	0.146	.005*
(5)I do not have doubts about ever starting my own farm entreprise	The courses have exposed to basic skills required for farm entrepreneurship	0.185	.001*
	The courses have provided me enough knowledge to be a farm entrepreneur	0.70	. 195

	The assignments have provided me a good lesson for farm entrepreneurship	0.053	.330
	The courses have raised my awareness on link between farming and industries	0.070	.185
	The courses were very clear	0.095	.086
	The courses are relevant to what I observed in the field	0.131	.012*
(6)I have very seriously thought of starting farm entreprise in the future	The courses have exposed to basic skills required for farm entrepreneurship	0.202	.000*
	The courses have provided me enough knowledge to be a farm entrepreneur	0.099	.064
	The assignments have provided me a good lesson for farm entrepreneurship	0.169	.003*
	The courses have raised my awareness on link between farming and industries	0.119	.025*
	The courses were very clear	0.083	.140
	The courses are relevant to what I observed in the field	0.140	.008*
(7)I have strong intention of ever starting a farm entreprise in the future	The courses have exposed to basic skills required for farm entrepreneurship	0.241	.000*
	The courses have provided me enough knowledge to be a farm entrepreneur	0.136	.010*
	The assignments have provided me a good lesson for farm entrepreneurship	0.156	.007*
	The courses have raised my awareness on link between farming and industries	0.134	.011*
	The courses were very clear	0.112	.050*
	The courses are relevant to what I observed in the field	0.139	.007*
(8)My qualification has contributed positively towards my interest of starting a farm enterprise	The courses have exposed to basic skills required for farm entrepreneurship	0.321	.000*
	The courses have provided me enough knowledge to be a farm entrepreneur	0.163	.002*
	The assignments have provided me a good lesson for farm entrepreneurship	0.262	.000*
	The courses have raised my awareness on link between farming and industries	0.169	.001*
	The courses were very clear	0.164	.002*
	The courses are relevant to what I observed in the field	0.189	.000*
(9)I had a strong intention to start my own farm entreprise before I started my study	The courses have exposed to basic skills required for farm entrepreneurship	0.157	.003*
	The courses have provided me enough knowledge to be a farm entrepreneur	0.106	.043*
	The assignments have provided me a good lesson for farm entrepreneurship	0.120	.027*
	The courses have raised my awareness on link between farming and industries	0.190	.000*
	The courses were very clear	0.127	.014*
	The courses are relevant to what I observed in the field	0.101	.058

Note * Significant at 5% level of significance

Appendix 2: The relationship between farm entrepreneurial intention and college social support environment

Dependent variable: Farm entrepreneurial Intention factors	Independent variable: College social support environment	Somers' D Coefficient	P-values
(1)I am ready to do anything to be a farm entrepreneur	I personally know someone who is farm entrepreneur in my college environment	.176	.001*
	I have a friend who is farm entrepreneur	.161	.002*
	I personally know other people who are farm entrepreneurs	.130	.003*
	My immediate class teachers/tutors would approve my decision to start farm entreprise	.175	.001*
	My friends would approve of my decision to start farm entreprise	.218	.000*
	My colleagues would approve of my decision to start farm entreprise	.196	.000*
	My teacher/tutors value farm entrepreneurial above other activities	.168	.001*
	I can rely on my teachers/tutors for assistance in starting farm entreprise	.092	.073
	Our college provides good support for people wanting to start farm entreprise	.021	.691
	I know different types of support that are offered to people who want to start their farm entreprise	.009	.866
	It would be easy for me to access support from our college	-.068	.188
(2)My professional goal is to be a farm entrepreneur	I personally know someone who is farm entrepreneur in my college environment	-.036	.487
	I have a friend who is farm entrepreneur	.082	.119
	I personally know other people are farm entrepreneurs	.172	.000*
	My immediate class teachers/tutors would approve my decision to start farm entreprise	.197	.000*
	My friends would approve of my decision to start farm entreprise	.186	.001*
	My colleagues would approve of my decision to start farm entreprise	.129	.016*
	My teacher/tutors value farm entrepreneurial above other activities	.148	.005*
	I can rely on my teachers/tutors for assistance in starting farm entreprise	.012	.817
	Our college provides good support for people wanting to start farm entreprise	-.034	.498
	I know different types of support that are offered to people who want to start their farm entreprise	-.002	.968
	It would be easy for me to access support from our college	-.023	.658
(3)I will make every effort to start and run my own farm entreprise	I personally know someone who is farm entrepreneur in my college environment	.001	.989
	I have a friend who is farm entrepreneur	.116	.028*
	I personally know other people are farm entrepreneurs	.044	.393
	My immediate class teachers/tutors would	.210	.000*

	approve my decision to start farm entreprise		
	My friends would approve of my decision to start farm entreprise	.177	.001*
	My colleagues would approve of my decision to start farm entreprise	.176	.001*
	My teacher/tutors value farm entrepreneurial above other activities	.246	.000*
	I can rely on my teachers/tutors for assistance in starting farm entreprise	.018	.725
	Our college provides good support for people wanting to start farm entreprise	.041	.424
	I know different types of support that are offered to people who want to start their farm entreprise	.019	.736
	It would be easy for me to access support from our college	.056	.286
(4)I am determined to create a farm entreprise in the future	I personally know someone who is farm entrepreneur in my college environment	.072	.173
	I have a friend who is farm entrepreneur	.150	.004*
	I personally know other people are farm entrepreneurs	.042	.408
	My immediate class teachers/tutors would approve my decision to start farm entreprise	.181	.001*
	My friends would approve of my decision to start farm entreprise	.212	.000*
	My colleagues would approve of my decision to start farm entreprise	.199	.000*
	My teacher/tutors value farm entrepreneurial above other activities	.238	.000*
	I can rely on my teachers/tutors for assistance in starting farm entreprise	.057	.264
	Our college provides good support for people wanting to start farm entreprise	-.035	.480
	I know different types of support that are offered to people who want to start their farm entreprise	-.036	.500
	It would be easy for me to access support from our college	-.006	.913
(5)I do not have doubts about ever starting my own farm entreprise	I personally know someone who is farm entrepreneur in my college environment	.023	.673
	I have a friend who is farm entrepreneur	.081	.117
	I personally know other people are farm entrepreneurs	-.009	.855
	My immediate class teachers/tutors would approve my decision to start farm entreprise	.125	.018*
	My friends would approve of my decision to start farm entreprise	.178	.001*
	My colleagues would approve of my decision to start farm entreprise	.105	.037*
	My teacher/tutors value farm entrepreneurial above other activities	.127	.019*
	I can rely on my teachers/tutors for assistance in starting farm entreprise	.036	.485
	Our college provides good support for people wanting to start farm entreprise	.010	.846
	I know different types of support that are offered	-.022	.679

	to people who want to start their farm entreprise		
	It would be easy for me to access support from our college	.027	.598
(6)I have very seriously thought of starting farm entreprise in the future	I personally know someone who is farm entrepreneur in my college environment	-.005	.933
	I have a friend who is farm entrepreneur	.054	.298
	I personally know other people are farm entrepreneurs	.075	.153
	My immediate class teachers/tutors would approve my decision to start farm entreprise	.132	.018*
	My friends would approve of my decision to start farm entreprise	.182	.001*
	My colleagues would approve of my decision to start farm entreprise	.194	.000*
	My teacher/tutors value farm entrepreneurial above other activities	.157	.003*
	I can rely on my teachers/tutors for assistance in starting farm entreprise	.010	.837
	Our college provides good support for people wanting to start farm entreprise	.012	.810
	I know different types of support that are offered to people who want to start their farm entreprise	.008	.887
	It would be easy for me to access support from our college	.012	.814
(7) I have strong intention of ever starting a farm entreprise in the future	I personally know someone who is farm entrepreneur in my college environment	.096	.075
	I have a friend who is farm entrepreneur	.128	.013*
	I personally know other people are farm entrepreneurs	.102	.047*
	My immediate class teachers/tutors would approve my decision to start farm entreprise	.190	.001*
	My friends would approve of my decision to start farm entreprise	.267	.000*
	My colleagues would approve of my decision to start farm entreprise	.214	.000*
	My teacher/tutors value farm entrepreneurial above other activities	.155	.005*
	I can rely on my teachers/tutors for assistance in starting farm entreprise	-.009	.866
	Our college provides good support for people wanting to start farm entreprise	-074	.147
	I know different types of support that are offered to people who want to start their farm entreprise	-.059	.277
	It would be easy for me to access support from our college	-.043	.402
(8) My qualification has contributed positively towards my interest of starting a farm enterprise	I personally know someone who is farm entrepreneur in my college environment	.131	.012*
	I have a friend who is farm entrepreneur	.219	.000*
	I personally know other people are farm entrepreneurs	.195	.000*
	My immediate class teachers/tutors would approve my decision to start farm entreprise	.235	.000*

	My friends would approve of my decision to start farm entreprise	.221	.000*
	My colleagues would approve of my decision to start farm entreprise	.277	.000*
	My teacher/tutors value farm entrepreneurial above other activities	.179	.001*
	I can rely on my teachers/tutors for assistance in starting farm entreprise	.036	.483
	Our college provides good support for people wanting to start farm entreprise	-.071	.165
	I know different types of support that are offered to people who want to start their farm entreprise	-.008	.890
	It would be easy for me to access support from our college	-022	.652
(9)I had a strong intention to start my own farm entreprise before I started my study	I personally know someone who is farm entrepreneur in my college environment	.101	.049*
	I have a friend who is farm entrepreneur	.179	.001*
	I personally know other people are farm entrepreneurs	.063	.235
	My immediate class teachers/tutors would approve my decision to start farm entreprise	.163	.002*
	My friends would approve of my decision to start farm entreprise	.180	.000*
	My colleagues would approve of my decision to start farm entreprise	.196	.000*
	My teacher/tutors value farm entrepreneurial above other activities	.175	.001*
	I can rely on my teachers/tutors for assistance in starting farm entreprise	.158	.002*
	Our college provides good support for people wanting to start farm entreprise	.167	.001*
	I know different types of support that are offered to people who want to start their farm entreprise	-.043	.433
	It would be easy for me to access support from our college	.178	.000*

Note * significant at 5% level of significance

Appendix 3: The principal component factor analysis for expected learning outcomes

Factor items		Factor loadings	% of variance explained
Skills outcome	The courses have exposed me to basic skills required for farm entrepreneurship	0.6044	36.77
	Field practical provided me with exposure to real farm entrepreneurial environment	0.5531	
	Courses are relevant to what I observed in the field	0.6881	
Knowledge outcome	The courses have provided me enough knowledge to be farm entrepreneur	0.4697	15.42
	The assignment have provided me a good lesson		
	The courses were very clear	0.6625	

Appendix 4: Principal component factor analysis for attitude variable items

Factor and item description	Factor loading	% variance explained
Factor 1: Attitude		54.44
Being a farm entrepreneur implies more advantageous than disadvantageous	.499	
A career as farm entrepreneur is totally attractive to me	.820	
If I had opportunity and resources I would like to start a farm a entreprise	.317	
Amongst various options I would rather be a farm entrepreneur	.725	
Being a farm entrepreneur would give me great satisfaction	.747	
My qualification has contributed positively to my attitude toward becoming a farm entrepreneur	.751	

Appendix 5: Principal component factor analysis for intention variable items

Factor and item description	Factor loading	% variance explained
Factor 1: Intention		50.75
I am ready to do anything to be a farm entrepreneur	0.6474	
My professional goal is to be a farm entrepreneur	0.7570	
I will make every effort to start and run my own farm entreprise	0.8205	
I am determined to create a farm entreprise in the future	0.7161	
I do not have doubts about ever starting my own farm entreprise	0.5921	
I have very seriously thought of starting farm entreprise in the future	0.7855	
I have strong intention of ever starting a farm entreprise in the future	0.7719	
My qualification has contributed positively towards my interest of starting a farm enterprise	0.7102	
I had a strong intention to start my own farm entreprise before I started my study	0.5667	

Appendix 6: Principal component factor analysis for farm entrepreneurial self-efficacy variables

Factor and item description	Factor loading	% variance explained
Factor 1: Resource acquisition competencies		14.26
I have ability to generate new ideas for a product or service in my farm entreprise	0.5710	
I have ability to identify a need for a new product or service	0.7960	
I have ability to design a product or service that will satisfy the customer needs and wants	0.6688	
I have ability to estimate customer demand for a new product or service	0.6047	
I have ability to determine competitive price for a new product or service	0.5994	
I have ability to design effective, advertising campaign for a new product or service	0.5820	
I have ability to make contact and exchange information with others	0.5715	
I have ability to supervise employees	0.4032	
I have ability to make decisions under uncertainty and risks	0.5044	
Factor 2: Opportunity recognition competencies		13.07
I have ability to develop relationship with key people who are connected to sources of capital	0.6938	
I have ability to inspire, encourage and motivate my employees	0.7224	
I have ability to persist in the face of adversity	0.5356	
I have ability to identify profit and loss of my farm enterprise	0.6885	
I have ability to identify farm appropriate inputs	0.6980	
Factor 3:Operational competencies		12.08
It is easy for me to start a farm entreprise and keep it working	0.6409	
I am prepared to start a viable farm entreprise	0.8004	
I can control the initial/start up process of new farm entreprise	0.7298	
I have necessary practical details for a new farm entreprise	0.6890	
I have ability to operate machines and apply farm inputs	0.8617	
Factor 4:Managerial competencies		10.52
I have ability to develop relationship with key people who are connected to sources of capital	0.4749	
I have ability to identify potential sources of funds for any farm enterprise investment	0.7709	
I have ability to train and recruit new employees	0.7468	
I have ability to deal effectively with day to day farming problems and crisis	0.6333	
I have ability to use new farming procedure	0.3970	
I am capable to compete and produce more or get more profit with other farm entrepreneurs	0.4116	
Factor 5:Finanancial competencies		8.20
I have ability to estimate a start-up funds and working capital necessary to start a farm entreprise	0.7459	
I have ability to make decisions under uncertainty and risks	0.5445	
I have ability to organize and maintain financial records of my farm enterprise	0.5699	
I have ability to manage financial assets of my farm enterprise	0.4953	
Factor 6: Communication competencies		4.88
I have ability to clearly and concisely explain my farm entreprise idea in simple terms	0.8999	

Note: Only factor loading >0.30 were included

Appendix 7: Questionnaire

Introduction

My name is Paschal Banga Nade. This tool is designed to assess the influence of agricultural education on youth farm entrepreneurial intention among FDC finalist students. It is the part of my PhD study requirement at Sokoine University of Agriculture in collaboration with Moshi Cooperative University. This questionnaire will be pre-tested before administering it. Please be honest and sincere in filling this questionnaire; your response will be kept confidential by the researcher. Please fill the blanks, and use this "√" mark when choosing your responses to the questions below.

A. Personal details:

1. Name of the student (Option)_____

2. Sex: Male ☐ Female ☐

3. Age of the student ---------- ----------years old

4. Background place of residence: Rural ☐ Urban ☐

5. Name of training institution _____

6. Name of the programme pursued: _____

B. Type of courses offered by training institution

(a) Please check from the following subjects/courses if you have studied them or not in your college.

	Courses/subjects	Yes	No
1	Animal husbandry (Dairy, beef, poultry, piggery and wild animal farming), breeding, disease control and value addition		
2	Crop production (cash and food), farm preparation, planting, fertilization, pest and disease control, irrigation, harvesting, storage and value addition		
3	Agro-mechanics, machines use and repair, workshop management and safety		

4	Agro-economics, price determination , marketing (branding and packaging)		
5	Farm management and planning		
6	Communication, negotiation, facilitation, conflict management and problem solving skills		
7	Business plan development,		
8	Financial management		
9	Human resource management		
10	Innovation and opportunity recognition		
11	Theories and process of entrepreneurship		
12	Essentials of entreprise/business ownership		
13	New venture planning, creation, management and growth		
14	Basics of computer and information technology		

(b) Please indicate whether or not the following teaching approaches are applied in your college

	Teaching Approaches	Yes	No
1	Lectures		
2	Learning by doing		
3	Classroom discussion		
4	Guest speakers		
5	First hand interactions with farm entrepreneurs/ field visits		
6	Case studies		
7	Research		
8	Peer tutoring		
9	Simulations and role play		

(c) Courses outcome evaluation

		Strongly disagree	Disagree	Unsure	Agree	Strongly agree
1	The courses has exposed me to basic skills required for farm entrepreneurship					
2	The courses have provided me enough knowledge to be farm entrepreneur					
3	The assignments have provided me a good lesson					
4	Field practical provided me with exposure to real farm entrepreneurial environment					
5	The courses have raised my awareness on link between farming and industries					
6	I was happy with teaching methods used					
7	The courses were very clear					
8	The course are relevant to what I observed in the field					
9	The duration allowed for courses per term /semester was enough					

(e) List all the courses/subjects that you have attended and you think have influenced your decision to become a farm entrepreneur

I. ----------

II. ----------

III. ----------

IV. ----------

V. ----------

VI. ----------

VII. ----------

VIII. ----------

(e) What motivated you to join this training programme? ----------
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C. Farm entrepreneurial Intent

For each of the statements in the table below, choose only one of the five options ranging from strongly disagree to strongly agree by putting this mark "√"

		Strongly disagree	Disagree	Unsure	Agree	Strongly agree
1	I am ready to do anything to be a farm entrepreneur					
2	My professional goal is to be a farm entrepreneur					
3	I will make every effort to start and run my own farm entreprise					
4	I am determined to create a farm entreprise in the future					
5	I do not have doubts about ever starting my own farm entreprise in the future					
6	I have very seriously thought of starting farm entreprise in the future					
7	I have strong intention of ever starting a farm entreprise in the future					
8	My qualification has contributed positively towards my interest of starting a farm entreprise					
9	I had a strong intention to start my own farm entreprise before I started with my qualification					

D. Attitude to Farm Entrepreneurship

For each of the statements in the table below, choose only one of the five options ranging from strongly disagree to strongly agree by putting this mark "√"

		Strongly disagree	Disagree	Unsure	Agree	Strongly agree
1	Being a farm entrepreneur implies more advantageous than disadvantageous to me					
2	A career as a Farm entrepreneur is totally					

	attractive to me					
3	If I had opportunity and resources, I would like to start a farm entreprise					
4	Amongst various options, I would rather be a farm entrepreneur					
5	Being a farm entrepreneur would give me great satisfaction					
6	My qualification has contributed positively to my attitude toward becoming a farm entrepreneur					

E. Perceived trainer Support

For each of the statements in the table below, choose only one of the five options ranging from strongly disagree to strongly agree by putting this mark "√"

		Strongly disagree	Disagree	Unsure	Agree	Strongly agree
1	I personally know someone who is farm entrepreneur in my college environment					
2	I have a friend who is farm entrepreneur					
3	I personally know other people who are farm entrepreneurs					
4	My immediate class teachers/tutors would approve my decision to start farm entreprise					
5	My friends would approve of my decision to start farm entreprise					
6	My colleagues would approve of my decision to start farm entreprise					
7	My teacher/tutors value farm entrepreneurial activities above other activities					
8	My teacher/tutors values farm entrepreneurial activities above other activities					
9	I can rely on my teachers/ tutors for assistance in starting farm entreprise					
10	Our college provides good support for people wanting to start farm entreprise					
11	I know different types of support that are offered to people who want to start their farm entreprise					

12	It would be easy for me to access support from our college					

F. Farm entrepreneurial self-efficacy

For each of the statements in the table below, choose only one of the five options ranging from very little confidence to very confident by putting this mark "√"

		Very little confidence	Little confidence	Unsure	Fairly confident	Very confident
1	It is easy for me to start a farm entreprise and keep it working					
2	I am prepared to a start viable farm entreprise					
3	I can control the creative process of new farm entreprise					
4	I have necessary practical details for a new farm entreprise					
5	I have ability to generate new ideas for a product or service in my farm entreprise					
6	I have ability to identify a need for a new product or service					
7	I have ability to design a product or service that will satisfy the customer needs and wants					
8	I have ability to estimate customer demand for a new product or service					
9	I have ability to determine competitive price for a new product or service					
10	I have ability to estimate a start-up funds and working capital necessary to start a farm entreprise					
11	I have ability to design effective/advertising campaign for a new product					

	or service					
12	I have ability to make contact and exchange information with others					
13	I have ability to clearly and concisely explain my farm entreprise idea in simple terms					
14	I have ability to develop relationship with key people who are connected to sources of capital					
15	I have ability to identify potential sources of funds for my farm entreprise investment					
16	I have ability to train and recruit new employees					
17	I have ability to delegates task and responsibilities to employee in my business					
18	I have ability to supervise employees					
19	I have ability to deal effectively with day to day farming problems and crises					
20	I have ability to inspire, encourage and motivate my employees					
21	I have ability to persist in the face of adversity					
22	I have ability to make decisions under uncertainty and risks					
23	I have ability to organize and maintain financial records of my farm entreprise					
24	I have ability to manage financial assets of my entreprise					
25	I have ability to read and interpret financial statements					

26	I have ability to identify farm appropriate inputs					
27	I have ability to operate machines and apply farm inputs					
28	I have ability to use new farming procedures					
29	I can use all my capacity to be a farm entrepreneur					
30	I am capable to compete and produce more or get more profit with other farm entrepreneurs					

Focus Group Guide

1. Which courses have provided you with skills and knowledge of becoming a farm entrepreneur?
2. If you decide to be a farm entrepreneur, what skills and knowledge do you think you lack to manage a farm entreprise?
3. What are the strengths of teaching approaches/methodology used to teach agriculture?
4. What are the weaknesses of teaching approaches/ methodology used to teach agriculture?
5. Kindly give out your views/opinion concerning the field or career of farm entrepreneurship as an aspect for human development in terms of Attraction

6. Kindly give out your views/ opinion concerning the field or career of farm entrepreneurship as an aspect for human development in terms of Life personal success/ achievement.

7. Please give out your opinion concerning the field or career of farm entrepreneurship as an aspect for human development in terms of Farm entrepreneur career challenges

8. Who have influenced you the most to become a farm entrepreneur?

9. Are you capable of running a farm entreprise? I yes or no, explain why?