

THE PROSPECTS AND CHALLENGES OF TRANSFORMING CITRUS FRUIT FARMERS' ECONOMY THROUGH ICT DELIVERED ENTREPRENEURSHIP EDUCATION IN TANZANIA

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ABSTRACT

There is growing interest in the roles played by entrepreneurship as a catalyst to achieve economic and social development objectives, including growth, innovation, employment and equity. The main objective of the paper is to critically examine the prospects and challenges of using ICT delivered entrepreneurship education to transform rural farmers' economy. The study employs exploratory design using a survey approach. Quantitative and qualitative data were collected from 50 farmers and 5 trainers at Muheza in Tanga region, Tanzania through self-administered questionnaires, interviews and Focus Group Discussions. The data were analysed using descriptive statistics and qualitative content analysis. The study recommends that, the Tanzanian government should harness and enable the entrepreneurial spirit and skills of farmers by ensuring that entrepreneurship education policy and good infrastructure are in place.

Key words: *Farmers' economy, ICT delivered entrepreneurship education, prospects, and challenges*

INTRODUCTION

Since independence in 1961, Tanzania has been largely dependent on agriculture as its main economic activity. For example, in 2011 agriculture contributed 26% to the country's GDP. However, the sector provides 85% of the country's export earnings, employs 75% of the country's work force, and generates 95% of the food consumed in Tanzania (URT, 2013). Due to this reason Tanzania needs a special focus on rural economies where improved agricultural production and market access will lead to better income levels and enhanced country's economic development. Tanzania's vision is to graduate from a Low Income Country (LIC) to a Medium Income Country (MIC) and industrialized economy by 2025 with a high level of human development (The Tanzania Development Vision 2025).

Despite its huge contribution, the sector is largely conducted traditionally and practiced by small holders. This type of agriculture predominately depends on rain, has low yielding production; lacks access to critical farming information, market facilitation and financial intermediation (World Bank, 2011; Vanzyl *et al.* 2012). Smallholder citrus fruit farmers should have knowledge and skills in order to increase productivity and enhance economic development which can be obtained through training. Unfortunately, access to training is a major constraint among rural people in developing countries (Montpellier Panel Report, 2014). Rural people's access to education and training is often limited by financial barriers (e.g. Training and transportation costs) and non-financial barriers (e.g. Scarce education and training infrastructure, inflexible training schedules, underdevelopment of infrastructure). Education and training in rural areas are often of inadequate quality. Teachers and trainers may be unqualified, equipment and technology out-dated, and teaching and training methods ill-suited to rural contexts (Kaijage & Wheeler, 2013). Without skills small holder citrus fruit farmers would not be able to improve production and hence income. The practice shows that most of the small holder citrus fruit farmers receive training, information and guidance from extension officers (Makorere, 2013). However, there are a number of challenges facing the extension officers to reach and provide training and guidance to the farmers, including: the number of extension officers is insufficient; they lack sufficient experience and knowledge, poor infrastructure, inadequate financial resources and weak institutional structures (*ibid*). These factors combine to limit the extent to which extension services can support poor farmers who are invariably located in the remote areas (ILO, 2011; Makorere, 2013).

To have a healthy farming sector, entrepreneurship training facilities and support must be easily available to farmers. Effective entrepreneurship training interventions need to be developed in order to provide education and training at the right time in the right place and with the right balance of technical knowledge and practical skills (Kahan, 2013). This can be made possible through ICT enabled entrepreneurship training delivery.

The current practices in Tanzania show that entrepreneurship education provided to farmers is based on business management skills and delivered using traditional teaching methods (Kaijage & Wheeler, 2013). Consequently, citrus fruit farmers need more than business management skills. They must be innovative and creative to satisfy the need of entrepreneurial novelty – the art. Yet, they also need to be competent and multifunctional managers – the science (*ibid*). This requires a decisive shift from the traditional approach and pedagogical models to modern digital approach.

The weaknesses of the current practices using traditional methods include cost, flexibility, reach, and quality as found in various studies (ILO, 2011; Makorere, 2013; Kaijage & Wheeler, 2013; Word Bank, 2011; Vanzyl, *et al.* 2012; Kahan, 2013; Ediagbonya, 2013; Lackeus, 2013; Valerio, *et al.* 2014, FAO, 2015). The use of ICT in the entrepreneurship education delivery is the solution to traditional method.

As it has been explained small holder citrus fruit farmers contribute a lot to the economy of the country through citrus farming. The farmers also experience a lot of challenges because the farming is done traditionally and get low yield/produce while there is a potential to excel in citrus fruit farming. The major problem facing farmers includes; too much dependent on rain, has low yielding production; lacks access to critical farming information, market facilitation and financial intermediation (World Bank, 2011; Vanzyl *et al.* 2012). Smallholder citrus fruit farmers should have knowledge and skills in order to increase productivity and enhance economic development which can be obtained through training. Unfortunately, access to training is a major constraint among rural people in developing countries (Montpellier Panel Report, 2014).

This study will contribute to identify the prospects and challenges embedded in ICT delivered entrepreneurship education to small holder citrus fruit farmers and how these trainings can assist to transform citrus fruits farmers' economy. The main objective of the paper is to critically examine the prospects and challenges of using ICT in entrepreneurship education to transform smallholder citrus fruit farmers' economy. The specific objectives were:

- i) To examine the prospects for farmers to use ICT in entrepreneurship education
- ii) To assess the approaches, experiences and challenges facing providers of business management and entrepreneurship skills to rural farmers.
- iii) To assess the experience of farmers in accessing and using entrepreneurship education in terms of access, use, effectiveness and appropriateness of the approaches used.

The research questions were as follows:

- i) What are the prospects for farmers to use ICT in entrepreneurship education
- ii) What are the approaches, experiences and challenges facing providers of business management and entrepreneurship skills to rural farmers?
- iii) What is the experience of farmers in accessing and using entrepreneurship education in terms of access, use, effectiveness and appropriateness of the approaches used?

LITERATURE REVIEW

Conceptual Definitions

Understanding Entrepreneurship Education

Entrepreneurship education includes all activities aiming to foster entrepreneurial mindsets, attitudes and skills and covering a range of aspects such as idea generation, start-up, growth and innovation (Fayolle, 2006).

A number of transnational, regional, national, and local players are captivating share in the worldwide investigation of Entrepreneurship Education and Training - EET (Alexandria *et al.* 2014). Today, EET is known as a reputable field of study, emergent in parallel with the interest of policymakers and students (Mwasalwiba 2010). While a single, generally accepted definition remains elusive, researchers are contributing to an evolving definition (Charney

and Libecap 2000; Farstad 2002; Menzies 2003; Isaacs *et al.* 2007; Dickson, Solomon, and Weaver 2008). Taken together, EET generally reflects both the activity of transmitting specific mindsets and skills associated with entrepreneurship, as well as education and training programs that seek to engender various entrepreneurship outcomes.

As a working definition of this study, *EET represents academic education or formal training interventions that share the broad objective of inculcating entrepreneurial mindset and skills to citrus fruit farmers so as to support participation and performance in a range of entrepreneurial activities* (Valerio, *et al.* 2014).

Farmers' Economic Development

Economic development is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation. For comparing one country's economic growth to another, GDP or GNP per capita should be used as these take into account population differences between countries (Dugger, 2013).

Economic development is usually associated with technological changes. An example is the large growth in the US economy during the introduction of the internet and the technology that it brought to US industry as a whole. The growth of an economy is thought of not only as an increase in productive capacity, but also an improvement in the quality of life for people of that economy (*ibid*). This study will adopt the concept of economic development by looking at the citrus fruit farmers' improvement in the access to finance, access to the market and income growth as the measures of farmers' economic development.

The contribution of entrepreneurship education provision to Tanzanian farmers' development

There are various contributions made by provision of entrepreneurship education to Tanzanian farmers' development such as: to foster entrepreneurial mindsets, skills and behaviours among the farmers; to empower farmers with the competencies and skills necessary to prepare them to respond to their life needs, including running their own farming business; to develop innovation in farmers and develop their skills to identify, create, initiate and successfully manage personal, community, and business opportunities; to increase the awareness and understanding of the process involved in initiating and managing their farms as well as to enhance the public's perception on farming business as serious career option; and lastly, to identify and stimulate entrepreneurial drive, talent and skills to undo the risk averse bias of several analytical techniques and to devise attitudes towards change (UNCTAD, 2011).

From the above-seen the contributions of entrepreneurship education to farmers, it is evident that, development of skills enhances the capability of farmers to improve their efficiencies, and thus ultimately improving their economy (UNCTAD, 2011). By focusing on building the capacity of farmers, Tanzanian government will be able to increase the productivity of a large proportion of its labour force as the majority of Tanzanian living in rural areas.

The current situation of the entrepreneurship education provision in terms of contents and pedagogy used

Entrepreneurship education plays a major role in helping farmers identify, investigate and evaluate opportunities (Montpellier Panel Report 2014). Currently the entrepreneurship education available is perceived as not fit for the purpose with respect to the needs of Tanzanian farmers (Kaijage & Wheeler 2013). The findings from different authors (Kahan, 2013) show that the contents of most entrepreneurship trainings offered to farmers include: simple accounting and business record keeping, marketing and customer care skills, Leadership skills, Production/Processing Skills such as Better farming process, food processing, Cross-cutting issues like HIV-AIDS, Gender issues, Legal issues, Environment etc. The author observed that, most of the entrepreneurship contents provided to the farmers base on farm management skills and the providers did not conduct Training Needs Assessment (TNA) prior to the trainings.

It should be noted that, there is a difference between farm business management and entrepreneurship. Farm business management is about better planning, implementation, control and managing risk. Entrepreneurship is about looking forward – identifying opportunities, creating a vision of how the business will grow, innovating and taking risks. A farmer who thinks of the farm as a business that has potential to grow and develop is an entrepreneur (Kahan 2013). Care should be taken in adapting entrepreneurship education curricula and skills training in rural areas to the particular needs of farmers. This will be an important step in supporting the farmers in becoming entrepreneurs along

the agribusiness value chain. Farmers need knowledge in each of the key areas of farm management: planning, implementing and controlling. They also need information about primary production, harvesting, processing, wholesaling and retailing and about input supply, financial services, transport, packaging, promotion and advisory services.

How ICT can transform the way entrepreneurship education was delivered to farmers and speed up economic development

Skills are central to improve employability and livelihood opportunities, reduce poverty, enhance productivity, and promote environmentally sustainable development. Coordinated efforts are needed to develop an integrated approach that improves access to relevant, good quality education and training to all rural women and men (Kahan 2013).

The economy is entering a world governed by a new technological paradigm. This ICT revolution makes it increasingly necessary to distinguish between information and knowledge (Wennekers 1997). On one hand information will become more cheaply and readily available. In some cases this will weaken existing entrepreneurial edges. On the other hand, the information has to be selected, upgraded and combined with other information in order to become useful for economic application.

However, the information provided through training and support services (including NGOs) mainly focuses on production technologies, and not on prices, contacts, or market access. Many of these information are difficult to access and are not provided in time or at affordable costs.

Information and its communication are an important aspect of knowledge creation and accumulation (Kahan 2013). Farmers need knowledge in each of the key areas of farm management: planning, implementing and controlling. They need information about their direct functions - primary production, harvesting, processing, wholesaling and retailing. They also need information about their support functions - input supply, financial services, transport, packaging, promoting and advisory services.

Where Information Technology is available and accessible, it is a very powerful way for trainers to educate and inform farmers about new ideas, technologies and other information. Physical distances and the lack of transportation facilities often limit the ability of trainers to share information with farmers. Mobile phones, tablets, and computer-based systems can be used to overcome these physical barriers.

Information needs to be organized, packaged and communicated in ways that are helpful to farmers. This study has found that, Information is not always provided this way to Tanzanian farmers. Content and the way it is presented and communicated are all important. Radio, posters, leaflets and learning groups can help farmers access the information they need to be successful entrepreneurs (Kahan, 2013).

Farmers need to be skilled at finding and using opportunities to expand their farming businesses. They also need to be efficient in utilising resources, and in transporting and marketing produce. New technologies are needed in order to adapt to a changing economy and a changing market. Farmers are not only consumers and users of these technologies, but should also be active participants in designing, testing, adapting and introducing them to the farming system. E-entrepreneurship education can play a major role in helping farmers identify, investigate and evaluate opportunities hence improve their economy.

Creating demand for learning to rural farmers

If we want to increase farmers' educational opportunities, it is necessary to identify their possible learning barriers and try to eliminate them. According to Huang (1989), Chen (1999), and Kao (2007), barriers to participation in learning could be generally divided into institutional barriers, situational barriers, intention barriers and information barriers. The barriers from learning institutions include, among others, problems in administration and teaching. Examples of situational barriers include problems with transportation, time and conflict of roles. Intention barriers, on the other hand, refer to a learner's own intention, confidence, patience, steadfastness and perseverance. Lack of

advertisement or insufficiency of information such that, a particular piece of learning information misses its potential targets is an example of the information barrier (Kao, 2012).

METHODOLOGY

This research employed an exploratory type. An exploratory study is a valuable way of finding out ‘what is happening; gaining new insights, asking questions and assessing phenomena in a new light’ (Robson, 2002). Thus, it gave new insights of transforming Tanzanian farmers’ economy through ICT delivered entrepreneurship education. The study used exploratory research design because the prospects and challenges of transforming small holder citrus fruit farmers’ economy through ICT delivered entrepreneurship education are not adequately known; therefore the aim of this study is to find out new insights about what is happening on the mentioned subject matter.

The study used mixed research methods, whereby interviews were conducted to entrepreneurship trainers in order to obtain experiences and challenges facing trainers to rural farmers. Questionnaires followed by focus group discussion were done to obtain the information on the prospects for farmers to use ICT delivered entrepreneurship education and their experiences in using ICT delivered entrepreneurship education. The qualitative data were analysed using qualitative content analysis by identifying relevant themes in the data and quantitative data were analysed using descriptive statistics especially percentage, mean and standard deviation.

Data was collected in two phases; the first phase was interview where the respondents were asked questions which enabled the author to explore the respondents’ experience and opinions on the potential contributions of entrepreneurship education to agricultural development and also examined the current practice of entrepreneurship education in relation to the development of the entrepreneurial capacity of farmers. Each interview lasted for 20 to 30 minutes. Phase two of data collection was, Focus Group Discussion (FGD) where a group of ten/twelve respondents were interviewed. Five groups were administered in which 40% of the members were male and 60% female. The purpose of the focus group discussion was to identify the shared experience in terms of the contribution of entrepreneurship education to the farmers’ economy and the current practice of entrepreneurship education provided looking at the contents and pedagogy. Each group last for 50 - 60 minutes and the members were given chances to speak out their views. The interview guide was prepared in English and then translated into Swahili a commonly spoken language in Tanzania and then back to English.

The study was conducted at Muheza district, Tanga region in Tanzania. Citrus fruit is one of the important cash crops in Tanzania. However, Tanga region is the largest citrus fruit producer in Tanzania with productivity of 22.41 tons per hectare (URT, 2013; Makorere, 2013). The choice of Muheza area was motivated by the fact that it is the leading producer of citrus fruits in Tanga region. A total of 60 respondents (50 farmers and 10 trainers) was drawn from different areas of the Muheza district. The study used farmers with 18-65 ages, farming experience of more than three years and who have attended any entrepreneurship training.

Respondents were selected using both probability and non-probability sampling. Non – probability was used when the study applied purposive cluster sampling in identifying the villages to research. With the help of the District Agricultural and Livestock Development Officer (DALDO) in Muheza two divisions, that is, Bwembera and Muheza were selected and the five villages were selected based on the information of where most of the farmers have started using ICT in one way or the other. Later, the random sampling technique was used to select farmers based on their convenience, accessibility and proximity to the author. We used incentives like buying their products, and sometimes pay them a token in order to get information.

STUDY FINDINGS AND DISCUSSION

Descriptive Analysis

Farmers’ Profile

The variables covered were gender, age, education level, marital status, experience in citrus fruit farming and reasons for farming

Table 1: Respondents' Profile

S/N	Description		Frequency	Percentage
1.	Gender	Male	20	40
		Female	30	60
2.	Age	Below 20 years	03	06
		Between 21 – 35 years	08	16
		Between 36 – 46 years	25	50
		Between 47 – 59 years	10	20
		Over 60 years	04	08
3.	Education Level	Tertiary	02	04
		Secondary	09	18
		Primary	37	74
		No formal education	02	04
4.	Marital status	Married	22	44
		Single	10	20
		Separated	04	08
		Divorced	05	10
		Widow	09	18
5.	Experience in citrus fruit farming	1 – 3 years	03	06
		4 – 7 years	04	08
		8 – 12 years	10	20
		13 – 19 years	27	54
		More than 20 years	06	12
6.	Reasons for citrus fruit farming	Commercial	34	68
		Subsistence	02	04
		Both	14	28

Source: Field Data, 2016

As it is shown from table 1 above 40% of the respondents were male and 60% were female and 20% were between 47 - 59 years old while 50% were between 36 – 46 years old. These are the ages when a person is very strong and eager to work hard in order to succeed in life. A large proportion of the respondents, 74%, had primary. This was followed by those with secondary education, 18%. This implies that citrus fruit farmers in Muheza acquire basic education for entrepreneurship training. The findings also indicated that, 44% of the respondents were married, 20% were single and 18% were widowed. The results also reveal that, 54% of the respondents had 13 – 19 years' experience in citrus fruit farming and 68% they engage in citrus fruit farming for commercial purpose. This implied that information on prospects and challenges of transforming smallholder farmers' economy through ICT delivered entrepreneurship education was collected from the right citrus fruit farmers with long experience in citrus farming.

Responses to Research Questions

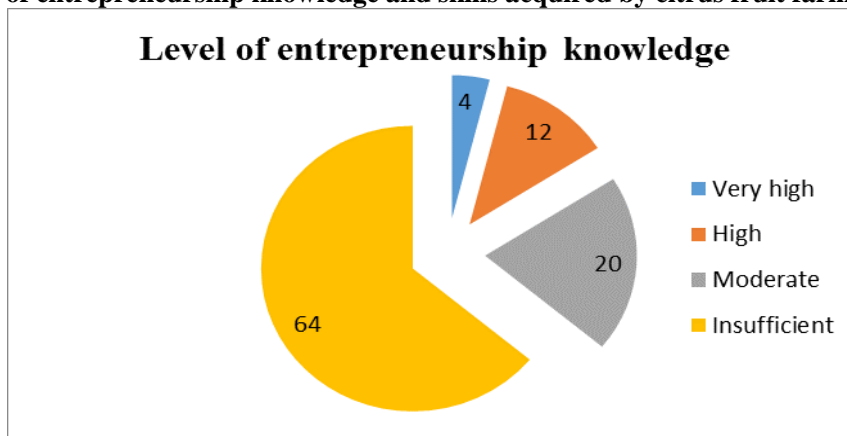
I. The prospects for farmers to use ICT delivered entrepreneurship education

To examine the prospects for citrus fruit farmers use ICT to deliver entrepreneurship education the variables covered included level of entrepreneurship knowledge and skills currently acquired by citrus fruit farmers, the number of citrus fruit farmers who have attended entrepreneurship training, reasons for attending entrepreneurship training, desire/interest to attend, acquisition of ICT tools and prospects of using ICT in the entrepreneurship training delivery

The level of entrepreneurship knowledge and skills acquired by citrus fruit farmers

The findings in figure 1 below reveal that, 64% of the respondents rated their level of entrepreneurship and business management knowledge and skills as insufficient and 20% rate it moderately. This implies that, citrus fruit farmers lack entrepreneurship and business management skills which are prerequisite to run citrus fruit farming commercially and transform the farmers' economy.

Figure 1: The level of entrepreneurship knowledge and skills acquired by citrus fruit farmers



Source: Field Data, 2016

Citrus fruit farmers' attendance to entrepreneurship training

The results in table 2 below show that, 66% of the respondents have never attended any entrepreneurship training and 04% of them do not know if they have ever attended or not. This depicts that, there is a huge prospect that entrepreneurship training is lacking to citrus fruit farmers

Table 2: Attendance to entrepreneurship training

<i>Have you ever attended any entrepreneurship training?</i>	Frequency	Percentage
Yes	15	30
No	33	66
I don't know	02	04
Total	50	100

Source: Field Data, 2016

Motivation/Reasons for attending entrepreneurship training

Further analysis from the study as in table 3 below indicates that, the first reason which motivated/will motivate citrus fruit farmers to attend entrepreneurship training is the desire to get new knowledge and skills in entrepreneurship and business management, followed by wanting to get awareness and access to market and financial issues; wanting to be aware of modern citrus farming. This implies that, citrus fruit farmers had high expectations for entrepreneurship training outcomes. To ensure these expectations are met, care must be taken in course design, the choice of teaching materials, teaching attitude and methods. Naturally, the more professional the trainers, the easier it is to strengthen farmers' interest and confidence, and to establish a professional relationship of mutual respect between entrepreneurship trainers and farmers.

Table 3: Motivation/Reasons for attending entrepreneurship training

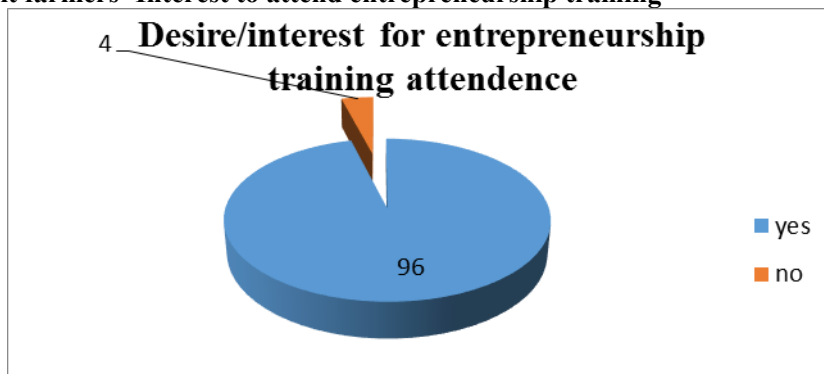
<i>What motivated/will motivate you to attend entrepreneurship training?</i>	Mean	Std Deviation
Desire to get new knowledge and skills in entrepreneurship and business management	3.34	.95
Want to learn effective use of proper inputs	2.56	.89
Want to get awareness on market issues and access	2.39	.94
Want to get awareness on financial issues and access	3.41	.92
Be aware on modern citrus farming	3.27	.90
Get information on weather alerts for the season	2.74	.85
Convinced by a friend	2.28	.79
Others: To be productive and competitive	1.42	.53

Source: Field Data, 2016

Interest/Desire to attend entrepreneurship training

The findings in figure 2 below indicate that, 96% of the respondents are interested to attend entrepreneurship training. The desire and interest in attendance are an indication that there is a demand for it, which might lead to transform the farmers' economy when new knowledge and skill applied in the farming process.

Figure 2: Citrus fruit farmers' Interest to attend entrepreneurship training



Source: Field Data, 2016

Citrus fruit farmers' access to ICT tools which can be used for entrepreneurship training

The results in table 4 below reveal that, there is an increase in access and use of ICT devices like radio (94%), television (48%), mobile phones (72%) and even networked computers (04%). With the growth of the Internet and other technologies, more innovative ways of teaching entrepreneurship should be considered and utilized. These results are in line with other authors' findings (World Bank 2011, United Nations, 2012). ICT when embedded in farming systems can bring economic development and growth as it can help to bridge the knowledge gaps (Vanzyl, *et al.* 2012)

Table 4: farmers' access to ICT tools

Do you have access to any of the following ICT tools? (You can tick more than one choice)	Yes	No	I don't know	Total
Radio	47 (94%)	03	-	50
Television	24 (48%)	26	-	50
Mobile phone	36 (72%)	12	02	50
Networked computer	02 (04%)	47	01	50
Landline telephone	00 (-)	46	04	50

Source: Field Data, 2016

II. The approach, experiences and challenges facing trainers of business management and entrepreneurship skills to rural farmers

The results of this research objective which was obtained qualitatively from the interviews indicate the approaches, experiences and challenges facing trainers of business management and entrepreneurship skills to farmers as follows

The approach used by entrepreneurship trainers to farmers

Interviewed respondents in the study explained that the entrepreneurship training was being delivered to groups of farmers using power points and booklets in a classroom setting without effectively engage farmers in the learning process. They said that, trainings were conducted through traditional delivery approach using short courses, case studies, coaching and mentoring. This training delivery method was largely ineffective due to the lack of opportunity for farmers to apply new skills and knowledge. From the results it was found that the biggest challenge is the training delivery approach and the way the content was presented.

The study findings are in line with other studies Lonappan & Devaraj, 2011; Mwasalwiba 2010; Solomon et al 2002; Kuratko 2005; European Commission 2003; Martins *et al.* 2013 and Weaver 1999). In their study (Mwasalwiba 2010; Lonappan & Devaraj, 2011) classify the teaching methods/approach into two groups, which are termed “traditional methods” (comprising normal lectures) and “innovative methods” (which are more action-based), also known as “passive methods” and “active methods”, respectively. In this study the concentration was on the active teaching methods because farmers are practicing entrepreneurs who needs action-based learning.

The successful learning methodologies were described as “learning by doing”, “an active and dynamic methodology” by farmers and trainers. These findings also reinforce the tenet in much of the entrepreneurship education literature that entrepreneurship education is particularly successful when it employs a more hands-on experiential learning approach (Solomon et al 2002, Kuratko 2005, European Commission 2003, Martins et al 2013, Weaver 1999). Also in farmers view those methodologies were the best methodologies to motivate them to develop their own skills.

Experiences of entrepreneurship trainers in disseminating entrepreneurship training to farmers

The results from the study show that trainers have different experiences of teaching farmers. One respondent said “*my experience with entrepreneurship training to farmers is that, once a farmer receives training and put the knowledge and skills into action, they quickly transform their economy*”. This trainer had a positive experience, but we also get the experience from another respondent who explained that “*we had a difficult time attracting farmers to attend the training without paying them sitting allowances due to the low appreciation of the value of the training. In addition to that, farmers schedule is very tight, so they are reluctant to leave other tasks for learning as they perceive that they have enough knowledge and skills to run their citrus fruit farming activities*”. From the results, it implies that trainers have mixed experiences positive and negative.

Challenges experienced by entrepreneurship trainers in disseminating entrepreneurship training to farmers

The results obtained from the respondents show that the top four challenges hindering the entrepreneurship trainers in disseminating entrepreneurship training to farmers were; farmers’ resistance to change, followed by farmers’ perceived relevance of the benefits of the training, culture of sponsored training where farmers require to be paid in order to attend training and the farmers’ full schedule. Other challenges include: Lack of relevant training materials for farmers’ needs, and high expectations from farmers to the trainers as if they can bring miracles to them. With these results it is evident that farmers’ resistance to change is the major challenge hindering entrepreneurship trainers in disseminating entrepreneurship training to farmers. After graduation from schools, most people, including citrus, fruit farmers may think the so-called learning is unnecessary or take no interest in it. If it is not for a particular reason, people are not enrolled in a systematic learning project. In addition, people at a certain age bracket may have doubts in their learning ability and show lack of confidence. Therefore, it is crucial to inspire them the meaning of learning, to satisfy their needs to learn, and to build up confidence (Kao, 2012). Self-learning using ICT enabled tools can assist to build up confidence and motivate farmers to learn at their own pace and time.

III. The experience of farmers in accessing and using entrepreneurship education

Citrus fruit farmers’ access to entrepreneurship training

The findings in table 5 below indicate that, most of citrus fruit farmers in Muheza (66%) rated their access to entrepreneurship and business management training as insufficient. The results established the need to identify the reasons for insufficient access to training as depicted in table 5.

Table 5: Citrus Fruit Farmers’ Access to Entrepreneurship Training

<i>How do you rate your access level to entrepreneurship and business management training?</i>	Frequency	Percentage
Very high	-	0
High	-	0
Moderate	17	34
Insufficient	33	66
Total	N= 50	100

Source: Field Data, 2016

Barriers/challenges for farmers' access to entrepreneurship training

The survey indicates that various challenges are facing smallholder citrus farmers in Muheza and make them not to attend entrepreneurship training. Table 6 provides the information on challenges facing smallholder citrus farmers in Muheza and make them not to attend entrepreneurship training. The respondents were asked to give their opinion and tick the listed challenges which contribute to hinder smallholder citrus farmers in Muheza to attend entrepreneurship training. There were seven factors that respondents had to tick. The results were analysed and thereafter descriptive statistics were used to show the mean scores from the listed challenges as revealed in table 6 below.

Table 6: The Factors/Challenges for not attending entrepreneurship training

<i>What are the barriers/challenges for accessing entrepreneurship and business management training?</i>	Mean	Std. Deviation
Difficult to find trainers	3.54	.95
Long distance to training areas	2.39	.94
Timing collision	2.56	.89
Unsuitable teaching methods	3.41	.92
High cost for the training	3.34	.90
Unqualified teachers	2.74	.74
Limited awareness of training availability	2.27	.85
Others: poor teaching facilities, Lack of conducive/enabling environment	2.20	.79
	50	

Source: Field Data, (2016)

The findings shown in table 6 above show that the top four challenges hindering the smallholder citrus farmers in Muheza to attend entrepreneurship training were: difficult to find trainers, followed by long distance to training areas, unsuitable teaching methods and timing collision from the standard deviation. With these results it is evident that difficult to find trainers is the major challenge hindering smallholder citrus farmers in Muheza to attend entrepreneurship training.

Of all the factors that hinder the participation for learning, time is the most variable. Thus, it is a challenge to make a proper allocation of time between learning and other tasks. In other words, time management is of great importance. It may more or less alleviate the problem if the learning institutions can adapt their timetable to their learners' needs and adopt distance teaching with multimedia teaching materials. It is definitely more proactive to establish entrepreneurship teaching methods using ICT enabled delivery system for citrus fruit farmers.

The extent of ICT tools use in accessing information and education

The findings in table 7 below indicate that 72% of the citrus fruit farmers surveyed use radio to a very large extent, 16%, uses it to a large extent and 08% use it to a small extent. 68% of citrus fruit farmers use the television at a large extent and 32% use it at average extent. The mobile phone is used by 56% of citrus fruit farmers at a large extent, 32% of an average extent and 12% to a small extent. These results show that the extent to which citrus fruit farmers use these information and communication technology tools to access information and education is promising to allow the dissemination of entrepreneurship education electronically. The author observed that a few farmers do not have the required knowledge and skills to use the internet. This calls for farmers who do not use the available ICT tools to access information and education to learn how to use it, because it is cost-effective, it serves time and it reaches many easily customers in a short time.

Table 7: The extent of using various ICT tools to access information and education

No	To what extent do you use the following ICT tools to access citrus farming information and education? (you can tick more than one choice)	To a very large extent	A large extent	Average extent	A small extent	Not at all
1	Radio	38 (72%)	08 (16%)	04 (08%)	-	-
2	Television	-	34 (68%)	16 (32%)	-	-
3	Mobile phone	-	28 (56%)	16 (32%)	06 (12%)	-
4	Networked Computer	-	-	-	-	-
5	Landline Telephone	-	-	-	-	-

Source: Field Data, 2016

Appropriateness and effectiveness of the entrepreneurship training approach used

The results in table 8 below depicts that 40% of the respondents have the opinions that the current approaches used in disseminating entrepreneurship training are neither appropriate neither effective for citrus farmers. The reasons given include the use of traditional teaching method which is found to be inappropriate and effective for farmers who needs the trainings in a different way considering their tight schedule, the rural context and needs.

Table 8: Appropriateness and effectiveness of the entrepreneurship training approach used

What are your opinions on the appropriateness and effectiveness of the entrepreneurship training approaches used?	Frequency	Percentage
Very appropriate and effective	02	04
Appropriate but not effective	12	24
Inappropriate but effective	14	34
Neither appropriate nor effective	20	40
I don't know	02	04
Total	50	100

Source: Field Data, 2016

Introduction of ICT tools in dissemination of entrepreneurship training as a solution

Table 9 below show that 64% of the respondents have agreed that the use of ICT in disseminating entrepreneurship training could be a solution to overcome the skill gap. These results imply that citrus fruit farmers have started seeing the importance of ICT in acquisition of information and education.

Table 9: Introduction of ICT tools in dissemination of entrepreneurship training as a solution

Do you think the dissemination of entrepreneurship training through ICT could be a solution to overcome the skill gap?	Frequency	Percentage
Yes	32	64
No	04	08
I don't know	14	28
Total	50	100

Source: Field Data, 2016

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

This paper has successfully x-rayed the prospects and challenges of transforming Tanzanian citrus fruit farmers' economy in relation with electronically disseminated entrepreneurship education. The term entrepreneurship education was examined in relation to enhancing the productivity of the country and this in turn leads to the development of the nation. It is concluded that there is huge prospects for farmers to use e-entrepreneurship education from the results of the study showing 96% of the farmers have the desire and interest in entrepreneurship

training. In addition to that farmers have access and use ICT devices which are needed for dissemination of entrepreneurship education. The entrepreneurship trainers use traditional delivery approach in which farmers do not have access to it due to various problems. The trainers have mixed experiences, that is, positive as well as negative on the farmers' acceptance of entrepreneurship training participation. The farmers' level of entrepreneurship training access is insufficient and the biggest challenge facing them to access the training is lack of trainers. Therefore, ICT delivery tools must be adopted and used to respond to the realities of rural society, bring theoretical ideals to practical realities and also ensure a sustainable agricultural production. For all these to be achieved, there is need to assess the prospects and challenges of using ICT to transform rural farmers' economy in Tanzania, bearing in mind the stated challenges and recommendations made below.

Recommendations

It is obvious that economic development cannot take place if there is no proper implementation of the entrepreneurship education programme. Based on this, the following recommendations are therefore necessary in ensuring the economic development of farmers through ICT delivered entrepreneurship education:

- The Tanzanian government should harness and enables the entrepreneurial spirit and skills of farmers through strong political leadership and appropriate enabling environments by ensuring availability of entrepreneurship education policy and good infrastructure. This must be evidenced through the development of farm business schools, business clinics and entrepreneurship training for farmers.
- Facilitate access to training materials, toolkits and modern equipment and technology, and invest in trainer training, as well as better remuneration for trainers.
- Consider outreach measures such as mobile or distance learning through information and communication technologies (ICTs). The latter requires, in particular, expanding access to mobile phones, computers and education and training hardware and software, and investing in the ICT training of farmers and trainers.
- There should be adequate funding and financing of the e-entrepreneurship training programme in order for the objectives and goals of the programmes to be realized;
- The farmers should be encouraged to embrace Entrepreneurship education or training in order for them to become self-reliant and wealth creators;

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